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FIFTH EDITION

# FREE TRADE UNDER FIRE

DOUGLAS A. IRWIN

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# **Free Trade under Fire**

## **Fifth Edition**

Douglas A. Irwin

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*For the Dartmouth students of Econ 39*



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# FREE TRADE UNDER FIRE



# Introduction

“TRADE is BAD.”

So wrote President Donald Trump on a draft speech he was editing on Air Force One while returning from a G-20 summit meeting in 2017.<sup>1</sup> This statement reflects the president’s deeply held view that imports, enabled by unfair trade agreements, have devastated the U.S. economy, putting manufacturers out of business and destroying jobs in the process. In his January 2017 inaugural address, the president stated:

For many decades, we’ve enriched foreign industry at the expense of American industry. . . . One by one, the factories shuttered and left our shores, with not even a thought about the millions upon millions of American workers left behind. The wealth of our middle class has been ripped from their homes and then redistributed across the entire world. We must protect our borders from the ravages of other countries making our products, stealing our companies, and destroying our jobs. Protection will lead to great prosperity and strength.

In Trump’s view, other countries have long been “taking advantage” of the United States in trade. China and others protect and subsidize their producers at our expense, steal our technology, and refuse to treat our goods fairly. The United States has been a big loser in global trade because the United States buys more from other countries (imports) than it sells to them

1. As reported by *Washington Post* investigative journalist Bob Woodward, *Fear: Trump in the White House*, New York: Simon & Schuster, 2018, 208.

(exports), and thereby suffers from a \$800 billion merchandise trade deficit. This deficit, the president insists, is not just unfair but drains the lifeblood out of the country. In effect, other countries are raiding our piggy bank and ripping us off.

President Trump promised to confront this situation and “Make America Great Again.” As a first step, he insisted on getting out of bad old trade deals. In particular, he has long singled out the North American Free Trade Agreement (NAFTA), a pact between the United States, Canada, and Mexico that took effect in 1994, as “the worst trade deal ever.” He argued that letting China into the World Trade Organization (WTO) in 2001 was a disaster. And he rejected U.S. participation in the Trans-Pacific Partnership (TPP), a trade agreement between a dozen Pacific Rim countries negotiated by the administration of President Barack Obama.

Therefore, in his first week in office, President Trump withdrew the United States from the TPP. After threatening to withdraw from NAFTA, he was persuaded to renegotiate it. After months of contentious discussions, a new agreement dubbed USMCA (for United States—Mexico—Canada Agreement) was reached. Although he has not tried to kick China out of the WTO, he began to isolate it by ratcheting up tariffs on its goods.

The president has shown himself to be a tariff enthusiast, happy to impose taxes on imported goods in the belief that they would strengthen the American economy. “I am a TARIFF MAN,” he proudly tweeted. “When people or countries come in to raid the great wealth of our Nation, I want them to pay for the privilege of doing so.” Many of his tweets extol the benefits of tariffs: “Tariffs will make our Country MUCH STRONGER, not weaker. Just sit back and watch!” he wrote in May 2019. And so the administration began imposing tariffs: on washing machines and solar panels on grounds that imports were harming domestic producers, on steel and aluminum on grounds that imports threatened national security, and most significantly on imports from China on grounds of unfair trade. And for every tariff that has been imposed many more have been threatened: on imported automobiles from Japan and the European Union (EU), on Mexico over immigration problems, among others. As Trump trade adviser Peter Navarro said, “We love tariffs. Tariffs are a wonderful thing.”<sup>2</sup>

2. [https://www.washingtonpost.com/business/economy/trump-says-he-will-impose-new-tariffs-on-300-billion-in-chinese-imports-starting-next-month-ending-brief-cease-fire-in-trade-war/2019/08/01/d8d42c86-b482-11e9-8949-5f36ff92706e\\_story.html?utm\\_term=.458fd9959e26](https://www.washingtonpost.com/business/economy/trump-says-he-will-impose-new-tariffs-on-300-billion-in-chinese-imports-starting-next-month-ending-brief-cease-fire-in-trade-war/2019/08/01/d8d42c86-b482-11e9-8949-5f36ff92706e_story.html?utm_term=.458fd9959e26).

These actions have been controversial at home and abroad. At home, even within the Trump administration, there was a sharp division between the so-called globalists, who resisted imposing tariffs and withdrawing from trade agreements in the belief that trade strengthens America and its position in the world, and nationalists who are convinced that trade and international agreements hurt the economy and tariffs would help. The president has sided with the nationalists. As he put it: “I’m different than a lot of people. I happen to think the tariffs for our country are very powerful.”<sup>3</sup> As a result, the globalists gradually left the administration.

And abroad, the new tariffs have caused outrage, leading many other countries to retaliate by slapping their own tariffs on American products. After the Trump administration imposed tariffs on imported steel, European Commission President Jean-Claude Juncker said: “So now we [the European Union] will also impose import tariffs. This is basically a stupid process, the fact that we have to do this. But we have to do it. We will now impose tariffs on motorcycles, Harley Davidson, on blue jeans, Levis, on Bourbon. We can also do stupid. We also have to be this stupid.”<sup>4</sup> China’s retaliation hit American soybean farmers particularly hard and they lost a major market for their goods. (As a result, the Trump administration has promised to spend \$28 billion to help bail out farmers from the effects of the trade war.)

You might expect Democrats, who oppose so much of what President Trump stands for, to object to these aggressive trade actions. You would be wrong. Although they might disagree with his tactics, many Democrats share Trump’s view that trade has been bad for America. (Elizabeth Warren has unveiled a progressive plan to promote what she calls “economic patriotism.”) They also want to bring back blue-collar manufacturing jobs and revitalize the heartland of the industrial Midwest. Meanwhile, Republicans in Congress, who have been the strongest backers of freer trade over the past few decades, want to support the president but fear that he has taken the trade war too far and thereby hurt the economy. Those from agricultural states in the Midwest have seen their constituents stung by foreign retaliation against American farm exports and the failure to increase exports by withdrawing from trade agreements such as the TPP.

As never before in recent history, the Trump administration has put free trade under fire.

3. [https://www.wsj.com/articles/u-s-to-move-forward-with-china-tariffs-trump-says-11557424081?mod=hp\\_lead\\_pos1](https://www.wsj.com/articles/u-s-to-move-forward-with-china-tariffs-trump-says-11557424081?mod=hp_lead_pos1).

4. <https://www.euronews.com/2018/03/03/juncker-responds-to-trump-s-trade-tariffs-we-can-also-do-stupid->.

And yet, to some extent, free trade is always under fire. Trade policy invariably generates controversy because dollars and jobs are at stake, and therefore the political wrangling over the direction of policy is ever present.

Of course, the nature of the controversy and the intensity of the arguments about trade change over time. With each passing decade, some of the old fears about trade recede and new ones take their place. In the 1980s, many Americans were convinced that Japan would achieve world economic dominance because Japanese manufacturers seemed to be wiping out industry after industry in the United States, from automobiles to semiconductors to supercomputers. These concerns faded in the early 1990s when Japan entered a prolonged economic slump. In the early 1990s, NAFTA generated fears of a “giant sucking sound” of jobs being lost to Mexico because of its low wages. (We owe this memorable phrase to Texas billionaire and 1992 presidential candidate Ross Perot, who was a leading anti-NAFTA activist.) These concerns faded when the U.S. economy boomed in the late 1990s, leading to a federal budget surplus and low unemployment.

Then, in 1999, the streets of Seattle were filled with large protests against the WTO for its promotion of freer trade and alleged indifference to workers and environment. (The first edition of this book was published in 2002 in part to address such fears.) These concerns faded when the WTO membership failed to move forward with any new trade initiatives and its dispute settlement process successfully defused trade frictions without undermining national sovereignty.

In the first decade of the twenty-first century, attention shifted to China. A goliath in the production of manufactured goods, China—it is often argued—has been responsible for huge job losses in the United States. Around the same time, fears that white-collar jobs (from call centers to software programming) could be “outsourced” to other countries such as India sparked new worries of a “service-sector sucking sound.” Just as both these fears were peaking, the global financial crisis of 2008 struck and the volume of world trade plummeted 12 percent. Economists and policymakers were concerned that the Great Recession of 2009 could lead to widespread protectionism like that seen during the Great Depression of the 1930s, but trade policies in fact remained relatively open. By 2019, with the economy growing and the unemployment rate below 4 percent, fears about “outsourcing” had all but disappeared, but China is still viewed as a serious threat to the American economy—now for national security reasons rather than the job-destroying impact of its exports.

Thus, fears about trade are ever present but ebb and flow, in good times and in bad. The 1990s were a period of robust economic growth and the

lowest U.S. unemployment in thirty years, yet NAFTA and the WTO generated heated debates. And economic downturns invariably continue to bring out cries that foreign countries are stealing our jobs and therefore protectionist trade policies are required to protect American workers and the industries that employ them.

Opponents of free trade are not confined to one segment of the political spectrum, and trade skeptics can be found everywhere. And the litany of complaints placed on the doorstep of free trade goes well beyond the perennial objection—emphasized regularly by most opponents to the current system—that trade forces painful economic adjustments such as plant closings and layoffs of workers. Liberal Ralph Nader charges that “the Fortune 200’s GATT [General Agreement on Tariffs and Trade] and NAFTA agenda would make the air you breathe dirtier, and the water you drink more polluted. It would cost jobs, depress wage levels, and make workplaces less safe. It would destroy family farms and undermine consumer protections.” Conservative Patrick Buchanan chimes in with the claim that “broken homes, uprooted families, vanished dreams, delinquency, vandalism, crime—these are the hidden costs of free trade.”<sup>5</sup>

The many critics of free trade include not just politicians who advocate economic nationalism and workers who have lost their jobs because of imports. A wide range of groups, from environmentalists to religious organizations to human rights activists, have joined in protesting against free trade. These groups rail against trade agreements such as NAFTA and the WTO as benefiting corporations, harming workers, decimating manufacturing industries. Progressives worry that trade will undercut environmental regulations and social policies; conservatives worry that it will undermine America’s sovereignty and compromise national security.

In his 2006 book *Myths of Free Trade*, Senator Sherrod Brown (D-Ohio) wrote:

An unregulated global economy is a threat to us all—to the child in Avon Lake, Ohio, who eats raspberries grown in Guatemala by poorly paid farmers who use pesticides banned in the United States; the unskilled, minimum wage worker in Los Angeles who loses her job to an unskilled, five-dollar-a-day worker in Yucatan; the machinist in New York who takes

5. Ralph Nader, ed., *The Case Against Free Trade: GATT, NAFTA, and the Globalization of Corporate Power*, San Francisco: Earth Island Press, 1993, 1; Patrick Buchanan, *The Great Betrayal: How American Sovereignty and Social Justice Are Being Sacrificed to the Gods of the Global Economy*, Boston: Little, Brown, 1998, 286.



a wage cut because of his company's threat to move to China; the Chinese prison camp laborer; the tomato grower in Florida who has to sell his farm; and the peasant in Chiapas who must flee the native village where his family had made its home for dozens of generations. But our national leaders—particularly Republican congressional leaders and Presidents Clinton and Bush, economists and newspaper editors, business executives and tenured economics professors—continue to ignore the uncomfortable consequences of free trade, hoping the American public will not take notice.<sup>6</sup>

In an October 2014 op-ed in the *New York Times*, economic journalist Jeff Madrick wrote that “free trade creates winners and losers—and American workers have been among the losers.” Free trade policies, he argues, have been a “major” factor in the erosion of wages and the loss of job security.<sup>7</sup>

The United States is not alone in this regard. In almost every country, international trade brings out anxieties and insecurities. Just about every country lacks the confidence that it can “compete” in world markets, and fears being overrun by imports and being controlled by foreign corporations. Many people in the rest of the world fear economic domination by the United States. They buy Apple iPhones, use Facebook, depend on American wheat and corn, and fly on Boeing jets, and wonder how local producers can ever compete against large, wealthy, and technologically sophisticated American companies.

The rapid increase in international trade in recent decades is sometimes thought to have unleashed a “globalization backlash.” In this view, increased global integration has accelerated the pace of economic change and has brought with it painful economic adjustments. And the reach of world trade rules has gone beyond trade barriers to encompass domestic regulations regarding health, safety, and the environment. As a result, groups disturbed by these changes, whether directly in terms of their jobs or indirectly in terms of the community values they believe are at stake, have questioned the effects of global economic integration and the institutions associated with it. These groups have raised legitimate concerns about commerce and local communities and whether sovereignty has shifted from elected representatives at home to faceless and unaccountable bureaucrats abroad. Not just in the United States but around the world, people feel that they no longer

6. Sherrod Brown, *Myths of Free Trade: Why American Trade Policy Has Failed*, New York: New Press, 2006, 4.

7. Jeff Madrick, “Our Misplaced Faith in Free Trade,” *New York Times*, October 3, 2014.

control their fate in this globalized world. Many analysts believe that the United Kingdom vote to leave the European Union (Brexit) and the election of Donald Trump, both in 2016, reflect this globalization backlash. Others contend that these events had more to do with cultural concerns about immigration rather than increased foreign trade.

Whatever the case, the debate over trade policy remains intense and shows little prospect of abating. The debate has raised many fundamental questions. Why is free trade considered to be a desirable policy? Do the most frequently made criticisms of free trade, such as its adverse impact on workers and the environment, have merit? Have developing countries benefited from trade, or does it just keep them poor and dependent on others? What is the World Trade Organization, and do world trade rules erode a country's sovereignty and undermine its health and environmental regulations?

This book aims to address these basic questions and demystify some of the complex issues surrounding trade policy. Despite widespread skepticism about free trade among many vocal groups, economists generally take a positive view of international trade and believe that reducing trade barriers is desirable. They see trade between countries as usually being mutually beneficial, just like the exchange of goods within a country. While some groups lose from trade, people around the world are generally much better off with trade than they would be without it. This perspective was originally developed by David Hume and Adam Smith in eighteenth-century Scotland and refined by David Ricardo in early nineteenth-century England and continues to this day.

Trade skeptics often accuse economists of having a religious faith in free trade, of blindly clinging to the doctrine in the face of contrary evidence. Peter Navarro, a trade adviser to President Trump, believes that economists adhere to an "outmoded Ricardian" model of trade that has "little or no relevance to today's world." In a 2019 presentation at Harvard University, entitled "Ricardo is Dead," Navarro argued that the conventional wisdom on trade currently taught in universities "is at best outdated and at worst misleading."<sup>8</sup>

In fact, the economic case for free trade is based not on faith but on logic and evidence. As Paul Krugman has written:

The logic that says that tariffs and import quotas almost always reduce real income is deep and has survived a century and a half of often vitriolic criticism nearly intact. And experience teaches that governments that imagine or pretend that their interventionist strategies are a sophisticated improvement on free trade nearly always turn out, on closer examination,

8. <https://www.thecrimson.com/article/2019/4/26/navarro-iop-talk/>.

to be engaged in largely irrational policies—or worse, in policies that are rational only in the sense that they benefit key interest groups at the expense of everyone else.<sup>9</sup>

Still, the logic and evidence behind the case for free trade deserve to be put under searching scrutiny, as do the logic and evidence behind alternative policies. Even advocates of free trade need to be reminded of the case, lest they simply rehash stale arguments that fail to persuade. As John Stuart Mill argued, “Even if the received opinion be not only true, but the whole truth; unless it is suffered to be, and actually is, vigorously and earnestly contested, it will, by most of those who receive it, be held in the manner of a prejudice, with little comprehension or feeling of its rational grounds.” Consequently, “however true [a proposition] may be, if it is not fully, frequently, and fearlessly discussed, it will be held as a dead dogma, not a living truth.”<sup>10</sup>

While the views of economists deserve critical scrutiny, they also deserve a fair hearing. Economists have studied trade for a very long time and have noticed that the same worries and fears about trade tend to get repeated generation after generation. “With America’s high standard of living, we cannot successfully compete against foreign producers because of lower foreign wages and a lower cost of production.” This claim is heard today, but this particular statement comes from President Herbert Hoover in 1929 as he urged Congress to pass what became known as the Smoot-Hawley Tariff on the eve of the Great Depression. Among the claims heard yesterday and today is that trade will destroy jobs, leading to higher unemployment and lower wages, and that trade deficits will siphon away a country’s wealth. To economists, these are fallacies that history and experience have refuted time and again. One observer has quipped that “free traders are trapped in a public policy version of [the movie] *Groundhog Day*, forced to refute the same fallacious arguments over and over again, decade after decade.”<sup>11</sup> Or one could say that defending free trade is like playing the arcade game “Whac-A-Mole”: when one argument is beaten down, another pops up in its place.

This book aims to introduce the reader to some basic economic principles and empirical evidence regarding international trade and trade policy, so that we can better understand the current debate.

9. Paul Krugman, “Dutch Tulips and Emerging Markets,” *Foreign Affairs* 74 (1995): 31.

10. John Stuart Mill, *On Liberty*, New York: Penguin, [1859] 1982, 116, 97.

11. Julian Sanchez, “Lou’s Blues: Lou Dobbs and the New Mercantilism,” *Reason*, October 30, 2003.

Chapter 1, “The United States in the Global Economy,” sets out basic facts about international trade and the U.S. economy. World trade has expanded rapidly in recent decades, and this development provides the context in which to consider trade policy. This chapter discusses the reasons for the increase in trade, how trade has changed with the fragmentation of production and the increase in trade of intermediate goods, and the state of public opinion on the question of globalization.

Chapter 2, “The Case for Free Trade: Old Theories, New Evidence,” examines the economic logic of free trade and recent empirical evidence reinforcing the case for it. Ever since Adam Smith and David Ricardo described the gains from trade in a systematic way more than two centuries ago, economists have stressed the higher income that results from improved resource allocation as the main advantage of trade. But economists have discovered that trade not only helps to improve the allocation of existing resources but also makes those resources more productive. These productivity gains from trade are sometimes neglected but appear to be substantial. The welfare benefits of a greater variety of products as a result of trade have also been ignored until recently, and yet a growing body of evidence suggests that they are also quite important.

Chapter 3, “Protectionism: Economic Costs, Political Benefits?,” considers the flip side of the case for free trade—that trade interventions are often misguided and can be costly. Tariffs and quotas on imports redistribute income from consumers to producers, but they do so inefficiently. That is, trade barriers produce a net economic loss because the costs to consumers exceed the benefits to producers. In addition, trade barriers reduce exports and harm downstream user industries. The chapter also raises the question of why, despite its costs, trade protectionism is often politically attractive. Finally, the chapter examines situations in which protection may be justified in theory, even if governments might be ineffective in trying to take advantage of those situations.

Chapter 4, “Trade, Jobs, and Wages,” focuses on the most frequent argument in favor of limiting trade—that jobs will be saved in industries that compete against imports. As we shall see, reducing trade saves those jobs only by destroying jobs elsewhere in the economy. Opponents of free trade have also argued that imports have replaced good, high-wage jobs with bad, low-wage jobs. The truth turns out to be quite the opposite: Jobs in industries that compete against imports have been largely low-skill, low-wage jobs. This chapter also examines the extent to which trade with developing countries has contributed to the rise in inequality within the United States.

Chapter 5, “Trade Remedies and Relief from Foreign Competition,” describes the legal framework that allows firms to petition the government for the imposition of tariffs on competing imports. The antidumping law is the most commonly used measure to block so-called unfair imports. The government’s definition of “dumping” is a lower price charged in the United States than in a foreign exporter’s home market, but it is not clear that this is a problem requiring trade restrictions, or that the government calculates the dumping margin in a fair manner. This chapter also examines the case for providing domestic industries with temporary relief from imports so that they can adjust to foreign competition, as well as the recently revived “national security” rationale for limiting imports.

Chapter 6, “Developing Countries and Open Markets,” takes a look at developing countries and asks whether free trade is beneficial in promoting economic development. Did countries such as Japan and Korea—and China more recently—grow rich by rejecting free trade and instead pursuing closed markets and industrial policies? The chapter also addresses the issue of fair trade and how rich-country agricultural subsidies and import tariffs harm developing countries, as well as how developing countries harm themselves with their own anti-trade policies.

Chapter 7, “The World Trading System: The WTO, Trade Disputes, and Regional Agreements,” focuses on the current controversies about the multilateral trading system, particularly the World Trade Organization. At its inception, the WTO was criticized by nongovernmental organizations (NGOs), which have attacked the WTO as an antidemocratic institution that has struck down environmental regulations by ruling them inconsistent with world trade laws. Now President Trump condemns it as a body rigged against the United States. This chapter examines the WTO’s rules and dispute settlement system, the trade conflict with China, as well as the rise of regional trade arrangements such as NAFTA and the TPP.

International trade and trade policies are frequently the object of condemnation rather than approbation. That condemnation is often the result of misconceptions about the benefits of international trade, the impact of trade policies, and the role and function of the WTO. This book seeks to shed light on these debates and is offered in the modest hope that it may improve our understanding of the trade policy issues that confront us.

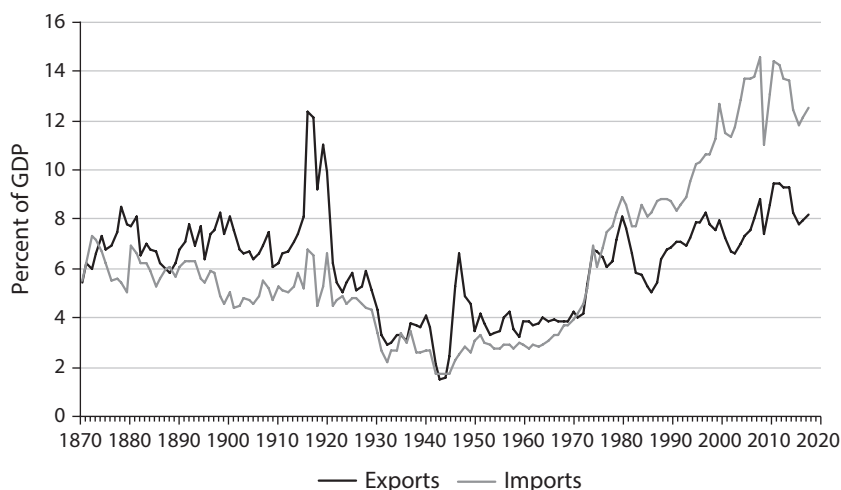
# 1

## **The United States in the Global Economy**

International trade has become an integral part of the U.S. economy over the past few decades. The United States imports electronics from China, automobiles from Mexico, apparel from Bangladesh, asparagus from Peru, and steel from Korea. The United States exports aircraft from Washington, wheat from Kansas, auto parts from Ohio, software from California, and machinery from Illinois. The United States sells financial and information technology services to customers around the world and buys data entry, software programming, and call center services from India and elsewhere. There is hardly a sector of the economy or a region of the country that is unaffected by global markets. Over the past quarter century, the United States may even have achieved a historically unprecedented degree of economic integration with the rest of the world. Perhaps it is not surprising, then, that the rapid growth of trade has been accompanied by an intense debate over U.S. trade policy. To establish a context in which we can later examine trade policy issues, this chapter briefly looks at the role of trade in the U.S. economy.

### **The Increasing Importance of Trade**

How important is trade in goods and services to the U.S. economy? The simplest way to answer this question is to look at its share in gross domestic



**FIGURE 1.1.** U.S. Exports and Imports of Goods and Services as a Percentage of GDP, 1870–2018  
*Sources:* 1790–1928, *Historical Statistics of the United States, Millennial Edition*, New York: Cambridge University Press, 2006, updated with data from the U.S. Bureau of Economic Analysis ([www.bea.gov](http://www.bea.gov)).

product (GDP). In 2018, for example, exports of goods and services amounted to roughly \$2.5 trillion, about 12.3 percent of GDP. Meanwhile, imports of goods and services were almost \$3.2 trillion, about 15.4 percent of GDP.<sup>1</sup>

By looking at these numbers from a historical perspective, we can determine whether they are large or small. Figure 1.1 presents U.S. exports and imports as a share of GDP from 1870 to 2018. As the figure shows, trade was fairly stable at about 7 percent of GDP after the Civil War until the outbreak of World War I in 1914. Exports surged during the war, but the trade shares declined sharply during the period from 1919 to 1939. In this interwar period, many countries pursued inward-looking economic policies, including protectionist trade measures, limits on international labor migration, and restrictions on international capital flows. These policies substantially reduced world economic integration.<sup>2</sup> For about a quarter century after 1945, exports and imports remained lower than they had been before World War I.

But as countries around the world began to recover from the destruction and dislocation caused by World War II, and also began the gradual

1. Data from the Bureau of Economic Analysis, Department of Commerce, [www.bea.gov](http://www.bea.gov).

2. For studies of the rise and fall of world trade over this period, see Antoni Estevadeordal, Brian Frantz, and Alan M. Taylor, “The Rise and Fall of World Trade, 1870–1939,” *Quarterly Journal of Economics* 118 (2003): 359–407; and Mariko J. Klasing and Petros Milonidis, “Quantifying the Evolution of World Trade, 1870–1949,” *Journal of International Economics* 92 (2014): 185–97.

dismantling of their trade barriers, global commerce began to rise in importance starting in the early 1970s. Further trade liberalization in the 1980s and 1990s, the opening of the previously closed economies of China and India, the end of Communism in Eastern Europe and the Soviet Union, and technological improvements in shipping such as containerization—all these developments pushed trade to record levels.

Now there is discussion of whether the world has reached “peak globalization.” The growth rate of world trade has fallen considerably since the 2008 global financial crisis. Economists have debated whether this is the result of cyclical or structural factors.<sup>3</sup> Whatever the case, there were a number of special factors that made international trade grow especially rapidly in the 1990s. India and China opened up to trade. Many other countries signed free trade agreements. Shipping containers made high-volume, long-distance trade much easier. Technological innovations, such as the Internet and e-commerce, expanded the scope for international communications. Many of these factors are one-off events that helped push trade to higher levels but will be unable to propel trade to the next level. Furthermore, if more political pressures to close markets and adopt protectionist policies emerge, trade may decline as a share of economic activity. While it is difficult to say much about the future direction of trade, imports as a share of GDP peaked in 2008, the year of the global financial crisis, and have fallen off ever since. Whatever the future may hold, the degree of worldwide economic integration stands at a historically high level today.

What does the United States trade? Table 1.1 presents the composition of U.S. merchandise exports and imports in various broad categories. Given the agricultural land and natural resource endowments of North America, it should come as no surprise that food and raw materials make up a larger share of U.S. exports than imports. The United States exports grains such as wheat, corn, and soybeans and imports coffee, vegetables, and other foods. The United States is also a net exporter of industrial supplies and materials, particularly agricultural supplies (such as cotton) and chemicals. It used to be a significant net importer of petroleum, but now the country is a net exporter of energy as new technology for extracting natural gas has led to substantial increases in domestic fuel production. The United States is also

3. Cristina Constantinescu, Aaditya Mattoo, and Michele Ruta, “The Global Trade Slowdown: Cyclical or Structural?,” *World Bank Economic Review* (2019). See also Bernard Hoekman, ed., *The Global Trade Slowdown: A New Normal?*, VoxEU.org eBook, London: Centre for Economic Policy Research (CEPR), 2015, [https://voxeu.org/sites/default/files/file/Global%20Trade%20Slowdown\\_nocover.pdf](https://voxeu.org/sites/default/files/file/Global%20Trade%20Slowdown_nocover.pdf).



TABLE 1.1. Composition of U.S. Exports and Imports (percent distribution), 2018

	Exports	Imports
Food, feeds, and beverages	8	6
Industrial supplies	19	13
Energy products	13	10
Capital goods	34	27
Automotive products	10	15
Consumer goods	12	25
Other	4	4

Source: U.S. Bureau of the Census, Report FT-900 (<http://www.census.gov/foreign-trade/data/index.html>).

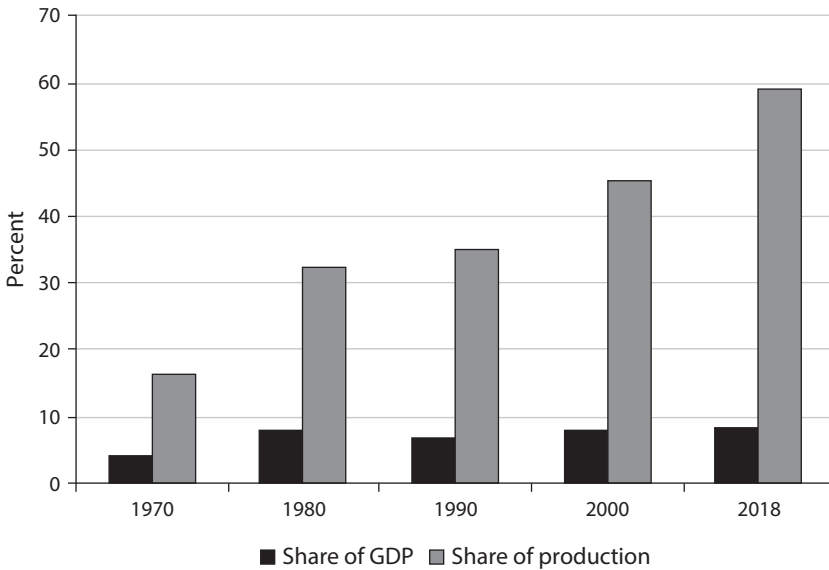
Note: Columns may not add up to 100 due to rounding.

a net exporter of capital goods (particularly aircraft) and a net importer of automotive vehicles and parts. Finally, the United States is a large net importer of consumer goods, including nondurables such as apparel and footwear and durables such as consumer electronics.

Many imported manufactured goods are not final goods sold to consumers but intermediate components and parts sold to other businesses. These capital goods are inputs into the production process. As chapter 3 will explain, this fact has important implications for trade policy: protectionist policies will directly harm employment in domestic industries by raising their production costs in addition to forcing consumers to pay a higher price for the products they buy.

The gradual rise in the share of merchandise trade to GDP both understates and overstates the importance of trade to the economy. The trade-to-GDP ratio masks the vastly increased importance of trade within the traded-goods sector. This is seen most strikingly by comparing merchandise exports to merchandise production rather than to total GDP. As figure 1.2 indicates, merchandise exports as a share of merchandise production soared from about 15 percent in 1970 to nearly 60 percent in 2018, while relative to GDP it has changed only modestly. This implies that the increase in the size of the nontraded sector can sharpen the degree to which countries specialize in the traded-goods sector and therefore increase trade.<sup>4</sup> Thus, a close

4. This is precisely what is predicted by Harry Flam, “A Heckscher-Ohlin Analysis of the Law of Declining International Trade,” *Canadian Journal of Economics* 18 (1985): 602–15.



**FIGURE 1.2.** U.S. Merchandise Exports as a Share of GDP and Merchandise Production, Selected Years

Source: U.S. Bureau of Economic Analysis ([www.bea.gov](http://www.bea.gov)).

analysis of the merchandise trade figures indicates that international trade is substantially more important now than in the recent past for those sectors engaged in trade.

Though trade is more important than ever for the merchandise-producing sector, this is not necessarily the case for the overall economy. This is where the higher trade-to-GDP ratio may overstate the role of trade in the economy. Production and employment in the United States have shifted toward the service sector, in which international trade does not play as large a role. In fact, only about 9 percent of American workers are directly exposed to international competition by being employed in the goods-producing sectors of the economy (mining and manufacturing). In contrast, about 26 percent of workers were employed in those sectors in 1970.<sup>5</sup> This means that a smaller part of the U.S. economy, in terms of output and employment, is directly affected by merchandise trade flows. (Of course, the service sector is critically dependent on up-to-date capital goods—computers, machinery, and other equipment—that are traded.)

5. Council of Economic Advisers, *Economic Report of the President 2019*, table B-29, “Employees on Nonagricultural Payrolls, by Main Industry, 1975–2018.”

Yet this interpretation is not entirely accurate because many previously nontraded services are now becoming more tradable.<sup>6</sup> In 2018, the value of these U.S. service exports—excluded from the merchandise trade figures just considered—amounted to about \$865 billion, about half the value of merchandise exports. The United States is a large net exporter of services, having imported just \$589 billion in that year. The major categories of services trade include shipping and tourism, royalties and fees (receipts from intellectual property rights such as trademarks, patents, and copyrights), financial services, business services (including management consulting), architectural and engineering services, and educational services (when students from abroad come to the United States to study).

Unlike the case of merchandise, trade in services tends to be a small part of total service production, although the share is rising. In 1970, the ratio of service exports to private services value-added was less than 2 percent, but by 2017 that ratio had risen to more than 6 percent.<sup>7</sup> While small in comparison to the merchandise sector, this ratio has been rising slowly over time.

Yet even services that cannot be traded directly across national borders are increasingly subject to international competition. This is because direct investments allow U.S. firms to enter foreign markets and foreign-based service firms to compete in the U.S. market. The value of U.S. direct investments abroad increased from 6 percent of GDP in 1960 to 31 percent in 2017, and many of these investments were in the service sector. For example, Google has set up its European Union headquarters in Ireland and maintains many offices and labs around the world. Yale University recently set up a campus in Singapore in collaboration with the National University of Singapore, and New York University has a branch campus in Abu Dhabi. Major U.S. law firms such as Sidley Austin have offices in Europe, Asia, and Latin America to extend their global reach.

Similarly, the value of foreign direct investment in the United States increased from 1 percent of GDP in 1960 to 20 percent in 2017. Many foreign banks have established a presence in the U.S. market to provide financial services, and foreign automobile firms (such as Honda, Toyota, BMW, Mercedes, and Volkswagen) have set up plants to produce in—and even export from—the U.S. market. The British sandwich shop Pret A Manger, founded in 1986, entered the U.S. market in New York in 2000 and

6. On trade in services, see Joseph F. Francois and Bernard M. Hoekman, “Services Trade and Policy,” *Journal of Economic Literature* 48 (2010): 642–92.

7. Data from the Bureau of Economic Analysis, Department of Commerce, [www.bea.gov](http://www.bea.gov).

has gradually expanded to other major cities. In addition, domestic service firms are increasingly the target of mergers and acquisitions as foreign firms seek entry into the U.S. market. As an indication of the increased foreign presence in the U.S. economy, the foreign-owned affiliates' share of value-added originating in private industry in the United States increased from 3.8 percent in 1988 to 6.4 percent in 2016. In addition, the foreign-owned affiliates' share of private industry employment rose from 3.5 percent to 5.6 percent over the same period.<sup>8</sup>

Thus, firms have a choice in how they can sell products to foreign residents: either by exporting domestically produced goods or by producing and selling directly in the foreign country. This gives us another way to look at international commerce—based on company ownership rather than production location. In 2017, U.S. companies sold \$2.4 trillion worth of goods and services to foreign consumers through exports and earned \$0.5 trillion in net income from sales to foreign consumers through their foreign affiliates. Meanwhile, foreign companies sold \$2.9 trillion worth of goods and services to U.S. consumers through exports to the United States and earned \$0.2 trillion in net income through sales by their U.S. affiliates. The resulting U.S. deficit in goods, services, and net receipts from sales by affiliates in 2017 was about \$254 billion less than the deficit in goods and services in the conventional international accounts based solely on location of production. The ownership-based deficit was smaller because U.S. companies earned more in net income from sales to foreign consumers through their foreign affiliates than foreign companies earned in net income selling through their U.S. affiliates.<sup>9</sup>

## Trade and the Fragmentation of Production

Could part of the rise in the trade share be an artifact of how trade statistics are collected? Increased trade in intermediate goods and components requires that we ask this question. Every time a component is shipped across a border, it gets recorded by customs officials as an export or an import. When components are repeatedly shipped across the border at different

8. Sarah Stutzman, "Activities of U.S. Affiliates of Foreign Multinational Enterprises in 2016," *Survey of Current Business*, December 2018, <https://apps.bea.gov/scb/2018/12-december/1218-affiliates.htm>.

9. Kassu W. Hossiso, "An Ownership-Based Framework of the U.S. Current Account, 2017," *Survey of Current Business*, February 2019, <https://apps.bea.gov/scb/2019/02-february/0219-current-account.htm>.

stages of production, the official recorded value of trade rises with each crossing, but there may be no more final goods output than before.

For this reason, the value of trade relative to production may be inflated if intermediate products have to cross national borders multiple times during the production process. For example, there is substantial two-way trade between the United States and Canada in automobiles and parts. About 60 percent of U.S. auto exports to Canada are engines and parts, whereas 75 percent of U.S. auto imports from Canada are finished cars and trucks.<sup>10</sup> The increase in automobile trade between the United States, Canada, and now Mexico does not itself indicate that more and more cars are being built. Rather, various parts and components that used to be produced domestically are now produced in different countries and traded multiple times across international borders.

This phenomenon is known as *vertical specialization*, the fragmentation of the production process as intermediate goods and components become a greater part of world trade. According to some estimates, vertical specialization has accounted for about half of the growth in U.S. trade since the 1960s and about a third of the increase in world trade since 1970.<sup>11</sup>

As the Canada auto trade example suggests, a non-negligible portion of the value of U.S. imports is simply the value of U.S. exports of domestically produced components that are shipped abroad for further processing or assembly and then returned to the United States for additional work before sale or export. In fact, standard estimates understate the extent of cross-national supply chains in automobile production among the North

10. David Hummels, Dana Rapoport, and Kei-Mu Yi, "Vertical Specialization and the Changing Nature of World Trade," Federal Reserve Bank of New York *Economic Policy Review* (1998): 79–99, 84. "Logistics: A Moving Story," *The Economist*, December 5, 2002. The coordination involved in this cross-border movement of auto parts is mind-boggling. To keep a Ford factory in Toronto producing 1,500 Windstar minivans a day, a logistics subcontractor "organizes 800 deliveries a day from 300 different parts makers. . . . Loads have to arrive at 12 different points along the assembly lines without ever being more than 10 minutes late. Parts must be loaded into trucks in a pre-arranged sequence to speed unloading at the assembly line. To make all this run like clockwork takes a team of 10 computer-wielding operations planners and 200 unskilled workers, who make up the loads in the right sequence at a warehouse down the road."

11. David Hummels, Jun Ishii, and Kei Mu Yi, "The Nature and Growth of Vertical Specialization in World Trade," *Journal of International Economics* 54 (2001): 75–96. For more recent work on this phenomenon, see Robert C. Johnson, "Five Facts about Valued-Added Exports and Implications for Macroeconomics and Trade Research," *Journal of Economic Perspectives* 28 (2014): 119–42; Robert C. Johnson and Guillermo Noguera, "Accounting for Intermediates: Production Sharing and Trade in Value Added," *Journal of International Economics* 86 (2012): 224–36. For a recent survey, see Robert C. Johnson, "Measuring Global Value Chains," *Annual Review of Economics* 10 (2018): 207–36.

American Free Trade Agreement (NAFTA) countries. One common estimate is that 17 percent of the value of finished vehicles imported by the United States from Mexico consists of U.S. components previously exported to Mexico. A more careful study of the matter showed that the actual figure is 38 percent.<sup>12</sup>

The growth of global supply chains means that the origin of any particular manufactured product cannot be attributed to a single country. The Boeing 787 aircraft may be assembled at the company's production facility near Seattle, Washington, but the center fuselage is made in Italy, the engines in the United Kingdom, the wings in Japan, the passenger doors in France, the cargo doors in Sweden, the wing tips in South Korea, and the landing gear doors in Canada. For one particular car imported by an American manufacturer, 30 percent of the car's value is due to assembly in Korea, 17.5 percent stems from components from Japan, 7.5 percent from design from Germany, 4 percent comes from parts from Taiwan and Singapore, 2.5 percent from advertising and marketing services from Britain, and 1.5 percent from data processing in Ireland. In the end, 37 percent of the production value of this American car came from the United States even though the car was imported.<sup>13</sup>

The classic example of this phenomenon is the Apple iPhone. The back of an iPhone says "Designed in California, Assembled in China." That is because the iPhone is not "made" anywhere: It is composed of hundreds of individual parts made all over the world and all brought together for final assembly in China. For example, the iPhone's flash memory and display module are made by Toshiba (Japan), the application processor by Samsung (Korea), the camera module and GPS by Infineon (Germany), the Bluetooth and wireless LAN component by Broadcom (United States), and so forth. The various parts are assembled by Foxconn, a Taiwanese company, at its plant in Shenzhen, China.

This makes U.S. import statistics quite misleading as to the true origin of a particular product. The unit cost of the iPhone 7, introduced in late 2016, was about \$240. Because the phone is imported from China, all the \$240 unit-cost per phone is attributed to China in the trade statistics, adding an

12. Alonso de Gortari, "Disentangling Global Value Chains," National Bureau of Economic Research Working Paper No. 25868, May 2019.

13. World Trade Organization, *Annual Report 1998*, Geneva: WTO, 1998, 36. Similarly, one type of Barbie doll is manufactured with \$0.35 in labor from China; \$0.65 in materials from Taiwan, Japan, the United States, and China; and \$1.00 in overhead and management from Hong Kong. The export value from Hong Kong is \$2.00, and after shipping, ground transportation, marketing, and wholesale and retail profit, the doll is sold in American stores at \$9.99. See Robin Tempest, "Barbie and the World Economy," *Los Angeles Times*, September 22, 1996, A-1.

estimated \$15.7 billion to the recorded U.S. trade deficit in 2017.<sup>14</sup> But in fact, China accounts for only about \$8.46 of the product's unit cost, roughly 3.6 percent of the unit cost, arising from labor assembly and the Chinese-made battery. The remaining \$230 in costs come from components made elsewhere. The United States and Japan are the source for \$68 of the product's components, Taiwan about \$48, and South Korea a little under \$17. This means that the actual U.S. trade deficit with China is overstated and the actual trade deficit with Japan and Germany, which were exporting components to China, is understated. And since the retail price is about \$649 for a thirty-two-gigabyte model when the phone debuted, about \$283 of gross profit goes right into Apple's coffers to fund research, development, and design.

In fact, for many countries, a sizable fraction of exports are processed goods that require many foreign inputs and components. The Organization for Economic Cooperation and Development (OECD) has started collecting information on the import content of a country's exports. For the United States, the figure is relatively low at 9 percent in 2016, meaning that most of the dollar value of U.S. exports is domestic content. For China, the number is somewhat higher at 16.6 percent. Of course, there is a great deal of variation across products made in China: sophisticated or high-technology goods such as computers and telecommunication equipment have a high fraction of foreign content, while labor-intensive goods such as apparel have a high fraction of domestic content.<sup>15</sup> Other countries play a big role in the global supply chain. The import content of Vietnam's exports is 43.6 percent.<sup>16</sup> Mexico is another country that plays a big role in the global supply chain. On average, about two-thirds of the value of Mexico's manufactured exports consists of foreign-produced intermediate goods. In about 80 percent of its manufactured exports, Mexico's foreign content is more than 50 percent. Foreign components are particularly important in computer and peripheral equipment and audio, video, and communications equipment.<sup>17</sup>

14. Jason Dedrick, Greg Linden, and Kenneth L. Kraemer, "We Estimate China Only Makes \$8.46 from an iPhone—and That's Why Trump's Trade War Is Futile," *The Conversation*, July 6, 2018, <https://theconversation.com/we-estimate-china-only-makes-8-46-from-an-iphone-and-thats-why-trumps-trade-war-is-futile-99258>.

15. Robert Koopman, Zhi Wang, and Shang-Jin Wei, "Tracing Value-Added and Double Counting in Gross Exports," *American Economic Review* 104 (2014): 459–94.

16. OECD Data, "Import Content of Exports," <https://data.oecd.org/trade/import-content-of-exports.htm#indicator-chart> (accessed May 9, 2019).

17. Justino De La Cruz, Robert B. Koopman, Zhi Wang, and Shang-Jin Wei, "Estimating Foreign Value-Added in Mexico's Manufacturing Exports," in *Global Interdependence, Decoupling,*

This specialization in the production and trade of components and intermediate goods may account for the more rapid growth in world trade than in world output. Even if world production of cars (a final good) is only expanding modestly, world trade in car components is increasing rapidly—because it has proved efficient to do so. This rapid growth in trade may also be related to the large role that multinational firms play in world trade. Multinational companies are the central actors in coordinating international production networks and putting complex goods together. Therefore, it may not be surprising to learn that a sizable part of U.S. trade—both exports and imports—is accounted for by U.S. multinational companies and U.S. affiliates of foreign multinational companies. For example, in 2016, U.S. multinationals accounted for 57 percent of U.S. exports and 43 percent of U.S. imports.<sup>18</sup> Affiliates of foreign multinational corporations accounted for 26 percent of U.S. exports and 30 percent of U.S. imports in 2016.<sup>19</sup> Thus, about 70 percent of U.S. trade is conducted by multinational firms.

In sum, by simply looking at the sheer volume of goods leaving and entering the country, one can say that the United States engages in significantly more international trade today than in the recent or distant past. But the statistics on trade can be somewhat misleading for two reasons: a final good may be produced with inputs that cross national borders multiple times, each time getting recorded as an export or an import, and imports may actually have a large degree of content that does not come from the country of origin.

## Why Is Commercial Integration Greater Today?

What accounts for the growth in trade over the past few decades? One simple answer is that the factors previously inhibiting trade are now less important than before. These impediments to trade include transportation costs, transactions costs, and government policies.

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*and Recoupling*, edited by Yin-Wong Cheung and Frank Westermann, Cambridge, MA: MIT Press, 2013, 169–212.

18. <https://apps.bea.gov/scb/2018/09-september/0918-multinational-enterprises.htm>. A sizable fraction of this trade was “within firm” trade between the U.S. firm and its foreign affiliates. In particular, 22 percent of U.S. exports and 16 percent of U.S. imports were between branches of a U.S. multinational company.

19. <https://apps.bea.gov/scb/2018/12-december/1218-affiliates.htm>. A significant portion of these exports originate from Japanese firms.



Transportation costs have always been an important factor in world trade.<sup>20</sup> In the late nineteenth century, the expansion of global trade was propelled by a decline in shipping costs because of the introduction of steamships. The expansion of trade in the late twentieth century was propelled by the container, which stores goods and can be easily moved on and off ships. Introduced in the late 1960s and widely adopted in the 1970s and 1980s, containerization produced a huge increase in port labor productivity (tons moved per hour) and a substantial increase in ship size. One study finds that containerization helped increase trade, mainly among developed countries, by about 700 percent over a twenty-year period, a much larger effect than free trade agreements.<sup>21</sup> Another study found that the current level of trade would be 15 to 20 percent lower if the container had not been introduced.<sup>22</sup>

Containerization may make shipping more efficient, but ocean-borne freight is still relatively slow. It takes roughly fourteen days for a cargo ship to go from Hong Kong to Long Beach, a massive port south of Los Angeles. Yet new shipping routes between East Asia and Western Europe have opened because of the melting of the Arctic ice caps, a by-product of global warming. Ships traveling from Yokohama in Japan to Rotterdam in the Netherlands used to traverse 20,900 kilometers, going down the South China Sea, across the Indian Ocean, and then up to Europe through the Suez Canal. By traveling across the North Pole, this distance will be cut to just 13,700 kilometers. The reduction in distance is expected to increase trade flows between the two regions by 10 percent.<sup>23</sup>

The rise of air transport as a means of moving goods between countries has also slashed delivery times in ways that have brought an ever-increasing variety of perishable goods (cut flowers from Central America, lobsters from Maine) into world commerce. About 20 percent of world trade (by

20. For an overview of research on trade and transportation costs, see David Hummels, "Transportation Costs and International Trade in the Second Era of Globalization," *Journal of Economic Perspectives* 21 (2007): 131–54.

21. Daniel M. Bernhofen, Zouheir El-Sahli, and Richard Kneller, "Estimating the Effects of the Container Revolution on World Trade," *Journal of International Economics* 98 (2016): 36–50.

22. Kerem Cosar and Banu Demir, "Shipping Inside the Box: Containerization and Trade," *Journal of International Economics* 118 (2018): 331–45.

23. The amount of trade passing through the Suez Canal in Egypt and through the straits by Singapore will fall, since these routes will be bypassed. Carbon dioxide (CO<sub>2</sub>) emissions will only increase slightly; the increase resulting from more shipping will be greater than the reduction in emissions achieved through distance savings. See Eddy Bekkers, Joseph F. Francois, and Hugo Rojas Romagosa, "Melting Ice Caps and the Economic Impact of Opening the Northern Sea Route," *Economic Journal* 128 (2018): 1095–127.

value) is now transported by air, with the share higher in North America and East Asia. Trade in intermediate goods is very time-sensitive because of the importance of those goods in the production process. As the old adage says, time is money. According to one estimate, each day saved in shipping time is worth 0.6 to 2.1 percent of the value of the products. Faster methods of transport over the past fifty years have been equivalent to reducing tariffs from 20 to 5 percent. This is because each day of delay reduces trade by 1 percent.<sup>24</sup>

Recognition that these trade costs are a significant impediment to commerce has enormous implications for landlocked developing countries, where transportation is difficult. Poor infrastructure and government barriers discourage trade in time-sensitive agricultural and manufactured goods. Trade costs for agricultural products in sub-Saharan Africa are five times those elsewhere in the world. These costs have a large impact on product prices and are estimated to reduce GDP by more than 2 percent.<sup>25</sup> For example, it takes an average of forty-eight days in sub-Saharan Africa to get a container from the factory and loaded onto a ship. Cutting ten days off that process could have a bigger impact on trade than any reduction in formal trade barriers.<sup>26</sup> When Guatemala and Honduras agreed to reduce border checks to promote trade, the wait time for border crossings fell from as much as 10 hours to just 15 minutes, increasing bilateral trade by 7 percent.<sup>27</sup>

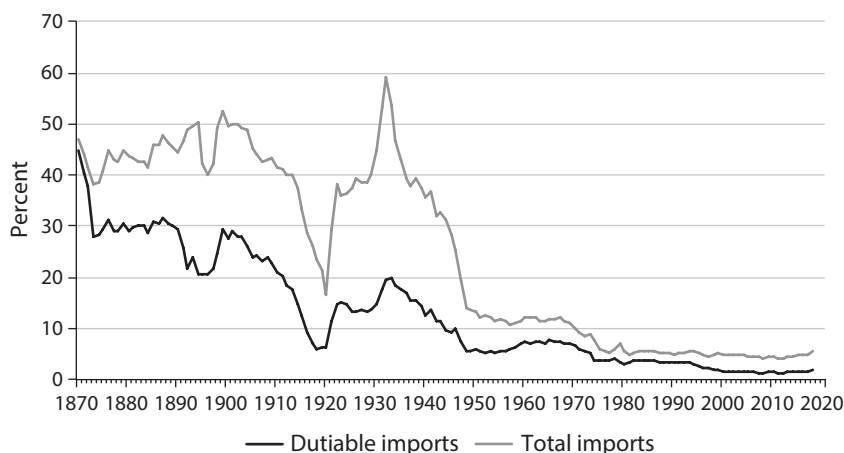
Other transactions costs—any expense that must be incurred to bring about exchange—are harder to quantify but are now lower in potentially important ways. The costs of acquiring information, for example, can limit the extent of market integration. A century ago, before the age of mass communication, obtaining information about distant markets was much more difficult than today. Producers are now more likely to have better information about local tastes and demands than they did in the past, which makes them able to service demand in those markets more efficiently. In addition, consumers used to have good information only about the attributes of

24. David Hummels and Georg Schaur, “Time as a Trade Barrier,” *American Economic Review* 103 (2013): 2935–59.

25. Obie Porteous, “High Trade Costs and Their Consequences: An Estimated Dynamic Model of African Agricultural Storage and Trade,” *American Economic Journal: Applied Economics* 11 (2019): 327–66.

26. Simeon Djankov, Caroline Freund, and Cong S. Pham, “Trading on Time,” *Review of Economics and Statistics* 92 (2010): 166–73.

27. <https://blogs.worldbank.org/latinamerica/customs-union-between-guatemala-and-honduras-10-hours-15-minutes>.



**FIGURE 1.3.** Average U.S. Tariff on Total and Dutiable Imports, 1870–2018

Sources: Douglas A. Irwin, *Clashing over Commerce: A History of U.S. Trade Policy*, Chicago: University of Chicago Press, 2017, figure I.1, updated with the U.S. International Trade Commission ([https://www.usitc.gov/documents/dataweb/ave\\_table\\_1891\\_2018.pdf](https://www.usitc.gov/documents/dataweb/ave_table_1891_2018.pdf)).

locally produced goods, but now they are likely to be equally well informed about the products of foreign firms.

Finally, trade has expanded because government restrictions on the importation of foreign goods have been reduced. Tariffs, import quotas, and foreign exchange controls that originated during the Great Depression of the 1930s were gradually relaxed in the decades after World War II. Average tariffs on manufactured goods have dropped to less than 5 percent in most developed countries over the postwar period. Figure 1.3 shows that high U.S. tariffs were the norm prior to the 1940s, but that import duties fell sharply and have remained at very low levels in recent decades.

Furthermore, whole geographic areas have abolished customs duties and become free trade areas. The European Union has free trade between its member countries; NAFTA abolished most tariffs on trade between the United States, Canada, and Mexico; the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) eliminated many trade barriers for Pacific Rim countries. The Mercosur trading bloc has done the same (in a more limited way) for South American countries, and in 2018 most African countries joined together and signed a trade agreement known as the African Continental Free Trade Area (AfCFTA).

In the 1980s and 1990s, many developing countries began significant unilateral trade policy reforms. For example, after having been closed to trade and foreign investment for decades, China and India—two of the

world's most populous nations—started opening up to global commerce in 1978 (China) and in 1991 (India). Some developing countries have also liberalized their import regimes as they joined the World Trade Organization (WTO). Although nontariff measures are still used to protect domestic producers from import competition, it is nonetheless true that trade barriers have fallen significantly around the world over the past few decades.

Quantifying the precise contribution of all these factors to the expansion of world trade is difficult. One study finds that about two-thirds of the postwar growth in the trade of countries belonging to the OECD is due to income growth, a quarter to tariff reductions, and about 10 percent to transportation cost reductions.<sup>28</sup> This calculation, however, does not take into account production sharing or vertical specialization.

At the same time, there are limits to how far international trade can go. A leading empirical model of trade, the so-called gravity equation, shows that there are numerous factors that shape bilateral trade flows: distance between countries; geographic location; language, currency, and political ties; and so on. Results from this model indicate that the mere presence of a national border acts as a powerful impediment to trade. The implication is that even when countries share a common language and a common border, similar institutions and a similar culture, the mere existence of a national border creates a significant bias in favor of intranational trade as opposed to international trade, even if trade barriers are low.<sup>29</sup>

## Limits to Globalization

“Surprisingly, one commonality between globalization’s supporters and its critics is that both tend to believe the world is already far more globalized than it really is,” a recent study by the shipping company DHL concluded.

28. Scott L. Baier and Jeffrey H. Bergstrand, “The Growth of World Trade: Tariffs, Transport Costs, and Income Similarity,” *Journal of International Economics* 53 (2001): 1–27.

29. The border effect (the difference between intranational and international trade) implies a 45 percent reduction in trade, after controlling for other factors affecting trade, such as country size, distance between countries, language, and currency; see James Anderson and Eric van Wincoop, “Gravity with Gravitas: A Solution to the Border Puzzle,” *American Economic Review* 93 (2003): 170–92. On the issue of trade costs, see James Anderson and Eric van Wincoop, “Trade Costs,” *Journal of Economic Literature* 42 (2004): 691–751. On the gravity equation, see Keith Head and Thierry Mayer, “Gravity Equations: Workhorse, Toolkit, and Cookbook,” in *Handbook of International Economics Volume 4*, edited by Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff, Amsterdam: North Holland, 2014, 131–95.

“The world is both more globalized than ever before and less globalized than most people perceive it to be.”<sup>30</sup>

Even though global economic integration has increased rapidly in recent decades, the world remains far from fully integrated. Trade within a country dominates trade between countries by an order of magnitude. The United States may be more integrated with the rest of the world than in the past, but we are far from the point at which trade between New York and Rio de Janeiro is carried on as easily as trade between New York and Los Angeles. It remains the case that more than 85 percent of what the United States consumes is produced in the United States.

One economist has used the following analogy to illustrate how far we are from perfect trade integration: If Americans were just as likely to purchase goods and services from foreign producers as from domestic producers, then the U.S. import-to-GDP ratio should equal the non-U.S. share of world GDP. In other words, the United States would spend as much on foreign products as the average foreign resident, or roughly 75 percent, which is about the non-U.S. share of world GDP. Since the current trade share is about 15 percent, while that hypothetical trade share would be 75 percent, one can conclude that we are only about one-sixth of the way to the point at which “it would literally be true that Americans did business as easily across the globe as across the country.”<sup>31</sup>

For example, what percent of American consumption expenditures is devoted to Chinese goods? Would you be surprised to learn that it is slightly less than 2 percent? What percent of consumption expenditures is devoted to imported goods? The answer is about 11 percent.

These calculations are made in table 1.2, which presents a breakdown of U.S. personal consumption expenditures for 2018. The first column presents the expenditure shares, and the next two columns show the fraction of the products “made in the USA” or “made in other countries.” The next column adjusts the import share for the proportion of U.S.-made content; some goods “made in the USA” have foreign content, and some “made in China” goods have non-Chinese content.

30. Steven A. Altman, Pankaj Ghemawat, and Phillip Bastian, *DHL Global Connectedness 2018: The State of Globalization in a Fragile World*, 2019, <https://www.logistics.dhl/global-en/home/insights-and-innovation/thought-leadership/case-studies/global-connectedness-index.html>.

31. Jeffrey Frankel, “Globalization of the Economy,” in *Governance in a Globalizing World*, edited by Joseph Nye and John Donahue, Washington, DC: Brookings Institution, 2000, 45–71.

TABLE 1.2. Composition of U.S. Personal Consumption Expenditures (percentages), 2018

	Expenditure Share	Share U.S. Made	Share Imported	Adjusted Spending on Imports
Total	100	90	10	11
Food and energy	11	90	10	10
Durable goods	9	66	33	23
Nondurable goods	18	74	26	19
Services	61	98	2	6

Source: Galina Hale, Bart Hobjin, Fernanda Nechio, and Doris Wilson, "How Much Do We Spend on Imports?," Federal Reserve Bank of San Francisco *Economic Letter*, January 7, 2019.

The first thing to note is that nearly 90 percent of consumption spending is on domestic goods, not imported goods. That is because two-thirds of spending is on services, such as housing, medical care, and recreation, the import content of which is very small. Nearly a quarter of consumption spending is on nondurable goods, such as food and gasoline, where the import content is not from China. The major categories where the China content is high is clothing and footwear and furniture and household equipment, but these categories amount to only 8 percent of total consumption spending. Even in these categories, it is easy to exaggerate how much comes from China because of the iPhone phenomenon: China assembles products for shipment to the United States, but much of the value of the product is the cost of intermediate goods that China did not produce itself. Take clothing and footwear: 35 percent of spending in this category is on goods from China, but after stripping out the foreign components (cotton, yarn, etc.) made elsewhere, only 14 percent of spending in this small category is really going to China. And these figures are sure to drop following the Donald Trump administration's tariffs on imports from China.

As consumers, we sometimes exaggerate how much of the money we spend goes to other countries. When you buy a \$100 pair of Nike shoes, only \$25 of that goes to the Asian factory that assembles them. Of the remaining \$75 of the cost, \$3.50 is spent on shipping the shoes from Asia to the United States; and \$21.50 goes to Nike to cover its design, marketing, and other expenses and to profits. The remaining \$50 goes to the U.S. retailer that pays for the transportation of the shoes inside the United States; the wages of workers in its U.S. warehouses and retail outlets; and the rental cost of retail space, insurance, and so on. Thus, half the cost of a pair of sneakers made

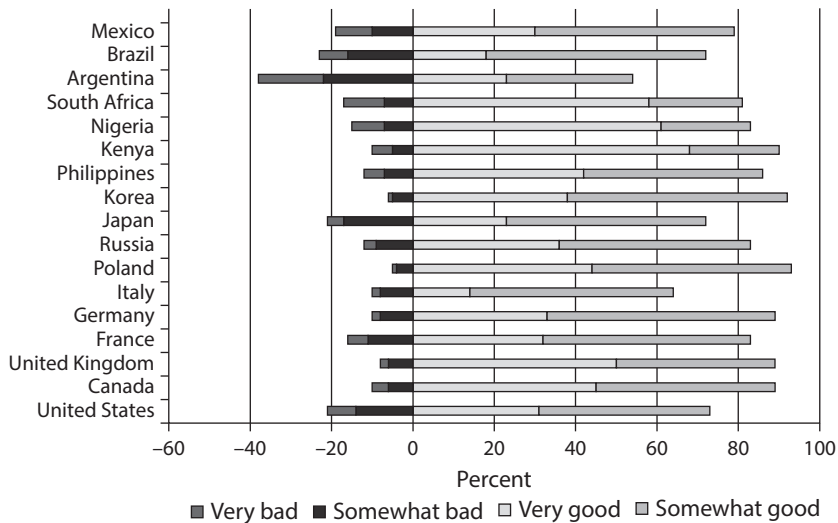
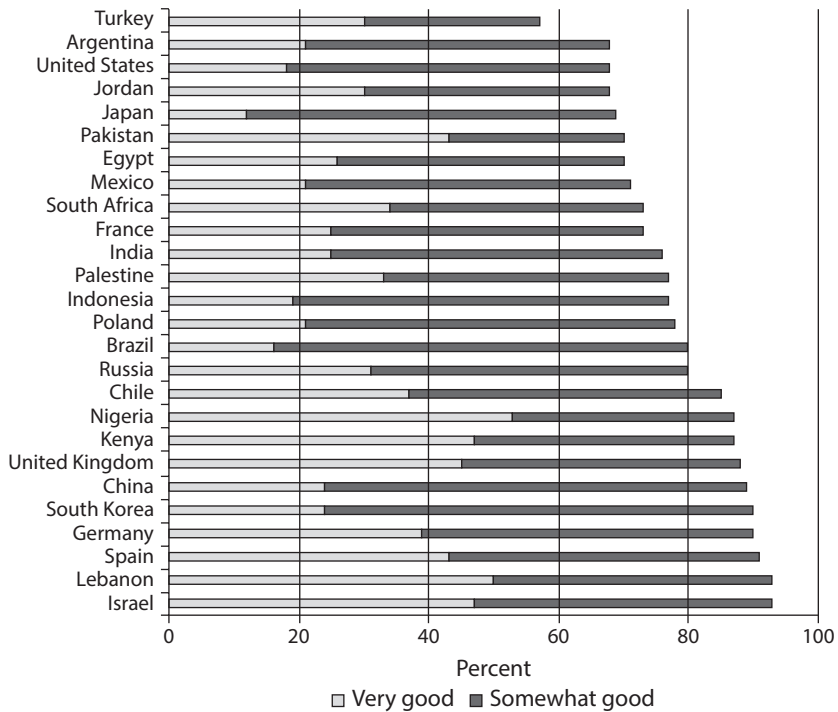


FIGURE 1.4. World Opinion on International Trade, 2018

Source: Pew Research Center, Global Attitudes and Trends (<https://www.pewglobal.org/2018/09/26/americans-like-many-in-other-advanced-economies-not-convinced-of-trades-benefits/>).

abroad pays for workers and capital expenditures in the United States, not even counting the part that goes to Nike.<sup>32</sup> Conversely, when you buy a Jeep Patriot manufactured in Illinois and think you are buying a wholly American car, about 17 percent of the cost goes to parts made in other countries.<sup>33</sup>

These findings are a reminder that most of what we buy in America is made in America. Partly because we spend so much on services, which are difficult to trade internationally, most of our spending remains domestic. There is a natural limit to how far globalization can go.

## Public Views on Trade

What are the public's views about international trade? Because the response to public opinion polls can be affected by the framing of the question, we must view any results with some skepticism. That said, polling data does give us a general sense of where the public stands on questions of globalization and trade policy.

A survey of public opinion in forty-four countries in 2018 by the Pew Research Center found widespread support for international trade.<sup>34</sup> As figure 1.4 shows, nearly half of those polled in Nigeria, Lebanon, Israel, and India believe that growing trade is “very good” for their country, while a majority in all countries believe trade is “very good” or “somewhat good.”

Americans, it turns out, are among the least supportive of international trade. Yet it is still the case that 68 percent of Americans said that trade was good for the United States, an improvement from previous years. Only 28 percent said that trade was bad or somewhat bad, down from 41 percent in 2008.<sup>35</sup>

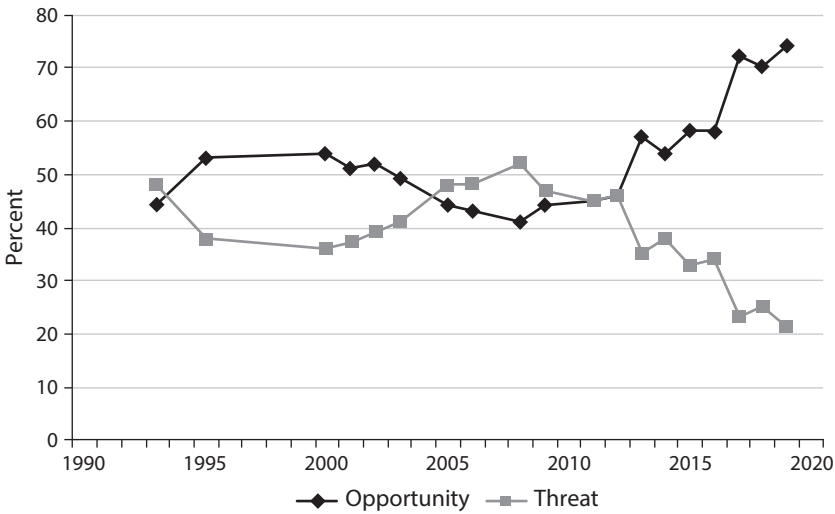
32. [http://www.bizjournals.com/portland/blog/threads\\_and\\_laces/2014/12/the-cost-breakdown-of-a-100-pair-of-sneakers.html](http://www.bizjournals.com/portland/blog/threads_and_laces/2014/12/the-cost-breakdown-of-a-100-pair-of-sneakers.html).

33. Galina Hale, Bart Hobijn, Fernanda Nechio, and Doris Wilson, “How Much Do We Spend on Imports?,” Federal Reserve Bank of San Francisco *Economic Letter*, January 2019, <https://www.frbssf.org/economic-research/publications/economic-letter/2019/january/how-much-do-we-spend-on-imports/>.

34. Bruce Stokes, “Americans, Like Many in Other Advanced Economies, Not Convinced of Trade’s Benefits,” Pew Research Center, September 26, 2018, <https://www.pewglobal.org/2018/09/26/americans-like-many-in-other-advanced-economies-not-convinced-of-trades-benefits/>. Question 27: What do you think about growing trade and business ties between (survey country) and other countries—do you think it is a very good thing, somewhat good, somewhat bad, or a very bad thing for our country?

35. Back in 2002, 78 percent of Americans said trade was good, and only 18 percent said trade was bad. For a recent review of American views on trade and globalization, see Scott Lincicome, “The ‘Protectionist Moment’ That Wasn’t: American Views on Trade and Globalization,”





**FIGURE 1.5.** U.S. Public Opinion on Trade, 1993–2019  
*Source:* Gallup (<https://news.gallup.com/poll/228317/positive-attitudes-toward-foreign-trade-stay-high.aspx>).  
*Note:* Question asked: What do you think foreign trade means for America? Do you see foreign trade more as an opportunity for economic growth through increased U.S. exports or a threat to the economy from foreign imports?

Since 1993, Gallup has asked people in the United States whether they view foreign trade more as an opportunity for growth through exports or as a threat to the economy because of imports. As figure 1.5 shows, the more positive view of trade in the 1990s gave way to a more negative view of trade in the 2000s, but the positive view reappeared in the 2013 polls. Then something remarkable happened: in three polls since 2017, more than 70 percent of those surveyed viewed trade as an opportunity, and less than 25 percent viewed trade as a threat. This finding may be due to the strong economy: When the unemployment rate is low, people do not feel threatened by trade. Gallup notes that the correlation between the unemployment rate and viewing trade as a threat is +0.51. In other words, if the economy were to worsen, the public might begin to view foreign trade in a less favorable

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*Free Trade Bulletin* 72, Cato Institute, November 2, 2018. He concludes that “most Americans generally support freer trade, globalization, and even oft-maligned trade agreements, but the understandable disinterest of many voters means that isolated polls on specific trade policy issues—the Trans-Pacific Partnership or steel tariffs, for example—more likely reflect partisan cues or broader macroeconomic conditions than actual support for or opposition to the trade measures at issue.”

light. Still, the recent positive view of trade is surprising, given the strong anti-trade political rhetoric one frequently hears.<sup>36</sup>

While Americans are generally positive about trade, they are also surprisingly supportive of trade agreements with other countries. A June 2019 survey by the University of Maryland found that an overwhelming 87 percent of Americans—including 84 percent of Republicans and 93 percent of Democrats—support the growth of trade based upon rules that reduce trade barriers and ensure trade is conducted fairly. A large majority—54 percent of Republicans and 89 percent of Democrats—also approve of the United States continuing to be member of the WTO. Similarly, there was strong support for remaining part of NAFTA (55 percent of Republicans and 88 percent of Democrats). Most of those polled also favored efforts to cushion the adverse impact of trade and trade agreements through more extensive job training, trade adjustment assistance (discussed in chapter 4), and stronger labor and environmental standards in trade agreements.<sup>37</sup> An August 2018 poll by the Chicago Council on Global Affairs also found support for the Trans-Pacific Partnership: Overall support was 61 percent in favor of participating (32 percent opposed), but Democrats supported it 76 to 19 and Republicans opposed it 49 to 45. These findings are surprising in that not too long ago the American public appeared much more skeptical about such trade deals.

One regularity in polling data is that, in general, the more educated people are the more favorable their view of trade: in the aforementioned Gallup poll, 64 percent of those with a college education thought trade was an opportunity for growth (and only 26 percent a threat) as opposed to 49 percent of those with a high school education (of whom 41 percent thought trade is a threat). This is not a surprise. Surveys have consistently

36. In an October 2019 survey, the Chicago Council on Global Affairs found that 87 percent of Americans think that international trade is good for the U.S. economy, the highest level since the survey began in 2004, and up from 59 percent in 2016. Furthermore, 63 percent believe trade agreements between the United States and other countries benefit both sides. Brendan Helm, Dina Smeltz, and Alexander Hitch, “Record Number of Americans Say International Trade Is Good for the U.S. Economy,” Chicago Council on Global Affairs, October 2019, <https://www.thechicagocouncil.org/publication/record-number-americans-say-international-trade-good-us-economy>.

37. Steven Kull, I. M. Destler, Evan Fehsenfeld, and Evan Charles Lewitus, “Americans on International Trade Policy,” University of Maryland, Program for Public Consultancy, June 2019, [http://www.publicconsultation.org/wp-content/uploads/2019/06/Intl\\_Trade\\_Report\\_0619.pdf](http://www.publicconsultation.org/wp-content/uploads/2019/06/Intl_Trade_Report_0619.pdf). “Large Bipartisan Majorities Favor Growing Trade through International Agreements,” June 26, 2019, <http://www.publicconsultation.org/trade/large-bipartisan-majorities-favor-growing-trade-through-international-agreements/>.

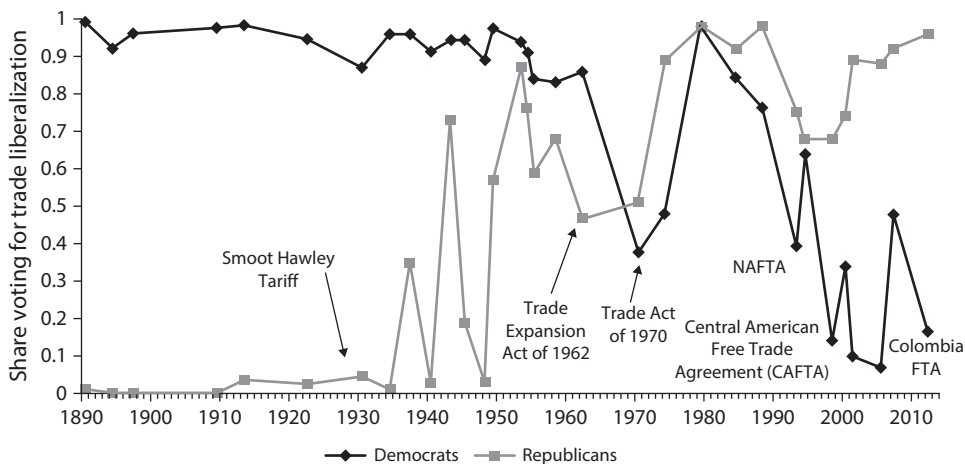


FIGURE 1.6. Partisan Division in Congressional Trade Votes, U.S. House of Representatives, 1890–2018

Source: Compiled by the author.

found that years of formal education are closely linked to an individual's view of trade: those with at least some college education were much more likely to have positive attitudes about globalization and trade than those with only a high school degree. As we will see in chapter 4, this association might arise because individuals with less education are more likely to be employed in sectors that compete against imports, so they have greater difficulty becoming reemployed once displaced compared to those with a higher level of education.

Turning to Congress, voting over trade legislation has become quite partisan and highly contentious. Figure 1.6 shows the share of each party's vote in the House of Representatives for trade liberalization (for bills that reduced tariffs or against bills that raised tariffs). Before World War II, the Democrats supported freer trade while the Republicans supported high tariffs. By the 1950s, the Republicans began to support trade agreements to reduce tariffs for foreign policy reasons and to gain the support of big business. For many years thereafter, a bipartisan consensus favored reducing tariffs in trade agreements. This was the period of the Cold War when foreign policy concerns brought the parties closer together, even when it came to trade policy.

With the end of the Cold War, and starting with the NAFTA vote in 1993, Democrats have become more opposed to free trade agreements. The switch in the Democrats' position, which first became evident in the early

1970s, is largely because of the opposition of organized labor to increased foreign trade.

The increased polarization of trade voting in Congress reflects the heightened political conflict over the issue in recent years. For example, the House of Representatives voted in October 2012 to pass the free trade agreements with South Korea and Colombia. In both cases, more than 90 percent of House Republicans supported the agreements. However, of the House Democrats, 85 percent voted against the Colombia agreement and 70 percent voted against the Korea agreement. In 2015, Congress voted to grant the president trade promotion authority. Despite the fact that President Barack Obama, a Democrat, was in office, this legislation was passed by Republican votes, not Democratic ones.

Yet these views can change over time, depending on the views of the president and which party is in power, because Americans also view trade through a partisan lens. Before the candidacy of Donald Trump, Republican voters were more supportive of trade and trade agreements and Democrats more opposed. President Trump has managed to swing Republican opinion toward the view that trade agreements are bad and Democratic opinion toward the view that they are good. According to the Chicago Council poll mentioned previously, Republicans now generally believe NAFTA is bad by a margin of 53–43 while Democrats think NAFTA is good by a margin of 79–16, as do Independents, by a 62–34 margin. Yet despite the polling data showing support for NAFTA and the Trans-Pacific Partnership (TPP) among Democratic voters, few Democratic politicians are willing to announce their support for these agreements. At the 2016 Democratic convention, for example, there were a sea of “No TPP” signs, and candidates such as Bernie Sanders strongly opposed TPP and other trade agreements.

Thus, there is a partisan anomaly regarding trade: The views of elected officials and their voters seem to diverge. The Republican leadership (excluding President Trump) has tended to support freer trade while Republican voters have been more skeptical, whereas the Democratic leadership has tended to oppose freer trade while the Democratic base has been more supportive. This is usually explained by the fact that business interests have the ear of the Republican leadership while labor unions have the ear of the Democratic leadership.

Another disconnect is between the generally positive view of trade taken by the American public and the election of a virulently anti-trade president. Scholars have debated whether President Trump’s election represents a “globalization backlash” or a “cultural backlash.” The globalization backlash story

is that economic anxiety is widespread as the white working class has been left behind, struggling with jobs lost to foreign competition and coping with the new high-tech service economy. The cultural backlash story is that fear of changing demographics and the perceived loss of status of certain white voters has been driving voting patterns. Evidence tends to support the cultural explanation for the support of President Trump and to reject the view that there is an anti-globalization upsurge among American voters. Voting for Trump has been shown to be uncorrelated with household economic distress or perceptions about the impact of international trade on household economic well-being, but it is correlated with perceptions of a threat to the perceived status of the group position of whites domestically.<sup>38</sup>

In sum, trade policy has always been contentious, but it has come to involve complex economic, political, and legal factors, making it increasingly difficult to understand. This book aims to examine how these factors affect U.S. trade policy. The appropriate place to begin is with the economic case for free trade.

38. See Diana C. Mutz, "Status Threat, Not Economic Hardship, Explains the 2016 Presidential Vote," *Proceedings of the National Academy of Sciences* 115 (2018): E4330-E4339; Marcus Noland, "Protectionism under Trump: The China Shock, Deplorables, and the First White President," *Asian Economic Policy Review* 14 (2019), forthcoming.

# 2

## The Case for Free Trade

### OLD THEORIES, NEW EVIDENCE

For more than two centuries, economists have pointed out the benefits of free trade and the costs of trade restrictions. As Adam Smith argued more than two centuries ago, “All commerce that is carried on betwixt any two countries must necessarily be advantageous to both.” Therefore, he concluded, “all duties, customs, and excise [on imports] should be abolished, and free commerce and liberty of exchange should be allowed with all nations.”<sup>1</sup> The economic case for free trade, however, is not based on outdated theories in musty old books. The classic insights into the nature of economic exchange between countries have been refined and updated over the years to retain their relevance to today’s circumstances. More important, economists have gathered extensive empirical evidence in recent decades that contributes appreciably to our understanding of the advantages of trade. This chapter reviews the classic theories and examines the new evidence, noting as well the qualifications to the case for free trade.

### Specialization and Trade

The traditional case for free trade is based on the gains from specialization and exchange. These gains are easily understood at the level of the individual.

1. Adam Smith, *Lectures on Jurisprudence*, Oxford: Clarendon Press, [1763] 1978, 511, 514.

Most people do not produce for themselves even a fraction of the goods they consume. Rather, we earn an income by specializing in certain activities and then use our earnings to purchase various goods and services—food, clothing, housing, healthcare—produced by others. In essence, we “export” the goods and services that we produce with our own labor and “import” the goods and services produced by others that we wish to consume. This division of labor allows us to increase our consumption beyond that which would be the case if we tried to be self-sufficient and produce everything for ourselves. Specialization enables us to enjoy a much higher standard of living than otherwise possible and gives us access to a greater variety of goods and services.

Trade between nations is simply the international extension of this division of labor. For example, the United States has specialized in the production of aircraft, industrial machinery, and agricultural commodities (particularly corn, soybeans, and wheat). In exchange for exports of these products, the United States purchases, among other things, imports of winter vegetables, clothing and shoes, assembled electronics, and iron and steel mill products. Like individuals, countries benefit immensely from this division of labor and enjoy higher real incomes than they would by forgoing such trade. Just as there seems no obvious reason to limit the free exchange of goods within a country without a specific justification, there is no obvious reason why trade between countries should be limited in the absence of a compelling reason for doing so. (Popular arguments for limiting trade will be examined in subsequent chapters to see if they are persuasive.)

Adam Smith, whose timeless book *The Wealth of Nations* was first published in 1776, set out a case for free trade with a persuasive flair that still resonates today. Smith advocated the “obvious and simple system of natural liberty” in which individuals would be free to pursue their own interests while the government provided the legal framework within which commerce would take place. With the government enforcing a system of justice and providing certain public goods (such as roads, in Smith’s view), the private interests of individuals could be turned toward productive activities—namely, meeting the demands of the public as expressed in the marketplace. Smith envisioned a system that would give people the incentive to better themselves through economic activities, where they would create wealth by serving others through market exchange rather than through political activities, where they might seek to redistribute existing wealth through brute force or legal restraints on competition. Under such a system, the

powerful motivating force of self-interest could be channeled toward socially beneficial activities that would serve the general interest rather than toward socially unproductive activities that might advance the interests of a select few but would come at the expense of society as a whole.

Free trade is an important component of this system of economic liberty. Under a system of natural liberty in which domestic commerce is largely free from restraints on competition, though not necessarily free from government regulation, commerce would also be permitted to operate freely between countries. According to Smith, free trade would increase competition in the home market and curtail the power of domestic firms by diminishing their ability to exploit consumers through high prices and poor service. Moreover, the country would gain by exchanging exports of goods that are dear on the world market for imports of goods that are cheap on the world market. As Smith put it,

What is prudence in the conduct of every family can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage. The general industry of the country . . . will not thereby be diminished . . . but only left to find out the way in which it can be employed with the greatest advantage. It is certainly not employed to the greatest advantage, when it is thus directed towards an object which it can buy cheaper than it can make.<sup>2</sup>

Smith believed that the benefits of trade went well beyond this simple arbitrage exchange of what is abundant in the home market for what is abundant in the world market. The wealth of any society depends on the division of labor. The division of labor, the degree to which individuals specialize in certain tasks, enhances productivity. And productivity, the ability to produce more goods with the same resources, is the basis for rising living standards. But, as he put it, the division of labor is limited by the extent of the market. Smaller, more isolated markets cannot support a high degree of specialization among their workforce and therefore tend to be relatively poor.

2. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: Oxford University Press, [1776] 1976, 457. Free trade made this possible: "The interest of a nation in its commercial relations to foreign nations is, like that of a merchant with regard to the different people with whom he deals, to buy as cheap and to sell as dear as possible. But it will be most likely to buy cheap, when by the most perfect freedom of trade it encourages all nations to bring to it the goods which it has occasion to purchase" (464).



Free trade allows all countries, but particularly small countries, to extend the effective size of their market. Trade allows such countries to achieve a more refined division of labor and therefore reap a higher real income than if international exchange were artificially limited by government policies.<sup>3</sup>

## Comparative Advantage

In 1799, a successful London stockbroker named David Ricardo came across a copy of *The Wealth of Nations* while on vacation and quickly became engrossed in the book. Ricardo admired Smith's great achievement but thought that many of the topics deserved further investigation. For example, Smith seemed to suggest that a country would export goods that it produces most efficiently and import goods that other countries produce most efficiently. In this way, trade is a mutually beneficial way of increasing total world output and thus the consumption of every country. But, Ricardo asked, what if one country was the most efficient at producing everything? Would that country still benefit from trade? Would disadvantaged countries find themselves unable to trade at all?

To answer these questions, Ricardo arrived at a brilliant deduction that became known as the theory of comparative advantage.<sup>4</sup> Comparative advantage implies that a country could find it advantageous to *import* some goods even if it could produce them more efficiently than other countries. Conversely, a country is able to *export* some goods even if other countries could produce them more efficiently. In either case, countries stand to benefit from trade. Ricardo's conclusions about the benefits of trade were similar to Smith's, but his approach contains a deeper insight.

At first, the principle of comparative advantage seems counterintuitive.<sup>5</sup> Why would a country ever import a good that it could produce more

3. For a further discussion of Smith's ideas about trade policy, see Douglas A. Irwin, *Against the Tide: An Intellectual History of Free Trade*, Princeton, NJ: Princeton University Press, 1996.

4. For speculation on how Ricardo discovered the theory, see Roy J. Ruffin, "David Ricardo's Discovery of Comparative Advantage," *History of Political Economy* 34 (2002): 727–48. See also Daniel M. Bernhofen and John C. Brown, "On the Genius behind David Ricardo's 1817 Formulation of Comparative Advantage," *Journal of Economic Perspectives* 32 (2018): 227–40.

5. When challenged by a distinguished mathematician to name "one proposition in all of the social sciences which is both true and non-trivial," the Nobel laureate economist Paul Samuelson famously replied by mentioning the theory of comparative advantage. In a marvelous essay, Paul Krugman examines why many noneconomists have difficulty grasping the essential logic of comparative advantage. See Paul A. Samuelson, *The Collected Scientific Papers of Paul A. Samuelson*, vol. 3, Cambridge, MA: MIT Press, 1972, 683; Paul Krugman, "Ricardo's Difficult Idea:

efficiently than another country? Yet comparative advantage is one key to understanding the pattern of world trade. For example, imagine that you were hired to examine the factors explaining international trade in textiles. You might start by examining the efficiency of textile producers in various countries. If one country was found to be more efficient than another in producing textiles, you might conclude that this country would export textiles and other countries would import them. Yet this conclusion could well be wrong because simply comparing the efficiency of production across countries is insufficient for determining the pattern of trade.

According to Ricardo, international trade is not driven by the *absolute* costs of production but by the *opportunity* costs of production. The country most efficient at producing textiles might be even more efficient than other countries at producing other goods, such as food. In that case, the country would be best served by directing its labor to producing food, in which its margin of productive advantage is even greater than in textiles. As a result, despite its productivity advantage in textiles, the country would export food in exchange for imports of textiles. In the absence of other information, the absolute efficiency of one country's textile producers in comparison to another country's is insufficient to determine whether that country produces all of the textiles it consumes or imports some of them.

To put it differently, a country can obtain textiles either *directly* through domestic production or *indirectly* by producing something else and exporting it in exchange for imports of textiles. The most efficient way of getting textiles is whichever way yields the country the greatest quantity of such goods at the least cost. So, returning to the textile question, the real choice facing a country is whether it should devote its resources to producing textiles or to producing other goods that can be exported in exchange for textiles. A direct comparison of the efficiency of domestic and foreign textile producers will not by itself help us determine the pattern of trade.<sup>6</sup>

Why Intellectuals Don't Understand Comparative Advantage," in *The Economics and Politics of International Trade*, edited by Gary Cook, London: Routledge, 1998.

6. As James Mill, a close friend of Ricardo's, explained, "When a country can either import a commodity or produce it at home, it compares the cost of producing at home with the cost of procuring it from abroad; if the latter cost is less than the first, it imports. The cost at which a country can import from abroad depends, not upon the cost at which the foreign country produces the commodity, but upon what the commodity costs which it sends in exchange, compared with the cost which it must be at to produce the commodity in question, if it did not import it" (quoted in Irwin, *Against the Tide*, 91).

Although the concept of comparative advantage can be counterintuitive when applied to countries, individuals base their actions on it every day. The brilliant Barcelona football (soccer) player Lionel Messi might be the best on the field at any position, whether forward striker or midfield defender (i.e., he could have an absolute advantage over all other players). But his on-field advantage is greatest as a right wing, where he can use his uncanny abilities to be the most effective against defenders. It is this position where his comparative advantage is the greatest. Similarly, the author of this book might be inferior to his spouse in both cooking and cleaning up, but regrettably that is not an excuse to do nothing; instead, I am permitted to work where my margin of inferiority is the least (i.e., where I have a comparative advantage, which is a more upbeat way of thinking about one's deficiencies). Without information on alternative activities, a person's absolute efficiency in one activity should not determine where that individual chooses to direct their (scarce) labor time. Yet absolute efficiency is still frequently discussed as if it alone determines the pattern of resource allocation and international trade. Domestic steel producers insist that they are the world's most efficient producers of their products, implying that something must be wrong or unfair when they are beset by competition from imports. (Sometimes they may be right, but the mere fact that there are imports is not an obvious indication of unfairness.)

Indeed, from the standpoint of a domestic industry competing against imports, the trade patterns dictated by comparative advantage can sometimes seem unfair. The U.S. textile and apparel industry has been hard hit by foreign competition for many decades, going back to imports from Japan in the 1950s when that country was a low-wage developing nation. American clothing firms are much more productive than their foreign counterparts, in terms of output per hour, yet this does not guarantee them success in the market. It seems wrong that an American industry can be more efficient than any of its foreign competitors in absolute terms and yet fail to export—and even struggle against imports. But comparative advantage tells us that those sectors with the greatest *relative* efficiency advantage (compared to other countries) will be the ones that export with the greatest success.

To take another example, the late Lee Iacocca, the charismatic chief of Chrysler in the 1980s, once admitted that American automakers had fallen behind their Japanese rivals in the past, but proudly proclaimed that the U.S. auto industry had met the competitive challenge and had finally matched the efficiency of Japanese producers. (This claim may stretch the truth, but let us accept it for the sake of argument.) Unfortunately, the theory of comparative advantage tells Iacocca that he has a problem: It may not be enough for

an industry that competes with imports merely to match or even to exceed the productive efficiency of foreign producers to overcome that competition and recapture market share. The reason is that Chrysler and other U.S. automakers were not really competing against Japanese automakers as much as they were against other American industries that enjoyed an even greater productive superiority over their counterparts in Japan. U.S. auto producers might be able to match the productive efficiency of Japanese auto producers, but if American farmers and advanced semiconductors producers are vastly more efficient than their Japanese counterparts, the United States will continue to export agricultural goods and advanced semiconductors to Japan in exchange for imports of automobiles.

For developing countries, the theory of comparative advantage is good news in terms of their ability to trade profitably with advanced countries. Even if a developing country lacks an absolute productive advantage in any field, it will always have a comparative advantage in the production of some goods. Most countries, from Argentina to Zambia, are unable to match the productive efficiency of any U.S. industry, and yet still they are able to export some goods to the United States. Such countries will export goods where their relative disadvantage is least and use those export revenues to improve their standard of living by purchasing other foreign-produced goods, from fuel to capital equipment to medicine. There is no country whose economic circumstances prevent it from engaging in mutually beneficial trade with other countries. (Chapter 6 examines developing countries in more detail.)

What determines a country's comparative advantage? There is no single answer to this question. Sometimes specialization is based on climate or natural resources, sometimes on accumulated skills and capital, sometimes on an abundance of cheap labor, sometimes on government promotion of a particular industry. Some sources of comparative advantage are relatively immutable: the Great Plains of the American Midwest or the Pampas of Argentina are large areas uniquely suited to agriculture. Other sources of comparative advantage—based on technology, education, and worker skills—can evolve over time. Entrepreneurship and the business environment can also be critical factors. A country could have an ideal climate for producing wine, but unless someone invests in the capital and skills necessary for wine production, that climatic advantage will remain latent and unexploited. Whatever the underlying reasons, these differences across countries are the primary driving force behind trade.

Critics of free trade sometimes insist that the theory of comparative advantage is obsolete because Ricardo did not consider capital mobility

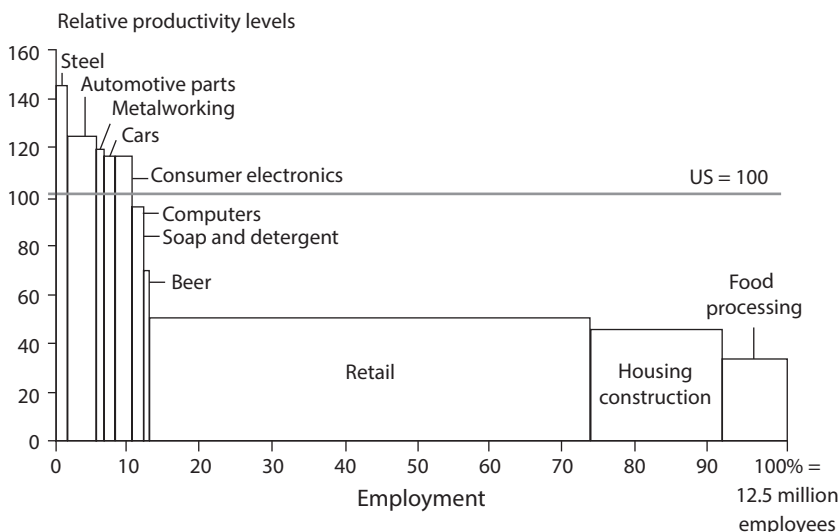


FIGURE 2.1. Employment-Weighted Relative Productivity Level, Japan Relative to the United States, 1990

Source: William W. Lewis, *The Power of Productivity: Wealth, Poverty, and the Threat to Global Stability*, Chicago: University of Chicago Press, 2004, 25.

or technology transfer between countries.<sup>7</sup> But modern economists have altered many of the assumptions underlying Ricardo's analysis, and the main result—that international exchange is mutually advantageous—remains intact.<sup>8</sup>

Figure 2.1 illustrates the concepts of comparative and absolute advantage by comparing labor productivity (output per worker) in Japan relative to the United States across industries in 1990. Even though the productivity of several Japanese manufacturing industries exceeded that of the United States, such as those making steel, automobiles, and consumer electronics, having this absolute advantage did not make Japan a richer country than the United States. In fact, per capita income in Japan was only about 80 percent of that in the United States in 1990, more or less where it

7. Trump trade adviser Peter Navarro argues that the Ricardian framework is outmoded and unrealistic because it does not deal with unfair trade practices and trade imbalances. Government subsidies can certainly alter the pattern of trade, sometimes in detrimental ways, and may call for a countervailing response. But this consideration does not invalidate the basic logic of comparative advantage. Trade imbalances will be dealt with in chapter 4.

8. Jonathan Eaton and Samuel Kortum, "Putting Ricardo to Work," *Journal of Economic Perspectives* 26 (2012): 65–90.

remains today. This can be explained by looking at the width of the bars, which indicate the share of employment in those sectors. A large share of Japan's labor force is employed in sectors where Japan's productivity is low in comparison to that of the United States. Japan's weighted average productivity was only about 80 percent of that in the United States because it was dragged down by low productivity in the retail services, construction, and food processing.

For example, food processing employed 11 percent of manufacturing workers in Japan, but their total factor productivity was just 40 percent of that in the United States. This low productivity is explained by the small scale of Japanese firms in this sector; Japan has six times more food-processing firms per capita than the United States. Japan has more small firms because domestic competition has been insufficient to force the consolidation of production and thereby improve efficiency. Similarly, trade protection limits competition and encourages such inefficiency. Japan's vegetable oil sector is protected by just a 5 percent tariff, and its level of productivity is 85 percent of what the United States can produce, whereas the dairy industry is protected by a stiff 227 percent tariff, and its level of efficiency is less than half of that in the United States.<sup>9</sup>

Thus, Japanese steel and automobile producers may be significantly more efficient than their American counterparts, but that does not make Japan a rich country because those sectors are a small part of the overall economy. Japan will match U.S. per capita income only when the average productivity of its overall workforce matches that of the United States.

Today, more people are worried about competition from China, where wages are much lower than in the United States but where productivity growth has been rapid. Figure 2.2 presents industry-level labor productivity in China compared to the United States in 1995 and 2004.<sup>10</sup> (The United States is benchmarked at 100 in both years.) Not surprisingly, China has an absolute productivity disadvantage, and the United States has an absolute productivity advantage in every industry in both years. That is, in every industry, China's labor productivity is significantly lower than that of the United States, although it had closed the gap in many of them by 2004. Yet, despite lagging in absolute productivity, China has a *comparative* advantage in some industries. In 2004, the four industries in which China came

9. These data are from a McKinsey study on the Japanese food industry; see "Rotten," *The Economist*, August 17, 2000. See also William W. Lewis, *The Power of Productivity: Wealth, Poverty, and the Threat to Global Stability*, Chicago: University of Chicago Press, 2004.

10. These numbers are dated because economists face many challenges in constructing them.

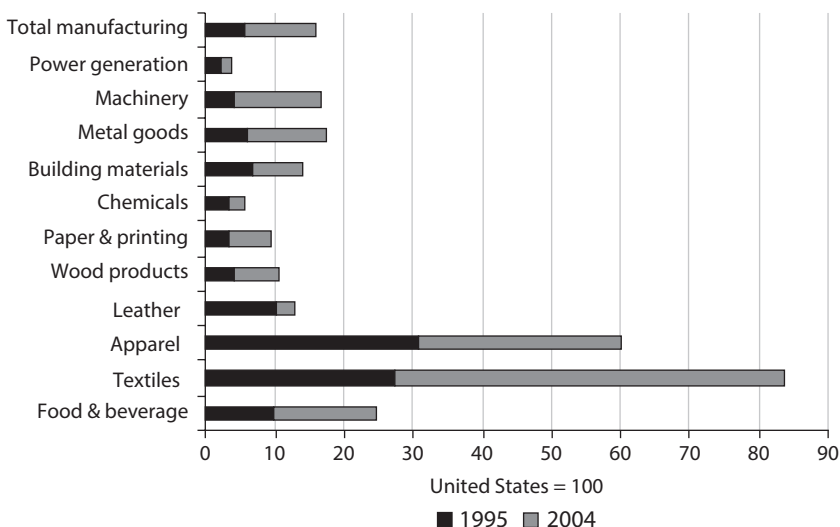


FIGURE 2.2. Labor Productivity, China Relative to the United States, by Industry, 1995 and 2004 (United States = 100)

Source: Paul D. Deng and Gary H. Jefferson, "Explaining Spatial Convergence of China's Industrial Productivity," *Oxford Bulletin of Economics and Statistics* 73 (2011): 818–32, table 5.

closest to achieving U.S. levels of productivity were apparel (60 percent of U.S. level), textiles (84 percent), metal goods (17 percent), and machinery (17 percent). It should come as no surprise that China's export success has been greatest in these industries, in addition to others that were not calculated, such as footwear and the assembly of consumer electronics.

How can China export clothing and footwear when its industries are significantly less efficient than their U.S. counterparts, even if that is where China's comparative advantage lies? The answer is that wages in China are significantly lower than in the United States. In 2013, average hourly compensation in Chinese manufacturing was about \$4.11 per hour, in contrast to \$36.37 in average hourly compensation costs for workers in U.S. manufacturing. Thus, urban workers in China earn about 11 percent of what American workers earn, which is not much but is substantially higher than it was in 2002, when it was just 2 percent.<sup>11</sup> Therefore, China can easily export apparel because its productivity is more than 60 percent

11. These data are now collected and reported by the Conference Board; see <https://www.conference-board.org/ilcprogram/index.cfm?id=38270#Table4>. For previous Bureau of Labor Statistics figures, see <http://www.bls.gov/fls/china.htm>. Rural workers have lower wages, but the productivity of inland firms is lower than that of coastal firms and the transportation costs required to deliver their goods to the coastal ports are high.

of the U.S. level while its wages are only about 11 percent of the U.S. level. This means that its unit labor costs—the costs of labor relative to its productivity—in these goods are very low compared to those in the United States.<sup>12</sup>

Given that China's wages are only about 11 percent of U.S. wages, on average, why doesn't China export everything to the United States? That is because its productivity in other industries is less than 11 percent of the U.S. level, meaning that it does not have a unit labor cost advantage over U.S. producers. For example, China cannot easily export chemicals and machinery because its productivity level is only 5 percent of the U.S. level, whereas it must pay wages that are much higher than that. (This link between wages and productivity will be examined further in chapters 4 and 6.) Thus, even though its wages are a small fraction of those in the United States, China's unit labor costs in this industry are high by international standards. Furthermore, labor costs are only one component of the total costs of production.

As China's productivity has improved over time, its wages have risen as well. In 1995, China's average productivity in manufacturing was just 6 percent of the U.S. level; by 2004, it was nearly 16 percent of the U.S. level. Over that same period, its average wage rate has also more than tripled.<sup>13</sup> This is not a coincidence. Therefore, it may not be surprising to learn that China is actually losing its export advantage in low-cost, labor-intensive industries such as apparel and footwear as its workforce becomes more productive and it moves into more sophisticated industries. Not only are Chinese wages rising rapidly, but domestic inflation and (at times) the appreciation of its currency (the renminbi) against the dollar have made those labor-intensive goods increasingly expensive in world markets.<sup>14</sup> Wages are rising because productivity has increased and firms need to pay higher wages to retain their workers and prevent them from leaving for

12. Actually, because wages for production workers in the U.S. apparel industry, at about fifteen dollars per hour, are much below the average U.S. wage, China's wage is about a fifth of the U.S. apparel wage. But since China's productivity is nearly three-fourths that of the United States, paying one-fifth the wage still gives the country a large unit labor cost advantage.

13. Paul D. Deng and Gary H. Jefferson, "Explaining Spatial Convergence of China's Industrial Productivity," *Oxford Bulletin of Economics and Statistics* 73 (2011): 818–32.

14. Janet Ceglowski and Stephen Golub, "Does China Still Have a Labor Cost Advantage?," *Global Economic Journal* 12 (2012): 1–28. Ceglowski and Golub find that China's unit labor costs fell between 1998 and 2003 but have been rising since then because of wage growth and the appreciation of its currency against the dollar. China's exchange rate policy has been very controversial and will be discussed in the context of trade deficits in chapter 4.



other firms.<sup>15</sup> In addition, other countries, such as Vietnam and Cambodia, have wage rates less than half those in China and can come close to matching its productivity in similar labor-intensive industries.<sup>16</sup> Apparel and footwear firms are migrating from China to Vietnam and Cambodia, where the unit labor costs are lower. This is a natural cycle of economic development (and one that the Trump administration is accelerating with its tariffs on Chinese goods). Just like the United States, Japan, Taiwan, and Korea before it, China will eventually lose its textile, apparel, and footwear industries as it begins to produce more sophisticated goods and its wages and productivity level rise.

Figure 2.3 illustrates this process by showing the share of Nike's footwear production in various Asian countries. In the late 1980s, about two-thirds of Nike footwear was made in South Korea, with a smaller fraction made in Taiwan. But as wages rose in those countries, Nike shifted its production to places with lower wages, such as China and Indonesia. The share of Nike's production in China peaked around 2000. Because wages in China have been rising rapidly, Nike started moving production to Vietnam. When Vietnam's wages rise and begin to push up Nike's costs, the company will move production to countries with lower wages, such as Cambodia or Bangladesh. That will not be a disaster for Vietnam. When Nike pulled out of Korea and Taiwan, it did not leave those countries destitute; rather, it pulled out because those economies were doing so well in providing higher-wage jobs to workers.

In sum, the United States has an absolute productivity advantage in producing apparel but still imports almost all of its apparel consumption from abroad. So what good is having high labor productivity? Simply put, a country that has an absolute productivity advantage over other countries

15. "Cheng Chunmeng, the general manager of a manufacturer of colorful children's chairs in east-central China, gave his workers a 30 percent raise last year to keep them from leaving." See Keith Bradsher, "Even as Wages Rise, China's Exports Grow," *New York Times*, January 9, 2014.

16. "In coastal provinces [of China] with ready access to ports, even unskilled workers now earn \$120 a month for a forty-hour workweek, and often considerably more; wages in inland provinces, where transport is costlier, are somewhat lower but also rising fast. While Chinese wages are still less than one dollar an hour, factory workers in Vietnam earn as little as fifty dollars per month for a forty-eight-hour workweek, including Saturdays. . . . When those increases are combined with a currency rising against the dollar at an annual pace of up to 10 percent, labor costs in China are now climbing at 25 percent a year or more. . . . A popular saying among Western investors is that Vietnam is the next China. Cambodia, with even lower wages attracting garment manufacturers, is called the next Vietnam." See Keith Bradsher, "Investors Seek Asian Options to Costly China," *New York Times*, June 18, 2008.

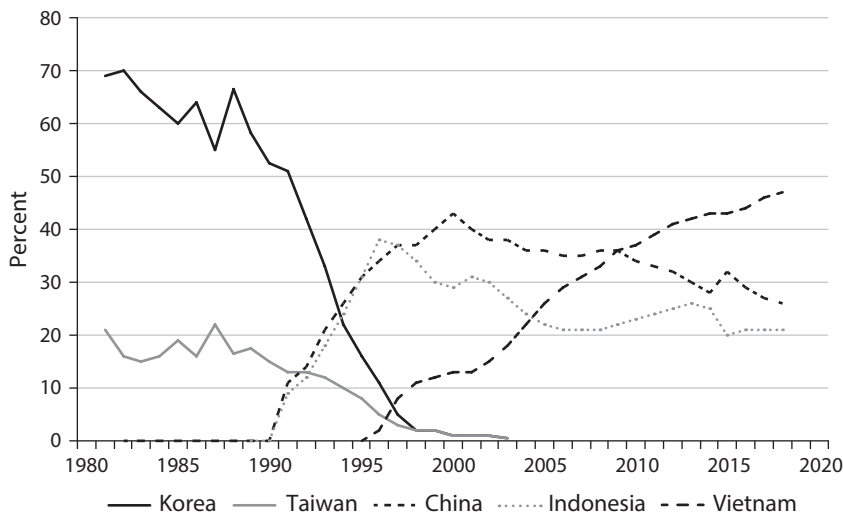


FIGURE 2.3. Share of Nike's Production of Shoes, by Country, 1982–2019

Source: Nike annual reports.

will be richer than other countries. An absolute advantage in productivity does not determine the pattern of trade, but it does translate into higher per capita income. In other words, the reason Americans enjoy one of the highest per capita incomes in the world is that the labor force is highly productive.

Conversely, the reason China's per capita income is low is that China's overall labor productivity is low. China has become richer, however, by improving its labor productivity, as Japan and Korea did before it. China's overall labor productivity was just 3 percent of U.S. labor productivity in 1980, 4 percent in 1990, 6 percent in 2000, and 13 percent in 2010. By 2016, China's labor productivity was 17 percent of that in the United States. Not surprisingly, China's relative per capita income has also risen very rapidly, from 4 percent of the U.S. level in 1990 to about 17 percent in 2016.<sup>17</sup> As Paul Krugman has put it, "Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."<sup>18</sup>

17. Asian Productivity Organization, *Productivity Databook 2018*, 152, 150. The per capita income figure is based on gross domestic product (GDP) at constant market prices per person, using 2011 purchasing power parity exchange rates.

18. Paul R. Krugman, *The Age of Diminished Expectations*, Cambridge, MA: MIT Press, 1990, 9.

## The Gains from Trade

While the idea that all countries can benefit from international trade goes back to Smith and Ricardo, subsequent research has described the gains from trade in much greater detail. In his book *Principles of Political Economy* (1848), John Stuart Mill, one of the leading economists of the nineteenth century, pointed to three principal gains from trade. First, there are what Mill called the “direct economical advantages of foreign trade.” Second, there are “indirect effects” of trade, “which must be counted as benefits of a high order.” Finally, Mill argued that “the economical benefits of commerce are surpassed in importance by those of its effects which are intellectual and moral.”<sup>19</sup> What, specifically, are these three advantages of trade?

The “direct economical advantages” of trade are the standard gains that arise from specialization, as described by Smith and Ricardo. By exporting some of its domestically produced goods in exchange for imports, a country engages in mutually beneficial trade; that is, the country is able to use its limited productive resources (such as land, labor, and capital) more efficiently and therefore achieve a higher real national income than it could in the absence of trade. A higher real income translates into an ability to afford more of all goods and services than would be possible without trade.

Economists suspect that these static gains from specialization are sizable. But it is difficult to measure the overall gains from trade because most countries have always been open to world trade to some extent. In the modern era, countries sometimes change their trade policies, but as a general matter we do not observe countries moving abruptly from situations of no trade to completely open trade, or vice versa. History, however, does give us some examples that we can use to calculate the total static gains from trade.

A classic case is Japan’s opening to the world economy. In 1859, as a result of American pressure, Japan opened its ports to international trade after two centuries of self-imposed autarky. The gains from trade can be estimated by examining the prices of goods in Japan before and after the opening of trade. For example, the price of silk and tea was much higher on world markets than in Japan before the opening of trade, whereas the price of cotton and woolen goods was much lower on world markets. With the introduction of trade, prices of those goods in Japan converged to the prices on the world market. As a result, Japan began exporting silk and tea in exchange for imports of clothing and other goods. According to one calculation, Japan’s

19. John Stuart Mill, *Principles of Political Economy*, London: Longmans [1848] 1909, 580ff.

national income was 8 to 9 percent higher as a result of the static reallocation of resources in response to the opportunity to trade.<sup>20</sup> (Of course, Japan's long-run dynamic gains from acquiring better technology and improving its productivity were many multiples of this and will be discussed shortly.)

The early United States provides another example, this time of a country that was open to trade and then deliberately shut its borders for a short period. In 1807, President Thomas Jefferson ordered an economic embargo to prevent the harassment of American shipping by British and French forces that were engaged in a bitter military conflict. While America's ports were closed to international commerce, the domestic price of imported goods rose 33 percent and the domestic price of exported goods fell 27 percent. The static welfare loss from this embargo was about 5 percent of U.S. gross domestic product (GDP). It is little wonder that the embargo was highly unpopular and, as a result, abandoned after just fifteen months.<sup>21</sup>

A more recent example is the Israeli blockade of the Gaza Strip from 2007 to 2010, which pushed the small territory into autarky. A study of the blockade found that the average welfare loss for a household in Gaza was equal to between 14 and 27 percent of the value of its pre-blockade expenditure. The welfare loss was disproportionately larger for wealthier households that were more likely to purchase foreign goods. In addition, labor productivity fell 36 percent in manufacturing because Gaza firms were cut off from the ability to source inputs and sell output abroad, but labor productivity hardly fell at all in services because firms were not as dependent on foreign trade.<sup>22</sup> The impact of autarky on Gaza was much larger than in the earlier cases of Japan and the United States because it is a small territory that is very dependent on trade. (Just imagine what would happen to the New Hampshire economy if it was prevented from trading with the rest of the United States and the world.)

Because such "natural experiments" are rare, economists also build simplified models of economies or perform simulations as a way of quantifying the overall gains from trade or the gains from reducing trade barriers. Such studies are necessarily based on many assumptions, and the results depend critically on the assumptions made. For example, one study

20. Daniel M. Bernhofen and John C. Brown, "Estimating the Comparative Advantage Gains from Trade: Evidence from Japan," *American Economic Review* 95 (2005): 208–25.

21. Douglas A. Irwin, "Welfare Effects of Autarky: Evidence from the Jeffersonian Embargo of 1807–1809," *Review of International Economics* 13 (2005): 631–45.

22. Haggay Etkes and Asaf Zimring, "When Trade Stops: Lessons from the Gaza Blockade, 2007–2010," *Journal of International Economics* 95 (2015): 16–27.

calculates the total welfare gains from trade for the United States as 2 percent in a one-sector model of the economy, 4 percent for a model with multiple sectors, and 8 percent for a model with multiple sectors and intermediate goods. These figures are modest in size because the United States is a large, continent-sized market, less dependent on trade than small countries. For the average country, the gains are much larger: 4 percent in a single-sector model, 15 percent in a multisector model, and 30 percent in a multisector model with intermediate goods.<sup>23</sup> Of course, all of these model-based numbers should be viewed with caution.

Economists also calculate the gains from reducing trade barriers. These estimated gains are much smaller than the total gains from trade because existing trade barriers are relatively modest. One study that simulates the effects of removing all existing barriers to trade in agricultural and manufactured goods finds that the worldwide gains would be about \$287 billion, or 0.7 percent of world income.<sup>24</sup> (This does not include liberalization of trade in services or improvements in trade facilitation in developing countries.) For the United States, the real income gain would be \$16 billion, or 0.1 percent of its GDP. This gain combines the benefits to the United States of reducing its own trade barriers and the benefits of lower foreign trade barriers. However, most of the gains to the United States from lower trade barriers around the world would likely come from opening up trade in services, which is not taken into account in this calculation.

If a country gains from trading with others, it would be expected to lose by forgoing some of that trade. A pending example will be what happens when Britain leaves the European Union (EU). Depending on the scenario for this break, Britain is likely to lose some access to the European market as a result of Brexit. Economists estimate that the gains to Britain from having joined the European market in the 1970s were fairly substantial—as much as 8 to 10 percent of GDP—because greater competition forced its firms

23. Arnaud Costinot and Andrés Rodríguez-Clare, “Trade Theory with Numbers: Quantifying the Consequences of Globalization,” in *Handbook of International Economics*, vol. 4, edited by Gene Gopinath, Elhanan Helpman, and Kenneth Rogoff, Amsterdam: North Holland, 2014, 206.

24. Kym Anderson, Will Martin, and Dominic van der Mensbrugghe, “Doha Merchandise Trade Reform: What Is at Stake for Developing Countries?,” *World Bank Economic Review* 20 (2006): 169–95. These calculations arise from computable general equilibrium models, which are complex computational models used to simulate the impact of various trade policies on specific industries and the overall economy. These models calculate the gains that arise from shifting resources between various sectors of the economy—specifically, the shift of labor and capital away from industries that compete against imports toward those in which the country has a comparative advantage as a result of changes in trade policy.

to become more efficient. Therefore, the trade-related costs of leaving the EU could be substantial as well.<sup>25</sup> Similarly, the United States lost some potential gains from trade when President Donald Trump withdrew from the Trans-Pacific Partnership (TPP), a deal to reduce trade barriers across a dozen Pacific Rim countries.<sup>26</sup>

These examples describe attempts at quantifying the aggregate gains from trade. What happens within a country? Do all the gains go to one segment of the population? In every country different consumers choose different baskets of goods to purchase. A 2016 study that looks at the gains from trade across different consumer groups suggests that, actually, the gains from trade are typically biased toward the poor, who concentrate more of their spending in traded goods such as food and clothing.<sup>27</sup> (This study looks at consumers' spending, not their income, which could also be affected by trade, as discussed in chapter 4.)

Another concern is that, while it may have overall benefits, trade could increase inequality. If the overall gains from trade are large enough, however, the gains can be redistributed to ensure that even those who lose from trade will be no worse off (something called a "Pareto improvement"). A team of World Bank economists looked at the tradeoff between the benefits from the static gains from trade (the aggregate increase in income) and the costs of higher income inequality (the unequal distribution of income). Looking across more than fifty low- and middle-income countries, they find that the average gains are about 1.9 percent of GDP but that the income gains are negatively correlated with equality gains (the higher the gains from trade, the more unequal incomes will be). Yet, using a social welfare function that

25. Thomas Sampson, "Brexit: The Economics of International Disintegration," *Journal of Economic Perspectives* 31 (2017): 160–84. One study by Organization for Economic Cooperation and Development (OECD) economists reports that Britain's GDP would be more than 3 percent smaller than with continued EU membership by 2020, and 5 percent smaller by 2030. See Rafel Kierzenkowski, Nigel Pain, Elena Rusticelli, and Sanne Zwart, "The Economic Consequences of Brexit: A Taxing Decision," *OECD Economic Policy Papers* 16 (2016). Somewhat larger negative effects are found by Swati Dhingra, Gianmarco Ottaviano, Thomas Sampson, and John Van Reenen, "The Costs and Benefits of Leaving the EU: Trade Effects," *Economic Policy* 32 (2019): 651–705. Indeed, the EU itself would reap benefits from increasing its market integration even more; David Comerford and Sevi R. Mora, "The Gains from Economic Integration," *Economic Policy*, forthcoming. See also Nauro F. Campos, Fabrizio Coricelli, and Luigi Moretti, "Institutional Integration and Economic Growth in Europe," *Journal of Monetary Economics* 103 (2019): 88–104.

26. James K. Jackson, "The Trans-Pacific Partnership (TPP): Analysis of Economic Studies," *Congressional Research Service*, Report R44551, June 30, 2016.

27. Pablo D. Fajgelbaum and Amit K. Khandelwal, "Measuring the Unequal Gains from Trade," *Quarterly Journal of Economics* 131 (2016): 1113–80.

puts a positive weight in income equality, a majority of the countries could liberalize trade and achieve income gains at “low” or no inequality costs.<sup>28</sup>

As these examples indicate, the calculated welfare gains that emerge from these calculations or simulations are sometimes small as a percentage of GDP. Some have interpreted these calculations to mean that trade liberalization is not especially valuable. But the small numbers arise partly because these agreements usually lead to modest policy changes for the United States. For example, what the United States undertook in signing the North American Free Trade Agreement (NAFTA) or might undertake as a result of the current multilateral trade negotiations, essentially making already-low import tariffs somewhat lower, cannot be compared to Japan’s move from autarky to free trade or to Jefferson’s embargo on shipping or to the Gaza blockade. In looking at the potential liberalization of trade going forward, these numbers do not reflect the entire gains from trade, just the marginal gains from an additional increase in trade as a consequence of a partial reduction in trade barriers.

More important, the reallocation of resources across industries as calculated in most simulation models does not take into account the other channels by which trade can improve economic performance. What are these other channels?<sup>29</sup> There is strong evidence that free trade improves economic performance by increasing competition in the domestic market. This competition diminishes the market power of domestic firms and leads to a more efficient economic outcome. This benefit does not arise because foreign competition changes a domestic firm’s costs through changes in the scale of output, but by changing the pricing behavior of imperfectly competitive domestic firms. Firms with market power tend to restrict output and raise prices, thereby harming consumers while increasing their own profits. With international competition, firms cannot get away with such conduct and are forced to behave more competitively. In fact, a survey of several studies concludes the following: “In *every* country studied, relatively high industry-wide exposure to foreign competition is associated with lower [price-cost] margins, and the effect is concentrated in larger plants.”<sup>30</sup>

28. Erhan Artuc, Guido G. Porto, and Bob Rijkers, “Trading Off the Income Gains and the Inequality Costs of Trade Policy,” *Journal of International Economics* 120 (2019): 1–45.

29. On some of the new sources of gains from trade, see Robert C. Feenstra, “New Evidence on the Gains from Trade,” *Review of World Economics* 142 (2006): 617–41.

30. Mark J. Roberts and James R. Tybout, *Industrial Evolution in Developing Countries: Micro Patterns of Turnover, Productivity, and Market Structure*, New York: Oxford University Press for the World Bank, 1996, 196. One view had been that greater openness to trade allows firms to sell in a potentially larger market and that firms are able to reduce their average costs of production by



Numerous studies confirm this finding in other countries, providing important evidence that trade disciplines domestic firms with market power. Yet the beneficial effects of increasing competition are not always taken into account in the simulation models discussed above because they often assume that perfect competition already exists.

Another problem with the standard estimates of the gains from trade is that they largely overlook the benefits to consumers from exposure to a greater variety of goods. This neglect comes from the traditional emphasis on the effects of trade on production, which is easily calculated, whereas the gains to consumers from choice among a wider variety of goods are more difficult to quantify. (Consumer utility is an amorphous concept, and detailed product-level data are difficult to come by.) Yet the few intriguing attempts to explore this benefit have suggested that it is tremendously important. For example, tariffs may affect not just the amount but also the range of foreign goods imported. When the selling of a product in a market has a fixed cost, a tariff reduces the size of the market and therefore the potential profits of engaging in trade. Because the smaller size would not allow firms to recoup the fixed costs of selling in that market, some varieties of goods would be excluded. In this way, barriers to trade can reduce the range of goods available to an economy and limit the availability of specialized consumer and producer intermediate goods.

When trade restrictions reduce the number of traded goods, the welfare costs of those restrictions are much larger than in the standard analysis, where the number of traded goods is assumed to be fixed. The reason is this: if a tariff eliminates imports of a particular variety of good, then all the consumption benefits are lost with no offsetting gains. Although the standard computable models do not account for this loss, we know that variety is highly valued. For example, consider consumers in East Germany and Poland who, after the collapse of communism, found exotic and affordable fruits such as bananas and oranges in the marketplace for the first time

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expanding the size of their output. The lower production costs resulting from these economies of scale are passed on to consumers and thereby generate additional gains from trade. But economists have found that the importance of scale economies is overstated. Evidence from both developed and developing economies suggests that economies of scale at the plant level for most manufacturing firms tend to be small relative to the size of the market. As a result, most plants have attained their minimum efficient scale. Average costs seem to be relatively unaffected by changes in output so that a big increase in a firm's output does not lead to lower costs, and a big reduction in output does not lead to higher costs. For example, many firms are forced to reduce output as a result of competition from imports, but their production costs rarely increase very much.



in their lives. Or consider their newfound ability to purchase apples and cabbages without worms and rot. The effect of such changes on aggregate output and income was negligible, but the welfare gains from the availability of new and improved goods were not insignificant at all.

If a tariff simply reduces the quantity of an imported good, the loss to consumers is a much smaller, second-order loss to overall welfare, because most of what consumers lose is transferred to producers or paid to the government in the form of tariff revenue. If a computable model assumes that a tariff just reduces the quantity of existing goods, when it actually reduces the range of imported goods, the welfare cost is understated—by as much as a factor of ten, according to one assessment.<sup>31</sup>

These welfare effects need not imply an enormous change in national income: Domestic output (measured GDP) may not change much as a result of the tariff. But the welfare cost can be substantial when consumers value the consumption of different varieties of goods. To the extent that economists focus only on trade's effect on production or income, they understate the gains from trade.

Is there systematic evidence that tariffs reduce the range of consumer and intermediate varieties available to an economy? Can we be sure that this reduction in variety of goods is costly to economic welfare? A growing body of evidence suggests that the answer is yes. For example, over the past three decades, the number of varieties imported by the United States has increased by a factor of four. The number of countries supplying each imported good has doubled. As a result, according to one study, consumer welfare is about 2.6 percent of GDP higher over this period simply because of the gains from variety.<sup>32</sup>

Variety is just as valuable for producers as it is for consumers. Free trade expands the range of intermediate goods available for domestic firms to use as inputs. The availability of different specialized inputs can increase the range of goods produced and the efficiency of the industry that produces the

31. Paul Romer, "New Goods, Old Theory, and the Welfare Costs of Trade Restrictions," *Journal of Development Economics* 43 (1994): 5–38.

32. Christian Broda and David Weinstein, "Globalization and the Gains from Variety," *Quarterly Journal of Economics* 121 (2006): 541–85. Furthermore, trade is responsive to tariff reductions, especially on the variety dimension. After trade barriers are reduced, not only do countries simply trade more of the same goods, but also trade expands most rapidly in goods that were previously not traded or traded only at low levels. In other words, goods on the margin are those that respond most to reduced costs of exchange. The high sensitivity of trade flows to reductions in trade barriers may be due to this factor. See David Hummels and Peter Klenow, "The Variety and Quality of a Nation's Exports," *American Economic Review* 95 (2005): 704–23.

final goods. One study simulated the experience of a small open economy that reduces its import tariff from 20 to 10 percent. With constant returns to scale and no product variety, the welfare gain is 0.5 percent of the present value of consumption. With product variety, the welfare gain is about 10 percent of the present value of consumption. This is because the tariff reduction induces entry into the production of intermediate goods, and the resulting increase in variety reduces the cost of intermediates to final-goods producers.<sup>33</sup>

Such effects are not simply theoretical. After India reduced its tariffs on intermediate goods in the 1990s, giving domestic firms access to previously unavailable inputs from the world market, the firms responded by increasing product scope significantly; about one-third of new product introductions have been attributed to lower tariffs, implying large dynamic gains from trade.<sup>34</sup> Furthermore, the use of new imported inputs by Korean business groups (chaebol) helped to promote total factor productivity growth at the industry level, even after controlling for other factors such as research-and-development expenditures.<sup>35</sup>

Finally, there are important gains from trade in terms of the *quality* of imported goods. One study looked at India's imports of computer printers between 1996 and 2005, when it abolished its 20 percent import tariff. It found that consumers reaped large gains from being able to purchase higher-quality goods, significant gains from lower prices, and small gains from increased variety.<sup>36</sup>

## Productivity Gains

Trade improves economic performance not only by allocating a country's resources to their most efficient use, but also by making those resources more productive in what they are doing. This is the second of John Stuart

33. Thomas F. Rutherford and David G. Tarr, "Trade Liberalization, Product Variety, and Growth in a Small Open Economy: A Quantitative Assessment," *Journal of International Economics* 56 (2002): 247–72.

34. Pinelopi K. Goldberg, Amit Khandelwal, Nina Pavcnik, and Petia B. Topalova, "Imported Intermediate Inputs and Domestic Product Growth: Evidence from India," *Quarterly Journal of Economics* 125 (2010): 1727–67.

35. Robert C. Feenstra, James R. Markusen, and William Zeile, "Accounting for Growth with New Inputs," *American Economic Review* 82 (1992): 415–21.

36. This study finds that consumers would require a 65 percent decrease in all 1996 prices to be as well off as they were with the quality available in 2005. See Gloria Sheu, "Price, Quality, and Variety: Measuring the Gains from Trade in Differentiated Products," *American Economic Journal: Applied Economics* 6 (2014): 66–89.

Mill's three gains from trade, the one he called "indirect effects." These indirect effects include "the tendency of every extension of the market to improve the processes of production. A country which produces for a larger market than its own can introduce a more extended division of labour, can make greater use of machinery, and is more likely to make inventions and improvements in the processes of production."<sup>37</sup>

In other words, trade promotes productivity growth. The higher an economy's productivity level, the higher its standard of living. International trade contributes to productivity growth in at least two ways: It serves as a conduit for the transfer of foreign technologies that enhance productivity, and it increases competition in a way that stimulates industries to become more efficient and improve their productivity, often by forcing less productive firms out of business and allowing more productive firms to expand. After neglecting them for many decades, economists have finally studied these productivity gains from trade more systematically.<sup>38</sup>

The first contribution, international trade serving as a conduit for the transfer of foreign technologies, operates in several ways.<sup>39</sup> One is through the importation of capital goods. Imported capital goods that embody technological advances can greatly enhance an economy's productivity. For example, the South Carolina textile magnate Roger Milliken (an active financier of anti-free trade political groups) has bought textile machinery from Switzerland and Germany because domestically produced equipment is more costly and less sophisticated.<sup>40</sup> This imported machinery has enabled his firms to increase productivity significantly. Between a quarter and half of growth in U.S. total factor productivity may be attributed to new technology embodied in capital equipment. To the extent that trade barriers raise the price of imported capital goods, countries are hindering their ability to benefit from technologies that could raise productivity. In fact, one study finds that about a quarter of the differences in productivity across countries can be attributed to differences in the price of capital equipment.<sup>41</sup>

37. Mill, *Principles of Political Economy*, 581.

38. Taking account of such productivity effects has raised economists' estimates of the gains from trade. See Marc J. Melitz and Stephen J. Redding, "Missing Gains from Trade?," *American Economic Review* 104 (2014): 317–21.

39. Wolfgang Keller, "International Technology Diffusion," *Journal of Economic Literature* 42 (2004): 752–83.

40. Ryan Lizza, "Silent Partner: The Man Behind the Anti-Free Trade Revolt," *New Republic* 222 (January 10, 2000): 22–25.

41. Jonathan Eaton and Samuel Kortum, "Trade in Capital Goods," *European Economic Review* 45 (2001): 1195–235. Jong-Wha Lee finds that the ratio of imported to domestically

Advances in productivity are usually the result of investment in research and development (R&D), and the importation of foreign ideas can be a spur to productivity. Sometimes foreign research can be imported directly. For example, China has long struggled against a devastating disease known as rice blast, which in the past destroyed millions of tons of rice a year, costing farmers billions of dollars. Two decades ago, under the direction of an international team of scientists, farmers in China's Yunnan province started planting a mixture of two different types of rice in the same paddy. Through this simple technique of biodiversity, farmers nearly eliminated rice blast and doubled their yield. Foreign R&D allowed the Chinese farmers to increase yields of a staple commodity and to abandon the chemical fungicides they had previously used to fight the disease.<sup>42</sup>

At other times, the benefits of foreign R&D are secured by importing goods that embody it. Countries more open to trade gain more from foreign R&D expenditures because trade in goods serves as a conduit for the spillovers of productive knowledge generated by that R&D. Several studies have found that a country's total factor productivity depends not only on its own R&D but also on how much R&D is conducted in the countries that it trades with. Imports of specialized intermediate goods that embody new technologies, as well as reverse-engineering of such goods, are sources of R&D spillovers. Thus, developing countries that do not conduct much R&D themselves can benefit from R&D done elsewhere because trade makes the acquisition of new technology less costly.<sup>43</sup> These examples illustrate Mill's observation that "whatever causes a greater quantity of anything to be produced in the same place, tends to the general increase of the productive powers of the world."

The second way in which international trade contributes to productivity is by forcing domestic industries to become more efficient. We have already seen that trade increases competition in the domestic market, diminishing

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produced capital goods is significantly related to growth in per capita income, particularly in developing countries; see Jong-Wha Lee, "Capital Goods Imports and Long-Run Growth," *Journal of Development Economics* 48 (1995): 91–110. Similar conclusions are reached by Joy Mazumdar, "Imported Machinery and Growth in LDCs," *Journal of Development Economics* 65 (2001): 209–24.

42. Carol K. Yoon, "Simple Method Found to Increase Crop Yields Vastly," *New York Times*, August 22, 2000.

43. Ram C. Acharya and Wolfgang Keller, "Technology Transfer through Imports," *Canadian Journal of Economics* 42 (2009): 1411–48.

the market power of any single firm and forcing it to behave more competitively. Competition also stimulates firms to improve their efficiency; otherwise they risk going out of business. Over the past decade, study after study has documented this phenomenon. After the Côte d'Ivoire reformed its trade policies in 1985, overall productivity growth tripled, growing four times more rapidly in industries that became less sheltered from foreign competition. Industry productivity in Mexico increased significantly after its trade liberalization in 1985, especially in traded-goods sectors. Detailed studies of Korea's trade liberalization in the 1980s, Brazil's during the years from 1988 to 1990, and India's in 1991 reached essentially the same conclusion.<sup>44</sup>

International competition not only forces domestic firms to adopt more efficient production techniques, but it also affects the entry and exit decisions of firms in a way that helps raise the aggregate productivity of an industry. In any given industry, productivity is quite heterogeneous among firms: Not all firms are equally efficient. Trade strengthens high-productivity firms and eliminates those that are low-productivity firms.

On the export side, exposure to trade allows firms that are more productive to become exporters and thereby expand their output. In the United States, plants with higher labor productivity within an industry tend to be the plants that export; in other words, more efficient firms are the ones that become exporters.<sup>45</sup> For example, one study of the Canada–U.S. Free Trade Agreement found that Canadian plants that were induced by the U.S. tariff cuts to start exporting (or to export more) increased their labor productivity, engaged in more product innovation, and had higher adoption rates for advanced manufacturing technologies.<sup>46</sup> The opportunity to trade, therefore, allows more efficient firms to grow.

44. Ann E. Harrison, "Productivity, Imperfect Competition, and Trade Reform: Theory and Evidence," *Journal of International Economics* 36 (1994): 53–73; Euisung Kim, "Trade Liberalization and Productivity Growth in Korean Manufacturing Industries: Price Protection, Market Power, and Scale Efficiency," *Journal of Development Economics* 62 (2000): 55–83; Pedro C. Ferreira and Jose L. Rossi, "New Evidence from Brazil on Trade Liberalization and Productivity Growth," *International Economic Review* 44 (2003): 1383–405; Pravin Krishna and Devashish Mitra, "Trade Liberalization, Market Discipline, and Productivity Growth: New Evidence from India," *Journal of Development Economics* 56 (1998): 447–62.

45. For a survey of this literature, see Andrew J. Bernard, Bradford Jensen, Stephen Redding, and Peter Schott, "Firms in International Trade," *Journal of Economic Perspectives* 21 (2007): 105–30.

46. Alla Lileeva and Daniel Trefler, "Improved Access to Foreign Markets Raises Plant-level Productivity . . . for Some Plants," *Quarterly Journal of Economics* 125 (2010): 1051–99.

And yet the link between exporting and productivity may be more than that. While there is strong evidence that more productive manufacturing plants select into exporting, recent evidence points to efficiency gains within plants simply by virtue of exporting. A study of Chilean, Colombian, and Mexican manufacturing firms found sizable efficiency gains after export entry, suggesting a complementarity between exporting and investment in technology as an important driver of these gains.<sup>47</sup>

On the import side, competition forces the least productive firms to reduce their output or shut down. For example, when Chile began opening up its economy to the world market in the 1970s, exiting plants were, on average, 8 percent less productive than plants that continued to produce. The productivity of plants in industries competing against imports grew 3 to 10 percent more than in nontraded-goods sectors. Protection had insulated less productive firms from foreign competition and allowed them to drag down overall productivity within an industry, whereas open trade weeded out inefficient firms and allowed more efficient firms to expand.<sup>48</sup> Thus, trade brings about certain firm-level adjustments that increase average industry productivity in both export-oriented and import-competing industries.

The impact of the U.S.-Canada Free Trade Agreement on Canadian manufacturing is suggestive. Tariff reductions helped boost labor productivity by a compounded rate of 0.6 percent per year in manufacturing as a whole and by 2.1 percent per year in the most affected (i.e., high tariff) industries. These are astoundingly large effects. This amounts to a 17 percent increase in productivity in the period after the free trade agreement (FTA) in the highly affected sectors and a 5 percent increase for manufacturing overall. These productivity effects were not achieved through scale effects or capital investment, but rather are the result of a mix of plant turnover and rising technical efficiency within plants. By raising productivity, the FTA also helped increase the annual earnings of production workers, particularly in the most protected industries.<sup>49</sup>

Recent work has highlighted the important distinction between tariffs on final goods (output) and tariffs on intermediate goods (capital goods and material inputs). Tariffs on final goods may harm consumers, but trade

47. Alvaro Garcia-Marin and Nico Voigtländer, "Exporting and Plant-Level Efficiency Gains: It's in the Measure," *Journal of Political Economy* 127 (2019): 1777–825.

48. Nina Pavcnik, "Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants," *Review of Economic Studies* 69 (2002): 245–76.

49. Daniel Trefler, "The Long and Short of the Canada–U.S. Free Trade Agreement," *American Economic Review* 94 (2004): 870–95.

policies that increase the price of imported capital goods may be more damaging because they can affect the productivity of domestic firms. Tariffs and other trade barriers that raise the cost of capital goods mean that each investment dollar buys less capital. This reduces the efficiency of investment spending and can reduce overall investment and growth.<sup>50</sup> For example, a study of Indonesia found that a 10 percent reduction in input tariffs increased industry productivity by 3 percent, whereas a similar reduction in final-goods tariffs increased industry productivity by less than 1 percent.<sup>51</sup> The reason for the difference is the channel by which the lower tariffs increase productivity: In the case of final goods, the gain comes from intensifying domestic competition, whereas with intermediate tariffs the gains arise more directly from importing higher-quality or different varieties of inputs. Indeed, the firms that actually imported intermediate inputs saw an 11 percent rise in productivity. Another study showed that when China reduced its tariffs in joining the World Trade Organization (WTO), the productivity of its firms increased, both because of increased competition and access to cheaper inputs to production.<sup>52</sup>

To sum up, traditional calculations of the gains from trade stress the benefits of shifting resources from protected industries to those with an international comparative advantage. But trade may affect the allocation of resources among firms within an industry as much as, if not more than, it affects the allocation of resources between different industries. New evidence shows that large productivity differences exist between plants within any given industry, and therefore shifting resources between firms within an industry may be even more important for productivity than shifting resources between industries. In addition, allowing domestic firms to import the best and cheapest capital goods and intermediate products in the world allows those companies to improve their performance. In doing so, trade helps improve productivity.

These productivity effects of trade may be on an order of magnitude more important than the standard gains. Trade liberalization brings greater competition and quickens the pace of creative destruction and thereby speeds the flow of technology across countries. One study finds that the resulting

50. Lee, "Capital Goods Imports and Long-Run Growth."

51. Mary Amiti and Jozef Konings, "Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia," *American Economic Review* 97 (2007): 1611–38.

52. Loren Brandt, Johannes Van Biesebroeck, Luhang Wang, and Yifan Zhang, "WTO Accession and Performance of Chinese Manufacturing Firms," *American Economic Review* 107 (2017): 2784–820.



dynamic gains from trade are two to five times larger than in the standard static framework.<sup>53</sup> And the experiences of many countries reinforce this view.

### Can We Measure the Gains from Trade?

We have seen that there are gains from trade and that trade raises productivity through a variety of mechanisms. But is there really a payoff in terms of higher income? Is it true that countries that engage in more trade, or reduce their trade barriers, will have a higher per capita income as a result? Can this be empirically verified in studies using cross-country data?

These questions may seem straightforward, but they are deceptively difficult to answer. Until recently, empirical analysis of these issues was unsatisfactory. The usual approach was to examine the statistical relationship between trade (typically measured by the ratio of exports to GDP) and income across many countries. Although studies usually uncovered a positive correlation between trade and income, the meaning of this result is uncertain. Perhaps countries that trade more have higher incomes, or perhaps countries with higher incomes engage in more trade because they have better ports and other infrastructure that support trade or because they have better economic policies in general.

Fortunately, creative research by Jeffrey Frankel and David Romer has overcome this ambiguity. They demonstrated that the reason higher incomes are associated with more trade is not simply because high-income countries trade more.<sup>54</sup> Indeed, they find that the effect of trade on income is strikingly higher once the part of trade that is not driven by income is isolated: The standard estimates suggest that a 1 percent increase in the trade share increases per capita income by about 0.8 percent, but using only geographic determinants of trade raises the estimated effect to about 2 percent (although this is imprecisely estimated). Frankel and Romer find that the effect of trade on income works mainly through higher productivity but also by increasing the capital stock.

53. Chang-Tai Hsieh, Peter J. Klenow, and Ishan Nath, "A Global View of Creative Destruction," National Bureau of Economic Research Working Paper No. 26461, November 2019.

54. The fundamental problem is that trade affects income and income affects trade. To isolate the effect of trade on income, a measure of trade that is unrelated to income must be found. Noting that distance from trade partners is a key determinant of trade but is unrelated to income, Frankel and Romer used a country's geographic attributes to identify the relationship between trade and income. Jeffrey A. Frankel and David Romer, "Does Trade Cause Growth?," *American Economic Review* 89 (1999): 379–99.



The Frankel-Romer approach has been extended and improved by subsequent researchers. One study by James Feyrer introduces time-varying distance instruments that allow for the inclusion of country-specific effects.<sup>55</sup> This allows all time-invariant factors that may be correlated with income, such as distance from the equator, the disease environment, and colonial history, to be controlled for. The study finds a smaller impact of trade on income than Frankel and Romer—a 10 percent increase in trade leads to a 5 percent increase in per capita income—but it is much more robust. Furthermore, almost all of the effect of trade on income comes from higher productivity, not more physical or human capital.

Although differences in trade resulting from policy may not affect income the same way as differences resulting from geography, these results are suggestive for trade policy. One study therefore used dozens of statistical specifications to examine the link between various indicators of a country's trade policy and its per capita income. Almost invariably, more open trade policies are associated with higher per capita income, although the magnitude and significance of the relationship varied considerably depending on the indicator used.<sup>56</sup>

According to the theories discussed earlier in this chapter, freer trade can be expected to lead to higher levels of income or consumer welfare but not necessarily a higher rate of economic growth. Yet in the transition from a lower to a higher level of income, the growth rate should increase. What sort of growth effect from trade liberalization is plausible? Suppose trade barriers are reduced such that the share of imports in GDP rises from 10 to 14 percent. This move to free trade allows the economy to purchase an additional 4 percent of GDP's worth of imports. If we assume that the average surplus gain from these imports is half the export cost, then the real value of consumption rises 2 percent. If the reduction in trade barriers is phased in over a decade, this corresponds to an increase in growth of about 0.2 percent annually.<sup>57</sup>

In this case, the trade policy change would not have a decisive, or even noticeable, impact on the overall rate of economic growth in any given year.

55. James Feyrer, "Trade and Income: Exploiting Time Series in Geography," *American Economic Journal: Applied Economics* 11 (2019): 1–35.

56. Charles I. Jones, "Comment on Rodríguez and Rodrik," in *NBER Macroeconomics Annual, 2000*, edited by Ben S. Bernanke and Kenneth Rogoff, Cambridge, MA: MIT Press, 2001. The counterargument is that reverse causality precludes this conclusion because richer countries have chosen to have lower trade barriers.

57. I owe this example to Brad DeLong.

But the magnitude of the impact on growth does not need to be large to generate substantial welfare benefits over time. A permanent increase in the steady state growth rate of an economy of just 0.2 percent can yield a welfare gain equivalent to a 5 percent increase in the present value of consumption over a long horizon.<sup>58</sup>

What is the empirical link between trade liberalization and economic growth? While several studies have found a positive relationship between lower trade barriers and more rapid economic growth in the postwar period, others have questioned these results.<sup>59</sup> One obstacle that hampers these empirical studies is the absence of a single variable that accurately measures trade policy.<sup>60</sup> The relationship between trade policy and economic growth may be hard to pin down in the context of cross-country growth comparisons, partly because trade policy is poorly measured and partly because the effects of trade policy may be swamped by other factors that are difficult to measure.

Recent studies have addressed many of the flaws that have plagued previous research. Most previous studies estimated the growth effects of trade liberalization by examining a cross-section of countries—that is, by comparing country X’s experience with country Y’s. But the difference in these countries’ growth rates could be due to a host of reasons that economists cannot adequately control for. Instead, a more recent study uses a panel of data from 1950 to 1998 to estimate the *within*-country response of per capita income, investment, and trade share to the date of major trade

58. Rutherford and Tarr, “Trade Liberalization, Product Variety, and Growth in a Small Open Economy,” 268.

59. Francisco Rodríguez and Dani Rodrik dissected many of the earlier studies and questioned the robustness of their results. See Francisco Rodríguez and Dani Rodrik, “Trade Policy and Economic Growth: A Skeptic’s Guide to Cross-National Evidence,” *NBER Macroeconomics Annual*, 2000, edited by Ben S. Bernanke and Kenneth Rogoff, Cambridge, MA: MIT Press, 2001. More recent papers described in the following paragraphs take greater care in addressing their concerns and find a robust relationship between trade liberalization and economic growth. See Douglas A. Irwin, “Does Trade Reform Promote Economic Growth? A Review of Recent Evidence,” National Bureau of Economic Research Working Paper 25927, June 2019. Chapter 6 addresses this issue as well.

60. There is no single metric that ideally describes the stance of a country’s trade policy. Import tariffs can be measured imperfectly, but they are not necessarily the most important feature of trade policy today. Nontariff barriers can be an even more important impediment to trade in many countries, but they cannot be measured precisely. The World Trade Organization produces an annual report on tariff and nontariff measures used by member countries; see WTO, *World Tariff Profiles 2019*, Geneva: WTO, 2019, [https://www.wto.org/english/res\\_e/publications\\_e/world\\_tariff\\_profiles19\\_e.htm](https://www.wto.org/english/res_e/publications_e/world_tariff_profiles19_e.htm).

policy changes.<sup>61</sup> After controlling for time-invariant country characteristics, the study shows the average within-country growth rate to be 1.5 percentage points higher after periods of trade liberalization in comparison to the no-reform period.<sup>62</sup> However, there is considerable heterogeneity in the growth effect—although the average effect is positive and statistically significant, in about half of the countries growth was zero or negative in the post-liberalization period. The within-country effect of trade reform on the investment rate is also positive and around 1.5 to 2.0 percentage points. And the ratio of exports and imports to GDP is found to rise about 5 percentage points as a result of trade liberalization.

Another recent study of liberalizing and nonliberalizing countries during the 1990s finds that countries that reduced import duties on capital goods and intermediate inputs grew about 1 percentage point faster than other countries that did not.<sup>63</sup> Relative to their baseline growth experience from 1975 to 1989, the liberalizing countries saw their GDP per worker rise 15 to 20 percent relative to nonliberalizers, which is consistent with an extra 1 percentage point of growth per year. Reducing tariffs on final consumption goods did not have such a strong impact on economic growth. This reinforces the point that trade barriers on capital goods and intermediate products are especially harmful to economic performance. And yet another study of economic policy liberalization, focusing largely on trade policy and a country's openness to world trade, found that reforming countries grew more rapidly than similar but nonreforming countries, although there was significant heterogeneity in the outcome, particularly after the 1990s.<sup>64</sup>

What should be concluded from this research? While there is no guarantee that trade liberalization will increase the level of income or the rate of economic growth under all circumstances, the repeated finding of a positive relationship between them is more than just coincidence. Despite limitations in method and measurement, cross-country and within-country studies support the conclusion that economies with more open trade policies tend to

61. Romain Wacziarg and Karen H. Welch, "Trade Liberalization and Growth: New Evidence," *World Bank Economic Review* 22 (2008): 187–231.

62. They are also able to control for the fact that many reforms are undertaken during periods of economic crisis, and therefore growth may rebound after a stabilization that includes trade reform.

63. Antoni Esteveadeordal and Alan M. Taylor, "Is the Washington Consensus Dead? Growth, Openness, and the Great Liberalization 1970s–2000s," *Review of Economics and Statistics* 95 (2013): 1669–90.

64. Andreas Billmeier and Tommaso Nannicini, "Assessing Economic Liberalization Episodes: A Synthetic Control Approach," *Review of Economics and Statistics* 95 (2013): 983–1001.

perform better than those with more restrictive trade policies. Additional, striking evidence comes from individual country experiences. These event studies clearly dramatize the benefits of deregulating imports, and the experience of countries such as China, Chile, South Korea, India, and Vietnam will be considered in chapter 6.

### Additional Benefits of Trade

The economic gains from trade are substantial, but they are not the only benefits that come to countries with a policy of open trade. John Stuart Mill's third and final claim was that "the economical advantages of commerce are surpassed in importance by those of its effects which are intellectual and moral."<sup>65</sup> Mill did not elaborate, but he may have been referring to the idea of *deux commerce*, exemplified by Montesquieu's observation in *The Spirit of the Laws* (1748) that "commerce cures destructive prejudices."<sup>66</sup> Trade brings people into contact with one another and, according to this view, breaks down the narrow prejudices that come with insularity. Commerce can also force merchants to be more responsive to customers, as greater competition gives consumers a wider choice. This may be a quality margin on which producers compete for the patronage of consumers.

For example, a study on the effects of fast-food restaurant chain McDonald's on Asian culture noted that restrooms in Hong Kong previously had the reputation for being unspeakably filthy. When McDonald's opened in the mid-1970s, it redefined standards, setting a new, higher benchmark for cleanliness that other restaurants were forced to emulate. In Korea, McDonald's established the practice of lining up on a first-come, first-serve basis to purchase food, rather than the rugby scrum that had been the norm. When McDonald's first opened in Moscow, a young woman with a bullhorn stood outside its doors to explain to the crowd that the servers smiled not because they were laughing at customers but because they were happy to serve them. Sanitation, queuing, and friendly service have their

65. "It is hardly possible to overrate the value . . . of placing human beings in contact with persons dissimilar to themselves, and with modes of thought and action unlike those with which they are familiar," Mill continues, because "there is no nation which does not need to borrow from others, not merely particular arts or practices, but essential points of character in which its own type is inferior." Mill, *Principles of Political Economy*, 581.

66. Montesquieu, *The Spirit of the Laws*, translated by A. M. Cohler, B. C. Miller, and H. S. Stone, New York: Cambridge University Press [1748] 1989, 338.

advantages and surely make for more pleasant living, whatever your opinion of McDonald's food.<sup>67</sup>

There is also a long-standing idea that trade promotes peace among nations. Many Enlightenment philosophers in the eighteenth century and classical liberals in the nineteenth century endorsed this view. Montesquieu argued that "the natural effect of commerce is to lead to peace" because "two nations that trade with each other become reciprocally dependent." John Stuart Mill endorsed this view: "It is commerce which is rapidly rendering war obsolete, by strengthening and multiplying the personal interests which are in natural opposition to it. And it may be said without exaggeration that the great extent and rapid increase of international trade, in being the principal guarantee of the peace of the world, is the great permanent security for the uninterrupted progress of the ideas, the institutions, and the character of the human race."<sup>68</sup>

Political scientists, and a few economists, have examined whether economic interdependence mitigates conflict between nations. Most empirical studies have tended to support the idea that there is a positive link between trade and peace.<sup>69</sup> While the link between trade and peace is intriguing, there are many difficulties in establishing a statistical relationship between them. The methodological obstacles include making political concepts operational and representing them numerically, as well as establishing causal relationships. For example, countries that are at peace with one another are also more likely to be trading partners; which is the cause and which is the effect? Countries that are less aggressive are probably more likely to join international institutions, raising the same question. One study finds countervailing effects: increased bilateral trade increases the cost of conflict

67. Some globalization critics revile McDonald's for destroying local cuisine and foisting homogeneous, unhealthy processed food on the public. Yet James Watson points out that McDonald's restaurants located in foreign countries are locally owned and highly attuned to local culture and tastes. James L. Watson, *Golden Arches East: McDonald's in East Asia*, Stanford, CA: Stanford University Press, 1997. One recent survey indicated that nearly half of all Chinese children under the age of twelve identified McDonald's as a domestic brand. See Elisabeth Rosenthal, "Buicks, Starbucks, and Fried Chicken: Still China?," *New York Times*, February 25, 2002.

68. Mill, *Principles of Political Economy*, 582.

69. For recent contributions, see Jong-Wha Lee and Ju Hyun Pyun, "Does Trade Integration Contribute to Peace?," *Review of Development Economics* 29 (2016): 327–44, and Saumitra Jha, "Trading for Peace," *Economic Policy* 33 (2018): 485–526. For a recent survey of this literature, see Kenneth A. Schultz, "Borders, Conflict, and Trade," *Annual Review of Political Science* 18 (2015): 125–45. In his essay "Perpetual Peace" (1795), the great philosopher Immanuel Kant suggested that durable peace could be built on the tripod of representative democracy, international organizations, and economic interdependence.

between the partners and thereby promotes peace, yet increased multilateral trade may reduce the cost of conflict (because a country would have alternative sources of supply) and hence may increase the risk of conflict.<sup>70</sup>

If the trade-peace link is reasonably plausible though not definitively established, a stronger finding is that democracies are more peaceful than autocratic countries. While we do not know whether democratic regimes are inherently more peaceful than other types of government, overwhelming evidence shows that democracies rarely go to war against one another. Does increasing trade contribute to peace indirectly, by promoting political reform and democratization? Untangling the links between trade and democratization is difficult because each is related to the other. Trade may indeed promote democracy, but democracies are also more likely to pursue open trade policies and therefore trade more.<sup>71</sup>

Even after accounting for this effect, it appears that trade does indeed promote democracy. Examining the period after 1870, one study detects a positive impact of openness on democracy from about 1895 onward. Late nineteenth-century globalization may have helped to generate the “first wave” of democratization. Between 1920 and 1938, countries more exposed to international trade were less likely to become authoritarian. These results hold for the post–World War II period as well. However, there is some variation in the impact of openness by region, and commodity exporters and petroleum producers do not seem to become more democratic by exporting more of such goods.<sup>72</sup> Recent research also uncovers a relationship between free trade agreements and the strengthening of democracy in developing countries.<sup>73</sup> By destroying the rents that come from protectionist policies, such agreements reduce the incentive of authoritarian groups to seize power.

70. Philippe Martin, Thierry Mayer, and Mathias Thoenig, “Make Trade Not War?,” *Review of Economic Studies* 75 (2008): 865–900. It is sometimes thought that World War I demonstrates the failure of trade to ensure peace, but more careful scholarship shows that this was not the case: the conflict started among countries that were less well integrated into world trade (Austria-Hungary and Serbia). See Erik Gartzke and Yanatan Lupu, “Trading on Perceptions: Why World War I Was Not a Failure of Economic Interdependence,” *International Security* 36 (2012): 115–50.

71. Edward D. Mansfield, Helen Milner, and Peter Rosendorf, “Free to Trade: Democracies, Autocracies, and International Trade,” *American Political Science Review* 94 (2000): 305–21; Mark S. Manger and Mark A. Pickup, “The Coevolution of Trade Agreement Networks and Democracy,” *Journal of Conflict Resolution* 60 (2016), 164–91.

72. J. Ernesto López Córdova and Christopher Meissner, “The Globalization of Trade and Democracy, 1870–2000,” *World Politics* 60 (2008). See also Barry Eichengreen and David Leblang, “Democracy and Globalization,” *Economics and Politics* 20 (2008): 289–334.

73. Xuepeng Liu and Emanuel Ornelas, “Free Trade Agreements and the Consolidation of Democracy,” *American Economic Journal: Macroeconomics* 6 (2014): 29–70.

Thus, governments in unstable democracies may have an incentive to seek such agreements to consolidate their position.

This view of nineteenth-century classical liberals appears to have gained new support in recent years as well. As Chile, Taiwan, South Korea, and Mexico have been integrated into the world economy, they have also moved toward more democratic political systems. Those opposed to the U.S. trade embargo against Cuba believe that greater trade with that country would increase the prospects of political reform there, too.

The big question today is whether economic development and expanding trade will lead China to move away from its authoritarian political regime and toward a more pluralistic political system that includes improvements in human rights. A core tenet of “modernization theory” in political science is that as nation-states develop both economically and socially, they will inevitably transition to democracy. Despite thirty years of robust economic development and growth, including increases in civil society, democracy remains elusive in China. The link between trade liberalization and political liberalization was a contentious issue in the debate over extending Permanent Normalized Trade Relations (PNTR) to China and allowing it to join the WTO in 2000. Proponents of normalized trade argued that expanding commerce would enhance the power and influence of the private sector in China at the expense of the government. Opponents disagreed, arguing that more trade would simply enrich and strengthen the Communist party’s grip on power. Greater openness has operated very slowly in bringing about political change in the case of China. Unfortunately, since 2015, state control has increased under President Xi Jinping, yet some analysts remain hopeful about the future.<sup>74</sup>

Even if trade fails to generate a movement toward democracy, it can still promote better performance in other domestic institutions. For example, countries that are more open also tend to be less corrupt, a finding that holds even after accounting for the fact that less corrupt countries may engage in more trade.<sup>75</sup> The evidence on whether trade reduces crime is more mixed. A study of India finds that freer trade led to a reduction in violent crime

74. Stewart Patterson, *China, Trade, Power: Why the West’s Economic Engagement Has Failed*, London: London Publishing Partnership, 2018. For a more optimistic view, see Minxin Pei, “Transition in China? More Likely Than You Think,” *Journal of Democracy* 27 (2016): 5–20. See Guo Sujian and Gary A. Stradiotto, “Prospects for Democratic Transition in China,” *Chinese Journal of Political Science* 23 (2018): 47–61.

75. Alberto Ades and Rafael Di Tella, “Rents, Competition, and Corruption,” *American Economic Review* 89 (1999): 982–93.



because trade restrictions led to smuggling and gang violence; in particular, murder rates fell significantly after the 1991 trade reforms, especially in industrial states more affected by the lifting of import barriers.<sup>76</sup> Conversely, a study of Mexico found that manufacturing job loss induced by competition with China increased cocaine trafficking and violence, particularly in municipalities with transnational criminal organizations.<sup>77</sup>

In sum, Mill's observations about the noneconomic benefits of trade—including peace and political reform—appear to be broadly valid, although they may not hold in every case. While the statistical relationships among trade, peace, and democracy are difficult to sort out, the existing evidence suggests that there are beneficial links between them.

## Free Trade and the Environment

Among the most vocal of free trade's many critics are those who worry about its impact on the environment. Some environmentalists believe that freer international trade will lead to more economic activity, and more economic activity will lead to greater environmental degradation. In other words, with trade comes more logging, more fishing, more soil erosion, more industrial pollution, and so on. But what, in fact, is the relationship between trade and the environment? Must trade lead to environmental damage, or might it in some ways actually benefit the environment? And do restrictions on trade improve the environment?

To answer these questions, we must recognize that the link between trade and the environment is indirect. Some of the greatest environmental disasters in recent decades have taken place in communist countries, particularly in Eastern Europe and the former Soviet Union, where international trade was not the issue. The horrible air pollution caused by state-run, coal-burning, capital-intensive industries and the destruction of lakes and streams with toxic chemicals owed nothing to free trade but resulted from a system of centralized decision-making that valued resources less wisely than a system of decentralized markets with well-established property rights and prudent government regulation. This is also the underlying problem in China: The political authorities are not accountable to the people and hence

76. Kislaya Prasad, "Economic Liberalization and Violent Crime," *Journal of Law and Economics* 55 (2012): 925–48.

77. Melissa Dell, Benjamin Feigenberg, and Kensuke Teshima, "The Violent Consequences of Trade-Induced Worker Displacement in Mexico," *American Economic Review: Insights* 1 (2019): 43–58.



they are not responsive to citizen demands for a clean environment. The communist leaders of China reward provincial officials solely on the basis of economic growth, not on the quality of life of the people in the province. As a result, China has been systematically destroying its air and water resources, although there is growing awareness among the Communist leadership of the problems this is causing.

In other countries as well, trade is not the underlying cause of environmental damage. The burning of the Amazon rain forests is largely motivated by local inhabitants clearing land for their own use, not international trade.<sup>78</sup> And simple observation demonstrates that more trade and commerce does not always create more pollution: before economic liberalization, air quality in Delhi and Mexico City was much worse than in most advanced countries, even though those cities had fewer cars and generated less electricity.

Environmental damage results from poor environmental policies, not poor trade policies. Environmental damage arises from the inappropriate use of our natural resources in the land, sea, and air. The overuse of these resources is commonly related to the lack of well-defined property rights. When property rights are not well established—that is, when no one has ownership rights and control over a resource—then open access to the resource frequently leads to its exploitation beyond the socially optimal level. For example, if ownership of a forest is not well defined, then anyone can chop down trees for their own use without paying the costs associated with using the resource.<sup>79</sup> If control of the forest were established through property rights, then the owners would regulate and charge for the use of the timber. Obviously, the ownership and overuse problems are particularly acute for the air and ocean, where government regulation of the right to use the resource, reflecting public ownership of it, may be called for.

In many such cases, because environmental problems stem from the failure to clearly establish and enforce private or public property rights, trade policy is not the first-best means by which to achieve environmental

78. That said, there is evidence that the expansion of agricultural land for soybeans and cattle, some of which is related to trade, has led to deforestation in the Amazon in Brazil. Weslem Rodrigues Fariaa and Alexandre Nunes Almeida, “Relationship between Openness to Trade and Deforestation: Empirical Evidence from the Brazilian Amazon,” *Ecological Economics* 121 (2016): 85–97.

79. One study finds that openness to trade alone does not promote deforestation, but that it can do so in countries with poor government institutions that fail to define and protect property rights. Susana Ferreira, “Deforestation, Property Rights, and International Trade,” *Land Economics* 80 (2004): 174–93.

objectives. Trade is only indirectly related to environmental problems, and therefore trade policy is an indirect, inefficient, and often inefficacious way of addressing environmental problems. A more direct way to deal with negative environmental externalities would be through taxes on the production of polluters, not import tariffs that would encourage more domestic production in polluting industries.

The objectives of free trade and a cleaner environment often work together. For example, numerous studies have traced the relationship between pollution emissions and a country's per capita income. They have generally found a relationship shaped like an inverted U: As per capita incomes rise from low levels, pollution increases, but beyond a certain point (about \$5,000), further increases in income tend to diminish pollution.<sup>80</sup> The initial increase in pollution is the result of industrialization, while the decrease is due to cleaner production technologies and more effective environmental regulation that come with higher incomes. Both Delhi and New York City have traffic jams, for example, but the locally made cars and scooters in developing countries tend to belch out worse fumes than those with cleaner exhaust systems in the United States.

Beyond the threshold, higher incomes do not mean more pollution, and lower incomes do not mean less pollution. To the extent that trade increases a country's income beyond the turning point in the inverted U relationship, it helps indirectly to improve the environment. More directly, new technology is cleaner technology, and trade facilitates the diffusion of new technology. Furthermore, the "dirty industry migration" hypothesis—that polluting industries will move to developing countries where environmental regulations are lax—has received little empirical support. There is no "race to the bottom" in environmental standards because the costs of abating pollution are not a significant determinant of industries' location and, consequently, not a significant determinant of trade flows.<sup>81</sup>

80. This is also known as the environmental Kuznets curve; see Susmita Dasgupta, Benoit Laplante, Hua Wang, and David Wheeler, "Confronting the Environmental Kuznets Curve," *Journal of Economic Perspectives* 16 (2002): 147–68.

81. Larry Karp, "The Environment and Trade," *Annual Review of Resource Economics* 3 (2011): 397–41. A recent study of the pollution haven hypothesis with respect to China found that equity joint ventures in highly polluting industries funded through Hong Kong, Macao, and Taiwan are attracted by weak environmental standards in China. In contrast, joint ventures funded from non-ethnically Chinese sources are not significantly attracted by weak standards, regardless of the pollution intensity of the industry. See Judith M. Dean, Mary E. Lovely, and Hua Wang, "Are Foreign Investors Attracted to Weak Environmental Regulations? Evaluating the Evidence from China," *Journal of Development Economics* 90 (2009): 1–13.

One important study examined three channels by which trade can affect sulfur dioxide (SO<sub>2</sub>) emissions: the scale effect (increases in economic activity increase SO<sub>2</sub> emissions), the technique effect (increases in income lead to cleaner production methods and reduce emissions), and the composition effect (trade alters the composition of activity and hence the average pollution intensity of national output). The authors were surprised to conclude that free trade is good for the environment because, as an empirical matter, the technique effect outweighs the scale and composition effects.<sup>82</sup> The effect of income growth on pollution depends largely on the underlying source of growth. Growth achieved through capital accumulation tends to raise pollutants while growth achieved by trade and technological change appears to reduce pollutants. This could also account for the inverted-U-shaped relationship of pollution to income—developing countries initially tend to achieve growth through (dirtier) capital accumulation, whereas growth in developed countries is based on human capital accumulation and technology (cleaner methods).

Another study focused on the issue of causality in estimating the effect of trade on the environment for a given level of income.<sup>83</sup> This study looked at the links between trade and seven measures of environmental quality and found that trade had a strongly beneficial impact in reducing SO<sub>2</sub> emissions and a less significant but still positive impact in reducing nitrogen dioxide (NO<sub>2</sub>) emissions and total suspended particulate matter. Trade also reduced energy depletion and increased access to clean water while having no impact on deforestation. The one exception was carbon dioxide (CO<sub>2</sub>) emissions, where increased openness was related to greater emissions, perhaps because of the free-rider problem afflicting countries that seek to limit greenhouse gas emissions. But the study found no evidence for a “race to the bottom” in environmental standards or the “pollution haven” hypothesis, in which trade encourages some countries to specialize in dirtier industries.

In terms of the United States, real manufacturing output has increased by more than 70 percent over the past thirty years, while pollution emissions have fallen significantly (ranging from 30 percent for nitrogen oxides

82. Their empirical estimates of the scale effect indicate that a 1 percent increase in the scale of economic activity increases SO<sub>2</sub> emissions by 0.3 percent, but that the technique effect suggests that a 1 percent increase in income decreases emissions by 1.4 percent. Werner Antweiler, Brian R. Copeland, and M. Scott Taylor, “Is Free Trade Good for the Environment?,” *American Economic Review* 91 (2001): 877–908.

83. Jeffrey A. Frankel and Andrew K. Rose, “Is Trade Good or Bad for the Environment? Sorting Out the Causality,” *Review of Economics and Statistics* 87 (2005): 85–91.

to 66 percent for sulfur dioxides). The United States even reduced its net emissions by 12 percent from 2005 to 2017 because of a range of market- and policy-related factors. Electric power sector emissions fell 27 percent as a result of a shift from coal to natural gas, increased use of renewable energy, and a leveling off of electricity demand. Most of this overall decline comes from improved production technology or abatement processes, not importing dirtier products from abroad to avoid domestic regulation. Indeed, the average pollution content of U.S. imports has fallen over time, and the United States does not seem to have been offshoring pollution by importing polluting goods.<sup>84</sup>

One recent survey of the literature concluded that there is “some evidence that exporters are cleaner than other firms, but this relationship varies not only in strength across industries but in direction as well,” and “better, but limited, evidence that trade liberalizations lower firm and perhaps even industry emissions, although the exact mechanisms by which this occurs need further study.”<sup>85</sup>

How does one balance the costs and benefits of trade and pollution? One study finds that international trade increases global CO<sub>2</sub> emissions by 5 percent, but that the global gains from trade, equal to \$5.5 trillion annually, exceed the environmental costs of trade (owing to CO<sub>2</sub> emissions) by a factor of 161. The right policy response, of course, would be a tax on carbon emissions that would improve welfare and decrease the environmental costs of trade more than diminish the gains from trade.<sup>86</sup>

Unfortunately, rather than tax fossil fuel use, many countries subsidize it. Global fossil fuel subsidies are outrageously large, not only burdening taxpayers but resulting in substantial environmental damage. A study by the International Monetary Fund (IMF) found that global fossil fuel subsidies amounted to \$4.7 trillion (6.3 percent of global GDP) in 2015 and were

84. See Arik Levinson, “Technology, International Trade, and Pollution from U.S. Manufacturing,” *American Economic Review* 99 (2009): 2177–92, and Arik Levinson, “Offshoring Pollution: Is the United States Increasingly Importing Polluting Goods?,” *Review of Environmental Economic Policy* 4 (2010): 63–83; Matthew Kahn, “The Geography of U.S. Pollution Intensive Trade: Evidence from 1958 to 1994,” *Regional Science and Urban Economics* 33 (2003): 383–400; Joseph S. Shapiro and Reed Walker, “Why Is Pollution from U.S. Manufacturing Declining? The Roles of Environmental Regulation, Productivity, and Trade,” *American Economic Review* 108 (2018): 3814–54.

85. Jevan Cherniwchan, Brian R. Copeland, M. Scott Taylor, “Trade and the Environment: New Methods, Measurements, and Results,” *Annual Review of Economics* 9 (2017): 59–85.

86. Joseph S. Shapiro, “Trade Costs, CO<sub>2</sub>, and the Environment,” *American Economic Journal: Economic Policy* 8 (2016): 220–54.

projected at \$5.2 trillion (6.5 percent of GDP) in 2017. The largest subsidizers in 2015 were China (\$1.4 trillion), United States (\$649 billion), Russia (\$551 billion), European Union (\$289 billion), and India (\$209 billion). Coal and petroleum together account for 85 percent of global subsidies, including subsidies to producers and low pricing of energy to consumers. Efficient fossil fuel pricing in 2015 would have reduced global carbon emissions by 28 percent and fossil fuel air pollution deaths by 46 percent and increased government revenue by 3.8 percent of GDP.<sup>87</sup> An international agreement to limit fuel subsidies might be easier to reach than one reducing carbon emissions.

Unfortunately, protectionist trade policies contribute to this problem. Trade barriers are substantially lower on dirty than on clean industries, where an industry's "dirtiness" is defined as its CO<sub>2</sub> emissions per dollar of output. Upstream industries disproportionately use fossil fuels in production (steel, coal, cement), whereas downstream industries use greater shares of relatively clean factors of production (assembly of final goods, using labor). Yet tariffs and nontariff barriers tend to be higher on final goods than on intermediate goods. This difference in trade policy means that trade in dirty products (intermediate goods) is encouraged and trade in clean products (final goods) is discouraged. This global implicit subsidy to CO<sub>2</sub> emissions amounts to several hundred billion dollars annually. The greater protection of downstream industries, which are relatively clean, substantially accounts for this pattern.<sup>88</sup> A move to completely free trade, by eliminating the bias, is calculated to reduce carbon emissions by 1 percent.

Even in the United States, protectionist trade policies sometimes support special interests at the expense of the environment. For example, to reduce its dependence on imported oil and reduce greenhouse gas emissions, the United States has encouraged the use of ethanol, an agricultural-based product that is blended with gasoline. U.S.-produced ethanol, which is primarily based on corn, is subsidized by Congress with a fifty-one-cent-per-gallon tax credit (which has been one factor in rising corn prices). But sugar-based ethanol is significantly cheaper and generates eight times more

87. David Coady, Ian Parry, Nghia-Piotr Le, and Baoping Shang, "Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates," International Monetary Fund Working Paper WP 19/89, May 2019. Even worse, fuel subsidies may inhibit a transition to democracy; see Matthew D. Fails, "Fuel Subsidies Limit Democratization: Evidence from a Global Sample, 1990–2014," *International Studies Quarterly* 63 (2019): 354–63.

88. Joseph S. Shapiro, "The Environmental Bias of Trade Policy," unpublished working paper, University of California at Berkeley, 2019.

energy per unit of input than corn-based ethanol. Yet Congress imposed a tariff of 2.5 percent plus fifty-four cents per gallon on sugar-based ethanol (which comes primarily from Brazil) in order to protect Midwestern corn farmers and agribusinesses from foreign competition. Using sugar ethanol is energy-efficient and environmentally sustainable, would reduce fuel prices and help nations like Brazil, and reduce dependence on imported oil from the Middle East. In 2006, the George W. Bush administration proposed eliminating the tariff, but Congress rejected this idea, thereby discouraging the use of sugar ethanol.

The case of solar panels is another instance in which protectionist trade policies have conflicted with environmental goals. The federal government has spent billions of dollars in production subsidies and consumer tax credits to encourage the use of alternative energy sources such as solar. Low-cost solar panels and modules are essential to making solar energy cost-competitive with fossil fuels. Yet in 2012, the United States imposed stiff tariffs—ranging from 34 percent to more than 260 percent—on solar panels imported from China. These tariffs were buttressed by a Trump administration decision in 2017 to impose high tariffs on solar panels imported from all countries.<sup>89</sup> By making solar panels more expensive, these tariffs have reduced planned installation of solar power systems since steadily falling prices have been driving the adoption of solar power by households and businesses alike.

The environmental degradation associated with China's trade and economic growth has been a particular concern. The 2008 Olympic Games highlighted the problem of intense smog around Beijing, and there are many stories of lakes and rivers being poisoned by industrial pollution, fertilizer runoff, and algal bloom. Unfortunately, in its push for growth the Chinese government has not valued the environment (which underscores the importance of accountable governance), although this is beginning to change. But has trade per se exacerbated the problem?

One study shows that industrial emissions have stabilized while rapid growth in trade has continued—a result that can be explained by the declining pollution intensity of output.<sup>90</sup> The study examined the direct emissions

89. The rationale for the 2012 tariffs was that the imports were being dumped and subsidized in the U.S. market. The rationale for the 2017 tariffs was that they were needed to safeguard the domestic market for U.S. producers. (See chapter 5 for a discussion of antidumping, countervailing, and safeguard duties.)

90. Judith Dean and Mary E. Lovely, "Trade Growth, Production Fragmentation, and China's Environment," in *China's Growing Role in World Trade*, edited by Robert C. Feenstra and Shang-Jin Wei, Chicago: University of Chicago Press, 2010.

of four pollutants for about thirty Chinese industries and found that the pollution intensity of almost all sectors has fallen in terms of water pollution (chemical oxygen demand) and air pollution (measured by SO<sub>2</sub>, smoke, or dust). The study also revealed that China's export bundle is shifting toward relatively cleaner sectors over time, such as office and computing machinery and communications equipment as opposed to textiles and apparel. The most polluting sectors, such as paper and nonmetallic minerals, have very low and declining shares in China's manufacturing exports. Furthermore, China's exports result in less water pollution and generally less air pollution than Chinese import-competing industries, and both Chinese exports and imports are becoming cleaner over time.<sup>91</sup>

Across the world, governments tend to protect and support heavy industries, such as steel and petrochemicals, which are among the dirtiest and most polluting industries. State-owned enterprises in China, for instance, are much dirtier than their private counterparts because they are much less efficient and technologically up-to-date. Therefore, reducing subsidies and trade barriers can help shut down these polluters and shift production to more efficient producers that use cleaner technologies. A study that examined trade in high-efficiency and clean coal technologies, efficient lighting, solar photovoltaics, and wind power found that tariff and nontariff barriers are significant impediments to the diffusion of clean energy technologies to developing countries.<sup>92</sup>

International negotiators are attempting to limit many government trade policies that are harmful to the environment. Three specific cases provide an illustration of the environmentally damaging effects of trade barriers and subsidies: fisheries, agriculture, and forestry trade. Ocean fishing is a classic example of a common resource that is overutilized, and yet fishing is a heavily subsidized activity. A study prepared for the European Parliament estimated that world fishing subsidies amounted to \$35 billion in 2009, much of it in the form of fuel and capacity subsidies, particularly in Asian

91. Furthermore, some calculations of the pollution content of China's exports ignore the distinction between China's domestic exports and its processed exports (related to production fragmentation). Processed exports account for half of China's exports and generate relatively little domestic value-added but also relatively few environmentally harmful emissions. China's emissions as embodied in its exports are found to be overestimated by more than 60 percent if the distinction between processing exports and normal exports is not made; see Erik Dietzenbacher, Jiansuo Pei, and Cuhong Yang, "Trade, Production Fragmentation, and China's Carbon Dioxide Emissions," *Journal of Environmental Economics and Management* 64 (2012): 88–101.

92. World Bank, *International Trade and Climate Change: Economic, Legal, and Institutional Perspectives*, Washington DC: World Bank, 2008.



countries such as Japan and China.<sup>93</sup> Many of these subsidies have led to excess capacity in fishing fleets, which in turn promotes overfishing. In this way, such subsidies directly harm efforts to conserve fishing stocks and promote sustainable development. Clearly there is no tradeoff in eliminating fishing subsidies and preserving the environment. In fact, the United States, Iceland, Australia, and New Zealand have pressed the membership of the World Trade Organization to discuss an international agreement to limit or abolish fishing subsidies, not just because such subsidies distort trade but also because they contribute to the depletion of ocean resources.

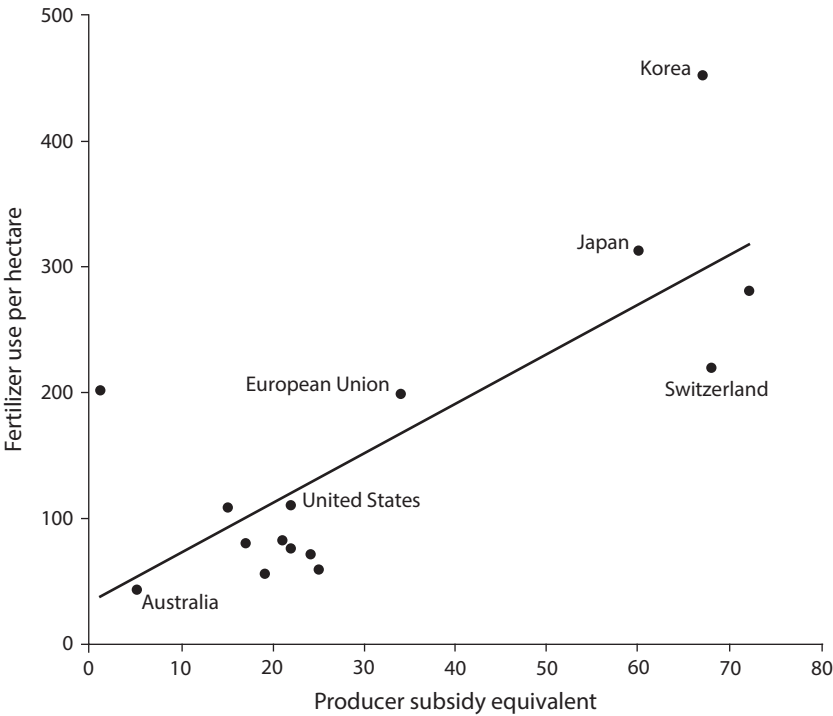
In the agricultural sector, the governments of advanced countries commonly intervene through import restrictions, domestic price supports, and export subsidies. These trade barriers and price subsidies tend to be implemented in countries that do not have a comparative advantage in agricultural goods and cause producers there to intensify their efforts in environmentally harmful ways. As figure 2.4 indicates, the more a country protects its domestic agricultural producers, the more those producers rely on pesticides and fertilizers. Korea, Japan, Switzerland, and, to a lesser extent, the European Union heavily protect agriculture and must rely on chemicals to boost yields because these regions are not particularly well suited for all types of agricultural production.<sup>94</sup> As a result, trade barriers and production subsidies have “intensified land use, increased applications of agrochemicals, [and caused] adoption of intensive animal production practices and overgrazing, degradation of natural resources, loss of natural wildlife habitats and bio diversity, reduced agricultural diversity, and expansion of agricultural production into marginal and ecologically sensitive areas.”<sup>95</sup> Countries that have a comparative advantage in agriculture, whether they are industrialized, such as Canada and Australia, or developing, such as Argentina and Brazil, do not depend as heavily on fertilizers and pesticides to maintain output.

93. U. Rashid Sumaila, Vicky Lam, Frédéric Le Manach, Wilf Swartz, and Daniel Pauly, “Global Fisheries Subsidies: An Updated Estimate,” *Marine Policy* 69 (2016): 189–93.

94. As Kym Anderson notes, “Land-scarce Western Europe and Japan crop twice as much of their total land area as does the rest of the world on average, so the extent of contamination of their soil, water, and air from the use of farm chemicals is even greater. . . .” Thus, “the relocation of crop production from densely populated protectionist countries to the rest of the world would cause a much larger reduction in degradation in the former compared with any increased degradation in the latter, where chemical use would expand from a low base and to still-modest levels.” Kym Anderson, “Agricultural Trade Reforms, Research Initiatives, and the Environment,” in *Agriculture and the Environment: Perspectives on Sustainable Rural Development*, edited by E. Lutz, Washington, DC: World Bank, 1998, 74.

95. Gary P. Sampson, *Trade, Environment, and the WTO: The Post-Seattle Agenda*, Washington, DC: Overseas Development Council, 2000, 55.





**FIGURE 2.4.** Producer Protection and Fertilizer Use in Agriculture, 2000  
*Sources:* Organization for Economic Cooperation and Development, *Agricultural Policy: Monitoring and Evaluation 2008*, Paris: OCED, 2008, table 3.3; and Food and Agriculture Organization, *FAO Annual Yearbook: Fertilizer 1999*, Rome: FAO, 2002, table 14.

Liberalizing trade in agricultural products would therefore benefit the environment by allowing countries with a comparative advantage in agriculture to expand production and forcing countries with a comparative disadvantage to contract output. One economist has noted that “an international relocation of cropping production from high-priced to low-priced countries would reduce substantially, and quickly, the use of chemicals in world food production.”<sup>96</sup> In addition, the relocation of meat and milk production from intensive grain-feeding enterprises in densely populated rich countries to pasture-based enterprises in relatively lightly populated poorer countries would reduce the use of growth hormones and medicines for animals.

96. Kym Anderson, “Effects on the Environment and Welfare of Liberalizing World Trade: The Cases of Coal and Food,” in *The Greening of World Trade Issues*, edited by Kym Anderson and Richard Blackhurst, Ann Arbor: University of Michigan Press, 1992, 163.

A related issue is the effort to minimize “food miles” (the distance food travels) and to encourage consumers to buy local produce. The goal of reducing greenhouse gas emissions has led many people to conclude, erroneously it turns out, that buying locally produced food is better for the environment than importing food over long distances. As Adrian Williams, an agricultural researcher at Cranfield University in the United Kingdom, explains, “The idea that a product travels a certain distance and is therefore worse than one you raised nearby—well, it’s just idiotic. It doesn’t take into consideration the land use, the type of transportation, the weather, or even the season,” or other factors such as cultivation and harvesting methods, water use, fertilizer use, and packaging.<sup>97</sup>

In fact, greenhouse gas emissions in agriculture are dominated by the production phase, not the transport. For example, the environmental cost of airfreighting roses from Kenya to Britain is much less than importing them across the English Channel from the Netherlands because heated greenhouses in Europe have a very high carbon footprint, whereas Kenya’s natural climate is much less energy- and fertilizer-dependent. Lamb produced in New Zealand and shipped eleven thousand miles by ship has one-fourth the CO<sub>2</sub> emissions of British-produced lamb because of New Zealand’s greater production efficiency and cleaner production methods (which use less energy and less fertilizer). The same applies to the production of New Zealand apples, which requires less fertilizer than elsewhere and uses electricity generated from renewable resources.<sup>98</sup> Finally, in terms of environmental impact, New Yorkers might consider consuming more wines from France as opposed to California because the carbon intensity of transporting wine by sea is substantially less (per unit) than transport via truck across the country.

With regard to forest products, the United States sought without success to eliminate all tariffs on such goods in recent multilateral trade negotiations. Environmental critics have charged that liberalizing trade in forest products will merely accelerate an unsustainable rate of deforestation around the world. Yet trade in timber and timber products is a minor cause of deforestation in tropical countries. Almost all the annual logging in developing

97. Michael Specter, “Big Foot,” *New Yorker*, February 25, 2008.

98. Caroline Saunders, Andrew Barber, and Greg Taylor, “Food Miles: Comparative Energy/Emissions Performance of New Zealand’s Agricultural Industries,” Research Report No. 285, Christchurch, New Zealand, Lincoln University, 2006; J. Webb, Adrian G. Williams, Emma Hope, David Evans, and Ed Moorhouse, “Do Foods Imported into the U.K. Have Greater Environmental Impact than the Same Foods Produced within the U.K.?” *International Journal of Life Cycle Assessment* 18 (2013): 1325–43.

countries is for the domestic production of fuel and charcoal—for the simple reason that fuel and charcoal are the cheapest source of energy for poor people. About 61 percent of forest timber (roundwood) production in Asia, 52 percent in Latin America, and 90 percent in Africa is for domestic fuel and charcoal.<sup>99</sup> As with all open-access resources, better forestry management is the key to reducing the rate of deforestation.

In fact, not only are policies that reduce trade in forest products ineffective in reducing deforestation, but also limiting trade in forest products may exacerbate the problem. Without the timber trade, which raises the value of forests by providing external demand for its products, the investment value of these forests would fall. This smaller value would give local users less of an incentive to conserve the resource. In addition, eliminating trade restrictions would directly improve the efficiency of wood use. For example, Indonesia maintains high export taxes on logs to promote domestic forest-based industrialization. These export taxes have generated a large but inefficient domestic lumber industry. Every cubic meter of Indonesian plywood produced requires the cutting of 15 percent more trees than if plywood mills elsewhere in Asia were to process the logs. Not only has Indonesia's policy of protecting plywood mills failed to reduce total log demand, but gross operational inefficiencies have also led to a much higher rate of logging than if log exports were allowed.<sup>100</sup> Thus, a ban on imports of raw tropical forest lumber by developed countries would not only fail to counter the underlying cause of deforestation, but also might accelerate it because of the inefficiency of local processors.

Of course, critics of free trade are often quick to oppose trade agreements ostensibly on the basis of their environmental impact. Controversy about the environmental impact of free trade was particularly intense during the debate over NAFTA in 1993. After an environmental side agreement to NAFTA was negotiated, environmental groups that represented approximately 80 percent of the membership of the entire environmental community agreed to support the agreement.<sup>101</sup> But more militant organizations, such as the Sierra Club, Friends of the Earth, Greenpeace, and Public

99. Food and Agriculture Organization, *Global Forest Products: Facts and Figures 2016*, Rome: FAO, 2106, 16.

100. Edward B. Barbier, Nancy Bockstael, Joanne C. Burgess, and Ivar Strand, "The Linkage between the Timber Trade and Tropical Deforestation—Indonesia," *World Economy* 20 (1995): 419.

101. These groups included the World Wildlife Fund, the National Wildlife Federation, the Environmental Defense Fund, the National Audubon Society, and others (John J. Audley, *Green Politics and Global Trade: NAFTA and the Future of Environmental Politics*, Washington, DC: Georgetown University Press, 1997, 90).

Citizen, continued to oppose NAFTA.<sup>102</sup> Evidence now shows that NAFTA helped reduce U.S. emissions of particulate matter and sulfur dioxide.<sup>103</sup>

There were also reasons to expect that NAFTA would lead to environmental improvements in Mexico. Aside from increasing income and promoting the adoption of newer, cleaner production technologies, Mexico has a comparative advantage in unskilled labor-intensive goods rather than in capital-intensive goods. Hence, freer trade may force dirtier capital-intensive industries in Mexico to contract as a result of competition. With protective tariffs eliminated, these industries are forced to shut down or adopt better technology to stay in business.

In fact, recent assessments have concluded that NAFTA did not lead to a deterioration in Mexico's environment, although it has not spurred many improvements either. A trade agreement itself cannot reverse decades of neglect. Environmental conditions along the U.S.–Mexican border remain poor despite the institutions and programs created to improve the situation.<sup>104</sup> One study illustrates the mixed picture by looking at trade in used automobiles, which opened up between the two countries in 2005. Since then, Mexico has imported over 2.5 million used vehicles from the United States. Average vehicle emissions per mile fell in both countries because traded vehicles are dirtier than the average car in the United States and cleaner than the average car in Mexico. However, trade may have increased total lifetime emissions because older cars have a longer life in Mexico.<sup>105</sup>

102. These groups generally oppose any growth-oriented trade policy, regardless of its environmental provisions. Steward Hudson of the National Wildlife Foundation testified before Congress that “a fair and objective reading of the NAFTA leaves you with one uncompromising conclusion: the environment is far better off with this NAFTA than without . . . those who want to kill NAFTA are hiding behind the environment. The environmental critics of NAFTA, those who would forever be holding out for more, even at the expense of making progress on the environment in dealing with problems that concern all of us, are out to kill trade. . . . No amount of fine tuning or renegotiation will satisfy these opponents of NAFTA. The bar will continue to be raised because the goal is to kill NAFTA.” U.S. House of Representatives, *Committee on Ways and Means Hearings: North American Free Trade Agreement (NAFTA) and Supplemental Agreements to the NAFTA*, Washington, DC: GPO, 1994, 368–70. The more extreme opponents of NAFTA were prone to exaggeration and hyperbole. The Sierra Club, for instance, said that NAFTA would be “a major step toward ending democracy” in America.

103. Jevan Cherniwchan, “Trade Liberalization and the Environment: Evidence from NAFTA and U.S. Manufacturing,” *Journal of International Economics* 105 (2017): 130–49.

104. Gary C. Hufbauer and Jeffrey J. Schott, *NAFTA Revisited: Achievements and Challenges*, Washington, DC: Institute for International Economics, 2005.

105. Lucas W. Davis and Matthew E. Kahn, “International Trade in Used Vehicles: The Environmental Consequences of NAFTA,” *American Economic Journal: Economic Policy* 2 (2011): 58–82.

None of this evidence should be interpreted as minimizing the importance of taking effective measures to improve the environment. But free trade and a cleaner environment are not incompatible. Because trade in itself is not the driving force behind pollution, a policy of free trade rarely detracts from such goals, and in many instances may help. (The link between world trade rules and environmental regulation is also considered in chapter 7.)

## Free Trade in Perspective

The benefits of free trade appear to be substantial, although precise quantification of those benefits is often difficult. In extreme cases, governments that force their citizens to forgo the advantages of international trade, particularly in developing countries (as will be discussed in chapter 6), do not sacrifice just a couple of percentage points of national income but risk impoverishing their people. The higher real income that comes with trade is valuable, not just to allow the consumption of more goods for crass material reasons, but to help people afford food and medicine. Free trade and higher incomes give people access to better healthcare, better education, and better technologies that will help improve the environment.

But several caveats should be offered. Free trade is beneficial because it allows a country to take advantage of opportunities on world markets, but it is not the only—or even the most important—determinant of whether a country achieves economic prosperity. Free trade is not a “magic bullet” that can solve all economic problems. The real and substantial gains from free trade should not be exaggerated when other fundamental economic problems are pressing. Stable macroeconomic policies, the rule of law, and the protection of property rights that enable the market mechanism to function properly are preconditions for reaping the full benefits of international trade.<sup>106</sup> As British historian Thomas Macaulay stated back in 1845, “It is not one single cause that makes nations either prosperous or miserable. No friend of free trade is such an idiot as to say that free trade is the only valuable thing in the world; that religion, government, police, education, the

106. According to Adam Smith, “Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law, and in which the authority of the state is not supposed to be regularly employed in enforcing the payments of debts from all those who are able to pay. Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of the government” (Smith, *Wealth of Nations*, 910).

administration of justice, public expenditure, foreign relations, have nothing whatever to do with the well-being of nations.”<sup>107</sup>

At the same time, restricting trade entails real economic costs. These losses may appear to be abstractions, but they are in fact harmful for real people. And yet many protectionist policies are maintained, and new ones are always being proposed. This is because most trade restraints have a superficially plausible justification. These rationales are often more apparent than real, however, and chapters 3 and 4 will address them.

107. From a speech on “The Corn Laws,” delivered December 2, 1845, at a public meeting in Edinburgh. Reprinted in Thomas Babington Macaulay, *The Complete Writings of Lord Macaulay*, vol. 18, *Speeches and Legal Studies*, Boston: Houghton, Mifflin, 1900, 89.

# 3

## Protectionism

### ECONOMIC COSTS, POLITICAL BENEFITS?

In 1960, the eminent trade economist Harry Johnson wrote: “The proposition that freedom of trade is on the whole economically more beneficial than protection is one of the most fundamental propositions economic theory has to offer for the guidance of economic policy.”<sup>1</sup> This conclusion has been reinforced by mounting empirical evidence on the benefits of trade, and yet protectionism is far from vanquished in the policy arena. Of course, this is nothing new: As Adam Smith observed more than two hundred years ago, “Not only the prejudices of the public, but what is much more unconquerable, the private interests of many individuals, irresistibly oppose” free trade.<sup>2</sup> Indeed, interest groups opposed to free trade often have a political influence that is disproportionate to their economic size. This chapter describes the economic costs of trade restrictions and examines why, despite these costs, protectionism is often a politically attractive policy. The chapter concludes by considering instances in which trade protection might actually be beneficial.

1. Harry G. Johnson, “The Cost of Protection and the Scientific Tariff,” *Journal of Political Economy* 68 (1960): 327.

2. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Oxford: Oxford University Press, [1776] 1976, 471.

## The Costs of Tariffs and Quotas

In *The Wealth of Nations*, Adam Smith not only developed a powerful case for free trade, but he also issued a scathing attack on contemporary mercantilist policies that restricted trade. The ostensible purpose of these government policies was to promote national wealth, but Smith argued that such policies were ill conceived and detracted from that objective. Smith observed that policymakers too frequently equated the interests of producers with the interests of the nation as a whole. Under mercantilism, almost any policy that helped existing producers expand output, such as limits on imports or restrictions on competition, was deemed beneficial. But Smith pointed out that this approach confused the means with the end:

Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer. The maxim is so perfectly self-evident that it would be absurd to attempt to prove it. But in the mercantile system the interest of the consumer is almost constantly sacrificed to that of the producer; and it seems to consider production, and not consumption, as the ultimate end and object of all industry and commerce.<sup>3</sup>

Furthermore, Smith argued that policies such as trade barriers would not expand total output but merely divert resources to less productive uses. As he put it, “No regulation of commerce can increase the quantity of industry in any society beyond what its capital can maintain. It can only divert part of it into a direction into which it might not otherwise have gone; and it is by no means certain that this artificial direction is likely to be more advantageous to the society than that into which it would have gone of its own accord.”<sup>4</sup>

While governments often justified trade restrictions as serving the public interest, Smith noted that such restrictions did not benefit the public as much as they served the private interests of influential merchants who had captured government policy for their own advantage. In fact, he believed that trade restrictions “may . . . be demonstrated to be in every case a complete piece of dupery, by which the interests of the

3. Smith, *Wealth of Nations*, 660.

4. Smith, 453.



State and the nation is constantly sacrificed to that of some particular class of traders.”<sup>5</sup>

In every country it always is and must be the interest of the great body of the people to buy whatever they want of those who sell it cheapest. The proposition is so very manifest that it seems ridiculous to take any pains to prove it; nor could it ever have been called in question had not the interested sophistry of merchants and manufacturers confounded the common sense of mankind. Their interest is, in this respect, directly opposite to that of the great body of the people. As it is the interest of the freemen of a corporation to hinder the rest of the inhabitants from employing any workmen but themselves, so it is the interest of the merchants and manufacturers of every country to secure to themselves the monopoly of the home market.<sup>6</sup>

Policies that give preferential treatment to domestic producers in the home market still exist today. For example, in the American Recovery and Reinvestment Act of 2009, Congress included “Buy American” rules that all public projects funded by the stimulus spending must use iron and steel produced only in the United States. While this may have been good for domestic steel producers, it is hard to see the benefit for American taxpayers. The provision potentially raised the cost of investment projects to state and local governments, making their infrastructure spending buy less than it might otherwise or take funds away from other valuable uses, such as health and education. Furthermore, one analysis of the provision argued that it would not create many jobs because steel production is capital-intensive but could harm exports if other countries retaliated against the United States.<sup>7</sup> In July 2019, President Donald Trump signed an executive order requiring

5. Adam Smith, letter to William Eden, written in 1783 at the end of the American Revolution; reprinted in *The Correspondence of Adam Smith*, edited by E. C. Mossner and I. S. Ross, Oxford: Clarendon Press, 1977, 272.

6. Smith, *Wealth of Nations*, 493–94. “That this monopoly of the home-market frequently gives great encouragement to that particular species of industry which enjoys it, and frequently turns towards that employment a greater share of both the labour and stock of the society than would otherwise have gone to it, cannot be doubted. But whether it tends either to increase the general industry of the society, or to give it the most advantageous direction, is not, perhaps, altogether so evident” (453).

7. In fact, Canada was outraged by the provision and threatened to do exactly that, until it received an exemption from the law a year later. Gary Hufbauer and Sean Lowry, “Buy American: Bad for Jobs, Worse for Reputation,” Peterson Institute for International Economics Policy Brief No. 09–02, February 2009.

that 95 percent of the iron and steel used in federally funded construction contracts must be American made, up from 50 percent.

Despite the decline in trade barriers over the past half century, the array of protectionist policies around the world is still quite significant. The principal means of blocking trade include tariffs (taxes on imports), quotas (quantitative restrictions on imports), and—increasingly—nontariff barriers of various sorts (particularly government regulations, including health requirements, product standards, and technical regulations, which favor domestic firms). The easiest policy to measure is tariffs. Table 3.1 shows the average applied tariff on all manufactured and agricultural imports for selected countries in 2017. Developed countries have relatively low average tariffs, usually less than 5 percent. (Only certain places, such as Hong Kong and Singapore, have zero tariffs.) Developing countries are much more diverse in their average tariff rates, but they are usually higher than in most rich countries. And nearly every country imposes higher tariffs on agricultural goods than on manufactured goods.

In the case of the United States, the 2018 Harmonized Tariff Schedule consists of 10,878 tariff lines for itemized imports, each with an associated tariff rate. (About 37 percent of the tariff lines have a duty of zero.) A simple average of the applied rates is 4.8 percent, with 4.0 for nonagricultural goods and 9.4 for agricultural goods. There are many tariff peaks, including tobacco at 350 percent, sour cream at 177 percent, and peanuts at 164 percent.<sup>8</sup> Yet it is also the case that almost 70 percent of imports (by value) enter the country without paying any duties, partly because of free trade agreements such as the North American Free Trade Agreement (NAFTA), which applies to two of America's largest trading partners, Canada and Mexico.

The tariff figures in table 3.1 are simple unweighted averages of each country's tariff code and understate the magnitude of protection. Tariff peaks may apply to only a few lines of imports but may severely restrict trade. In addition, the indicators ignore other nontariff forms of protection, such as quotas and quantitative restrictions. A study that looks at the overall trade restrictiveness of a country's import policy, including tariffs, quotas, and nontariff barriers, has calculated the overall tariff average that replicates the anti-import effect of all these policies. This overall tariff is much higher than simple tariff averages. For example, India's average tariff on all goods is about 14 percent, but the restrictiveness of its trade regime is equivalent to a

8. About 5 percent of the lines in the U.S. tariff schedule exceed 15 percent. World Trade Organization, "Trade Policy Review: United States," November 2018, WT/TPR/S/383, 51–52.

TABLE 3.1. Average Applied Tariffs for Selected Countries (percent, unweighted average), 2017

	All Products	Manufactured Products	Primary Products
DEVELOPED COUNTRIES			
United States	3.4	3.0	2.5
European Union	2.4	1.9	5.3
Japan	3.7	2.1	10.8
Korea	5.4	7.3	31.3
Australia	2.2	2.5	1.3
MIDDLE- AND LOW-INCOME COUNTRIES			
Argentina	12.7	13.1	7.5
China	8.5	7.8	8.2
Brazil	13.4	8.5	14.1
Thailand	8.0	7.3	12.2
Egypt	10.1	3.7	4.7
Russia	5.1	5.3	5.5
DEVELOPING COUNTRIES			
India	8.9	7.8	16.6
South Africa	6.7	6.7	4.6
Tanzania	12.2	11.6	17.0
Bangladesh	13.0	12.9	13.6
Pakistan	12.6	12.7	11.6

Source: World Bank, *World Development Indicators 2017* (<http://wdi.worldbank.org/table/6.6#>).

22 percent across-the-board tariff. Similarly, Japan's average tariff is less than 3 percent, but its trade restrictiveness is equivalent to an 11 percent tariff. For the United States and European Union, average tariffs of less than 3 percent yield restrictiveness equivalents just shy of 7 percent.<sup>9</sup>

These anti-import policies reduce trade and tend to distort economic activity, leading to inefficient outcomes (in the absence of offsetting effects). Economists tend to focus on two effects of tariffs and other policies. First, import barriers redistribute income from domestic consumers to domestic producers. When imports of a product are restricted, the product becomes scarcer in the domestic market. Scarcity drives up the price, benefiting

9. Hiau Looi Kee, Alessandro Nicita, and Marcelo Olarreaga, "Estimating Trade Restrictiveness Indices," *Economic Journal* 119 (2009): 172–99.

domestic producers of the product but harming consumers who are forced to pay more for it.

Second, protectionist policies distort domestic prices in a way that leads to inefficiency (wasted resources), or in economic jargon, a deadweight loss. As import restrictions push the domestic price of a good above the world price, domestic firms produce more (at a higher cost than the goods would be available on the world market), while consumers buy less than they otherwise would, forgoing some of the benefits of consumption. The inefficiency associated with these distortions of incentives imposes a deadweight loss on the overall economy. Trade barriers are like an income transfer in which ten dollars is taken from consumers while giving only eight dollars to producers, resulting in a two-dollar loss to the economy as a whole.

In 2018, President Trump, who calls himself “Tariff Man,” unleashed successive waves of tariffs. The first wave saw the imposition of 30 percent duties on imported solar panels and 20 to 50 percent on imported washing machines. The second wave included a 25 percent tariff on steel imports and a 10 percent tariff on aluminum imports. The third wave targeted imports from China, 25 percent tariffs on \$34 billion of imports in July, 25 percent tariffs on an addition \$16 billion in imports in August, and 10 percent tariffs on another \$200 billion in imports in September. (This was followed by plans, in December 2019, by another \$300 billion in imports from China being taxed at 10 percent, unless a truce was reached.)

One study of these tariffs confirmed that the demand for imports is downward sloping in that higher tariffs reduce imports: A 1 percentage point increase in the tariff rate gives rise to a 6 percentage point fall in imported quantity. The researchers also found that the tariffs were fully passed through to domestic consumers of those goods. (There was some question whether foreign exporters would absorb some of the tax in the prices they charge in the U.S. market.) The total cost to consumers was \$52.8 billion, or \$414 per household, some of which was transferred to domestic producers. Payments to the government in tariff revenue was \$36 billion. Taking the consumer cost and subtracting transfers to producers and the government, the cumulative deadweight loss through November 2018 was \$6.9 billion. If the tariffs remain in place, the costs for 2019 and future years would be higher than this because the tariffs were phased in over 2018.<sup>10</sup>

10. Mary Amiti, Stephen J. Redding, and David Weinstein, “The Impact of the 2018 Tariffs on Prices and Welfare,” *Journal of Economic Perspectives* 33, no. 4 (2019): 187–210. Another study of the same tariffs finds that the 2018 tariff increases reduced welfare by \$7.8 billion; see Pablo D.

President Trump is not the only president who has ever imposed new tariffs on imports, although he has done so much more than his predecessors. In September 2009, President Barack Obama imposed new duties on car and truck tires imported from China. The tariffs were set to last three years, and the existing tariffs of 3 to 4 percent were augmented by an additional 35 percent in the first year, 30 percent in the second year, and 25 percent in the third year. U.S. importers shifted their source of supply away from China to other countries, such as Indonesia, which could not produce tires as cheaply as China could. Domestic tire producers were able to increase their prices as consumers shifted their purchases from imported tires to domestic tires. One study estimates that the total net cost to consumers was \$1,112 million per year—\$817 million more as a result of the higher cost of imported tires and \$295 million more because of the higher cost of domestically produced tires.<sup>11</sup> The study also estimates that a maximum of 1,200 jobs were “saved” as a result of the tire tariff, amounting to \$900,000 in consumer cost per job saved. (Average worker compensation in the tire industry is \$40,000 per year.) Thus, \$1,112 million was extracted from consumers to give \$48 million to tire workers, only some of whom might have been laid off had the tariffs not been imposed. However, the study continued, consumer spending on other goods might have been \$1,064 million lower as a result of the higher cost of tires, resulting in the loss of an estimated 3,731 jobs in other sectors of the economy. Thus, the policy may have destroyed jobs overall. In fact, a later study calculated that the tariff had no impact on domestic employment or average wages in the tire industry because imports from China were diverted to other countries.<sup>12</sup>

This redistribution and employment reshuffling is often hard to justify. For example, the United States helps the domestic sugar industry through price supports and import restrictions in the form of a tariff-rate quota. Under a tariff-rate quota, sugar-exporting countries are given a certain (small) quantity that they can bring into the United States at the regular tariff rate; any exports beyond that specified quantity are subject to a tariff rate of nearly 150 percent. Because of the import restrictions, the price of sugar in the United States has been roughly two to three times that on the

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Fajgelbaum, Pinelopi K. Goldberg, Patrick J. Kennedy, and Amit K. Khandelwal, “The Return to Protectionism,” National Bureau of Economic Research Working Paper No. 25638, March 2019.

11. Gary C. Hufbauer and Sean Lowry, “U.S. Tire Tariffs: Saving Few Jobs at High Cost,” Peterson Institute for International Economics Policy Brief No. PB12–9, April 2012.

12. Sunghoon Chung, Joonhyung Lee, and Thomas Osang, “Did the China Tire Safeguard Save U.S. Workers?,” *European Economic Review* 85 (2016): 22–38.

world market. Domestic sugar producers reap about \$1 billion annually as a result of this policy. However, 42 percent of the total benefits to sugar growers goes to the top 1 percent of all farms.<sup>13</sup> The rationale for rewarding a few wealthy sugar producers with hundreds of millions of dollars every year at the expense of consumers has never been made clear.

Although the average tariff on imports is low, the United States has significant restrictions on agricultural imports, particularly beef, canned tuna, dairy products, and sugar and sugar-containing goods. In addition, the average tariff on apparel is 14 percent and on footwear is 11 percent.<sup>14</sup> Economists have made rough estimates of the income transfers and the deadweight losses associated with trade barriers. The U.S. International Trade Commission (ITC) has calculated that the net cost—that is, the deadweight loss—of these trade barriers would be about \$3.3 billion annually over the period from 2015 to 2020, about 0.02 percent of gross domestic product (GDP).<sup>15</sup> The largest effects from the removal of import restraints are in the textiles and apparel sector, where consumers would benefit from lower-priced imports and where net U.S. welfare would increase by \$2.4 billion. The cost savings of removing tariffs on textiles and apparel would be \$54 to \$288 annually for the typical household. Overall, because the average tariff is quite low, the elimination of these barriers would increase total U.S. imports by only 0.2 percent (or roughly \$54 billion), although imports of some products, such as cheese and sugar, might increase by as much as 40 percent.

The net cost of \$3.3 billion in 2017 is significantly lower than the \$16.4 billion that the ITC calculated before 2005. The reason for the lower cost of today's trade barriers is the expiration of the Multi-Fiber Arrangement (MFA). Until its demise in January 2005, the MFA was the biggest piece of

13. U.S. General Accounting Office, "Sugar Program: Changing Domestic and International Conditions Require Program Changes," RCED/93/84, 1993; U.S. General Accounting Office, "Sugar Program: Supporting Sugar Prices Has Increased Users' Costs While Benefiting Producers," RCED/00/126, June 1993, 32–33.

14. When it comes to manufactured goods, the United States essentially has a two-tiered tariff system: average tariffs of 10 to 15 percent on light consumer goods (clothes, shoes, suitcases) and 0 to 1 percent on everything else. For example, clothes and shoes account for less than 7 percent of all imports yet bring in nearly half of all tariff revenue; see Edward Gresser, *Freedom from Want: American Liberalism and the Global Economy*, Brooklyn, NY: Soft Skull, 2007.

15. U.S. International Trade Commission, "Economic Effects of Significant Import Restraints, Ninth Update, 2017," Publication 4726, September 2018. This figure excludes the cost of antidumping duties, which will be considered in chapter 5. In addition, this figure is based on a highly aggregated view of trade. Because the variance of U.S. tariff rates across imports matters for its welfare cost, a more refined study yields a higher welfare loss of \$7 billion; see Kee, Nicita, and Olarreaga, "Estimating Trade Restrictiveness Indices."

protectionist-cholesterol blocking the arteries of world trade.<sup>16</sup> The MFA restricted imports of foreign textiles and apparel through a complex maze of country- and product-specific quotas. Under the MFA, the United States maintained more than three thousand separate quotas on imports from more than forty nations. The narrowly defined quotas include cotton diapers from China, men's and boys' cotton coats from Sri Lanka, women's and girls' wool coats from the Czech Republic, women's bras from Mexico, men's trousers from Guatemala, women's and girls' man-made-fiber woven blouses from the United Arab Emirates, and so on. In 1989, the Treasury Department's Customs Service prohibited the import of thirty thousand tennis shoes from Indonesia because the boxes contained an extra pair of shoelaces, which, it was decided, fell in a separate import quota category.<sup>17</sup>

The result was severely distorted trade and significantly higher prices of clothing for U.S. consumers.<sup>18</sup> The combined effect of tariffs and quotas raised domestic prices of apparel by 18 to 24 percent and prices of finished textile products by about 14 percent in 2002.<sup>19</sup> Indeed, according to virtually every study on the matter, the economic benefits to the United States from eliminating the MFA were enormous. The direct consumer cost of this protection amounted to \$24.4 billion in 1990, a burden of over \$260 per household.<sup>20</sup> The tax is generally believed to have been quite regressive because lower-income households devote a greater share of their expenditures to clothing than those with higher incomes.

The high costs of the MFA illustrate an important difference between an import tariff and an import quota. When the United States imposes a tax on imports, the government collects as tariff revenue the difference between the world price and the higher, tariff-inclusive domestic price charged to consumers. But when a country limits the quantity of imports with a

16. Under the Uruguay Round Agreement of 1994, the United States and other countries phased out the MFA by January 2005.

17. Customs later decided that an extra pair of shoelaces would be permitted as long as they were laced into the shoes and color-coordinated with them. See James Bovard, *The Fair Trade Fraud*, New York: St. Martin's Press, 1991, 45.

18. The restrictiveness of the MFA varied considerably across commodity products, ranging as high as 60 percent for cotton knit shirts and blouses and 93 percent for hosiery from China. See Alan Fox, William Powers, and Ashley Winston, "Textile and Apparel Barriers and Rules of Origin in a Post-ATC World," Office of Economics, U.S. International Trade Commission Working Paper 2007-06-A, June 2007, Table 3.

19. U.S. International Trade Commission, *The Economic Effects of Significant U.S. Import Restraints*, Third Update 2002, Publication No. 3519, June 2002, 35.

20. Gary C. Hufbauer and Kimberly A. Elliott, *Measuring the Costs of Protection in the United States*, Washington, DC: Institute for International Economics, 1994.

quota, the difference between the world price and the higher domestic price becomes a scarcity rent rather than tariff revenue. This scarcity (or quota) rent is captured by foreign exporters as a markup if they have obtained the right to export a certain amount under the quota to the import-restricting market, where they can charge a higher price than on the world market.

The transfer of quota rents is a national loss because money is taken from consumers and handed to foreign exporters (in the form of a higher markup) instead of the government (in the form of tax revenue), as would have happened if a tariff had been imposed. Almost all of the roughly \$12 billion net cost to the United States of the MFA was from the transfer of quota rents to foreign exporters, and very little was due to domestic deadweight efficiency losses.

The transfer of quota rents also distorts the incentives of the exporters, particularly in developing countries. When the United States imposes an import quota, foreign governments are usually responsible for determining which exporters will be allowed to sell in the U.S. market (and thus receive the quota rent) and which exporters will be prohibited from exporting. The allocation of quota rights, except when those rights are auctioned off, is inherently arbitrary and increases the power of government bureaucrats, thereby fostering corruption. The politically well-connected firms, which perhaps are not averse to sharing the quota rents with the bureaucrats, are most likely to obtain export licenses, whereas other firms are shut out. This gives entrepreneurs in developing countries the wrong signal: the way to get rich is to invest in political influence, not to invest in productive efficiency.

These “static” calculations of the cost of production understate the true cost of trade barriers for several reasons, such as failing to consider the productivity and variety benefits of trade. And, of course, just because the cost of protection is relatively small as a share of GDP for the United States does not mean that it is small for other countries, particularly many developing countries. For those whose trade barriers are much more pervasive and restrictive, the potential gains from liberalization are much more substantial.<sup>21</sup> For example, according to one study, the static deadweight loss resulting from trade restrictions amounts to 3.1 percent of GDP in Egypt, 2.8 percent of GDP in Ghana, and 2.2 percent of GDP in Tunisia. Once again, these figures understate the costs because they ignore the productivity gains

21. Patrick Messerlin has reported that the costs of protection in the European Union (EU) are equivalent to about 6 to 7 percent of the EU's GDP, or about the same as the annual value of output in Spain. See Patrick A. Messerlin, *Measuring the Costs of Protection in Europe*, Washington, DC: Institute for International Economics, 2001.



from trade and the benefits of international agreements that would give these countries access to other markets.<sup>22</sup>

The estimates of the cost of protection are also understated because they do not take into account the resources devoted to political pressure to maintain these protectionist measures. Expenditures on campaign contributions and legal fees may generate private benefits for those making the expenditures, if they can persuade policymakers to restrict trade on their behalf. Those expenditures are socially unproductive, however, because the goal is to redistribute wealth rather than create it.<sup>23</sup>

Indeed, the impact of trade barriers can be significantly larger when the political determinants of those barriers are taken into account. A standard statistical method of gauging the effect of trade restraints on imports is to examine the determinants of import demand, such as the relative price of imports, domestic income, and other explanatory variables. But this approach ignores the simultaneity of imports and protection: Higher tariffs may reduce imports, but more imports also lead to greater political pressure for higher tariffs. This confounds any attempt to isolate the effect of tariffs on imports and, unless corrected for, leads one to understate the effect of tariffs on imports. When one study confronted this problem by examining the political-economic determinants of trade barriers in the United States and used the results to help explain imports, the statistical coefficient representing the negative impact of nontariff barriers (such as quantitative restrictions) on imports was increased by a factor of ten. The conventional estimate suggests that removing nontariff barriers would increase manufactured imports by \$5.5 billion (in 1985), whereas after controlling for the political determinants of those barriers, the impact was estimated to be closer to \$50 billion.<sup>24</sup>

The numbers assigned to the welfare costs of trade barriers have a surreal feel to them that makes them difficult to grasp. What may be more distressing is the rarely exposed seamier details of the protectionist racket, which allow one to go behind the numbers and see how firms and sectors actually get the government to intervene on their behalf. The sugar program is a classic

22. Hiau Looi Kee, Alessandro Nicita, and Marcelo Olarreaga, "Import Demand Elasticities and Trade Distortions," *Review of Economics and Statistics* 90 (2008): 666–82.

23. Anne O. Krueger, "The Political Economy of a Rent Seeking Society," *American Economic Review* 64 (1974): 291–303.

24. Daniel Treffer, "Trade Liberalization and the Theory of Endogenous Protection: An Econometric Study of U.S. Import Policy," *Journal of Political Economy* 101 (1993): 138–60. See also Jong-Wha Lee and Phillip Swagel, "Trade Barriers and Trade Flows across Countries and Industries," *Review of Economics and Statistics* 79 (1997): 372–82.

example. Sugar imports are restricted to maintain domestic price supports for sugar beet and cane producers. The benefits of these restrictions are highly concentrated because Congress has not limited the amount of support that large firms can receive. For example, one farm received over \$30 million in benefits from the sugar program in 1991, and just 0.2 percent of all sugarcane farms—thirty-three in total—received 34 percent of the entire program benefits.<sup>25</sup> The family of Alfonso Fanjul single-handedly supplies the United States with about 15 percent of its sugarcane through its land holdings in South Florida and the Dominican Republic, collecting somewhere between \$52 million to \$90 million in benefits from the price supports on U.S. production and the quota rents on Dominican sugar exports.<sup>26</sup> Not surprisingly, the Fanjul family can afford to make hundreds of thousands of dollars in campaign contributions.<sup>27</sup> At the same time, the Fanjul farms were being investigated for chronic violation of U.S. labor laws. Government support for the sugar industry has also harmed the environment because chemical runoff from the intensive farming of sugarcane in South Florida has seeped into the Everglades.

The sugar program is not just an economic, political, and environmental inequity. It also prevents desperately poor sugar-producing countries from exporting to the United States. Countries such as Colombia and Guatemala are deprived of valuable foreign exchange earnings that could be spent on food, fuel, and medicine. Congressional opponents of the sugar policy have suggested that Andean farmers, who have been prevented from selling their sugar in major markets, have turned their cropland toward the production of coca used in cocaine production and other illegal drugs. The Caribbean and Latin American farmers who find themselves cut out of the American sugar market may be forced to turn to illegal crops as a way to make a living.

When politics and trade meet, the result not only harms consumers but may even jeopardize national security. Shortly after the terrorist attack on the United States on September 11, 2001, President Pervez Musharraf of Pakistan requested the suspension of tariffs and quota on Pakistan's exports of textiles and apparel to the United States in an effort to lift its economy. After

25. U.S. General Accounting Office, "Sugar Program: Changing Domestic and International Conditions Require Program Changes."

26. Jane Mayer and Jose de Cordoba, "Sweet Life: First Family of Sugar Is Tough on Workers, Generous to Politicians," *Wall Street Journal*, July 29, 1991.

27. Alfonso Fanjul is so politically powerful that President Bill Clinton interrupted a "meeting" with Monica Lewinsky to take a phone call from him. This is according to Lewinsky's testimony as presented in the 1998 Kenneth Starr report.

debate within the George W. Bush administration, Commerce Department officials informed Pakistan that the United States would be unable to grant trade concessions; pressure from the domestic textile and apparel industry successfully blocked any expansion of imports. In fact, Pakistan's textile exports to the United States fell sharply in the months after 9/11 because of a sharp rise in insurance premiums, costing Pakistan over \$1 billion in exports and throwing untold numbers of workers out of their jobs at a delicate time in the region.<sup>28</sup>

When examined up close, trade policy is not pretty. Steel lobbyists, for example, have induced members of Congress to change U.S. trade laws for the specific benefit of their industry, which has received pension bailouts, loan guarantees, environmental exemptions, and decades of trade restrictions—and continues to press for more.<sup>29</sup> They have lobbied the Commerce Department for exemptions from the steel tariffs that President Trump imposed on their behalf, leading to charges of political favoritism in whose request is approved or rejected—so much so that the Commerce Department's Inspector General opened an investigation “regarding a lack of transparency that contributes to the appearance of improper influence in decision-making for tariff exclusion requests.”<sup>30</sup> When powerful industries push politicians to intervene on their behalf, the picture is often an ugly one.

The problem is even worse in developing countries, where outright corruption is more of an issue. Protectionist policies have been a breeding ground for such corruption. Some private firms may bribe customs officials to avoid high tariffs, as found to be the case in southern Africa.<sup>31</sup>

28. According to one report, the reason for the rejection of Pakistan's request was that congressional Republicans decided that they wanted to give the president trade-negotiating authority without Democratic support to show the business lobbies that pro-trade Democrats were not trustworthy on the issue. To get a majority, U.S. House Ways and Means Chairman Bill Thomas needed to woo protectionist Republicans to support the bill with promises that key industries in their districts would be protected. House Republican leaders secured the deciding vote of Robin Hayes (R-North Carolina) only by promising not to increase quotas on Pakistani textile imports. See Franklin Foer, “Fabric Softener,” *New Republic*, March 4 and 11, 2002, 19–21.

29. William H. Barringer and Kenneth J. Pierce, *Paying the Price for Big Steel: \$100 Billion in Trade Restraints and Corporate Welfare*, Washington, DC: American Institute for International Steel, 2000.

30. Christine McDaniel, “Tariff Exclusion Requests Soar Past Projections,” October 2, 2018, <https://www.mercatus.org/bridge/commentary/tariff-exclusion-requests-soar-past-projections>. See also <https://www.reuters.com/article/us-usa-trade-steel/u-s-handling-of-tariffs-raises-appearance-of-improper-influence-watchdog-idUSKBN1X92KP>.

31. Sandra Sequeira, “Corruption, Trade Costs, and Gains from Tariff Liberalization: Evidence from Southern Africa,” *American Economic Review* 106 (2016): 3029–63.

In other countries that require government-issued licenses to import foreign goods, the bureaucrats who have discretion in allocating those valuable licenses may be persuaded to serve private interests rather than the public interest in making their decisions.<sup>32</sup> As the economist Rudiger Dornbusch used to say, “Whenever someone has discretion, someone else will pay them to exercise it.”<sup>33</sup>

So far we have examined the direct costs of import barriers. But the indirect effects of import barriers are also important, though not always readily apparent. The indirect consequences of import restrictions include a reduction in exports and lower employment in downstream industries, and we consider each in turn.

### Import Barriers Harm Exports

Imagine taking a poll of Americans and asking, “Should the United States impose tariffs on foreign goods to prevent imports from low-wage countries from harming American workers?” A sizable fraction of the respondents would probably answer yes. If asked to explain their position, they would probably reply that import tariffs would create jobs for Americans and thereby reduce unemployment. (The validity of this opinion will be examined in chapter 4.)

Then suppose you asked the same people, “Should the United States levy an export tax on domestically produced goods such as aircraft, grains, machinery, software, and the like?” The answer would probably be a resounding and unanimous no! After all, they would argue, export taxes would destroy jobs and harm important industries.<sup>34</sup>

Yet according to an important proposition known as the Lerner symmetry theorem, these two policies are equivalent in their economic effects.<sup>35</sup>

32. Pushan Dutt, “Trade Protection and Bureaucratic Corruption: An Empirical Investigation,” *Canadian Journal of Economics* 42 (2009): 155–83.

33. <https://www.pbs.org/wgbh/pages/frontline/shows/mexico/interviews/dornbusch.html>.

34. In addition, an export tax is unconstitutional under Article 1, Section 9 of the U.S. Constitution.

35. The theorem is named after Abba Lerner, who published a short but brilliant paper on the subject as a graduate student at the London School of Economics in 1936. Lerner’s paper established the formal truth of the proposition, but it had been a feature of trade policy debates long before then. See A. P. Lerner, “The Symmetry between Import and Export Taxes,” *Economica* 3 (1936): 306–13. See also Greg Ip, “U.S. Exporters Will Be a Surprise Loser from Tariff Fight,” *Wall Street Journal*, July 9, 2018.

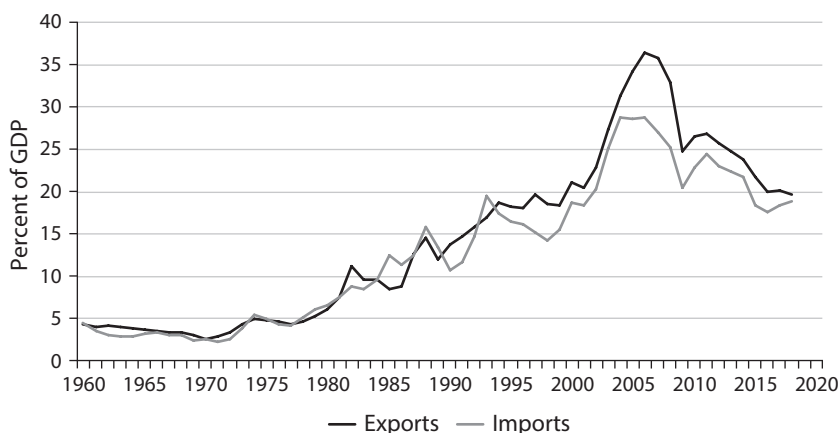


FIGURE 3.1. China's Exports and Imports as a Percent of GDP, 1960–2017

Source: International Monetary Fund, International Financial Statistics.

The Lerner symmetry theorem holds that a tax on imports is functionally equivalent to a tax on exports. In other words, any restriction on imports also operates as a restriction on exports. This theorem helps us understand another aspect of import tariffs—how they destroy jobs in export industries.

Some participants in the debate on trade tend to believe that a country's exports and imports are independent of one another; therefore, one can reduce imports without having an adverse effect on exports. In fact, exports and imports are the flip side of the same coin. Exports are the goods a country must give up in order to acquire imports. Exports are necessary to generate the earnings to pay for imports. The past century illustrates the close relationship between exports and imports in the United States. Looking back at figure 1.1, which plots U.S. merchandise exports and imports as a percentage of GDP from 1870 to 2018, we see that exports and imports have been highly correlated, except in recent years. (The trade deficit will be discussed in chapter 4.)

Additional evidence of the Lerner symmetry theorem comes from the recent experience of developing countries. Figure 3.1 depicts China's exports and imports as a share of its GDP from 1960 to 2017. Most people are well aware that China has become a major exporter. Few realize that China's astounding growth in exports has been matched by astounding growth in imports. This simply demonstrates that trade is indeed a two-way street, not a one-way flow.

At one level, the idea that import restraints will reduce exports is straightforward. If foreign countries are blocked in their ability to sell their goods in

the United States, they will be unable to earn the dollars they need to purchase U.S. goods. The mechanisms that link a country's exports and imports to one another are complex and not always readily apparent, but they can be illustrated by focusing on the foreign exchange market. Suppose a small country like Chile were to reduce its tariff unilaterally. One would expect Chilean demand for foreign goods to increase. To make these purchases, Chilean consumers would have to sell pesos on the foreign exchange market to purchase foreign currency, say, the dollar. In response to the increased demand for dollars from those holding pesos, the value of the dollar will rise in terms of the peso, or conversely the peso's value will fall in terms of the dollar. This change tends to raise the price of foreign goods in Chile, dampening demand for them.

But here is the flip side: Although Chile lowered its tariffs while the rest of the world left its tariffs unchanged, other countries will now purchase more goods from Chile. This is because the cheaper peso tends to lower the price of Chilean goods in other currencies, stimulating foreign demand for them, and hence Chile's exports rise. Therefore, the foreign exchange market is one of several mechanisms that link exports and imports, ensuring that a country's exports increase when it unilaterally reduces its own import tariffs.<sup>36</sup>

This link between exports and imports also explains why the employment effects of trade intervention tend to cancel each other out. Throughout U.S. history, large tariff increases have failed to stimulate greater employment because any increase in employment in import-competing industries is offset by a decrease in employment in industries that are export-oriented. The Smoot-Hawley Tariff of 1930, for example, significantly reduced imports but failed to create jobs overall because exports fell almost one-for-one with imports, resulting in employment losses in those industries.<sup>37</sup>

Another way in which import barriers can lead to lower exports is through foreign retaliation. When the United States imposed higher tariffs on imported steel in 2018, the European Union imposed higher tariffs on steel products (including wire, tubes, bars and rods, and flat-rolled products) that they imported from the United States. (They threw in whiskey, orange juice, cotton bed linen, and T-shirts for good measure.) When the United

36. A change in the exchange rate is only one of several ways in which symmetry will hold; for example, it still holds for countries with fixed exchange rates or in single currency areas such as Europe, but through a different mechanism.

37. Douglas A. Irwin, *Peddling Protectionism: Smoot-Hawley and the Great Depression*, Princeton, NJ: Princeton University Press, 2011.

States imposed higher tariffs on imports from China, that country stopped buying American soybeans and other agricultural commodities, putting a big dent into those exports. One study found that consumption in U.S. counties whose exports were hit hardest by China's retaliation suffered considerably: High-tariff-impacted counties experienced a 3.8 percentage point decline in new auto sales growth relative to low-tariff counties.<sup>38</sup>

Thus, the connection between imports and exports cannot be overlooked when evaluating trade policy. Governments that undertake policies to reduce imports will find themselves also reducing exports. This reduction in imports may expand employment in industries that compete with them, but the reduction in exports tends to contract employment in those industries dependent on foreign sales. An appreciation of the Lerner symmetry theorem is particularly important when assessing the claim that import tariffs have a beneficial effect on overall employment.

### **Import Barriers Harm Downstream Industries**

Not only do import restrictions reduce the number of jobs required to produce exports, but they also destroy jobs in downstream industries that use the imports. Recall from table 1.2 that the majority of U.S. imports are not final consumer goods but intermediate goods used by domestic firms in their production. Any trade restriction that increases the price of an intermediate good raises the costs of production in downstream user industries with an adverse effect on employment in those industries. In other words, when domestic firms have to pay a premium on their productive inputs, particularly when they are competing with foreign rivals that do not pay those taxes, employment in those industries suffers.

Restrictions on imported sugar, for example, have produced sour results for those employed in the sugar-refining and candy-making industries. When food manufacturers that produce sugar-intensive products are forced to pay a higher price for sugar than their foreign rivals, their competitive position suffers. In 2002, a Life Savers candy plant that employed 650 workers in Michigan was closed and relocated to Canada. Before the shutdown, the plant produced about three million rolls of Life Savers per day using 250,000 pounds of sugar. Because of the high price of sugar in the United States, the

38. Michael E. Waugh, "The Consumption Response to Trade Shocks: Evidence from the US-China Trade War," National Bureau of Economic Research Working Paper No. 26353, October 2019.

company would save over \$10 million a year in sugar costs just by relocating across the border. Canada is the location of choice for large sugar-using food manufacturers because the country does not have any sugar farmers and hence does not artificially inflate the price of sugar on their behalf.<sup>39</sup>

After noting that the U.S. price of sugar had been at two to three times the world price for twenty-five years, a Commerce Department report in 2006 concluded that “this price difference results in a significant competitive cost disadvantage for domestic sugar-containing products manufacturers.”<sup>40</sup> It reported that employment in the sugar-refining and sugar-containing products industry had fallen by more than 11,000 between 1997 and 2002, even as employment in the non-sugar-containing food products industry had risen by more than 30,000. Of the 10,000 jobs lost, the Commerce Department attributed at least 6,400 to plant closings and relocation related to the high domestic price of sugar. In fact, sugar policy has jeopardized many more workers in sugar-using industries than it protects in the sugar-growing industry: In 2002, employment in sugar-using industries was 987,810, whereas there were only 61,000 workers employed growing and harvesting sugarcane and beets. Trade barriers were thought to protect only 2,260 of those sugar-growing jobs, which meant that the consumer cost per job saved was \$826,000. As a result, the Commerce Department noted that “nearly three confectionery manufacturing jobs are lost for every job protected in the sugar-growing sector due to the price gap between U.S. and world refined sugar prices.”

Recent estimates of the sugar program conclude that the removal of sugar quotas would create between 17,000 and 20,000 jobs in the food industry, while 2,700 jobs would be lost in sugarcane farming and sugar processing.<sup>41</sup>

There are numerous examples of the adverse effect that trade restrictions have on employment in downstream industries. In 1991, the United States imposed antidumping duties on imported flat-panel displays used by domestic manufacturers of laptop computers: specifically, 62.67 percent duties on active matrix LCD displays and 7.02 percent duties on electroluminescent displays. Producers of laptops could no longer afford to purchase the

39. Tim Jones, “Life Savers Takes Business to Canada over Sugar Costs,” *Chicago Tribune*, January 30, 2002, <https://www.chicagotribune.com/news/ct-xpm-2002-01-30-0201300310-story.html>.

40. U.S. Department of Commerce, International Trade Administration, “Employment Changes in U.S. Sugar Manufacturing: The Impact of Sugar Prices,” March 2006, <http://www.ita.doc.gov/media/Publications/pdf/sugar06.pdf>.

41. John C. Beghin and Amani Eloheid, “Analysis of the U.S. Sugar Program,” American Enterprise Institute, November 2017.



expensive displays in the United States and still compete effectively against overseas rivals that could buy the same displays at much lower prices on the world market and then export their laptops freely to the United States. To avoid the higher domestic prices, several manufacturers decided to shift production abroad. Immediately after the imposition of the antidumping duties, Toshiba announced that it would cease production of laptops in California and shift production to Japan, Sharp announced that it would cease production of laptops in Texas and move production to Canada, and Apple announced that it would relocate its assembly of laptops from California to Ireland or Singapore.<sup>42</sup>

When the Trump administration decided in 2018 to impose a 25 percent tariff on all imported steel, the same employment tradeoffs emerged. (See more on the steel case, which was ostensibly based on national security, in chapter 5.) The steel industry employs about 147,000 workers, while there are roughly 2.3 million workers in steel-using industries. The tariffs cost Ford Motor Company a billion dollars in added costs of production because the tariffs made American steel the most expensive in the world. The higher steel costs also hurt Caterpillar and John Deere, as well as machinery producers. One study suggested that, as a result of the steel tariff, the number of jobs in the iron and steel industry and the fabricated metal products industry would increase by 44,000, but there would be 17,000 fewer jobs in motor vehicles and parts and 209,000 fewer jobs in construction.<sup>43</sup> To take one example, the American Keg Company in Pottstown, Pennsylvania, which produces beer kegs, was forced to lay off employees because it could not compete against foreign producers who did not face higher domestic costs of steel. Once again, in deciding whether to limit steel imports, the government faced the choice of protecting jobs in the steel industry or protecting jobs in automobiles, commercial building, wire products, electronic equipment, heavy machinery, oil and gas drilling, and other steel-using industries.<sup>44</sup>

42. Jeffrey A. Hart, "The Antidumping Petition of the Advanced Display Manufacturers of America: Origin and Consequences," *World Economy* 16 (1993): 85–109.

43. Joseph Francois and Laura Baughman, "Estimated Impacts of Tariffs on the U.S. Economy and Workers," The Trade Partnership Worldwide, February 2019. On tariffs and aluminum specifically, see Joseph Francois and Laura M. Baughman, *Does Import Protection Save Jobs? The Estimated Impacts of Proposed Tariffs on Imports of U.S. Steel and Aluminum*, Washington, DC: The Trade Partnership, March 2018. For a counterargument, see Robert E. Scott, "Estimates of Jobs Lost and Economic Harm Done by Steel and Aluminum Tariffs Are Wildly Exaggerated," Economic Policy Institute, March 2018.

44. In 2002, a year after the George W. Bush administration imposed tariffs of up to 30 percent on certain steel imports, the International Trade Commission surveyed steel consumers about the

These examples demonstrate the first lesson of economics: There is no such thing as a free lunch. Every government intervention involves a tradeoff of some sort. Higher sugar prices increase employment in sugar production but reduce employment in food-manufacturing industries. Higher semiconductor prices increase employment in the semiconductor industry but decrease employment in the computer industry. Higher steel prices increase employment in the steel industry but decrease employment in steel-using industries. When an industry asks the government to impose trade barriers that would raise the domestic price above the world price, the choice means trading off jobs in one sector of the economy for jobs in another sector, not creating or losing jobs overall.

Why do policymakers usually fail to see themselves as facing such a tradeoff? For one thing, if downstream consumers do not organize politically, the indirect consequences of trade barriers may never be brought to the attention of policymakers. And the nature of the political process gives members of Congress and officials in the executive agencies responsible for trade policy a strongly biased view of the effects of trade. Constituents who lose their jobs in import-sensitive industries, such as steel, invariably complain to their representatives and government agencies about foreign competition. Legislators and bureaucrats cannot ignore these voters, and it is hard for them to resist the temptation to help by “doing something” about the situation, even if that imposes hardship on others who are often silent. Meanwhile, those who owe their jobs and high wages to exports or to industries that depend on inexpensive intermediate goods almost invariably fail to express their appreciation to policymakers for not interfering with trade. As a result, those seeking to limit trade tend to be more vocal than those who benefit from open markets.

## The Politics of Protection

If free trade is so beneficial and protectionism so costly, then what explains the attractiveness and persistence of high trade barriers? One reason free trade is so controversial is that, in the short run, not everyone stands to

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impact of this action. About half of steel purchasers reported an increase in contract or spot prices after the tariffs were imposed. Based on the survey responses, roughly 8 percent of the decline in employment in steel-consuming firms between 2002 and 2003 was attributed to the safeguard measure. U.S. International Trade Commission, “Steel Consuming Industries: Competitive Conditions with Respect to Steel Safeguard Measures. Volume III: Executive Summaries,” Investigation No. 332–452, Publication 3632, September 2003, 2–50.

benefit from the policy. Changes in trade flows and in trade policy have a ripple effect through the economy and affect the distribution of income and the location of job creation and destruction. Because some groups are harmed by trade and benefit from trade barriers, it is not clear that free trade policies will always be adopted. The actual policy will depend on the relative political strength of those supporting and opposing trade restrictions, based on underlying economic interests or any other motivation.

Indeed, specific groups that benefit from protectionist barriers usually exert political influence beyond their numbers. Political influence tends to be skewed in favor of those seeking government assistance because those who stand to gain have more at stake than those who stand to lose. As Vilfredo Pareto pointed out long ago, “A protectionist measure provides large benefits to a small number of people, and causes a very great number of consumers a slight loss.”<sup>45</sup> This circumstance makes it easier to enact such measures. Pareto’s idea that the benefits of trade protection are highly concentrated while the costs are widely diffused has been a central point of departure for explaining the existence and persistence of import restrictions.

The U.S. sugar program, once again, illustrates the principle of diffused costs and concentrated benefits. Import restrictions have kept domestic sugar prices at roughly twice the world price. The General Accounting Office once estimated that 42 percent of the total benefits of these higher prices went to just 1 percent of all sugarcane and sugar beet growers; indeed, just seventeen sugarcane farms collected over *half* of all the cane growers’ benefits. Clearly, the owners of these few farms have a powerful incentive to maintain the import restrictions. Although the sugar policy imposes far larger costs on consumers of sweeteners than are distributed to growers, consumers are far more numerous, and these costs are spread widely among them.<sup>46</sup>

This combination of concentrated benefits and dispersed costs leads to an enormous imbalance in the relative size of the political forces opposing and favoring any change in the sugar policy. The incentive for household consumers to oppose the policy is virtually nonexistent: Even though the total cost

45. Vilfredo Pareto, *Manual of Political Economy*, translated by Ann S. Schwier, New York: Augustus M. Kelley, 1971, 379.

46. This is generally true. The Environmental Working Group maintains an online database of farm subsidies. From 2018 to 2019, 12 percent of market facilitation payments went to just 1 percent of all farms, and 54 percent of payments went to the top 10 percent of farms. See [https://farm.ewg.org/progdetail.php?fips=00000&progcode=total\\_mfp&page=conc&regionname=theUnitedStates](https://farm.ewg.org/progdetail.php?fips=00000&progcode=total_mfp&page=conc&regionname=theUnitedStates) (accessed August 5, 2019).

across all consumers is large, amounting to \$2.9 billion to \$3.5 billion per year, the cost to each individual consumer is small: only about \$10 per person per year.<sup>47</sup> On the other hand, the policy creates large, tangible benefits for a few producers that are willing to devote substantial resources to defend the policy. In the 2016 election cycle, the sugar industry spent \$8.5 million in lobbying to keep import restrictions in place, funds split pretty evenly between Democrats and Republicans.<sup>48</sup> As a result, such special interests have an influence on policy that is disproportionate to their size.

Another example of concentrated benefits and dispersed costs is the tariffs imposed to protect American manufacturers of wire clothes hangers used by dry cleaners. In 2008, M&B Metal Products Co. of Leeds, Alabama, succeeded in getting the government to impose antidumping tariffs of 15.44 percent and 94.06 percent on two major exporters from China. (Chapter 5 covers antidumping policy.) The manufacturer argued that the cost to consumers of the additional tariffs would be trivial, only a penny or two per hanger, so that if someone paid \$12.95 to have their suit cleaned, the price would rise to just \$12.96 or \$12.97. As a result, it was argued, consumers would not notice the difference.

Yet the costs add up. With thirty thousand dry cleaners in the United States, each paying an additional \$4,000 per year because of the hanger tariff, the annual cost to consumers would be about \$120 million. Even though individual consumers might not notice, the tariffs would allow the domestic producer to capture a share of this amount, giving it a powerful financial incentive to press for the duties. Furthermore, according to the International Trade Commission, U.S. employment in wire hanger manufacturing was just 564 workers in 2004; if each of those 564 jobs were “saved” by the tariff, the cost per job saved would be \$212,765 per year in an industry where the typical full-time worker earns about \$28,000 per year.<sup>49</sup>

Yet such imbalances in the concentration of costs and benefits are not the whole story. Many small groups could benefit from special government policies, but few actually succeed in organizing and obtaining it. Why are some special interests able to form a political organization or interest group while others are not? And why do only some of those that organize succeed

47. John C. Beghin and Amani Elobeid, “The Impact of the U.S. Sugar Program Redux,” *Applied Economic Perspectives and Policy* 37 (2015): 1–33.

48. See data available at OpenSecrets.org, <https://www.opensecrets.org/industries/industries.php?cycle=2018&ind=a1200> (accessed August 5, 2019).

49. U.S. International Trade Commission, “Steel Wire Garment Hangers from China,” Investigation No. 731-TA-1123 (Preliminary), Publication 3951, 2007.

in influencing policy? The formation of interest groups is a critical element of the politics of trade policy. Unfortunately, economists and political scientists have not been very successful in revealing much about the organization of economic interests.<sup>50</sup> However, several hypotheses are worth exploring.

One difficulty in forming a successful political interest group is the “free rider” problem. If a tariff benefits all firms in an industry regardless of whether they contributed to the political effort to get the tariff imposed, then some firms may choose not to contribute. They would prefer that others undertake the burden because, if protection is secured, the shirking firms cannot be excluded from the benefits of higher prices as imports are squeezed out of the market. But at the same time, the fewer firms participating in seeking protection, the lower the probability of obtaining protection.

Industries that are relatively concentrated, either economically (a small number of firms) or geographically (the same regional location), are best positioned to overcome the costs of collective action. They can monitor the political contributions of others and attempt to punish or exclude free riders. The free-rider problem also explains the difficulty of mobilizing the dispersed opponents of programs. The numerous but widely dispersed consumers who pay higher prices for sugar have a collective interest in changing the current policy, but there is a strong incentive for every consumer to avoid paying for such a collective effort.

For other economic interests, however, political organization is not even necessary. For example, wheat farmers in Kansas and Nebraska, corn farmers in Iowa, tobacco farmers in North Carolina, and citrus producers in Florida do not require much political organization to ensure that their elected representatives take their interests to heart. Legislators represent the preferences of important unorganized constituents in order to raise the probability that they will be reelected. In addition, with the spread of antidumping and other bureaucratic mechanisms for obtaining protection (discussed in chapter 5), it is not even clear that political contributions by interest groups are the predominant means by which trade policy is affected. (The free-rider problem is

50. For surveys of the economic literature on the political economy of trade policy, see Dani Rodrik, “Political Economy of Trade,” in *Handbook of International Economics*, vol. 3, edited by Gene M. Grossman and Kenneth Rogoff, Amsterdam: Elsevier, 1995; Kirshore Gawande and Pravin Krishna, “The Political Economy of Trade Policy: Empirical Approaches,” in *Handbook of International Trade*, edited by E. Kwan Choi and James Harrigan, Oxford: Blackwell, 2003; John McLaren, “The Political Economy of Commercial Policy,” *Handbook of Commercial Policy Volume 1, Part A*, edited by Kyle Bagwell and Robert W. Staiger, Amsterdam: North Holland, 2016.

less of an obstacle in antidumping cases because the definition of an industry is often so narrow that even a single firm has the standing to file a petition.)

Thus, because of the conflicting interests of different groups, there is no reason to believe that free trade will necessarily be adopted as a country's trade policy.<sup>51</sup> But what if citizens could actually vote on trade policy matters? An interesting benchmark to consider is the trade policy that would emerge in a democratic vote under majority rule. While trade policy is almost never determined in this way, this is a useful starting point for thinking about the policy that would arise in a competitive, representative political system.

In a direct democracy, trade policy would be determined (at least in theory) by the preferences of the median voter.<sup>52</sup> If free trade raises aggregate income but reduces the income of the median voter, then free trade would probably not get a majority vote to pass in a referendum. This points to the distribution of workers' skills across the electorate as a potentially important determinant of the median voter's interests. As noted in chapter 1, educational attainment appears to be an important factor in shaping the American public's views of trade policy. Several studies have shown that the more education a person receives, the more likely that person is to support open trade policies.<sup>53</sup>

Taking that perspective, suppose workers with a high school education lose one dollar as a result of free trade, while those with a college education gain two dollars. If workers with a college degree constitute at least one-third of all voters, free trade would raise overall income. But if the less-educated workers make up more than half of the electorate, the median voter would oppose the policy unless (or perhaps even if) guaranteed a compensatory income transfer.

This is consistent with the view that economic interests are at stake: The United States exports goods and services that require a highly educated workforce, whereas it imports more labor-intensive goods that, in

51. For a theoretical treatment of these issues, see Gene Grossman and Elhanan Helpman, *Interest Groups and Trade Policy*, Princeton: Princeton University Press, 2002.

52. The median voter is the decisive marginal voter whose views determine which side will win under majority rule. See the classic analysis of Wolfgang Mayer, "Endogenous Tariff Formation," *American Economic Review* 74 (1984): 970–85.

53. See Bruce A. Blonigen, "Revisiting the Evidence on Trade Policy Preferences," *Journal of International Economics* 85 (2011): 129–35, and the references therein. There is also evidence that homeownership is a factor that shapes an individual's preferences on trade policy. Even highly educated individuals tend to express support for protectionist policies if they own a home in a region that is adversely affected by imports.

the competing domestic industry, require few years of formal education. Because the fraction of the population receiving advanced education has risen in recent decades, support for freer trade might be expected to grow over time.<sup>54</sup>

In most countries, however, trade policy is not determined by voters in a referendum but by elected representatives voting in the legislature. In this case, the distribution of economic interests across electoral districts can interact with the rules of the political system (a winner-take-all versus a proportionate representative system) and shape the outcome. If a sizable minority of the electorate is opposed to free trade but is uniformly distributed across districts, then a winner-take-all system might result in the election of few opponents to free trade, whereas their political strength might be greater in a proportional system.

Politicians can be crafty in exploiting the geographic variation in trade interests by using selective promises of protection to win votes. To help get NAFTA passed by the House of Representatives in 1993, President Bill Clinton negotiated a special safeguard agreement for citrus producers just to win the support of Florida's congressional delegation. During the 2000 election campaign, candidate George W. Bush promised to aid steelworkers in West Virginia, which helped swing the state to the Republicans for the first time in decades and helped him win the election. (The Bush administration followed through on its promise by imposing tariffs on imported steel in 2002.) In the 2008 Democratic primaries, candidates Barack Obama and Hillary Clinton questioned the wisdom of NAFTA in Ohio, where many manufacturing jobs had been lost, but not in Texas, where the agreement is viewed favorably. On several occasions, President Trump expressed his desire to scrap NAFTA completely, but Republicans in the Midwest who represented agricultural states knew that their farm constituents were dependent on large corn exports to Mexico. They helped persuade the president to renegotiate, rather than terminate, NAFTA. Now the successor agreement (called USMCA for United States–Mexico–Canada Agreement) must be

54. Other factors affecting the median voter's views on trade include the manner in which voters perceive their economic interests to be related to trade policy. One such factor is the degree to which workers are potentially mobile between different sectors of the economy or different regions of the country. For example, a worker who over time has built up industry-specific skills (such as a blast-furnace worker in the steel industry) will probably view trade policy differently from someone whose skills are useful in several different industries (such as a financial accountant who happens to work in the steel industry). A coal miner in West Virginia who refuses to consider relocating to another part of the country is going to think about economic change differently from someone who is willing to move thousands of miles in search of a new opportunity.



passed by Congress to take effect, bringing political geography back into the picture once again.

Finally, trade policy outcomes also depend on how the conflict between these competing groups is mediated by policymaking institutions in the government. These institutions may be biased in favor of one group over another, either because certain groups have better access to decision makers or because those decision makers are more sensitive to the interests of some groups. This can obviously affect the direction that trade policy takes. For example, antidumping policy is essentially nonpolitical and administered in a routine, bureaucratic way by government agencies. Small, narrowly defined industries tend to choose the antidumping route to trade protection, whereas larger industries may have the political clout to secure protection directly from the president and Congress. Because of all these variables, generalizations about the politics of trade policy are difficult to make. So it should not be surprising that political economists find it difficult to arrive at generalizations about how firms achieve political influence.

Although many factors influence the setting of trade policy, one generalization seems fairly robust: once policies are in place, they are difficult to change, particularly if change involves taking benefits away from any industry. In a classic essay, Gordon Tullock called this the “transitional gains” trap.<sup>55</sup> Any new tariff or subsidy creates a short-term transitional benefit for a particular group but no long-term benefit because costs rise, benefits get capitalized (in higher land prices, in the case of agriculture, for example), and conditions become normalized. But the termination of these schemes would generate large losses for the entrenched interests. Hence, the beneficiaries of the policy will fight against any effort to eliminate a tariff or subsidy, even if the apparent benefit from the policy is no longer very large.

For example, in the early 1950s during the Korean War, Congress introduced support measures for owners of mohair goats, whose wool was useful for making warm army uniforms. These subsidies persisted for forty years after the end of the war because farmers adamantly opposed their withdrawal and politicians did not want to fight them just to save some money. Although the government program was abolished in 1994, saving \$200 million, it was revived just a few years later. Wool growers did not flourish with the subsidies, but they were definitely harmed by their removal. Experience with other industries in the past—such as steel, textiles

55. Gordon Tullock, “The Transitional Gains Trap,” *Bell Journal of Economics* 6 (1975): 671–78.



and apparel, and sugar—have also shown that once the government gives a certain group a special program, that program can become institutionalized at various levels of government and is then very difficult to take away.

For this reason, it has been said that voting for freer trade is an “unnatural act” for a politician, who would be taking away tangible benefits for some in exchange for the indefinite benefits for others. That the beneficiaries of a policy change are uncertain creates problems in itself. When imports increase, some groups know with a high degree of certainty that their jobs and incomes are at stake. Yet it is often not clear which individuals and industries stand to gain jobs and income when exports increase. Uncertainty about whether an individual will benefit from or be harmed by trade can lead to a status quo bias in favor of maintaining trade restrictions. Even if the entire electorate recognized that a clear majority would benefit from free trade, a reform in which most voters would benefit might not pass in a popular vote if a large number of these voters considered themselves unlikely to be part of the majority that would gain from the reform. This uncertainty means that the expected value of reform could be negative for a majority of voters, in which case they would block it. In addition to the transitional gains trap, this phenomenon gives the political system a status quo bias.<sup>56</sup>

The status quo bias is simply reinforced if voters are risk averse (wherein they prefer a lower but certain return over a higher but less certain return) or loss averse (wherein they are more sensitive to losses than to equivalent-sized gains, and thus prefer to avoid any loss).<sup>57</sup> These factors might help explain why countries with trade restrictions find it politically difficult to eliminate them. In such cases, tariffs may be viewed as a social welfare mechanism to prevent substantial reduction of real incomes in certain sections of the community. This function might explain why so many tariffs in the past seem to have had income maintenance as their goal and why they have continued, even when designed to be only temporary. For example, if

56. Raquel Fernandez and Dani Rodrik, “Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty,” *American Economic Review* 81 (1991): 1146–55. Rodrik gives this example: Suppose there are 100 voters and a policy reform will increase the incomes of 51 individuals by \$5 and decrease the incomes of 49 individuals by \$1. The policy produces a net gain of  $(5 \times 51) - (1 \times 49) = \$206$ . But suppose the 49 know that they will lose, while the 51 do not know whether they will win or lose. Not only will the 49 losers vote against the policy, but so will some of the potential winners, and thus a majority will reject the reform (Rodrik, “Political Economy of Trade,” 1479).

57. Caroline Freund and Çağlar Özden, “Trade Policy and Loss Aversion,” *American Economic Review* 98 (2008): 1675–91; Patricia Tovar, “The Effects of Loss Aversion on Trade Policy: Theory and Evidence,” *Journal of International Economics* 78 (2009): 154–67.

the goal is to keep real incomes of certain farmers, steelworkers, or textile manufacturers higher than they would be otherwise, there is less of a motivation to reduce trade barriers, even though other income transfer policies would be more efficient than restricting trade.

Sometimes one government trade intervention leads to extra add-on costs to help those who are adversely affected. In 2018, when President Trump imposed tariffs on imported steel and on imports from China, other countries retaliated by imposing tariffs on U.S. agricultural exports. To compensate for the damage done to American farmers from their lost sales, the administration arranged a farm bailout amounting to \$28 billion. Thus, most of the tariff revenue went indirectly to pay farmers hurt by the trade war, although it compensated them for only a fraction of their financial losses.<sup>58</sup>

Despite the forces that favor the imposition and maintenance of trade restrictions, political leaders in many countries have recognized the economy-wide benefits of free trade and been able to overcome political obstacles, throw off existing measures, and adopt more open trade policies. The United Kingdom eliminated virtually all of its protectionist policies in the mid-nineteenth century when export-oriented cotton textile interests grew powerful enough to defeat import-competing agricultural producers. The United States significantly reduced its tariffs in the mid-twentieth century as it came to dominate world trade in manufactured goods. As chapter 6 discusses, many developing countries—from Korea in the 1960s to Chile in the 1970s to China in the 1980s to India in the 1990s—have undertaken radical changes in economic policies in the direction of open markets.<sup>59</sup> Often these changes require creative political leaders who respond to a crisis or form new political coalitions in a way that breaks through the inertia of the status quo.

### Is Protection Ever Beneficial?

The theory and evidence reviewed thus far have failed to address the idea that, in certain instances, import restrictions might be economically beneficial. As trade economist Max Corden reminds us: “Theory does not ‘say’—as is often asserted by the ill-informed or the badly taught—that ‘free trade is

58. Mario Parker and Mark Doring, “Trump’s \$28 Billion Bet That Rural America Will Stick With Him,” *Bloomberg Businessweek*, September 19, 2019, <https://www.bloomberg.com/news/articles/2019-09-19/farmers-say-trump-s-28-billion-bailout-isn-t-a-solution>.

59. For a set of case studies on unilateral moves to free trade, see Jagdish Bhagwati, ed., *Going Alone: The Case for Relaxed Reciprocity in Freeing Trade*, Cambridge, MA: MIT Press, 2002.

best.” It says that, *given certain assumptions*, it is ‘best.’”<sup>60</sup> In fact, economists have identified conditions under which trade protection can actually improve welfare. Broadly speaking, trade interventions can be beneficial when they are used to improve the terms of trade, to promote industries with positive externalities, or to capture rents in international markets.<sup>61</sup> Although these theoretical cases exist, daunting political problems remain in actually having government implement policies that can capture these benefits. Let us consider each case in turn.

When a country has the ability to influence the prices of its exports and imports on the world market, then trade restrictions can potentially raise national income by improving the ratio at which a country exchanges exports for imports, something known as a country’s *terms of trade*. An improvement in the terms of trade, either through higher export prices or lower import prices, means that the purchasing power of exports in terms of the imports procured has increased. This translates into higher income because the country can acquire more imports for the same amount of exports. For example, oil-exporting countries benefit from a higher price for oil (i.e., their terms of trade improve), whereas oil-importing countries suffer from a higher price for oil (i.e., their terms of trade deteriorate).

The power to influence the world market price is usually held by a country or group of countries that dominate production of a certain good, often a natural resource commodity. For example, the United States produced 80 percent of the world’s cotton before the Civil War. Southern cotton producers collectively had a significant impact on the world price, but each plantation by itself had no particular influence. The United States might have been better off if producers had formed a cartel to restrict exports or, barring that, if the government had imposed an export tax to force up the world price of cotton. The Organization of Petroleum Exporting Countries (OPEC) has used limits on production to help increase the world price of oil, and OPEC members have reaped billions of dollars in additional revenue as a result. (Of course, it is always difficult for such cartels to prevent smaller members from cheating and to prevent nonmembers from increasing production.)

60. W. M. Corden, *Trade Policy and Economic Welfare*, Oxford: Oxford University Press, 1974, 7–8. Even Adam Smith fully conceded that there are sound noneconomic rationales for restricting trade, such as protecting industries essential for national defense.

61. Corden (*Trade Policy and Economic Welfare*) provides a good overview of the various cases in which protection might be economically justifiable. For an exploration of the debate among economists about these cases, see Douglas A. Irwin, *Against the Tide: An Intellectual History of Free Trade*, Princeton, NJ: Princeton University Press, 1996.

Similarly, the number of exporters of gold, diamonds, and some metals is limited by natural resource endowments, giving some countries the power to influence prices on world markets.

Except in such special cases, the terms-of-trade motive for trade restrictions has little relevance for the policies of most countries.<sup>62</sup> Few countries have the clear-cut ability to manipulate their terms of trade to much advantage, except for those commodity examples, and most policymakers probably have little idea what conditions would have to be met for tariffs to be set optimally. Most governments are highly sensitive to domestic political concerns about trade and seek to minimize adjustment costs to producers rather than search out goods in which optimal tariffs might be employed. That said, China has imposed export taxes on rare earths and other minerals in a way that may have provided domestic electronics producers with a cost advantage.<sup>63</sup>

To the extent that countries can influence the price of their exports, the appropriate response is an export tax, something that is unlikely to be popular. In addition, any gains from such a policy could evaporate if competing suppliers emerged or if other countries imposed retaliatory duties. Finally, such a trade restriction is not desirable from the standpoint of world welfare and global efficiency. An improvement in the exporting country's terms of trade implies a deterioration in the importing country's terms of trade and actually leaves the world as a whole worse off.

Another situation in which trade interventions can, in principle, yield economic benefits is when they serve as a second-best measure to promote industries that generate positive externalities. In the case of positive externalities, the private costs of production are higher than the social costs of production because producers do not take into account the benefits of their actions for other sectors of the economy. As a result, the domestic industry

62. Most government officials are probably not aware of the impact their policies have on the country's terms of trade. One study provides evidence that most developing countries are price-takers on world markets and therefore cannot improve their terms of trade by restricting exports or imports. See Arvind Panagariya, Shekhar Shah, and Deepak Mishra, "Demand Elasticities in International Trade: Are They Really Low?," *Journal of Development Economics* 64 (2001): 313–42. After estimating a slew of export supply elasticities facing various importing countries, other researchers have found that the median "optimal tariff" on imports (to improve the terms of trade by forcing exporters to reduce their prices) is just 4 percent. See Alessandro Nicita, Marcelo Olarreaga, and Peri Silva, "Cooperation in WTO's Tariff Waters?," *Journal of Political Economy* 126 (2018): 1302–38.

63. Lu Zhang, Qing Guo, Junbiao Zhang, Yong Huang, and Tao Xiong, "Did China's Rare Earth Export Policies Work? Empirical Evidence from USA and Japan," *Resources Policy* 43 (2015): 82–90.

produces less of a good than is socially desirable. These benefits can be captured if the private and social costs of production are properly aligned, which can sometimes be achieved through domestic subsidies. If subsidies cannot be used, there may be a second-best case for promoting the industry through protection. Recent theoretical cases have considered optimal trade policy for industries in which there are static or dynamic external economies, such as “learning by doing” or research and development (R&D) spillovers, in which the production experience or research of one firm benefits others in the industry, as is alleged to be the case in certain high-technology industries. In theory, circumstances can arise in which some government promotion may be appropriate.<sup>64</sup>

But as a practical matter, using trade policy to correct for such market failures is problematic. Correctly identifying these externalities is, by their very nature, extremely difficult.<sup>65</sup> Even if the externality can be identified, the first-best policy is a production subsidy. Only if that is ruled out for some reason should a tariff be considered. And using tariffs to promote a targeted industry has been likened to “acupuncture with a fork: no matter how carefully you insert one prong, the other is like to do damage.” In other words, a tariff may correct the relevant market failure, but at the cost of introducing a by-product distortion, such as a higher price for domestic consumers.<sup>66</sup> Finally, the relevant externality must be external to the firm and internal to the country. The R&D or learning benefits could spill over between countries, particularly if foreign firms maintain a presence in the domestic market or have an ownership stake in the domestic firms, or when the knowledge cannot be limited geographically. In this case, any promotion scheme benefits all firms around the world, not just domestic ones,

64. Dominick Bartelme, Arnaud Costinot, Dave Donaldson, and Andrés Rodríguez-Clare, “The Textbook Case for Industrial Policy: Theory Meets Data,” National Bureau of Economic Research Working Paper No. 26193, August 2019.

65. Industrial policy advocates propose various criteria for determining which industries are better than others and therefore deserve promotion. One proposed criterion was industries with high value-added per worker, but as Paul Krugman notes, these are really just capital-intensive industries. This would lead one to support the cigarette industry and the oil pipeline industry. Sometimes it is argued that the presence of external economies of scale is demonstrated by geographically concentrated industries. Just because most U.S.-made carpets come from one county in Georgia, to use a commonly cited example of this phenomenon, does not mean that the carpet industry deserved to be subsidized at its inception or deserves to be subsidized now. Paul Krugman, “Competitiveness: A Dangerous Obsession,” *Foreign Affairs* 73 (1994): 28–44.

66. That pointed phrase comes from Alan V. Deardorff and Robert M. Stern, “Current Issues in U.S. Trade Policy: An Overview,” in *U.S. Trade Policy in a Changing World Economy*, edited by Robert M. Stern, Cambridge, MA: MIT Press, 1987, 39.

significantly narrowing the cases in which intervention would produce purely a national advantage instead of simply providing an international public good. It is particularly difficult for the United States, where policy is determined largely by lawyers who are responding to self-interested producers, to determine impartially which industries exhibit such dynamic externalities and which do not, let alone know the degree to which the knowledge spills over to foreign firms.

Many industries that are touted as creating positive externalities fail to do so. For example, in the early 1990s, high-definition television (HDTV) was widely believed to be a “technology driver” for the high-technology industry: If the United States failed to dominate the underlying technology, it would lose its competitive position in commercial applications and in related industries, such as semiconductors and workstations. Whichever country invested in the “right” technology first was expected to have a strategic advantage over latecomers in what was projected to be a lucrative new market. To this end, Europe and Japan moved quickly to subsidize their producers. Japan invested nearly \$1.2 billion in HDTV research (much of it from the Ministry of International Trade and Industry and the state broadcaster, NHK), while taxpayers in the European Community spent about \$1 billion on HDTV research through 1991.<sup>67</sup>

Fearing the United States would be left behind, in 1989 the American Electronics Association proposed that Congress appropriate \$1.35 billion in direct subsidies and loan guarantees to support HDTV research. Congress authorized \$30 million in research grants through the Defense Department and promised more, but the administration of George H. W. Bush opposed the funding. The ensuing stalemate prevented any further spending. Yet gridlock not only saved American taxpayers millions of dollars, it proved to be the best policy. The European and Japanese technologies were developed first, but they settled on an analog standard that was soon viewed as obsolete. Meanwhile, frustrated by the impasse in Washington, American firms set to work themselves on HDTV research and, by entering the field somewhat later, were able to improve on foreign research. Ultimately, American firms created a digital system that was later selected as the industry standard by the Federal Communications Commission. Moreover, only now has HDTV become commercially available, and it has failed to become the driving or

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67. See Jeffrey A. Hart, “The Politics of HDTV in the United States,” *Policy Studies Journal* 22 (1994): 213–28; Xiudian Dai, Alan Cawson, and Peter Holmes, “The Rise and Fall of High-Definition Television: The Impact of European Technology Policy,” *Journal of Common Market Studies* 34 (1996): 149–66.

profitable technology that many influential commentators thought it would be twenty years ago.

More recently, the federal government has guaranteed loans to “innovative technologies,” but it is not clear that bureaucrats are good venture capitalists. Taxpayers were on the hook for \$529 million after the solar firm Solyndra failed. It had been given a government-sponsored loan in an effort to produce cleaner energy technologies but declared bankruptcy in 2011 amid claims that it might have misrepresented its finances to the government.

The final rationale for trade intervention is to capture rents or profits in the international market. To understand this process, consider a firm that is competing against a single foreign rival in an imperfectly competitive market (i.e., one in which there are above-normal profits) in a third country. In this case, a government export subsidy for the firm could induce the foreign rival to cut its output, thereby shifting profits from the foreign to the domestic firm. This practice is known as *strategic trade policy*, in which the government undertakes a precise, strategic intervention on behalf of domestic firms in a way that increases national welfare.<sup>68</sup>

For example, European support for Airbus is commonly believed to be an attempt to shift profits away from Boeing in the lucrative market for wide-body aircraft. The A380, a double-decker long-range jumbo jet, required launch support of more than \$10 billion and received an unspecified amount of funding and credit from European governments. Although Airbus claimed that it only needed to see about 400 aircraft to break even, it received fewer than 300 orders (and has delivered fewer than 250). After many airlines decided that customers wanted more flights at different times rather than fewer flights on enormous aircraft, Emirates, Singapore Airlines, Air France, British Airways, and others decided to retire their A380 planes early. As a result, Airbus decided to end production of the A380 by 2021 and admitted that it would never recoup its \$25 billion investment.<sup>69</sup> By misjudging the market for long-range, wide-bodied aircraft, Airbus and its European backers failed to capture much market share or profits at the expense of Boeing.

68. Paul R. Krugman, *Strategic Trade Policy and the New International Economics*, Cambridge, MA: MIT Press, 1986.

69. For an analysis of the Airbus A380 super jumbo's impact on sales of the Boeing 747, see Douglas A. Irwin and Nina Pavcnik, “Airbus versus Boeing Revisited: International Competition in the Aircraft Market,” *Journal of International Economics* 64 (2004): 223–45. On the problems associated with European support for Airbus, see Paul Seabright, “The Hidden Costs of Political Sponsorship of Industrial Firms,” in *Industrial Policy for National Champions*, edited by Falck Oliver, Gollier Christian, and Woessmann Ludger, Cambridge, MA: MIT Press, 2011, 119–32.



Although there was much enthusiasm for strategic trade policy in the 1980s, numerous theoretical and practical objections have diminished its appeal. First, successful intervention depends crucially on key parameters in the market's structure that make it difficult for governments to determine the best policy. For example, one study showed that if the firms competed by setting prices rather than quantities, then the optimal policy would switch from an export subsidy to an export tax. The introduction of asymmetric information between the firms and the government further increases the range of possible outcomes and makes clear-cut predictions even more difficult. Setting aside theoretical issues, calibrated simulation models of strategic trade policy reveal that the potential gains from implementing the optimal policy are exceedingly small. When the right policy is excruciatingly difficult to determine in the first place and depends on getting parameters of industry structure and competitive interaction exactly right, the small potential payoff suggests that such interventions are not worthwhile, especially when the potential outlays are high.<sup>70</sup>

Theoretical work on optimal trade interventions is usually developed in the context of an omniscient government that has full information and the capability of setting policy in an optimal manner. In the real world, governments are neither omniscient nor immune to external pressure. Do the theoretical results stand up when the government is confronted with political pressure to use policy on behalf of certain industries? Not surprisingly, the answer is no. Research has shown that the case for such interventions is substantially weakened when government policy is subject to strategic manipulation by politically active firms.<sup>71</sup> Thus, there are many reasons to be skeptical about whether a government can determine where strategic intervention will be worthwhile among the many industries competing for

70. For a comprehensive survey of this literature, see James A. Brander, "Strategic Trade Policy," *Handbook of International Economics*, vol. 3, edited by Gene M. Grossman and Kenneth Rogoff, New York: Elsevier, 1993. For a historical case of strategic trade policy, see Douglas A. Irwin, "Mercantilism as Strategic Trade Policy: The Anglo-Dutch Rivalry for the East India Trade," *Journal of Political Economy* 99 (1991): 1296–314.

71. Gene Grossman and Giovanni Maggi examine whether a welfare-maximizing government should pursue a program of strategic trade intervention or instead commit itself to free trade when domestic firms have the opportunity to manipulate the government's choice of the level of intervention. Domestic firms, for example, may overinvest in physical and knowledge capital in a regime of strategic intervention in order to influence the government's choice of subsidy. They find that this manipulation can make a commitment to free trade desirable even in settings where profit-shifting opportunities are available. Gene M. Grossman and Giovanni Maggi, "Free Trade vs. Strategic Trade: A Peek into Pandora's Box," in *Global Competition and Integration*, edited by R. Sato, R. V. Ramachandran, and K. Mino, Boston: Kluwer Academic Publishers, 1998.



government assistance, especially in a representative democracy, where trade policy is often driven by the interests of politically active domestic producers.<sup>72</sup>

It is sometimes said that free trade is right in theory but wrong in practice. Actually, the opposite is true. Any clever graduate student in economics can quickly come up with half a dozen reasons why free trade fails as a theoretical proposition. In theory, a lot of things can happen. In practice, the economic benefits of trade and the costs of protection are tangible. So, too, are the limitations of any government's ability to take advantage of situations in which theory suggests that deviating from free trade might be beneficial.

The three theoretical possibilities for trade intervention discussed here depend on particular circumstances in special cases and require constant adjustment to changing market conditions. Free trade is a much simpler policy because it does not need changing when the underlying economic conditions change. Furthermore, any government that undertakes large, systematic sectoral interventions creates a great deal of concentrated political and economic power, not just to do good but also to make costly mistakes.

72. Anne Krueger argues that "in the real world of scarce information, uncertainty, and pervasive rent-seeking, policy makers will inevitably miss the crucial and subtle distinctions between profits that are high because of rents and those that are high because of risk; between wages that are high because of rents, and those that are high because of skills; and between sectors that provide inputs, and those that result in spillover externalities" Anne O. Krueger, "Free Trade Is the Best Policy," in *An American Trade Strategy: Options for the 1990s*, edited by Robert Z. Lawrence and Charles L. Schultze, Washington, DC: Brookings Institution, 1990, 21.

# 4

## Trade, Jobs, and Wages

The argument against free trade that resonates most strongly with the public and with politicians is that imports destroy jobs. Indeed, the greatest fear about international trade in general, and imports in particular, is that it can harm workers, reduce wages, and lead to unemployment. But is this an accurate view of trade as a whole? And if so, are import restrictions the remedy? This chapter addresses the relationship between trade, jobs, and wages and examines government policies to assist displaced workers. The chapter also considers the underlying causes of trade deficits to see if a country suffers when it imports more than it exports.

### How Does Trade Affect Employment?

The claim that trade should be limited because imports destroy jobs has been around at least since the sixteenth century.<sup>1</sup> Why should we import something produced abroad, it is commonly asked, when we can produce it here at home with our own workers?

Of course, not all imports destroy jobs. The United States imports coffee, bananas, and tin, but these imports do not directly harm domestic industries or cause job losses because these products are not produced at home.<sup>2</sup> Few

1. See Douglas Irwin, *Against the Tide: An Intellectual History of Free Trade*, Princeton, NJ: Princeton University Press, 1996, 36ff.

2. However, workers in the U.S. apple industry once complained that cheap banana imports were hurting them because apples and bananas are substitutes. In the late 1920s, the apple

people have complained about U.S. petroleum imports, aside from small oil drillers in Texas and Oklahoma, because foreign suppliers give us access to low-cost energy imports that allow us to heat our homes, fuel our cars, and have cheaper electricity.<sup>3</sup>

But imports do indeed destroy jobs in certain industries: for example, employment in the Maine shoe industry, the Pennsylvania steel industry, the South Carolina textile and apparel industry, and the Virginia furniture industry is much lower because these industries have faced stiff competition from imports. So we can understand why the plant owners and workers—and the politicians who represent them—would like to protect these firms and their workers by imposing trade barriers.

But just because imports destroy some jobs does not mean that trade reduces overall employment or harms the economy. (Technology also destroys jobs. Bank tellers have been replaced with ATM machines and payment apps, there are fewer office assistants because of computers and voice mail, manual workers are laid off because of more efficient machines, the film and photography industry has been devastated by smartphone cameras, as examples, yet these innovations are not viewed as a bad thing.) As we saw in chapter 3, blocking imports may protect jobs in industries that compete against imports, but it also diminishes employment in other industries by reducing exports and raising costs for import-using industries. Therefore, the statement that imports destroy jobs is incomplete because trade also creates jobs in export industries and import-using industries. In 2016, exports of goods and services “supported” 10.7 million American jobs, directly and indirectly, according to the Department of Commerce.<sup>4</sup>

Since trade both creates and destroys jobs, one question is whether trade has any effect on overall employment. In an ambitious attempt to quantify the impact of imports and exports on U.S. employment during the period from 1995 to 2011, researchers found that the growth in U.S. exports led to increased demand for 2 million jobs in manufacturing, 0.5 million in resource industries, and 4.1 million jobs in services—totaling 6.6 million jobs. Two-thirds of those service-sector jobs are the result of the export of

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industry proposed that banana imports be taxed to shift consumer demand toward the purchase of apples.

3. Of course, the rapid expansion of domestic production of oil and natural gas in recent years because of fracking and other new technologies has changed the U.S. position in energy trade. It has also put pressure on Congress and the administration to lift the ban on American oil exports, which was imposed in the 1970s during the era of shortages.

4. Chris Rasmussen, “Jobs Supported by Exports 2016: An Update,” International Trade Administration, Department of Commerce, August 2, 2017.

services themselves, and one-third are due to the intermediate demand from merchandise exports, so the total labor demand gain because of merchandise exports was 3.7 million jobs. In comparison, U.S. merchandise imports from China led to reduced demand for 1.4 million jobs in manufacturing and 0.6 million in services (with small losses in resource industries), with total job losses of 2.0 million. It follows that the expansion in U.S. merchandise exports relative to imports from China from 1995 to 2011 created a net demand for about 1.7 million jobs. Comparing the growth of U.S. merchandise exports to merchandise imports from all countries, the authors found a fall in net labor demand because of trade; however, comparing the growth of total U.S. exports to total imports from all countries, including services, there is a rise in net labor demand.<sup>5</sup>

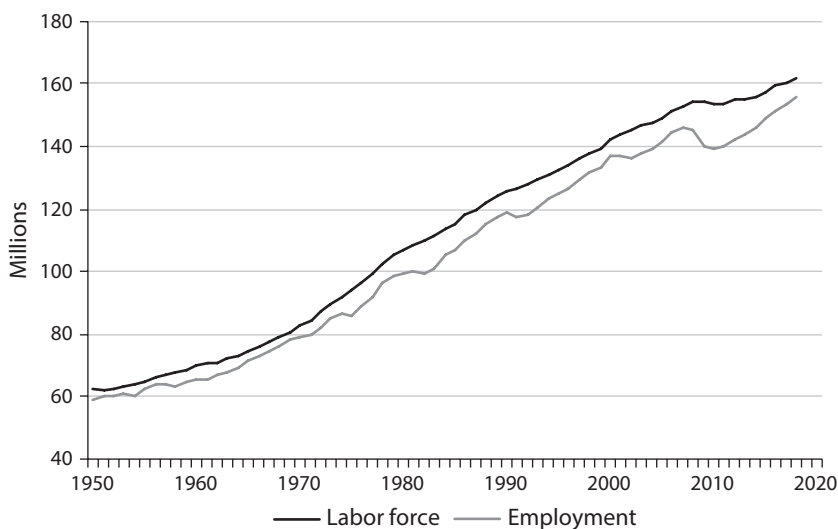
Yet most attempts to quantify the effects of trade on overall employment are problematic: there are so many shocks hitting labor supply and labor demand over any given period that separating out and identifying the specific contribution of trade to the total number of jobs in an economy is almost impossible.<sup>6</sup> For this reason, many economists believe that the impact of trade on the total number of jobs in an economy is best approximated as zero. Simply put: total employment is not a function of international trade but the number of people in the labor force. As figure 4.1 shows, employment in the United States since 1950 has closely tracked the number of people in the labor force.

Of course, there is always some unemployment, represented by the gap between the two series. For example, the gap starting in 2008 is the result of the financial crisis and the subsequent Great Recession, from which the United States slowly emerged. But the level of unemployment is determined more by macroeconomic factors than by changes in trade flows or trade policy. And the business cycle has a rhythm of its own, driven by factors largely independent of trade.

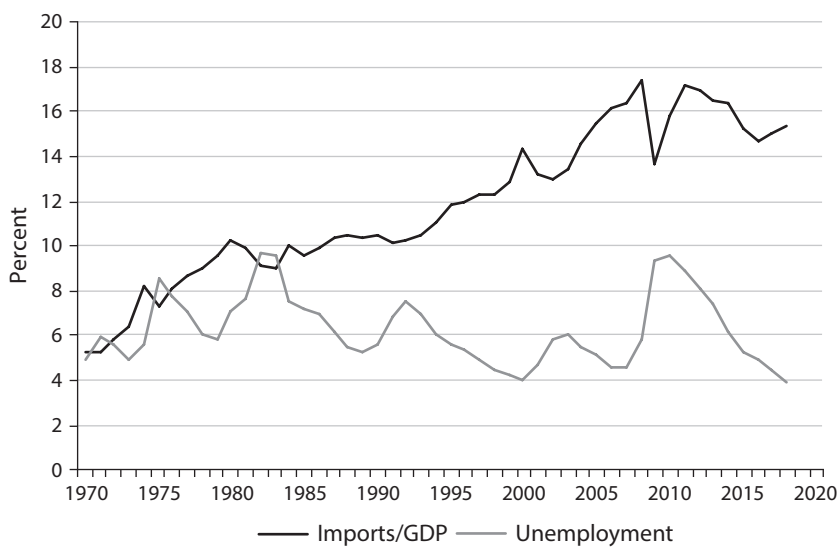
To see this more directly, figure 4.2 compares the unemployment rate with the ratio of imports of goods and services to gross domestic product (GDP) since 1970. Except for the period from 1970 to 1975, higher unemployment rates are not associated with increases in imports as a share of GDP. Since the early 1980s, the unemployment rate has moved lower even as the imports-to-GDP ratio has increased. When unemployment rose in

5. Robert C. Feenstra and Akira Sasahara, "The 'China Shock,' Exports and U.S. Employment: A Global Input-Output Analysis," *Review of International Economics* 26 (2018): 1053–83.

6. For another attempt, see Erica L. Groshen, Bart Hobijn, and Margaret M. McConnell, "U.S. Jobs Gained and Lost through Trade: A Net Measure," Federal Reserve Bank of New York *Current Issues in Economics and Finance*, August 2005.



**FIGURE 4.1.** Civilian Labor Force and Civilian Employment in the United States, 1950–2018  
*Source:* FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).



**FIGURE 4.2.** Unemployment and Import Penetration in the United States, 1970–2018  
*Source:* FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

the early 1980s, the early 1990s, the early 2000s, and the late 2000s because of recessions in each of those periods, imports were not surging but actually falling off because of declining demand.

For example, the financial crisis of 2008 and the subsequent Great Recession led to a sharp rise in unemployment, but also to a collapse in U.S. imports. The crisis and recession can be attributed to the financial problems associated with the fall in housing prices, not a sudden intensification of import competition. The U.S. unemployment rate rose from 5.4 percent in January 2008 to a peak of 10.6 percent in January 2010. At the same time, the volume of U.S. imports fell 3 percent in 2008 and 14 percent in 2009 because of the sharp drop in demand.

As figure 4.1 demonstrates, overall job creation has exceeded job destruction over time. The economy continues to create jobs even though imports are at high levels (partly because exports are also at high levels). Although the net change in employment is relatively small in any given year, a striking feature of the U.S. labor market is that gross rates of job creation and destruction are very high. In a dynamic and rapidly changing economy, jobs are continuously created and eliminated at a rate of about 4 million to 5 million per month. In 2018, for example, there were 66.1 million job separations (33 percent of which were layoffs and discharges and 60 percent of which were voluntary quits) and 68.9 million hires. National employment rose by about 2.8 million over the year, but the net change in jobs was a small fraction of the gross flows of workers in and out of the labor force and moving between jobs.<sup>7</sup>

How much are imports to blame for the job losses experienced in any given year? Not much. Changes in consumer tastes, domestic competition, productivity growth, and technological innovation, in addition to international trade, all contribute to the churning of the labor market. It is virtually impossible to disentangle all of the reasons for job displacement because they are interdependent; for example, domestic or foreign competition may force firms to upgrade their technology and replace workers with machines to stay competitive. Yet, to the extent that such attributions are made by the Bureau of Labor Statistics, trade is a small factor in the overall displacement of workers from their jobs. As table 4.1 shows, import competition and overseas plant relocations accounted for about 3 percent of total employment separations resulting from mass layoffs in the past. During the Great Recession of 2009, when layoffs topped two million, less than 1 percent of those job losses were the result of import competition.

7. Bureau of Labor Statistics, "Job Openings and Labor Turnover Survey," July 2019.

TABLE 4.1. Number of Workers Affected by Extended Mass Layoffs, 1996–2012

Year	Total Number of Workers, All Reasons	Due to Import Competition	Percentage of Total Due to Imports	Due to Overseas Relocation	Percentage of Total Due to Imports & Relocation
1996	948,122	13,476	1.4	4,326	1.9
1997	947,843	12,019	1.3	10,439	2.4
1998	991,245	18,473	1.9	8,797	2.8
1999	901,451	26,234	2.9	5,683	3.5
2000	915,962	13,416	1.5	9,054	2.5
2001	1,524,832	27,946	1.8	15,693	2.9
2002	1,272,331	15,350	1.2	17,075	2.5
2003	1,216,886	23,734	2.0	13,205	3.0
2004	993,909	8,064	0.8	16,197	2.4
2005	884,661	11,112	1.3	12,030	2.6
2006	935,805	10,458	1.1	13,367	2.5
2007	965,935	11,589	1.2	n.a.	n.a.
2008	1,516,978	9,679	0.6	n.a.	n.a.
2009	2,108,803	3,192	0.2	n.a.	n.a.
2010	1,257,134	1,199	0.1	n.a.	n.a.
2011	1,112,710	1,214	0.1	n.a.	n.a.
2012	1,257,212	n.a.	n.a.	n.a.	n.a.

Source: Bureau of Labor Statistics, Mass Layoff Statistics ([www.bls.gov/mls](http://www.bls.gov/mls)).

Note: Displaced workers are those who face involuntary separations because of plant closings and mass layoffs and do not include those who lose their jobs from temporary layoffs or voluntary separations. Unfortunately, because of budget cuts, the Bureau of Labor Statistics stopped collecting these data in March 2013.

In fact, study after study has confirmed that the trade-induced turnover in U.S. labor markets is small in comparison with the overall turnover.<sup>8</sup> Trade is only slightly related to cross-industry variation in worker displacement rates. Although industries with high displacement rates are often import sensitive, not all import-sensitive industries have high displacement rates. One

8. See John T. Addison, Douglas A. Fox, and Christopher J. Ruhm, "Trade and Displacement in Manufacturing," *Monthly Labor Review* 118 (1995): 58–67. See also Lori G. Kletzer, "Trade and Job Displacement in U.S. Manufacturing: 1979–1991," in *Imports, Exports, and the American Worker*, edited by Susan Collins, Washington, DC: Brookings Institution, 1998, 455. Kletzer concludes that "increasing foreign competition across industries accounts for a small share of job displacement" across industries because there are "high rates of job loss for industries with little trade."

respected study concludes that there is “no systematic relationship between the magnitude of gross job flows and exposure to international trade. . . . On balance, the evidence is highly unfavorable to the view that international trade exposure systematically reduces job security.”<sup>9</sup>

Still, there are several ways to assess the impact of trade on employment. One is to use a simple accounting framework to separate the effects of productivity, domestic demand, exports, and imports on employment. One study does this for the period from 2000 to 2010, when there were 5.6 million jobs lost in manufacturing, and finds that imports accounted for 13 percent of the job losses and increased productivity 87 percent. Of course, the results vary widely depending on the industry. In some industries, such as apparel and furniture, imports account for about 40 percent of the job losses. In other cases, such as primary metals or chemicals, the share of job loss due to imports is less than 5 percent.<sup>10</sup>

For example, in the apparel industry, imports have risen and domestic production has fallen, suggesting one has replaced the other—which is almost certainly the case. In the steel industry, by contrast, domestic production has remained flat, and the import market share has been fairly stable as well. Yet steel employment has fallen significantly in recent decades. The culprit is increased efficiency: In the 1980s, it took ten worker-hours to produce a ton of steel, whereas now it takes less than two worker-hours to produce a ton of steel.<sup>11</sup> Thus, even if the United States were to produce significantly more steel than it currently does, it would not require many new workers to do so.

9. Steven J. Davis, John C. Haltiwanger, and Scott Schuh, *Job Creation and Destruction*, Cambridge, MA: MIT Press, 1995, 48–49. They find that there is a higher rate of gross job destruction in very high import-penetration sectors, but that this disappears after controlling for industry wages. “This is evidence that import-intensive industries exhibit greater gross job flows because their workers have relatively low levels of specific human capital—not because foreign competition subjects these industries to unusually large and volatile disturbances” (49). Simply put, workers who lack industry-specific skills are more apt to switch jobs and are less apt to remain in any given industry than workers who have industry-specific skills.

10. Michael J. Hicks and Srikant Devaraj, “The Myth and the Reality of Manufacturing in America,” Center for Business and Economic Research, Ball State University, April 2017. Using a very different method, another study finds that trade accounts for 16 percent of the decline in goods-sector employment between 1995 and 2014; see Guillermo Gallacher, “Manufacturing Employment, Trade, and Structural Change,” unpublished paper, University of Washington, April 2019.

11. American Iron and Steel Institute, “Profile 2018,” 6, <https://www.steel.org/-/media/doc/steel/reports/2018-aisi-profile-book.ashx?la=en> . . . According to this report, “Labor productivity has seen a five-fold increase since the early 1980s, going from an average of 10.1 man-hours per finished ton to under 1.9 man-hours per finished ton of steel in 2017. Many North American



But how can we be sure that the number of jobs destroyed by imports will be matched by the number of jobs created elsewhere in the economy? One reason is that macroeconomic policy can be adjusted to offset any imbalance in the forces that drive job creation and destruction. If imports begin rolling in and trigger widespread layoffs, for example, the unemployment rate may begin to rise. If the unemployment rate rises, and with it the risks of a recession, the Federal Reserve Board is likely to ease monetary policy and reduce interest rates, other things being equal. This action not only stimulates the economy in the short run but also leads to a depreciation of the dollar on foreign exchange markets, which in turn makes U.S. exports less expensive to foreign consumers and imports more expensive to U.S. consumers. As a result, employment goes back up and returns to its long-run relationship with the labor force. (The trade deficit will be discussed later in this chapter.)

Yet the effect of trade on jobs is a politically sensitive issue that is prone to exaggeration in political discourse. For example, the debate over the North American Free Trade Agreement (NAFTA) in 1993 largely consisted of claims and counterclaims about whether the agreement would add to or subtract from total employment. NAFTA opponents claimed that free trade with Mexico would destroy jobs: the Economic Policy Institute put the number at 480,000 workers. NAFTA proponents countered with the claim that it would create jobs: The Institute for International Economics suggested that 170,000 jobs would be created.<sup>12</sup> Those stressing the job losses gave the impression that there would be a permanent reduction in the number of people employed in the economy. Those stressing the positive employment effects gave the impression that more trade would lead to a permanently higher level of employment.

Both of these impressions were misleading because at the end of the day it is virtually impossible to know the precise effect of the trade agreement on employment changes. (Furthermore, as we saw in chapter 2, the reason for pursuing more open trade policies is not to increase employment but to generate more productive employment that will raise aggregate income.) Every estimate of the medium-term impact of NAFTA on employment was a fraction of the monthly turnover in U.S. labor markets. And as demonstrated by the experience after 1994, when NAFTA went into effect, the fears of

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plants are producing a ton of finished steel in less than one man-hour. These achievements are only possible through a highly skilled workforce." They neglected to add "a shrinking workforce"!

12. William A. Orme, Jr., *Understanding NAFTA: Mexico, Free Trade, and the New North America*, Austin: University of Texas Press, 1996, 107.

massive job losses in the United States as a result of free trade with Mexico proved to be unwarranted. The “giant sucking sound” of jobs being lost to Mexico, as famously predicted by Ross Perot, was never heard, and by the end of the 1990s the national unemployment had fallen to just 4 percent. Of course, this does not mean that particular industries or communities were not adversely affected by NAFTA while others grew, but at the national level, jobs created or destroyed were relatively small.<sup>13</sup>

Even when judged by the liberal standards of the NAFTA assistance program, only 2.4 percent of displaced workers on permanent layoff required assistance as a result of being harmed by the agreement.<sup>14</sup>

The claims of large employment gains as a result of NAFTA were equally flawed. Analysts at several Washington think tanks (both favorable and unfavorable to NAFTA) settled on the rule of thumb that every \$1 billion in exports generates or supports thirteen thousand jobs (implying conversely that every \$1 billion in imports eliminates the same number of jobs) as a way of evaluating the employment effects of trade agreements. Some NAFTA proponents argued that because Mexico was to eliminate relatively high tariffs against U.S. goods while U.S. tariffs against Mexican goods were already very low, the agreement would generate more exports to, than imports from, Mexico. Using the rule of thumb, it was therefore reasoned that NAFTA would result in net job creation. For example, President Bill Clinton’s trade representative claimed that the agreement would create two hundred thousand new jobs within two years.

13. In 1998, four years after NAFTA went into effect, several analysts wrote that “by any reasonable measure, even the gross job turnover induced by the agreement has been slight. According to the Department of Labor, over the nearly four years from January 1994 through mid-August 1997, 220,000 workers had petitioned for adjustment assistance (cash and training allowances) under the legislation enacted when the trade deal was signed. Of this total, 136,000—an average of about 40,000 workers per year—were certified as eligible for assistance (under both the more general trade adjustment assistance program and that created as part of NAFTA). Even this figure overstates NAFTA’s true impact, because to be eligible under both programs workers only need to show that ‘imports’ have contributed to their losses, but not specifically as a result of NAFTA. By way of comparison, the gross monthly turnover of jobs in the United States exceeds 2 million. Since NAFTA, overall employment in the United States has risen by more than 10 million.” Gary Burtless, Robert Z. Lawrence, Robert E. Litan, and Robert J. Shapiro, *Globaphobia: Confronting Fears about Open Trade*, Washington, DC: Brookings Institution, Progressive Policy Institute, and Twentieth Century Fund, 1998, 57.

14. Gregory K. Schoepfle, “U.S. Trade Adjustment Assistance Policies for Workers,” in *Social Dimensions of U.S. Trade Policies*, edited by Alan V. Deardorff and Robert M. Stern, Ann Arbor: University of Michigan Press, 2000, 115. That said, imports from Mexico did affect certain local labor markets significantly; see Shushanik Hakobyan and John McLaren, “Looking for Local Labor Market Effects of NAFTA,” *Review of Economics and Statistics* 98 (2016): 728–41.

Such formulaic calculations and predictions were made to fight the dire forecasts that thousands of jobs would be lost as a result of NAFTA, but there was never much reason to believe any of these figures. Even though NAFTA required that Mexico reduce its higher tariffs more than the United States reduced its tariffs, that is no guarantee that U.S. exports to Mexico will grow more rapidly than U.S. imports from Mexico.<sup>15</sup> Furthermore, it is a mistake to think that changes in the trade balance automatically translate into predictable changes in employment; a booming economy with low unemployment may be accompanied by a growing trade deficit because people have more money to spend on imports. In any case, these claims for the job-creation benefits of NAFTA soon boomeranged. When the peso collapsed in late 1994, for reasons that had nothing to do with NAFTA, imports from Mexico surged and the U.S. trade surplus evaporated.<sup>16</sup>

This debate was repeated when the United States was a part of the Trans-Pacific Partnership negotiations, before the Trump administration withdrew from the agreement. Proponents of the agreement emphasized the job gains from increased exports while opponents will emphasize the job losses from increased imports. Peter Petri, an economist who coauthored a study of the impact of the agreement, noted that his study made no employment projections because “like most trade economists, we don’t believe that trade agreements change the labor force in the long run. The consequential factors are demography, immigration, and retirement benefits, etc. Rather, trade agreements affect how people are employed, and ideally substitute more productive jobs for less productive ones and thus raise real incomes.”<sup>17</sup>

Despite trade and trade policy having little relationship to a country’s overall level of employment, trade policy debates in Washington and elsewhere are often framed through the lens of jobs alone. That is why one still sees efforts made to quantify the relationship between trade and jobs—usually

15. Trade agreements themselves have little effect on bilateral trade balance or the overall trade balance, as we will see later.

16. NAFTA opponents then argued, using the rule-of-thumb formula endorsed by NAFTA proponents, that thousands of jobs had been lost as a result of trade with Mexico because the trade surplus had become a trade deficit. An analyst at the Economic Policy Institute, for example, claimed that the trade deficit with Mexico and Canada destroyed 440,172 American jobs between 1994 and 1998.

17. Peter A. Petri, Michael G. Plummer, and Fan Zhai, *The Trans-Pacific Partnership and Asian-Pacific Integration: A Quantitative Assessment*, Washington, DC: Peterson Institute for International Economics, 2012. This study is cited at <http://www.washingtonpost.com/blogs/fact-checker/wp/2015/01/30/the-obama-administrations-illusionary-job-gains-from-the-trans-pacific-partnership/>.

with a political point to be made. As noted earlier, the Department of Commerce reckons that exports supported 10.7 million jobs in 2016.<sup>18</sup> This figure is based on the calculation that every billion dollars in exports is associated with 5,744 jobs, but the Commerce Department does not perform an analysis of jobs lost as a result of imports. On the other hand, the Economic Policy Institute routinely publishes reports about how the trade deficit with China costs American jobs, as will be discussed shortly. In its view, growth in the U.S. trade deficit with China eliminated or displaced 3.4 million U.S. jobs between 2001 and 2015. For the year 2017, it reported that exports to China supported 959,100 workers and imports from China had displaced 5.311 million workers, meaning that America had lost 4.352 million more jobs than it had gained because of the trade deficit.<sup>19</sup> However, this calculation assumed that a dollar of imports from China displaces a dollar of domestic production, when in fact (as chapter 1 documented, using the iPhone example and others) a sizable proportion of China's exports are simply assembled foreign-made components, including parts from the United States.<sup>20</sup> Then again, there is the study sponsored by the Business Roundtable showing that exports and imports support thirty-nine million U.S. jobs, not only in terms of production of goods and sales of services, but in shipping, handling, and selling products, as well as providing essential components and intermediate goods for exports.<sup>21</sup>

Most of these studies looks at just one part of the overall complicated relationship between trade and jobs. Each is seriously incomplete and has shortcomings in its method of analysis. For example, the Economic Policy Institute study just mentioned assumes that a dollar's worth of imports from China displaces a dollar's worth of U.S. production and the jobs that go with

18. Rasmussen, "Jobs Supported by Exports 2016: An Update."

19. Robert E. Scott and Zane Mokhiber, "The China Toll Deepens," Economic Policy Institute, October 23, 2018, <https://www.epi.org/files/pdf/156645.pdf>.

20. As the Economic Policy Institute report notes, each \$1 billion in imports from another country leads to job loss—by eliminating existing jobs and preventing new job creation—as imports displace goods that otherwise would have been made in the United States by domestic workers. . . . The model estimates the amount of labor (number of jobs) required to produce a given volume of exports and the labor displaced when a given volume of imports is substituted for domestic output. The difference between these two numbers is essentially the jobs displaced by the growing trade deficit, holding all else equal." Scott and Mokhiber, "The China Toll Deepens," 5, 7.

21. The modeling framework takes into account both the gains and the losses of trade—that is, it is a net estimate and suggests that one in every five U.S. jobs is linked to exports and imports of goods and services. See Laura M. Baughman and Joseph F. Francois, "The Impact of Trade on U.S. and State-Level Employment: 2019 Update," The Trade Partnership, February 2019, <https://tradepartnership.com/reports/trade-and-american-jobs-the-impact-of-trade-on-u-s-and-state-level-employment-update-2019/>.

it. The implication is that blocking those imports from China with trade barriers might create jobs for Americans. But as past experience has shown, in the case of the Obama tariffs on Chinese tires and the Trump tariffs on a range of Chinese goods, the United States is likely to start importing goods from Vietnam and other countries when China is hit with tariffs, rather than produce them at home. (As pointed out earlier, this is what happened in 2009 when the Obama administration imposed tariffs on automobile tires from China; rather than produce more tires domestically, the United States started importing more from Indonesia.)

Yet even if the quest to identify trade's impact on the overall number of jobs is largely futile, trade does have important implications for employment in different sectors of the economy and even the wages paid to workers.

### Trade and the Manufacturing Sector

Even those who may agree that the effect of trade on total employment is essentially zero may oppose free trade in the belief that it shifts jobs into less desirable sectors. One of the greatest concerns in recent decades has been that trade has destroyed good, high-paying jobs in manufacturing and pushed those workers into bad, low-paying jobs in the service sector. Ever since the 1970s, there have been concerns that trade is “deindustrializing” America.<sup>22</sup>

From the 1970s through the 1990s, the number of jobs in manufacturing held steady. In 2000, there were 17.2 million workers in manufacturing, about the same as the 17.8 million workers in 1970. (Of course, the share of the labor force employed in manufacturing fell significantly over this period because the size of the labor force grew.) Yet there was a vast increase in manufacturing output over this period. Large advances in labor productivity made this possible. Just as agricultural output has increased steadily even as the number of farmers has declined, the manufacturing sector was able to increase output significantly without any need to hire additional workers.

Since 2000, however, the manufacturing sector has run into difficulties. Between 2000 and 2003, around the time of the mild recession of 2001, the manufacturing sector shed nearly three million jobs while output stagnated. Then the economy shed another two million to three million manufacturing jobs when production dropped in the Great Recession of 2008 and 2009.

22. See Barry Bluestone and Bennett Harrison, *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry*, New York: Basic Books, 1982; Robert Z. Lawrence, *Can America Compete?*, Washington, DC: Brookings Institution, 1984.

Since then, manufacturing output recovered to its precrisis peak only in 2014, while the number of manufacturing jobs has increased only slightly, leaving the U.S. economy with a little more than twelve million manufacturing workers in that year.

Figures 4.3 and 4.4 show these developments. Figure 4.3 shows U.S. manufacturing production and employment from 1970 to 2018. Figure 4.4 shows the steady decline in manufacturing's share of total employment, from 25 percent of the nonfarm workforce in 1970 to 8.5 percent in 2018. At the same time, real manufacturing output as a share of real GDP has remained steady throughout this period. Manufacturing has maintained its share of U.S. production, but its share of employment has fallen significantly because labor productivity in the sector has exceeded that elsewhere in the economy. (Manufacturing's share in nominal GDP has declined over time because the price of manufactured goods has fallen more than other prices in the economy.) That said, there is always a debate about how strong American manufacturing is.<sup>23</sup>

A study from 2017 argues that the combination of faster productivity growth and relatively flat demand has been the dominant force behind the declining share of employment in manufacturing in the United States and other advanced economies. However, since 2010, the relationship has been reversed and slower productivity growth in manufacturing has been associated with somewhat stronger performance in manufacturing employment. This explains why the share of employment in manufacturing has stabilized at about 8 to 9 percent of total employment. These contrasting experiences suggest a tradeoff between the ability of the manufacturing sector to contribute to productivity growth and its ability to provide employment opportunities.<sup>24</sup>

The flip side to these developments is that a growing share of the labor force is employed in the service sector. As consumers have shifted their spending to such services as healthcare, education, personal finance, and recreation and leisure, the economy has responded by devoting more

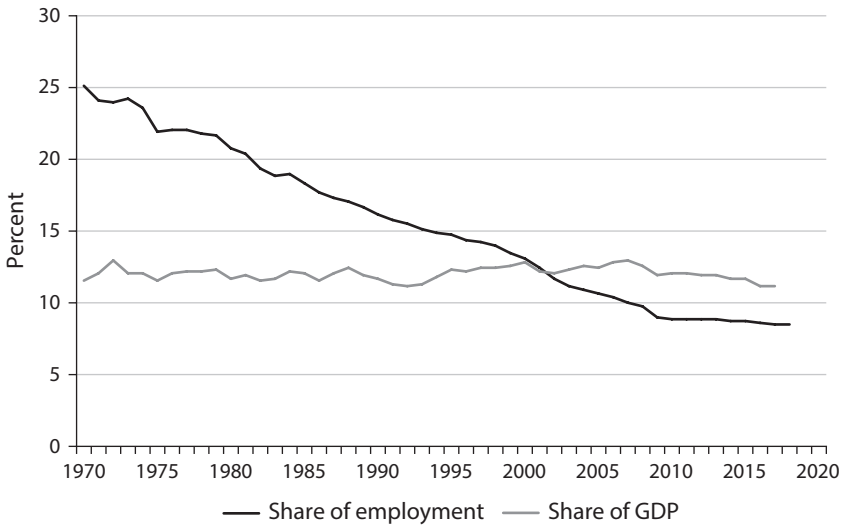
23. See Teresa Fort, Justin Pierce, and Peter Schott, "New Perspectives on the Decline of U.S. Manufacturing Employment," *Journal of Economic Perspectives* 32 (2018): 47–72. One researcher maintains that the apparently robust growth in manufacturing real output and productivity have been driven by one industry, computers and electronic products. Outside of that industry, productivity may not be responsible for the slide in manufacturing employment. See Susan N. Houseman, "Understanding the Decline of U.S. Manufacturing Employment," Upjohn Institute Working Paper 18-287, 2018.

24. Robert Z. Lawrence, "Recent U.S. Manufacturing Employment: The Exception That Proves the Rule," Peterson Institute for International Economics Working Paper 17-12, November 2017.



**FIGURE 4.3.** U.S. Manufacturing Production and Employment, 1970–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).



**FIGURE 4.4.** U.S. Manufacturing as a Share of GDP and Employment, 1970–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

resources to those sectors. Because of the relatively slow growth in productivity in services, a greater share of the labor force has to be devoted to these occupations in order to increase output and meet consumer demands. This trend is not unique to the United States but has taken place—sometimes to an even greater extent—in other high-income countries, including in Western Europe and Japan.

Thus, the decline in the share of employment in manufacturing—an experience shared with other high-income countries—seems to be largely due to strong productivity growth in manufacturing and the shift of consumer demand away from goods and toward services. But has trade also contributed to the shift of employment away from manufacturing? As table 1.1 showed, the United States is both a big exporter and a big importer of manufactured goods. In 2018, the United States exported \$1.4 trillion and imported \$2.182 trillion in manufactured goods. The trade deficit in manufactured goods (at \$874 billion) is larger than the overall merchandise trade deficit (\$782 billion) because the United States is a net importer of other goods; that deficit is smaller than the goods and services deficit because the United States is a net exporter of services.<sup>25</sup> Yet it is still quite sizable at about 4.7 percent of GDP.

If that deficit were to be magically erased and the United States exported as much manufactured goods as it imported, how many more manufacturing jobs would there be? One calculation indicates that balanced trade in manufactured goods would have increased U.S. manufacturing employment by 2.7 million in 2010.<sup>26</sup> This amounts to about a quarter of all jobs in manufacturing—a pretty significant figure, but only 2 percent of total nonagricultural employment in that year.<sup>27</sup>

How much of the decline in the share of employment in manufacturing—shown in figure 4.4—would have been prevented if the United States had had balanced trade in manufactured goods over this period? The answer is very little. Between 1970 and 2018, the share of nonfarm employment in manufacturing fell 16 percentage points, from 25 to 9 percent. If manufacturing productivity remained fixed at its 1970 level, manufacturing's share

25. This NAICS definition of manufactured goods is from the Department of Commerce, International Trade Administration, TradeStats Express, <http://tse.export.gov/TSE/MapDisplay.aspx>.

26. Robert Z. Lawrence and Lawrence Edwards, "U.S. Employment Deindustrialization: Insights from History and the International Experience," Peterson Institute for International Economics Policy Brief No. 13-27, October 2013.

27. The manufacturing employment content of the U.S. trade deficit in 2010 (2.7 million jobs) was actually lower than that estimated for 2000 (3.3 million jobs) because rapid productivity growth in manufacturing implies that over time any given trade deficit translates into fewer jobs.



of employment would have to have risen 8 percentage points in order for output to have matched its 2018 level. Alternatively, if the United States had balanced trade after 1970 but labor productivity grew as rapidly as it did, manufacturing's employment share would have been only 1 percentage point higher than it actually had been—10 percent instead of 9 percent.<sup>28</sup> Thus, the impact of long-term productivity improvements is far more important than increased manufactured imports in explaining the employment shift to services. That trade is not the most important consideration is reinforced by the fact that countries that have a trade surplus in manufactured goods (such as Germany and Japan) have experienced even larger declines in their share of domestic employment in manufacturing.<sup>29</sup>

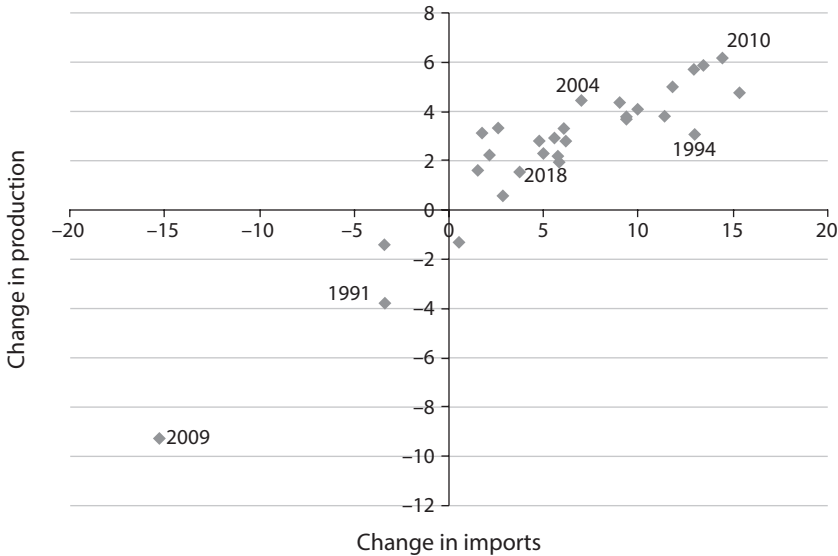
Furthermore, as we saw in figure 4.4, the declining share of employment in manufacturing has been a secular trend that predated NAFTA, China's accession into the World Trade Organization, and other developments from decades ago. As Robert Lawrence has noted, "When a trend line fitted to manufacturing employment data from 1960 to 1980 is projected out to 30 years, it precisely predicts the share of manufacturing employment in 2010. Without knowing about China's rise, the North American Free Trade Agreement (NAFTA), or the formation of the World Trade Organization (WTO), a forecaster in 1980 would have been able to accurately predict the number of workers employed in manufacturing in 2010 without almost any error!" However, he continues, with the share of manufacturing employment having stabilized since about 2010, "the long-run trend line no longer fits the data," something he attributes to slower productivity growth in manufacturing.<sup>30</sup>

Of course, calculations that relate job losses in manufacturing to imports are rather mechanical and seem to imply that reducing imports might be a good thing for manufacturing employment. In fact, if imports of manufactured goods were to fall, that doesn't necessarily mean that domestic production of manufactured goods would be higher. To some extent, imports and domestic production may be complements rather than substitutes. In fact, as

28. For a similar calculation, see Stephen J. Rose, "Is Foreign Trade the Cause of Manufacturing Job Losses?," Urban Institute, April 2018.

29. Lawrence, "Recent U.S. Manufacturing Employment: The Exception That Proves the Rule," 6. For example, between 1990 and 2016, the share of employment in manufacturing fell from 17 percent to 10 percent in the United States, a drop of 7 percentage points. In Germany over that time, the share fell from 32 percent to 19 percent, a drop of 13 percentage points; in Japan, the share fell from 24 percent to 16 percent, a drop of 8 percentage points.

30. Lawrence, "Recent U.S. Manufacturing Employment: The Exception That Proves the Rule," 4.



**FIGURE 4.5.** Change in Production and Imports of Manufactured Goods, 1991–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

figure 4.5 indicates, annual changes in domestic manufacturing output and in real manufactured imports are positively correlated: An increase in imports is associated with an increase in domestic production. This is because a strong and growing economy brings about more domestic production and more imports, whereas a weak economy tends to see a falloff in both. If imports only displaced domestic production, one would expect to see a negative relationship in the figure.

While trade protection cannot stop job losses from technological change, some people support import restrictions as a way of slowing the movement of workers out of manufacturing industries. Here, two points should be recognized: tariffs used to “save jobs” in one industry usually end of destroying jobs elsewhere in the economy, as we learned in chapter 3, and protection is a costly and inefficient jobs program. The consumer cost per job saved as a result of trade restrictions can be calculated by dividing the total cost of protection to the consumer (determined by the higher prices they pay) by the number of jobs that protection maintains in the industry. For example, according to one calculation, the Trump administration’s decision to impose 25 percent tariffs on imported steel in 2018 means that U.S. consumers and businesses are paying more than \$900,000 a year for every job saved or created by the tariffs. The cost is more than thirteen times the typical salary

of a steelworker.<sup>31</sup> One reason that the cost is so high is that steel is capital-intensive and not many jobs are created when output expands. This figure is similar to the finding that the Trump administration's tariffs on imported washing machines cost about \$815,000 per job created. U.S.-based manufacturers added about 1,800 jobs in response to the tariffs, but the total cost to consumers was about \$1.5 billion, according to one study.<sup>32</sup> And, as pointed out in chapter 3, the 2009 tariff on automobile tires had a consumer cost of \$900,000 per job saved.

In the 2000s, many of the fears about trade and manufacturing employment were also echoed with respect to the service sector. In the past, most service workers were almost completely insulated from foreign competition. But, as discussed in chapter 1, many services are now tradable. The concern was that white-collar service workers would see their jobs "outsourced" or "offshored" to low-wage countries such as India because of the Internet and other communication technologies. Although many of the offshored jobs involve relatively low-skill work, such as manning phone banks at call centers, even highly paid professionals such as architects and software programmers have found that their work can be shifted to much lower paid but technically qualified English-speaking workers in India. Such offshoring has been shown to increase the productivity of domestic firms, but the question of the impact of domestic jobs is the key concern.<sup>33</sup>

Estimates vary widely as to the number of service workers whose jobs are potentially offshorable. A leading economist, Alan Blinder, once speculated that the jobs performed by thirty to forty million American workers could be done abroad.<sup>34</sup> Although he feared for the consequences, Blinder noted that "despite all the political sound and fury, little service-sector offshoring

31. Heather Long, "Trump's Steel Tariffs Cost U.S. Consumers \$900,000 for Every Job Created, Experts Say," *Washington Post*, May 7, 2019, [https://www.washingtonpost.com/business/2019/05/07/trumps-steel-tariffs-cost-us-consumers-every-job-created-experts-say/?fbclid=IwAR13f\\_bfOnRcmPfTkjDnRFxYlajQq3gP9e2bJKjno-9tr95ABxw3GN0TeDiQ&utm\\_term=.5045cd875d25](https://www.washingtonpost.com/business/2019/05/07/trumps-steel-tariffs-cost-us-consumers-every-job-created-experts-say/?fbclid=IwAR13f_bfOnRcmPfTkjDnRFxYlajQq3gP9e2bJKjno-9tr95ABxw3GN0TeDiQ&utm_term=.5045cd875d25).

32. Christopher Ingraham, "Trump's Washing-Machine Tariffs Cost U.S. Consumers \$815,000 for Every Job Created," *Washington Post*, April 23, 2019, [https://www.washingtonpost.com/us-policy/2019/04/23/trumps-washing-machine-tariffs-cost-us-consumers-every-job-created/?utm\\_term=.25b0e247d354](https://www.washingtonpost.com/us-policy/2019/04/23/trumps-washing-machine-tariffs-cost-us-consumers-every-job-created/?utm_term=.25b0e247d354).

33. Mary Amiti and Shang-Jin Wei, "Offshoring of Services and Productivity: Evidence from the U.S.," *World Economy* 32 (2009): 203–20.

34. Alan Blinder, "Offshoring: The Next Industrial Revolution?," *Foreign Affairs* 85 (2006): 113–28. For a debate among economists about whether we should worry about offshoring, see Jagdish Bhagwati and Alan Blinder, *Offshoring of American Jobs: What Response from U.S. Economic Policy?*, Cambridge, MA: MIT Press, 2009. See also David Hummels, Jakob R.

has happened to date.”<sup>35</sup> That was in 2006, and it is remarkable how public concern about this issue has almost completely disappeared since that time—because that jobs apocalypse did not happen.<sup>36</sup> The United States has consistently run a trade surplus in services and the economy has continued to create jobs.

Thus, it should be remembered that international trade—in services, as in goods—is not a one-way flow but a two-way street. The estimate of jobs lost to offshoring does not take into account the projected increase in demand for skilled information-technology workers in the United States due to work for export. The Bureau of Labor Statistics does not collect statistics on the number of jobs created by work that is offshored from other countries to the United States, otherwise known as “inshoring.” As chapter 1 noted, the United States is a major net exporter of services to other countries. The United States has roughly balanced trade in the subcategory of “telecommunications, computer and information services,” where the concern about outsourcing has been the greatest. The United States is likely to begin exporting many more services to other countries as a result of technological developments that also allow for more imports of services.

## What about the Trade Deficit?

In every year since 1976, the value of goods and services imported into the United States has exceeded the value of goods and services exported. Does

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Munch, and Chong Xiang, “Offshoring and Labor Markets,” *Journal of Economic Literature* 56 (2018): 981–1028.

35. Indeed, the actual number of service-sector jobs lost so far appears to be small. The Bureau of Labor Statistics (BLS) began asking about the overseas transfer of jobs in collecting data on mass layoffs in the first quarter of 2004. In that quarter, 2.5 percent of job separations (a total of 4,633 jobs) related to the movement of work to another country. See Bureau of Labor Statistics, “Extended Mass Layoffs Associated with Domestic and Overseas Relocations, First Quarter 2004, Summary,” June 10, 2004. Unfortunately, the BLS discontinued collecting these statistics right at that time. Recent research has also suggested that offshoring has not had large impacts on the U.S. labor market; see Runjuan Liu and Daniel Trefler, “A Sorted Tale of Globalization: White Collar Jobs and the Rise of Service Offshoring,” *Journal of International Economics* 118 (2019): 105–22.

36. “Overall, of the 26 occupations that Mr. Blinder identified as ‘highly offshorable’ . . . 15 have added jobs over the past decade and 11 have cut them. Altogether, those occupations have eliminated fewer than 200,000 jobs over 10 years, hardly the millions that many feared. A second tier of jobs—which Mr. Blinder labeled ‘offshorable’—has actually added more than 1.5 million jobs.” Ben Casselman, “The White-Collar Job Apocalypse That Didn’t Happen,” *New York Times*, September 27, 2019, <https://www.nytimes.com/2019/09/27/business/economy/jobs-offshoring.html>. This article is based on analysis by economist Adam Ozimek, “Overboard on Offshore Fears,” available at <https://www.upwork.com/press/economics/report-overboard-on-offshore-fears/>.

the trade deficit injure domestic industries and have adverse effects on employment? Should the trade deficit be a matter of concern and reversing it an objective for U.S. policymakers?

President Donald Trump certainly believes so. In his Tweets and speeches, the president has said that massive trade deficits have hurt manufacturing and sent jobs overseas, a consequence of “our very stupid trade policies” and other countries “taking advantage of us.” The United States has been “a big loser” because these deficits mean that we have allowed other countries to raid our piggy bank—robbing and deceiving us—and thereby sucking money out of our economy.

One reason that Trump and many others have these views is that they believe a country is like a company. A company cannot suffer losses forever, spending more in producing goods than it earns in selling them. A company has a clear bottom line, and Trump is familiar with that world. Is the same true for a country? And is a country’s trade balance the same as a company’s profit or loss position? The answer is no. The United States will not cease to exist—or even become poorer—if the trade deficits continue.<sup>37</sup>

One misconception frequently arises because of a basic equation from macroeconomics:

$$Y = C + I + G + (X - M).$$

This equation says that gross domestic product (Y) is equal to consumption expenditures, investment spending, government purchases of goods and services, and net exports (exports minus imports). Since imports are apparently subtracted from GDP in this equation, it seems to suggest that anything that reduces imports will also increase GDP.

In fact, as part of President Trump’s transition team, Peter Navarro and Wilbur Ross (who subsequently became a trade adviser and the commerce secretary, respectively, in the new administration) wrote: “When net exports

37. See the classic essay by Paul Krugman, “A Country Is Not a Company,” *Harvard Business Review* (January/February 1996): 40–51. He has made a similar point in the context of the term “competitiveness” as applied to nations. “The bottom line for a corporation is literally its bottom line: if a corporation cannot afford to pay its workers, suppliers, and bondholders, it will go out of business. So when we say that a corporation is uncompetitive, we mean that its market position is unsustainable—that unless it improves its performance, it will cease to exist. Countries, on the other hand, do not go out of business. They may be happy or unhappy with their economic performance, but they have no well-defined bottom line. As a result, the concept of national competitiveness is elusive.” Paul Krugman, “Competitiveness: A Dangerous Obsession,” *Foreign Affairs* (March/April 1994): 31.

are negative, that is, when a country runs a trade deficit by importing more than it exports, this subtracts from growth . . . . Reducing this ‘trade deficit drag’ would increase GDP growth. These trade-related structural problems of the U.S. economy have translated into slower growth, fewer jobs, and a rising public debt.”<sup>38</sup>

This interpretation of the equation is erroneous. Imports (M) are subtracted from the equation because imports are *included* in the aggregate measure of consumption, investment, and government spending. Therefore, imports are taken out to calculate gross *domestic* product—that is, total spending on domestic goods and services. Here’s a question you can pose to your friends: Suppose imports increase by \$100, what happens to GDP? The answer is zero because imports have no direct effect on GDP.<sup>39</sup>

Of course, if current spending on imports were to be shifted to domestic production, that could in principle increase GDP. The question is whether tariffs or other measures to force such a switch in spending can act as a macroeconomic stimulus to increase GDP. Unless there is considerable slack in the economy (unemployed resources), tariffs do not provide such a stimulus. If a country is already close to full employment, more spending on domestic goods that compete against imports will simply divert spending from other sectors of the economy. In addition, if other countries retaliate by imposing tariffs of their own, or if the tariffs lead to an appreciation of a country’s currency on foreign exchange markets, that will decrease the country’s exports and negate the hoped-for stimulus.

In fact, higher tariffs can only stimulate an economy under certain restrictive conditions: when a country has unemployed resources, operates in a fixed exchange rate regime, and will not face foreign retaliation for doing so. These conditions did not apply to the 2017–19 period when the Trump administration has claimed tariffs would provide an economic boost. This was a period not just of low unemployment (less than 4 percent) but of floating (market determined) exchange rates. This means that a country imposing a tariff would tend to see its currency appreciate on foreign exchange markets, making imports cheaper and its exports more expensive to foreign

38. [https://assets.donaldjtrump.com/Trump\\_Economic\\_Plan.pdf](https://assets.donaldjtrump.com/Trump_Economic_Plan.pdf).

39. As the Federal Reserve Bank of St. Louis (FRED) blog observes, “The imports variable (M) functions as an accounting variable rather than an expenditure variable. To be clear, the purchase of domestic goods and services increases GDP because it increases domestic production, but the purchase of imported goods and services has no direct impact on GDP.” See <https://fredblog.stlouisfed.org/2018/09/do-imports-subtract-from-gdp/#>.

consumers, both of which negate the impact of the tariff. And other countries have, in fact, retaliated against the United States.<sup>40</sup>

Does empirical evidence bear this out? One recent study that uses data from over 150 countries from 1963 to 2014 finds that tariff increases lead, in the medium term, to significant declines in domestic output and productivity. Tariff increases also result in higher unemployment, greater inequality, and real exchange rate appreciation, but have only small effects on the trade balance.<sup>41</sup> Another paper finds uses high-frequency trade policy data to look at the dynamic effects of temporary trade barriers and finds that protectionism acts as a (negative) supply shock, causing output to fall and inflation to rise in the short run.<sup>42</sup>

In fact, the connection between the trade deficit and domestic employment is not what trade skeptics think it might be. This relationship is much more complex than the simple view that jobs are lost because imports exceed exports. As figure 4.6 shows, the correlation between the merchandise trade deficit and the unemployment rate is usually negative. Most of the time, the trade deficit has risen during periods of falling unemployment and has fallen during periods of rising unemployment. A booming economy, in which many people are finding employment, is also an economy that draws in many imports, whereas a sluggish economy with higher unemployment is one in which spending on imports slackens. There is no better example of this than the Great Recession of 2008 and 2009: the trade deficit fell sharply when falling housing prices led to a financial crisis, deep recession, and significantly higher unemployment.

Yet a deeper understanding of the trade deficit requires some familiarity with balance-of-payments accounting. Balance-of-payments accounting may be a dry subject, but it helps lift the fog that surrounds the trade deficit. This accounting also suggests which remedies are likely to be effective in reducing the deficit, should that be a policy objective.

A preliminary point is that the imports that a country receives are not free. In order to acquire them, a country must sell something in return. Imports are usually paid for in one of two ways: the sale of goods and services

40. For a general introduction to the macroeconomic impact of tariffs, see Barry Eichengreen, "Trade Policy and the Macroeconomy," *IMF Economic Review* 67 (2019): 4–23.

41. Davide Furceri, Swarnali A. Hannan, Jonathan D. Ostry, and Andrew K. Rose, "Macroeconomic Consequences of Tariffs," National Bureau of Economic Research Working Paper No. 25402, December 2018.

42. Alessandro Barattieri, Matteo Cacciatores, and Fabio Ghironix, "Protectionism and the Business Cycle," National Bureau of Economic Research Working Paper No. 24353, February 2018.



FIGURE 4.6. Unemployment Rate and the Trade Deficit (as percent of GDP), 1970–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

or the sale of assets to foreign countries. In other words, all of the dollars that U.S. households and businesses hand over to other countries in purchasing imports do not accumulate there, but eventually return to purchase either U.S. goods (exports) or U.S. assets (foreign investment). Both exports and foreign investment create new jobs: employment in export-oriented sectors such as farming and aircraft production is higher because of those foreign sales, and foreign investment either contributes directly to the national capital stock with new plants and equipment or indirectly promotes domestic capital accumulation by reducing the cost of capital.

The balance of payments is simply an accounting of a country's international transactions. All sales of U.S. goods or assets to nonresidents constitute a receipt to the United States and are recorded in the balance of payments as a positive entry (credit); all purchases of foreign goods or assets by U.S. residents constitute a payment by the United States and are recorded as a negative entry (debit). The balance of payments is divided into two broad categories of transactions: the *current account*, which includes all trade in goods and services (plus a few smaller categories), and the *financial account*, which includes all trade in assets (mainly portfolio and direct investments).



The first accounting lesson is that the balance of payments always balances. By accounting identity, which is to say by definition, the balance of payments sums to zero. This implies that

$$\text{current account} + \text{financial account} = 0.$$

Because the overall balance of payments always balances, a country with a current account deficit must have an offsetting financial account surplus. In other words, if a country is buying more goods and services from the rest of the world than it is selling, then the country must also be selling more assets to the rest of the world than it is purchasing.<sup>43</sup>

To make the link clearer, consider the case of an individual. Each of us as individuals exports our labor services to others in the economy. For this work, we receive an income that can be used to import goods and services produced by others. If someone's expenditures exactly match their income in a given year, that person has "balanced trade" with the rest of the economy: the value of exports (income) equals the value of imports (expenditures). Can someone spend more in a given year than they earn in income; in other words, can they import more than they export? Of course, by one of two ways: either by receiving a loan (borrowing) or by selling existing financial assets to make up the difference. Either method generates a financial inflow—a financial account surplus—that can be used to finance the trade deficit while also reducing your net assets. Can someone spend less in a given year than they earn in income? Of course. They can export more than they import, thereby running a trade surplus with the rest of the economy. The surplus earnings are saved, generating a financial outflow—a financial account deficit—due to the purchase of assets for investments.

What does this mean in the context of the United States? In 2018, the United States had a merchandise trade deficit of about \$887 billion and a services trade surplus of \$260 billion. The balance on goods and services was therefore a deficit of about \$628 billion. However, owing to other factors (net income payments and net unilateral transfers), the current account deficit was smaller at about \$491 billion, or 2.4 percent of that year's GDP. This implies that there must have been a financial account surplus of roughly the same magnitude. Sure enough, in 2018, U.S. residents (corporations and households) increased their ownership of foreign assets by less than

43. A country therefore cannot experience a "balance-of-payments deficit" unless one is using the old nomenclature that considers official reserve transactions (an important component of the balance of payments under fixed exchange-rate regimes) as a separate part of the international accounts.

foreigners increased their ownership of U.S. assets and the financial account surplus was approximately \$424 billion. This figure is, taking the statistical discrepancy into account, the mirror image of the current account deficit.<sup>44</sup>

The balance of payments “balances” in the sense that every dollar we spend on imported goods must end up somewhere. Here’s another way of thinking about it: in 2018, the United States imported almost \$3,129 billion in goods and services from the rest of the world, but the rest of the world only purchased \$2,501 billion of U.S. goods and services, leaving a gap of \$628 billion. What did the other countries do with this money? First, American assets abroad earned more interest and dividends than foreign assets in the United States, so other countries paid us \$254 billion. However, the United States also made \$177 billion in net unilateral transfers to the rest of the world in the form of worker remittances, foreign aid, and the like. These two factors reduced the gap to \$491 billion, the size of the current account deficit, which foreign countries returned to the United States by purchasing assets here. In essence, for every dollar Americans handed over to foreigners in buying their goods (our imports), foreigners used eighty cents to purchase U.S. goods (our exports), four cents (net) to pay us interest, and the remaining sixteen cents to purchase U.S. assets. What assets are foreign residents purchasing? Some are short-term financial assets (such as stocks and bonds) for portfolio reasons; some are direct investments (such as mergers and acquisitions) to acquire ownership rights; and some are real assets (such as buildings and land) for the same reasons. An important reason is the safety and security of assets denominated in U.S. dollars.

Is the current account deficit sustainable? As long as foreign investors want to continue purchasing U.S. assets, the deficit will be sustained. Once foreign investors decide to stop buying U.S. assets or to sell them, the dollar will tend to depreciate on foreign exchange markets, increasing exports and decreasing imports and thus tending to reduce the trade deficit. This process can be slow and orderly and does not require a “hard landing” or involve a sudden collapse in the dollar.<sup>45</sup>

Thus, in running a current account deficit, the United States is selling assets (on net) to the rest of the world. These foreign purchases of domestic

44. Data from the Bureau of Economic Analysis, [www.bea.gov](http://www.bea.gov).

45. In the mid-1980s, many commentators feared that the current account deficit was unsustainable and that the economy would face a “hard landing” once foreign capital stopped flowing into the United States. These fears proved to be misplaced: the economy did not suffer a hard landing when capital inflows slowed in the late 1980s, the dollar depreciated in an orderly way, and the current account deficits fell as a share of GDP.

assets allow the United States to finance more investment than it could through domestic savings alone. In essence, the United States is supplementing its domestic savings with foreign investment and thus is able to undertake more investment than if it had relied solely on domestic savings. The equation that expresses this relationship is

$$\text{current account} = \text{savings} - \text{investment}.$$

Once again, this equation is an identity, meaning that it holds by definition. A current account deficit (the financial account surplus) implies that domestic investment exceeds domestic savings. Conversely, countries with current account surpluses have domestic savings in excess of domestic investment, the excess being used to purchase foreign assets via foreign investment (financial account deficit). However, the ability of a country to run a current account surplus or deficit also depends on the degree to which capital is allowed to move between countries, which in turn is a function of the international monetary system and the exchange-rate regime. In the absence of international capital movements, domestic savings must equal domestic investment, and therefore the current account will be balanced.

Figure 4.7 illustrates this point by presenting the U.S. current account as a percentage of GDP from 1970 to 2018, along with the evolution of savings and investment. The current account was roughly balanced in the 1970s because of restrictions on international capital mobility. Under the Bretton Woods system of fixed exchange rates, which lasted from just after World War II until 1971, governments maintained fixed exchange rates by imposing controls on capital movements. As a result, capital flows were minimal by present-day standards. When the international monetary system suppresses financial account transactions, the financial account balance will be close to zero, and therefore the current account balance must also be close to zero.

The Bretton Woods system collapsed in 1971, but restrictions on international capital mobility lingered until the early 1980s. When international capital movements were permitted, relatively large current account imbalances also began to emerge. The United States became a magnet for capital from the rest of the world, particularly after the early 1980s. For example, after Japan eased restrictions on the holding of foreign assets in 1980, Japanese investors took part of their large pool of capital (invested in its domestic market as a result of its high savings rate) and sought higher rates of return in foreign capital markets, particularly in the United States. Now that they were free to buy U.S. assets as well as U.S. goods, Japanese residents chose

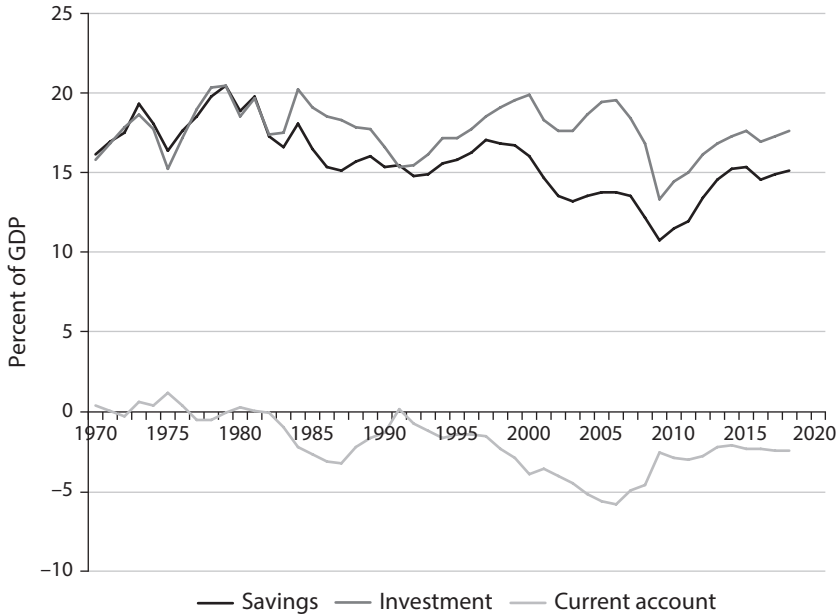


FIGURE 4.7. Savings and Investment as a Percentage of GDP, 1970–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

to spend some of the dollars they earned in exporting goods to the United States by buying U.S. assets rather than U.S. goods.

As a result, the United States has been a net recipient of foreign investment since the early 1980s, meaning that domestic investment has been greater than domestic savings. The implication is that the United States could reduce its current account deficit by reducing investment or increasing savings. There are no easy choices: Reducing investment is generally considered to be undesirable, and increasing savings means reducing consumption. Shifting the tax system toward encouraging savings while reducing the large federal budget deficit, which is a large drag on national savings, would help achieve that goal.

One reason it is difficult to say much about the impact of the trade deficit on the number of jobs in the economy is because looking at the trade flows alone ignores the role of these financial inflows in keeping interest rates low. If the United States took action to reduce the trade deficit in an effort to reduce the number of jobs lost to imports, then net capital inflows from abroad would necessarily have to fall (i.e., foreign investors would no

longer buy Treasury bills, and the dollar would depreciate). Then domestic investment would have to be financed by domestic savings, implying higher interest rates, which would reduce the number of jobs created by business investment. In the end, the positive impact of a lower trade deficit on employment might be offset by the negative impact of lower domestic investment and higher interest rates.

Furthermore, trade policy actions are unlikely to achieve the goal of reducing the current account deficit. Unless higher tariffs somehow translate into higher savings or lower investment, tariffs will not affect the current account. As pointed out earlier, higher tariffs may reduce imports, but through various channels they will also reduce exports—with no impact on the trade balance. As a result, there is no tendency for countries with higher trade barriers to run trade surpluses or for countries with low trade barriers to run trade deficits.<sup>46</sup>

The International Monetary Fund (IMF) recently confirmed this assessment. Based on a study of sixty-three countries over twenty years and across thirty-four sectors, they set out to understand and quantify the drivers of changes in bilateral trade balances. They found that most of the changes in bilateral trade balances over the past two decades were explained by the combined effect of macroeconomic factors—which include fiscal policy, credit cycles, and, in some cases, exchange rate policies and widespread subsidies to tradable sectors. In contrast, changes in tariffs played a negligible role; tariff-induced change in a specific trade balance between two countries tends to be offset by changes in bilateral balances with other partners through trade diversion, with little or no impact on the aggregate trade balance (the sum of all the bilateral trade balances).<sup>47</sup>

One reason that the United States runs persistent trade deficits might be the dominant role of the U.S. dollar in the world economy. The dollar is the world's "reserve currency" because public and private entities in other countries want to hold it—more than any other currency—for safekeeping. The dollar is viewed as a safe and liquid asset, unlikely to be inflated away. The United States reaps significant benefits from having its currency play such a central role in the world economy, and other countries sometimes

46. For a general discussion, see Robert Z. Lawrence, "Five Reasons Why the Focus on the Trade Deficit Is Misleading," Peterson Institute for International Economics Policy Brief No. 18-6, March 2018.

47. International Monetary Fund, "World Economic Outlook, Chapter 4," April 2019, <https://www.imf.org/en/Publications/WEO/Issues/2019/03/28/world-economic-outlook-april-2019#Chapter%204>.

resent it. (France's finance minister under Charles de Gaulle once said that it gave the United States an "exorbitant privilege" in the world.) But some now wonder if the exorbitant privilege is not an exorbitant burden. The seemingly ceaseless demand for dollars in the rest of the world means that the United States will always have a current account deficit. This means the dollar is structurally overvalued, on a merchandise trade basis. In essence, nontraded sectors of the U.S. economy (such as financial services) are larger, and the traded-goods parts of the economy (manufacturers and farmers) are smaller.<sup>48</sup> Whether the United States should do anything about this situation, such as create another reserve asset at the IMF to replace the dollar, is unclear.

The bilateral trade deficit with China is the most controversial part of the U.S. current account deficit. In 2018, the U.S. trade deficit with China was about \$420 billion, or 2 percent of GDP. An important factor behind China's trade surplus is that most of the dollars that it receives from exporting goods to the United States have been used to buy U.S. assets rather than U.S. goods. This has allowed China's foreign exchange reserves to swell from \$166 billion in 2000 to an astounding \$4 trillion by mid-2014.

For many years, China intervened in foreign exchange markets to peg the value of its currency, the renminbi, against the dollar at a relatively low rate. In essence, China's central bank was selling renminbi and buying dollars, pushing up the value of the dollar and pushing down the value of the renminbi. This policy proved to be particularly controversial in the mid-2000s, and China was accused of "currency manipulation."<sup>49</sup> Many observers thought that the renminbi was undervalued by a substantial margin, perhaps as much as 40 percent.<sup>50</sup> An undervaluation of the renminbi makes U.S. imports from China cheaper than they otherwise would be. The undervaluation is therefore an implicit subsidy to Chinese exports, and it also reduces

48. Michael Pettis, "An Exorbitant Burden," *Foreign Policy*, September 7, 2011, <https://foreignpolicy.com/2011/09/07/an-exorbitant-burden/>. See also Kenneth Austin, "Systemic Equilibrium in a Bretton Woods II-Type International Monetary System: The Special Roles of Reserve Issuers and Reserve Accumulators," *Journal of Post Keynesian Economics* 36 (2014): 607–34.

49. In 2003, Senator Charles Schumer (D-New York) proposed imposing a tariff of 27.5 percent on all imports from China, that being the amount by which the Chinese currency was supposedly undervalued. Ever since, many have proposed taking action against currency manipulation, when foreign central banks deliberately buy dollars to undervalue their currencies for trade purposes. See C. Fred Bergsten and Joseph E. Gagnon, *Currency Conflict and Trade Policy: A New Strategy for the United States*, Washington, DC: Peterson Institute for International Economics, June 2017.

50. Morris Goldstein and Nicholas Lardy, *Debating China's Exchange Rate Policy*, Washington, DC: Peterson Institute for International Economics, 2008.

U.S. exports to China. At the same time, however, it is also an implicit subsidy to the U.S. Treasury since it enables the government to borrow at a lower interest rate than it otherwise could.

As China's accumulation of dollar assets accelerated, particularly U.S. Treasury bonds, China's current account surplus ballooned from 1 percent of GDP in 2001 to 10 percent of GDP in 2007. A major reason the current account surplus grew to such enormous proportions at this time was an astounding increase in national savings.<sup>51</sup> This gave credibility to charges that China was manipulating its currency to achieve unbalanced, export-led growth and was suppressing domestic consumption.

In 2005, partly as a result of U.S. pressure, China began to allow the renminbi to appreciate slowly against the dollar, by about 25 percent (or 40 percent in inflation-adjusted terms) in subsequent years. The appreciation of the renminbi during this period helped increase the cost of Chinese goods to the rest of the world, and its current account surplus shrank from 10 percent of GDP in 2007 to 0.4 percent of GDP in 2018. Although a 2014 IMF staff report stated that the renminbi was still moderately undervalued, by perhaps 5 to 10 percent, the next year the IMF determined that the currency was in line with fundamentals. In fact, because of capital flight from China, the Chinese government spent a trillion dollars in foreign exchange reserves between 2014 and 2017 to prop up the renminbi. As a result, China reserves stood at around \$3.1 trillion, as of mid-2019, down nearly a trillion dollars from its peak a few years earlier.<sup>52</sup>

In sum, what are the implications for trade policy? The current account is fundamentally determined by international capital mobility and the gap between domestic savings and investment. The main determinants of savings and investment are macroeconomic in nature. Current account imbalances have nothing to do with whether a country is open or closed to foreign goods, engages in unfair trade practices, or is more "competitive" than other countries. If net capital flows are zero, the current account will be balanced. Japan's \$11 billion current account deficit in 1980 became an \$87 billion current account surplus in 1987 not because it closed its market, or because the United States opened its market, or because Japanese manufacturers suddenly became more competitive. The surplus emerged because of financial

51. Dennis Tao Yang, "Aggregate Savings and External Imbalances in China," *Journal of Economic Perspectives* 26 (2012): 125–46.

52. Oddly, it was at this time (August 2019) that the Treasury Department declared that China was a currency manipulator, although it had allowed the renminbi to depreciate in response to new U.S. tariffs being imposed on Chinese goods.

and macroeconomic policy changes in Japan and the United States. The current trade imbalance with China is more controversial because it involves efforts by the Chinese government to control the flow of capital between the two countries and influence the value of its currency rather than allow those things to be determined by private financial market participants. Still, China's current account surplus did not go from 1 percent of GDP in 2001 to 10 percent in 2007 to 1 percent in 2017 because it was changing its trade policy, or adjusting its subsidies, or ramping its unfair trade practices up or down. All of those factors were fairly constant.

Trade policy does not directly affect the current account deficit because tariffs and quotas have little influence on domestic savings and investment—the ultimate determinants of the current account. If a country wishes to reduce its trade deficit, then it must undertake macroeconomic measures to reduce the gap between domestic savings and investment. Reducing the federal government's fiscal deficit, which absorbs a significant amount of domestic savings, could contribute to this result.

Long ago it was believed that restrictions on imports would automatically reduce the trade deficit. But that result would follow only if exports remained unaffected, an assumption that is false, as the Lerner symmetry theorem (discussed in chapter 3) suggests and experience demonstrates. Adam Smith saw through such policies of restriction: “Nothing, however, can be more absurd than this whole doctrine of the balance of trade, upon which, not only these restraints, but almost all the other regulations of commerce are founded.”<sup>53</sup>

President Trump believes otherwise, but despite imposing high tariffs on China the trade deficit has increased, not decreased. As *Washington Post* journalist Bob Woodward reported, whenever some of his aides “would challenge Trump's conviction on the importance of trade deficits and the need to impose tariffs, Trump was immovable. ‘I know I'm right,’ he said. ‘If you disagree with me, you're wrong.’”<sup>54</sup>

## The China Shock

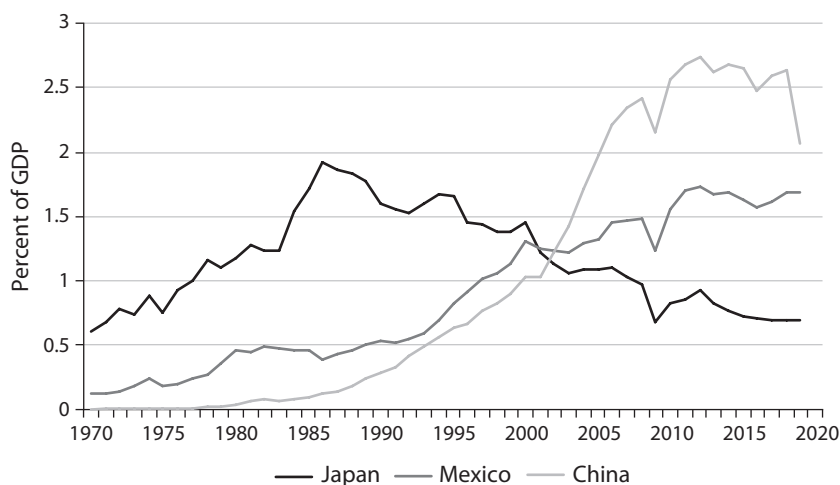
The issue of manufacturing jobs is particularly controversial when it comes to China because of the rapid growth in imports from that country. The

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53. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: Oxford University Press, [1776] 1976, 488.

54. Bob Woodward, *Fear: Trump in the White House*, New York: Simon & Schuster, 2018, 273.





**FIGURE 4.8.** Imports from Japan, Mexico, and China as a Percent of GDP, 1970–2019 (first half)  
 Source: U.S. Census Bureau (<https://www.census.gov/foreign-trade/statistics/country/index.html>).

United States has faced three “waves” of imports over the past thirty years but has never quite faced an import shock of the magnitude of that associated with China in the 2000s.

Figure 4.8 shows the value of U.S. imports from Japan, Mexico, and China as a percent of GDP. A wave of imports came from Japan in the early 1980s. Everyone during that decade was worried that Japan was stealing our jobs and, indeed, imports created a big adjustment problem for firms and workers in the automobile, steel, and semiconductor industries. The appreciation of the U.S. dollar against the yen and other major currencies contributed to the rise in imports and the slower growth of exports. These events also generated intense political pressures for protectionism and many imports were in fact restricted. By the late 1980s, the U.S. economy had recovered from a severe recession earlier that decade, the dollar depreciated on foreign exchange markets, imports from Japan receded, and protectionist pressures abated.<sup>55</sup>

A second wave of imports from Mexico can be seen in the 1990s after NAFTA took effect. Once again there was a big scare about Mexico taking

55. See Douglas A. Irwin, *Clashing over Commerce: A History of U.S. Trade Policy*, Chicago: University of Chicago Press, 2017, chap. 12, for a discussion of U.S. trade policy with respect to Japan during this period.

all our jobs. Yet imports from Mexico were not as disruptive to the U.S. economy as imports from Japan had been. Mexico tended to export labor-intensive goods, such as textiles and apparel, and engage in labor-intensive activities, such as the assembly of electronics, where the counterpart U.S. industries were already relatively small and declining. Furthermore, these imports from Mexico came at a time (the mid-to-late 1990s) when the U.S. economy was doing well and creating many job opportunities for displaced workers.<sup>56</sup>

The wave of imports from China in the 2000s has exceeded the earlier waves from Japan and Mexico, as figure 4.8 shows. Imports from China began to increase in the 1990s, as imports from Japan were declining in importance, and grew rapidly in the 2000s, to some extent displacing imports from Mexico. Of course, as noted in chapter 1, the gross value of imports from China exaggerates the country's importance, because many of its exports are assembled final products made from components produced in other countries. Even allowing for this fact, the expansion of imports from China is still remarkable.

Have these imports created much difficulty for manufacturing workers in the United States? Recent research suggests that the answer is yes.<sup>57</sup> One study finds that imports from China explain 21 percent of the decline in U.S. manufacturing employment over the period from 1990 to 2007—a loss of 1.5 million jobs.<sup>58</sup> According to these results, manufacturing employment fell by 548,000 between 1990 and 2000 and by another 982,000 between 2000 and 2007 because of imports from China. And the fate of these workers was not reassuring: Many were forced to take lower-paying jobs in the service sector or dropped out of the labor force and went on government disability programs. At the same time, if imports from China resulted in the involuntary displacement of 97,000 manufacturing workers per year (adjusted to account for voluntary separations), they accounted for less than one-fifth of

56. Of course, even if the aggregate labor market effects of imports from Mexico were small, the impact could be very large in certain local labor markets. Shushanik Hakobyan and John McLaren, “Looking for Local Labor Market Effects of NAFTA,” *Review of Economics and Statistics* 98 (2016): 728–41.

57. For an overview of this work, see David H. Autor, David Dorn, and Gordon H. Hanson, “The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade,” *Annual Review of Economics* 8 (2016): 205–40.

58. David H. Autor, David Dorn, and Gordon H. Hanson, “The China Syndrome: Local Labor Market Effects of Import Competition in the United States,” *American Economic Review* 103 (2013): 2121–68.

involuntary job loss in manufacturing and less than 5 percent of involuntary job loss in the overall economy over the same period.<sup>59</sup>

Rather than claiming that all imports cause job loss, one study separates the determinants of import growth and focuses on the impact of increasing imports from China on U.S. manufacturing employment. From 1999 to 2011, when manufacturing employment fell by 5.5 million, the loss attributable to imports from China amounted to about 1 million. This is a substantial number, but it means other factors accounted for more than 80 percent of the job loss in manufacturing over that decade.<sup>60</sup> Yet another study focusing on the period from 2000 to 2007 finds that imports from China reduced manufacturing employment by about 550,000 jobs, or 16 percent of the observed decline in manufacturing employment during that period. In the study's framework, the United States gained in the aggregate from these imports, but the welfare and employment effects varied significantly across different regional labor markets.<sup>61</sup>

Another study suggests that China's entry into the World Trade Organization in December 2001 may have played a role in the sharp drop in U.S. manufacturing employment between 2000 and 2002.<sup>62</sup> By joining the WTO, China was now guaranteed low-tariff access to the U.S. market; it had that access prior to 2001, but the privilege was never guaranteed and had to be renewed by Congress on regular basis. The resolution of uncertainty about whether China's goods would continue to receive favorable tariff treatment in the U.S. market may be related to the surge of imports from China in the early 2000s. In fact, imports from China grew more rapidly in categories where the threat of higher tariffs (if China had not been granted continued market access) was higher, and employment losses were also larger in those categories of goods.<sup>63</sup>

59. Robert Z. Lawrence, "Adjustment Challenges for U.S. Workers," in *Bridging the Pacific: Toward Free Trade and Investment between China and the United States*, edited by C. Fred Bergsten, Gary C. Hufbauer, and Sean Miner, Washington, DC: Peterson Institute for International Economics, 2014, 86.

60. Daron Acemoglu, David Autor, David Dorn, Gordon H. Hanson, and Brendan Price, "Import Competition and the Great Employment Sag of the 2000s," *Journal of Labor Economics* 34 (2016): S141–98.

61. Lorenzo Caliendo, Maximiliano Dvorkin, and Fernando Parro, "Trade and Labor Market Dynamics: General Equilibrium Analysis of the China Trade Shock," *Econometrica* 87 (2019): 741–835.

62. Justin R Pierce and Peter K. Schott. "The Surprisingly Swift Decline of US Manufacturing Employment," *American Economic Review* 106 (2016): 1632–62.

63. Kyle Handley and Nuno Limão, "Policy Uncertainty, Trade and Welfare: Theory and Evidence for China and the U.S.," *American Economic Review*, 107 (2017): 2731–83.

Which sectors were most affected by imports from China? Of course, textiles and apparel constitute one of the largest categories of China's exports, as well as other sectors such as furniture. Both of these industries are located in the southeastern and central United States. Hence, much of the adverse impact of imports from China has been geographically concentrated, in Tennessee, Missouri, Arkansas, Mississippi, Alabama, Georgia, North Carolina, and Indiana.<sup>64</sup>

Other studies blame the trade deficit with China for even larger job losses, but they rely on suspect methodologies. The Economic Policy Institute says the growth in the trade deficit with China between 2001 and 2017 was responsible for the loss of 3.4 million U.S. jobs, including 1.3 million jobs lost since 2008.<sup>65</sup> This number is inflated, for several reasons pointed out earlier in this chapter.<sup>66</sup> China's impact is also exaggerated because it crowded out imports from other countries. The Congressional Budget Office reported that "roughly one-third of the increase in the share of imports from China in U.S. markets from 1998 through 2005 was offset by reduced growth and, in some cases, declines in the shares of imports from other countries," an offset that was even higher prior to 1998.<sup>67</sup> To some extent, China has simply displaced other East Asian countries—Hong Kong, Taiwan, and Korea—as a source of U.S. imports. U.S. employment in industries such as sporting goods, toys, apparel, and footwear had already been declining rapidly since the 1960s as a result of foreign competition in general. It is unlikely that reducing imports from China would have boosted domestic employment very much because China took over those markets from other foreign suppliers.<sup>68</sup>

64. David Autor, David Dorn, and Gordon H. Hanson, "The Geography of Trade and Technology Shocks in the United States," *American Economic Review* 103 (2013): 220–25.

65. Scott and Mokhiber, "The China Toll Deepens."

66. First, China's leading exports to the United States include consumer electronics, sporting goods and toys, apparel and footwear, and furniture. As chapter 1 pointed out, the Chinese content in the consumer electronics exports tends to be relatively small (it imports the components and exports the assembled goods), so using the dollar value of imports from China to calculate the effect on employment grossly overstates its impact on the U.S. labor market. Second, the Economic Policy Institute study assumes that if the United States did not import these goods from China, they would be produced in the United States, thereby creating jobs. But if not imported from China, the United States would probably have imported many of these goods from other countries, such as Vietnam, as has been the experience with President Trump's tariffs on imports from China.

67. Congressional Budget Office, "How Changes in the Value of the Chinese Currency Affect U.S. Imports," July 2008, 9.

68. Furthermore, in product categories that overlap with existing U.S. industries, U.S. and Chinese producers tend to sell in different markets: China has tended to specialize in selling

Most of these studies focus on the period before 2007, when China was widely accused of “currency manipulation” in keeping the value of the renminbi artificially low against the dollar. By keeping its currency undervalued on foreign exchange markets, the Chinese government reduced the price of its exports and hence facilitated their rapid growth. However, the practice became less important after 2007, which is one reason why China’s overall trade surplus has fallen significantly.

Possibly as a result of these changes, as figure 4.8 suggests, imports from China have leveled off. The China shock occurred more than a decade ago and is now over. China’s impact on American jobs disappeared after 2007, according to a recent study.<sup>69</sup> With the Trump administration imposing tariffs on imports from China, the reversal of the China shock is now under way. However, the damage that it caused cannot be undone, and the jobs lost will probably not come back. American workers and residents in regions with declining industries—whether the result of foreign competition, technological change, declining demand, or other factors—have clearly suffered enormously. While diversified cities have done well (Pittsburgh is flourishing after suffering from the loss of the steel industry in the 1970s), smaller towns and communities in the Rust Belt and elsewhere have never recovered.<sup>70</sup> Small towns and regions that have been hurt by foreign competition, or that suffered the loss of industry for other reasons, struggle to cope. Since local governments are disproportionately funded through property and local sales taxes, declining property values and a decrease in economic activity translate into less revenue, which constrains the ability of local governments to provide public services.<sup>71</sup> One study links the China shock to an increase in fatal drug overdoses, suggesting that mortality rates increase when local labor market conditions deteriorate.<sup>72</sup> Another study indicates that

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cheaper, lower-quality goods whereas U.S. manufacturers have specialized in selling more expensive, higher-quality goods. Peter K. Schott, “The Relative Sophistication of China’s Exports,” *Economic Policy* 23 (2008): 5–49.

69. Nicholas Bloom, Kyle Handley, Andre Kurmann, and Philip Luck, “The Impact of Chinese Trade on U.S. Employment: The Good, the Bad, and the Debatable,” unpublished paper, Stanford University, July 2019.

70. James D. Feyrer, Bruce Sacerdote, and Ariel Stern, “Did the Rust Belt Become Shiny? A Study of Cities and Counties That Lost Steel and Auto Jobs in the 1980s,” in *Brookings-Wharton Papers on Urban Affairs*, Washington, DC: Brookings Institution, 2007, 41–89.

71. Leo Feler and Mines Senses, “Trade Shocks and the Provision of Local Public Goods,” *American Economic Journal: Economic Policy* 9 (2017): 101–43.

72. Justin R. Pierce and Peter K. Schott, “Trade Liberalization and Mortality: Evidence from U.S. Counties,” *American Economic Review: Insights* 1 (2019), forthcoming.

displacement of male workers from manufacturing jobs affects their marriageability, heightens male idleness and premature mortality, and raises the share of unwed mothers and the share of children living in below-poverty, single-headed households.<sup>73</sup> Any competitive market economy involves what Joseph Schumpeter called “creative destruction.” The problem for the United States has been that the regions that gain with the creation of wealth have not been the same as the regions that lose with the destruction of wealth. (Policies to possibly cushion the blow will be considered shortly.)

Although the adverse consequences of the China shock have received enormous attention from economists and the news media, the benefits of increased trade should also be mentioned. Imports from China have helped consumers by making a range of inexpensive goods available to U.S. households, particularly benefiting those with low incomes. One study suggests that Chinese imports have led to a 0.2 percentage point annual reduction in the price index for consumer tradable goods.<sup>74</sup> And for all the discussion of jobs losses as a result of imports from China, scant attention is paid to the domestic jobs created by those imports or created by exports to China or other countries. One study suggests that the job gains from export expansion largely offset jobs losses because of Chinese imports. At the industry level, there was a net gain of 379,000 jobs over the 1991–2011 period; at the commuting zone level, job gains and losses are roughly balanced, with a slight net loss of 68,000 jobs.<sup>75</sup>

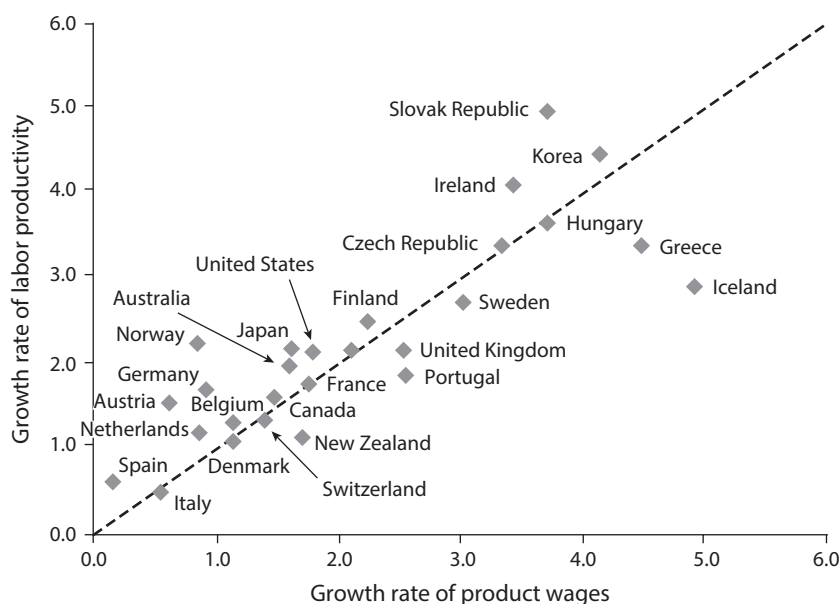
## Trade and Wages

Another concern is that trade reduces American wages as firms strive to match lower labor costs in developing countries, unleashing a “race to the bottom.” As a general matter, such fears overlook the fact that high American wages are based on the high productivity of U.S. workers. And the growth in a country’s average wages is determined largely, although not exclusively, by the growth of a country’s productivity, as figure 4.9 shows, comparing selected countries in the Organization for Economic Cooperation and

73. David Autor, David Dorn, and Gordon Hanson, “When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men,” *American Economic Review: Insights* 1 (2019): 161–78.

74. Liang Bai and Sebastian Stumpner, “Estimating U.S. Consumer Gains from Chinese Imports,” *American Economic Review: Insights* 1 (2019): 209–24.

75. Robert C. Feenstra, Hong Ma, and Yuan Xu, “U.S. Exports and Employment,” *Journal of International Economics* 120 (2019): 46–58.



**FIGURE 4.9.** Changes in Labor Productivity and Product Wages, Selected OECD Countries, Annual Growth Rates, 1995–2006

*Source:* Andrew Sharpe, Jean-François Arsenault, and Peter Harrison, “The Relationship between Labour Productivity and Real Wage Growth in Canada and OECD Economies,” Centre for the Study of Living Standards, Report 2008–08, December 2008, 52.

Development (OECD). Foreign competition does not suppress this growth. Rather, as chapter 2 describes, trade can promote productivity growth through various channels. Foreign competition also cannot take away the advantages that give rise to this high productivity—namely, the availability of sophisticated technology, the substantial stock of human capital, and the many other advantages of operating in the U.S. market.

The relationship between rising productivity and increasing worker compensation also holds within countries over time. In the case of the United States, as figure 4.10 shows, the growth of worker compensation (deflated by the implicit price deflator for the nonfarm business sector) tracks growth in productivity remarkably well, at least until the early 2000s.<sup>76</sup> There is no doubt that productivity and compensation are closely linked: Over the period 1973–2016, one percentage point higher productivity growth has

76. Thus, workers have been compensated for the growth in output per worker in terms of the revenue received by firms. See Martin Feldstein, “Did Wages Reflect Productivity Growth?,” *Journal of Policy Modeling* 30 (2008): 591–94.



FIGURE 4.10. Labor Productivity and Labor Compensation Costs, 1960–2018

Source: FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/>).

Note: Productivity is output per hour worked in the nonfarm business sector. Real compensation cost is compensation per hour in the nonfarm business sector divided by the implicit price deflator for the nonfarm business sector.

been associated with 0.7 to 1 percentage points higher median and average compensation growth.<sup>77</sup> Yet economists have been investigating why the two series have diverged over the past decade or so, particularly when different price deflators are used.<sup>78</sup> Part of the explanation has to do with an increase in the share of profits in national income and a disproportionate share of real income gains accruing to the top 1 percent of the income distribution.<sup>79</sup> The rise in the share of income going to capital, and the decline in the share of income going to labor, is a global phenomenon, not one confined to the United States.<sup>80</sup> There are also important measurement problems regarding

77. Anna Stansbury and Lawrence Summers, “Pay and Productivity: Is the Link Broken?,” in *Facing Up to Low Productivity Growth*, edited by Adam Posen and Jeromin Zettelmeyer, Washington, DC: Peterson Institute for International Economics, 2019.

78. Andrew Sharpe and James Uguccioni. “Decomposing the Productivity-Wage Nexus in Selected OECD Countries, 1986–2013,” *International Productivity Monitor* 32 (2017): 25–43.

79. See Robert Z. Lawrence, *Blue Collar Blues: Is Trade to Blame for Rising U.S. Income Inequality?*, Washington, DC: Peterson Institute for International Economics, 2008.

80. Some attribute this phenomenon to the decline in the price of capital goods, which induced firms to substitute capital for labor. Loukas Karabarbounis and Brent Nieman, “The Global Decline in the Labor Share,” *Quarterly Journal of Economics* 129 (2014): 61–103. Focusing on the U.S. labor share, others suggest that industries facing greater foreign competition may have reduced the share of income going to labor more than other industries. Michael W. L. Elsby, Bart



productivity (normally based on gross output, not output net of depreciation, which has become increasingly important) and how compensation treats housing and government income; after making adjustments, the gap can largely be accounted for.<sup>81</sup> Still, it remains to be seen whether the gap in figure 4.10 continues to run counter to historical experience; the two series have sometimes deviated in the past only to return to the same level.

Although average wages are determined by the underlying attributes that make American workers productive, trade can affect the *distribution* of wages in an economy. And here a very basic point must be stressed: The perception that imports have destroyed good, high-wage jobs in manufacturing is largely mistaken. It is closer to the truth to say that imports have destroyed bad, low-wage jobs in manufacturing. This is because wages in industries that compete against imports are well below average, whereas wages in exporting industries are well above average.

For example, the United States tends to import labor-intensive products, such as apparel, footwear, leather, and goods assembled from components. These labor-intensive sectors tend to employ workers who have a lower-than-average educational attainment, and who therefore earn a relatively low wage. For example, in 2018, average hourly earnings of Americans working in the apparel industry were 34 percent lower than in manufacturing as a whole.<sup>82</sup> Figure 4.11 shows the relationship between the share of imports from low-wage developing countries in a given industry and the average U.S. wage. The United States tends to import more from developing countries in industries that pay relatively low wages.<sup>83</sup> (The category of computers and electronic products is an outlier because these items are assembled in low-wage developing countries from components produced elsewhere, as noted in chapter 1.)

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Hobijn, and Aysegul Sahin, “The Decline of the U.S. Labor Share,” *Brookings Papers on Economic Activity* 2 (2014): 1–52. See also David Autor, David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen, “Concentrating on the Fall of the Labor Share,” *American Economic Review* 107 (2017): 180–85.

81. See Scott Winship, “Has Inequality Driven a Wedge between Productivity and Compensation Growth?,” *Forbes*, October 20, 2014, <http://www.forbes.com/sites/scottwinship/2014/10/20/has-inequality-driven-a-wedge-between-productivity-and-compensation-growth/>.

82. U.S. Bureau of the Census, [https://www.bls.gov/oes/current/naics2\\_31-33.htm#51-0000](https://www.bls.gov/oes/current/naics2_31-33.htm#51-0000).

83. Examining how U.S. manufacturing plants responded to import competition from low-wage developing countries, researchers found a variety of adjustments: Some labor-intensive operations reduced output or closed while more capital-intensive plants adjusted their product mix to more sophisticated goods and actually grew. Andrew Bernard, Brad Jensen, and Peter Schott, “Survival of the Best Fit: Exposure to Low-Wage Countries and the (Uneven) Growth of U.S. Manufacturing Plants,” *Journal of International Economics* 68 (2006): 219–37.

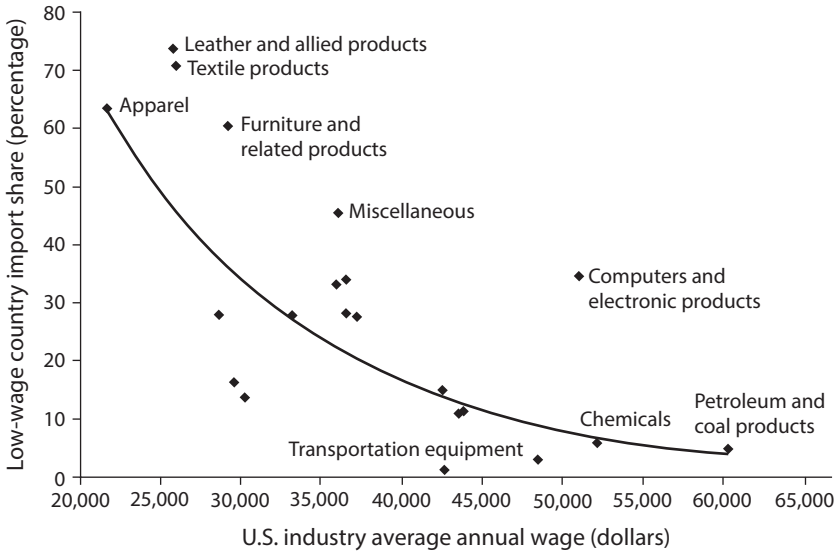


FIGURE 4.11. U.S. Wages and Import Competition from Low-Wage Countries

Source: J. Bradford Jensen and Lori G. Kletzer, “‘Fear’ and Offshoring: The Scope and Potential Impact of Imports and Exports of Services,” Peterson Institute for International Economics Policy Brief No. 08–1, January 2008.

By contrast, the United States tends to export more skill-intensive manufactured products, such as aircraft, construction machinery, engines and turbines, and industrial chemicals. Workers in these industries earn relatively high wages. For example, in 2018, average hourly earnings in the aircraft and aerospace industry were 80 percent above the average in manufacturing. Figure 4.12 shows the positive relationship between exports per worker and the average wage by industry.

As a result, any policy that limits overall trade and reduces both exports and imports tends to increase employment in low-wage industries and reduce employment in high-wage industries. Restricting trade would shift American workers away from things that they produce relatively well (and hence export and earn relatively high wages in producing) and toward things that they do not produce so well (and hence import and earn relatively low wages in producing) in comparison with other countries. Employment gains for the low-wage textile machine operators in the factory mills would be offset by employment losses for the high-wage engineers in aircraft and pharmaceutical production.

This raises the concern that trade has contributed to increased income inequality in the United States. In theory, trade can have sharply different

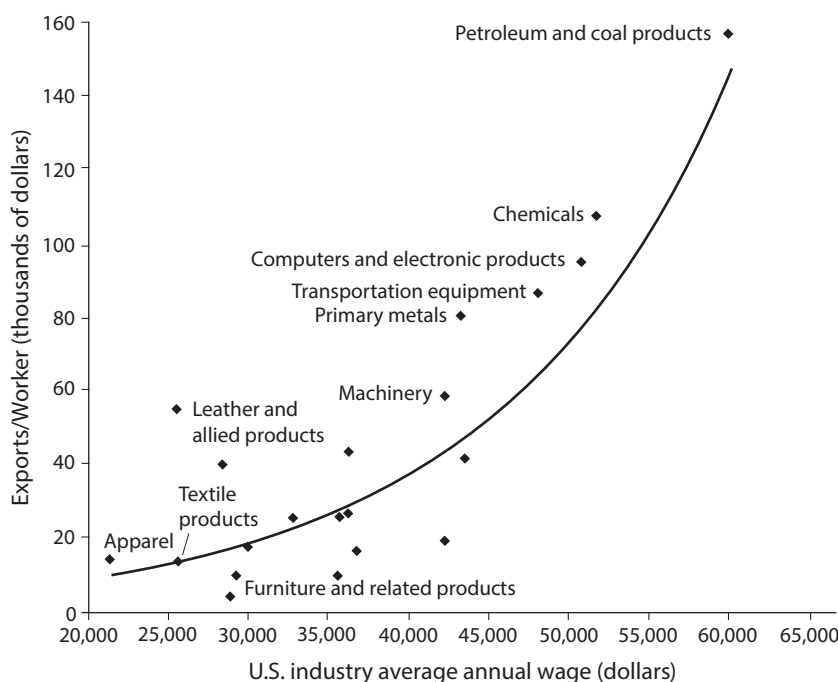


FIGURE 4.12. Exports per Worker and U.S. Industry Wages, Manufacturing

Source: J. Bradford Jensen and Lori G. Kletzer, “‘Fear’ and Offshoring: The Scope and Potential Impact of Imports and Exports of Services,” Peterson Institute for International Economics Policy Brief No. 08–1, January 2008.

effects on the wages of different types of workers. In a classic article, Wolfgang Stolper and Paul Samuelson connected the distribution of wages in an economy to the prices of traded goods determined on the world market. They reached the unambiguous conclusion that the real wage of some factors of production will rise as a result of trade while the real wage of other factors will fall.<sup>84</sup> This is implicit in what we have discussed: Trade creates jobs in high-wage industries in which the United States exports (aircraft,

84. Wolfgang F. Stolper and Paul A. Samuelson, “Protection and Real Wages,” *Review of Economic Studies* 9 (1941): 58–73. For example, if we consider only skilled and unskilled labor, a rise in the relative price of skill-intensive goods increases the real wage of skilled workers and decreases the real wage of unskilled workers. While the precise relationship between product prices and factor rewards depends on many other factors, such as the degree to which labor can move between sectors, the key conclusion is that trade can have sharp consequences for income distribution. For a current application, see Javier Cravino and Sebastian Sotelo, “Trade-Induced Structural Change and the Skill Premium,” *American Economic Journal: Macroeconomics* 11 (2019): 289–326.

machinery) and reduces jobs in low-wage industries in which the United States imports (apparel, footwear).

There is no doubt that wage and income inequality have increased in recent decades. In the 1980s and the early 1990s, the wage premium for college-educated workers relative to workers with less education (high school degree or dropout) rose substantially, but then leveled off after 2000.<sup>85</sup> In addition, there is evidence of wage stagnation in the middle of the income distribution and an absolute decline in the real wages of workers with very few years of formal education. Has international trade contributed to the increase in wage inequality in the United States, as theory suggests it might?

The precise magnitude of the impact of international trade on the structure of wages has proved very difficult to determine, but it is generally thought to be small.<sup>86</sup> The consensus among economists seems to be that increased demand for educated workers as a result of technological change is mostly responsible for the rising wage premium. By contrast, the role of trade in generating wage inequality appears to be modest. Elhanan Helpman, one of the world's leading trade economists, concluded that "trade played an appreciable role in increasing wage inequality, but that its cumulative effect has been modest, and that globalisation does not explain the preponderance of the rise in wage inequality within countries."<sup>87</sup>

How has this conclusion been reached? If trade had been driving the changes in relative wages in the United States during the 1980s, then theory suggests that the price of unskilled labor-intensive goods should have fallen relative to the price of skilled labor-intensive goods. But after examining the data, researchers failed to detect such a decline. In addition, despite the rising cost of hiring skilled workers, manufacturing firms have been consistently found to hire more skilled workers relative to unskilled workers.

85. For a review, see Jonathan Haskel, Robert Z. Lawrence, Edward E. Leamer, and Matthew J. Slaughter, "Globalization and U.S. Wages: Modifying Classic Theory to Explain Recent Facts," *Journal of Economic Perspectives* 26 (2012): 119–40.

86. There are various measures of economic inequality, but wage inequality will be the focus here. Income and wealth inequality have also increased substantially in recent years but are less directly related to international trade. Instead, factors such as asset holdings and capital gains, as well as the "superstar" phenomena in certain parts of the economy (e.g., hedge funds, CEOs, sports, and entertainment), have been driving the income distribution at the very top 1 percent.

87. Elhanan Helpman, "Globalisation and Wage Inequality," *Journal of the British Academy* 5 (2017): 125–62. See also Elhanan Helpman, *Globalization and Inequality*, Cambridge, MA: Harvard University Press, 2018.

This evidence is consistent with an increase in the demand for educated workers.<sup>88</sup>

Another way of looking at the question examines the quantities of imports of labor-intensive goods as a factor that may cause the displacement of less-educated workers and reduce their wages. In this case, the volume of traded goods, rather than their prices, is the focus. This approach yields essentially the same conclusion. Examining the period from 1980 to 1995, one study finds that the wages of college graduates rose 21 percent relative to those of high school graduates. At the same time, trade and immigration accounted for only about 2 percentage points (or 10 percent) of this change.<sup>89</sup> The relatively small contribution of trade is related to the fact that imports of manufactured goods from developing countries—presumably the primary source of unskilled labor-intensive goods—rose from just 1.0 percent of GDP in 1970 to 3.2 percent in 1990, hardly a dramatic increase in light of the spectacular increase in the labor market returns to education during this period.

More recent evidence also suggests that the contribution of trade to wage inequality has been relatively small. One estimate puts the contribution of trade with low-wage countries from 1980 to 2006 at something shy of 10 percent of the overall rise in the college wage premium.<sup>90</sup> That study concludes that “without the impact on wage inequality between 1981 and 2006, the wages of blue-collar workers would have been 1.4 percent higher than they were in 2006 and that almost all of this took place before 2000.”<sup>91</sup> Furthermore, “the timing of wage inequality is not what might have been expected if increased trade penetration in the U.S. economy always gives rise to increased wage inequality” because inequality grew rapidly in the 1980s when trade with developing countries was growing slowly, whereas inequality leveled off when imports from low-wage countries started accelerating.<sup>92</sup>

88. See Robert C. Feenstra and Gordon H. Hanson, “Global Production and Rising Inequality: A Survey of Trade and Wages,” in *Handbook of International Trade*, edited by E. Kwan Choi and James Harrigan, New York: Basil Blackwell, 2003.

89. However, these factors are somewhat more important in explaining the wage gap between high school graduates and high school dropouts. George J. Borjas, Richard B. Freeman, and Lawrence F. Katz, “How Much Do Immigration and Trade Affect Labor Market Outcomes?,” *Brookings Papers on Economic Activity* 1 (1997): 1–67.

90. See Lawrence Katz’s comments to Paul Krugman, “Trade and Wages, Reconsidered,” *Brookings Papers on Economic Activity* 1 (2008): 103–54.

91. Lawrence, *Blue Collar Blues*, 37.

92. “After 2000, the share of imports from non-OPEC developing countries continued to grow rapidly, while the share of imports from developing countries actually declined. . . . Yet this

Because the college premium that increased so much in the 1980s has leveled off since then, trade-based theories have difficulty explaining such an outcome. More recent work has suggested a polarization of the labor force, based less on education level than on the skills used at work. This work identifies a hollowing out of the middle of the wage distribution, in which highly educated workers have done very well, low-skilled workers have done all right, but workers in the middle have done very poorly.<sup>93</sup> The leading hypothesis is that information and communication technologies polarize labor markets by increasing demand for the highly educated at the expense of the middle educated, with little effect on low-educated workers who do routine work. While this hollowing out has apparently occurred in a number of advanced economies, research has failed to link it to international trade.<sup>94</sup>

Trade, then, does not appear to be primarily responsible for increased wage inequality in recent decades. Evidence instead points to technological change—including automation, robots, and perhaps even artificial intelligence—as having raised the demand for more highly educated workers and having significantly altered the skill set and the type of work that is valued (e.g., routine versus nonroutine). Whereas international trade would shift the demand for skills between sectors of the economy, skill-biased technical change would increase the demand for skilled workers in all sectors. In fact, the relative wage of educated workers in many developing countries has been increasing as well, a pattern that can be explained by skill-biased technical change but is more difficult to explain as a result of international trade.<sup>95</sup>

Even if trade has contributed only modestly to increased wage inequality, we can understand why adversely affected workers would oppose free trade. Workers who are laid off from their jobs tend to experience a large and persistent loss of income. In particular, manufacturing workers who lose their jobs and get reemployed in the service sector suffer a significant wage cut. Using data from 1984 to 2002, one study found that workers forced

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was a period of slow wage growth for almost all workers, with very little additional inequality.” Lawrence, *Blue Collar Blues*, 31, 34.

93. David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, “Trends in U.S. Wage Inequality: Revising the Revisionists,” *Review of Economics and Statistics* 90 (2008): 300–323.

94. Guy Michaels, Ashwini Natraj, and John Van Reenen, “Has ICT Polarized Skill Demand? Evidence from Eleven Countries over 25 Years,” *Review of Economics and Statistics* 96 (2014): 60–77.

95. Penny Goldberg and Nina Pavcnik, “Distributional Effects of Globalization in Developing Countries,” *Journal of Economic Literature* 45 (2007): 39–82. See also Elhanan Helpman, *Globalization and Inequality*, Cambridge, MA: Harvard University Press, 2018.

to switch occupations as a result of trade suffered a real wage loss of about 15 percent.<sup>96</sup> Furthermore, when job losses are highly concentrated in a certain region, the laid-off manufacturing workers seeking employment in services depress the wages of other service workers. In other words, the whole local community suffers. And, as previously noted, those workers are likely to leave the labor force and get government disability payments.

Interestingly, however, a domestic industry faced with intense foreign competition will not necessarily reduce the wages of its workers. The evidence suggests that such firms reduce employment but not wages.<sup>97</sup> This makes sense: If a firm tried to cut wages, the best workers would leave because they have skills that give them opportunities elsewhere in the economy. The least desirable workers would stay because they have no attractive alternatives. (If the industry is unionized and workers receive a wage premium, however, there is scope for the firm to reduce wages to the market level in response to greater competition.) In addition, firms respond to competition by improving their technology and upgrading the quality of their products, all of which requires more skilled labor. Rather than cut wages, firms usually adjust to competition by reducing employment. Then they can choose which workers to keep and which to lay off in an attempt to raise productivity and reposition the company to survive.

Survey evidence indicates that workers with less educational attainment, those whose wages have lagged the most in recent decades, are also the most skeptical of the benefits of free trade. Although these workers may have a legitimate economic interest in preventing trade, it does not make sense to deal with their concerns by harming the overall economy. It is no more reasonable to help them by imposing barriers to trade than it would be to ban smartphone apps or other technological conveniences to increase the demand for certain types of workers. Such a step could also reduce economic opportunities for others now and for their children in the future. A more constructive response would be to increase the demand for labor; currently, firms hiring workers have to pay a payroll tax whereas those purchasing capital get to deduct such expenses. Another response would be to encourage workers to make investments in education and, where possible, cushion the

96. Avraham Ebenstein, Ann Harrison, Margaret McMillan, and Shannon Phillips, "Estimating the Impact of Trade and Offshoring on American Workers," *Review of Economics and Statistics* 96 (2014): 581–95.

97. Ana L. Revenga, "Exporting Jobs? The Impact of Import Competition on Employment and Wages in U.S. Manufacturing," *Quarterly Journal of Economics* 107 (1992): 255–84, and Ebenstein et al., "Estimating the Impact of Trade and Offshoring on American Workers."

blow for those who are adversely affected by trade. One reason the debate over trade policy is never-ending, however, is that policies to cushion the blow are often viewed as inadequate.

### **Displaced Workers and Trade Adjustment Assistance**

Although free trade may be good for the economy as a whole, some workers in import-competing industries will be displaced from their jobs as a result of foreign competition. Without some policy to help these workers, opposition to trade will always be politically potent. What government programs exist to help workers who lose their jobs as a result of imports? Do these programs work well, and should trade-displaced workers get better treatment than workers who are unemployed for other reasons?

As discussed earlier in this chapter, import competition accounts for only a small fraction of workers who lose their job every year. Even so, who are the displaced workers in import-competing industries, and what is being done to help them? In past decades, workers in import-sensitive industries “are similar to other displaced manufacturing workers—slightly older, with virtually no difference in educational attainment or job tenure”—but they are more likely to be women.<sup>98</sup> And even among import-sensitive industries, workers in very high import-share industries tend to have less education, have shorter job tenure, and are more likely to be female than workers in medium and low import-share industries.<sup>99</sup> The two most salient of these characteristics are gender and relatively low levels of education. These underlying characteristics tend to determine the labor market experiences of these workers, not the fact that they are employed in industries that compete against imports.

For example, workers displaced from high import-share industries are less likely to find new employment within a certain time period. This fact could be interpreted as indicating that the reemployment prospects of workers who have been laid off from industries that compete against imports are worse than average. But this correlation disappears once one controls for

98. “The most striking difference between import-competing displaced workers and other displaced manufacturing workers is the degree to which import-competing industries employ and displace women. Women account for 45 percent of import-sensitive displaced workers, relative to 37 percent of the overall manufacturing displaced. Some industries stand out: Women account for 80 percent of those displaced from apparel, 66 percent from footwear, and 76 percent from knitting mills (part of the textile industry).” Lori Kletzer, *Job Loss from Imports: Measuring the Costs*, Washington, DC: Institute for International Economics, 2001, 3.

99. Kletzer, “Trade and Job Displacement in U.S. Manufacturing: 1979–1991,” 450.



the higher proportion of female workers in those industries. In other words, women in general tend to have lower reemployment rates after being laid off any job. They may opt to leave the labor force, for example, or take more time off between jobs than men do. It is this characteristic, rather than anything special about import-competing industries per se that accounts for the lower reemployment rate of workers displaced from high import-share industries. As one researcher concludes, “Trade-displaced workers may have more difficult labor market adjustments, but the source of the difficulty is their otherwise disadvantaged characteristics, not the characteristics of their displacement industry.”<sup>100</sup>

What about the wage losses suffered by workers thrown out of work as a result of imports? The plight of displaced workers cannot be trivialized because numerous studies have shown that their earnings losses are sizable and persistent.<sup>101</sup> The losses are largely based on how long the workers had been employed in the jobs from which they were displaced (the longer they were employed, the greater the earnings loss) and whether the workers found reemployment in the same industry or in a different industry (if reemployed in a different industry, then the earnings losses are greater). For example, displaced workers with one to three years of tenure experienced an average drop of 10 percent in earnings after four years relative to their prior earnings trajectory; workers with three to six years of tenure experienced an average drop of 23 percent in earnings; and workers with more than six years of tenure experienced a loss of more than 30 percent in earnings.<sup>102</sup>

As it turns out, several studies have found that workers displaced from industries in which import penetration was increasing rapidly had lower earnings losses than other displaced workers.<sup>103</sup> Because workers in import-sensitive sectors tend to be low-wage workers with shorter job tenures, workers displaced from industries that compete with imports generally have

100. Lori Kletzer, “Trade and Job Loss in U.S. Manufacturing, 1979–1994,” in *The Impact of International Trade on Wages*, edited by Robert Feenstra, Chicago: University of Chicago Press for the NBER, 2000, 375.

101. Lori G. Kletzer, “Job Displacement,” *Journal of Economic Perspectives* 12 (1998): 115–36.

102. Louis Jacobson, Robert J. Lalonde, and Daniel Sullivan, “Policies to Reduce High-Tenured Workers Earnings Losses through Job Retraining,” Hamilton Project Discussion Paper 2011–11, Brookings Institution, 2011.

103. John T. Addison, Douglas A. Fox, and Christopher J. Ruhm, “Trade and Displacement in Manufacturing,” *Monthly Labor Review* 118 (1995): 58–67. However, David Autor and colleagues find that earnings losses among trade-displaced workers are higher for individuals with low initial wages, low initial tenure in their jobs, and low attachment to the labor force. See David H. Autor, David Dorn, Gordon H. Hanson, and Jae Song, “Trade Adjustment: Worker-Level Evidence,” *Quarterly Journal of Economics* 129 (2014): 1799–860.

lower earnings losses than the average displaced worker. This is particularly true in one of the most trade-sensitive industries, the textile and apparel industry, which lost more than 900,000 jobs between 1990 and 2014 because of technological change as well as imports.<sup>104</sup>

While most workers displaced from industries that compete against imports eventually find employment in the same industry, in related manufacturing industries, or in the nontraded service sector, they almost never find employment in export-oriented industries.<sup>105</sup> A worker laid off from the apparel industry, for example, is extremely unlikely to find employment in the aircraft industry because a different skill mix is required. Furthermore, trade-displaced workers generally do not move geographically in search of new employment. These patterns create a problem for workers and policy-makers: Those harmed by imports will not reap the benefits of new employment opportunities in export-oriented industries, particularly if they are located in different regions of the country. Telling these workers that rising employment in export industries located elsewhere will offset the decline in their current industry of employment is not likely to persuade them that trade is a good thing.

There is little debate about whether unemployed workers should receive some form of government assistance. The question is whether workers displaced for reasons of trade should receive more benefit than the far more numerous workers who lose their jobs for other reasons. Special adjustment assistance for workers laid off as a result of imports has been justified on efficiency, equity, and political grounds, but unfortunately all three rationales are open to question.

The efficiency rationale is that government assistance can speed up the process of adjusting to trade and thereby make it more efficient. This is

104. According to Alfred Field and Edward Graham, in contrast to displaced workers in other manufacturing industries, who experienced an average 10 percent drop in wages after finding new employment, displaced apparel workers who found new jobs actually received higher wages, while textile workers experienced little change in their wages. The explanation is that apparel workers receive very low wages in the first place and that over 60 percent of laid-off apparel workers found reemployment in another manufacturing industry. However, this occurred in the 1980s and 1990s, when the economy was doing well, creating many new employment opportunities for those who lost their jobs. Alfred J. Field and Edward M. Graham, "Is There a Special Case for Import Protection for the Textile and Apparel Sectors Base on Labour Adjustment?," *World Economy* 20 (1997): 137–57.

105. See Autor, Dorn, and Hanson, "The China Syndrome: Local Labor Market Effects of Import Competition in the United States"; see also Autor, Dorn, Hanson, and Song, "Trade Adjustment: Worker-Level Evidence." They find many low-wage displaced workers leave the labor force and retire, receive unemployment compensation, or go on disability.

doubtful on both theoretical and empirical grounds. In theory, the government should intervene to accelerate adjustment only if some market failure is associated with that process. The simple fact that the adjustment process sometimes operates slowly and with friction is insufficient grounds for intervention. In addition, the empirical studies of displaced workers alluded to earlier generally suggest that the labor market experiences of workers displaced from trade-sensitive industries are not much different from those of workers with similar characteristics who have been displaced from industries not sensitive to trade. Therefore, efficiency considerations do not seem to justify singling out trade-affected workers for more generous treatment than that given to other displaced workers. Then there is the more general point related to the potential inefficiency of any government program that attempts to redistribute income to a targeted group. The costs of administering a compensation program might well be much higher than the losses incurred by displaced workers.<sup>106</sup>

The equity rationale—that fairness requires giving workers displaced by imports special treatment—is also questionable. Workers may lose their jobs for any number of reasons: increasing domestic competition, weather fluctuations and climate change, substitution of capital for labor, changes in technology, shifts in consumer tastes, and so on. Even if it were possible to single out workers who have been dislocated for trade-related reasons, there is no compelling reason for treating them any different from those who have lost their job for other reasons. In fact, it seems unfair to provide a more comfortable cushion for the workers displaced because of imports and not for those laid off because of, say, a painful recession brought on by the collapse of a bubble in housing prices. What is the reason for providing more generous compensation to apparel workers in Georgia who lose their jobs to imports than to the Kellogg's workers laid off because fewer young people like to have cereal for breakfast anymore?

The political argument for trade adjustment assistance is that the public views these various causes of employment loss as different. Job loss resulting from trade is much more politically controversial than job loss caused by domestic competition or technological change or a recession. Therefore, trade adjustment assistance might be able to reduce the opposition to trade legislation by compensating for concentrated losses from liberalization. For

106. One labor economist suggests that the “transactions costs associated with [compensation] are likely to be many times larger than the costs imposed on those adversely affected by change.” Louis Jacobson, “Compensation Programs,” in *Imports, Exports, and the American Worker*, edited by Susan Collins, Washington, DC: Brookings Institution, 1998, 476.

that reason, Congress made trade adjustment assistance (TAA) a matter of U.S. policy ever since the Trade Expansion Act of 1962. Since the 1970s, however, there is little evidence that TAA has been able to “buy off” labor groups that are opposed to the passage of trade agreements.<sup>107</sup>

The TAA program, which must be renewed regularly, currently works as follows.<sup>108</sup> Unemployed workers can typically receive up to twenty-six weeks of unemployment insurance. If a group of unemployed workers believe they have lost their job because of trade, however, they can apply for TAA with the Department of Labor. The Labor Department must certify that the workers lost their jobs because of an increase in imports or a shift in the location of production to another country. If they are certified, the workers are eligible for training assistance, job search and relocation allowances, and a health coverage tax credit (administered at the state level). Most important, they can receive financial support under the trade readjustment allowance (TRA), which is income support for those who have exhausted the standard unemployment insurance and are enrolled in a job training program. Workers can receive unemployment insurance and the TRA for a combined total of 117 weeks, more than two years, and even 130 weeks under certain circumstances.<sup>109</sup>

In recent years, the Labor Department has certified about 80 percent of the petitions it has received. For example, in fiscal year 2017, about 1,037 petitions were filed and 78 percent were certified, covering 94,017 workers. About 64 percent of the certified petitions came from the manufacturing

107. George Meany, a longtime leader of the AFL-CIO labor union, once called trade adjustment assistance “burial assistance” because it didn’t help workers keep their jobs. One recent paper looks at congressional voting on eleven free trade agreements (FTAs) since 1998 and finds that more generous TAA increases the propensity of some representatives to vote in favor, but that nine of eleven FTAs in the sample still would have passed in the absence of TAA. James Lake and Daniel L. Millimet. “An Empirical Analysis of Trade-Related Redistribution and the Political Viability of Free Trade,” *Journal of International Economics* 99 (2016): 156–78.

108. For more details, see Benjamin Collins, “Trade Adjustment Assistance for Workers and the TAA Reauthorization Act of 2015,” Congressional Research Service, R44153, August 14, 2018.

109. A special NAFTA assistance program was set up in 1994, relating only to those affected by trade with Canada and Mexico. Under this program, workers could receive benefits even as a result of trade diversion. In other words, if NAFTA diverts trade to Mexico in such a way that higher imports from Mexico substitute for lower imports from another country, workers may be eligible for assistance. As long as Mexican imports have increased, no causal link from NAFTA to the job loss is required. For example, when a sawmill in the state of Washington shut down because federal forestlands were declared off-limits to save the spotted owl, the 135 workers affected were declared eligible for NAFTA-TAA because timber imports from Canada subsequently increased. See Bill Richards, “Shaky Numbers: Layoffs Not Related to NAFTA Can Trigger Special Help Anyway,” *Wall Street Journal*, June 30, 1997, A1.

sector. Traditionally, the top states receiving TAA benefits are Pennsylvania, Michigan, North Carolina, Ohio, and Wisconsin. In June 2015, Congress enacted the Trade Adjustment Assistance Reauthorization Act of 2015, which established a set of TAA eligibility and benefit provisions through June 2021. In fiscal year 2017, the Labor Department spent about \$716 million on trade adjustment programs.<sup>110</sup> Appropriations for TAA in fiscal year 2018 were \$790 million, of which \$450 million was for training and reemployment services and \$340 million was for income support and other benefits.

These expenditures are a fraction of total spending on unemployment insurance. The program is inexpensive because few workers are actually involved in it. This is because many workers declared eligible for TRA do not necessarily collect benefits. In fact, usually less than half of all workers who are declared eligible for some form of trade adjustment assistance actually take advantage of it. This is because workers are either rehired or reemployed in the interim, receive union compensation, or do not wish to enroll in a training program.

While the budgetary outlays are relatively small, the TAA program is not without costs. Workers provided with benefits over a longer period of time do not have an incentive to find a new job quickly. And prolonging the period of unemployment—as the TAA does—does not usually result in better labor market matches for those workers. In fact, to say that TAA is imperfect is an understatement: It actually does harm, according to an external review of the program commissioned by the Labor Department and conducted by the respected consulting firm Mathematica Policy Research. Their 2012 report concluded that “the net benefit to society of the TAA program as it operated under the 2002 amendments was negative \$53,802 per participant.”<sup>111</sup> The net cost to participants was a whopping \$26,837 per participant because they earned lower wages than those in a match comparison group. The net cost to the rest of society was \$26,965 per participant, which included program costs and the training and reemployment costs. However, this calculation did not take into account the possibility that TAA made freer trade

110. U.S. Department of Labor, <http://www.doleta.gov/tradeact/>.

111. Sara Dolfin and Peter Z. Schochet, “The Benefits and Costs of the Trade Adjustment Assistance (TAA) Program under the 2002 Amendments,” Document No. PR12-85, Mathematica Policy Research, December 2012, i. The estimated program impacts were determined by comparing TAA participants who filed for unemployment insurance benefits to a matched comparison group of unemployment insurance claimants in the manufacturing sector living in the same or similar local areas who were not eligible for the program. The net cost was lower if the comparison group was other non-TAA workers who had exhausted their unemployment insurance.

policies more politically feasible and therefore those gains from trade should be included in the calculation. The study noted that “if TAA made even a relatively modest contribution to the ease of enacting free trade policies, the program’s total benefits would outweigh its costs.”<sup>112</sup>

Other studies offer little grounds for thinking that the TAA has a positive impact.<sup>113</sup> Unfortunately, these relatively bleak assessments are not unique to TAA: There is little evidence that any government training program works well. After studying many such training programs, the OECD reached the sober conclusion that “broad training programs aimed at large groups of the unemployed have seldom proved a good investment, whether for society or for the program participants.”<sup>114</sup>

One 2018 analysis is a little more optimistic. In studying two decades of worker-level earnings and reemployment responses to TAA assistance, it finds that the initial returns to participating in TAA programs is large: Workers who take up benefits forgo roughly \$10,000 in income while training, yet ten years later they have approximately \$50,000 higher cumulative earnings relative to other workers who do not retrain. About a third of these returns are driven by higher wages, which suggests that TAA-trained workers are not just compensated through greater labor force participation or higher priority in job queues. Yet this initial boost decays over time such that annual incomes among TAA and non-TAA workers fully converge after ten years. Still, there is income support over that ten-year transition period.<sup>115</sup>

Thus, as currently designed, TAA is far from ideal. To the extent that the program merely provides an incentive for trade-displaced workers to remain unemployed for a longer period of time than other displaced workers, it fails to help workers or improve economic efficiency. This leaves policymakers

112. Dolfin and Schochet, “The Benefits and Costs of the Trade Adjustment Assistance (TAA) Program under the 2002 Amendments,” 69.

113. One study found no evidence that TAA recipients had better employment outcomes than comparable non-TAA individuals. However, the TAA recipients who went through a training program did do better than TAA recipients who received a waiver and did not go through such a program. Kara M. Reynolds and John S. Palatucci, “Does Trade Adjustment Assistance Make a Difference?,” *Contemporary Policy Issues* 30 (2012): 43–59.

114. Organization for Economic Cooperation and Development, *The OECD Jobs Study: Facts, Analysis, Strategy*, Paris: OECD, 1994, 37. See also David Card, Jochen Kluve, and Andrea Weber, “Active Labour Market Policy Evaluations: A Meta-Analysis,” *Economic Journal* 120 (2010): F452–77. This 2010 work looks at ninety-seven studies between 1995 and 2007 on training programs and offers cautious support for the idea that they can improve labor market outcomes.

115. Benjamin G. Hyman, “Can Displaced Labor Be Retrained? Evidence from Quasi-Random Assignment to Trade Adjustment Assistance,” unpublished paper, Wharton School, University of Pennsylvania, 2018.

in a frustrating dilemma: Some workers are definitely being harmed by imports, and yet government programs have failed to help them. So how should the system be changed? Some argue that the training requirement should be dumped: Workers do not seem to like it, and it seems to provide little economic value. The benefits should not be tied to time out of work because doing so only prolongs the period of unemployment. Since it is not the case that a longer search leads to a better job match for workers, assistance programs should encourage quick reemployment.

The 2002 trade adjustment assistance legislation contained an interesting pilot program—wage insurance—that merits greater study. Because the current TAA discourages work and fails to compensate for income losses, and since payments cease when a worker takes a lower-paying job, time-limited earnings insurance was introduced to provide compensation while preserving the incentive to find work. This alternative trade adjustment assistance (ATAA) gives selected workers over fifty years old cash benefits equal to 50 percent of the difference between their old pay and their new pay (capped at \$10,000) if they are reemployed at a lower wage within twenty-six weeks of being laid off and earn less than \$50,000 in their new job. Under this scheme, workers would receive these special payments only when they became reemployed.

Any proposal that seeks to provide compensation while preserving the incentive of workers to find employment is worth exploring. Unfortunately, we have limited information about how well the wage insurance idea has worked.<sup>116</sup> Other public policies geared toward helping workers best manage their lives in this period of rapid economic change include such things as ensuring the portability of health and pension benefits, in order to reduce the adverse impact of changing jobs, which must inevitably happen in an ever-changing economy. Other recently discussed schemes, such as universal basic income, could take the place of unemployment compensation or worker retraining programs.

Still other proposals suggest that we pursue “place based” economic policies. In recent years, some parts of the United States have done well (many cities and the coasts) while other parts of the country have done poorly (rural areas and the Rust Belt). One mechanism for adjusting to adverse shocks in the past has been the movement of people from declining areas to growing areas. That is no longer happening as much because of declining

116. Stephen Wandner, “Wage Insurance as a Policy Option in the United States,” Upjohn Institute Working Paper 16-250, Upjohn Institute for Employment Research, 2016.



labor mobility. If workers in declining regions are not willing to move to areas with better economic opportunities, perhaps better economic opportunities have to be brought to them. That could be done by encouraging capital investment and other place-based measures to encourage new investment and enterprise formation. The jury is still out about the effectiveness of enterprise zones and other policies to bring new economic life to declining towns and regions.<sup>117</sup>

The lamentable conclusion is that there is no easy solution and no obvious government policy that can address all of the concerns of workers adversely affected by economic change, whether because of imports or new technology. Trade adjustment assistance has not worked as promised and may even be an impediment to economic efficiency. A broader government program to help displaced workers should be examined and might be a small price to pay to reduce anxieties about trade and maintain political support for open markets.<sup>118</sup> But even if such a program is affordable and gets the incentives right, there is absolutely no guarantee that demands for import barriers by labor groups in import-competing sectors (such as the steelworkers union) will diminish. Even if fully compensated for losing their jobs, these workers simply may not want to move to a different job in a different location when there is a chance they can stay employed where they are by pressuring government to stop imports.

117. Benjamin Austin, Edward Glaeser, and Lawrence Summers, "Jobs for the Heartland: Place-Based Policies in 21st-Century America," *Brookings Papers on Economic Activity* 1 (2018): 151–255; Jay Shambaugh and Ryan Nunn, eds., *Place-Based Policies for Shared Economic Growth*, Washington DC: Hamilton Project, Brookings Institution, September 2018.

118. For further discussion, see International Monetary Fund, World Bank, and World Trade Organization, *Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment*, April 2017, available at <https://www.imf.org/en/Publications/Policy-Papers/Issues/2017/04/08/making-trade-an-engine-of-growth-for-all>.



# 5

## Trade Remedies and Relief from Foreign Competition

We have seen how trade policies aimed at reducing imports can also reduce exports and employment elsewhere in the economy. Yet import restrictions are often justified as a way of providing relief to industries suffering from “unfair” foreign competition, particularly dumping and subsidies, and in cases that might affect national security. The antidumping law allows tariffs to be imposed on low-priced imports and has become the primary instrument for addressing such concerns. This chapter examines antidumping actions and asks whether they provide a remedy for unfair trade or are merely a convenient mechanism for an industry to protect itself from imports. We also look at countervailing duties, which address foreign subsidies, and the escape clause, which can provide industries with temporary relief from imports without the claim of unfairness. In addition, the Trump administration has dusted off an old statute that allows the president to impose duties on imports that may impair national security. Finally, we examine whether trade protection really helps industries adjust to new competition by becoming more competitive, or whether it simply increases costs to consumers and delays the adjustment process.

### Unfair Trade: Subsidies and Dumping

We are all familiar with the claim that imports cost jobs. But many people are also afraid that American industries are being harmed by unfair trade

practices by foreign countries. These include export subsidies and the dumping of goods at low prices that divert sales away from U.S. firms. To counter such practices, the United States enforces several “fair trade” laws that allow import tariffs to be imposed. For example, when a foreign government subsidizes its exports to the United States, the subsidy is considered to be an actionable unfair trade practice if it injures domestic producers.

Of course, from a strictly economic point of view, an importing country might well benefit from receiving subsidized goods. Even if the subsidy harms domestic producers, the subsidy allows the importing country to purchase imports at a lower price, thanks to the generosity of foreign taxpayers. By improving the terms of trade, the foreign subsidy adds to the domestic gains from trade. For example, domestic oil producers would be understandably upset if the Organization of Petroleum Exporting Countries (OPEC) decided to subsidize its oil exports to the United States, but the country as a whole would probably welcome the lower gas prices that would follow. If Mexico decided to subsidize its avocado producers, guacamole fans and avocado toast consumers around the world would rejoice.

But export subsidies, not domestic subsidies that have a specific economic rationale, are not desirable from the standpoint of the world economy. For one thing, such subsidies cut into the exports of countries that have a natural comparative advantage in those products and so distort the world’s allocation of resources. Subsidies also generate political friction among trading partners, each viewing the other’s government as putting its finger on the scales of international competition to tip the outcome toward its own favored producers.

The United States does not usually subsidize its exports. However, the federal government does have an Export Credit Guarantee Program that helps finance farm exports. In addition, the Export-Import Bank (EXIM) provides loans and credit guarantees for U.S. exporters, with most of its dollar support going to large exporters such as Boeing and General Electric. In recent years, the bank has been hobbled by political controversy. The bank was attacked in Congress for providing “corporate welfare” and nearly abolished; it has not been fully functional since 2014.<sup>1</sup>

1. Since July 2015, EXIM has not been able to approve transactions of greater than \$10 million because of the lack of a quorum on the Board of Directors. In fiscal year 2018, EXIM could only provide financing for transactions of \$10 million and less, which were approved by senior staff and delegated-authority lenders. The bank authorized \$3.3 billion of mainly short-term export credit and working capital guarantees and nearly \$2.2 billion of small business authorizations, substantially lower than what it provided prior to 2015. Back in fiscal year 2013, for example,

Other countries, however, have stepped up their subsidy programs in recent years. The Export-Import Bank's report to Congress on global export credit competition in 2018 notes that China provided \$36.3 billion in medium- and long-term financing for China's exports, compared to \$25 billion just five years ago. The export credit agencies of five countries (China, India, Korea, Italy, and Germany) provided about \$70 billion in support of their exporters.<sup>2</sup>

Because of its long-standing opposition to export subsidies, the United States led the effort to draw up an Agreement on Subsidies and Countervailing Measures among the membership of the World Trade Organization (WTO). The agreement establishes rules on permissible types of subsidies and tries to ensure that such subsidies will not distort trade. Under the agreement, export subsidies and subsidies to industries that compete against imports are prohibited in principle, but subsidies related to research and development, regional development, and environmental compliance purposes are permissible.

In the United States, domestic firms have legal recourse against subsidized imports. The remedy takes the form of tariffs known as countervailing duties (CVDs). Domestic firms initiate the legal process by filing a petition with the Department of Commerce and the U.S. International Trade Commission (ITC) alleging that imports have been subsidized by a foreign government. If the Commerce Department determines that the imports have in fact been subsidized and if the ITC decides that the domestic industry has been injured as a result of the imports, tariffs of the magnitude of the subsidy margin (as determined by Commerce) will be imposed.

In recent years the CVD process has been rarely invoked by domestic firms. This is not because foreign countries are subsidizing fewer of their exports to the United States. Rather, a more likely explanation is that domestic firms have found other ways to prevent such exports from entering the U.S. market. And in fact domestic firms find it much easier to obtain protection by accusing foreign firms of "dumping" than by proving the existence of foreign subsidies, which are sometime hidden.

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EXIM authorized \$27 billion in support to U.S. exporters through loans, guarantees, and export credit insurance. See Export-Import Bank of the United States, Annual Report 2018, <https://www.exim.gov/news/reports/annual-reports>. There is little evidence that the bank has a significant effect on exports; see Natasha Agarwal and Zheng Wang, "Does the U.S. EXIM Really Promote U.S. Exports?," *World Economy* 41 (2018): 1378–414.

2. Export-Import Bank of the United States, <https://www.exim.gov/news/reports/competitiveness-reports>.

From the standpoint of domestic firms seeking protection from imports, antidumping is where most of the action is. The number of dumping cases swamps those of other trade remedies: in recent years, roughly five antidumping cases have been initiated for every CVD case. As of mid-2019, the United States had countervailing duties in place on 125 products but maintained antidumping duties on 369 products.<sup>3</sup> This emphasis on antidumping instead of countervailing duties exists around the world as well. In 2017, WTO members initiated 41 new countervailing duty investigations and 249 new antidumping investigations. As of mid-2018, 45 leading members of the WTO had 1,854 antidumping measures (definitive duties and undertakings) in force, up from 1,675 the previous year.<sup>4</sup> What exactly is going on here?

Dumping has been deemed an unfair trade practice by country authorities and world trade agreements, and the antidumping law is intended to combat it. Yet the gap between the rhetoric and the reality of antidumping trade policy is enormous. Dumping sounds awful, as though foreign goods were being unloaded on America's docks and priced below cost to force domestic firms out of business. But under the law, dumping simply means that a foreign exporter charges a lower price in the U.S. market than it does in its home market. This is nothing more than price discrimination. But if the foreign exporter is found guilty, the United States can impose import duties to offset the difference.

Figure 5.1 shows the annual number of U.S. antidumping investigations since 1970. As is evident, the number of investigations is quite cyclical. Fluctuations in antidumping activity are related to such factors as the exchange rate and the unemployment rate; in particular, an appreciation of the dollar and a higher unemployment rate increase the number of cases.<sup>5</sup> The number of petitions filed has dropped off in recent years because some major sectors, such as the steel and chemical industries, have not been using it to block imports as much as they had in the past.

While the details of antidumping (AD) are quite complex, it is important to have a basic understanding of how the law works and why it causes

3. U.S. International Trade Commission, [http://www.usitc.gov/trade\\_remedy/documents/orders.xls](http://www.usitc.gov/trade_remedy/documents/orders.xls) (accessed August 1, 2019).

4. World Trade Organization, Annual Report 2019, 75–76.

5. Douglas A. Irwin, "The Rise of U.S. Antidumping Actions in Historical Perspective," *World Economy* 28 (2005): 651–68; Chad P. Bown and Meredith A. Crowley, "Import Protection, Business Cycle, and Exchange Rates: Evidence from the Great Recession," *Journal of International Economics* 90 (2013): 50–64.

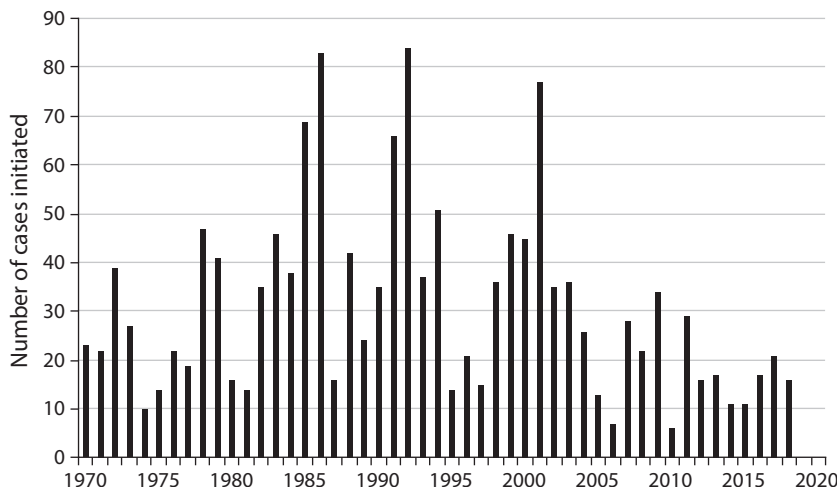


FIGURE 5.1. Annual Number of U.S. Antidumping Investigations, 1970–2018

Source: International Trade Administration, U.S. Department of Commerce (<https://enforcement.trade.gov/stats/inv-initiations-2000-current.html>).

problems for world trade.<sup>6</sup> In the United States, the AD process is activated when a domestic industry, represented by an industry association or in some cases just a single firm, files a petition with the Commerce Department and the International Trade Commission. The petitioners must have legal standing to file a petition. (In 1999, for example, Commerce rejected an antidumping petition filed by a group of Texas oil producers against Saudi Arabia, Mexico, Venezuela, and Iraq on the grounds that the petitioners did not represent the entire domestic industry.) The legal fees associated with filing an AD case typically amount to about \$1 million, although more complex cases can cost several million dollars.<sup>7</sup>

The Commerce Department determines whether dumping has occurred and, if so, calculates the dumping margin. Specifically, Commerce ascertains whether a foreign exporter made sales in the United States at prices

6. For a survey of academic research on the effects of antidumping duties, see Bruce A. Blonigen and Thomas J. Prusa, “Dumping and Antidumping Duties,” in *Handbook of Commercial Policy Volume 1, Part B*, edited by Kyle Bagwell and Robert W. Staiger, Amsterdam: North Holland, 2016, 107–59.

7. In the early 1990s, the International Trade Commission surveyed petitioners and found a simple petition would cost about \$250,000. The price is much higher today, particularly if the petitioner wants the law firm to provide additional support for the petition. U.S. International Trade Commission, “The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements,” Investigation No. 332–344, Publication 2900, June 1995, 4–3.

that are at “less than fair value.” Sales are “less than fair value” if the export price—that is, the price charged in the U.S. market—is less than the so-called normal value. The normal value is determined one of three ways: by the price charged by the foreign exporter in its home market sales, by the price it charged in third-country sales, or by constructed value, which is an estimate of what the price should have been, based on the costs of production plus administrative expenses and a profit margin. The dumping margin is simply the difference between the export price (the price charged in the United States) and the determined normal value divided by the export price. For example, if a foreign firm exports a good to the United States for \$80 but charges \$100 in its own market, then the dumping margin is 25 percent, or  $(100 - 80) / 80$ .

After receiving a petition, Commerce almost always rules that dumping has occurred. In only seven cases out of the roughly four hundred that it considered from 2000 to 2014 did the Commerce Department dismiss a petition on the grounds that there was no dumping. This means that it found dumping in more than 98 percent of all cases. And the dumping margins are usually large: The average AD duty is in the range of 50 percent.<sup>8</sup> However, the average dumping margin varies widely depending on the method used to calculate the normal value. As table 5.1 shows, during the 1995 to 1998 period, the average margin on (affirmative) cases that compared the U.S. price to the exporter’s home market price was just 7.36 percent. When Commerce compared the U.S. price to its constructed value, the average margin was 35.7 percent. In cases involving nonmarket economies, such as China, the average margin was about 67 percent. In cases using “facts available,” in which Commerce essentially accepted the data presented by the petitioner, the average margin was nearly 96 percent. Because of a greater reliance on the constructed value method over the price comparison method, the average dumping margin has steadily increased over time.

When U.S. prices are compared to actual foreign market prices rather than to some constructed value, the dumping margins appear to be quite low. Yet even when a foreign firm charges exactly the same price in the U.S.

8. See Bruce A. Blonigen, “Evolving Discretionary Practices of U.S. Antidumping Activity,” *Canadian Journal of Economics* 39 (2006): 874–900; Brink Lindsey and Dan Ikenson, *Antidumping Exposed: The Devilish Details of Unfair Trade Law*, Washington, DC: Cato Institute, 2003, 26. The average antidumping duty imposed has risen over time. The average duty was 22 percent in the period from 1981 to 1983 and 56.8 percent in the period from 1991 to 1995; see Congressional Budget Office, “Antidumping Action in the United States and Around the World: An Analysis of International Data,” June 1998, 25.

TABLE 5.1. Antidumping Margins and Calculation Method, 1995–98

Calculation Method	Determinations (Affirmative Only)	Average Dumping Margin (Affirmative Only)
U.S. prices to home market prices	4 (2)	4.00% (7.36%)
Constructed value	20 (14)	25.07% (35.70%)
Nonmarket economy	47 (28)	40.03% (67.05%)
“Facts available”	36 (36)	95.58% (95.58%)
Total	141 (107)	44.68% (58.79%)

Source: Brink Lindsey and Dan Ikenson, *Antidumping Exposed: The Devilish Details of Unfair Trade Law*, Washington, DC: Cato Institute, 2003, 26.

Note: Not all methods shown.

market as in its home market, Commerce has still been able to find dumping because of a method called “zeroing.” To illustrate zeroing, consider this simple example. Suppose a foreign firm always charges \$100 for a product in its home market, but its export price to the U.S. market fluctuates and is \$90, \$100, and \$110 in different transactions or at different times. On average, the prices in the two markets are the same at \$100, so you might think that there is no dumping margin. In only one transaction, or in one time period, when the export price is \$90, is there “dumping.” But the Commerce Department can still find a dumping margin of 11 percent (10/90) because it looks only at that one observation. It ignores—or zeroes out, hence the term “zeroing”—observations in which there is no dumping margin or the export price is higher than the exporter’s domestic price.

Of course, this method of comparing the *average* of the exporter’s home market prices to the prices charged on *individual* sales in the United States (and dropping inconvenient observations) guarantees a finding of dumping, if prices change over time. The zeroing method inflates the dumping margin and does not give the foreign exporter any credit for a negative dumping margin on some sales. As one trade economist has put it, zeroing is “a highly controversial accounting trick that creates [dumping] margins out of thin air.”<sup>9</sup> America’s trading partners have strongly objected to this practice. In several cases brought to the WTO dispute settlement system, panels have

9. Thomas J. Prusa, “Are the Unfair Trade Laws Fair?,” *Harvard Economics Review* (2016): 27–30.

ruled that zeroing violates the WTO's rules on antidumping. But the Commerce Department seems reluctant to change. Although the agency states that it has complied with the WTO verdict and no longer uses zeroing, its policy now is to look for "targeted" dumping, which is another way of saying that it will look only for those periods or those transactions where the export price is lower than the home market price.<sup>10</sup>

Yet something is also amiss when a method other than the price comparison approach is employed. When Commerce is unable to collect enough data on the exporter's home market prices, it may resort to the constructed value method. When Commerce undertakes a constructed value calculation, it attempts to estimate the foreign exporter's costs of production plus an allowance for administrative, selling, and general expenses and profits. Before 1995, U.S. antidumping practice was to augment the estimated costs of production by at least 10 percent for administrative expenses and at least 8 percent for profits.<sup>11</sup> Under the WTO's Agreement on Antidumping, the Commerce Department cannot tack on these arbitrary amounts to the estimated costs but must use the actual administrative expenses and the actual profit, when available. However, there is still room for Commerce to use questionable numbers and thereby raise the dumping margin.

When dealing with nonmarket economies such as China, Vietnam, Belarus, and a few others, where prices may not be market-determined, Commerce estimates production costs using wage rates and other factor costs from a surrogate country with a similar level of economic development. For example, in estimating China's costs of producing stainless-steel sinks in 2011, Commerce used the cost of production in Thailand and came up with a dumping margin of 33.5 percent. A year later, in estimating China's costs of producing silica bricks, Ukraine was chosen as the surrogate country, and the dumping margin was 63.81 percent. In a 2012 case involving steel wheels from China, the surrogate country was Indonesia, and the dumping margins ranged from 44.96 percent to 193.54 percent, with most firms at 63.94 percent. A dumping margin of 63 percent implies that the Chinese firms were generously selling their product for just two-thirds of their

10. See Dan Ikenson, "Zeroing In: Antidumping's Flawed Methodology under Fire," Center for Trade Policy Studies *Free Trade Bulletin* 11, Cato Institute, April 27, 2004; Chad P. Bown and Thomas J. Prusa, "U.S. Antidumping: Much Ado about Zeroing," in *Waiting on Doha*, edited by Aaditya Mattoo and William J. Martin, Washington, DC: World Bank, 2011; and James C. Hartigan, "It's Baaaack: Zeroing, the U.S. Department of Commerce, and U.S. - Shrimp II (Viet Nam)," *World Trade Review* 15, no. 2 (2016): 287–302.

11. Congressional Budget Office, "Antidumping Action in the United States and Around the World," 31.



“normal” value. Such high dumping margins are typical in cases involving China.<sup>12</sup>

The International Trade Commission’s role in an antidumping case is to determine if the domestic industry has suffered or is threatened with “material injury” as a result of the less-than-fair-value imports. The definition of material injury, according to the law, is “harm which is not inconsequential, immaterial, or unimportant.”<sup>13</sup> Only the harm to the competing industry is considered, not any harm or injury to consumers or other domestic industries that can result from the imposition of antidumping duties.

While Commerce almost always finds dumping, the injury determination is a more difficult hurdle for the domestic petitioner to clear. This is because of the injury standard itself and because the ITC is a quasi-independent agency (as opposed to Commerce, which is typically an advocate of the domestic industry in the process). Still, the ITC ruled affirmatively in about 83 percent of final determinations during the period from 1999 to 2002.<sup>14</sup> Economic factors such as changes in the industry’s output, employment, and capacity utilization are the main determinants of a favorable injury finding. But political factors, such as whether the industry is a constituent of the chairman of the ITC’s congressional oversight committee, also appear to matter.<sup>15</sup>

If dumping is found to exist and the domestic industry is deemed to have suffered material injury, then antidumping duties are imposed. As of September 2019, the United States had 374 AD duty orders in effect on goods coming from 50 countries. The main targets of AD duties are China

12. In another case using the constructed value method, the U.S. Department of Commerce once determined (with apparent precision) that natural bristle paintbrushes from China were sold at less than their fair value with a dumping margin of 351.9 percent, and it imposed tariffs of the same amount. In July 2008, Commerce ruled that the dumping margin on sodium nitrite from China was 190.74 percent. The finding of such high dumping margins is not limited to non-market economies. In June 2003, in a case involving polyethylene retail carrier bags (PRCBs), otherwise known as the thin plastic shopping bags one finds at grocery stores, the Commerce Department found margins as high as 123 percent for Thailand, 102 percent for Malaysia, and 77 percent for China.

13. U.S. House of Representatives, *Compilation of U.S. Trade Statutes: 2013 Edition*, Committee Print 113–2, Washington, DC: GPO, 2013, 208.

14. Lindsey and Ikenson, *Antidumping Exposed: The Devilish Details of Unfair Trade Law*, 3. The ITC ruled affirmatively in 66 percent of final determinations during the period from 1980 to 1992. Congressional Budget Office, “Antidumping Action in the United States and Around the World,” 50.

15. See the survey by Bruce A. Blonigen and Thomas J. Prusa, “Antidumping,” in *Handbook of International Trade*, edited by E. Kwan Choi and James Harrigan, Oxford: Blackwell, 2003.

(129), Taiwan and Korea (26 each), India (24), and Japan (19). More than 40 percent of the duties are on iron and steel products, with chemicals a distant second. AD orders affect such goods as ball bearings from Japan and the United Kingdom; raw in-shell pistachios from Iran; steel nails from China and the United Arab Emirates; stainless-steel butt-weld pipe fittings from Italy, Malaysia, and the Philippines; preserved mushrooms from Italy, Chile, China, India, and Indonesia; frozen warm-water shrimp and prawns from Thailand, India, Brazil, and China; and large residential washers from Korea and Mexico. China is singled out for duties on its exports of electric blankets, fresh garlic, paper clips, cased pencils, tissue paper, ironing boards, crepe paper, and hand trucks, to name just a few.<sup>16</sup>

Of course, the United States is hardly alone in imposing antidumping duties. Between 1995 and 2018, India imposed the most antidumping measures (693) in the world, followed by the United States (468), the European Union (328), Brazil (260), Argentina (254), and China (220).<sup>17</sup>

What happens when AD duties are imposed? Not surprisingly, imports fall sharply. Looking at table 5.2, we can see that imports subjected to AD duties of over 50 percent fell 73 percent in volume and rose 33 percent in price, on average, from the year before the petition to the year after the petition. Imports subject to AD duties in the 20 to 50 percent range fell 22 percent in volume and rose 2 percent in price. The ITC study on which the table is based also found that developing countries were disproportionately harmed by AD duties: the quantity of their imports tended to fall over twice as much as imports from developed countries.<sup>18</sup>

To a large extent, however, imports from countries not subject to the AD duties fill the void left by those smacked with the AD duties, something known as *trade diversion*. Because AD duties are imposed only on imports from countries named in the petition, the market is left open to others who can produce similar products. Table 5.3 indicates that while imports from countries affected by the AD duties fell by 32 percent, imports of the same product from countries not subject to the duties rose 24 percent.

16. For updated statistics and information on the administration of U.S. antidumping laws, see <http://enforcement.trade.gov/stats/iastats1.html> and [http://www.usitc.gov/trade\\_remedy/731\\_ad\\_701\\_cvd/investigations/active/index.htm](http://www.usitc.gov/trade_remedy/731_ad_701_cvd/investigations/active/index.htm).

17. World Trade Organization data, [https://www.wto.org/english/tratop\\_e/adp\\_e/AD\\_MeasuresByRepMem.pdf](https://www.wto.org/english/tratop_e/adp_e/AD_MeasuresByRepMem.pdf) (accessed August 1, 2019).

18. Since China is the target of many antidumping actions, studies have focused on how such duties affect China's exporters; see Guobing Shen and Xiaolan Fu, "The Trade Effects of U.S. Antidumping Actions against China Post WTO Entry," *World Economy* 37 (2014): 86–104.

TABLE 5.2. Trade Effects of Antidumping Duties Comparing Year Prior and Following Initiation of AD Investigation, 1989–93

Antidumping Duties	Import Volume	Import Price (Unit Value)
Over 50%	–73%	33%
Between 20% and 50%	–22%	2%
Under 20%	–16%	–10%
Nonaffirmative decision	–3%	3%

Source: U.S. International Trade Commission, “The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements,” Investigation No. 332–344, Publication 2900, June 1995, 3–9.

Note: Import price effect does not include the antidumping duties.

TABLE 5.3. Evidence of Trade Diversion in Antidumping Actions, 1989–93

	Import Volume	Import Price (Unit Value)
Affirmative, subject country	–32%	5%
Affirmative, nonsubject country	24%	–5%
Nonaffirmative, subject country	–24%	4%
Nonaffirmative, nonsubject country	19%	–3%

Source: U.S. International Trade Commission “The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements,” Investigation No. 332–344, Publication 2900, June 1995, 3–15.

Note: Affirmative denotes cases in which antidumping duties were imposed, “subject” refers to imports subject to the duties, and “nonsubject” indicates imports from other countries or firms not subject to the duties.

Antidumping petitions are thus often filed sequentially to squash the imports that arise from other sources as a result of the initial antidumping action. For example, Micron Technology, a producer of dynamic random access memory (DRAM) computer chips in Boise, Idaho, filed an AD petition against DRAM imports from Japan in 1985. After the imposition of restrictions on Japanese exports, foreign DRAM production shifted to South Korea, and so Micron filed an AD petition against Korean producers in 1991. After Korean exports were similarly restricted, Taiwanese producers entered the market, and so Micron filed an AD petition against DRAM exports from that country in 1998. The story is similar in the case of salmon. Antidumping duties were imposed against imports of fresh salmon from Norway in 1991. After Chile began to develop its fishing industry and filled the void left by the Norwegians, Chile, too, was hit with AD duties in 1998.

The simplest way for domestic petitioners to avoid this problem is to file multiple petitions against several sources. When the Coalition for Fair

Preserved Mushroom Trade filed an AD petition concerning imports of preserved mushrooms in 1998, for example, it targeted imports from Chile, China, India, and Indonesia all at the same time. In 2004, the Shrimp Trade Action Committee filed a case on fresh and canned warm-water shrimp against Brazil, Ecuador, India, Thailand, China, and Vietnam. In 2014, the U.S. Steel Corp. and several other companies filed a case on “certain oil country tubular goods” coming from India, South Korea, the Philippines, Saudi Arabia, Taiwan, Thailand, Turkey, Ukraine, and Vietnam.

Congress facilitated the move toward multiple filings by changing the law in 1984. Before then, the injury determination was conducted on a country-by-country basis, even if multiple petitions were filed. After the 1984 change, the ITC had to consider the combined impact of imports from all named countries on the domestic industry. The cumulation provision is estimated to have raised the probability of an affirmative decision by 20 to 30 percent, thereby changing the ITC’s determination from negative to positive in one-third of such cases.<sup>19</sup> This, in turn, has given petitioners an additional incentive to file petitions against multiple countries.

Sometimes petitioners exclude certain countries from petitions as a matter of corporate strategy. For example, in 1994, the Maui Pineapple Company in Hawaii filed an AD petition against imports of canned pineapples from Thailand, resulting in the imposition of AD duties up to 51 percent, depending on the company. Thailand’s canned pineapple exports to the United States fell from \$101 million in 1993 to \$51 million in 1997. Over the same period, imports of canned pineapple from Indonesia jumped from \$9 million to \$51 million because that country’s exports were not subject to AD duties. But Maui did not file an AD petition against Indonesian imports because at that time it was forming a joint venture with one of the country’s largest pineapple producers. Similarly, in 1994 Bic filed a petition alleging that disposable lighters from China and Thailand were being dumped in the U.S. market, but it did not include Mexico in the petition because Bic had a factory there.<sup>20</sup>

It is important to note that trade diversion occurs even in cases where the final ITC injury decision is negative and no duties are imposed. Even when the domestic industry was found not to have suffered injury, imports from countries that had been the target of the case fell 24 percent on average,

19. Wendy L. Hansen and Thomas J. Prusa, “Cumulation and ITC Decision-Making: The Sum of the Parts Is Greater Than the Whole,” *Economic Inquiry* 34 (1996): 746–69.

20. *Rushford Report*, September 1999, 3.

while imports from countries not targeted rose 19 percent. Thus, simply filing an antidumping petition can reduce imports from targeted sources even if duties are not imposed. According to one study, when a petition is ultimately rejected, imports from the countries named in the petition fall by about 15 to 20 percent, whereas if the petition is accepted, imports fall about 50 to 70 percent.<sup>21</sup>

A reason for this “chilling effect” on imports is the uncertainty surrounding the AD process. If dumping is found, domestic importers will be liable for the payment of dumping duties after Commerce issues its preliminary determination. To minimize their potential financial exposure, importers quickly stop purchasing from the foreign suppliers named in the petition. There is also an “investigation effect” on imports when an antidumping petition is filed: before Commerce has even made a preliminary determination about dumping, import volumes fall and prices rise by about one-half of the full effect of imposing duties.<sup>22</sup>

As if there was not already sufficient incentive for firms to file antidumping petitions, Senator Robert Byrd (D-West Virginia) opened the door to more mischief in the fall of 2000. Senator Byrd slipped into an agricultural appropriations bill a provision that hands over all the revenue from antidumping duties to the petitioning industry. During the period that the Byrd amendment was in effect, petitioning firms were not only able to charge domestic consumers higher prices for their products, but also received a check from the government for a share of the tariff revenues.

The Byrd amendment led to a scramble for government cash, particularly because the legislation was retroactive. The federal government distributed \$560 million to 1,200 firms in 2001–2002. The chief beneficiaries were two ball-bearing companies whose lawyers helped write the Byrd legislation. Torrington Company received \$63 million in Byrd money in 2001 but sought reimbursements of \$23.4 billion (its sales in 2001 amounted to \$1.1 billion).<sup>23</sup> The Byrd provision encouraged domestic firms to become bounty hunters and start filing AD petitions to receive tariff revenue payments from the government. Studies have shown that this increased the incentive to file petitions by a significant margin.<sup>24</sup>

21. Thomas J. Prusa, “On the Spread and Impact of Antidumping Duties,” *Canadian Journal of Economics* 34 (2001): 591–611.

22. See Blonigen and Prusa, “Dumping and Antidumping Duties.”

23. Neil King, “Trade Imbalance: Why Uncle Sam Wrote a Big Check to a Sparkler Maker,” *Wall Street Journal*, December 5, 2002.

24. Kara Reynolds, “Subsidizing Rent-Seeking: Antidumping Protection and the Byrd Amendment,” *Journal of International Economics* 70 (2006): 490–502.

However, in a dispute initiated by the European Union (EU) and seven other countries, a WTO panel ruled in 2002 that the subsidy was inconsistent with the multilateral rules, a finding affirmed by the WTO's appellate body in 2003. In 2005, Congress repealed the Byrd amendment but still allowed the distribution of antidumping tariff revenue to members of the affected U.S. industry that supported the petition for investigation on goods that entered before October 2007. In total, the government disbursed some \$1.9 billion in revenue to petitioners. However, the issue is still alive: the original complainants have charged that the United States has not fully complied with the WTO ruling, and some members of Congress want to reenact the Byrd amendment.

### **The Costs of Antidumping**

Despite the apparent ease with which domestic firms can obtain some form of protection under the antidumping laws, only a tiny fraction of the value of U.S. imports are covered by AD duties—just \$14 billion in fiscal year 2016, out of roughly \$2.7 trillion in imports that year.<sup>25</sup> And in any given year, the value of imports targeted by antidumping petitions is usually much less than this amount. Given these small figures, is antidumping worth worrying about?

Antidumping continues to merit close scrutiny for several reasons. First, these tariffs quickly add up, and the costs are only going to mount over time as more cases are filed. This is because AD duties are hard to remove once they are imposed. The average duration of an AD measure in place at the end of 2017 was about eleven years, and nearly 20 percent of the duties had been in place for more than twenty years. The longest-lasting antidumping measure in place dates from 1977 regarding pressure-sensitive plastic tape from Italy; a measure on prestressed concrete steel wire strand from Japan dates from 1978.<sup>26</sup>

Starting in 1995, the United States and other WTO members were required to conduct a “sunset” review of their antidumping orders. All AD duties had to be terminated after five years unless a review found that this would lead to a recurrence of dumping and injury. Yet if the domestic petitioning industry objects to the expiration of the duties, the Commerce

25. World Trade Organization, “Trade Policy Review: United States,” WT/TPR/S/382, November 12, 2018, 66.

26. World Trade Organization, “Trade Policy Review: United States,” 66.

Department is almost certain to renew them. Of the 123 sunset review initiations of AD orders during the period from January 2016 to the end of June 2018, there were only eight revocations while 104 orders were continued.<sup>27</sup> The AD review process can even become corrupted. Between 2006 and 2009, Chinese furniture firms paid \$13 million to about twenty U.S. furniture makers at a time when the ITC was reviewing antidumping duties on wooden bedroom furniture. The Chinese firms apparently did this so that their U.S. competitors would not ask for even higher duties when the duties were up for administrative review.<sup>28</sup> One wonders whether domestic firms have ever threatened their foreign rivals with a dumping claim unless they paid some money to avoid such a fate.

A second reason for closely reviewing antidumping measures is that the coverage figures understate the harm in antidumping actions. The very existence of the antidumping law allows it to be used as a tool to enforce collusive agreements. For example, in 1989 U.S. producers of ferrosilicon formed a cartel and reduced output. The lower output was used to prove injury and justify the imposition of antidumping duties against five foreign competitors. When Brazil started exporting ferrosilicon in place of the others, their producers were invited to join the U.S. cartel. When they refused, they, too, were hit with an antidumping case.<sup>29</sup>

When an exporter is confronted with the prospect of potentially severe duties that exporters from other countries will not have to endure, the target has a powerful incentive to negotiate some sort of export restraint agreement that will allow the exporter to avoid the imposition of duties. In some cases, the foreign exporter tries to reach a suspension agreement with the Commerce Department (and approved by the petitioner) that terminates the petition. The quantity of imports falls by the same margin in cases that are settled as those in which duties are imposed, although the import price does not rise as much in settled cases.<sup>30</sup> The Uruguay Round also allows “price undertakings,” in which exporters can agree to minimum export

27. World Trade Organization, “Trade Policy Review: United States,” 66.

28. James Hagerty, “The Price of Trade Peace: Cash Paid to U.S. Rivals Lets Chinese Furniture Makers Skirt Import-Duty Review,” *Wall Street Journal*, February 15, 2011.

29. Eventually, criminal and civil legal actions were taken against the cartel members. See Richard J. Pierce, “Antidumping Law as a Means of Facilitating Cartelization,” *Antitrust Law Journal* 67 (2001): 725–43.

30. Only about 10 percent of all petitions in the United States were withdrawn in the 1990s. One study finds little evidence that AD promotes collusion in two protected U.S. industries; see Kara Reynolds, “Under the Cover of Antidumping: Does Administered Protection Facilitate Domestic Collusion?,” *Review of Industrial Organization* 42 (2013): 415–34.

prices in order to avoid the imposition of duties. Thus, even when no duties are imposed, antidumping can result in trade restrictions and even collusive outcomes.<sup>31</sup>

Third, the antidumping process is so heavily biased against foreign firms that it is prone to abuse and manipulation by domestic firms. The problem is not that the process is overtly political and subject to political influence, although that problem has arisen in some high-profile cases. Rather, AD rules are intentionally stacked in favor of the domestic petitioner, both in reaching a conclusion that dumping has occurred and in the size of the dumping margin. Even the Congressional Budget Office notes that the Commerce Department “effectively serves as investigator, prosecutor, judge, and jury in dumping and subsidy determinations.” And although it should be neutral in these roles, Commerce is “actually an advocate of one of the parties to the case.”<sup>32</sup>

The antidumping process is riddled with subtle tricks and arbitrary biases that invariably favor the domestic petitioner, making it ironic that AD rules are a part of the “fair trade” laws. The Commerce Department’s method of zeroing has already been mentioned. The application of AD measures often hinges on a narrow technicality, such as the definition of the relevant industry. In the case of cut flowers from Colombia, the ITC initially ruled that the domestic industry was not materially injured. After Commerce later accepted petitions maintaining that each individual flower species was a different “industry” (the rose “industry,” the chrysanthemum “industry,” etc.), the ITC then made an affirmative injury ruling. In the case of frozen concentrated orange juice, Commerce ruled that fresh oranges and industrial concentrate orange juice are “like products,” even though the markets and pricing for the two products are quite different.

Even the Commerce Department’s Office of Inspector General was critical of the way that the agency’s bureaucrats handled the eighty-four antidumping and countervailing duty petitions filed by the steel industry in June 1992. The office said that the agency “adopted several controversial and confusing policies that undermined the principles of transparency and consistency . . . [and were] not only inconsistent with past practice, but were also applied inconsistently from one case to the next.” The report added

31. See Michael O. Moore, “VERs vs. Price Undertakings under the WTO,” *Review of International Economics* 13 (2005): 298–310.

32. Congressional Budget Office, “How the GATT Affects U.S. Antidumping and Countervailing Duty Policy,” September 1994, 41.



that Import Administration (IA) “applied policies that made reporting more onerous for respondents, caused confusion among analysts, and made IA’s decisions appear arbitrary, even to its own staff.”<sup>33</sup>

Finally, perhaps the biggest concern about antidumping is that the antidumping genie is out of the bottle and has spread around the world. Whereas antidumping actions were once instituted mainly by developed countries, now developing countries—Mexico, India, China, Argentina, South Africa, and others—have copied them and have become aggressive users of these measures.<sup>34</sup> The more this “legal” form of protectionism has been adopted around the world, the harder it will be to contain its adverse effects on trade. Indeed, one study estimates that imports into these aggressive new users of antidumping duties are 6 percent lower than they otherwise would be because of those measures.<sup>35</sup>

Furthermore, the motivation for this spread appears to be retaliation for developed countries’ use of antidumping, rather than an increase in unfair trade.<sup>36</sup> This means that U.S. exporters may face more accusations that they are dumping in foreign markets.<sup>37</sup> For example, Micron Technology, previously mentioned as the DRAM producer who filed a series of petitions, was itself accused of dumping memory chips in Taiwan shortly after it succeeded in getting AD duties imposed on Taiwanese exports. And even though the ITC rejected a petition accusing Mexico of dumping emulsion styrene butadiene rubber, the U.S. petitioner soon faced charges by its Mexican competitor of dumping the same product in that country. And, curiously enough, whenever the United States initiates an antidumping case against China, it is sometimes followed by the announcement of a Chinese antidumping case against an American firm. If antidumping actions remain unchecked, such retaliatory cases can only be expected to multiply. Yet the United States declined to put antidumping reform on the agenda for future

33. U.S. Department of Commerce, Office of Inspector General, “Import Administration’s Investigations of Steel Industry Petitions,” Report No. TTD-5541-4-0001, December 1993, 20.

34. See Prusa, “On the Spread and Impact of Antidumping Duties”; Maurizio Zanardi, “Antidumping: A Problem in International Trade,” *European Journal of Political Economy* 22 (2006): 591–617.

35. Hylke Vandenbussche and Maurizio Zanardi, “The Chilling Trade Effects of Antidumping Proliferation,” *European Economic Review* 54 (2010): 760–77.

36. Hylke Vandenbussche and Maurizio Zanardi, “What Explains the Proliferation of Antidumping Laws?,” *Economic Policy* 23 (2008): 93–138.

37. See Robert A. Feinberg and Kara Reynolds, “Friendly Fire: The Impact of U.S. Antidumping Enforcement on U.S. Exporters,” *Review of World Economics* 144 (2008): 366–78. And Robert A. Feinberg and Kara Reynolds, “How Do Countries Respond to Antidumping Filings? Dispute Settlement and Retaliatory Antidumping,” *World Economy* 41 (2018): 1251–68.

trade negotiations, perhaps because lawyers, lobbyists, and politicians in Washington, DC, had a vested stake in seeing the present system continue. It is difficult to be optimistic that antidumping policies will change anytime soon.<sup>38</sup>

### Is Antidumping Defensible?

The antidumping process involves many arbitrary judgments and is subject to abuse. Can any economic rationale be mustered in favor of the AD laws? The problem is that price discrimination, charging different prices in different markets, is a normal business practice and an accepted feature of domestic competition. Exporters often find that competition is more intense in the international market than in their home market, where they have a more secure position with domestic consumers. Therefore, exporters have to offer price discounts in foreign markets.

On economic grounds, the fact that a firm charges different prices in different markets is neither unfair nor a problem unless it harms competition (such as through anticompetitive actions or predatory practices) or reflects a market-distorting policy. If geared toward preventing these actions, antidumping policy could have some merit as a means of preserving competition or correcting alleged market distortions. Unfortunately, the antidumping laws are not written to identify and respond to such situations. This leaves the impression that the laws exist only to protect domestic firms if they can jump through a few bureaucratic hoops.

For example, the antidumping laws might be worthwhile if they prevented predatory pricing by foreign exporters. Predatory pricing would occur when an exporter prices its goods below cost in an effort to eliminate American producers and achieve a monopoly position. Firms engaging in predatory pricing must be prepared to incur substantial losses initially and then recoup those losses through the future exercise of a monopoly position. But this makes sense only if the firm can effectively knock out most of its competitors in the United States and in other countries. Were Bangladeshi shop towel producers trying to eliminate their foreign rivals and achieve a monopoly position? Were the flower growers from Colombia trying to do the same? Were China's garlic producers aiming for world domination? Most foreign exporters simply want to receive as high a price as possible on their

38. Michael O. Moore, "Antidumping Reform in the Doha Round: A Pessimistic Assessment," *Pacific Economic Review* 12 (2007): 335–79.

sales. Few companies entertain the delusion of driving all of their competitors out of business in the world market.

In fact, in the overwhelming majority of AD cases, such predatory motives can be ruled out as utterly implausible. One study examined the structural characteristics of every one of the 282 industries involved in every dumping case in the 1980s in which duties were imposed or in which the case was suspended or terminated.<sup>39</sup> To isolate the cases in which predatory pricing might be considered plausible, the researcher first eliminated all cases in which the industry in the United States and in the challenged country was relatively unconcentrated. These were excluded on the grounds that barriers to entry in such industries are probably not substantial. And without barriers to entry, anticompetitive practices are unlikely to exist because even if the firm drives rivals out of business, it cannot raise prices to finance the losses sustained in the price war if other firms can simply reenter the market once prices go up.

The researcher also eliminated cases in which there were multiple exporters from a single country or from several countries, reasoning that successful collusion by such firms would be unlikely and that there are enough firms to preserve competition. Finally, she eliminated all cases in which the import penetration level was not significant, or in which import growth was not rapid, since the imports would be unlikely to create market power if they did not constitute a large share of the U.S. market. In the end, only thirty-nine cases were left, just 14 percent of all those considered, in which the industries were characterized by substantial domestic or foreign concentration. Of these remaining cases in which the preconditions for predation did exist, we cannot say for sure that predation was in fact a motive, only that it could not be ruled out.

The antidumping statute is not employed to prevent predatory conduct or preserve competition, but simply to protect the domestic industry from foreign competition—at the expense of domestic consumers, of course. One legal scholar concludes that while the antidumping laws were “originally marketed as anti-predation measures, they are now written in a way that compels the administering authorities to impose antidumping measures in a vastly broader class of cases—all instances in which dumping causes material

39. Hyun Ja Shin, “Possible Instances of Predatory Pricing in Recent U.S. Antidumping Cases,” in *Brookings Trade Forum, 1998*, edited by Robert Z. Lawrence, Washington, DC: Brookings Institution, 1998.

harm to competing domestic firms.”<sup>40</sup> An ITC commissioner once tried to shift the interpretation toward a remedy for anticompetitive predatory pricing. But petitioners appealed to the U.S. Court of International Trade, which ruled that focusing on competition effects “seems to assume that the purpose of the antidumping statute is merely to prevent a particular type of ‘injury to competition’ rather than merely ‘material injury’ to industry.”<sup>41</sup>

Some antidumping advocates claim that foreign firms have a protected home market in which they can earn high profits and from which they can subsidize export sales. In this view, any price discrimination due to a sanctuary home market counts as a market-distorting practice that antidumping should attempt to remedy. But as one antidumping critic aptly notes, “The [antidumping] law lacks any mechanism for determining whether the price practices it condemns as unfair have any connection to market-distorting policies abroad.”<sup>42</sup> The law does not distinguish cases in which there may be a sanctuary market effect, nor does it ask if dumping is at all related to market distortions. If antidumping advocates are sincere in their desire for an anti-predation remedy that is not simply protectionism, they should be willing to amend the current law and include an explicit test for the protected sanctuary home market that is often alleged to exist.

The problem with antidumping is not just the way the law is administered. The fundamental problem is that antidumping laws are written with the presumption that price discrimination is a problem. But there is nothing inherently harmful or anticompetitive about price discrimination. Price discrimination is an accepted feature of domestic competition. It would be surprising if domestic prices were *exactly* the same as an exporter’s home price.<sup>43</sup> As already noted, the government rarely undertakes direct price comparisons when making a dumping determination, but more frequently makes arbitrary calculations about production costs. The result is that

40. Alan O. Sykes, “Antidumping and Antitrust: What Problems Does Each Address?,” in *Brookings Trade Forum*, 1998, edited by Robert Z. Lawrence, Washington, DC: Brookings Institution, 1998, 29–30.

41. Sykes, “Antidumping and Antitrust: What Problems Does Each Address?,” 29–30.

42. Brink Lindsey, “The U.S. Antidumping Law: Rhetoric versus Reality,” Cato Institute Trade Policy Analysis, August 16, 1999, 1.

43. “In the typical antidumping investigation, the DOC [Department of Commerce] compares home-market and U.S. prices of physically different goods, in different kinds of packaging, sold at different times, in different and fluctuating currencies, to different customers at different levels of trade, in different quantities, with different freight and other movement costs, different credit terms, and other differences directly associated [with] selling expenses (e.g., commissions, warranties, royalties, and advertising). Is it any wonder that the prices aren’t identical?” Lindsey and Ikenson, *Antidumping Exposed: The Devilish Details of Unfair Trade Law*, 21.

“dumping is whatever you can get the government to act against under the dumping law.”<sup>44</sup> It is hard to avoid the conclusion that the antidumping laws are simply a popular means by which domestic firms can stifle foreign competition under the pretense of “fair trade.”

Except in cases of gross abuse, antidumping is most frequently used by firms to insulate themselves from falling import prices. In 2019 alone, California olive producers complained about imports from Spain, Michigan tart cherry producers complained about imports from Turkey, and Florida tomato producers complained about imports from Mexico. Long ago, it was mentioned earlier, temporarily low oil prices led the Texas producers to file the antidumping petition against oil exporters that the Commerce Department rejected. Of course, low prices are bad for producers but good for consumers. It would have been interesting to see Commerce grapple with that petition and explain how OPEC, a production cartel that seeks to restrict output, could possibly be dumping its output in the U.S. market.

In such cases when import prices are falling, the problem facing the petitioning industry is not any price differential between markets—that is, foreign firms charging a higher price in their domestic market than in the United States. The afflicted industry would find no consolation if the U.S. price were higher than the foreign price even as both were falling sharply. Rather, the basic problem for the industry is that prices everywhere are falling because of unforeseen circumstances. It may be reasonable to provide an industry facing such difficulties with temporary protection without any claim that trade is “unfair.” And that is precisely what the escape clause is designed to do.

## The Escape Clause

If a domestic industry is suffering as a result of foreign competition and yet does not allege that the imports are unfairly dumped or subsidized, the industry can still receive temporary protection. Ever since the passage of the Reciprocal Trade Agreements Act in 1934, when the United States embarked on its policy of negotiating tariff reductions with other countries, Congress recognized that trade liberalization might force some sectors of the economy to endure some difficult adjustments. Because of this problem, Congress insisted that if lower tariffs brought about serious injury to particular

44. J. Michael Finger, ed., *Antidumping: How It Works and Who Gets Hurt*, Ann Arbor: University of Michigan Press, 1993, viii.

domestic industries, they should be provided with temporary relief to help them adjust to the new conditions of trade. To this end, the “escape clause” provides a mechanism for domestic industries to get a temporary exception to any negotiated tariff reduction.

Section 201 of the Trade Act of 1974 provides the current statutory basis for the escape clause.<sup>45</sup> It allows representatives of an industry (e.g., a trade association, firm, union, or group of workers) to file a petition with the International Trade Commission for temporary relief from import competition. The petition must include a specific plan that details how protection will be used to help the industry adjust. The ITC must then determine if the imports are, or threaten to be, “a substantial cause of serious injury,” where “substantial cause” is defined as “a cause which is important and not less than any other cause.”<sup>46</sup> Cutting through the legal verbiage, this simply means that imports must be the most important cause of injury. This legalistic language is nontrivial: The ITC rejected a Section 201 petition from the automobile industry in 1980 on the grounds that the most important source of the industry’s difficulty was not imports but the recession of that year.

If the ITC reaches an affirmative finding of injury, it must then recommend an appropriate remedy to the president. This remedy can include action on trade, usually higher tariffs, or other policies that would help facilitate the adjustment efforts of the domestic industry. The president then has wide discretion as to what action is taken, but there are two important requirements. First, the import relief is temporary and can remain in place only for a period of four to eight years. Second, the tariffs must apply equally to imports from all source countries, unlike antidumping duties, which, as we have seen, are applied selectively. (For this reason, Section 201 is sometimes called the Global Safeguard provision.)

Section 201 has been criticized as being merely a protectionist loophole that allows firms to obtain protection, with no allegation of unfair trade, and therefore permits a country to backslide away from open markets.<sup>47</sup> But

45. The escape clause is also contained in Article 19 of the General Agreement on Tariffs and Trade (GATT) and in the Agreement on Safeguards as part of the Uruguay Round negotiations.

46. U.S. House of Representatives, *Compilation of U.S. Trade Statutes: 2013 Edition*, 322.

47. Expressing skepticism about the “safety valve” explanation for the escape clause, Alan Sykes argues that the likelihood of direct protectionist legislation decreases if such legislation violates international obligations and results in international sanction. Therefore, “the ability of Congress to resist special interest pressures for protection . . . would likely be greater in the absence of Article XIX.” Alan O. Sykes, “The Safeguards Mess: A Critique of WTO Jurisprudence,” *World Trade Review* 2 (2003): 261–96.

such provisions function as essential safeguards that make trade liberalizing agreements possible. As other economists have noted:

Safeguard provisions are often critical to the existence and operation of trade-liberalizing agreements, as they function as both insurance mechanisms and safety-valves. They provide governments with the means to renege on specific liberalization commitments—subject to certain conditions—should the need for this arise (safety valve). Without them, governments may refrain from signing an agreement that reduces protection substantially (insurance motive).<sup>48</sup>

The presence of the escape clause, it can be argued, has encouraged cautious governments to liberalize trade more than might otherwise be the case.

Section 201 was invoked frequently in the 1970s but has been used only sporadically in recent decades. Just nineteen cases were filed in the 1980s, ten cases in the 1990s, and three cases in the 2000s. As of 2016, no safeguard actions were in place. This is partly because it has proved too difficult a way of getting protection: Of the nineteen cases considered in the 1980s, for example, the ITC ruled affirmatively in only seven. Even then, there is no guarantee that the president will provide relief to the industry, and in practice presidents are often reluctant to grant it. (Presidents are often reluctant because the tariffs would apply to imports from all countries, adversely affecting many innocent exporters if just a few countries are responsible for the increased imports that cause serious injury.) This record is why Senator Ernest Hollings (D-South Carolina) once made the dismissive quip that “Section 201 is for suckers.”<sup>49</sup> The escape clause has been completely overshadowed by antidumping, where the injury standard is not as strict and presidential action is not required. In view of the ease with which antidumping actions can be initiated and affect trade, it comes as no surprise that firms have avoided Section 201.

With the increasing abuse of antidumping measures, escape clause actions have come to be viewed in a more benign light. Section 201 is now seen as a potential solution to the problem of the proliferation of antidumping actions. Escape clause actions have several advantages over antidumping measures: there are no bogus claims of unfair trade; they provide greater flexibility in the scope and duration of nondiscriminatory protection; and

48. Bernard Hoekman and Michel Kostecki, *The Political Economy of the World Trading System: From GATT to WTO*, 3rd ed., New York: Oxford University Press, 2009, 413.

49. Quoted in Patrick Low, *Trading Free: The GATT and U.S. Trade Policy*, New York: Twentieth Century Fund, 1993, 57.



the president is allowed to take into account the overall economic, security, and political interests of the United States in tailoring a relief package. Relaxing the high standards of the escape clause would make it a more attractive method of obtaining import relief and provide an opportunity to rein in the use of antidumping. The danger, of course, is that Congress might simply expand the use of the escape clause without constraining the use of antidumping. Furthermore, many exporters that are not responsible for any injury-causing surge would strongly object to limits being placed on their exports by a safeguard action.

The tariff-loving Trump administration, however, has given new life to the safeguard statute. In 2017, two solar panel producers filed a Section 201 petition, and the next year President Donald Trump announced a four-year safeguard measure on imports of solar cells and modules in the form of a tariff-rate quota (TRQ). Under the TRQ, a fixed volume of imports would be allowed to enter at the normal U.S. (duty-free) tariff rate; imports above that level were to be assessed a 30 percent tariff, descending by 5 percentage points each year (i.e., 25 percent in 2019, 20 percent in 2020, and 15 percent in 2021, the last year).

In 2017, Whirlpool filed a Section 201 petition to block imports of large residential washing machines. The next year, the president decided on a three-year safeguard measure also in the form of a TRQ. The first 1.2 million washers imported would face a duty of 20 percent, declining to 18 percent in 2019 and then 16 percent in 2020; imports beyond 1.2 million would face a tariff of 50 percent, then declining to 45 percent and then 40 percent in years two and three of the safeguard.<sup>50</sup> Whether these two safeguard actions lead more firms to apply for protection remains to be seen; it could be that Section 201 is back in business. Whether the remedies they bring will actually help the petitioning industries is another question and will be discussed below.

Clearly, the challenge for policymakers operating in an era of greater economic integration is one of balance—making the escape clause available without compromising open markets. “If the standards for obtaining import-related remedies are too restrictive, the escape clause mechanism cannot serve as an effective shock absorber for protectionist pressures. On the other hand, if the eligibility criteria are too weak, any domestic industry that faces

50. For an analysis, see Aaron B. Flaaen, Ali Hortaçsu, and Felix Tintelnot, “The Production Relocation and Price Effects of U.S. Trade Policy: The Case of Washing Machines,” National Bureau of Economic Research Working Paper No. 25767, April 2019.



import competition may become eligible for temporary protection.”<sup>51</sup> This tradeoff is one of the most difficult challenges in trade policy.

## Imports and National Security

Economists have long recognized that imports might harm certain domestic industries that are essential for national defense. For example, although Adam Smith recognized that the Navigation Acts, which restricted British trade to British ships, was “not favourable to foreign commerce, or to the growth of that opulence which can arise from it,” he still believed that it was, “perhaps, the wisest of all the commercial regulations of England” because it built up the Royal Navy and helped protect the British isles. As he put it, “Defense is more important than opulence.”<sup>52</sup>

The United States has a law that gives the president discretion to regulate imports if they threaten an industry that is essential for national security. This Cold War–era provision was designed to ensure that the country was not dependent on communist adversaries for critical supplies. Under Section 232 of the Trade Expansion Act of 1962, the secretary of commerce is authorized to investigate whether imports of any article might adversely affect national security. Investigations may be initiated based on an application from an interested party, on request from the head of any department or agency, or may be self-initiated by the secretary of commerce. The secretary has 270 days to present a report of the Commerce Department’s findings and recommendations to the president. This report must address whether the importation of the article in question threatens to impair national security. If the secretary finds that the imports threaten to impair national security, the president has 90 days to approve or reject the findings and whether to use the statutory authority to restrict imports. There is no oversight by the ITC or Congress, giving maximum discretion to the president.

In the past, Section 232 has been little used. The Commerce Department has conducted sixteen national security investigations since 1980; of these, fourteen were concluded before or in 2001. In six cases, Commerce found no threat to national security, and in eight it recommended that the president take action; in only three cases, the president decided to do so.<sup>53</sup>

51. Robert Z. Lawrence and Robert E. Litan, *Saving Free Trade: A Pragmatic Approach*, Washington, DC: Brookings Institution, 1986, 79.

52. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: Oxford University Press, [1776] 1976, 464–65.

53. World Trade Organization, Annual Report 2019, 75–76.

However, the Trump administration has embraced the mantra “economic security is national security” and dusted off Section 232 as a way of blocking imports. The first cases involved aluminum and steel. The president has long championed the steel industry and bemoaned the closure of plants and lost jobs. “If you don’t have steel, you don’t have a country!” he once tweeted. Secretary of Commerce Wilbur Ross was a former steel executive who strongly supports aid to the industry. Therefore, in early 2017, the Commerce Department initiated an inquiry about whether imports posed a threat to the domestic industry and harmed national security. (One suspects, however, that the real motivation for using national security as a way of imposing tariffs is that it is the easiest legal way of providing protection without involving other agencies, such as the ITC.)

That there was a national security problem in the case of steel was questionable. The United States imported most of its steel from friends and allies such as Canada, Mexico, Japan, and the EU; it imported relatively little steel from Russia or China, partly because these imports already have been restricted via antidumping duties. Furthermore, domestic production was stable, imports were not surging into the country, and more than 70 percent of domestic consumption was met by domestic production. Even the Defense Department noted that only 3 percent of domestic production was needed for military production, and it worried about a backlash from imposing tariffs on allies.

Nonetheless, Secretary Ross determined that imports compromised national security. In early 2018, President Trump imposed a 25 percent tariff on all categories of imported steel, including those coming from Canada and Mexico, where the national security concerns seemed particularly dubious. (Even the steel producers and the steel workers’ union opposed that step.) He later granted Australia, Argentina, Brazil, and Korea exemptions from the tariffs. (Korea agreed to a quota, and supposedly Australia received an exemption after the prime minister of that country asked golfer Greg Norman to intercede with the president.) The president also imposed a 10 percent tariff on imported aluminum.

The international backlash was swift. The EU retaliated against U.S. exports, with one official saying, “We can do stupid too,” as did many other countries. Farm exports were particularly hit by the foreign retaliation. Several nations joined together and filed a complaint with the WTO. And the steel industry itself is not completely happy with the blanket tariffs. One steel firm, JSW Steel Inc., that applauded the administration for stopping steel imports is now suing the Commerce Department for not granting a waiver

exemption allowing it to import steel slab raw materials that it needed for its production.<sup>54</sup>

The Trump administration has gone a step further and looked into whether imports of passenger cars threatened the domestic auto industry to the detriment of America's national security. Unlike the steel industry, which generally wanted to reduce imports, the automobile industry is globalized with international supply chains, particularly across North America, and did not want tariffs. Nonetheless, in May 2018, the Commerce Department initiated a Section 232 investigation. A report was completed but never released, and to date (November 2019) no action has taken place. Needless to say, imposing a 25 percent tariff on imported cars (the frequently mentioned rate) would severely disrupt billions of dollars in trade, upend the supply chains of domestic producers, and directly affect every household that buys a car. The president likes to dangle the threat of imposing such tariffs in negotiating with the European Union, but there is speculation that the administration did not want to slam consumers before a presidential election. If it were to take such a draconian step, the expected retaliation from the European Union, if not Japan and Korea, would be equally as massive a blow to trade.

Even with the Trump administration, however, protection on grounds of national security is not automatic. In January 2018, two U.S. mining companies filed a Section 232 petition contending that imports were pushing uranium production to the brink of collapse and asked for a quota requiring that 25 percent of uranium consumption be met by domestic producers. The secretary of commerce agreed with this position, but President Trump rejected any trade remedies.

Although the U.S. government has national security concerns about trade with China, Section 232 did not provide the statutory basis for President Trump to impose higher tariffs on imports from China in 2018 and 2019. Rather, Section 301 of the Trade Act of 1974, which concerns unfair trade practices in other countries, was invoked. The tariffs on China were not imposed to protect any particular domestic industry from foreign competition, as is the purpose of the laws reviewed in this chapter; rather, the purpose of the tariffs was to punish China for its unfair trade practices. This issue will be covered in chapter 7.

54. Joe Deaux, "Steelmaker That Praised Trump Tariffs Now Suing U.S. for Relief," *Bloomberg*, August 1, 2019, <https://www.bloomberg.com/news/articles/2019-08-01/steelmaker-that-praised-trump-tariffs-now-suing-u-s-for-relief>.

As even Adam Smith conceded, it is hard to argue that trade is more important than national security. The problem with invoking national security to block imports in questionable cases, however, is that it degrades the standard for action. If the United States can restrict imports on supposed national security grounds, it opens the door for other countries to follow. If countries can now judge for themselves whether to invoke national security in the same way, then others will be able to limit trade in any way they wish. An enormous loophole may now be open for countries to pursue protectionist policies.<sup>55</sup>

### **Does Temporary Relief from Imports Work?**

Some process for giving firms and workers temporary protection against import surges or to facilitate adjustment to foreign competition seems to be a political necessity. But does temporary relief from imports actually provide a remedy for the ills afflicting the domestic industry? Although protection has been justified as a way of revitalizing certain industries, it may not be able to accomplish this objective. The experience with antidumping duties is that they reduce productivity in an industry by prolonging the life of small, inefficient producers.<sup>56</sup>

Ideally, such relief would offer temporary protection to industries that compete against imports, in exchange for assurances that the industry will undertake measures to adjust to the new competition. But in providing temporary relief, the government encounters a problem with time consistency. The industry would like to reap the benefits of protection without undertaking the costs of adjustment. When the government cannot credibly commit to eliminating protection in the future, an industry may find itself able to perpetuate the protection by not investing sufficiently in cost reductions. In other words, if the government bases its decision to renew protection on whether the industry has adjusted to the foreign competition, then the industry may have an incentive not to adjust in order to trigger a renewal of

55. Simon Lester and Huan Zhu, "Closing Pandora's Box: The Growing Abuse of the National Security Rationale for Restricting Trade," Cato Institute Policy Analysis 874, June 25, 2019.

56. Justin R. Pierce, "Plant-Level Responses to Antidumping Duties: Evidence from U.S. Manufacturers," *Journal of International Economics* 85 (2011): 222–33. For an additional series of case studies on protection that examine whether import limits actually helped the domestic industry, see Anne O. Krueger, ed., *The Political Economy of American Trade Policy*, Chicago: University of Chicago Press, 1996. For a discussion of the inefficacy of protectionist measures in helping domestic industries, see Robert E. Baldwin, "The Inefficacy of Trade Policy," in *Trade Policy in a Changing World Economy*, Chicago: University of Chicago Press, 1988.

protection. Even making trade relief contingent on such investment does not eliminate the time consistency problem. Temporary, contingent protection may still become permanent protection.<sup>57</sup>

This pattern of repeated renewals of protection is sometimes seen in practice. Some industries have used temporary protection to adjust to competition from imports. The automobile, consumer electronics, and semiconductor industries have received temporary protection at one time or another, but they adjusted to the new conditions of competition. This does not mean that protection helped promote the adjustment, just that the protection was temporary. Indeed, blocking imports failed to solve the fundamental problem these industries faced, either because foreign competition was located in the United States through direct investments or because the industry depended heavily on foreign export sales and the importation of components. Given the inability of trade policy to solve the underlying problems confronting these industries, domestic firms adjusted by adopting new technology, moving to new market niches, and forming global alliances.<sup>58</sup>

Other industries have essentially received permanent protection over the past few decades by seeking and repeatedly receiving “temporary” protection. Two that stand out are the steel industry and the textile and apparel industry. Both face long-term structural adjustments to domestic and foreign competition and have stubbornly resisted pressures to adapt. The steel industry suffers from excess capacity worldwide, a strong union that has helped price domestic producers out of the world market, and growing domestic competition from smaller mills. The textiles and apparel industry, on the other hand, is struggling against the loss of comparative advantage in labor-intensive manufactures by becoming more capital-intensive, upgrading technology, and outsourcing.

The steel industry has received nearly continuous protection for over forty years and is still seeking limits on imports.<sup>59</sup> From 1969 to 1974, the

57. Aaron Tornell, “Time Inconsistency of Protectionist Programs,” *Quarterly Journal of Economics* 106 (1991): 963–74.

58. Another way to adjust to import competition is simply to fade away, as has been the fate of the domestic footwear industry. Import penetration in the domestic footwear market rose from 13 percent in 1966 to 90 percent in 1996, while employment fell from 233,400 jobs in 1966 to 46,100 in 1996. On how the remaining firms in the domestic industry adjusted their labor practices in order to survive, see Richard B. Freeman and Morris M. Kleiner, “The Last American Shoe Manufacturers: Changing the Method of Pay to Survive Foreign Competition,” *Industrial Relations* 44 (2005): 307–30.

59. See Michael O. Moore, “Steel Protection in the 1980s: The Waning Influence of Big Steel?,” in *The Political Economy of American Trade Policy*, edited by Anne O. Krueger, Chicago: University of Chicago Press, 1996.

large, integrated producers were protected from imports by a series of voluntary restraint agreements (VRAs). From 1978 to 1982, a Trigger Price Mechanism, consisting of minimum import prices, was in effect. From 1982 to 1992, a new round of VRAs was in place. When the industry failed to persuade the government to renew the VRAs, the industry filed a massive number of AD and CVD complaints in 1992–93. When the Asian financial crisis struck in 1997–98, sharply depressing world steel prices, the industry again filed many AD cases. In 2001, President George W. Bush initiated a Section 201 escape clause case and gave the industry 30 percent tariffs on imports during 2002 and 2003. After that, more antidumping duties were imposed. And as we have just seen, starting in 2018, President Trump imposed 25 percent tariffs on all steel imports.

Yet all this trade protection has never been enough for the steel industry. In fact, there are two steel industries in the United States—large integrated firms and smaller minimills. The big integrated firms—U.S. Steel, the former Bethlehem Steel, and others—use basic oxygen (blast) furnaces to create steel from raw inputs and then shape it into various products. Production is concentrated in Pennsylvania, Ohio, and West Virginia, and labor is represented by the United Steelworkers of America. The management and unions of Big Steel perpetually blame their problems on imports and are continually calling for import restraints to allow the industry to revitalize itself.

The smaller minimills take scrap steel and use electric-arc furnaces to produce various final products. Because they do not require iron ore and coal supplies, these firms are not geographically concentrated but spread around the country close to the markets they serve. Minimills have much lower costs than the big integrated steel firms, partly because their workers are not unionized. As a result, the minimills have grabbed U.S. market share away from the big integrated producers. The minimills accounted for about 10 percent of U.S. production in the late 1960s; today, they account for nearly two-thirds of production. As the market share held by imports has remained steady at about 25 percent, most of the erosion in the market share held by the integrated producers is because of the minimills.

Thus, changes in market demand and competition from the minimills are mainly responsible for pushing the large, integrated steel producers into restructuring, which has increased industry productivity.<sup>60</sup> Unlike imports, this domestic competition cannot be stopped at the border and is slowly

60. Allan Collard-Wexler and Jan de Loecker, “Reallocation and Technology: Evidence from the U.S. Steel Industry,” *American Economic Review* 105 (2015): 131–71.

forcing the integrated producers to adjust. But the process has been prolonged in part because of import restraints and the recalcitrant steelworkers union. The strength of the “steel triangle”—the Big Steel firms, the United Steelworkers union, and their powerful representatives in the Congressional Steel Caucus—have ensured that the large producers continue to receive corporate welfare at the expense of taxpayers and consumers. In 2002, for example, the Pension Benefit Guaranty Corporation, a U.S. government agency, took over the pension plans of several steel firms whose unfunded pension liabilities exceed \$8 billion.<sup>61</sup>

The textiles and apparel industry has also used its political influence to maintain an array of barriers designed to stop foreign competition. The United States negotiated export restrictions on cotton textile products with Japan in the 1950s. Although these trade restrictions were designed as a temporary measure to give the industry some breathing space to become more efficient, the industry always complained that the protection was inadequate. Rather than being eliminated, the temporary restraints slowly spread to include other countries and products, gradually filling in the gaps that allowed imports to seep in. The Short-Term Arrangement on Cotton Textiles trade was signed in 1961, followed by the Long-Term Arrangement on Cotton Textiles in 1962. Set to last for five years, the long-term arrangement was renewed for three years in 1967 and again in 1970. These trade restrictions were extended to wool and man-made textiles products in the first Multi-Fiber Arrangement (MFA) in 1974. This was followed by the second MFA in 1978, the third MFA in 1982, and the fourth MFA in 1986, each of which continued to tighten the restrictions by expanding the country and product coverage. The MFA was finally abolished in 2005 (after a ten-year phaseout) over the strenuous objections of its proponents, but the industry has not given up the fight for more import restraints.

Unlike the large, integrated steel producers, the textile and apparel industry has made some adjustments to compete against foreign imports. The textile industry has become less dependent on unskilled labor-intensive production techniques by adopting advanced technology and more capital-intensive production methods (often using imported machinery). The consequent increase in productivity has sharply reduced industry employment. The apparel sector, which is less able to substitute capital for labor, has been

61. For an exposé of steel's lobbying tactics and demands for corporate welfare, see William H. Barringer and Kenneth J. Pierce, *Paying the Price for Big Steel: \$100 Billion in Trade Restraints and Corporate Welfare*, Washington, DC: American Institute for International Steel, 2000.



harder hit and has turned to foreign outsourcing to remain competitive. Despite the plant closings and employment losses at the aggregate level, new firms have entered the industry, and within-plant productivity has increased in both textiles and apparel.<sup>62</sup>

Despite the inefficacy of import protection in solving an industry's problems, many industries still identify imports as the problem and protection as the cure. Some have even claimed that temporary protection "played a major role in revitalizing key American industries" in the 1980s. For example, the steel and auto industries faced many difficulties in the early 1980s but received import relief; by the late 1980s, they had significantly improved their output, employment, and productivity.<sup>63</sup>

This view of protection completely misrepresents the experience of the 1980s. Revitalization was in fact the result of the economic recovery after the recession of 1981–82, which at the time had been the worst economic downturn since the Great Depression. In addition, the appreciation of the dollar in the early 1980s squeezed import-competing and export industries, with relief coming when the dollar began to depreciate after 1985. To conclude from the 1980s that temporary protection is a proven method of boosting industrial competitiveness not only overlooks the more important macroeconomic context of that period, but also ignores the fact that foreign competition is precisely what motivated American manufacturers to cut costs and improve their productivity. Diminishing competition through import restraints takes the pressure off domestic industries and dulls their incentive to improve efficiency.

For example, let us consider the celebrated Harley-Davidson motorcycle case. Even today, this is frequently heralded as a great success of "breathing space" protection. The story, as conventionally told, is that in the early 1980s Harley-Davidson was pushed to the wall by Japanese competition. After receiving temporary import relief in 1983 under the Section 201 escape clause, the company got its act together and came back stronger than ever.<sup>64</sup>

62. James Levinsohn and Wendy Petropoulos, "Creative Destruction or Just Plain Destruction? The U.S. Textile and Apparel Industries since 1972," National Bureau of Economic Research Working Paper No. 8348, June 2001.

63. Alan Tonelson, "Beating Back Predatory Trade," *Foreign Affairs* 73 (1994): 123–35. Despite the article's title, it is absurd to think that the woes of the steel, automobile, and textile industries were the result of foreign predatory practices.

64. The company's management fully conceded that Harley's production process was far behind the cutting-edge Japanese manufacturing practices at the time the Section 201 petition was filed; see Peter C. Reid, *Made Well in America: Lessons from Harley-Davidson on Being the Best*, New York: McGraw-Hill, 1990.



In fact, Harley recovered so swiftly that it even requested that the final year of tariff protection be canceled.

The real story is different: Import relief had nothing to do with Harley-Davidson's turnaround. At the time, Harley-Davidson produced only "heavy-weight" motorcycles with piston displacements of over 1000cc, while Japanese producers mainly exported medium-weight bikes (700cc to 850cc of piston displacement) to the United States. But in 1975, Kawasaki opened a production plant in Nebraska, and in 1979, Honda opened a plant in Ohio, both of which produced heavyweight motorcycles to compete directly with Harley-Davidson. They did not produce them in Japan because there was virtually no market for such large motorcycles in Asia.

The deep recession of 1981–82 particularly affected blue-collar workers, the main consumer base for Harley's products, and put the company under severe financial pressure. So Harley-Davidson filed for import relief under Section 201 in September 1982, making no allegation of unfair dumping or subsidies. The ITC had problems determining that imports were the substantial cause of Harley's injury because imports were plummeting from the recession too. It finally decided that Harley had been injured because unsold inventories of imported medium-weight bikes (700–850cc) were accumulating.<sup>65</sup> The ITC also ruled that Honda's Ohio plant and Kawasaki's Nebraska plant were part of the domestic industry that deserved protection.

The administration of President Ronald Reagan accepted the ITC's recommendation and adopted a tariff-rate quota on imports of motorcycles over 700cc. A tariff-rate quota allows a certain quantity of imports to enter paying the usual tariff, but imports above that quantity have to pay the higher protective tariffs. These were initially set at 45 percent and then declined over five years. The protection had almost no impact on Harley-Davidson because Honda and Kawasaki were already producing heavyweight motorcycles in the United States, production that was not constrained. In fact, Honda and Kawasaki favored the Section 201 case because it could protect them from their Japan-based rivals Suzuki and Yamaha. But even Suzuki and Yamaha were able to evade the tariff-rate quota on imports of motorcycles over 700cc: They simply produced a 699cc version that was not subject to the quota.<sup>66</sup>

65. The inventory of medium bikes accounted for 80 percent of all unsold motorcycles, and the inventory buildup was much less for models larger than 1000cc because of production cutbacks.

66. Harley engineers purchased two imported motorcycles because they suspected that only the label on the engine had changed, but to their astonishment the engines were exactly 699cc! See Reid, *Made Well in America: Lessons from Harley-Davidson on Being the Best*, 89.

Then Suzuki and Yamaha had room under the quota to export a greater quantity of larger (1000cc) bikes before they had to pay the extra 45 percent duty.

Harley was deeply disappointed with the import relief. Because the final year of tariffs would have been very low and had virtually no effect on the motorcycle market, the company gave up the Section 201 relief a year before it was set to expire. Doing so gained Harley favorable publicity and helped convince President Reagan to visit a Harley plant in Pennsylvania, where he declared, amid a sea of red, white, and blue banners, that his administration was glad to lend Harley a helping hand.

Harley saved itself from bankruptcy and turned itself around because a new management team, appalled at the lax inventory control system and antiquated production methods, dramatically improved the efficiency of the production process. Close attention to production detail, as well as the rebounding economy, helped rejuvenate Harley's economic prospects. Blocking imports contributed virtually nothing to Harley's recovery. A counterfactual study of the episode found that the safeguard measures increased Harley's sales by just 6 percent.<sup>67</sup>

There is more recent evidence on this score from the two solar panel firms, Suniva and SolarWorld, which filed for Section 201 petitions and were granted import relief by the Trump administration. They wanted protection to "stop the bleeding" and promised that 114,000 new American jobs would be created. Instead, by mid-2019, Suniva (Chinese owned) declared bankruptcy, and SolarWorld (U.S. subsidiary of a German firm) was bought out in bankruptcy but with little capacity to expand domestic production. Meanwhile, the Solar Energy Industries Association (SEIA), which represents companies that manufacture, plan, install, and finance solar energy products, estimated that about 23,000 solar installation jobs would be lost in 2018 and that the tariffs will result in the cancellation of billions of dollars in solar investments. And yet the tariff remained in place, raising prices to

67. Taiju Kitano and Hiroshi Ohashi, "Did U.S. Safeguard Resuscitate Harley Davidson in the 1980s?," *Journal of International Economics* 79 (2009): 186–97. Kitano also finds that the duties were not responsible for the adoption of new technology by Harley; see Taiju Kitano, "Did Temporary Protection Induce Technology Adoption? A Study of the U.S. Motorcycle Industry," unpublished working paper, Hitotsubashi University, 2013. As the chief economist of the ITC during this period later recalled, "If the case of heavyweight motorcycles is to be considered the only successful escape-clause case, it is because it caused little harm and it helped Harley-Davidson get a bank loan so it could diversify." John W. Suomela, *Free Trade versus Fair Trade: The Making of American Trade Policy in a Political Environment*, Turku, Finland: Institute for European Studies, 1993, 135. In 1986, the company bought a mobile home producer, Holiday Rambler Corp.

consumers, harming the solar installation industry, and slowing the American transition to renewal energy.<sup>68</sup>

Thus, one should not be overly optimistic about the ability of trade protection to help sectors with adjustment problems more severe than coping with a temporary surge of imports. Whether import restraints actually assist the domestic industry in its adjustment efforts is a debatable proposition. But even if protection contributes little to adjustment, the escape clause has been a political necessity and has helped maintain domestic support for the open world trading system.

68. Michael J. Coren, “Two Companies Petitioned for Trump’s Solar Tariffs—Now They’re Both Out of Business,” *Quartz*, June 18, 2019, <https://qz.com/1644846/two-companies-that-petitioned-for-trumps-solar-tariffs-are-out-of-business/>.

# 6

## Developing Countries and Open Markets

Previous chapters have described the benefits of free trade and the costs of import protection, mainly in the context of the United States. But many observers have been skeptical that open trade policies could improve conditions in poor countries, where a majority of the world's population live. This chapter examines whether the case for free trade is qualified by the special circumstances of developing countries. Recent experience suggests that developing countries can reap substantial benefits from adopting more open trade policies, but that such policies alone do not guarantee development, particularly when corruption, civil conflict, excessive regulation, and other institutional failings prevent local businesses from taking advantage of world markets. This chapter also discusses whether protectionist trade policies contributed to the East Asian growth miracle, whether labor standards should be used to address worker exploitation in sweatshops, and whether “fair trade” offers a satisfactory route to development.

### Trade Policy and Developing Countries

Until relatively recently, developing countries were reluctant to participate in world trade. Many people in poorer countries feared that rich countries would dominate and exploit them.<sup>1</sup> Powerful foreign multi-

1. “It is sometimes difficult for sophisticated economists and politicians to understand the deep historic and cultural problems some [developing] countries have with the idea of free trade.

nationals, it was believed, would gain control of the smaller economies unless governments actively restricted their activities. Furthermore, the prevailing view among economic experts in the 1950s and 1960s was that developing countries had limited opportunities to achieve growth through exports. International trade was expected to reinforce their comparative advantage in the production of simple primary commodities, thereby locking them into a pattern of specialization that would forever prevent their economic development.

Over the past three decades, these conclusions have been proven false. Countries that restricted foreign trade and investment may have avoided foreign exploitation, but they remained desperately poor nonetheless. (As the British economist Joan Robinson once quipped, “The misery of being exploited by capitalists is nothing compared to the misery of not being exploited at all.”<sup>2</sup>) Countries more open to trade did not just continue exporting traditional goods, but diversified their exports and reduced the volatility of their income.<sup>3</sup> International trade has created opportunities that have promoted economic development and reduced poverty around the world.<sup>4</sup> Furthermore, globalization has actually *reduced* worldwide income inequality among individuals, largely because of rising incomes in China and India.<sup>5</sup>

It has taken a long time for many people to recognize the transformative power of commerce in improving the lives of the world’s poor. Take Bono, the lead singer for U2, who has long been a passionate advocate of foreign aid for developing countries. Experience has forced him to change his tune, so to speak. In a speech at Georgetown University in November 2012, Bono talked about the tremendous progress that has been made in reducing poverty in

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Some still equate it with oppression from colonial days.” This comment comes from Mike Moore, the former director-general of the World Trade Organization. Mike Moore, *A World without Walls: Freedom, Development, Free Trade, and Global Governance*, New York: Cambridge University Press, 2003, 133.

2. Joan Robinson, *Economic Philosophy*, Garden City, NJ: Doubleday, 1964, 45.

3. Francesco Caselli, Miklós Koren, Milan Lisicky, and Silvana Tenreyro, “Diversification through Trade,” *Quarterly Journal of Economics*, forthcoming.

4. See Arvind Panagariya, *Free Trade and Prosperity: How Openness Helps the Developing Countries Grow Richer and Combat Poverty*, New York: Oxford University Press, 2019, for a discussion of these issues. For an analysis of how the old view of trade and development, based on erroneous assumptions and expectations, eventually gave way in the face of contrary evidence, see Anne Krueger, “Trade Policy and Economic Development: How We Learn,” *American Economic Review* 87 (1997): 1–22.

5. Branko Milanovic, “Inequality by the Numbers: In History and Now,” *Global Policy* 4 (2013): 198–208.

recent years because of strong economic growth in the developing world. Then Bono paused. “Rock star preaches capitalism,” he said disbelievingly. Putting his hand on his head, he smiled sheepishly: “Wow, sometimes I hear myself and I just can’t believe it! But commerce is real,” he continued, “aid is just a stopgap. Commerce, entrepreneurial capitalism takes more people out of poverty than aid, of course we know that.”<sup>6</sup> But, in fact, he and many others did *not* always know that. Bono admitted that it had been “a humbling thing for me” to realize the importance of capitalism and entrepreneurship in reducing poverty, particularly as someone who “got into this as a righteous anger activist with all the clichés.”<sup>7</sup>

However, as a legacy of the past, developing countries have struggled to overcome severe trade-related policy distortions, including high tariffs, quantitative restrictions on imports and exports, overvalued exchange rates, and administrative controls on foreign exchange allocation.<sup>8</sup> Politically powerful interest groups, including state-owned enterprises that fear competition and government bureaucrats whose power is derived from their decision-making authority, have fiercely resisted trade liberalization and often have been able to block trade reforms. As a result, even after many developing countries have reduced tariffs and liberalized trade policies, they still have much higher tariffs than developed countries. As table 3.1 showed, import tariffs in developed countries are less than 5 percent, on average, while those in developing countries are substantially higher, in the range of 10 to 30 percent, on average. Although developing country tariffs are significantly lower than a decade ago, these tariffs are often just the tip of the iceberg, as many of these countries have in place significant nontariff barriers to trade. Thus, there is ample room for further reforms of trade policy in the developing world.

Of course, free trade is not the single most important factor behind economic development. For many countries, reforms in other areas may be of greater importance and hence a more urgent priority. These reforms include ensuring the security of property rights, providing legal institutions that support market transactions (e.g., enforcing contracts), promoting

6. “U2’s Bono Speaks at GU Global Social Enterprise Event,” YouTube video, 1:11:06, <http://www.youtube.com/watch?v=PUZFGbQcYt8>, at 38:13 mark.

7. Parmy Olson, “Bono’s ‘Humbling’ Realizations about Aid, Capitalism, and Nerds,” *Forbes*, October 22, 2012, <http://www.forbes.com/sites/parmyolson/2012/10/22/bonos-humbling-realizations-about-aid-capitalism-and-nerds/>.

8. Ian Little, Tibor Scitovsky, and Maurice Scott, *Industry and Trade in Some Developing Countries*, London: Oxford University Press for the OECD, 1970.

education and labor market flexibility, and encouraging the deepening of financial markets. In many instances, these goals can be achieved not by proactive government policies but by eliminating poor policies and counterproductive practices: The government should not arbitrarily confiscate goods or property, should not protect monopolies and create obstacles to new business formation, should not scare off foreign investors with uncertainty about future taxes or possible expropriations, should not require that workers never be fired or laid off, should not suppress financial markets with heavy-handed regulations, and so forth. Other nontrade reforms may require proactive government policies, such as investing in infrastructure and transportation networks and improving public health and access to schools.

Still, trade policy reforms can play an important contributing role in promoting development. Recent experience has demonstrated that reducing trade barriers can bring about striking improvements in economic performance. This in turn leads to improved socioeconomic outcomes, including the reduction of poverty, malnutrition, and infant mortality.

Consider the following statement:

History makes a mockery of the claim that trade cannot work for the poor. Participation in world trade has figured prominently in many of the most successful cases of poverty reduction—and, compared with aid, it has far more potential to benefit the poor. . . . Apart from financial benefits, export growth can be a more efficient engine of poverty reduction than aid. Export production can concentrate income directly in the hands of the poor, creating new opportunities for employment and investment in the process. . . . Experience from East Asia illustrates what is possible when export growth is broad-based. Since the mid-1970s, rapid growth in exports has contributed to a wider process of economic growth which has lifted more than 400 million people out of poverty. In countries such as Vietnam and Uganda, production for export markets has helped to generate unprecedented declines in the levels of rural poverty. Where export growth is based on labour-intensive manufactured goods, as in Bangladesh, it can generate large income gains for women. . . . The benefits of trade are not automatic—and rapid export growth is no guarantee of accelerated poverty reduction. Yet when the potential of trade is harnessed to effective strategies for achieving equitable growth, it can provide a powerful impetus to the achievement of human development targets.

This statement did not come from a globalization cheerleader, but from Oxfam, the British charitable organization that is also very critical of the current system of world trade.<sup>9</sup> Oxfam is among the growing number of nongovernmental development organizations recognizing that open trade policies allow countries to benefit from the growth of world trade.

The conclusions expressed in Oxfam's statement are supported by empirical analyses of the relationship between trade and growth focusing specifically on developing countries. One study examined the top one-third of all developing countries in terms of the increase in their trade-to-GDP ratio since 1980. These countries—the “globalizers”—cut import tariffs by twice the margin of nonglobalizers and experienced a 5 percent annual increase in real per capita income, whereas the other developing countries—the “nonglobalizers”—saw only a 1.4 percent annual increase in real per capita income.<sup>10</sup> As the study's authors note, “There are many interesting pair-wise comparisons between the globalising group and the non-globalising group: Vietnam versus Burma, Bangladesh versus Pakistan, Costa Rica versus Honduras. In each of these cases, the economy that has opened up more has had better economic performance.”

Indeed, greater trade openness—marked by rising trade and low or declining trade barriers—has been a feature of virtually all rapid-growth developing country experiences in the past fifty years.<sup>11</sup> A more recent study of developing countries found “a significant correlation between tariff reductions and growth acceleration, one that is strong for tariffs on capital and intermediate goods and much weaker for consumption tariffs.” In fact, the “liberalizers” grew 1 percentage point more than the “non-liberalizers,” a difference that rapidly cumulates to much higher incomes over time.<sup>12</sup>

9. Oxfam, *Rigged Rules and Double Standards: Trade, Globalisation, and the Fight against Poverty*, London: Oxfam, 2002, 8–9. Of course, the World Trade Organization (WTO) and World Bank have long suggested that increased trade and lower trade barriers have reduced poverty; see WTO and World Bank, *The Role of Trade in Ending Poverty*, Geneva: WTO, 2015. Research backs up many of the claims about globalization reducing poverty. See Andreas Bergh and Therese Nilsson, “Is Globalization Reducing Absolute Poverty?,” *World Development* 62 (2014): 42–61. For a literature survey, see L. Alan Winters and Antonio Martuscelli, “Trade Liberalization and Poverty: What Have We Learned in a Decade?,” *Annual Review of Resource Economics* 6 (2014): 493–512.

10. David Dollar and Aart Kraay, “Trade, Growth, and Poverty,” *Economic Journal* 114 (2004): F22–F49. For follow-up work, see David Dollar, Tatiana Kleinebergh, and Aart Kraay, “Growth Is Still Good for the Poor,” *European Economic Review* 81 (2016): 68–85.

11. See Panagariya, *Free Trade and Prosperity*. See also Arvind Panagariya, “Miracles and Debacles: In Defense of Trade Openness,” *World Economy* 27 (2004): 1149–72.

12. Antoni Esteveadeordal and Alan M. Taylor, “Is the Washington Consensus Dead? Growth, Openness, and the Great Liberalization 1970s–2000s,” *Review of Economics and Statistics* 95



It is sometimes believed that globalization has been imposed on countries. Yet globalization is also a choice. Through their trade and foreign investment policies, countries can choose the degree to which they want to be a part of the world economy. Cambodia, Vietnam, and Uganda have embraced the world market and have seen their trade-to-GDP ratios soar. Meanwhile, trade has shrunk as a part of the economies of Egypt, Nigeria, and the Dominican Republic. Some of these declines may be the result of political instability, macroeconomic mismanagement, or reduction in demand for country-specific goods (such as Zambia's copper), but some also represent government policies that deliberately hinder the ability of citizens to participate in the world economy. For example, Pakistan has an export-to-GDP ratio of only about 10 percent, a fraction of what it is for many export-oriented developing countries. The country's own policies have stifled trade and kept this ratio artificially low. Many parts of the world that chose not to participate in the world economy have succeeded in being marginalized.

The greatest example of a country turning its back on the world economy is China in the fourteenth century. The imperial court prohibited any foreign trade (without official permission) for about two centuries after 1371, even going as far as to forbid the construction of new seagoing ships in 1436. While these efforts did not completely eliminate trade, they severely curtailed it at a time when Chinese merchants were very active in the Indian Ocean and Africa. China's action did not stop globalization. As a result, China lost its technological leadership and fell very far behind the rest of the world in military and commercial strength. Eventually it fell prey to political domination by the West in the nineteenth century.

That lesson still holds true today: Countries that deliberately seek to isolate themselves from the world will only find their living standards falling behind those of other countries. The near autarkic state of North Korea is a sad reminder of this fact. In the Middle East, too, many countries have resisted joining the world economy. At the time of the September 11, 2001, attack on the World Trade Center and Pentagon, Saudi Arabia, Iran, Iraq, Syria, Afghanistan, Algeria, and other countries in the region had one thing in common: they were not members of the World Trade Organization (WTO). With over 150 members, the WTO is not an exclusive club that has shunned them. Instead, these countries did not (until recently) feel compelled to

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(2013): 1669–90. For other studies, see Douglas A. Irwin, “Does Trade Reform Promote Economic Growth? A Review of Recent Evidence,” National Bureau of Economic Research Working Paper No. 25927, June 2019.

become part of the club, a symptom of their disengagement with the rest of the world.<sup>13</sup> According to the United Nations' *Arab Human Development Report*, many societies in the Middle East are closed, their economies stifled, their peoples repressed. They do not encourage business formation or welcome foreign investment, the exchange of goods across borders, or even international trade in ideas. According to the report, the Arab world translated about 330 foreign books annually, one-fifth of the number that Greece alone translates. Perhaps not surprisingly, the report found that one in two Arab youths is dissatisfied with the prospect of living in a closed society and has expressed a desire to emigrate.<sup>14</sup>

In other countries, macroeconomic mismanagement has led to increasingly restrictive trade policies that cut their markets off from the rest of the world. For example, Argentina, Nigeria, and Venezuela have suffered from overvalued currencies in recent years. They have sought to maintain a fixed exchange rate even though high domestic inflation warrants a depreciation of the exchange rate; as a result, the black market exchange rate is very different from the official exchange rate. An overvalued currency makes domestic goods more expensive relative to foreign goods. That kills exports by pricing the country's goods out of the world market. It also leads to excessive spending on imports. To bridge the gap between falling exports and rising imports while seeking to maintain the artificially high value of their currency, governments often clamp down on spending on imports by using quotas and official allocation of foreign exchange. These heavy-handed interventions not only suppress trade, they also severely distort markets, leading to widespread shortages, growing corruption, and other unfavorable consequences.<sup>15</sup>

Indeed, in South America, there is an interesting experiment taking place between countries that face the Pacific Ocean and those that face the Atlantic Ocean. The Pacific countries—Mexico, Peru, Chile, and Colombia—have embraced economic liberalization and freer trade. The Atlantic countries—Brazil, Argentina, and Venezuela—are more suspicious of globalization and continue to have the government play a large role in resource allocation. So far, the Pacific countries have experienced much better economic

13. Brink Lindsey, "Poor Choice: Why Globalization Didn't Create 9/11," *The New Republic*, November 12, 2001.

14. United Nations Development Program, *Arab Human Development Report, 2002: Creating Opportunities for Future Generations*, New York: United Nations, 2002, 30.

15. On overvalued exchange rates and protectionism, see Howard J. Schatz and David G. Tarr, "Exchange Rate Overvaluation and Trade Protection," in *Development, Trade, and the WTO: A Handbook*, edited by Bernard Hoekman, Aaditya Mattoo, and Philip English, Washington, DC: World Bank, 2002.

performance—stronger growth and growing trade—than the Atlantic countries.<sup>16</sup>

## Two Billion People—China and India

Perhaps the most compelling examples of how more open trade policies can facilitate economic growth and development come from the two most populous countries in the world—China and India. Over the past quarter century, both countries have shifted from economic isolation to economic integration with the rest of the world. Both countries have been growing rapidly and have made remarkable strides in reducing poverty and raising the standards of living of their citizens.

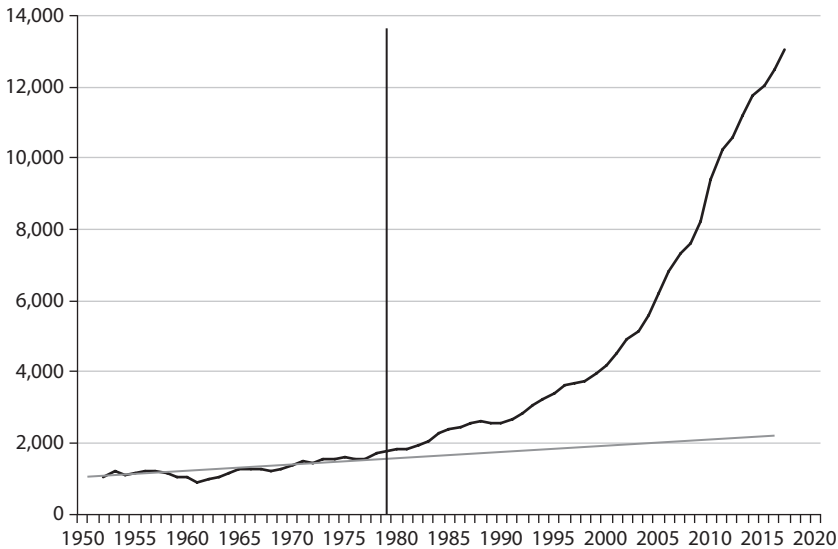
Before 1979, China was virtually closed to world trade. China's trade operated under a strict system of state trading in which about a dozen foreign trade corporations monopolized all international trade. China followed a Soviet-style system of central planning that made import-substitution industrialization (replacing all imports with domestic production) an overriding objective. Imports were minimized and exports were authorized only to the extent required to pay for imports.<sup>17</sup> The policy succeeded in building up domestic manufacturing, but investments in capital-intensive heavy industries failed to improve the welfare of China's citizens.

As one author put it: "At the start of the 1980s, China qualified as one of the world's least developed countries. The country's annual per capita income of \$208 placed it squarely between Mozambique and Burma. Ordinary people's dreams revolved around the 'three major possessions': a bicycle, a wristwatch, and a sewing machine."<sup>18</sup> In December 1978, China began to end its policy of economic isolation. Under the leadership of Deng Xiaoping, the government decollectivized agriculture, freed foreign exchange transactions, allowed private entities to trade, and permitted

16. David Luhnow, "The Two Latin Americas: A Continental Divide between One Bloc That Favors State Controls and Another That Embraces Free Markets," *Wall Street Journal*, January 3, 2014.

17. "To achieve the goal of a self-reliant industrial economy, domestic industry was protected from foreign competition by direct controls on imports and investment and administrative allocation of foreign exchange combined with an overvalued currency. These policies, enforced by central planners and a central foreign trade monopoly, built an airtight wall between the domestic economy and the world economy." Susan L. Shirk, *How China Opened Its Door: The Political Success of the PRC's Foreign Trade and Investment Reforms*, Washington, DC: Brookings Institution, 1994, 8.

18. Deborah Brautigam, *The Dragon's Gift: The Real Story of China in Africa*, New York: Oxford University Press, 2010, 54.



**FIGURE 6.1.** Real per Capita GDP in China, 1952–2017

*Source:* Penn World Tables 9.0, available at FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis.

*Note:* Expenditure-side real GDP at chained purchasing power parities for China is shown in millions of 2011 U.S. dollars, annual.

foreign investment. Although reforms were gradually introduced over the 1980s and 1990s and went well beyond trade policy alone, the opening of China's economy to the world was a critical component of these changes. In 1992, the weighted average tariff on manufactured goods was over 45 percent. Since China joined the WTO in 2001, the country's average tariff has fallen to less than 7 percent.<sup>19</sup>

The results have been stunning. China's exports and imports as a percent of gross domestic product (GDP) have soared, as figure 3.1 illustrated. China's share of world trade rose from about 1 percent in 1980 to more than 11 percent in 2013. Foreign investment in China has grown from virtually nothing in 1980 to more than \$1.3 trillion in 2012. More important, as figure 6.1 shows, China's real per capita income has grown at near double-digit rates since the 1980s, making it one of the fastest-growing countries in the world. The dashed line shows China's growth path based on the trend before 1979, suggesting that the reforms made an enormous difference to

19. Elena Ianchovichina and Will Martin, "Impacts of China's Accession to the World Trade Organization," *World Bank Economic Review* 18 (2004): 3–37.

the country's income. As a result of the rapid growth, the poverty rate fell from 84 percent in 1981 to 13 percent in 2008 to less than 1 percent in 2015.<sup>20</sup>

Of course, China did not just open up to trade—it fundamentally changed the way its economy was organized. Yet the decision to open to the world was not inevitable. China had a large internal market and could have pursued import substitution or industrial policies in a different way. But its trade policy reforms were a vital component of its broader reforms and have played a critical role in its economic success.

India is another example of a country that dramatically improved its economic performance after moving to freer trade policies. For about four decades after becoming independent in 1947, India pursued a policy of self-sufficiency and industrial planning that required elaborate and complex import restrictions. Importing anything that was not explicitly on a government list of approved items was forbidden. Imports of “nonessential” consumer goods were banned and those deemed “essential” (e.g., food, pharmaceuticals) were imported and sold only by state agencies. A labyrinth of government requirements—permissions, licenses, and certifications—had to be met before intermediate and capital goods could be imported. This became known as the “license raj” because a license, or government permit, was required to do just about everything, from importing spare parts to expanding the size of one's business. It usually took repeated visits to multiple government agencies, involving lengthy bureaucratic delays, to obtain such licenses, although the process could be accelerated with a modest financial contribution to the right person.

Bureaucrats and politicians justified these draconian policies on several grounds. Government control over industry and trade was deemed necessary to conserve resources and eliminate wasteful competition. The scarcity of capital was held to justify government approval for investment projects. The shortage of foreign exchange, it was believed, meant that hard currency should be allocated by government officials rather than by the market to ensure its use for projects in the “national interest.” The fear of foreign domination lurked behind many of these policies and created resistance to market-based solutions in favor of government-directed ones.

Unfortunately, the outcome was a disgrace—sluggish growth, persistent poverty, inefficient industry, and lagging modernization. The system was

20. World Bank, “Poverty Headcount Ratio at \$1.90 a Day (2011 PPP) (% of Population)—China,” <https://data.worldbank.org/indicator/SI.POV.DDAY?locations=CN> (accessed July 24, 2019). See also Martin Ravallion and Shoahua Chen, “China's (Uneven) Progress against Poverty,” *Journal of Development Economics* 82 (2007): 1–42, and Jagdish Bhagwati and T. N. Srinivasan, “Trade and Poverty in Poor Countries,” *American Economic Review* 92 (2002): 180–83.

deeply corrupt because government officials had to be bribed to get anything done. One estimate puts the value of rents created as a result of the trade restrictions at 5 percent of India's GDP—something very much worth fighting over.<sup>21</sup> According to one quip, India suffered under four hundred years of British imperialism and fifty years of the Fabian socialism of the London School of Economics—and it is not clear which did more damage.<sup>22</sup>

However, an economic crisis in 1991 gave reform-minded policymakers the opportunity to undertake a radical shift in policy.<sup>23</sup> India abandoned parts of its central planning system and abolished the requirement of government permission for all industrial investment expenditures, with some exceptions. Indian firms were permitted to borrow on international capital markets, the rupee was devalued and made convertible, quantitative restrictions on imports were abolished, export subsidies were eliminated, and import duties were slashed from an average of 87 percent in 1990 to 33 percent in 1994. After further cuts, those tariffs are currently about 13 percent. Nontariff barriers covered 95 percent of all imports in 1988 but just 24 percent in 1999.<sup>24</sup> The “license raj”—the rigid and complex system of import controls and foreign investment restrictions administered by government bureaucrats—was dismantled, unleashing the private sector from red tape but also exposing it to international competition.

The outcome has been astonishing. As figure 6.2 shows, growth in real per capita income in India began to pick up in the mid-1980s, when some tentative steps toward reducing import barriers and investment controls were taken, and then accelerated after 1991.<sup>25</sup> (The dashed line indicates India's pre-reform growth path.) The reduction in trade barriers has also been linked to higher productivity; by one estimate, India experienced a

21. Anne O. Krueger, “The Political Economy of a Rent Seeking Society,” *American Economic Review* 64 (1974): 291–303. This figure is just the value of the import licenses. According to others, when industrial licensing and other controls are included, the value of rents was at 30 to 45 percent of GDP in the early 1980s; see Sharif Mohammad and John Whalley, “Rent Seeking in India: Its Costs and Policy Significance,” *Kyklos* 37 (1984): 387–413.

22. In the early and mid-twentieth century, the London School of Economics was home to Fabian socialist ideas that influenced generations of Indian policymakers. The quip is from Moore, *A World without Walls*, 132.

23. Montek S. Ahluwalia, “Economic Reforms in India Since 1991: Has Gradualism Worked?,” *Journal of Economic Perspectives* 16 (2002): 67–88.

24. T.N. Srinivasan and Suresh Tendulkar, *Reintegrating India with the World Economy*, Washington, DC: Institute for International Economics, 2003, 33–39.

25. Jagdish Bhagwati and Arvind Panagariya, *Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries*, New York: Oxford University Press, 2013.

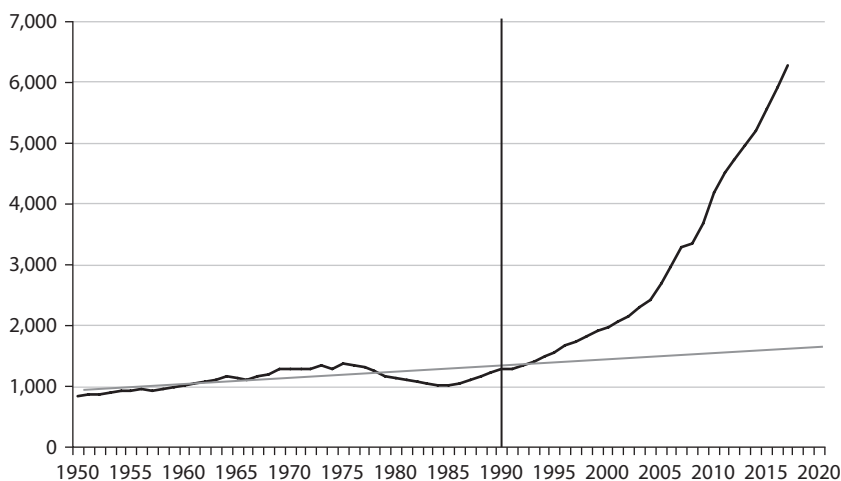


FIGURE 6.2. Real per Capita GDP in India, 1950–2017

Source: Penn World Tables 9.0, available at FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis.

Note: Expenditure-side real GDP at chained purchasing power parities for India is shown in millions of 2011 U.S. dollars, annual.

20 percent increase in aggregate productivity growth and a 30 to 35 percent increase in intra-plant productivity following tariff liberalization.<sup>26</sup> Most important, the poverty rate has fallen from 46 percent in 1993 to 21 percent in 2011, improving the lives of tens of millions of Indians.<sup>27</sup>

The power of economic reform is illustrated by considering seven entrepreneurs who in 1981 started a small business in India with \$250 of seed capital. The Indian government created huge obstacles to the setting up of the business. As one of the founders later recalled, “It took us a year to obtain a telephone connection, two years to get a license to import a computer, and fifteen days to get foreign currency for travel abroad. . . . The first ten

26. Jagadeesh Sivadasan, “Barriers to Entry and Productivity: Evidence from India,” *B.E. Journal of Economic Analysis & Policy* 9 (2009), article 42. There are numerous studies on the productivity effects of India’s dismantling of the license raj; on the trade liberalization component, see Petia Topalova and Anit Khandelwal, “Trade Liberalization and Firm Productivity: The Case of India,” *Review of Economics and Statistics* 93 (2011): 995–1009; Pinelopi K. Goldberg, Amit Khandelwal, Nina Pavcnik, and Petia B. Topalova, “Imported Intermediate Inputs and Domestic Product Growth: Evidence from India,” *Quarterly Journal of Economics* 125 (2010): 1727–67.

27. World Bank, “Poverty Headcount Ratio at \$1.90 a Day (2011 PPP) (% of Population)—India,” <https://data.worldbank.org/indicator/SI.POV.DDAY?locations=IN> (accessed July 24, 2019).

years of our marathon seemed interminable and frustrating. Although we managed to keep our heads above water, we were floundering.”

The lifeboat that rescued the firm and allowed it to flourish was India’s deregulation and economic liberalization in 1991. That firm is Infosys Technologies Ltd., now one of the largest and most successful software companies in the world; and that entrepreneur is N. R. Narayana Murthy, the chairman and CEO of Infosys. According to Murthy, the economic reforms of 1991 “changed the Indian business context from one of state-centered, control orientation to a free, open market orientation, at least for high-tech companies.” That allowed the company to grow so that it could eventually employ thousands of Indians at relatively high wages. “We at Infosys . . . have never looked back,” Murthy says. “The lesson from the Indian experience is a clear clarion call for all who are willing to listen: free trade can bring great benefits to society.”<sup>28</sup>

China and India provide dramatic illustrations of the improvement in economic circumstances that can result when poor economic policies are replaced with better ones, particularly with respect to international trade. Higher incomes translate into tangible improvements in the well-being of millions of people. This improvement in well-being cannot be measured in terms of dollars and cents alone, but in the lives that are saved as a result of moving people away from the knife-edge of poverty, where a bad harvest or the loss of a job can spell malnourishment or even death. Hunger and malnutrition, illiteracy, and infant mortality persisted for decades after China adopted central planning in 1949 and India received political independence in 1947. Because of the economic opportunities that opened up after the 1978 and 1991 reforms in China and India, respectively, hundreds of millions of people have had a chance to join the middle class.

Thus, the higher income that comes with freer trade is important not just for crass material reasons but because it can lead to a better life. With higher incomes, families can pay for more and better food, gain access to medicines and better healthcare, and afford schooling for their children. One study examined the direct connections between trade openness and a society’s health outcomes, specifically infant mortality and life expectancy. Even after controlling for a country’s per capita income, average years of schooling, number of doctors per capita, and other factors, people in countries

28. N. R. Narayana Murthy, “Reflections of an Entrepreneur,” commencement address at the Wharton School of Business, University of Pennsylvania, May 20, 2001, <http://knowledge.wharton.upenn.edu/india/article.cfm?articleid=4004/>.



with lower tariffs had longer life expectancy and experienced lower infant mortality. For example, an 11 percentage point reduction in the tariff rate—a change of about one standard deviation in the sample—is associated with between three and six fewer infants dying per thousand live births.<sup>29</sup> Such findings are a powerful reminder of the life-and-death stakes of good and bad economic policies.

The tragedy of India is that, by delaying economic reforms for so many decades, it contributed to the impoverishment of its people for so long. One Indian businessman writes with dismay the following:

Most people remember the Emergency [suspension of democracy between 1975 and 1977] because it represented a generalized loss of liberty. They do not understand that by suppressing economic liberty for forty years, we destroyed growth and the future of two generations. For the average citizen it was a great betrayal. Lest we forget, we lived under a system where a third of the people went hungry and malnourished, half were illiterate while the elite enjoyed a vast system of higher education, and one of ten infants died at childbirth. Our controls and red tape stifled the entrepreneur and the farmer, and the command mentality of the bureaucrat, which fed the evil system, continues till today to frustrate every effort at reform.<sup>30</sup>

India has paid a very heavy price in human lives for delaying its reforms. But what China and India have accomplished is stunning. Though both countries still have a long way to go, the improvement in human well-being achieved over the past generation is mind-boggling.

Of course, not all of the improved economic performance of China and India can be attributed to more liberal trade policies. China moved away from a system of central planning and collective agriculture, while India freed up bureaucratic obstacles to domestic investment. Nonetheless, trade reforms were a key component of the overall economic reforms. Both countries deliberately shifted from closed economies to ones more open to world trade.

29. Shang-Jin Wei and Yi Wu, “The Life-and-Death Consequences of Globalization,” International Monetary Fund Working Paper, June 2003. Another study finds that trade liberalization reduces child mortality rates relative to a plausible counterfactual. See Alessandro Olper, Daniele Curzi, and Johan Swinnen, “Trade Liberalization and Child Mortality: A Synthetic Control Method,” *World Development* 110 (2018): 294–410.

30. Gurcharan Das, *India Unbound*, New York: Knopf, 2001, 175.

## Trade Policy Reform: Successes and Failures

China and India are dramatic examples of the tangible benefits of economic reform and international trade. On a smaller but no less dramatic scale, other developing countries have changed their economic orientation to the world and have seen improvements in economic performance.<sup>31</sup>

In the mid-1960s, Korea completely changed its trade strategy. The proportion of items automatically approved for import went from zero in June 1964 to 63 percent by December 1965. Korea's currency (the won) was devalued by nearly 50 percent, and a unified exchange rate was adopted. In 1967, many import quotas were abolished, and tariffs were sharply reduced. The effective tax on imports fell from nearly 40 percent in 1960 to 8 percent by 1967. Figure 6.3 shows the marked acceleration in Korea's growth of per capita income from around the time of these changes.<sup>32</sup> Indeed, one study suggests that Korea's tariff reductions can explain one-third of the country's catchup to developed countries in terms of output per worker in manufacturing.<sup>33</sup>

In the mid-1970s, Chile also sharply changed its trade policy. Between 1975 and 1979, Chile eliminated all quantitative restrictions and exchange controls and reduced import tariffs from over 100 percent to a uniform 10 percent. After suffering a severe recession from a banking crisis in the early 1980s, Chile continued trade liberalization. The payoff materialized in a 7 percent average annual growth rate for more than a decade after 1986 and fairly consistent 4 to 5 percent growth in the first decade of the twenty-first century.<sup>34</sup>

In 1986, Vietnam adopted economic reforms (*doi moi*) that helped increase economic growth to an average of more than 7 percent by the late 1990s and early 2000s. As in China, agricultural land reform helped jumpstart the growth process, but trade and foreign investment have been important components of Vietnam's success. The poverty rate has been slashed in a

31. See Panagariya, *Free Trade and Prosperity*.

32. Charles R. Frank, Jr., Kwang S. Kim, and Larry E. Westphal, *Foreign Trade Regimes and Economic Development: South Korea*, New York: National Bureau of Economic Research, 1975, 75.

33. Michelle Connolly and Kei-Mu Yi, "How Much of South Korea's Growth Miracle Can Be Explained by Trade Policy?," *American Economic Journal: Macroeconomics* 7 (2015): 188–221.

34. Sebastian Edwards and Daniel Lederman, "The Political Economy of Unilateral Trade Liberalization: The Case of Chile," in *Going Alone: The Case for Relaxed Reciprocity in Freeing Trade*, edited by Jagdish Bhagwati, Cambridge, MA: MIT Press, 2002.

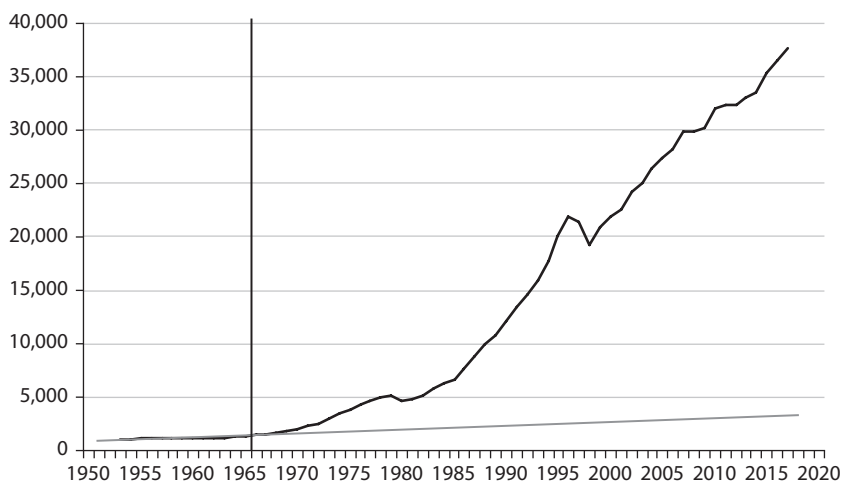


FIGURE 6.3. Real per Capita GDP in South Korea, 1953–2017

Source Penn World Tables 9.0, available at FRED, Federal Reserve Economic Data, Federal Reserve Bank of St. Louis.

Note: Expenditure-side real GDP at chained purchasing power parities for Korea is shown in millions of 2011 U.S. dollars, annual.

remarkably short time. The share of the population living in absolute poverty fell from 75 percent in 1988 to 58 percent in 1993 to 29 percent in 2002 to 15 percent in 2008.<sup>35</sup> The opening of trade contributed directly to this process since exports of rice and labor-intensive manufactured goods are produced by poor households. After the implementation of a U.S.–Vietnamese trade agreement in 2001, Vietnam’s exports to the United States doubled in 2002 and again in 2003. Those regions of Vietnam that gained the most from the new market access to the United States also experienced the most poverty reduction.<sup>36</sup>

Is it misleading to draw attention to a handful of success stories and conclude that trade liberalization is broadly beneficial? Are figures 6.1–6.3 simply illustrating a few extreme cases? Not entirely, because a more systematic empirical study looked at the major liberalization episodes around

35. World Bank, *Well Begun, Not Yet Done: Vietnam’s Remarkable Progress on Poverty Reduction and the Emerging Challenges*, Hanoi: World Bank, 2012, 17.

36. Brian McCaig, “Exporting Out of Poverty: Provincial Poverty in Vietnam and U.S. Market Access,” *Journal of International Economics* 85 (2011): 102–13. On Vietnam’s transition, see David Dollar and Borje Ljunggren, “Vietnam,” in *Going Global: Transition from Plan to Market in the World Economy*, edited by Padma Desai, Cambridge, MA: MIT Press, 1997.

the world between 1963 and 2005 and came to a similar conclusion.<sup>37</sup> The study compared the path of income in a liberalizing country to a counterfactual path of income based on a “synthetic control” group of countries in the same region that did not liberalize. The authors found that “economic liberalization in some countries is associated with a remarkable positive effect on real income.” In fact, the study produced many different figures, similar to those just presented, that show large income gains (relative to a plausible counterfactual) for such countries as Barbados, Colombia, Costa Rica, Mauritius, Botswana, and Kenya, among others. Unfortunately, the study also finds “a lot of heterogeneity in the results across regions and time” with late liberalizers (such as those in Africa and the Middle East that attempted reforms in the early 2000s) not faring as well as early liberalizers.

Indeed, not all countries that have liberalized their trade policies have enjoyed such dramatic successes as those mentioned above.<sup>38</sup> For example, Mexico significantly reduced tariffs and other trade barriers when it joined the General Agreement on Tariffs and Trade (GATT) in 1985, signed the North American Free Trade Agreement (NAFTA) with the United States and Canada in 1994, and entered a free trade agreement with the European Union in 2000. As a result, Mexico’s trade and foreign investment increased significantly. The share of trade (average of exports and imports) in GDP rose from 13 percent in 1985 to 32 percent in 2013. These reforms improved productivity in industries exposed to international competition, as described in chapter 2.

However, Mexico’s overall macroeconomic performance has been disappointing since it entered NAFTA.<sup>39</sup> Economic growth, employment growth, and wage growth have all been undistinguished since the early 1990s. NAFTA opponents blame open trade for Mexico’s problems. These critics say that NAFTA has harmed farmers and is responsible for the lack of improvement in the standard of living of workers.

One reason for Mexico’s malaise is macroeconomic. In December 1994, about a year after NAFTA went into effect and for reasons not related to

37. Andreas Billmeier and Tommaso Nannicini, “Assessing Economic Liberalization Episodes: A Synthetic Control Approach,” *Review of Economics and Statistics* 95 (2013): 983–1001. For a general review, see Irwin, “Does Trade Reform Promote Economic Growth? A Review of Recent Evidence.”

38. Some have questioned whether falling average tariffs might overstate the extent to which protectionism has actually declined in some developing countries. Chris Milner, “Declining Protection in Developing Countries: Fact or Fiction?,” *World Economy* 36 (2013): 689–700.

39. Timothy J. Kehoe and Kim J. Ruhl, “Why Have Economic Reforms in Mexico Not Generated Growth?,” *Journal of Economic Literature* 48 (2010): 1005–27.

the trade agreement, Mexico faced a speculative attack on the peso and was forced to devalue its currency. The peso crisis stemmed from an inconsistency between Mexico's monetary policy and its commitment to maintain a fixed exchange rate. The peso devaluation was a severe setback that slashed real wages overnight and sent the economy into a deep recession.

By keeping trade flows moving, NAFTA helped the Mexican economy through a difficult period. The continued expansion of trade promoted the country's recovery from this traumatic shock. Yet after the initial rebound, the Mexican economy remained weak. The reason for this disappointing performance was a persistent and severe credit crunch, including a deterioration in contract enforceability and an increase in nonperforming bank loans. Indeed, Mexico's credit-to-GDP ratio fell from 49 percent in 1994 to 17 percent in 2002, preventing any broad-based economic recovery.<sup>40</sup> Of course, Mexico has suffered from many institutional failures as well, including crime and corruption.

A decade after NAFTA went into effect, a Carnegie Endowment for International Peace study concluded, "Put simply, NAFTA has been neither the disaster its opponents predicted nor the savior hailed by its supporters." The report also noted that "NAFTA has accelerated Mexico's transition to a liberalized economy without creating the necessary conditions for the public and private sectors to respond to the economic, social, and environmental shocks of trading with two of the biggest economies in the world."<sup>41</sup> This suggests that other complementary policies are required if trade liberalization is to succeed in improving welfare, a point that will be discussed later.

The twentieth anniversary of NAFTA in 2014 prompted many reassessments of the agreement.<sup>42</sup> What is sometimes missed in rehashing the old

40. Aaron Tornell, Frank Westermann, and Lorenza Martinez, "NAFTA and Mexico's Less-than-Stellar Performance," National Bureau of Economic Research Working Paper No. 10289, February 2004. One scholar argues that a combination of poorly functioning credit markets, distortions in the supply of nontraded inputs, and perverse incentives for informality create a drag on productivity growth. Gordon H. Hanson, "Why Isn't Mexico Rich?," *Journal of Economic Literature* 48 (2010): 987–1004. Others argue that misleading statistics understate the extent of growth and improvement for the poor; see Irineu de Carvalho Filho and Marcos Chamon, "The Myth of Post-Reform Income Stagnation: Evidence from Brazil and Mexico," *Journal of Development Economics* 97 (2012): 368–86.

41. John J. Audley, John J., Demetrios G. Papademetriou, Sandra Polaski, and Scott Vaughan, *NAFTA's Promise and Reality: Lessons from Mexico for the Hemisphere*, Washington, DC: Carnegie Endowment for International Peace, 2004, 6.

42. Those critical of the agreement twenty years ago, including groups such as the AFL-CIO, Public Citizen, and the Economic Policy Institute, have called it a "disaster," while supporters continue to defend it. See Gary C. Hufbauer, Cathleen Cimino, and Tyler Moran, "NAFTA at 20:

debate is that, despite financial crises, drug violence, and the Zapatista rebellion in the southern Mexican state of Chiapas, Mexico is doing reasonably well. The World Bank reports that 17 percent of Mexico's population joined the middle class between 2000 and 2010 and that measures of inequality have fallen.<sup>43</sup> Furthermore, illegal immigration into the United States from Mexico has dropped to almost zero over the past decade. At the same time, Mexican manufacturing job loss induced by competition with China has been shown to increase cocaine trafficking and violence, particularly in municipalities with international criminal organizations. When it becomes more lucrative to traffic drugs because changes in local labor markets lower the opportunity cost of criminal employment, particularly for low-skilled men, criminal organizations fight to gain control.<sup>44</sup>

While there are good reasons to be optimistic about Mexico's future, its experience, unfortunately, is not unique. Other developing countries significantly reduced tariffs in the 1990s but also have not performed well. In Latin America, Colombia cut its tariffs by more than half in 1991, while Argentina and Nicaragua reduced them from over 100 percent to just 15 percent in one stroke in 1992. In Africa, Kenya reduced its import duties from over 40 percent in the early 1980s to under 15 percent by the late 1990s.<sup>45</sup> Yet the people of these countries have not seen a dramatic improvement in their standard of living.

In fact, as in the United States, there can be a downside in the dislocation that comes from workers having to adjust to trade. In South Africa, workers affected by tariff reductions did not adjust well; formal and informal employment declined when workers did not transition to different sectors of the economy or move to different regions. Rather they were more likely to exit the labor market and receive government transfers.<sup>46</sup> In Brazil, workers displaced by imports show very slow adjustment response—so slow that

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Misleading Charges and Positive Achievements,” Peterson Institute for International Economics Policy Brief No. PB14–13, May 2014.

43. Francisco H. G. Ferreira, Julian Messina, Jamele Rigolini, Luis-Felipe López-Calva, Maria Ana Lugo, and Renos Vakis, *Economic Mobility and the Rise of the Latin American Middle Class*, Washington, DC: World Bank, 2013.

44. Melissa Dell, Benjamin Feigenberg, and Kensuke Teshima, “The Violent Consequences of Trade-Induced Worker Displacement in Mexico,” *American Economic Review: Insights* 1 (2019): 43–58.

45. World Bank, *Global Economic Prospects and the Developing Countries*, Washington, DC: World Bank, 2001, 51.

46. Bilge Erten, Jessica Leight, and Fiona Tregenna, “Trade Liberalization and Local Labor Market Adjustment in South Africa,” *Journal of International Economics* 118 (2019): 448–67.

the negative impact on certain regions grew over time rather than being reversed.<sup>47</sup> Regions exposed to larger tariff reductions even experienced a temporary increase in crime following liberalization.<sup>48</sup>

This disappointing performance is sometimes interpreted as indicating that trade liberalization and increased integration with the world have failed to help developing countries and that therefore the strategy should be abandoned. This is the wrong conclusion to draw. In the case of Argentina, for example, macroeconomic instability—arising from excessive borrowing abroad and the resulting buildup of foreign debt—have had devastating effects far beyond any good that open trade could bring. Colombia and other countries have had to endure “shock therapy” to end hyperinflation and hemorrhaging budget deficits, forcing the economy through wrenching adjustments that overwhelmed the impact of trade liberalization. Until the mid-1990s, the overvaluation of West African currencies tied to the French franc severely constrained the ability of West African countries to stimulate growth through exports.<sup>49</sup> Domestic conflict in many of these countries has also deterred investment and prevented the full benefits of trade from being realized.

In its review of the economic reform and growth experience of the 1990s, the World Bank conceded that “the results of trade reforms have varied and sometimes fallen short of expectations.”<sup>50</sup> It further said:

Trade reforms are most likely to stimulate growth when they are part of a comprehensive strategy. Important elements of an effective growth strategy can include sound macroeconomic management, building of trade-related infrastructure and institutions, economy-wide investments

47. Rafael Dix-Carneiro and Brian Kovak, “Trade Liberalization and Regional Dynamics,” *American Economic Review* 107 (2017): 2908–46; Rafael Dix-Carneiro, “Trade Liberalization and Labor Market Dynamics,” *Econometrica* 82 (2014): 825–85.

48. Rafael Dix-Carneiro, Rodrigo R. Soares, and Gabriel Ulyssea, “Economic Shocks and Crime: Evidence from the Brazilian Trade Liberalization,” *American Economic Journal: Applied Economics* 10 (2018): 158–95.

49. “Liberalization of trade in Argentina in the 1980s and 1990s, and in Chile in the early 1980s, for example, was accompanied by an appreciation of the real exchange rate, which reduced the competitiveness of domestic industries and incentive to export—with adverse consequences for the balance of payments and real economy. In many countries of the former Soviet Union and some in Eastern Europe in the 1990s, trade was liberalized while property rights were not well defined and the institutional base for a market economy was not well developed. These, and other institutional issues preventing the free movement of resources, often meant that trade reforms did not expand economic opportunities but restricted them instead.” World Bank, *Economic Growth in the 1990s: Learning from a Decade of Reform*, Washington, DC: World Bank, 2005, 137.

50. World Bank, *Economic Growth in the 1990s: Learning from a Decade of Reform*, 131, 137–38.

in physical and human capital, greater access to developed and developing country markets, and maintenance of a sound rule of law. Because these elements are often difficult to implement, there has been excessive emphasis on trade policy alone, rather than as a component of an overall growth strategy.

One important lesson is that excessive regulation and a poor domestic business environment may prevent trade liberalization from stimulating growth. One study reports that increased openness to trade leads to higher incomes in flexible economies but not in heavily regulated ones. Specifically, a 1 percent increase in trade is associated with a 0.5 percent rise in per capita income in countries that allow the free entry of firms into sectors that they choose, but it has no positive impact on income in countries that restrict business entry.<sup>51</sup> If excessive regulations prevent resources from moving to the economy's most productive sectors and firms, then trade liberalization will fail to improve incomes. A sound domestic environment for business is required for countries to take full advantage of policy reforms that encourage global trade. Highly regulated economies are likely to perform better if they sweep away domestic impediments to economic activity before embarking on trade reforms.<sup>52</sup>

Indeed, in some developing countries, administrative controls and poor infrastructure may be more important obstacles to trade than tariffs alone. Inefficient customs and tax administration have hampered exporters who require imported components and materials for production. For example, a business in the Central African Republic has to take fifty-seven days to complete all the export formalities, submitting eight documents to different government agencies, and spend \$4,581 before a container can leave the port in Yaoundé in neighboring Cameroon. In Angola, a ship arriving in the port

51. Caroline Freund and Bineswaree Bolaky, "Trade, Regulations, and Income," *Journal of Development Economics* 87 (2008): 309–21.

52. The World Bank has an annual report on the costs of business regulation in developing countries, which notes that "an entrepreneur in Uganda, for example, will spend nearly a month and undertake 13 procedures to set up a new company. The entrepreneur will then be required to manage another 18 interactions with different agencies and wait an additional four months to obtain a building permit. Once the construction of the warehouse is completed, the entrepreneur will need to wait another two months and cash out 7,513.6% of income per capita to obtain a connection to the electrical grid. In contrast, a Danish entrepreneur can expect to be able to register a new business in just 3.5 days, complete all required legal procedures to build a warehouse through seven steps in slightly over two months and secure a reliable electricity connection for about 100% of local income per capita." World Bank, *Doing Business 2019: Training for Reform*, Washington, DC: World Bank, 2019, 1–2.



of Luanda must wait an average of eight days before landing, a delay that can stretch to fourteen days during the rainy season. It is estimated that each additional day that an export product is delayed reduces exports by more than 1 percent, and the effect on time-sensitive agricultural exports is even more dramatic.<sup>53</sup>

High transport costs and poor infrastructure can prevent trade liberalization from boosting trade in low-income developing countries. Landlocked countries are at a particular disadvantage in world trade since land transport charges have been estimated to be seven times greater than sea transport costs. Studies have found that higher transport costs and weak infrastructure explain much of Africa's poor trade performance. For example, in sub-Saharan Africa, transport costs are five times greater than tariff charges.<sup>54</sup> As noted in chapter 1, trade costs for agricultural products in sub-Saharan Africa are five times those elsewhere in the world and are estimated to have reduced GDP by more than 2 percent.<sup>55</sup>

Simply chopping import tariffs does not in itself solve these problems. If goods are stranded for weeks at port or roads are impassable during the rainy season, cutting tariffs from 20 to 10 percent will not make much difference. As formal barriers fall, the quality and reliability of transport infrastructure (e.g., roads, railways, airports, and seaports) and related services (e.g., telecommunications and business services such as finance and insurance) become increasingly critical to trade. Indeed, one study suggests that developing countries can expand exports more effectively by focusing on trade costs "behind the border" (domestic transport and customs administration) than on trade costs "at the border" (tariffs and quotas).<sup>56</sup>

For this reason, trade facilitation has become a priority in international agencies such as the World Trade Organization and the World Bank. Trade facilitation is simply the logistics of moving goods through customs and includes such mundane things as port efficiency, inspections and documentation, transparency of government regulations, and so on. Some policy changes can make a difference. For example, in the early 1990s Argentina

53. World Bank, *Doing Business 2008*, Washington, DC: World Bank, 2007, 44–45.

54. Nuno Limão and Anthony Venables, "Infrastructure, Geographical Disadvantage, Transport Costs, and Trade," *World Bank Economic Review* 15 (2001): 451–79.

55. Obie Porteous, "High Trade Costs and Their Consequences: An Estimated Dynamic Model of African Agricultural Storage and Trade," *American Economic Journal: Applied Economics* 11 (2019): 327–66.

56. Bernard Hoekman and Alessandro Nicita, "Trade Policy, Trade Costs, and Developing Country Trade," *World Development* 39 (2011): 2069–79.

began allowing private firms to operate public ports and invest in their infrastructure. As a result, cargo handling increased 50 percent between 1990 and 1995 and labor productivity surged, making Argentine ports among the cheapest in Latin America.<sup>57</sup>

In sum, trade liberalization is not a magic bullet guaranteed to bring about rapid growth in trade and higher incomes. The right conclusion to draw is that the case for free trade requires a caution: Other policies in developing countries can prevent the full benefits of trade liberalization from being realized. Many other factors—political conflicts, macroeconomic instability, a poor domestic business environment—can stand in the way of the beneficial effects of trade and can prevent freer trade from yielding the ultimate payoff of higher living standards. At the same time, protectionist trade policies are no solution and often make things worse. From 2008 to 2012, Nigeria prohibited some food imports to protect existing producers and reduce the country's dependence on imports. Because 70 percent of poor households' budget was spent on food items, the poor were particularly vulnerable to such import restrictions. One study found that the elimination of import bans would reduce the national poverty rate by as much as 2.6 percentage points.<sup>58</sup>

### Industrial Policy and the East Asian Miracle

Despite the success that many countries have had with trade liberalization, developing countries still fear the consequences of opening their markets to the world. The old concerns about foreign domination and imports destroying important domestic industries continue to exist. Many people still cling to the view that import substitution and protecting infant industries is the right approach to promoting development.

*Import substitution* refers to a deliberate policy of encouraging domestic production of manufactured goods in place of imports. Such policies were common in the 1950s and 1960s when industrialization was viewed as the key to economic development. Such policies often succeeded in building up capital-intensive industries and sometimes led to high rates of output growth. But they often failed to improve standards of living because the high investment rates required to maintain growth in the capital stock detracted

57. World Trade Organization, *Annual Report 2004*, Geneva: WTO, June 2004, Box IIB.5.

58. Andrew Dabalen and Nga Thi Viet Nguyen, "The Short-Run Impact of Import Bans on Poverty: The Case of Nigeria (2008–2012)," *World Bank Economic Review* 32 (2016): 245–67.

from growth in consumption. In the case of China prior to 1979, about a third of national income had to be reinvested to maintain growth in the capital stock, leaving little left over for consumers.<sup>59</sup>

These policies often turned out to be self-inflicted wounds. In many instances, capital-intensive industries were unsuited for developing economies that had a comparative advantage in labor-intensive industries. The former required ongoing government support to function profitably. By sheltering firms from import competition, protectionist policies inhibited export growth and firms became inward-looking, focusing on the domestic rather than the world market. This resulted in small and inefficient firms, since the domestic market was not large enough or competitive enough to promote firms that would be successful on the world market. India is the classic example of a country that succeeded in building up many manufacturing industries by sheltering them from foreign competition but failed to deliver a high standard of living to its people.

Although import substitution is widely acknowledged to have failed in comparison to export-promoting policies, export promotion may mean something more than free trade. Many observers point to the stunning growth of several East Asian countries and point to government industrial policies as the key to their success. The economic achievements of Japan in the 1960s and the “four tigers”—South Korea, Taiwan, Singapore, and Hong Kong—in the 1970s raised new questions about free trade. Many contend that, with the exception of Hong Kong, these countries grew rich not because of free trade but through wise government use of selective protection and targeted industrial policies.<sup>60</sup>

What is “industrial policy” as opposed to “import substitution”? The latter implies protectionist policies that get firms to focus on selling in a protected domestic market and is generally thought to be inefficient. By contrast, *industrial policy* is designed to promote (not protect) domestic firms through subsidies that enable them to reduce costs and start exporting,

59. “One consequence of this rising capital intensity of production was that gains in per capita consumption were very modest for a country in which per capita output grew relatively rapidly. Between 1957 and 1977, per capita national income rose at an average annual compound rate of 3.4 percent in real terms. Yet, because the share of output that had to be reinvested to sustain that rate of growth rose by fully one-third (from 25 percent in 1957 to an average of 33 percent in the 1970s), improvements in real living standards were quite modest.” Nicholas Lardy, *Foreign Trade and Economic Reform in China, 1978–1990*, New York: Cambridge University Press, 1992, 34.

60. Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton, NJ: Princeton University Press, 2004. For a different view, see Panagariya, *Free Trade and Prosperity*.

meeting the test of competition in world markets. In theory, a case can be made for industrial policy if there are industry-wide economies of scale that are “external” to the firm or if there is “learning by doing,” whereby production costs decline when industry output rises with experience. Economists debate whether there is a strong case for industrial policy or whether it would be captured by firms and mismanaged by governments.<sup>61</sup>

Some of this debate hinges on different interpretations of the reasons for the success of the East Asian countries. These countries did many things right—they enjoyed peace and political stability, encouraged high savings and investment rates, emphasized the importance of education and human capital accumulation, provided stable macroeconomic and exchange rate policies, and so on. Korea and Taiwan also pursued important land reforms early in their transition that led to rapid productivity growth in agriculture. In other words, these East Asian countries enjoyed many favorable conditions noticeably absent elsewhere, particularly in Latin America and Africa.

With the exception of Hong Kong, however, these countries did not pursue policies of nonintervention with respect to industry. To varying degrees, governments were involved in the allocation of capital and other resources to promote industrialization and even employed the tools of trade protectionism. Some observers have concluded that because the Japanese and Korean governments intervened in their economies to promote certain industries, their economic performance can be attributed to these interventions. In this view, the East Asian experience illustrates how careful industrial policy and protectionism, not free trade, promote economic development.

Yet there are reasons to be skeptical about this conclusion. It is always tempting to reach a conclusion about causality on the basis of correlation, reasoning that because Japan or Korea intervened in the economy or used protectionist trade measures, the success of the economy is the result of that policy. But assessing the contribution of industrial policy to economic growth is a difficult challenge. In a 1993 report on the East Asian miracle, the World Bank said:

61. For a recent advocate, see Dani Rodrik, “Industrial Policy: Don’t Ask Why, Ask How,” *Middle East Development Journal* 1 (2009): 1–29. For a critique, see Howard Pack and Kamal Saggi, “Is There a Case for Industrial Policy? A Critical Survey,” *World Bank Research Observer* 21 (2006): 267–97. Another paper finds the gains from optimal industrial policy are relatively small; see Dominick Bartelme, Arnaud Costinot, Dave Donaldson, and Andrés Rodríguez-Clare, “The Textbook Case for Industrial Policy: Theory Meets Data,” National Bureau of Economic Research Working Paper No. 26193, August 2019. For a recent survey, see Nathan Lane, “The New Empirics of Industrial Policy,” working paper, Monash University, Melbourne, Australia, January 2019.

Their interventions did not significantly inhibit growth. But it is very difficult to establish statistical links between growth and a specific intervention and even more difficult to establish causality. Because we cannot know what would have happened in the absence of a specific policy, it is difficult to test whether interventions increased growth rates.<sup>62</sup>

That is a wishy-washy conclusion, but it makes a fair point. When several factors promoting a good outcome exist simultaneously—a stable political environment, a good educational system, high savings and literacy rates, and so on—it becomes difficult to tease out the precise contribution of any one specific factor, such as industrial policy, to the outcome. One cannot rule out the possibility that government intervention actually detracted from the economic success of the country but was more than offset by the other good forces.<sup>63</sup>

In the case of Japan, the country's success after World War II is sometimes attributed to the selective interventions by the Ministry of International Trade and Industry (MITI). MITI used “administrative guidance” to promote investment in and acquire technology for selected industries. Some argue that MITI was involved not just in “picking” winners by diverting resources to selected high-growth industries, but in “making” winners by ensuring their success on international markets.

But the actual evidence on MITI's contributions to Japan's success is weak. The two industries that achieved the most notable success on world markets—automobiles and consumer electronics—did not benefit from extensive government support, unlike some other heavy industries such as chemicals and steel. MITI also had notable failures in promoting its biotechnology and computer industries. In fact, one statistical study of Japanese industrial targeting found that it was not consistent in supporting industries with external economies of scale or learning by doing.<sup>64</sup>

62. World Bank, *The East Asian Miracle: Economic Growth and Public Policy*, New York: Oxford University Press, 1993, 6.

63. As Adam Smith once opined, “The uniform, constant, and uninterrupted effort of every man to better his condition, the principle from which public and national, as well as private opulence is originally derived, is frequently powerful enough to maintain the natural progress of things towards improvement, in spite both of the extravagance of government and of the greatest errors of administration. . . . But though the profusion of government must, undoubtedly, have retarded the natural progress of England toward wealth and improvement, it has not been able to stop it.” Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: Oxford University Press, [1776] 1976, 343, 345.

64. One study finds that Japan's policies from 1964 to 1973 did not systematically favor industries with stronger economies of scale but did favor industries with weaker learning by doing;

Qualitative studies of Japan's policies lend support to this skeptical view. The consulting firm McKinsey concluded that robust domestic competition was a source of Japan's success. In many instances, MITI did not foster but actually tried to reduce competition by forming domestic cartels. (In the case of automobiles, for example, it discouraged Honda from entering the market in the 1950s, thinking that there were already too many firms in the industry.) However, in the case of machine tools, MITI helped standardize tolerances used in machines, thereby allowing large-scale assembly of machine tools and applied electronics technology. As one McKinsey analyst reported, "In all our studies of Japan, this is the only action by MITI that we found to have had a significant beneficial impact on the Japanese economy."<sup>65</sup> If this is MITI's one success, the importance of MITI has been vastly overrated.

South Korea may provide a better example of government industrial policy. Under the military dictatorship of Chung Hee Park, the Korean government employed competent technocrats who were directly involved in economic planning and investment allocation. These bureaucrats were insulated from political decisions and thus did not fall prey to corruption. The principal tool at their disposal was directed credit, which they used to promote capital-intensive industries such as chemicals, steel, and shipbuilding. (The industrial policy, known as the Heavy Chemical Industry drive, lasted from 1973 until 1979.) While the government was involved in strategic decisions about the economy, it did not implement those decisions through state-owned firms or nationalized industries. Rather, once the government and private sector negotiated economic goals and the means to carry them out, the private firms were responsible for executing them. Furthermore, these firms were not insulated from competition; instead, they were encouraged to export and face the full brunt of international competition.

Still, as described earlier in this chapter, what jump-started the Korean economy in the mid-1960s was not industrial policy but other reforms, including trade and exchange rate policy. One can also question the

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in the period from 1974 to 1983, government intervention encouraged industries with stronger economies of scale and discouraged industries with stronger learning by doing. See Oriol Pons-Benaiges, "Did Government Intervention Target Technological Externalities? Industrial Policy and Economic Growth in Postwar Japan, 1964–1983?," unpublished paper, Stanford University, October 2017. Hiroshi Ohashi finds that there were few intra-industry knowledge spillovers in the case of Japan's steel industry and that export subsidies did not help the industry's growth. Hiroshi Ohashi, "Learning by Doing, Export Subsidies, and Industry Growth: Japanese Steel in the 1950s and 60s," *Journal of International Economics* 66 (2005): 297–323.

65. William Lewis, *The Power of Productivity*, Chicago: University of Chicago Press, 2004, 40.

contribution of the technocrats to Korea's rapid growth since that time. Despite the government's emphasis on building up heavy capital-intensive industries, light labor-intensive industries increased productivity at a more rapid rate during the 1960s and 1970s. Indeed, during the 1970s, the most rapid growth in sectoral shares of value-added occurred in lower-wage or low value-added-per-worker sectors.<sup>66</sup> Furthermore, as in the previously mentioned study of Japan, measures of Korean industrial policy (such as tax incentives and subsidized credit) are not correlated with productivity growth at the industry level.<sup>67</sup> Korea's use of directed credit to promote industrial growth has also led to problems. Korean industry suffered from gross overinvestment and was far too reliant on capital-intensive production methods. Nonperforming loans and weakness in the banking and financial system are related to major economic crises in 1979–81 and 1997–98. (That is one reason that the government's Heavy Chemical Industry drive was abandoned in 1979.)

Several points stand out from the Korean experience. First, private firms were not shielded from competition but rather exposed to it and forced to meet the test of international markets. The reforms that put Korea on the path of export-led industrialization "did not achieve this result by the conventionally prescribed approach, which is to reduce greatly (if not eliminate) the domestic market's insulation from import competition."<sup>68</sup> Second, bureaucrats were insulated from political pressures to allocate resources to politically favored projects. The implementation of plans took place by relying on free market institutions and was negotiated with, not imposed on, private firms.

Because of the special historical, political, and cultural circumstances of Korea, even a leading proponent of the view that Korea's economy benefited from government industrial policy has concluded that "one has to be

66. David Dollar and Kenneth Sokoloff, "Patterns of Productivity Growth in South Korean Manufacturing Industries, 1963–1979," *Journal of Development Economics* 303 (1990): 309–27; World Bank, *The East Asian Miracle: Economic Growth and Public Policy*, 314.

67. Jhong-Wha Lee, "Government Interventions and Productivity Growth," *Journal of Economic Growth* 1 (1996): 391–414. Another study concludes that Korea properly implemented an industrial policy, promoting infant industries rather than mature ones, but it failed to pay off because it distorted prices too seriously for too long; see Jaymin Lee, "The Performance of Industrial Policy: Evidence from Korea," *International Economic Journal* 25 (2011): 1–27.

68. Rather, it established a "virtual free trade regime for export activity" that also "entailed tremendous openness to imports of raw materials, intermediate inputs, and capital goods." Larry E. Westphal, "Industrial Policy in an Export Propelled Economy: Lessons from South Korea's Experience," *Journal of Economic Perspectives* 4 (1990): 44.



extremely skeptical about the prospects for replicating the Korean government's use of selective intervention."<sup>69</sup> Indeed, the political prerequisites for such judicious intervention are lacking in other Southeast Asian countries such as Malaysia, Thailand, and Indonesia. The economies of these countries have performed well in recent decades, but corruption and rent seeking have given industrial policy there a bad name. In these countries, industrial policy is virtually synonymous with arbitrary interventions to help out political cronies. However, these countries have also welcomed foreign investment in labor-intensive export industries and have not sought to promote investment in heavy industry to the same degree as Japan or Korea.

The big difference between industrial policy in Japan and Korea as opposed to Malaysia and Indonesia is "export discipline," according to one observer. Export discipline is a policy of "tough love"—giving firms protection and credit subsidies only if they export their goods and meet the test of the global market. If the firm fails, it forfeits its access to government assistance. In this sense, Japan and Korea "did not so much pick winners as weed out losers." But Southeast Asian countries did not enforce such a policy and firms slacked off. According to this observer, "Where export discipline has not been present, development policy has become a game of charades, with local firms able to pretend that they have been achieving world-class standards without having to prove it in the global market place. In Southeast Asia, the energies of entrepreneurs were directed towards fooling politicians [to maintain government support] rather than exporting."<sup>70</sup>

Thus, there is no single East Asian model of economic development. Singapore and Hong Kong are small island states, the latter pursuing an almost pure free-market approach. Japan and Korea employed more activist industrial policies, but there is little evidence demonstrating their precise contribution (positive or negative) to the country's development. Malaysia and Indonesia have weaker political institutions that do not keep industrial policy free from corruption and rent seeking.<sup>71</sup> Yet, for the most part, all of

69. Westphal, "Industrial Policy in an Export Propelled Economy," 42.

70. Joe Studwell, *How Asia Works: Success and Failure in the World's Most Dynamic Region*, New York: Grove Press, 2013, 76–77. Simply put, "In Korea, infant industry protection combined with export discipline, plus competition among multiple entrants, made manufacturing policy highly effective in securing technological upgrading. In Malaysia, industrial policy without export-discipline and with insufficient attention to the need to foster competition came unstuck" (Studwell 2013, 152).

71. Corruption is always a concern when the government is handing out subsidies. Alberto Ales and Rafael Di Tella, "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic," *Economic Journal* 107 (1997): 1023–42.



these East Asian countries have enjoyed macroeconomic stability, relied on private enterprise and market competition, stressed investment in human capital, and adopted outward-oriented policies rather than import substitution. These are the common elements cutting across the countries' vast differences.

What about the "state capitalism" model of China, which has grown tremendously over the past few decades? This growth initially came in the late 1970s from market reforms in agriculture permitted by Premier Deng Xiaoping.<sup>72</sup> The relaxation of collective farming allowed farmers to determine what to produce and to sell their produce, dramatically increasing productivity. Then high savings rate was channeled into productive industries, along with foreign investment in special economic zones that allowed labor-intensive industries to flourish through exports. In the 1990s, China privatized many state-owned firms and allowed a vibrant private sector to emerge, fueling double-digit growth rates for thirty years.

While China has a robust and competitive private sector, the government never ended its backing for state-owned enterprises (SOEs). Since 2013, under President Xi Jinping, the Communist Party has reasserted its control over the economy, investing more to prop up SOEs, taking capital away from private firms, and holding back productivity growth.<sup>73</sup>

China's government has been active in many sectors, most prominently shipbuilding. In 2006, the Chinese government identified shipbuilding as a strategic industry and introduced a plan for its development. It intervened on a massive scale with entry subsidies, production subsidies, and investment subsidies. In a short time, China's global market share in shipbuilding doubled from 25 percent to 50 percent at the expense of Japan, South Korea, and some European countries. These subsidies did lead to a sharp reduction in costs, anywhere from 13 to 20 percent, but the entry subsidies proved to be wasteful, increasing industry fragmentation and idleness. Entry subsidies attracted small and inefficient firms, whereas production and investment subsidies favor large and efficient firms that benefit from economies of scale. Researchers found limited evidence that the shipbuilding industry generated

72. His predecessor, Mao Zedong, led the communist revolution in 1949 and impoverished China through his repressive policy of central planning. As one economist said, "In 1976, Mao single-handedly and dramatically changed the direction of global poverty with one simple act: he died." Steven Radelet, *The Great Surge: The Ascent of the Developing World*, New York: Simon and Schuster, 2015, 35.

73. Nicholas Lardy, *The State Strikes Back: The End of Economic Reform in China?*, Washington, DC: Peterson Institute for International Economics, 2019.

significant spillovers to the rest of the domestic economy (e.g., steel production, ship owning, and the labor market), nor was there any evidence of industry-wide learning by doing (Marshallian externalities) or support for strategic trade considerations. And the subsidies were inefficient from a global perspective, creating a wedge between market share and production costs: there was a large increase in the industry average cost of production (net of subsidies) by shifting production away from low-cost Japanese shipyards toward high-cost Chinese shipyards.<sup>74</sup>

What is the takeaway? A tentative conclusion regarding government's role in trade is that it should facilitate private-sector development. Most developing countries that have shifted from the production of primary products to nontraditional activities have done so with the active support of the public sector. The government is not picking the sectors into which resources should move but is clearing obstacles and reducing uncertainties relating to investment—in general, facilitating private-sector activities. Whether one considers Chile's diversification away from copper into fruits and salmon, Costa Rica and ecotourism, Bangladesh and garments, or Colombia and cut flowers, governments have almost invariably played an important supporting role.<sup>75</sup>

Unfortunately, governments in many developing countries do not facilitate or support the private sector but instead create obstacles for its growth. Even worse, in many countries, particularly but by no means exclusively in Africa, economic success is best achieved by political power and connections rather than by commercial ability or effort.<sup>76</sup> Corrupt regimes that provide no security to market transactions and throw obstacles in the way of

74. Myrto Kalouptsidi, "Detection and Impact of Industrial Subsidies: The Case of Chinese Shipbuilding," *Review of Economic Studies* 85 (2018): 1111–58. See also Panle Jia Barwick, Myrto Kalouptsidi, and Nahim Bin Zahur, "China's Industrial Policy: An Empirical Evaluation," National Bureau of Economic Research Working Paper No. 26075, July 2019.

75. Ricardo Hausmann and Dani Rodrik, "Economic Development as Self-Discovery," *Journal of Economic Development* 72 (2003): 603–33. At the same time, "picking winners"—knowing which firms or sectors will do well in the future—is almost impossible. David McKenzie and Dario Sansone, "Predicting Entrepreneurial Success Is Hard: Evidence from a Business Plan Competition in Nigeria," *Journal of Development Economics* 141 (2019) 102369.

76. Robert Guest, *The Economist's Africa* correspondent, argues that personal advancement in Africa is easier to achieve through political success than commercial success. In his view, to become rich or even minimally prosperous, one must either seek political power or cultivate and become a client of those in power. The more that African bureaucrats and politicians extort and expropriate, the less there is to extort and expropriate, which makes the competition for power even more desperate and violent. Robert Guest, *The Shackled Continent: Power, Corruption, and African Lives*, London: Macmillan, 2004.

business formation and commerce are perhaps the single greatest problem in promoting economic development.<sup>77</sup>

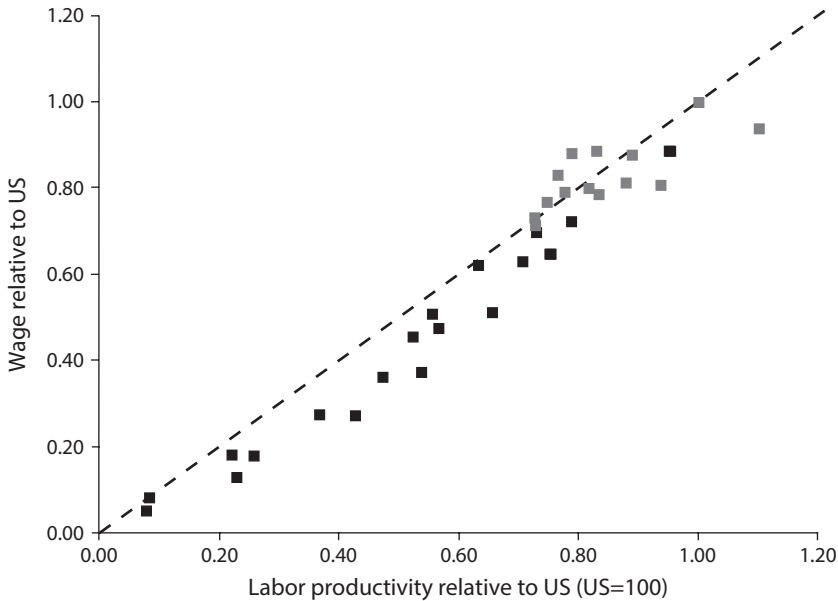
Recent experience has demonstrated that the economic status of developing countries is not immutably fixed by nature. Neither the geography nor the institutions of China or India or Korea changed when they embarked on their policy reforms, and yet their economies have been utterly transformed by changes in government policy. Unfortunately, economic policies that stifle development are still pervasive around the world.

## Sweatshops and Labor Standards

Foreign investment has played a big role in bringing China and other Asian countries into the world trading system. Multinational companies have invested in low-wage developing countries to produce inexpensive labor-intensive goods, such as clothing and shoes, and assemble consumer electronics, such as smartphones and laptops. So how do you feel about wearing an inexpensive shirt or carrying a phone that was probably produced by workers in China or Southeast Asia who toiled for long hours with low pay? Are Nike and Apple earning large profits by exploiting cheap labor in Asian sweatshops?

Many people feel uncomfortable when they think about the workers producing the goods they buy. Consequently, concerned citizens in developed countries have protested against low wages and poor working conditions in developing countries. The Worker Rights Consortium, established by students, unions, and human rights groups, accuses leading multinationals of employing workers in unsafe, sweatshop conditions while failing to pay a living wage. Working conditions in many developing countries are indeed horrible by the standards of developed countries—occasional factory fires in Bangladesh have reminded us of this fact—and the world community wants to see those standards of living improve. The question is how best to accomplish that objective.

77. Adam Smith stated the following in a lecture in 1755: “Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice: all the rest being brought about by the natural course of things. All governments which thwart this natural course, which force things into another channel, or which endeavour to arrest the progress of society at a particular point, are unnatural, and to support themselves are obliged to be oppressive and tyrannical.” Adam Smith, *Essays on Philosophical Subjects*, Oxford: Clarendon Press, 1980, 322. On Smith’s theory of economic development, see Douglas A. Irwin, “Adam Smith’s Tolerable Administration of Justice and the Wealth of Nations,” *Scottish Journal of Political Economy*, forthcoming.



**FIGURE 6.4.** Labor Costs and Productivity in Manufacturing for Thirty-Three Countries, 2000  
 Source: Kathryn G. Marshall, "International Productivity and Factor Price Comparisons,"  
*Journal of International Economics* 87 (2012): 386–90.

Do low wages reflect the exploitation of labor and thereby give developing countries an unfair advantage in trade? In general, the answer is no. Workers in developed countries enjoy high wages and benefits because their labor productivity is high. By contrast, workers in developing countries get paid lower wages because labor productivity is lower. Figure 6.4 illustrates the strong relationship between wages and labor productivity (both relative to the United States) for a diverse group of thirty-three countries in 2000. The correlation is striking: The higher a country's overall labor productivity, the higher the country's average wages. In this case, productivity explains 97 percent of the variation in relative wages across countries.<sup>78</sup> Statistical analysis has regularly shown that labor productivity alone explains about 70 to 80 percent of the cross-country variation in average wages in manufacturing.<sup>79</sup>

78. Kathryn G. Marshall, "International Productivity and Factor Price Comparisons," *Journal of International Economics* 87 (2012): 386–90.

79. After also accounting for differences in per capita GDP and in price levels across countries, over 90 percent of the variation in wages between countries can be explained. Even though these purely economic variables explain virtually all of the differences in wage rates across countries,

Figure 6.4 simply confirms the thesis of a book published more than two centuries ago, Adam Smith's *Wealth of Nations*. Smith argued that labor productivity, through the division of labor and the extent of the market, determines a country's national income, and therefore differences in labor productivity across countries account for differences in incomes across countries. The implication is simple and straightforward: the way to increase a country's standard of living—as measured by its average wage—is to increase the productivity of its workforce. Not everyone thinks it works that way. Some observers have feared that countries such as China will adopt better technology and increase labor productivity but somehow keep wages low. The combination of highly productive workers and very low wages will give those countries a crushing cost advantage on world markets, putting downward pressure on the wages of workers in the developed world. But as Paul Krugman has noted, "Economic history offers no example of a country that experienced long-term productivity growth without a roughly equal rise in real wages. . . . The idea that somehow the old rules no longer apply, that new entrants on the world economic stage will always pay low wages even as their productivity rises to advanced-country levels, has no basis in actual experience."<sup>80</sup>

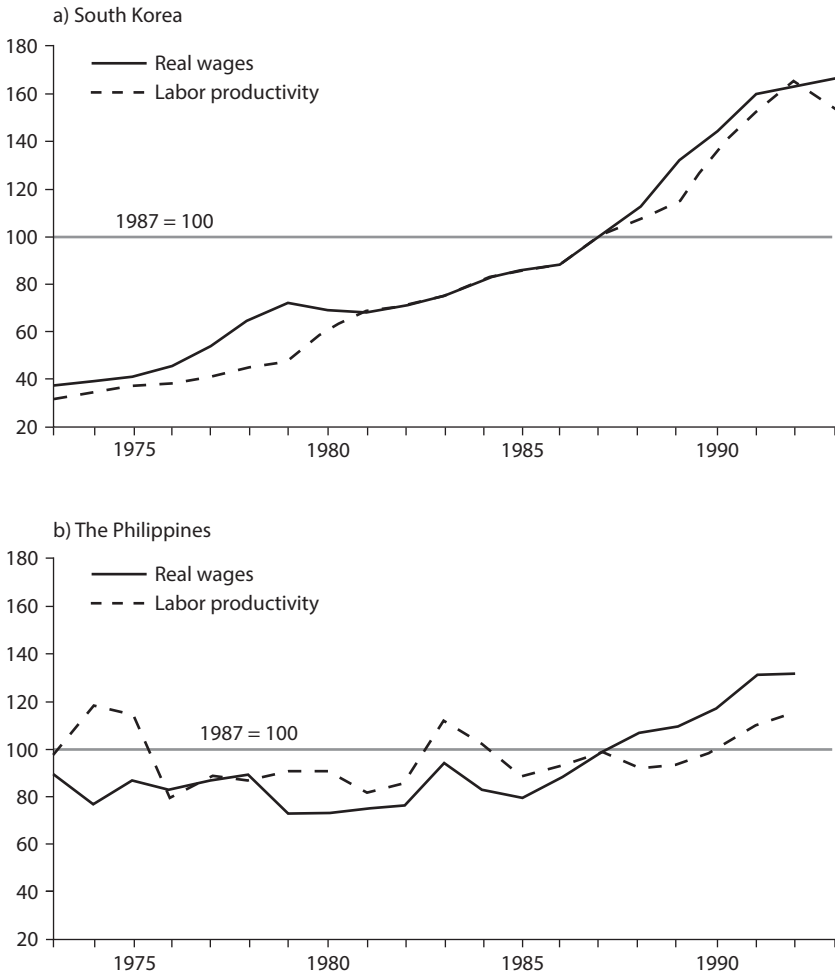
Indeed, the rapid increase in Chinese wages in recent years simply confirms this observation. As the productivity of workers improves in developing countries, through the accumulation of capital and the acquisition of better technology, those workers become more valuable and competitive pressure bids up the average wage. As a result, the growth in domestic wages tracks the growth in domestic productivity. In chapter 4, we saw that this is true in the United States (see figure 4.8), and it is true in other countries as well. As figure 6.5 shows, the acceleration of productivity in South Korea in the 1980s was accompanied by a dramatic rise in labor compensation. By contrast, the Philippines has been much less successful at increasing productivity and therefore has not seen a comparable rise in wages. The evidence is clear: countries that successfully increase productivity will experience a rise in wages, while countries whose productivity is stagnant will see little change in wages.

Thus, the best and most direct way to raise wages and labor standards is to enhance the productivity of the workers through economic development.

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indicators of political freedom also contribute some additional explanatory power; see Dani Rodrik, "Democracies Pay Higher Wages," *Quarterly Journal of Economics* 114 (1999): 707–38.

80. Paul Krugman, *Pop Internationalism*, Cambridge, MA: MIT Press, 1996, 56.



**FIGURE 6.5.** Real Wages and Labor Productivity in Manufacturing, South Korea and the Philippines, 1973–1993

Source: World Bank, *World Tables*, Baltimore, MD: Johns Hopkins University Press, 1975, plus updates from World Development Indicators.

Trade and investment are important components of that development, and therefore efforts to limit trade or to shut down factories are counterproductive. In fact, most foreign-owned firms pay substantially higher wages than comparable domestic firms.<sup>81</sup> And these wages are often many multiples of

81. For one study of foreign firms, see Brian Aitken, Ann Harrison, and Robert E. Lipsey, "Wages and Foreign Ownership: A Comparative Study of Mexico, Venezuela, and the United

what the workers would have earned if they had stayed toiling in rural agricultural villages, which is where many urban factory workers come from. In Vietnam, for instance, while the general population (mainly employed in agriculture in rural areas) could afford per capita expenditures of \$205 in 1998, people working in foreign-owned businesses spent \$420 that year.<sup>82</sup> Poverty rates are much lower for those holding jobs with foreign-owned firms. While 37 percent of the Vietnamese workers were classified as poor in 1998, only 8 percent of those working in foreign-owned businesses were considered poor. And although 15 percent of all workers were classified as “very poor,” none of the workers in foreign-owned textile and leather-goods businesses were in that category. In Cambodia, foreign-owned factories not only pay their workers more but also offer better working conditions than other factories.<sup>83</sup>

The fact that foreign-owned “sweatshops” in poorer countries pay above-average wages in the local labor market may explain the low turnover (or quit) rate of workers at such firms. It may also explain why these jobs are so desirable that, in some instances, workers must pay one month’s salary as a bribe to employment officers at such firms in order to get hired. And even though the wages are low by Western standards, the savings rate of factory workers is much higher than that of workers elsewhere in the economy—an interesting fact in light of the accusation that such firms are not paying a living wage. In Vietnam and elsewhere, workers often request overtime because they are seeking to maximize their income. International codes and rules that limit hours of work may interfere with the desire of these individuals to earn more money.

Even if the wages and working conditions in developing countries are dismal by the standards of the present-day United States, these multinational firms are at least providing employment opportunities and incomes that might not otherwise exist, allowing the poor to support their families.

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States,” *Journal of International Economics* 40 (1996): 345–71. Another study shows that foreign-owned firms in Indonesia pay higher wages than locally owned firms; Robert E. Lipsey and Fredrik Sjöholm, “Foreign Direct Investment, Education, and Wages in Indonesian Manufacturing,” *Journal of Development Economics* 73 (2004): 415–22.

82. Paul Glewwe, “Are Foreign-Owned Businesses in Vietnam Really Sweatshops?,” *Agricultural Economist Newsletter*, University of Minnesota Extension Service No. 701, Summer 2000.

83. Cael Warren and Raymond Robertson, “Globalization, Wages, and Working Conditions: A Case Study of Cambodian Garment Factories,” Center for Global Development Working Paper No. 257, June 2011. See also Raymond Robertson, Drusilla Brown, Gaëlle Pierre, and Laura Sanchez-Puerta, eds., *Globalization, Wages, and the Quality of Jobs Five Country Studies*, Washington, DC: World Bank, 2009.

One study looks at firms' response to the rapid opening of Myanmar. Those firms that had access to foreign markets and that start exporting significantly improve working conditions regarding fire safety, health management, and freedom of negotiation, although without much impact on wages and working hours compared to firms that did not have access to foreign markets.<sup>84</sup>

Two reporters for the *New York Times* provide a vivid example of the opportunities that factories can create for individuals. When they were first assigned to cover Asia, the reporters, like most people, were outraged at the sweatshop conditions. They later changed their opinion:

In time, though, we came to accept the view supported by most Asians: that the campaign against sweatshops risks harming the very people it is intended to help. . . . Those sweatshops tended to generate the wealth to solve the problems they created. . . . It may sound silly to say that sweatshops offer a route to prosperity, when wages in the poorest countries are sometimes less than \$1 per day. Still, for an impoverished Indonesian or Bangladeshi woman with a handful of kids who would otherwise drop out of school and risk dying of mundane diseases like diarrhea, \$1 or \$2 a day can be a life-transforming wage.<sup>85</sup>

Most sweatshop workers are young women, many of whom have migrated from rural villages to industrial cities. By Western standards, they endure long hours, low pay, and poor conditions. And yet, despite the monotony of factory work, they found it a vast improvement over the back-breaking monotony of field work, according to a sociologist who lived with migrant factory workers in southern China. Many of these women earned seven to eight times what their fathers earned working in rural agriculture in their home villages and could send money back to their families.<sup>86</sup> Yet the motivation for these young women leaving their home was much more than financial. They left behind a patriarchal order in which their father could marry them off to the village idiot without their say in the matter. With their factory work, they gained freedom and independence, as well as dignity and self-respect. It allowed them to spend their life and their money the way they wanted, such as shopping, going to see a movie, or taking English or

84. Mari Tanaka, "Exporting Sweatshops? Evidence from Myanmar," *Review of Economics and Statistics*, forthcoming.

85. Nicholas D. Kristof and Sheryl WuDunn, "Two Cheers for Sweatshops," *New York Times Magazine*, September 24, 2000, 70–71.

86. Ching Kwan Lee, *Gender and the South China Miracle: Two Worlds of Factory Women*, Berkeley: University of California Press, 1998.



computer classes at night—things that would have been impossible in their rural communities.

Activist groups have sometimes improved working conditions by putting companies in the spotlight of bad publicity if their contractors treat workers poorly in developing countries.<sup>87</sup> But the fundamental problem facing workers in developing countries is not the existence of sweatshops but the lack of good alternative employment opportunities. Efforts to stop exports from low-wage countries, to prevent investment there by multinationals, or to impose high minimum wages or benefits beyond the productivity level of the domestic workforce will simply diminish the demand for labor in those countries and take away one of the few opportunities that workers have to better themselves and their families. Those who simply want to shut down sweatshops have failed to consider what alternative opportunities for employment can be created.<sup>88</sup> In fact, one immigrant from Cambodia told me that the term “sweatshop” is a complete misnomer. In comparison to the hot, humid conditions of agricultural work, where you stand exposed to the sun in muddy fields and have to rip leeches off your legs every few hours, a factory is one of the few places in Cambodia where a person doesn’t sweat so much.

What about importing goods made with child labor? While the United States prohibits imports of goods made with forced or indentured child labor, it does not have a generic ban on imported goods made with under-age workers. Some activists have suggested that developed countries should refuse to import any goods made with child labor. But just as trade policy is an inefficient instrument for achieving environmental objectives, as chapter 2 suggested, it is also an inefficient instrument for improving labor standards. An import ban on goods made with child labor might stop the use of children to produce goods for the U.S. market, but it would not put an end to child labor. Only about 5 percent of working children are employed in the export sector in developing countries. An import ban might simply

87. One study finds that real wages go up for workers in firms that are targeted, but firm investment sometimes falls; see Anne E. Harrison and Jason Scorse, “Multinationals and Anti-Sweatshop Activism,” *American Economic Review* 100 (2010): 247–73. Others have examined the views of activists in developed countries that are pressing for better treatment of labor in developing countries; see Kimberly Ann Elliott, Debayani Kar, and J. David Richardson. “Assessing Globalization’s Critics: ‘Talkers Are No Good Doers,’” in *Challenges to Globalization: Analyzing the Economics*, edited by Robert E. Baldwin and L. Alan Winters, Chicago: University of Chicago Press for NBER, 2004.

88. For a comprehensive discussion of sweatshops, see Benjamin Powell, *Out of Poverty: Sweatshops in the Global Economy*, New York: Cambridge University Press, 2014.

shift them to other sectors of the domestic economy (about 80 percent are employed in the primary agricultural sector). At worst, an import ban could push them into less desirable or more hazardous work, or even leave them without work and thereby condemn them to starvation.<sup>89</sup> Import bans fail to address the root cause of child labor or offer any resolution to the underlying conditions that create it.

The most effective way of eliminating child labor is to attack the fundamental causes, which are poverty and the lack of affordable or adequate educational opportunities. As figure 6.6 indicates, the incidence of child labor is strongly related to per capita GDP. In fact, about 80 percent of the international variation in child labor is explained by this variable alone. Child labor virtually disappears once a country's annual per capita income reaches \$5,000. Developing countries can help reduce child labor by raising rural incomes through agricultural price liberalization. Evidence from Vietnam suggests that when the domestic price of rice rose after the government permitted more rice exports, farmers responded by reducing the use of child labor.<sup>90</sup> Developed countries can help developing countries raise their income by allowing them to sell their products more easily in the markets of the richer economies. One study links trade liberalization to reductions in child mortality.<sup>91</sup> Compulsory education laws that mandate school attendance have also proved effective in reducing child labor and are more easily monitored than direct bans on imports.

Meanwhile, labor unions in developed countries have a different set of concerns. Organized labor has long maintained that countries with lower labor standards have an unfair competitive advantage in trade and that they attract jobs and investment at the expense of countries with higher standards. In developed countries, labor unions and other nongovernmental organizations (NGOs) have pressed for explicit and enforceable labor standards—including minimum wages, employment hours, occupational

89. "Caroline Lequesne of Oxfam, a British charity, has just returned from Bangladesh, where she visited factories to determine the impact of American retailers' human-rights policies. She reckons that between 1993 and 1994 around 30,000 of the 50,000 children working in textile firms in Bangladesh were thrown out of factories because suppliers feared losing their business if they kept the children on. But the majority of these children have, because of penury, been forced to turn to prostitution or other industries like welding, where conditions pose far greater risks to them." "Ethical Shopping: Human Rights," *The Economist*, June 3, 1995, 59.

90. Eric Edmonds and Nina Pavcnik, "International Trade and Child Labor: Cross-Country Evidence," *Journal of International Economics* 68 (2006): 115–40.

91. Alessandro Olper, Daniele Curzi, and Johan Swinnen, "Trade Liberalization and Child Mortality: A Synthetic Control Method," *World Development* 110 (2018): 394–410.

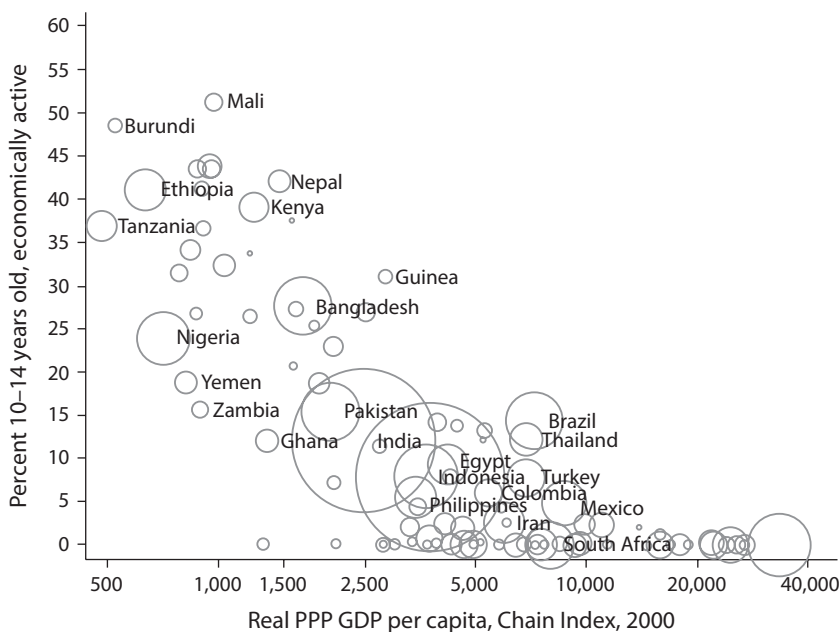


FIGURE 6.6. Child Labor and GDP per Capita, 2000

Source: Eric Edmonds and Nina Pavcnik, “Child Labor in the Global Economy,” *Journal of Economic Perspectives* 18 (2005): 199–220.

health and safety regulations, minimum age of employment, worker rights to organize, and so on—in trade agreements. Without these economic standards, they argue, workers in developing countries will be exploited, and those countries will attract investment and gain jobs at the expense of developed countries, which will then face pressures to reduce labor standards, starting a race to the bottom.

There are several issues here. First, do poor labor standards enable a country to export more than it might otherwise? There is little empirical evidence that low labor standards, in themselves, exert an important influence on trade flows. Several studies have failed to find a strong relationship between measures of labor standards and international trade flows (such as export performance in labor-intensive goods) or direct investment flows (such as whether countries with low standards attract more foreign investment).<sup>92</sup> The Organization for Economic Cooperation and Development (OECD) has concluded that “empirical findings confirm the analytical

92. See, for example, Dani Rodrik, “Labor Standards in International Trade: Do They Matter and What Do We Do About Them?,” in *Emerging Agenda for Global Trade: High Stakes*

result that core labor standards do not play a significant role in shaping trade performance. The view which argues that low-standard countries will enjoy gains in export market shares to the detriment of high-standard countries appears to lack solid empirical support.”<sup>93</sup>

Second, would enforceable labor standards in trade agreements help workers in developing countries? In fact, the threat of trade sanctions to enforce labor standards in developing countries risks harming the very workers we are trying to help.<sup>94</sup> As Paul Krugman puts it, “Even if we could assure the workers in Third World export industries of higher wages and better working conditions, this would do nothing for the peasants, day laborers, scavengers, and so on who make up the bulk of these countries’ populations. At best, forcing developing countries to adhere to our labor standards would create a privileged labor aristocracy, leaving the poor majority no better off.”<sup>95</sup> At worst, those export industries would be shut down, causing those workers to lose their jobs.

Furthermore, the threat of using trade sanctions to enforce labor standards is precisely why developing countries are so afraid of including them in the WTO. In the 1990s, the administration of President Bill Clinton fought to include labor standards in trade agreements. Developing countries strenuously objected to any linking of trade policy and labor standards. They feared

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*for Developing Countries*, edited by Robert Z. Lawrence, Dani Rodrik, and John Whalley, Washington, DC: Overseas Development Council, 1996.

93. Organization for Economic Cooperation and Development, *Trade, Employment, and Labour Standards: A Study of Core Workers’ Rights and International Trade*, Paris: OECD 1996, 33. The OECD later concluded that “this finding has not been challenged by the literature appearing since the 1996 study was completed.” Organization for Cooperation and Development, *International Trade and Core Labour Standards*, Paris: OECD, 2000, 33.

94. For example, insisting on the right to form a union would not help many workers in developing countries. As Srinivasan has noted, “For an overwhelming majority of poor workers in developing countries whose dominant mode of employment is self-employment in rural agricultural activities or in the urban informal sector, unionization has little relevance. Even where relevant and where the freedom to form unions has been exercised to a significant extent, namely in the organized manufacturing and public sector in poor countries, labor unions have been promoting the interests of a small section of the labor force at the expense of many.” T. N. Srinivasan, *Developing Countries and the Multilateral Trading System*, Boulder, CO: Westview Press, 1998, 76.

95. Paul Krugman, *The Accidental Theorist*, New York: Norton, 1998, 84. Economic development is the only known way to increase wages. The alternatives—massive foreign aid, stronger demands for social justice—are unrealistic or ineffective. As Krugman comments, “As long as you have no realistic alternative to industrialization based on low wages, to oppose [trade and industrialization] means that you are willing to deny desperately poor people the best chance they have of progress for the sake of what amounts to an aesthetic standard—that is, the fact that you don’t like the idea of workers being paid a pittance to supply rich Westerners with fashion items.”

that if developed countries were allowed to restrict imports from countries deemed not to have adequate labor standards, they would have yet another excuse for denying low-wage countries access to their markets, thereby preventing developing countries from taking advantage of their comparative advantage in labor-intensive goods. They also fear that if labor standards are written into trade agreements, it will simply become another avenue by which developed countries can block their trade.

They have a point. In the past, American unions have opposed liberalization of trade even with countries that signed an agreement governing labor standards.<sup>96</sup> For example, unions such as UNITE, the Teamsters, and the AFL-CIO also opposed legislation that gave African countries the same tariff preferences that the United States had previously extended to Caribbean and other poor developing countries. The African Growth and Opportunity Act of 2000 aimed to help the continent by giving duty-free access to the U.S. market in selected goods. The proposal to allow African textile producers duty-free access to the U.S. market proved to be quite controversial even though Africa's share of U.S. apparel consumption was only 0.45 percent. Instead of being viewed as a small way of helping African countries improve their economies and their competitive position relative to China, labor-backed opponents dubbed the legislation as "NAFTA for Africa" and fought its passage through Congress.<sup>97</sup> Their staunch opposition to freer trade with Africa fueled suspicions that labor unions are not really interested in helping poor African workers deeply mired in poverty, but simply oppose any measure that might increase trade.

96. In January 1999, the United States signed an agreement with Cambodia that promised a 14 percent increase in Cambodia's annual quota for textile shipments if the country agreed to meet certain core labor standards. Although the Cambodian garment industry established high minimum wages and agreed to paid vacations, unionization rights, and a ban on child labor, the Union of Needletrades, Industrial, and Textile Employees (UNITE) wrote to the U.S. Trade Representative (USTR) opposing any increase in the quota. Following this, and without consulting other views, USTR ruled in December 1999 that Cambodia was not in "substantial compliance" with the agreement and denied the quota increase. The Cambodian government and garment industry were shocked because they believed they had gone beyond the agreement in improving standards. Five months later, USTR agreed to a smaller increase, of 5 percent, after Cambodia and the International Labor Organization established a program to monitor work conditions. Helene Cooper, "A Trade Deal Helps Cambodian Workers, but Payoff Is Withheld," *Wall Street Journal*, February 28, 2000.

97. The U.S. International Trade Commission concluded that the impact of removing the quota on the U.S. apparel industry would be negligible and that, at most, only 676 U.S. jobs would be affected. U.S. International Trade Commission, "Likely Impact of Providing Quota-Free and Duty-Free Entry to Textiles and Apparel from Sub-Saharan Africa," Investigation No. 332-379, Publication 3056, September 1997, 3-12.

Because of strong opposition by developing countries, the WTO membership agreed that labor standards should not be a part of multilateral negotiations. Indeed, the membership agreed that the International Labor Organization (ILO) is the proper forum for international discussion of labor issues.

Experience has shown that it is all too easy to mask an anti-trade agenda with labor and environmental concerns, as is evident by many anti-commercial NGOs and anti-import labor unions. This is regrettable because there are deep and legitimate questions about using trade measures to enforce labor and environmental standards, and therefore the possibility of common ground gets lost in the advocacy of extreme positions. Yet there are inherent flaws in giving the WTO a nontrade-related mission, such as enforcing environmental agreements or regulating labor standards. The risk is that these poorly targeted and indirect instruments for improving environmental and labor conditions will fail to achieve their objective, yet at the same time, will expand the allowable rationales for trade barriers, thus undermining the liberal trading system without generating compensating benefits.

## Fair Trade

While developing countries have yet to reach their full potential in large part because of their own policies, trade barriers and subsidies in the developed world have not helped matters. Development NGOs have excoriated the developed countries for keeping their markets closed to imports from developing countries. Oxfam's website says that "rich countries and powerful corporations have captured a disproportionate share of the benefits of trade, leaving developing countries and poor people worse off." The reason, they say, is that trade rules and trade policies are skewed against the world's poorest countries. As an Oxfam report cries out, "The harsh reality is that [developed country] policies are inflicting enormous suffering on the world's poor. When rich countries lock poor people out of their markets, they close the door to an escape route from poverty."<sup>98</sup>

This statement is exaggerated but contains some truth. Whether it is closed markets for agricultural goods, high barriers on the importation of labor-intensive manufactures, or efforts to require poor countries to adopt more stringent labor standards, many developed country policies are contrary to the interests of developing countries.

98. Oxfam, *Rigged Rules and Double Standards*, 5.

In terms of agriculture, the rich countries of the OECD maintain high trade barriers for agricultural products and heavily subsidize their farmers. For every dollar earned by OECD farmers, about nineteen cents comes from government policies. In 2018, the OECD subsidized domestic farm producers by \$325 billion, of which \$235 billion came from price supports for domestic producers.<sup>99</sup> The value of transfers to OECD farmers is greater than the entire GDPs of many developing countries. Because these domestic subsidies and trade barriers have a huge impact on world agricultural markets, they in turn affect low-income developing countries where agriculture is a very large sector, employing about 60 percent of the labor force and producing about 25 percent of GDP.

Studies have shown that the reduction of agricultural tariffs and trade barriers by OECD and developing countries would produce substantial benefits for both sets of countries. If high-income countries alone opened their markets to imported agricultural goods, their welfare would rise by almost \$32 billion and developing country welfare by \$12 billion (2001 dollars).<sup>100</sup> Most of the benefits of trade liberalization accrue to the developed countries themselves because their consumers are footing most of the bill. (Similarly, if developing countries reduced their own agricultural trade barriers, which are often much higher than those in developed countries, they, too, would capture most of the benefits for themselves.)

However, the same mutual benefit does not hold true if industrial countries eliminated domestic and export subsidies to their agricultural producers. Many developing countries are net importers of agricultural goods and actually benefit from these subsidies. Because these subsidies reduce the prices of the goods that they buy on world markets, many developing countries would lose by their elimination. If high-income countries eliminated domestic and export subsidies without touching import barriers, then those countries would gain \$3 billion in welfare, but developing countries as a whole would lose nearly \$1 billion.<sup>101</sup> The gains from eliminating agricultural subsidies accrue mainly to the country that eliminates the subsidy.

99. Organization for Economic Cooperation and Development, *Agricultural Policy Monitoring and Evaluation 2019*, Paris: OECD, 2019, 101.

100. Thomas W. Hertel and Roman Keeney, "What Is at Stake: The Relative Importance of Import Barriers, Export Subsidies, and Domestic Support," in *Agricultural Trade Reform and the Doha Development Agenda*, edited by Kym Anderson and Will Martin, Washington, DC: World Bank, 2006.

101. Others similarly find that a 50 percent cut in tariffs improves welfare for industrial, developing, and least-developed countries alike; however, a 50 percent cut in domestic subsidies helps industrial countries but harms developing and least-developed countries. See Bernard Hoekman,



Thus, from the perspective of developing countries, there is a strong stake in reducing barriers to agricultural trade in developed countries and in their own country as well. (As table 3.1 showed, developing countries impose very high tariffs on agricultural imports.) However, the impact of removing developed-country export subsidies has more varied effects on developing countries depending on whether one is a net importer or net exporter of those goods. If one cares about poor consumers in developing countries, then low prices for agricultural goods is desirable; if one cares about poor farmers in developing countries, then high agricultural prices are desirable. (Developing country governments seem to care more about producers, given the tight restrictions they impose on agricultural imports.)

However, an overall liberalization of all policy instruments by developed countries would increase household income among the poor in developing countries.<sup>102</sup> The greater market access to rich-country markets would compensate the poorer countries for the higher food prices they would have to pay on some products. Indeed, research has shown that eliminating border measures such as tariffs would produce changes in world prices that are many times greater than the benefits from eliminating domestic agricultural subsidies.<sup>103</sup> Thus, from the standpoint of agricultural-exporting developing countries, market access (lower import barriers) is much more valuable than domestic subsidy reduction in developed countries.

Still, subsidies to specific crops can impose tremendous hardship on poor farmers in particular developing countries. Cotton is a prime—if exceptional—example. In recent decades, the United States and European Union have heavily subsidized their domestic cotton growers. In the mid-2000s, the U.S. government lavished up to \$4 billion per year on subsidies to America's twenty-five thousand cotton farmers, with 80 percent of the subsidies going to the top 10 percent of all farmers. This was more than the entire GDP of the West African country of Burkina Faso. The European Union also subsidized cotton producers by almost \$1 billion per year.

World cotton prices fell by more than half between 1997 and 2002, although they have rebounded since then. The United States accounts for

Francis Ng, and M. Olarreaga, "Reducing Agricultural Tariffs versus Domestic Support: What Is More Important for Developing Countries?," *World Bank Economic Review* 18 (2004): 175–204.

102. Thomas W. Hertel, Roman Keeney, Maros Ivanic, and L. Alan Winters, "Distributional Effects of WTO Agricultural Reform in Rich and Poor Countries," *Economic Policy* 50 (2007): 1–49.

103. Hoekman, Ng, and Olarreaga, "Reducing Agricultural Tariffs versus Domestic Support: What Is More Important for Developing Countries?"



about 20 percent of world cotton production, and so any expansion of U.S. production tends to reduce the world price. These subsidies inflicted great harm on cotton producers in Central and West Africa and elsewhere, intensifying poverty in already very poor countries. At the time, cotton exports accounted for 40 percent of exports in Burkina Faso and Benin and 30 percent of exports in Uzbekistan, Chad, and Mali. Cotton also accounts for over 5 percent of GDP in these countries.<sup>104</sup> Because cotton has been such an important source of foreign exchange earnings for these countries, any decline in the world market price—due to subsidies or other reasons—has had a tremendous negative ripple effect through their economies. During this particular period, the livelihood of more than ten million poor farmers was at stake. The elimination of U.S. cotton subsidies was estimated to reduce U.S. production by more than 25 percent, reduce U.S. exports by nearly 40 percent, and increase world cotton prices by about 12 percent. This would translate into a gain of roughly \$80 million in producer surplus for the four key cotton-exporting nations in Africa.<sup>105</sup>

Brazil objected to the American subsidies and filed a case with the WTO in 2002, which two years later ruled that the U.S. subsidies violated the Agreement on Agriculture. The United States did not bring its policy into compliance with the ruling and, in 2010, the WTO authorized Brazil to retaliate against \$830 million of U.S. exports. To prevent this from happening, the United States reached an agreement with Brazil whereby it would pay \$147 million per year to the Brazilian cotton growers association. In essence, American taxpayers began paying both U.S. and Brazilian cotton farmers! Finally, in October 2014, they settled the dispute when the United States agreed to make a final, onetime payment of \$300 million, and Brazil agreed not to take countermeasures or bring another WTO case while the then-current U.S. farm bill was in effect (until 2018).

In the case of manufactured goods, developed countries have low tariffs on average but much higher tariffs on labor-intensive manufactures, particularly textiles and apparel. These are precisely the goods in which developing countries have a comparative advantage. Developing countries have long complained about the Multi-Fiber Arrangement, but even with its abolition they still face very high tariffs on these goods. In the United States, for example, the exports of Cambodia, Bangladesh, and Sri Lanka, among the

104. John Baffes, "The Cotton Problem," *World Bank Research Observer* 20 (2005): 109–44.

105. Julian M. Alston, Daniel A. Sumner, and Henrich Brunke, "Impacts of Reductions in U.S. Cotton Subsidies on West African Cotton Producers," Oxfam Research Paper, June 2007.

poorest countries in the world, faced an average tariff of about 15 percent. Meanwhile, the exports of Norway, France, and Germany faced an average tariff of about 1 percent.<sup>106</sup>

U.S. policy does not deliberately attempt to stifle the trade of developing countries in favor of richer countries, but it does so implicitly by virtue of the tariffs it levies on different goods. Industrial products generally face very low import duties, whereas labor-intensive manufactured goods, such as clothing and consumer products, face much higher tariffs. The developing countries could have much better success in world trade if they did not confront these higher barriers in OECD markets. Indeed, recent reductions in trade barriers in developed countries have been shown to have a pronounced positive impact on export performance and economic growth in developing countries.<sup>107</sup>

One way that concerned citizens have attempted to help the rural poor in developing countries is through an initiative called “Fair Trade,” which is designed to overcome the “injustice” of low market prices for agricultural commodities. Fair Trade organizations buy coffee, tea, cocoa, cotton, and other developing country exports at above-market prices as a way of giving poor farmers extra income. They certify the goods with the Fair Trade label and sell them to Western consumers who are willing to pay a higher price to help lift those farmers out of poverty, provide them with a more stable source of income, and encourage them to engage in environmentally sustainable cultivation.

The Fair Trade movement, as a purely voluntary venture on the part of buyers and sellers, is well-meaning. The question is whether it is effective in achieving its goals. Studies have shown that Fair Trade–certified producers do receive higher prices for their goods than conventional farmers.<sup>108</sup> However, the gains to these farmers are much lower than they appear once one takes into account the costly administrative process of becoming and staying certified, which requires multiple reports and audits. Furthermore, while the farmers who sell their goods may reap some benefit from the higher prices, their workers may not. A study of farming in Uganda and Ethiopia

106. <https://wits.worldbank.org/CountryProfile/en/Country/USA/Year/2017/TradeFlow/Import/Partner/by-country>.

107. John Romalis, “Market Access, Openness and Growth,” National Bureau of Economic Research Working Paper No. 13048, April 2007.

108. Raluca Dragusanu, Daniele Giovannucci, and Nathan Nunn, “The Economics of Fair Trade,” *Journal of Economic Perspectives* 28 (2014): 217–36; Ana C. Dammert and Sarah Mohan, “A Survey of the Economics of Fair Trade,” *Journal of Economic Surveys* 29 (2015): 855–68.

by international development economists at the University of London made this finding:

[The researchers were] unable to find any evidence that Fairtrade has made a positive difference to the wages and working conditions of those employed in the production of the commodities produced for Fairtrade certified export in the areas where the research has been conducted. . . . In some cases, indeed, the data suggest that those employed in areas where there are Fairtrade producer organisations are significantly worse paid, and treated, than those employed for wages in the production of the same commodities in areas without any Fairtrade certified institutions (including in areas characterised by smallholder production).<sup>109</sup>

The jury is still out, but this unfortunate conclusion raises questions about the value of the Fair Trade label.

In conclusion, growing world trade has presented developing countries with a tremendous opportunity to improve their own condition. Yet trade restrictions are much more extensive in the developing world than elsewhere. Much of the blame for the lack of development falls not on the people of these countries but on their governments and the policies that suppress economic activity. As the examples of India and China dramatically demonstrate, it is often their own misguided policies, including trade restrictions, that have been holding them back from achieving higher rates of economic growth and greater poverty reduction.<sup>110</sup>

109. “This is the case for ‘smallholder’ crops like coffee—where Fairtrade standards have been based on the erroneous assumption that the vast majority of production is based on family labour—and for ‘hired labour organization’ commodities like the cut flowers produced in factory-style greenhouse conditions in Ethiopia.” Christopher Cramer, Deborah Johnston, Carlos Oya, and John Sender, “Fairtrade, Employment, and Poverty Reduction in Ethiopia and Uganda,” School of Oriental and African Studies, University of London Report to the Department for International Development, April 2014, 15–16.

110. According to the International Monetary Fund’s *World Economic Outlook* for October 2019, if developing countries could implement major reforms in six key areas at the same time (domestic finance, external finance, trade, labor markets, product markets, and governance), they could raise their incomes by more than 7 percent over a six-year period and double the speed of their income convergence to the living standards of advanced economies. <https://blogs.imf.org/2019/10/09/how-to-reignite-growth-in-emerging-market-and-developing-economies/>.

# 7

## **The World Trading System**

### **THE WTO, TRADE DISPUTES, AND REGIONAL AGREEMENTS**

For more than seventy years, the General Agreement on Tariffs and Trade (GATT) has provided a system of rules under which international trade has flourished. In 1995, the World Trade Organization (WTO) was established as a formal multilateral institution with new agreements in such areas as services, investment, and intellectual property, along with stronger procedures for resolving disputes. Yet, in recent years, the WTO seems in disarray and trade conflicts seem to have increased, most notably the U.S.–China trade war. This chapter examines the WTO as an institution, its dispute settlement decisions, and the U.S. complaints about both as well as with China. Because the WTO membership has also had difficulty in reaching new agreements, regional trade agreements have proliferated in recent years. This chapter will assess the pros and cons of these regional agreements.

#### **The Origins of the GATT System**

The motivation to establish a formal system of world trade rules came from the terrible experience of the Great Depression in the 1930s. The Depression was a worldwide economic disaster. Between 1929 and 1932, the volume of world trade fell 26 percent, world industrial production fell 32 percent,

and unemployment in many countries topped 20 percent. As the slump intensified, countries responded by raising tariffs and imposing import quotas in a desperate attempt to insulate themselves from the worldwide economic collapse and boost domestic employment. Widespread protectionism—in the form of tariffs, quotas, foreign exchange restrictions, and the like—materialized overnight. These “beggar thy neighbor” policies sought to bolster a country’s own economy at the expense of its trading partners by switching spending from foreign goods to domestic goods. Yet reducing imports proved to be a futile way of combating the economic downturn, because one country’s imports were another country’s exports. The combined effect of this global turn toward protectionism was a collapse of every country’s exports, which merely exacerbated the world’s economic problems.<sup>1</sup>

The United States bears some responsibility for these developments. During the 1928 election campaign prior to the Great Depression, President Herbert Hoover called for increased tariffs on agricultural imports to help U.S. farmers. Once Congress started considering higher duties, however, things began to spin out of control. Logrolling coalitions pushed tariff rates higher and higher, resulting in the infamous Smoot-Hawley Tariff of 1930. Warning of the adverse economic consequences of the high tariffs, more than a thousand American economists signed a petition urging President Hoover not to sign the bill. The warning was not heeded, and the Smoot-Hawley Tariff helped push up the average tariff on dutiable imports to nearly 50 percent. While economic historians do not believe that Smoot-Hawley caused the Depression, the high tariffs contributed to the downward spiral of trade as other countries retaliated against the United States. The U.S. action made it easier for other countries to follow suit, thereby contributing to the worldwide rise in trade barriers.<sup>2</sup>

Out of the ruins of the Depression came a new approach to U.S. trade policy. At the request of President Franklin Roosevelt, Congress enacted the Reciprocal Trade Agreements Act (RTAA) in 1934. The initial RTAA authorized the president to enter into tariff agreements with foreign countries and to reduce import duties by no more than 50 percent. Although the negotiating authority required regular renewal, Congress gave its approval prior to any trade agreement reached by the president. Congress also endorsed the

1. See Douglas A. Irwin, *Trade Policy Disaster: Lessons from the 1930s*, Cambridge, MA: MIT Press, 2012.

2. For details on the Smoot-Hawley Tariff, see Douglas A. Irwin, *Peddling Protectionism: Smoot-Hawley and the Great Depression*, Princeton, NJ: Princeton University Press, 2011.

unconditional most-favored nation clause, under which the lower U.S. tariffs negotiated with one country would be automatically extended to other countries.

The RTAA was “too little, too late” to have a big effect on protectionism in the 1930s, but it had a lasting impact as a political innovation. The RTAA fundamentally changed American trade politics by tipping the political balance of power in favor of lower tariffs in several ways.<sup>3</sup> First, Congress effectively gave up its authority to legislate duties on specific goods when it delegated tariff-negotiating power to the executive branch. Before that, Congress had always been very responsive to domestic import-competing interests and did not give much thought to exporters, consumers, or the possibility of foreign retaliation. Congressional votes on trade now came to be framed in terms of whether, and under what circumstances, the RTAA should be continued, not how high the steel tariff and the wool tariff and the automobile tariff ought to be. Vote trading among interests that favored various tariffs was no longer feasible. Thus, the RTAA reduced access to legislative mechanisms that supported redistributive bargains and logrolling coalitions that had led to high tariffs.

Second, the RTAA delegated authority and agenda-setting power to the president, who represented a broad-based constituency and was therefore more likely than Congress to favor lower tariffs. The national electoral base of the president is thought to make the executive more apt to favor policies that benefit the nation as a whole, whereas the narrower geographic representative structure of Congress leads its members to have more parochial interests. Furthermore, the president is more likely than Congress to use trade negotiations to advance the nation’s foreign policy goals.

Third, the RTAA reduced the threshold of political support needed for members of Congress to approve agreements that reduced tariffs. Before the RTAA, a minority could block foreign trade agreements because treaties had to be approved by a two-thirds majority in the Senate. Now, renewal of the RTAA required a simple majority in Congress. This shifted the threshold of political support needed to approve trade agreements and made them easier to enact. Whereas protectionist forces in the past had to muster only

3. See the analysis of Michael Bailey, Judith Goldstein, and Barry Weingast, “The Institutional Roots of American Trade Policy: Politics, Coalitions, and International Trade,” *World Politics* 49 (1997): 309–38. In addition, see Douglas Irwin, *Clashing over Commerce: A History of U.S. Trade Policy*, Chicago: University of Chicago Press, 2017, chapters 9–10.

34 percent of all senators to block a reciprocity treaty, now they needed 51 percent of senators to kill a renewal of the RTAA.

Finally, the RTAA helped to bolster the bargaining and lobbying position of exporters in the political process. Previously, the main trade-related special-interest groups on Capitol Hill were domestic producers facing import competition. Exporters were harmed by import restrictions, but only indirectly. The cost to exporters of any particular import duty was small, and therefore exporters failed to organize an effective political opposition. The RTAA explicitly linked foreign tariff reductions that were beneficial to exporters to lower tariff protection for producers competing against imports. This allowed exporters to organize and oppose high domestic tariffs because they wanted to secure lower foreign tariffs on their products. In addition, by expanding trade, the tariff reductions negotiated under the RTAA increased the size of export industries and decreased the size of industries competing with imports, and thereby increased the relative political clout of interests supporting renewals of the RTAA.

These features of the RTAA reduced the costs and increased the benefits of organizing and lobbying by interests favoring freer trade.

## **The General Agreement on Tariffs and Trade**

To officials at the time, the lesson of the 1930s was absolutely clear: Like appeasement in the realm of diplomacy, protectionism was a serious economic policy mistake that helped make the decade a disaster. After World War II, world leaders agreed that cooperative actions should be taken to reduce barriers to international trade. Even as the war raged, American and British officials began exploring postwar trade arrangements. The United States aimed to convert the piecemeal, bilateral RTAA approach into a broader, multilateral system based on nondiscrimination and the reduction of trade barriers.<sup>4</sup>

After several preliminary meetings, representatives from twenty-three countries met in Geneva in 1947 and agreed on tariff reductions and on the text of GATT. The tariff reductions were negotiated on a bilateral, product-by-product basis under the “reciprocal mutual advantage” principle, ensuring that no country would be forced to make unilateral concessions. If a bilateral agreement on specific commodity tariffs were reached, the lower

4. On the origins of the GATT, see Douglas A. Irwin, Petros C. Mavroidis, and Alan O. Sykes, *The Genesis of the GATT*, New York: Cambridge University Press, 2008.

negotiated rates would then be applied to all other members through the most-favored nation clause and considered bound at those rates. The United States reduced its tariff by about 20 percent in the first GATT round.<sup>5</sup> Precise estimates of the degree to which other countries reduced their tariffs are unavailable, but major European countries reduced their import tariffs significantly between the early 1930s and the early 1950s, although quantitative restrictions and exchange controls persisted in many of these countries.<sup>6</sup>

The text of the General Agreement on Tariffs and Trade set out principles for the conduct of commercial policy. The main provisions are summarized in table 7.1.<sup>7</sup> First and foremost, Article 1 declares that all GATT signatories would extend unconditional most-favored nation (MFN) treatment to all other contracting parties. The MFN clause forbids countries from using trade measures to discriminate against other GATT partners. Governments would have discretion in choosing the terms for permitting foreign goods into their country, but as a matter of principle (if not always practice) they would not be allowed to treat the goods of one signatory of the GATT differently from the same goods of another.<sup>8</sup>

Similarly, Article 3 requires that countries imposing domestic taxes and regulations adhere to the standard of “national treatment.” *National treatment*

5. But as figure 1.4 illustrated, average U.S. tariffs dropped sharply from about 45 percent in 1933 to just over 10 percent in the early 1950s. Most of this reduction was not because of negotiated reductions in tariff rates but was the result of the effect of inflation on specific duties. Because these duties were unchanged in terms of nominal amounts, inflation during and after World War II dramatically eroded the ad valorem equivalent of these duties. See Douglas A. Irwin, “Changes in U.S. Tariffs: The Role of Import Prices and Commercial Policies,” *American Economic Review* 88 (1998): 1015–26.

6. Chad P. Bown and Douglas A. Irwin, “The GATT’s Starting Point: Tariff Levels circa 1947,” in *Assessing the World Trade Organization: Fit for Purpose?*, edited by Manfred Elsig, Bernard Hoekman, and Joost Pauwelyn, New York: Cambridge University Press, 2017.

7. For an overview of world trade rules, see Bernard Hoekman and Michel Kostecki, *The Political Economy of the World Trading System: From GATT to WTO*, 3rd ed., New York: Oxford University Press, 2009. See also Alan O. Sykes, “Legal Aspects of Commercial Policy Rules,” in *Handbook of Commercial Policy Volume 1, Part A*, edited by Kyle Bagwell and Robert W. Staiger, Amsterdam: North Holland, 2016, 263–332.

8. The MFN clause in Article I simply reads, “With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation . . . any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like products . . . of all other contracting parties.” But Article 24 permits countries to deviate from unconditional MFN in the case of free trade agreements and customs unions. The text of the GATT is available on the WTO website.



TABLE 7.1. Major Provisions of the General Agreement on Tariffs and Trade

Provision	Description
Article 1	General Most-Favored Nation Treatment
Article 2	Schedule of Tariff Concessions
Article 3	National Treatment on Internal Taxes and Regulation
Article 6	Antidumping and Countervailing Duties
Article 10	Transparency of Trade Regulations
Article 11	General Elimination of Quantitative Restrictions
Article 12	Restrictions to Safeguard the Balance of Payments
Article 14	Exceptions to Rule of Nondiscrimination
Article 16	Subsidies
Article 17	State Trading Enterprises
Article 19	Emergency Action on Imports of Particular Products (Safeguards)
Article 20	General Exceptions
Article 21	Security Exceptions
Article 23	Nullification and Impairment
Article 24	Customs Unions and Free Trade Areas

Source: World Trade Organization ([http://www.wto.org/english/docs\\_e/legal\\_e/legal\\_e.htm](http://www.wto.org/english/docs_e/legal_e/legal_e.htm)).

is another form of nondiscrimination in which domestic and imported goods are supposed to face the same regulatory standards. This provision prevents governments from setting one standard for domestic products and then imposing a more stringent standard for similar imported products.

The other articles of the GATT deal with more specific trade policy issues. Article 6 condemns dumping and allows countries to impose anti-dumping duties if the dumping causes or threatens to cause material injury to an established industry. Article 16 indicates that countries should avoid the use of subsidies for primary products and proposes that countries limit subsidies in general. Article 11 is a sweeping prohibition on the use of quantitative restrictions, although Article 12 permits the imposition of import quotas when countries have balance-of-payments difficulties. Article 18 is a general exemption for developing countries from GATT rules to give them flexibility to promote infant industries and protect their balance of payments. Other articles of the GATT address mundane details such as the valuation of merchandise for customs purposes, marks of origin, and the transparency of trade regulations.

TABLE 7.2. GATT Negotiating Rounds

Round	Dates	Major Accomplishments
Geneva	1947	GATT established. About 20 percent tariff reduction negotiated.
Annecy	1949	Accession of eleven new contracting parties. Minor tariff reduction (about 2 percent).
Torquay	1950–51	Accession of seven new contracting parties. Minor tariff reduction (about 3 percent).
Geneva	1955–56	Minor tariff reduction (about 2.5 percent).
Dillon Round	1960–61	Negotiations involving external tariff of European Community. Minor tariff reduction (4 percent).
Kennedy Round	1964–67	About 35 percent tariff reduction.
Tokyo Round	1973–79	About 33 percent tariff reduction. Six codes negotiated (e.g., subsidies, technical barriers).
Uruguay Round	1986–94	Established WTO in 1995. Additional tariff reductions. New agreements on dispute settlement, agriculture, clothing, services, investment, and intellectual property.
Doha Development Round	2001–08	Failed round, with negotiations suspended in 2008. Agreement on trade facilitation reached in December 2013.

Source: Compiled by the author.

After the establishment of the GATT, the contracting parties met on a regular basis to negotiate further reductions in trade barriers.<sup>9</sup> Table 7.2 lists these negotiating “rounds,” as they are called, and their major accomplishments. (Trade negotiations tend to take a long time, which explains why the GATT was sometimes referred to as the “General Agreement to Talk and Talk.”) In the 1950s, more countries acceded to the GATT, but further tariff reductions were negligible. In 1958, six European countries agreed to eliminate all tariffs on each other’s goods, thus forming a common market (the European Economic Community, a precursor to today’s European

9. Unlike the World Bank and International Monetary Fund (IMF), the GATT was not a formal international institution. The countries signing the GATT were “contracting parties” and not “members” because the GATT was simply an agreement among governments and not officially an organization. The GATT as an institution consisted only of a small secretariat in Geneva. The advantage of this situation was that the GATT remained a small body—with relatively few participating countries—devoted to a single mission: promoting further attempts to liberalize trade and establishing broad rules for commercial policy. In contrast to the World Bank and IMF, both of which have large mandates, with large budgets and bureaucracies as well, the GATT had a rather narrow focus.

Union). U.S. exporters were concerned that their sales would suffer because American goods would still be subject to import duties in Europe. To reduce the tariff advantage given to intra-European trade, Congress took a serious interest in reducing trade barriers between the United States and Europe and authorized the president to undertake new negotiations. The Kennedy Round, begun in 1964 and concluded in 1967, resulted in a 35 percent reduction in tariffs, on average. These cuts were generally across the board, with each country receiving exemptions for sensitive sectors. The across-the-board approach proved to be more efficient and less cumbersome than the product-by-product negotiations used in previous rounds, although this was not obvious from the length of the negotiations.

The Tokyo Round negotiations in the 1970s sliced tariffs by another third. By this time, however, tariffs on manufactured goods in the major industrialized countries had generally fallen to low levels. As a result, the Tokyo Round began the trend toward even more difficult negotiations about nontariff barriers to trade. “The lowering of tariffs has, in effect, been like draining a swamp,” it was said at the time. “The lower water level has revealed all the snags and stumps of non-tariff barriers that still have to be cleared away.”<sup>10</sup>

The Tokyo Round resulted in several codes dealing with nontariff issues such as subsidies, technical barriers, import licenses, government procurement, customs valuation, and antidumping procedures. These codes substantially broadened the scope of trade rules in certain areas but also contained wide-ranging exceptions. For example, countries could pick and choose which, if any, of the codes they wished to adopt, an approach that became known as “GATT à la carte.” A majority of GATT members, including most developing countries, chose not to sign the codes. Indeed, developing countries were given “special and differential” treatment, meaning that they were not required to cut their trade barriers and adhere to GATT rules to the same extent as the industrialized countries.

The Trade Act of 1974, which authorized U.S. participation in the Tokyo Round, also included a provision called “fast track,” or what today is called “trade promotion authority.” Because trade agreements now involve much more than just reducing tariff rates, such as dealing with nontariff barriers and government regulations, they require changes in domestic legislation. Rather than have Congress meddle with the outcome of the multilateral negotiations by amending the agreements, which would essentially bring

10. Robert E. Baldwin, *Nontariff Distortions to International Trade*, Washington, DC: Brookings Institution, 1970, 2.

the negotiating process to a halt, Congress agreed to give trade agreements expedited consideration and vote them up or down with no possibility of amendment. (The executive branch keeps Congress well informed about the substance of the negotiations to ensure that it will approve any deal that is reached.) If the president does not have such negotiating authority, it is more difficult—but not impossible—for U.S. negotiators to conclude international trade agreements. (In 2015, Congress renewed the president's trade promotion authority until July 2021.)

The Uruguay Round (1986–94) turned out to be the most important multilateral trade negotiation since the original formation of the GATT. For the first time, developing countries decided to be full participants in the talks, which changed the negotiating dynamic considerably. As in previous rounds, countries agreed to reduce tariffs on merchandise goods, although tariffs were already at relatively low levels for developed countries.<sup>11</sup> The participants also agreed to liberalize trade in areas that had eluded previous negotiators, particularly agriculture and clothing, and they extended rules to new areas such as services, investment, and intellectual property. Finally, the Uruguay Round brought about important institutional changes, both in creating the World Trade Organization and strengthening the dispute settlement process.<sup>12</sup> At the same time, these far-reaching agreements produced controversy the likes of which the GATT had never seen.

The Uruguay Round also brought trade in textiles and apparel and in agricultural goods under GATT discipline, two big accomplishments. In the case of textiles and apparel, the Multi-Fiber Arrangement (MFA), a complex web of bilateral export restraints and import quotas that clogged trade in these goods, was completely abolished. For several decades, the MFA had allowed developed countries to put quantitative limits on their imports of apparel goods, product by product, country by country, in a way that GATT rules did not generally permit. The MFA was phased out over ten years, ending in January 2005, and the elimination of these quantitative restrictions has been a major step toward freer trade in clothing. Reform of agricultural trade

11. Developed countries reduced tariffs on industrial products (excluding petroleum) by about 40 percent on a trade-weighted average basis. This brought average tariff levels in these countries down from 6.3 percent to 3.8 percent. Developing countries reduced their tariffs by 20 percent on average, bringing their average rates down from 15.3 percent to 12.3 percent; see Ernest H. Preeg, *Traders in a Brave New World: The Uruguay Round and the Future of the International Trading System*, Chicago: University of Chicago Press, 1995, 191.

12. See Hoekman and Kostecki, *The Political Economy of the World Trading System: From GATT to WTO*, for an overview of the accomplishments of the Uruguay Round and the substance of WTO agreements.

has also eluded negotiators ever since the GATT's formation because of the political sensitivity of domestic support for farmers. A key problem facing the negotiators was that countries protected agricultural producers through a complex host of measures, including tariffs, import quotas, domestic price supports, and export subsidies. At the time, the policy distortions in agricultural markets were large and costly.<sup>13</sup> The Uruguay Round's Agreement on Agriculture limited the use of export subsidies and internal price supports by capping and reducing these outlays from a given base period. The agreement also sought to ensure greater market access by requiring countries to convert all nontariff barriers (e.g., variable import levies, import quotas and prohibitions, voluntary export restraints) into a single import tariff.<sup>14</sup> Although the degree of liberalization was limited, the agreement was an important first step in getting agricultural trade barriers on the negotiating table.

Of course, although export subsidies are prohibited in principle, other domestic agricultural subsidies have persisted. From 2016 to 2018, the countries of the Organization for Economic Cooperation and Development (OECD) provided \$325 billion in support to agricultural producers, three-quarters of which was transferred directly to producers. This support amounts to nearly 20 percent of gross farm receipts across the OECD countries, down from 30 percent two decades ago.<sup>15</sup> The European Union's (EU) Common Agricultural Policy, involves a bewildering array of subsidies and other programs that take up about 40 percent of the EU's budget. France and other countries with powerful farm lobbies have fiercely resisted efforts to change the policy. Overall, the distortions caused by government support for agricultural producers has fallen significantly over the past decade. The "producer support estimate," a measure of how much U.S. farm income comes from government programs, fell from 22 percent in 1986–88 to 10 percent in 2016–18. In fact, the U.S. farm bill passed in 2014 ended direct cash payments

13. Kym Anderson, *Distortions to Agricultural Incentives: A Global Perspective, 1955–2007*, Washington, DC: World Bank, 2009.

14. After this "tariffication" of existing restrictions, the tariffs were to be reduced over ten years by an average of one-third for developed countries and by one-quarter for developing countries. The resulting tariffs, however, are incredibly high. Many countries used the process of converting the complex trade barriers into tariffs as an opportunity to cheat, raising tariffs above the existing combination of nontariff restrictions. This practice, known as "dirty tariffication," means that the actual liberalization in agriculture was slight. Merlinda D. Ingco, "Tariffication in the Uruguay Round: How Much Liberalization?," *World Economy* 19 (1996): 425–46. See also David Orden, David Blandford, and Tim Josling, *WTO Disciplines in Agricultural Support: Seeking a Fair Basis for Trade*, New York: Cambridge University Press, 2011.

15. Organization for Economic Cooperation and Development, *Agricultural Policy Monitoring and Evaluation 2019*, Paris: OCED, 2019, 77.

to farmers, although producers still have a substantial safety net in the form of crop insurance and disaster relief. Even the EU reduced its producer support estimate from 39 percent in 1986–88 to 19 percent in 2010–12, where it has since remained. Government payments to farmers have also shifted from price supports, which distorted markets because they gave farmers an incentive to overproduce, to income support, which decouples the financial transfer from the decision to produce.<sup>16</sup>

The Uruguay Round made little progress in regulating the use of anti-dumping laws, but countries did pledge not to “see, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side.”<sup>17</sup> Previously, the so-called gray measures had been used by countries to restrict trade without explicitly violating GATT rules. They are now eliminated, at least in principle. When countries seek to protect domestic industries from foreign competition, they are obligated to follow existing procedures and rules regarding safeguards and escape clauses. If adhered to, this provision also constitutes a major improvement in multilateral disciplines on trade policy.

The Uruguay Round also produced a General Agreement on Trade in Services (GATS) and established rules regarding trade-related investment measures (TRIMs) and trade-related intellectual property (TRIPs). Although these agreements are weak by the standards of the GATT treatment of goods, they constitute the first attempt to extend the principle of nondiscrimination to new areas of international commerce. The core obligations in the GATS center around three principles: most-favored nation treatment, market access, and national treatment. The main sectors include telecommunications, financial services, air and maritime transport, and construction. Although the agreement contains specific commitments to liberalization, coverage is incomplete because the important provisions of the GATS apply only to the sectors specified by the member countries. In general, trade in services was freed only slightly, but a framework was established in which liberalization could be pursued in the future.

16. Some researchers suggest that the WTO did not have an impact on the overall level of support given to agriculture but can take some credit for shifting that support to less distortive policy instruments (cash payments and income support rather than measures linked to production, such as price supports). Johan Swinnen, Alessandro Olper, and Tjijis Vandemoortele, “Impact of the WTO on Agricultural and Food Policies,” *World Economy* 35 (2012): 1089–101.

17. Article 1:1(b) of the Agreement on Safeguards, in World Trade Organization, *The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations*, New York: Cambridge University Press, 1999, 280.

The TRIMs agreement was even more modest in making national treatment the standard for regulating foreign investment. The agreement aims to eliminate quantitative restrictions on investment, including limits on the share of foreign ownership in certain industries. Because of opposition from developing countries, there was no attempt to consider such issues as the right of firms to establish enterprises in other countries or the elimination of trade-related performance requirements on foreign investment.

The TRIPs agreement consolidates previous international accords protecting copyrights, trademarks, patents, and industrial designs and provides for the enforcement of these agreements within the WTO. As a major producer of intellectual property, the United States has pushed for including these matters in trade negotiations. The pharmaceutical industry, the music and motion picture industry, and the software and high-technology industries have a strong interest in protecting their inventions and innovations from copycats. The potential use of trade sanctions to enforce the intellectual property agreement is a major change in global policy.

The TRIPs agreement is one of the most controversial parts of the WTO. Many developing countries complained that, unlike tariff reductions that are mutually beneficial for countries, the TRIPs agreement merely transfers income from developing to developed countries by strengthening the ability of multinational corporations to charge higher prices in poorer countries.<sup>18</sup> The controversy is particularly intense regarding pharmaceuticals and whether protecting intellectual property prevents poor developing countries from producing or importing cheap, generic antimalarial or anti-HIV drugs that are necessary to save lives. The WTO membership recognized this problem in 2001 and granted developing countries a waiver that extends the TRIPs implementation schedule from 2006 to 2016. It might have to be extended again, although the TRIPs agreement also permits “compulsory licensing” in which governments can force makers of patented drugs to permit local production under certain circumstances.<sup>19</sup> However, the contro-

18. One estimate is that the full implementation of the TRIPs agreement would transfer \$5.8 billion from developing countries to the United States, and another \$2.5 billion to five other developed countries. Keith Maskus, *Intellectual Property Rights in the Global Economy*, Washington, DC: Institute for International Economics, 2000.

19. See Keith Maskus, *Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21st Century*, Washington, DC: Peterson Institute for International Economics, 2012, and Keith Maskus, “The New Globalization of Intellectual Property Rights: What’s New This Time?,” *Australian Economic History Review* 54 (2014): 262–84. However, patent protection in TRIPs increases the availability of new drugs in developing countries because generics are often absent from the market. See Margaret Kyle and Yi Qian, “Intellectual Property Rights and Access to Innovation: Evidence from TRIPs,” National Bureau of Economic Research Working Paper No. 20799, 2014.

versy surrounding TRIPs has died down because now developing countries, such as China and India, have become innovative and take an increasing interest in protecting intellectual property.

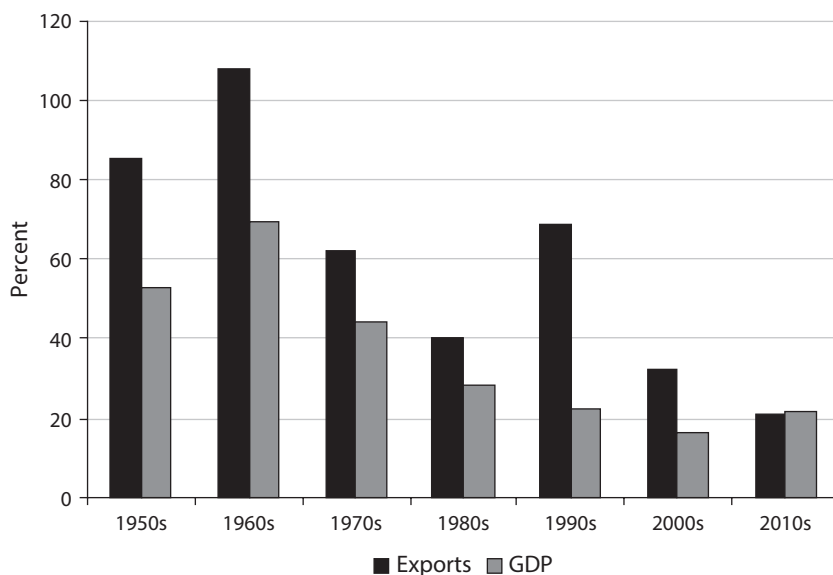
Many economists believe that the protection of intellectual property is not a trade issue that should be under the purview of the WTO, especially given the existence of the World Intellectual Property Organization. In addition, some argue that it sets a bad precedent: Using instruments of trade policy to protect intellectual property makes it harder to reject demands to use them to enforce other nontrade-related objectives, such as environmental or labor standards. It opens the door to many interests that want to use the threat of trade sanctions to achieve their own nontrade objectives and thus puts the WTO in the business of enforcing behavior in areas only tangentially related to trade. These potential outcomes of efforts to protect intellectual property dilute the institution's focus on the reduction of trade barriers.

The Uruguay Round was a "single undertaking," meaning that all participants and future members of the WTO are bound to follow all of the agreements reached. The Uruguay Round was the first round of multilateral trade negotiations in which developing countries played an active role, and their participation helped shape the outcome. Developed countries agreed to abolish the MFA's clothing quotas and to reform agricultural trade, increasing trade in sectors where developing countries have a comparative advantage. In return, developing countries accepted rules in the new areas of trade where developed countries have a comparative advantage. This exchange of market access came to be known as the "grand bargain." As we shall see, developing countries soon came to view the grand bargain as a major disappointment.

### **Has the GATT Been a Success?**

Before turning to the WTO, let us pause to consider whether the GATT has been successful in expanding world trade. The answer is clearly yes. The architects of the postwar world trading system desperately wanted to avoid a repeat of the interwar trade policies after World War II. They not only accomplished this goal but also succeeded in eliminating most of the high barriers that arose during the 1930s. The reduction in trade barriers and the stability of tariff policy in most countries in the decades after 1947 have permitted the expansion of world trade to proceed unchecked. As figure 7.1 indicates, the volume of world merchandise trade has grown much more rapidly than the volume of world merchandise output over the postwar period. This is particularly true in the 1990s, when there was an explosion





**FIGURE 7.1.** Growth in Volume of World Exports and World Production, by Decade, 1950–2010  
*Source:* World Trade Organization, International Trade Statistics 2019, table A1 ([http://wto.org/english/res\\_e/statis\\_e/its2013\\_e/its13\\_toc\\_e.htm](http://wto.org/english/res_e/statis_e/its2013_e/its13_toc_e.htm)).

of trade as a result of trade reforms in developing countries, particularly in China and India.<sup>20</sup>

This figure alone does not prove that the GATT was responsible for much or all of this expansion. But various studies indicate that the GATT can take a good deal of credit for the growth in world trade in the post-war years. A detailed study of bilateral trade flows during the half century since 1946 reveals that countries that participated in the GATT enjoyed trade that is 43 percent higher than a pair of nonparticipating countries.<sup>21</sup> However, this overall effect has not been constant over time. The stimulus to trade arising from participation in the GATT was greatest early on—at over 80 percent in the 1950s—but has diminished to only about 11 percent

20. Figure 7.1 shows a marked slowdown in the growth of world trade in the 2000s. Structural change in the relationship between trade and world GDP growth prior to 2018 may be due to the slowing pace of vertical specialization (discussed in chapter 1) or, more recently, an increase in protectionism. See Cristina Constantinescu, Aaditya Mattoo, and Michele Ruta, “The Global Trade Slowdown: Cyclical or Structural?,” *World Bank Economic Review*, forthcoming. See also Bernard Hoekman, ed., *The Global Trade Slowdown: A New Normal?*, VoxEU.org eBook, London: Centre for Economic Policy Research (CEPR), 2015.

21. Judith L. Goldstein, Douglas Rivers, and Michael Tomz, “Institutions in International Relations: Understanding the Effects of the GATT and WTO on World Trade,” *International Organization* 61 (2007): 37–67.

by the 2000s. This is partly because so few countries now remain outside of the GATT/WTO system.

Similarly, another study concluded that the GATT has had a strong and positive impact on world trade, finding that industrial-country bilateral imports are 65 percent greater as a result of the agreement.<sup>22</sup> However, GATT participation by developing countries did not increase their trade nearly as much, perhaps because they were given “special and differential” treatment for so long and were not required to liberalize their trade policies. Finally, this analysis shows that bilateral trade for GATT participants is not higher in the case of clothing, footwear, and agriculture—precisely the sectors of trade that have been largely exempt from liberalization.

Granting that the GATT and WTO have succeeded in increasing world trade, another question is why multilateral trade agreements have been politically successful in liberalizing trade. From a strictly economic point of view, the GATT’s system of reciprocity in tariff reductions and rules for commercial policy is unnecessary because countries are better off pursuing a policy of free trade regardless of the trade policies pursued by others. As set out in chapter 2, the case for free trade is a unilateral one: As economist Joan Robinson once put it, a country should not throw rocks in its harbors simply because other countries have rocks in theirs. The mercantilist language of international trade negotiations—that a reduction in one’s own trade barriers is a “concession” to others—is wrong from an economic standpoint.

The reason that reciprocity via multilateral trade agreements has worked well since 1947 is that such agreements have both economic and political value for governments seeking to contain protectionist pressures. When countries choose their tariffs alone, the outcome can be inefficient economically because governments are pressured by import-competing producers into maintaining trade restrictions.<sup>23</sup> Multilateral tariff cooperation is a way to avoid an economically inefficient result. Furthermore, the gains from trade are magnified if other countries also reduce their trade barriers. Trade

22. Arvind Subramanian and Shang-Jin Wei, “The WTO Promotes Trade, Strongly but Unevenly,” *Journal of International Economics* 72 (2007): 151–75. See also Kym Anderson, “Contributions of the GATT/WTO to Global Economic Welfare: Empirical Evidence,” *Journal of Economic Surveys* 30 (2016): 56–92; and Salvador Gil-Pareja, Rafael Llorca-Vivero, and Jose Antonio Martinez-Serran, “A Reexamination of the Effect of GATT/WTO on Trade,” *Open Economies Review* 27 (2016): 561–84.

23. If tariff policies are interdependent, such that an increase in one country’s tariff leads to an increase in another country’s tariff, then a noncooperative equilibrium will include relatively high tariffs and be inefficient. See Kyle Bagwell and Robert W. Staiger, “The World Trade Organization: Theory and Practice,” *Annual Review of Economics* 2 (2010): 223–56. See also Gene M. Grossman, “The Purpose of Trade Agreements,” in *Handbook of Commercial Policy Volume 1, Part A*, 379–434, edited by Kyle Bagwell and Robert W. Staiger, Amsterdam: North Holland, 2016.

agreements are also beneficial politically because they enhance domestic support for open trade. Such agreements make exporters more politically active, counterbalancing the power of interests opposed to imports and thus facilitating trade liberalization.<sup>24</sup> Although unilateral free trade is beneficial, not all unilateral policies are free trade, as our discussion of trade politics in chapter 3 described.

The GATT's economic and political value was demonstrated by the fact that countries adhered to its provisions even though the agreement had no direct mechanism to enforce them. Under Article 23, if any contracting party failed to carry out its obligation or undertakes an action that "nullifies or impairs" a benefit due to another party, other countries could ask the GATT to allow them to suspend their concessions or waive their obligations to the offending country. In other words, if one country fails to adhere to the rules, then other countries are not obligated to adhere to the rules with respect to that country. They can retaliate by raising tariffs against the rule-breaker's goods. In the "chicken war" of 1962, the United States imposed tariffs on \$26 million in European goods because Europe violated GATT rules by imposing a high variable levy on poultry imports.

Thus, the countries that signed the GATT contract were responsible for enforcing the agreement; no independent power resides with the GATT itself, which essentially relies on the goodwill of the signatories. Countries were concerned about their reputation and wanted to adhere to the agreement. Reputation can be a powerful device for preventing the erosion of agreements because a country that fails to abide by the rules forfeits the right to insist that other countries do so and thus risks discrimination against its exports.<sup>25</sup> Evidence suggests that countries try to cultivate good reputations and fear retaliation for noncompliance with the agreed-on rules.<sup>26</sup>

24. For a theoretical analysis of this point, see Arye Hillman and Peter Moser, "Trade Liberalization as Politically Optimal Exchange of Market Access," in *The New Transatlantic Economy*, edited by Matthew Canzoneri, Wilfred Ethier, and Vittorio Grilli, New York: Cambridge University Press, 1996.

25. In Robert Hudec's view, "Other governments interested in maintaining the integrity of legal commitments are willing to go to considerable lengths to expose the defendant government to criticism for not keeping its word. . . . To be caught not performing one's own obligation is to lose the right to enforce the obligations on others, thereby losing specific trade opportunities as well as imperiling the entire liberal trading system. Rarely, if ever, does the gain from a violation of GATT obligations make it worth jeopardizing the benefits of the existing trade order." Robert Hudec, "Does the Agreement on Agriculture Work? Agricultural Disputes after the Uruguay Round," International Agricultural Trade Research Consortium Working Paper No. 98-2, April 1998, 36, <http://www.umn.edu/iatrc>.

26. Chad Bown, "Trade Disputes and the Implementation of Protection under the GATT: An Empirical Assessment," *Journal of International Economics* 62 (2004): 263–94.

For all of these reasons, most countries that were not a part of the GATT have wanted to become members of the WTO. Although the obligations are extensive, they are less than the costs of remaining outside the agreement and losing the benefits of MFN treatment by other countries. As a result, membership in the WTO has become increasingly attractive. At the start of the Uruguay Round in 1986, the GATT consisted of 91 contracting parties. The WTO was established in 1995 with nearly 130 members, and by 2019 the membership had risen to 164 nations, accounting for over 90 percent of world trade. A handful of small countries, ranging from Equatorial Guinea to Somalia, have been negotiating to join the organization.

Despite its success, the GATT legal framework has several notable defects. The agreement is written broadly, often with several exceptions for every rule. These exceptions give countries the flexibility to deal with unexpected contingencies and to maneuver through politically difficult decisions on policy. But they also provide loopholes and excuses for evading the basic principles of the agreement. For example, Article 1 contains the MFN clause, but Article 14 is entitled “Exceptions to the Rule of Nondiscrimination,” and Article 24 permits countries to form customs unions and free trade areas, which are inherently discriminatory. Article 11 generally forbids the use of import quotas and quantitative restrictions, but Article 13 states that when they are imposed, they should be administered in a nondiscriminatory way, a provision that would be unnecessary if Article 11 were fully effective.

Despite these deficiencies, over the past half century the multilateral trading system has achieved many of its original goals. Countries that are party to the GATT have generally adhered to the rules. Nondiscrimination has been established as a benchmark for commercial policy, and tariff barriers have been significantly reduced in successive negotiating rounds. In addition, until the past few years, world trade relations have been generally good: Specific disputes have been contained and policies have been stable, providing an environment in which international commerce has flourished. Of course, discriminatory policies remain, nontariff barriers exist, antidumping measures are used, and disputes still arise and sometimes fester. But on the whole, the postwar system of world trade must be judged a great success.

One reason for the general decline in protectionism is that world economic growth over the past half century has been relatively smooth, punctuated by only a few recessions but free of major depressions. This expansion has muted protectionist demands and pressures on governments to deviate from GATT rules. Economic growth and rising incomes have mitigated the pain associated with structural shifts, whether resulting from international

trade or other factors, by creating new opportunities for those displaced. In short, the economic shocks confronting the trading system have not been strong enough to bring about a move back toward closed markets.<sup>27</sup>

The world trading system was tested during the global financial crisis in 2008. The subsequent recession, one of the most severe since the Great Depression, prompted fears that governments would employ protectionist policies to insulate their economies from the downturn, just as they had in the 1930s. For example, about half of the 25 percent decline in the volume of world trade between 1929 and 1932 was because of higher trade barriers.<sup>28</sup> Many observers worried that the temptation to respond to the Great Recession with beggar-thy-neighbor trade policies would lead to a wholesale abandonment of WTO rules and disciplines.

Fortunately, leading central banks quickly and aggressively eased monetary policies to address the financial crisis and economic downturn. The contrast with the 1930s was dramatic: During the Great Depression, central banks could not respond this way because they had to adhere to the rules of the gold standard. As a result, economic conditions were allowed to deteriorate, and governments were forced to use trade policy measures to address the crisis.<sup>29</sup> By contrast, in the early stages of the Great Recession, the quick response of monetary authorities stopped the free fall in economic activity, and countries generally refrained from imposing beggar-thy-neighbor policies.<sup>30</sup> As a result, although the volume of world trade fell 12 percent in 2009, only 2 percent (0.2 percentage points) of that decline was due higher trade barriers.<sup>31</sup>

How much did the WTO help the world avoid a nasty outbreak of protectionism during that crisis? If the WTO rules had not been in place, might countries have been tempted to raise tariffs and other barriers to trade? It

27. Douglas A. Irwin and Kevin H. O'Rourke, "Free Trade and Multilateralism in Historical Perspective," in *Globalization in an Age of Crisis: Multilateral Economic Cooperation in the Twenty-First Century*, edited by Robert C. Feenstra and Alan M. Taylor, Chicago: University of Chicago Press, 2014.

28. Jakob B. Madsen, "Trade Barriers and the Collapse of World Trade during the Great Depression," *Southern Economic Journal* 67 (2001): 848–68.

29. Barry Eichengreen and Douglas A. Irwin, "The Slide to Protectionism in the Great Depression: Who Succumbed and Why?," *Journal of Economic History* 70 (2010): 873–98.

30. Chad P. Bown and Meredith A. Crowley, "Import Protection, Business Cycle, and Exchange Rates: Evidence from the Great Recession," *Journal of International Economics* 90 (2013): 50–64.

31. See Hiau Looi Kee, Cristina Neagu, and Alessandro Nicita, "Is Protectionism on the Rise? Assessing National Trade Policies during the Crisis of 2008," *Review of Economics and Statistics* 95 (2013): 342–46; Christian Henn and Brad McDonald, "Crisis Protectionism: The Observed Trade Impact," *IMF Economic Review* 62 (2014): 77–118.

TABLE 7.3. Applied and Bound Tariffs, 2010

	Applied Rates	Bound Rates
TOTAL		
All countries	3.7	9.9
High-income countries	2.5	5.2
Developing (non-LDC)	6.9	21.8
Less-developed countries	11.1	n.a.
AGRICULTURAL GOODS		
All countries	14.5	40.3
High-income countries	15.0	31.9
Developing (non-LDC)	13.4	53.9
Less-developed countries	12.5	94.1
NONAGRICULTURAL GOODS		
All countries	2.9	7.8
High-income countries	1.7	3.5
Developing (non-LDC)	6.4	19.1
Less-developed countries	10.9	n.a.

Source: Will Martin and Aaditya Mattoo, *Unfinished Business: The WTO's Doha Agenda*, Washington, DC: World Bank, 2011.

Note: LDC = less-developed country.

is very hard to answer these questions. Many developing countries have applied tariffs that are well below their bound tariffs. The applied tariffs are those that they actually choose to levy on imports; the bound tariffs are the maximum those tariffs can be under as negotiated in the Uruguay Round. (This means that these countries could, if they wanted, raise their tariffs up to the bound level without violating any international agreements.)

The applied and bound tariff averages are shown in table 7.3.<sup>32</sup> Developing countries could have increased their import tariffs without violating any international agreements and therefore without fear of retaliation. And yet they did not, in general, raise tariffs. One factor preventing an outbreak of protectionism has been the rise of “global value chains”—that is, trade

32. For a general view of where we stand on measures of trade policy, see Chad P. Bown and Meredith Crowley, “The Empirical Landscape of Trade Policy,” in *Handbook of Commercial Policy Volume I, Part A*, edited by Kyle Bagwell and Robert W. Staiger, Amsterdam: North Holland, 2016, 3–108.

in intermediate goods and components, which make trade barriers more disruptive to production.<sup>33</sup>

On the other hand, many countries quietly used “murky protectionism” in the form of subsidies, government procurement rules, health and safety regulations, and other discriminatory practices to limit imports during this period.<sup>34</sup> It remains to be seen whether these measures will remain in check or continue to proliferate.

## The World Trade Organization

Established in 1995, the WTO was initially a much more visible and controversial organization than the GATT had ever been. In the late 1990s, activists largely on the political left opposed the WTO for fear that it would strike down domestic environmental, health, and safety regulations that might conflict with world trade rules. (This led to the infamous “Battle in Seattle” in 1999 in which protesters clashed with police at a WTO ministerial meeting held there.) Although the WTO seemed to prove itself relatively benign after that, now President Donald Trump and economic nationalists have joined the chorus of critics. In October 2017, the president stated: “The WTO, World Trade Organization, was set up for the benefit of everybody but us. They have taken advantage of this country like you wouldn’t believe.” At other points he has said, “The World Trade Organization is the worst organization ever created!” and “The WTO has been a disaster for this country. It has been great for China and terrible for the United States.” And he has threatened to pull out of the WTO on several occasions.<sup>35</sup>

What is the WTO, and what has it done to get attacked from all sides? The WTO remains a key international institution, so it is important to get a sense of what the organization is all about, particularly its dispute settlement mechanism.<sup>36</sup>

33. Richard E. Baldwin and Simon J. Evenett, “Beggar-Thy-Neighbor Policies during the Crisis Era: Causes, Constraints, and Lessons for Maintaining Open Borders,” *Oxford Review of Economic Policy* 28 (2012): 211–34; and Kishore Gawande, Bernard Hoekman, and Yue Cui, “Global Supply Chains and Trade Policy Responses to the 2008 Crisis,” *World Bank Economic Review* 29 (2015): 102–28.

34. Simon J. Evenett and David Vines, “Crisis Era Protectionism and the Multilateral Governance of Trade: An Assessment,” *Oxford Review of Economic Policy* 28 (2012): 195–210.

35. For these quotes, see Chad P. Bown and Douglas A. Irwin, “What Might a Trump Withdrawal from the World Trade Organization Mean for US Tariffs?,” Peterson Institute for International Economics Policy Brief No. 18-23, November 2018.

36. For a general overview of the WTO, see Hoekman and Kostecki, *The Political Economy of the World Trading System: From GATT to WTO*.

The World Trade Organization is something more, but not much more, than the GATT. While the GATT was simply an intergovernmental agreement overseen by a small secretariat, the WTO is an official international organization. The scope of the WTO is broader than that of the GATT because it oversees multilateral agreements relating not just to goods but also services, investment, and intellectual property.

The WTO remains a relatively small institution. Located in Geneva, Switzerland, the WTO secretariat consists of just 627 employees, about a quarter of whom are translators. In 2018, the WTO's budget was about \$200 million.<sup>37</sup> The support staff and budget are small in comparison to other international organizations, such as the World Bank, the International Monetary Fund (IMF), and the Food and Agriculture Organization (FAO), and even some nongovernmental organizations. For example, in 2018, the World Bank had a staff of about 10,000 and an administrative budget of about \$2.6 billion, and the IMF had a staff of about 24,000 and a budget of \$1.1 billion. (That said, unlike the World Bank or IMF, the WTO does not have any money to lend to developing countries.) Yet these figures do not reflect the WTO's true importance as the cornerstone of the world trading system: its goal—to keep the international trading system functioning smoothly—is more clearly focused and perhaps even more important than the World Bank's vaguely defined mission of promoting economic development.

The WTO is simply a forum for the member countries to consult with one another over trade policy matters and possibly negotiate trade agreements and adjudicate trade disputes. The WTO also conducts fact-finding surveillance reviews of members' policies. But, ultimately, the WTO has very little power in itself. It cannot force countries to negotiate with one another. It cannot make them obey the agreements that they had previously reached or agreed to adhere to. And it cannot require the countries to comply with its findings in the dispute settlement cases.

The WTO has virtually no independent power and strives to be a neutral party among the member countries. The director-general of the WTO has no policymaking authority and cannot comment directly on members' policies. The power to make trade policy and to write the rules governing policy resides specifically with the member governments, not with the WTO. For this reason, the WTO is often called a “member-driven organization”: it

37. World Trade Organization, *Annual Report 2019*, 172, 179.



accomplishes what the members collectively agree to do and the institution itself cannot force that process.

The two major activities of the WTO are trade negotiations and dispute settlement. In the roughly twenty-five years since the WTO has been in existence, the membership has been remarkably unsuccessful in reaching new trade agreements. As mentioned earlier, developing countries came to view the grand bargain of the Uruguay Round as a major disappointment: They took on many new obligations in services, investment, and intellectual property but did not reap major benefits in terms of market access in agriculture and clothing. (In agriculture, developed-country subsidies remained in place; and in clothing, China came along in the 1990s and almost completely took over the market.) Developing countries, particularly India, Brazil, and China, have become more assertive in international trade negotiations, blocking any deals that do not deal adequately with their concerns.

The first stumble came at a WTO ministerial meeting in Seattle in 1999. The meeting aimed to address the concerns of developing countries, but the United States brought up the sensitive issue of labor standards. Developing countries reject any inclusion of labor standards in trade agreements for fear the provisions could be used to block their exports. The meeting was also disrupted by violent protests by antiglobalization groups fearful of the new WTO. This came to be called “the Battle of Seattle” and was even made into a low-budget Hollywood movie.

In November 2001, however, in a meeting at Qatar, a new round of trade negotiations was launched. The Doha Development Round, as it was called, had as its goal using trade to further the development goals of the poorest countries. The formal agenda originally included six broad areas: agriculture, nonagricultural market access, services, the so-called Singapore issues (transparency in government procurement, trade facilitation, investment, and competition policy) and rules (trade remedies), TRIPs, and development-related issues. The Doha Round negotiations proved to be difficult and contentious—agricultural policy reform is a political challenge in the United States and the European Union, developing countries objected to negotiations on investment and competition (which were then dropped), and the TRIPs agreement remains contentious.

As a result, the Doha Round languished amid recriminations and finger pointing, and it eventually stalled and was declared dead. Although a mini-ministerial meeting in 2008 seemed to narrow differences on many issues, it ended in failure when India and China insisted on special safeguards that

would allow them to raise tariffs on agricultural imports.<sup>38</sup> A ministerial meeting in Bali in 2013 led to a WTO agreement on one part of the Doha agenda, trade facilitation, but even this minor success later collapsed.

The Doha Round was the first major multilateral trade negotiation to have failed. Why was the GATT successful at concluding agreements and the WTO a failure?<sup>39</sup> The GATT consisted of a small number of like-minded developed countries among whom it was relatively easy to reach a consensus. The WTO has a much larger membership that includes many developing countries that are suspicious of trade liberalization. Like the GATT, the WTO operates on the basis of a consensus among its members. Of course, reaching any consensus is extremely difficult and very easy to block. A former director-general has likened the WTO to a car with one accelerator and 150 handbrakes—any country can, in principle, slow down or halt the negotiations.<sup>40</sup>

The WTO may be too ambitious an undertaking for it to succeed on every dimension. Some have argued that the WTO suffers from a “trilemma”—a situation when you can only achieve two of three desirable outcomes (sometimes also called an “impossible trinity”). Of three key objectives—membership consensus, universal rules, and strict enforcement—only two may be attainable.<sup>41</sup> One could have universal rules and strict enforcement, but surely there would be dissenting countries and therefore membership consensus would be lost. One could have membership consensus and universal rules, but countries would insist on loopholes and escape clauses, undermining strict enforcement. Or one could have membership consensus

38. See Paul Blustein, *Misadventures of the Most Favored Nations*, New York: Public Affairs, 2009.

39. At least one person, anticipating the WTO's failure, saw this coming. See Daniel K. Tarullo, “The End of the Big Trade Deal,” *International Economy*, Summer 2006, 42–49.

40. Mike Moore, *A World without Walls: Freedom, Development, Free Trade, and Global Governance*, New York: Cambridge University Press, 2003, 110. On gridlock at the WTO, see Paul Collier, “Why the WTO Is Deadlocked: And What Can Be Done about It,” *World Economy* 29 (2005): 1423–49; and Robert Wolfe, “First Diagnose, Then Treat: What Ails the Doha Round?,” *World Trade Review* 14 (2015): 7–28. On the difficulties of reaching an agreement at the WTO, see Will Martin and Patrick Messerlin, “Why Is It So Difficult? Trade Liberalization under the Doha Agenda,” *Oxford Review of Economic Policy* 23 (2007): 347–66. As noted earlier, the WTO membership includes more than 160 countries. Of course, not all members have equal input on the negotiations. The United States and European Union carry the most weight, but China, India, and Brazil are important players as well. Many small developing countries cannot afford representation in Geneva and hence designate a country, such as India, to represent their interests. For an inside look at how negotiations are conducted, see Blustein, *Misadventures of the Most Favored Nations*.

41. Richard Baldwin, “Sources of the WTO's Woes: Decision-making's Impossible Trinity,” *VoxEU.org*, October 16, 2018.

and strict enforcement, but not everyone would agree to those provisions, and therefore universal coverage would be lost.

Because of the WTO's failure to conclude new trade agreements, some have contended that the WTO is passé.<sup>42</sup> Since the WTO meeting in Seattle in 1999, which attracted a large number of protesters from around the world, few groups bother to protest at WTO meetings anymore. This is a sad commentary on how the WTO is no longer perceived to be relevant. The organization itself is not nearly as powerful as its early critics feared, and nobody expects the membership to reach any ground-breaking agreements anytime soon. The WTO as an institution faces many challenges, including relevance if it is too cumbersome to reach agreements.<sup>43</sup>

In the early 1990s, when the Uruguay Round looked to be floundering, some commentators thought the GATT was “dead” (while others thought it was “resting”). Perhaps events will conspire to inject the WTO with new energy at some point. But among the many challenges it now faces is the hostility of the Trump administration. As pointed out earlier, President Trump has threatened to pull out of the WTO, attacking it as a terrible agreement that is rigged against the United States. Why does he believe this?

As we have seen, U.S. leadership has largely been responsible for the creation and design of the post–World War II trading system. Previous presidents strongly supported the GATT and the WTO as underpinning a system of trade rules that prevented “beggar thy neighbor” trade policies that would hurt global commerce. One of the many complaints that the Trump administration has about this system is its lack of reciprocity—namely, that tariff levels are uneven across countries. Specifically, the president does not like it when other countries are permitted to have higher tariffs than the United States. For example, while the United States has a 2.5 percent tariff on imported automobiles, the European Union maintains a 10 percent tariff on cars. (Of course, Japan has a zero percent tariff on car imports, but that has not stopped American complaints about how nontariff barriers prevent Ford and General Motors from selling in Japan, where they drive on the left side of the road.)

Such disparities exist because in previous GATT negotiations, countries agreed to cut existing tariffs by similar proportions, not equalize every tariff rate across countries. It is easy to pick out individual cases where another

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42. For an analysis, see Kyle Bagwell, Chad P. Bown, and Robert W. Staiger, “Is the WTO Passé?,” *Journal of Economic Literature* 54 (2016): 1125–31.

43. Gary Sampson, “Challenges Facing the World Trade Organization: An Overview,” *Australian Economic Review* 51 (2018): 453–73.

country's tariffs on a particular product are higher than the United States charges. But the disparities are exaggerated: As table 3.1 showed, average tariff levels across the United States, European Union, and Japan are basically comparable. Furthermore, if the complaint is lack of tariff equality, the solution is quite simple: Negotiate a free trade agreement with those countries and abolish all tariffs on bilateral trade. That is what the North American Free Trade Agreement (NAFTA) did, and what the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) would have done. That the Trump administration is not enthusiastic about this path reveals that the inequality in tariff levels is not really the problem. The president does not like trade deficits, regardless of the tariffs involved. For example, President Trump has lambasted Canada and Mexico for having a trade surplus with the United States, even though they had essentially no tariffs on imports from the United States. In other words, he cares more about the trade outcomes (the trade flows) rather than the trade rules per se.

On top of that, the United States has become increasingly critical of the WTO's dispute settlement system.

## The WTO and Dispute Settlement

What most distinguishes the WTO from the GATT, aside from the new agreements, is the dispute settlement process. The original GATT made little provision for settling disputes between member countries. When conflicts arose, the secretariat began an informal and ad hoc process to help resolve disputes through negotiation. The Uruguay Round agreement established a dispute settlement mechanism that largely formalized existing practices. But it also strengthened the process by providing for specific timetables to expedite cases and, perhaps most important, by preventing countries from blocking the establishment of a panel or the adoption of a panel report.<sup>44</sup>

44. The dispute settlement process was strengthened in the Uruguay Round mainly because the U.S. Congress insisted on it. Frustrated with the GATT system, Congress wanted to improve the speed and effectiveness of the dispute settlement mechanisms and procedures. In 1988, Congress instructed negotiators to seek the opening of foreign markets, the elimination of trade-distorting policies, and the establishment of "a more effective system of international trading disciplines and procedures." U.S. House of Representatives, *Compilation of U.S. Trade Statutes: 2013 Edition*, Committee Print 113-2, Washington, DC: GPO, 2013, 230. As a U.S. Trade Representative report noted, "Under the GATT, panel proceedings took years, the defending party could simply block any unfavorable judgment, and the GATT panel process did not cover some of the agreements. Under the WTO, there are strict timetables for panel proceedings, the defending party cannot block findings unfavorable to it, and there is one comprehensive dispute settlement

How does the new dispute settlement mechanism work? Countries may file “violation” complaints, alleging that a specific rule (such as non-discrimination) has been broken, or “nonviolation” complaints, alleging that a government action “nullifies or impairs” a previous concession, even if no specific rule has been broken. If initial consultations to resolve the dispute are not successful, a three-member panel is appointed to determine whether WTO rules have been violated. If it establishes a violation, the panel suggests that the disputed policy be brought into conformity with the rules, but generally leaves to the parties themselves the task of working out a solution. The panel decision can be appealed to an appellate body, which rules on matters of law and legal interpretation in the panel report.

As under the GATT, if the policy in question is found to violate the rules, the country can bring its policy into conformity with the rules or keep the policy in place and offer compensation (lower tariffs) on other goods exported from the complaining country, which then has the option of accepting or rejecting the compensation offer. If neither alternative has been implemented, the complaining country can seek authorization to “suspend the application to the Member concerned of concessions or other obligations in the covered agreements.” In other words, the complainant can get WTO permission to retaliate by raising tariffs—or, in WTO lingo, withdrawing previous tariff “concessions”—against the country that has chosen not to comply with the finding. Such retaliations occur infrequently because most disputes are settled through negotiations. Some high-profile cases in which countries were authorized to retaliate include a U.S. case against the European Union’s subsidies to the aircraft manufacturer Airbus, a U.S. case against the European Union’s ban on hormone-treated beef, an EU-led case against the George W. Bush administration’s steel safeguard tariffs, and a Brazilian case against U.S. cotton subsidies.

In the first twenty-three years of the WTO, from January 1995 through October 2018, a total of 590 disputes have been brought to the dispute settlement system, about twenty-five cases per year. Figure 7.2 shows the annual number of requests for consultations received by the WTO’s dispute settlement body since its formation in 1995. The number of requests was fairly high when the WTO was first established, but the number has settled down to a lower level in recent years. It should be noted that many conflicts between

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process covering all of the Uruguay Round Agreements.” When members of Congress now complain that the strong dispute settlement system impinges on U.S. sovereignty, it is helpful to remember that it was Congress itself that demanded that it be strengthened because of its previous weaknesses. Office of the U.S. Trade Representative, *2000 Trade Policy Agenda and 1999 Annual Report*, Washington, DC: GPO, 2000.

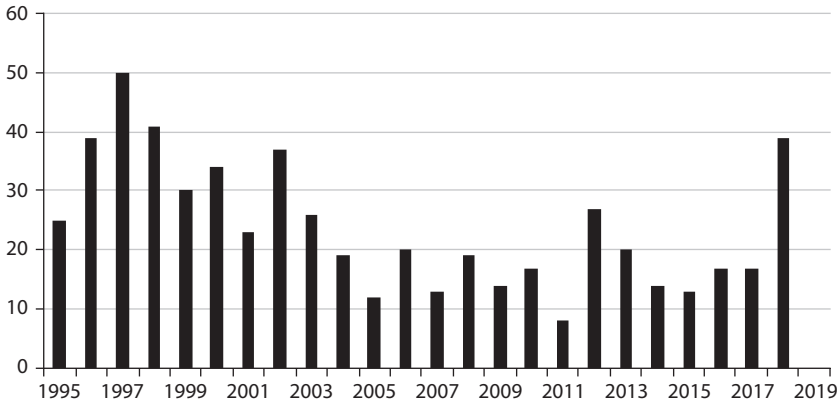


FIGURE 7.2. Number of Disputes at the WTO, 1995–2018

Source: World Trade Organization ([http://wto.org/english/tratop\\_e/dispu\\_e/dispu\\_status\\_e.htm](http://wto.org/english/tratop_e/dispu_e/dispu_status_e.htm)).

countries do not become formal disputes but are resolved in various WTO negotiating committees. For example, the WTO committees on Sanitary and Phytosanitary Measures and on Technical Barriers to Trade provide a forum for countries to discuss differences about the rules and their application in particular cases and, in fact, very few conflicts become formal dispute cases.<sup>45</sup> In addition, the WTO played a role in resolving a long-standing disagreement between the European Union and Latin American countries over the EU's discriminatory policy regarding banana imports, a quarrel that was finally resolved in 2011.<sup>46</sup>

What are the disputes about? Most of the cases involve a country's trade policy practice regarding a specific good or goods. For example, in 2013, the United States and New Zealand challenged Indonesia's imposing a reference-price import ban (meaning that imports were banned unless the domestic price reached a certain level) on agricultural goods such as California flowers and New Mexico chile peppers. China challenged the method by which the United States imposed antidumping duties on its products, while South Korea complained specifically about a U.S. antidumping case on washing machines. The EU complained about Russia's import restrictions on pork and live pigs, and in another case the EU and Japan charged that Russia imposed discriminatory taxes on automobiles under the guise of "recycling fees." Panama contested Colombia's clothing policy, while Indonesia

45. See Henrik Horn, Petros C. Mavroidis, and Erik Wijkstrom, "In the Shadow of the DSU: Addressing Specific Trade Concerns in the WTO SPS and TBT Committees," *Journal of World Trade* 47 (2013): 729–59.

46. Eckart Guth, "The End of the Bananas Saga," *Journal of World Trade* 46 (2012): 1–32.

complained about Pakistan's antidumping case regarding paper products. And the list goes on.

The stakes in the disputes vary widely. In some cases, the stakes are small and the concerns are very narrow. For example, a fish fight broke out within the European Union when the EU banned herring and mackerel from the Faroe Islands (controlled by Denmark) after a squabble about fishing quota allotments. Denmark raised a stink and, in early 2014, requested that a panel be established to look into the legality of the EU ban, which was soon lifted.

In other cases, the stakes are enormous and the implications are large. The United States and European Union have had cases against one another regarding financial support for large commercial aircraft—namely, government subsidies for Airbus (in the case of the EU) and Boeing (in the case of the United States). The United States has long accused the EU of subsidizing Airbus aircraft (such as the super-jumbo A380) to the detriment of Boeing (which produces the 747). The EU accuses the United States of providing indirect subsidies to Boeing. In May 2019, the Appellate Body ruled in favor of the United States. In October, the WTO authorized the United States to impose tariffs on up to \$7.5 billion of European goods in retaliation for the subsidies. Because the stakes are so large and the dispute is so complex, a diplomatic solution to this long-standing conflict would be more appropriate than litigation and retaliation.

In the first five years of the dispute settlement system, the United States brought many more cases against other countries than were brought against it. Since then, however, many more cases have been brought against the United States. In the first twenty years of the WTO (1995–2015), the United States filed 114 complaints about foreign trade measures and was the subject of 151 complaints. Of the 114 complaints, 79 had been resolved by the end of 2015. Of these cases, 29 were resolved to U.S. satisfaction without litigation and 46 received favorable rulings by WTO panels; in 4 cases the United States lost on core issues at the WTO. Of the 151 complaints brought against the United States, 97 had been resolved by the end of 2015. Of these cases, 23 were resolved without litigation, the United States won 17, and in 57 cases some aspect of U.S. policy was found inconsistent with WTO rules.<sup>47</sup> This reflects a general tendency: Any country that brings a case to the WTO tends to win, and any country that is a defendant tends to lose. This reflects the fact that countries usually bring only strong cases to the WTO because it is costly, in terms of time and effort, to do so.

47. Data from the Office of the U.S. Trade Representative website, [www.ustr.gov](http://www.ustr.gov). See <https://ustr.gov/sites/default/files/enforcement/spanshot/Snapshot%20Dec9%20fin.pdf>.



How has the dispute settlement process worked? In a report to Congress in 2000, the independent Government Accountability Office (GAO) concluded that the dispute settlement process has worked well for the United States. Examining the cases considered by the WTO up to that time, the GAO found that most led to beneficial changes in foreign regulations and practices and that “none of the changes the United States has made in response to WTO disputes have had major policy or commercial impact to date, though the stakes in several were important.”<sup>48</sup>

Sometimes politicians in Washington judge the dispute settlement mechanism only on the basis of whether the United States “wins” the cases it files and those brought against it. Clearly the mechanism is more important than that. It was established simply to ensure that the rules that countries agreed on together and pledge to abide by actually mean something. Sometimes the United States is on the wrong side. For example, in 1995 Costa Rica won a complaint against the United States concerning restrictions on imports of underwear. The fact that small countries can receive fair treatment under the rule of law is a strength of the world trading system.<sup>49</sup> The alternative is that more powerful countries simply dictate outcomes to others.

But even when the United States loses a case, the WTO cannot force change in U.S. laws, regulations, or policies. The WTO cannot strike down any U.S. law, as an American court can. As the GAO puts it, “The United States maintains that it has the right not to comply with WTO rulings. However, the United States recognizes that it may bear a penalty for not complying with WTO rulings, both in the form of retaliatory duties on U.S. exports and in terms of its reputation as a key player in the world trading system.”<sup>50</sup> WTO panels merely determine whether disputed policies conflict with WTO rules and, if they do, recommend that members bring those policies into conformity. The disputing countries must still resolve the matter themselves, often through a negotiated settlement.<sup>51</sup>

48. U.S. General Accounting Office, “World Trade Organization: Issues in Dispute Settlement,” NSIAD-00-210, August 2000, 2–3. The General Accounting Office became the Government Accountability Office in 2004.

49. For a discussion of how developing countries have generally received fair treatment under the WTO dispute settlement system, see Chad Bown, *Self-Enforcing Trade: Developing Countries and WTO Dispute Settlement*, Washington, DC: Brookings Institution, 2009.

50. U.S. General Accounting Office, “World Trade Organization: Issues in Dispute Settlement,” 16.

51. Some nonparticipants are disturbed by the closed proceedings during disputes and ask whose interests get represented in the panels. Many nongovernmental organizations (NGOs), particularly environmental groups, have complained that the WTO is secretive and antidemocratic in its procedures. Although they are now allowed to file amicus (friends of the court) briefs, NGOs are generally barred from the dispute settlement process. This is because the



The dispute settlement process is not without controversy. Some legal experts have raised the concern that WTO panels and the appellate body have exceeded their mandate to interpret the agreements and have created new rights and imposed new obligations on members. Has the WTO overreached its authority by failing to give sufficient deference to policymakers in member countries? While most legal scholars believe that it has not overreached, with the possible exception of trade remedies, others are concerned that judicial legislation does occur.<sup>52</sup>

For example, trade remedies, such as antidumping and safeguard measures, discussed in chapter 5, have come under WTO scrutiny, and these reviews have often found problems with the imposition of remedies by domestic authorities. With regard to safeguards, the WTO has found fault with just about every escape clause action undertaken by any member. The WTO decisions sometimes have been unclear and often difficult to implement, creating formidable legal obstacles to using safeguards even though, as chapter 5 indicated, they may be superior to antidumping duties as a form of trade intervention.<sup>53</sup> Furthermore, the WTO appellate body has sometimes offered up questionable, sometimes contradictory, often idiosyncratic legal reasoning and final decisions that bring into doubt the credibility of the dispute settlement system.<sup>54</sup>

At the same time, the panels and appellate body have a difficult time with many of the cases before them. They have to apply broadly written agreements to specific factual cases that are often politically charged. Reflecting the fact that many diplomatic compromises are necessary to conclude an agreement, the WTO legal texts are filled with what lawyers call

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WTO agreements are strictly government-to-government agreements that deal with governmental policy and not the behavior of private firms. The appropriate way for commercial and noncommercial domestic interests, which are not parties to the negotiated agreements, to influence the WTO is through their member governments. In the past, the GATT and WTO have typically operated under a diplomatic veil rather than as an open forum because commercial negotiations involved reducing tariffs in one sector to secure lower foreign tariffs for another sector, thus trading off various domestic interests. The United States wants the institution to become more open and transparent, but other members have strongly resisted. Because the WTO is a consensual body, the issue is not one to decide unilaterally and against the wishes of the other members.

52. William J. Davey, "Has the WTO Dispute Settlement System Exceeded Its Authority?," *Journal of International Economic Law* 4 (2001): 79–110; Donald McRae, "What Is the Future of WTO Dispute Settlement?," *Journal of International Economic Law* 7 (2004): 3–21.

53. Douglas A. Irwin, "Causing Problems? The WTO Review of Causation and Injury Attribution in U.S. Section 201 Cases," *World Trade Review* 2 (2003): 297–325.

54. Michel Cartland, Gerard Depayre, and Jan Woznowski, "Is Something Going Wrong in the WTO Dispute Settlement?," *Journal of World Trade* 46 (2012): 979–1016.

“constructive ambiguity” or what economists call “incomplete contracts.” Because the agreements are often so vague, it is little wonder that the WTO panelists and appellate body are sometimes criticized for their decisions in specific cases.

As a way of protesting judicial overreach, the Trump administration, and the Barack Obama administration before it, has blocked new appointments to the WTO appellate body. This has caused a crisis: If new judges are not appointed by the end of 2019, the appellate body will not have enough officials to hear new cases and the dispute settlement system will cease to function.<sup>55</sup> This would effectively shut down the world’s main forum for resolving trade disputes.

What complaints does the United States have with the current system? Some of the complaints have merit, such as concerns expressed about delays and transparency in the dispute settlement system. Other complaints—for example, that the panel decisions do not give due deference to national authorities—are more questionable. In particular, administration officials who previously worked for the steel industry have been dismayed by rulings that find fault with U.S. antidumping practices. They especially do not like the rulings against the Commerce Department’s “zeroing” procedure that results in higher dumping margins, as discussed in chapter 5.

The United States contends that WTO rules inadequately address the challenge of nonmarket economies. As the U.S. Trade Representative (USTR) Annual Report in 2019 put it, “The WTO’s framework of rules has inadequately anticipated the disruptive impacts on global trade imposed by Members whose economies are managed principally through state direction. Current rules, combined with deeply flawed rulings by the WTO Appellate Body, leave Members with insufficient tools to address these corrosive dynamics.” In addition, the USTR argues the WTO has gone beyond its ambit: “The WTO’s dispute settlement system, particularly at the Appellate Body level, has strayed extensively from original understandings, substantially eroding the political sustainability of the current system.” The administration also complains about the lack of adherence to notification obligations, the lack of transparency of WTO rules and process, and

55. Robert McDougall, “The Crisis in WTO Dispute Settlement: Fixing Birth Defects to Restore Balance,” *Journal of World Trade* 52 (2018): 867–96. See also Robert McDougall, “Crisis in the WTO: Restoring the WTO Dispute Settlement Function,” Centre for International Governance Innovation, CIGI Papers No. 194, October 2018. Bernard M. Hoekman and Petros C. Mavroidis, “Burning Down the House? The Appellate Body in the Centre of the WTO Crisis,” European University Institute Working Papers No. 2019/56, July 2019.

the use of “developing country” status by powers such as China to avoid obligations.

While the last point is relatively unimportant (developing country status does not buy a country much at the WTO), the other points have some merit. Whether the Trump administration’s confrontational approach is the most constructive way to improve the system can be debated. Many trade-distorting practices fall outside WTO rules, particularly in the case of China, which supports state-owned enterprises not through trade measures as much as through cheap and subsidized credit through the banking system. Unfortunately, while the United States has made many complaints about the system and demanded reforms, it has yet to provide much concrete and constructive proposals for reform. Other countries with a deep stake in the multilateral trading system, such as Canada and Australia, have been working to come up with reforms that might satisfy the United States.

## The China Trade War

There is one major trade dispute that the WTO cannot handle—the one between the United States and China. The Trump administration has bypassed the WTO dispute settlement system because it believes it is incapable of adequately responding to the challenge of China’s mercantilist policies. Taking matters into its own hands, the Trump administration dusted off another old statute, Section 301 of the Trade Act of 1974, to attack China, saying it was long overdue.<sup>56</sup>

Under Section 301, the USTR is authorized to enforce U.S. rights under trade agreements and address “unfair” foreign barriers to U.S. exports. Section 301 allows the USTR to investigate and respond to foreign acts, policies, and practices that violate, or are inconsistent with, a trade agreement or are unjustifiable and burden or restrict U.S. commerce. If a negotiated settlement is not possible, the president can retaliate in the form of increased tariffs on imports from the country in question.

Section 301 was used extensively against Japan in the 1980s, but it fell into disuse after 1995 when the United States started to bring unfair trade cases

56. For an overview of U.S. trade conflict with China, see Paul Blustein, *Schism: China, America, and the Fracturing of the Global Trading System*, Waterloo, ON: Centre for International Governance Innovation, 2019. See also *Trade War: The Clash of Economic Systems Endangering Global Prosperity*, edited by Meredith A. Crowley, London: CEPR Press (a VoxEU e-book), May 2019, available at <https://voxeu.org/content/trade-war-clash-economic-systems-threatening-global-prosperity>.

to the WTO. The United States has brought cases against China to the WTO and, in general, China's record of compliance has been reasonably good.<sup>57</sup> However, many WTO agreements do not explicitly cover the types of policies that the United States has complained about, such as the provision of subsidized credit to state-owned enterprises.

In August 2017, President Trump asked USTR to open an investigation into China's trade policies. The request argued the following:

China has implemented laws, policies, and practices and has taken actions related to intellectual property, innovation, and technology that may encourage or require the transfer of American technology and intellectual property to enterprises in China or that may otherwise negatively affect American economic interests. These laws, policies, practices, and actions may inhibit United States exports, deprive United States citizens of fair remuneration for their innovations, divert American jobs to workers in China, contribute to our trade deficit with China, and otherwise undermine American manufacturing, services, and innovation.<sup>58</sup>

In March 2018, USTR completed a detailed report that examined four broad policies that it said justified taking action against China. According to the report, China uses joint venture requirements, foreign investment restrictions, and administrative review and licensing procedures to force U.S. companies to transfer technology to Chinese entities; maintains unfair licensing practices that prevent U.S. firms from getting market-based returns for their intellectual property; pursues industrial policy goals such as the Made in China 2025 initiative; and supports cyber intrusions into U.S. computer networks to steal valuable business information.

In July 2018, after initial negotiations with China failed to achieve progress, the Trump administration began imposing tariffs on imports from China. The staged tariffs eventually reached 25 percent on three tranches of products that amount to \$250 billion worth of imports from China; in September 2019 the administration imposed a 10 percent tariff on an additional \$112 billion of imports from China. The United States also planned to levy

57. See, for example, Wang Chenxi, "WTO Rare Earths Case's Influence on China's Domestic Regulatory Changes," *Journal of World Trade* 52 (2018): 307–30.

58. Office of the U.S. Trade Representative, "Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974," March 22, 2018, 4.

tariffs on \$160 billion of remaining imports from China in December 2019, unless a truce was reached.<sup>59</sup>

When the conflict with China began, President Trump was optimistic. “Trade wars are good, and easy to win,” he tweeted. It has not quite worked out that way. China has not backed down and brought concession to the table. Instead, every time the United States ratcheted up its tariffs, China responded by imposing tariffs on U.S. goods or halting the purchase of American agricultural products. “If they don’t want to trade with us anymore, that would be fine with me,” President Trump has replied. “We’d save a lot of money.” (This reflects his view that the trade deficit is costing us a lot of money.) Actually, it has not saved a lot of money because the Trump administration has been forced to spend about \$28 billion in subsidies to compensate farmers for their lost markets.

The escalation of the conflict has disrupted trade flows, roiled financial markets, and even prompted the IMF and others to forecast slower economic growth.<sup>60</sup> Could such outcomes have been anticipated? Every country responds to threats differently. In the 1980s, Japan never retaliated against the United States despite bilateral trade disputes, because it depended on the United States for its military security and it wanted to maintain good relations. Today China sees itself as a major power and is quick to retaliate because it does not want to be bullied by another power.<sup>61</sup>

The U.S. tariffs on China are not protectionism in the sense of trying to help a domestic industry in its struggle against imports. The goal is to punish China for its trade practices and perhaps persuade the country to change its policies and open up to fair market competition. What would Adam Smith have thought about the possibility of threatening other countries with trade sanctions to get them to open up their market? Smith said that “it may sometimes be a matter of deliberation how far it is proper to continue the free

59. The Peterson Institute for International Economics, a think tank in Washington, DC, maintains an up-to-date timeline of U.S. trade actions; see <https://www.piie.com/blogs/trade-investment-policy-watch/trump-trade-war-china-date-guide>.

60. For an analysis of the U.S.–China trade conflict, see Meredith A. Crowley, ed., *Trade War: The Clash of Economic Systems Endangering Global Prosperity*, VoxEU.org eBook, London: Centre for Economic Policy Research (CEPR), May 2019.

61. Do Section 301 actions work? One study finds that coercion has a mixed record. When U.S. trade threats are perceived as illegitimate, that decreases the likelihood of a target conceding by over 34 percent. Moreover, resistance pays: Targets that resist illegitimate unilateral measures from the United States are less likely to encounter similar unilateral measures over the following five years. Krzysztof J. Pelc, “Constraining Coercion? Legitimacy and Its Role in U.S. Trade Policy, 1975–2000,” *International Organization* 64 (2010): 65–96.

importation of certain foreign goods . . . when some foreign nation retrain[s] by high duties or prohibitions the importation of some of our manufactures in their country.” Smith thought that “revenge in this case naturally dictates retaliation, and that we should impose the like duties and prohibitions upon the importation of some or all of their manufactures into ours.”

Should policymakers succumb to the desire for revenge? Smith’s advice was characteristically practical: “There may be a good policy in retaliations of this kind, when there is a probability that they will procure the repeal of the high duties or prohibitions complained of. The recovery of a great foreign market will generally more than compensate the transitory inconveniency of paying dearer during a short time for some sorts of goods.” But, he added, “when there is no probability that any such repeal can be procured, it seems a bad method of compensating the injury done to certain classes of our people, to do another injury ourselves, not only to those classes, but to almost all the other classes of them.”<sup>62</sup>

Thus, Smith essentially argues that retaliation against foreign trade restrictions is a practical matter in which it is hard to establish an unbending principle. He viewed retaliation as a question of strategy, not of principle.

The administration’s strategy has been controversial. “Trump doesn’t have any strategy to get China to stop cheating on trade—the only thing he knows how to do is raise tariffs,” said Senator Ron Wyden (D-Oregon), a member of the Senate Finance Committee. “The tariffs announced today will raise costs on everything from computers to backpacks to clothes as kids go back to school, without any reason to think that it will make China stop stealing our technology and undercutting American jobs. Trump said he’d bring back Americans’ jobs, instead he’s picking their pockets.”<sup>63</sup> At the same time, there are important national security concerns about the U.S. relationship with China that transcend the economic relationship.<sup>64</sup>

If tariffs don’t work in changing China’s behavior, what leverage does the United States have? Other commentators have suggested rejoining the

62. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: Oxford University Press, [1776] 1976, 467.

63. David J. Lynch, Heather Long, and Damian Paletta, “Trump Says He Will Impose New Tariffs on \$300 Billion of Imports from China Starting Next Month, Ending Brief Cease-Fire in Trade War,” *Washington Post*, August 1, 2019, [https://www.washingtonpost.com/business/economy/trump-says-he-will-impose-new-tariffs-on-300-billion-in-chinese-imports-starting-next-month-ending-brief-cease-fire-in-trade-war/2019/08/01/d8d42c86-b482-11e9-8949-5f36ff92706e\\_story.html?utm\\_term=.b0b4589d44f7](https://www.washingtonpost.com/business/economy/trump-says-he-will-impose-new-tariffs-on-300-billion-in-chinese-imports-starting-next-month-ending-brief-cease-fire-in-trade-war/2019/08/01/d8d42c86-b482-11e9-8949-5f36ff92706e_story.html?utm_term=.b0b4589d44f7).

64. For an alarming take on China, see Bill Gertz, *Deceiving the Sky: Inside Communist China’s Drive for Global Supremacy*, New York: Encounter Books, 2019.

Trans-Pacific Partnership and confronting China with other European and Asian allies (rather than alone) at the WTO and other forums.<sup>65</sup>

Whatever the case, deciding how to deal with China is a major problem facing the United States. There have clearly been commercial benefits to trade with China, in terms of the market it provides for soybean producers and aircraft manufacturers and the inexpensive consumer electronics and other goods it sells us. At the same time, China is not a market economy in the Western sense. Government intervention is pervasive, even though private business coexist along state-owned enterprises.<sup>66</sup> And state control has only increased under President Xi Jinping. Trade between market and nonmarket economies is inherently asymmetric, and the two systems are in many ways incompatible. In a market economy, a firm losing money has to adjust or go bankrupt. Under state capitalism, the state-owned firm gets subsidies to maintain production and save jobs, forcing nonstate firms—at home or abroad—to make the painful adjustment instead. (And because China has a communist government that is far from democratic with a poor record on human rights, there will inevitably be friction in its relationship with Western democracies.)

The United States would like China to turn its state-dominated economic system into a market-based one. Given the importance to the Communist Party of maintaining political control, that goal may be completely unrealistic. The endgame may be more subtle and more significant: the economic decoupling—or at least partial separation—of the United States and China. That would mark a historic fragmentation of the world economy. It would represent, in the words of former treasury secretary Henry Paulson, the falling of an “economic iron curtain” between the world’s two largest economies. Such a separation would have foreign policy and national security implications well beyond the economic consequences.

## Environmental Regulations and WTO Rules

While the U.S.–China conflict involves big power politics, even smaller disputes at the WTO have been controversial. A long-standing complaint

65. James Bacchus, Simon Lester, and Huan Zhu, “Disciplining China’s Trade Practices at the WTO,” Cato Institute Policy Analysis No. 856, November 15, 2018; Ed Gerwin, “Confronting China’s Threat to Open Trade,” Progressive Policy Institute, June 2018; Daniel Griswold and Donald J. Boudreaux, “How the United States Should Respond to China’s Intellectual Property Practices,” Mercatus Center Policy Brief, April 2019.

66. Mark Wu, “The ‘China, Inc.’ Challenge to Global Trade Governance,” *Harvard International Law Journal* 52 (2016).



about the dispute settlement system is that it strikes down domestic environmental, health, and safety regulations as incompatible with WTO rules. Critics such as Global Trade Watch, which is part of Ralph Nader's Public Citizen organization, charge that the WTO has undermined every environmental regulation it has reviewed. For example, Global Trade Watch charges that "in the WTO forum, global commerce takes precedence over everything—democracy, public health, equity, access to essential services, the environment, food safety and more . . . years of experience under the WTO have confirmed environmentalists' fears: the WTO is undermining existing local, national, and international environmental and conservation policies."<sup>67</sup>

Unfortunately, the passionate opposition to certain rulings has given rise to much exaggeration and distortion. The GAO points out that "WTO rulings to date against U.S. environmental measures have not weakened U.S. environmental protections."<sup>68</sup> Most trade disputes are quite banal, and as of mid-2019, only about three dozen of the nearly six hundred disputes brought before the WTO have dealt with environmental or health issues. And these few environmental cases have mainly focused on whether the regulation in question has been implemented in a nondiscriminatory way, not whether that regulation is justifiable. At the same time, however, some cases illustrate the difficult issues and potential conflicts that can arise when trade and environmental policy intersect.

What precisely are the trade rules that affect environmental measures? The most relevant provision of the GATT is Article 20, entitled "General Exceptions," which states:

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures . . .

(b) necessary to protect human, animal or plant life or health . . .

[or]

67. Lori Wallach and Patrick Woodall, *Whose Trade Organization?*, New York: New Press, 2004, 13, 20.

68. U.S. General Accounting Office, "World Trade Organization: Issues in Dispute Settlement," 14.



(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.<sup>69</sup>

The key element of Article 20 is the introductory paragraph. This provision allows countries to enact and enforce various measures that may restrict trade in order to achieve various objectives, provided that the measure is nondiscriminatory, does not constitute a disguised restriction on international trade, and is necessary to achieve the stated objective. The subsections of Article 20 specify objectives that would justify measures to restrict trade. The most important subsections, (b) and (g), permit regulatory measures to protect human and animal health and to conserve natural resources.<sup>70</sup>

For example, throughout history, global commerce has been linked to the spread of disease.<sup>71</sup> This means that governments should sometimes, with good reason, impose quarantines and mandate sanitary regulations on imports to protect the public health. For this reason, members of the World Trade Organization came up with the Sanitary and Phytosanitary agreement that sets out rules for how governments can restrict imports in applying food safety and animal and plant health measures.

GATT and WTO decisions affirm that Article 20 allows countries to maintain consistent and nondiscriminatory environmental regulations.<sup>72</sup> Article 20 has been the focus of disputes when environmental trade measures have been implemented in a discriminatory fashion, not so much

69. World Trade Organization, *The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations*, 455. The remaining provisions relate to the protection of public morals and the protection of national treasures of artistic, historic, or archaeological value; to trade in gold and silver; and to products of prison labor. They also include other measures such as inter-governmental commodity agreements and customs enforcement.

70. Wallach and Woodall (*Whose Trade Organization?*, 21) complain that the Article 20 exceptions apply only in certain narrowly defined circumstances and that in many cases the “exceptions were so narrowly interpreted as to render them moot.” But if this is really the problem, then the members of the WTO should simply amend the Article 20 exceptions to reflect a broader view. After all, those rules are not made up by the WTO as some independent entity but were agreed on by the member countries of the WTO, among them the United States and European Union.

71. Mark Harrison, *Contagion: How Commerce Has Spread Disease*, New Haven, CT: Yale University Press, 2013.

72. For example, in 1994, a GATT panel affirmed that the corporate average fuel economy (CAFE) standards, regulating the fuel efficiency of automobiles sold in the United States, were a perfectly acceptable form of product regulation to protect public health and environment, as long as those standards did not explicitly discriminate on the basis of country of origin. Similarly, a WTO panel in 2000 upheld France’s ban on asbestos imports, on the grounds that they were hazardous materials, after Canada had challenged the embargo.

because of the exceptions specified in subsections (b) and (g). The United States has long insisted that nondiscrimination be the basis of international trade relations, which is why the most-favored nation clause is instituted as Article 1 and national treatment is instituted as Article 3 of the GATT. The United States would be understandably upset if foreign regulations discriminated against American exports. If the United States insists on receiving fair treatment abroad, it cannot be surprised that other countries demand nondiscriminatory treatment from the United States. This appears to be a noncontroversial proposition. Surprisingly, Public Citizen's most widely trumpeted example of the WTO's weakening of U.S. environmental regulations involves precisely this issue.

The Public Citizen book *Whose Trade Organization?* opens by accusing the WTO of forcing the U.S. Environmental Protection Agency (EPA) to weaken its environmental standards on imported gasoline. This case "was the first concrete evidence of the WTO's threat to environmental policy" and "an example of how the WTO could be used to skirt a country's democratic policymaking and judicial systems," bringing "credibility to critics' concerns that the WTO could threaten national sovereignty to set and effectively enforce important policies."<sup>73</sup>

Yet the case did not involve the stringency of the EPA's regulation but simply the nondiscriminatory implementation of the regulation as required by the introductory paragraph of Article 20. Simply put, the U.S. regulation discriminated against imported gasoline to the benefit of domestically refined gasoline. The EPA was free to demand any standard of cleanliness it chose but was obligated under Article 20 to apply the same standard to domestic and foreign producers.

In December 1993, the EPA issued a regulation to reduce the amount of contaminants in domestic and imported gasoline. Its purpose was to limit harmful emissions from automobile exhaust. Each domestic refiner was required to meet a new, more stringent standard based on its own benchmark-quality level in 1990. This individual standard was permitted because a single industry-wide baseline would make compliance very costly for certain domestic oil refiners, which vary in cleanliness. Imported gasoline, however, was subject to a uniform baseline, and foreign refiners were not offered the option of establishing an individual benchmark. And though this was partly for ease of administration, a less publicized reason was deliberate discrimination. As an EPA administrator later testified before

73. Wallach and Woodall, *Whose Trade Organization?*, 25.

Congress, the agency thought “that it was appropriate, if we had a choice, to lean in the direction of doing something that would favor their competitive position [i.e., that of domestic refiners] vis-à-vis the [foreign producers].”<sup>74</sup> In other words, the EPA built in discrimination to help domestic oil refiners compete against foreign refiners.

In 1995, Venezuela and Brazil brought a complaint to the WTO, charging that the United States was applying a more stringent standard on imported gasoline. The panel ruled against the United States, which then appealed to the appellate body. The appellate body determined that while such regulations were permitted under Article 20, this regulation involved discrimination and therefore violated the introductory provision of the article. The appellate body recommended that the regulation be brought into conformity with WTO obligations, but left it to the United States to determine how it would comply.

At this point, the United States had three options: It could ignore the appellate body finding, let the regulation stand but offer compensation to Venezuela and Brazil in the form of lower tariffs on other products, or bring the regulation into conformity with the WTO obligation.<sup>75</sup> It is useful to consider the implications of each option.

If the United States chose to ignore the ruling, Venezuela and Brazil could have—after obtaining the permission of the WTO—retaliated against the United States. That is, they could withdraw previous tariff concessions extended to U.S. goods, equivalent in value to their lost gasoline exports. In practice, Venezuela and Brazil might choose not to retaliate against the United States, realizing that such actions would probably fail to accomplish anything. But they might choose this option, which would be permissible under WTO rules.

Alternatively, the United States could keep the existing regulation in place but compensate Venezuela and Brazil by lowering tariffs against other goods. If this compensation were acceptable to Venezuela and Brazil, the case would be over. But this response requires lowering U.S. tariffs on

74. Quoted in N. David Palmeter, “National Sovereignty and the World Trade Organization,” *Journal of World Intellectual Property* 2 (1999): 77–91.

75. Public Citizen makes the options appear more draconian, saying that the “WTO’s ruling forced the U.S. to make a ‘no-win’ choice: repeal the regulation and permit imports of gasoline with higher contamination levels . . . or keep the policy and face \$150 million in trade sanctions each year the U.S. failed to comply” (Wallach and Woodall, *Whose Trade Organization?*, 28). The EPA regulation would not have to be “repealed,” just modified to eliminate the discrimination. The regulation would not make imports dirtier as long as the domestic regulation was made as stringent as that on imports.

another industry, an unlikely outcome. As one trade lawyer pointed out, “Imagine the U.S. Trade Representative explaining to an industry why the United States had agreed to lower tariffs on its products in order to keep in place a discriminatory rule that favored the oil industry.”<sup>76</sup>

In the end, the United States brought the EPA’s regulation into conformity with the WTO nondiscrimination requirement. This could have been accomplished by requiring domestic refiners to meet the same statutory baseline that applied to imports, but the domestic industry did not want this option. Instead, in August 1997 the EPA allowed foreign refiners to use individual baselines, as domestic producers were allowed to do. To ensure that imports of “dirty” gas did not increase, the EPA established a benchmark for imported gasoline quality based on the volume-weighted average of individual benchmarks for domestic refiners. The EPA monitors imported gasoline closely and imposes remedies if imports do not meet that benchmark.<sup>77</sup>

Note that compliance with the WTO rules and resolution of this dispute had nothing to do with whether a more or less stringent standard was applied. It only required that the *same* standard be applied to domestic and foreign sources of gasoline. The EPA could have resolved the case by raising the domestic standard rather than lowering the standard applied to imports. Thus, the case is far from one in which the WTO “undermines” domestic environmental regulation, as Global Trade Watch and others have made it out to be. In fact, Public Citizen, which decries corporate influence on government policy, put itself in the position of defending a rule that worked to the advantage of the domestic petroleum industry, one of the nation’s most politically powerful special-interest groups.<sup>78</sup>

Some observers have also questioned whether WTO rules stand in the way of a country ensuring that its food supply is safe. In fact, those rules

76. Palmetier, “National Sovereignty and the World Trade Organization,” 86.

77. For a full description, see the EPA’s notice in the August 28, 1997, issue of the *Federal Register* (45544–68). It is also important to understand the small stakes in this case: most of the gasoline consumed in the United States is refined in the United States from imported crude petroleum; the United States imports only a small amount of finished motor gasoline, usually less than 5 percent of the total U.S. supply.

78. The same principle of nondiscrimination was at issue in a WTO panel decision in June 2019 that found fault with clean energy laws in seven states. The panel did not reject environmental regulations or standards, but ruled that the states provided preferential treatment for locally produced content and thereby discriminated against foreign producers. For example, Michigan electricity providers got a renewable credit when they generated one megawatt of green energy but received another tenth of a credit when that energy came from Michigan-made equipment. See [https://www.wto.org/english/news\\_e/news19\\_e/510r\\_e.htm](https://www.wto.org/english/news_e/news19_e/510r_e.htm).

do not prevent a country from regulating or even temporarily banning imports when there is evidence of a risk to the public health. When the United States banned imports of livestock and meats from Europe in 2001 because of fears of mad cow and foot-and-mouth disease, the action was allowed under WTO rules. In 2007, the United States banned imports of five types of farm-raised fish and shrimp from China because they had been found to contain unsafe drugs. Other countries also sometimes block U.S. agricultural exports on grounds of safety, such as the European ban on American apples that have a chemical preservative that could break down and become carcinogenic.

At the same time, public health is sometimes used as a justification for regulations intended only to protect special interests. Negotiators have attempted to allow health and safety regulations, even if they restrict trade, while trying to discourage regulatory protectionism—that is, trade barriers designed to protect domestic producers but cloaked under a health or safety rationale. Distinguishing these two cases, however, can be extremely difficult.

The use of public health as an excuse for protectionist regulations is not a new problem.<sup>79</sup> Today, the United States and other countries maintain trade barriers that are ostensibly designed to protect the public health, but on further examination they are actually maintained for the benefit of producers. The Department of Agriculture estimates that questionable foreign regulations cost the United States about \$5 billion in agricultural, forestry, and fishery exports in 1996.<sup>80</sup>

For example, the long-running dispute between the United States and European Union over hormone-treated beef is a classic example of the extreme difficulty in drawing the line between regulations to protect

79. In the late 1880s, for example, many European countries banned the sale of American pork after rumors spread that it was tainted with trichinosis. Even though there proved to be no evidence of such a problem, the ban was enormously beneficial to European pork farmers, who had well-known difficulties competing against low-priced American pork. According to one historian of the incident, “The general fear of trichinosis was a godsend for European protectionists.” The American consulate in Le Havre reported that French inspectors were instructed to find trichinae in at least 25 percent of American pork that they examined. The foreign minister of Austria-Hungary publicly admitted that protection to domestic producers was a determining factor in the exclusion, though it was ostensibly imposed for sanitary reasons. See John L. Gignilliat, “Pigs, Politics, and Protection: The European Boycott of American Pork,” *Agricultural History* 35 (1961): 3–24.

80. Donna Roberts and Kate DeRemer, “An Overview of Technical Barriers to U.S. Agricultural Exports,” Economic Research Service, U.S. Department of Agriculture Staff Paper AGES-9705, March 1997.

consumers and regulations to protect producers. The conflict began in 1985, when Europe restricted the use of natural hormones for therapeutic purposes and banned the use of synthetic hormones for growth purposes in cattle and meat sold in the EU. At the same time, the EU prohibited the importation of animals or meat from animals that had been treated with such hormones. Thus, the regulation seemed to be nondiscriminatory because the same standard was applied to domestic and imported meat. In such cases, the regulation cannot be held in violation of Article I or Article 20 of the GATT.

Implemented in 1989, the measure wiped out about \$100 million in American beef exports to Europe. The United States strenuously objected, arguing that the EU ban was unjustifiable because the hormones had been found safe when used in accordance with good practices of animal husbandry. The safety of the hormones had been accepted not just by the U.S. Food and Drug Administration, but by numerous international scientific panels. Efforts to resolve the dispute under the Tokyo Round's Agreement on Technical Barriers failed because it dealt only with end-product characteristics, and naturally occurring hormones cannot be distinguished from cattle and beef treated with supplemental hormones. As a result, the United States retaliated in 1989 by imposing 100 percent tariffs on \$100 million of agricultural imports from Europe.

The United States sought to clarify international rules on health and safety regulations during the Uruguay Round, and the result was the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). The SPS agreement provides that trade-related sanitary measures should be based on scientific principles and maintained with sufficient scientific evidence (Article 2.2) or be based on international standards (if they exist). Sanitary measures should be nondiscriminatory and not be more trade-restrictive than required to achieve the appropriate level of sanitary protection. In addition, Article 5.5 of the SPS states that the government should strive to achieve consistency in the protection of health risks and "shall avoid arbitrary or unjustifiable distinctions in the levels it considers to be appropriate in different situations, if such distinctions result in discrimination or a disguised restriction on international trade."<sup>81</sup>

The United States (supported by Australia, Canada, and New Zealand) used the SPS to challenge the EU ban on beef imports, arguing that the ban

81. World Trade Organization, *The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations*, 62. For an evaluation of the SPS Agreement, see Timothy Josling, Donna Roberts, and David Orden, *Food Regulation and Trade: Toward a Safe and Open Global System*, Washington, DC: Institute for International Economics, 2004.

failed to meet any of these requirements. The WTO panel convened experts, two chosen by the United States, two chosen by the European Union, and another by those four, to evaluate the scientific evidence regarding the hormones. The five scientists unanimously concluded that there was no public health risk. In 1995 the United Nations Codex Alimentarius Commission and a scientific panel convened by the EU declared that there is no human health risk from the hormones when used in accordance with proper animal husbandry, confirming what other international science bodies had stated.

The record also showed that high levels of several of the hormones occurred naturally in animal products, and yet these products were not regulated. For example, of the six hormones at issue, the one identified as most dangerous by the EU is found from ten times to hundreds of times more concentrated in such products as eggs, cabbage, broccoli, and soybean oil than in hormone-treated beef. If the objective was to protect the public from exposure to specific hormones, then why was the sale of eggs not banned, since there are seventy-five times more naturally occurring hormones in a single egg than in a kilogram of beef? In the view of the U.S. government, these facts made the ban arbitrary and inconsistent. According to the United States, the real motivation for the measure was to protect domestic beef producers from foreign competition and to reduce surplus beef supplies in the EU. If consumer health were the true motivation, then the EU should not have continued to allow the use of growth additives by its competitive pork producers instead of disallowing it just in its less competitive beef industry.<sup>82</sup>

The EU countered by arguing that the ban was justified under Article 20(b) of the GATT and claimed that the United States was simply attacking the “level” of protection provided. The EU maintained that the WTO could not rule on the appropriate level of protection provided by any regulation, but merely whether the measure itself was in conformity with the SPS. The EU argued that the ban was based on the “precautionary” principle, which took the view that if

82. The United States noted that Europe introduced milk quotas in 1984 to reduce the over-supply of dairy products, and this resulted in an increase in cattle slaughter, which more than doubled the stock of surplus beef; see World Trade Organization, “Report of the Panel: EC Measures Concerning Meat and Meat Products (Hormones), Complaint by the United States,” WT/DS26/R/US, August 18, 1997, 20. As Donna Roberts points out, “It was no coincidence, the United States argued, that EC officials were willing to allow the use of productivity-enhancing inputs in the internationally competitive pork sector, but [were] substantially more conservative about allowing the use of such inputs in a sector which relied on costly domestic price support measures, import protection, and export subsidies to maintain producer profitability.” Donna Roberts, “Preliminary Assessment of the Effects of the WTO Agreement on Sanitary and Phytosanitary Measures Trade Regulations,” *Journal of International Economic Law* 2 (1998): 377–405.



scientific evidence did not establish beyond a doubt that the hormone residues were safe for humans, then a ban was appropriate.<sup>83</sup> The EU stressed that it did not ban all meat imports and that hormone-free beef could be sold in Europe.

In 1997, the WTO panel ruled that the hormone ban was not based on scientific evidence or a risk assessment and therefore was inconsistent with the EU's obligations under the SPS agreement. The appellate body reaffirmed that decision in 1998. In 1999, after the EU failed to implement any changes in policy, the United States imposed 100 percent tariffs on European imports valued at nearly \$120 million, the estimated annual amount of lost U.S. beef exports. Proposals to resolve the impasse by replacing the import ban with a labeling requirement, allowing consumers to make the choice about whether to purchase hormone-treated beef, ran into difficulties. In 2009, the two sides agreed to a truce, but it broke down, and the United States imposed tariffs again in 2016.

As already noted, Article 20 allows trade restrictions with the proviso that they be imposed in a nondiscriminatory fashion, but also that they are not "a disguised restriction on international trade." Discrimination was never an issue in this case because the use of hormones was forbidden in domestic as well as imported meat. The question is whether the measure was a "disguised restriction" on trade. The problem is that this standard is virtually impossible to determine because it gets to the unobserved motives behind a trade action. If the intention was not disguised, it would be obvious. The head of the European Alliance for Safe Meat, and a member of the European parliament, admitted that "the decision to ban these substances was made for political and commercial reasons and not, as the public was led to believe, for consumer protection."<sup>84</sup> Such admissions only fuel the suspicion that there is no compelling health or safety reason for the ban, but that it was designed to help special interests—namely, European beef producers.

The challenge confronting trade policymakers is to distinguish health and safety protection from regulatory protectionism enacted under the name of health and safety. As it turns out, there are tangible benefits to giving many of the existing regulations a hard look. As a result of the SPS agreement,

83. Article 5.7 of the SPS states, "In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information." The EU did not formally invoke this provision because its ban was permanent, and as the record made clear, there was abundant scientific evidence that judicious use of hormones was not harmful.

84. Quoted in Susan A. Aaronson, *Taking Trade to the Streets: The Lost History of Public Efforts to Shape Globalization*, Ann Arbor: University of Michigan Press, 2001, 153.



the United States lifted a controversial eighty-three-year ban on Mexican avocados and allowed the importation of uncooked Argentine beef for the first time in eighty years (from regions of Argentina recognized as free of foot-and-mouth disease). In addition, Japan removed its forty-six-year ban on U.S. tomatoes, New Zealand citizens are now able to purchase Canadian salmon, and Australians are now able to buy cooked poultry meat. In each case, the restriction's public health rationale was questionable.

And yet merely writing rules (such as SPS) is not going to end such trade disputes. Negotiated rules are a useful way of finding common ground, but countries are bound to have different assessments of the risk tradeoffs involved in any given regulation. For example, the United States and European Union have different assessments of the risks of genetically modified foods, such as corn and other agricultural crops. In Europe, the food is under suspicion until proven safe, whereas in the United States, the food is acceptable until proven harmful. There is little scientific evidence that such foods are harmful, but Europe invokes the precautionary principle to justify restrictions on its use. These different principles cannot be easily bridged simply by writing down rules. The question is how far WTO members want to go in limiting the ability of governments to adopt trade restrictions when scientific evidence does not exist or is ambiguous about a particular rationale. One approach is to allow countries complete freedom in choosing their own product safety standards because they benefit the most from proper regulation and bear the cost of regulatory protectionism. Governments and the business community, however, appear to benefit from having some common ground and some rules that provide a transparent and stable system for distinguishing appropriate from inappropriate standards.

The WTO may have a limited role in such conflicts. Some trade disputes are not a matter for litigation and a legal solution, but negotiation and a diplomatic solution. As one observer of the WTO has put it:

Too much policy in the WTO is now formulated on the basis of finding legal "solutions" to problems, often through legal interpretations of the GATT and WTO agreements, instead of through decisions taken by all members after a full-fledged policy debate. Today's WTO is moving toward being a "House of Litigation," lost in the intricacies of legal rulings, rather than an institution based on widely accepted principles that have produced time-tested policies.<sup>85</sup>

85. Gary P. Sampson, *Trade, Environment, and the WTO: The Post-Seattle Agenda*, Washington, DC: Overseas Development Council, 2000, 7, 111. Sampson has also noted that "perhaps

This is a critical issue that the WTO membership will have to confront in coming years.

## Regional Trade Agreements

Although multilateral trade agreements such as the GATT have been an integral part of the international trade landscape since World War II, they have not been the only—or even the most important—method of liberalizing trade policy. Unilateral trade policy changes, rooted in domestic reforms, have been very important throughout history. As discussed in chapter 6, many developing countries have decided to make big changes in their trade regime by themselves, such as China in 1979 and India in 1991, among many others. In fact, the World Bank reports that two-thirds of the tariff reductions in developing countries during the period from 1983 to 2003 were because of unilateral reforms; just 25 percent were the result of multilateral agreements (the Uruguay Round) and 10 percent were due to regional agreements.<sup>86</sup>

Aside from multilateral agreements in the WTO or unilateral reforms taken on one's own, another method of reducing trade barriers is through bilateral or regional trade initiatives. In fact, with the collapse of the Doha Round and the perception that the WTO is failing as a negotiating forum, many countries have simply bypassed the institution and negotiated bilateral or regional trade agreements. Under this approach, which has proved popular in recent years, a distinction should be made between free trade agreements and customs unions. In a free trade agreement (FTA), such as NAFTA, two or more countries agree to eliminate tariffs on each other's goods but maintain their own tariffs against imports from nonmember countries. In a customs union, such as the European Union, the member countries eliminate tariffs on each other's goods and impose a common external tariff on imports from nonmembers.

These bilateral and regional agreements come in various shapes and sizes. Some of them are substantial, such as the European Union, NAFTA, the Trans-Pacific Partnership, and the Common Market of the South (also

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[legal] rulings such as this have some short-term political merit in finding immediate 'solutions' to politically sensitive matters, but in the long term, policy choices as important as the legitimacy of the unilateral application of trade measures to enforce domestic societal preferences extraterritoriality should not be left to litigation of this nature, with confusing and uncertain outcomes" (111).

86. World Bank, *Global Economic Prospects: Trade, Regionalism, and Development*, Washington, DC: World Bank, 2005, 42. For a series of case studies on the importance of unilateral trade liberalization, see Jagdish Bhagwati, ed., *Going Alone: The Case for Relaxed Reciprocity in Freeing Trade*, Cambridge, MA: MIT Press, 2002.

known as the Mercosur trading bloc, for Mercado Común del Sur in South America). Others are of modest importance, such as the EU–Mexico or Japan–Mexico or the EU–Canada free trade agreements. Many are trivial, such as the Taiwan–Guatemala agreement or the Singapore–Jordan accord. And some have tremendous potential, such as the African Continental Free Trade Area signed in 2018.

The motivations for these agreements vary. In many instances, they are pursued as much for their political importance as for their economic effects. The formation of the European Economic Community in 1958, the precursor to the present-day European Union, was driven by a desire to solidify political and economic ties among Western European countries. When Mexico signaled that it was interested in joining the U.S.–Canada FTA to promote closer political ties and economic integration, it would have been nearly impossible for any U.S. administration to reject the historic opportunity to improve relations. In other cases, countries might want to obtain more secure market access to major markets, to make binding commitments for domestic policy as a signal to foreign investors, or to integrate markets more deeply than is possible through WTO agreements (such as more detailed agreements on trade in services). In particular, developing countries use trade agreements as an opportunity to implement and lock in domestic reforms that face domestic opposition, particularly in democracies.<sup>87</sup>

Such regional trade arrangements (RTAs) have multiplied and proliferated in recent years (see figure 7.3). Whereas the GATT was notified of 124 such agreements between 1948 and 1994, the WTO has been notified of 291 agreements from 1995 to mid-2019. Yet simply counting the number of bilateral and regional agreements is misleading because many of them are inconsequential. The main reason for the rapid increase in the number of RTAs during the 1990s was the proliferation of bilateral and plurilateral free trade agreements among countries of the former communist bloc in Eastern Europe and the former Soviet Union.<sup>88</sup> But the number of bilateral and regional agreements has continued to grow.

87. Leonardo Baccini and Johannes Urpelainen, “International Institutions and Domestic Politics: Can Preferential Trading Agreements Help Leaders Promote Economic Reform?,” *Journal of Politics* 76 (2014): 195–214.

88. The breakup of the former Soviet Union, Yugoslavia, and Czechoslovakia has resulted in a huge number of free trade agreements between places that were formally tied together within one nation or through the Eastern bloc’s Council of Mutual Economic Assistance. Richard Pomfret, “Is Regionalism an Increasing Feature of the World Economy?,” *World Economy* 30 (2007): 923–47.

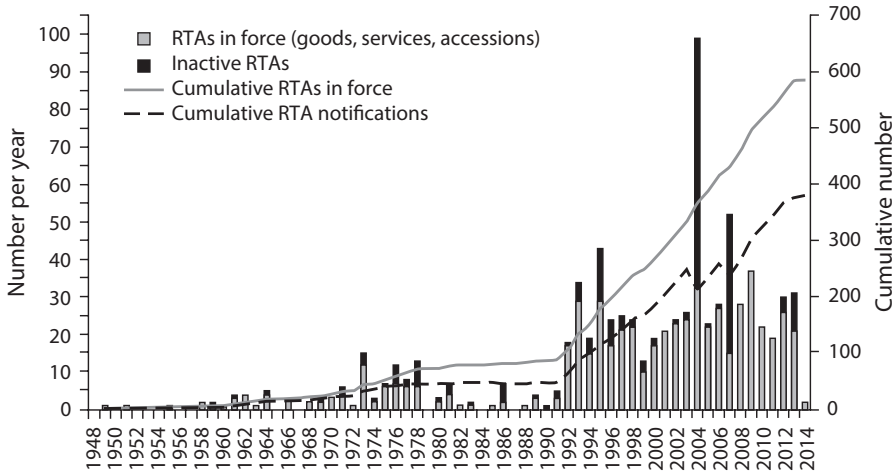


FIGURE 7.3. Number of Regional Trade Arrangements in Force, 1948–2014

Source: World Trade Organization, Regional Trade Agreements Information System (<http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>).

The spread of such trade arrangements presents difficulties for the multilateral trading system of the GATT and WTO. Such agreements depart from the nondiscriminatory, most-favored nation treatment set out in Article 1 of the GATT, even though they are permitted under Article 24 of the same agreement. There is a tension between the nondiscriminatory, multilateral approach to trade liberalization and the discriminatory, preferential approach taken in bilateral and regional deals. For this reason, they are sometimes referred to as “preferential” trade agreements.

*Preferential trade arrangements* detract from two key components of the multilateral trading system: nondiscrimination and transparency. Nondiscrimination is desirable not only because it promotes economic efficiency, but also because it levels the playing field in terms of power relationships: Tiny Jamaica or Saint Kitts get the same access to the U.S. market as Canada or the EU. The adverse effect of trade preferences on nonparticipants is damaging to the world trading system. Some small, poorer countries that do not have the clout to merit an FTA agreement with the United States or EU, such as African countries or smaller Caribbean or Asian countries, are excluded and are discriminated against in the larger markets.<sup>89</sup>

89. While the United States and the EU sometimes offer poor, developing countries special trade preferences, these preferences have problems as well. (In the U.S. case, the Caribbean Basin Initiative, the African Growth and Opportunity Act, and the Andean Trade Preferences Act all

Indeed, many economists view these preferential trade arrangements with skepticism, if not dismay, particularly in comparison to unilateral or multilateral approaches to trade liberalization.<sup>90</sup> The classic analysis of preferential trade arrangements distinguishes two effects: trade creation and trade diversion. When the United States and Mexico eliminated tariffs on each other's goods, for example, prices for consumers fell and trade was created. Indeed, most such agreements substantially increase trade. One study finds that free trade agreements roughly doubled trade between a pair of countries within a decade.<sup>91</sup>

But just because more trade is generated does not mean it is all for the good. U.S. and Mexican exporters, to continue with this example, are also given preference over other countries in each other's markets. This possibly diverts existing trade away from nonmember countries. In other words, trade may grow between partners but decline between the partners and nonpartners. Trade is stimulated not on the basis of economic efficiency but because preferential tax treatment gives an incentive to trade with certain countries and not with others. In the worst case, the tax preference may induce countries to obtain their imports from less efficient but preferred suppliers. This raises the possibility that economic welfare is actually reduced.

In practice, the precise magnitudes of trade creation and trade diversion are hard to determine. In the case of NAFTA, for example, it is extremely difficult to distinguish the effects of the slowly phased-in tariff preferences on U.S.–Mexico trade from those of the peso crisis in December 1994 and the ongoing rise of the maquiladoras. In fact, the welfare effects of the

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give selective preferences to developing country imports.) Usually they are granted on just a select group of goods, not all goods like an FTA, and thus reinforce the specialization of the developing countries in certain commodities. The preferences also require frequent renewal, meaning that foreign investors face uncertainty about whether market access will continue. Finally, once given preferences, developing countries want to preserve them, even resisting any multilateral liberalization that might reduce overall trade barriers but would erode their preferential access. For example, in the 1990s the EU restricted banana imports from Central American countries so that it could import bananas from former colonies in Africa and the Caribbean, even though the latter suppliers were much less efficient. The small islands in the Caribbean fiercely resisted Central American efforts to open up the EU banana market on a nondiscriminatory basis, giving rise to a banana war. Eckart Cuth, "The End of the Bananas Saga," *Journal of World Trade* 46 (2012): 1–32.

90. For a spirited attack on preferential trade agreements, see Jagdish Bhagwati, *Termites in the Trading System: How Preferential Agreements Undermine Free Trade*, New York: Oxford University Press, 2008.

91. Scott L. Baier and Jeffrey H. Bergstrand, "Do Free Trade Agreements Actually Increase Members' International Trade?," *Journal of International Economics* 71 (2007): 72–95.

preference trade agreements are not always easy to gauge.<sup>92</sup> One study found that NAFTA not only succeeded in expanding intra-bloc trade, but it also improved Mexico's welfare by 1.3 percent and U.S. welfare by 0.1 percent, although Canada's welfare fell by 0.06 percent.<sup>93</sup>

And preferential trade arrangements undermine transparency by creating complex and conflicting policies governing imports of the same goods from different countries. This fragments the world trading system and increases the cost and uncertainty of trade. One potentially serious distortion to trade that arises in preferential agreements is rules of origin. In an FTA, each member country retains its own tariff schedule that it applies to imports from nonmember countries.<sup>94</sup> This gives rise to transshipment: the incentive to bring imports into the low-tariff country and then ship them into the high-tariff country to avoid paying the higher duties. To stop transshipment, NAFTA mandates that duty-free treatment extend only to goods with sufficient "North American" content.

About two hundred pages of the two-thousand-page NAFTA text are devoted to rules of origin, which are stricter than those in the U.S.—Canada Free Trade Agreement. In the Canadian agreement, automobiles must have 50 percent North American content to receive duty-free treatment, but this was raised to 62.5 percent in NAFTA. In the original agreement with Canada, textile and apparel goods must be made from North American fabric to be eligible, but under NAFTA the yarn from which the fabric is woven must also be of North American content. Thus, Mexican garments receive duty-free treatment in the United States only if the yarn is made, the cloth woven, and the cutting and sewing done primarily in North America. Rules of origin can distort trade when exporters strive to raise artificially the North American content so that the goods can qualify for duty-free treatment in the United States.<sup>95</sup>

92. Assessment hinges on whether (pre-tariff) import prices were actually higher than they would have been in the absence of the preferential treatment. There is precious little empirical evidence on this crucial point: some research suggests that, in the case of the Mercosur trade agreement in South America, preferences harmed the welfare of nonmembers by forcing them to reduce their export prices. L. Alan Winters and Won Chang, "Regional Integration and Import Prices: An Empirical Investigation," *Journal of International Economics* 51 (2000): 363–78.

93. Lorenzo Caliendo and Fernando Perro, "Estimates of the Trade and Welfare Effects of NAFTA," *Review of Economic Studies* 82 (2015): 1–44.

94. In a customs union such as the EU, all member countries have a common external tariff.

95. Anne O. Krueger, "Free Trade Agreements as Protectionist Devices: Rules of Origin," in *Trade, Theory and Econometrics: Essays in Honor of John S. Chipman*, edited by James R. Melvin, James C. Moore, and Raymond Reizman, New York: Routledge, 1999.

On the 2016 campaign trade, Donald Trump excoriated NAFTA as the worst trade deal ever. Yet very few changes were made to it when as president he had the opportunity to renegotiate it. The new agreement, blandly called USMCA for United States–Mexico–Canada Agreement, did not alter the basic principle of NAFTA, which is ensuring duty-free access to each other's markets for almost all goods. However, the Trump administration insisted that the North American content rule for automobiles be increased from 62.5 percent in NAFTA to 75 percent in USMCA, along with some other auto production rules. These changes actually made USMCA slightly more trade restrictive than NAFTA. As a result, in its assessment of the new agreement, the International Trade Commission (ITC) found that it would reduce real gross domestic product (GDP) by 0.1 percent and reduce employment by 53,900 jobs in a standard modeling framework. However, the ITC downplayed this result and instead emphasized that, due to the reduction in uncertainty as a result of maintaining NAFTA, the USMCA would increase real GDP by 0.35 percent and increase employment by 176,000 jobs.<sup>96</sup>

One of the key issues concerning regional trade arrangements is whether they are stepping stones toward the multilateral liberalization of trade or stumbling blocks that impede multilateralism and simply create trade blocs that distort commerce into artificial regional patterns. One hope is for “open regionalism” that allows any country that wishes to join an agreement the freedom to do so, or that eventually leads to the merging of the various agreements at a broader level. It is difficult to know, *a priori*, whether regional and multilateral trade arrangements are complements or substitutes. In practice, open regionalism does not appear to work: The various agreements are not easily harmonized, and accession for interested parties is not easy because insiders often want to continue to discriminate against outsiders. The empirical evidence on stepping stones versus stumbling blocks is mixed. Some studies show that the United States and the European Union reduced their tariffs less in the Uruguay Round on goods heavily traded in existing FTAs, implying that the preferential agreements were stumbling blocks to multilateral reforms.<sup>97</sup> In contrast, for Latin American countries,

96. U.S. International Trade Commission, “U.S.–Mexico–Canada Trade Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors,” Publication No. 4889, April 2019, table 2.7.

97. Nuno Limão, “Preferential Trade Agreements as Stumbling Blocks for Multilateral Trade Liberalization: Evidence for the U.S.,” *American Economic Review* 96 (2006): 896–914; and Baybars



FTAs appear to be linked to faster declines in external tariffs, but not in the case of customs unions.<sup>98</sup>

After the formation of the GATT, the United States signed only a few free trade agreements: with Israel in 1985, Canada in 1989, and NAFTA in 1993. However, in the early 2000s, the Bush administration made such trade agreements a central part of its trade strategy. Robert Zoellick, the U.S. trade representative under President George W. Bush, argued that bilateral agreements were a part of a “competitive liberalization” strategy that would jump-start the WTO process in which the most reluctant reformers could slow progress toward dismantling trade barriers. In Zoellick’s view, the United States would bypass the WTO and pursue bilateral and regional trade agreements as a way of putting pressure on those reluctant reformers. As he argued:

If some regions are too slow to open their markets, the United States should move on to others. America should spur a competitive dynamic for openness and transparency. Competition can work wonders: when the United States pursued NAFTA and APEC [Asia-Pacific Economic Cooperation], the EU finally felt the pressure to complete the global Uruguay Round trade negotiations. If others hold back in the new WTO round, the United States should repeat this strategy of regionalism with a global goal in order to break the logjam.<sup>99</sup>

As a result, the United States significantly increased the number of bilateral trade negotiations for a few years after 2001. As indicated in table 7.4, the United States concluded agreements with Jordan, Australia, Chile, Singapore, Peru, Morocco, Bahrain, South Korea, Colombia, Panama, and five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) and the Dominican Republic (CAFTA-DR, which stands for Central American Free Trade Agreement and the Dominican Republic).

Despite the hopes that bilateral agreements would fuel “competitive liberalization,” it seemed to trigger more bilateral agreements rather than accelerate the completion of the Doha Round.<sup>100</sup> For example, shortly after

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Karacaovali and Nuno Limão, “The Clash of Liberalizations: Preferential vs. Multilateral Trade Liberalization in the European Union,” *Journal of International Economics* 74 (2008): 299–327.

98. Antoni Esteveadeordal, Caroline Freund, and Emanuel Ornelas, “Does Regionalism Affect Trade Liberalization toward Nonmembers?,” *Quarterly Journal of Economics* 123 (2008): 1531–75.

99. Robert B. Zoellick, “A Republican Foreign Policy,” *Foreign Affairs* 79 (2000): 63–78.

100. Simon J. Evenett and Michael Meier, “An Interim Assessment of the US Trade Policy of ‘Competitive Liberalization,’” *World Economy* 31 (2008): 31–66.



TABLE 7.4. U.S. Regional and Bilateral Trade Agreements

Country or Region	Status (as of August 2019)
Israel	In effect since 1985
North American Free Trade Agreement (NAFTA)—Canada and Mexico	In effect since 1994; partially renegotiated in 2018 and renamed United States–Mexico–Canada Agreement (USMCA)
Jordan	In effect since 2001
Singapore	In effect since 2004
Chile	In effect since 2004
Australia	In effect since 2005
Morocco	In effect since 2005
Central American Free Trade Agreement & Dominican Republic (CAFTA-DR)—Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua	In effect since 2006
Bahrain	In effect since 2006
Peru	In effect since 2009
Oman	In effect since 2009
Colombia	In effect since 2012
Panama	In effect since 2012
Republic of Korea	In effect since 2012, partially renegotiated in 2018
Trans-Pacific Partnership (TPP)	Negotiations launched in December 2010; United States withdrew in 2017
Transatlantic Trade and Investment Partnership (TTIP)	U.S.–EU negotiations launched in July 2013, intermittent negotiations ever since
Japan	Intention to negotiate announced in 2019

*Source:* Office of the U.S. Trade Representative.

*Note:* TPP involved the United States, Japan, Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. South Korea and Taiwan have expressed an interest in joining the agreement. After the United States withdrawal in January 2017, other countries finalized the negotiations, renamed the agreement the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), and began to approve and implement it.

the United States signed NAFTA with Mexico, the European Union sought a similar trade agreement with Mexico to keep its exports competitive in the country. Indeed, the United States has not been alone in negotiating bilateral and regional trade deals. The EU has actively pursued them, and they have spread throughout Asia and Latin America as well. Some have argued that this takes attention away from the multilateral discussions at the WTO, the only forum where agricultural subsidies and trade barriers can

be effectively discussed and where the interests of small countries stand a chance for representation.

We have already mentioned the idea that such trade agreements are a credible way of introducing economic reforms that come with openness to trade. For example, such agreements could serve as a commitment device to destroy rents generated by protectionist policies. By reducing such rents through increased competition, FTAs make political power less financially attractive to antidemocratic groups, such as oligarchs. Therefore, governments in unstable democracies may want to pursue FTAs to more firmly establish the rule of law and consolidate the institution of democracy. In fact, recent research has confirmed a link between the simultaneous rapid growth of regional trade agreements and worldwide democratization since the late 1980s.<sup>101</sup> Furthermore, countries signing free trade agreements, particularly those that yield large economic gains, are less likely to go to war with one another.<sup>102</sup>

At the same time, the formation of competing trade blocs could fuel great power rivalries. For example, China and the Association of South East Asian Nations (ASEAN) reached an FTA that came into force in 2010. This had been a worrisome development for Korea, which was not included, but not as much for Japan, which had an FTA with ASEAN. And American commercial interests could be compromised if China secures preferential access to raw materials and important markets in Asia and elsewhere, putting the United States at a competitive disadvantage. The Trump administration's decision to withdraw from the CPTPP has hurt the U.S. strategic position in the Asia Pacific region and harmed the ability of U.S. exporters to compete effectively in those markets.

The Bush push for free trade agreements came to an end when the Democrats captured Congress in the 2006 midterm elections. The administration of President Barack Obama stopped pursuing FTAs in deference to the Democratic Party's opposition to trade agreements, particularly with developing countries. Many Democrats believe that such trade agreements should include stronger labor and environmental provisions, but others do not want them pursued at all.<sup>103</sup> In his second term, President Obama

101. Xuepeng Liu and Emanuel Ornelas, "Free Trade Agreements and the Consolidation of Democracy," *American Economic Journal: Macroeconomics* 6 (2014): 29–70.

102. Philippe Martin, Thierry Mayer, and Mathias Thoenig, "The Geography of Conflicts and Regional Trade Agreements," *American Economic Journal: Macroeconomics* 4 (2012): 1–35.

103. After several years of delay, and with great reluctance, the Obama administration finally submitted to Congress two FTAs negotiated by the Bush administration, one with Colombia and another with Korea. Congress passed them in 2011, largely with Republican support.

decided to conclude the Trans-Pacific Partnership, but as we have seen, President Trump decided to withdraw from the agreement before it was submitted to Congress. Trump administration officials have said that they wanted to pursue more bilateral agreements rather than regional or multilateral agreements, on the theory that the United States has greater bargaining leverage to extract concessions in bilateral deals. That is a dubious proposition, but few countries have shown much enthusiasm for trade talks with the United States given the president's view on trade.

While trade agreements have long sparked opposition from labor unions and environmental groups, they have also generated controversy over their provisions regarding investor-state relations. These provisions allow foreign investors to sue host governments in third-party arbitration tribunals when a government fails to treat investors fairly under an investment agreement. The goal is to provide extra security to foreign investors and hence attract investment. The special dispute settlement process avoids domestic courts for fear that they will favor the host government over foreign investors. Critics charge that such provisions allow corporations to contest government regulations in a nontransparent, antidemocratic setting (the tribunals), while proponents point out that governments sign such agreements to commit to treating foreign investment fairly. Chapter 11 of NAFTA, which deals with investor-state dispute settlement, has led to several controversial cases.<sup>104</sup>

Because investor-state dispute settlement provisions are now being included in trade agreements, new opposition to those agreements has arisen. Yet investor-state relations are most appropriately dealt with in bilateral investment treaties rather than trade agreements. Some of the political opposition to trade agreements would go away if those provisions were not included in the agreements. As one American proponent of trade liberalization argues, it is “unnecessary, unreasonable, and unwise” to include investor protection provisions in trade agreements because they are “a significant reason why trade agreements engender so much antipathy” and yet they are “not even essential to the task of freeing trade.”<sup>105</sup>

104. For example, in 2009 a NAFTA panel awarded Cargill, a multinational company specializing in agricultural products, \$77 million from the government of Mexico for violating the agreement after the country raised its tariff on imported drinks made with high-fructose corn syrup but not the tariff on drinks made with cane sugar.

105. Dan Ikenson, “A Compromise to Advance the Trade Agenda: Purge Negotiations of Investor State Dispute Settlement,” *Free Trade Bulletin* 41, Cato Institute, 2014, 1. He gives eight reasons why investor-state provisions should not be included in trade agreements, including that they socialize the risk of foreign direct investment, exceed “national treatment” obligations, expose

Although regional trade agreements have been subject to many valid criticisms, such agreements have some countervailing benefits. The concerns about trade creation and trade diversion take a purely static view of trade, ignoring the beneficial effects on productivity as a result of greater competition. Trade diversion may not be a serious concern if tariff levels are already low and rules of origin are liberal. Developing countries may be able to lock in greater access to richer, developed markets, although they also may take on burdensome requirements in intellectual property and other areas. And sometimes regional trade agreements might be able to provide templates that later can be adopted at the multilateral level, as was the case with the U.S.–Canada agreement on services trade.

One final matter concerns the scope of the regional trade agreements that the United States has tended to pursue under both Democratic and Republican administrations. As we have seen, formal tariff and quota barriers to trade (i.e., those imposed at the border when foreign goods enter a market) have generally fallen to low levels. Consequently, trade agreements have increasingly focused on “behind the border” regulatory measures that affect trade. This makes the agreements potentially more invasive and controversial. And it raises a fundamental question: What is the objective of such agreements, and how is free trade to be defined? Does free trade mean “no protection” for domestic producers (nondiscrimination), or does it mean a “single market” (open access)?<sup>106</sup>

For example, if the European Union bans all genetically modified food, is that a trade barrier? If free trade is defined as nondiscrimination, then the regulation is not a problem since it applies equally to domestic and foreign food producers. If free trade is defined as a single market, then the ban is a problem because most farmers around the world will not be able to sell their goods in the EU market. Which conception of free trade is most desirable and attainable? The WTO agreements attempt to balance these two conceptions by giving governments space for their own regulatory policies while also trying to limit the protectionist effects of such policies. Finding such a balance is difficult, but future regional agreements may attempt to achieve a degree of integration that goes beyond that in the WTO. Looking forward, future trade agreements will increasingly have to confront these difficult issues.

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an increasing number of U.S. laws and regulations to challenges, reinforce the idea that trade primarily benefits large corporations, and are ripe for exploitation by creative lawyers.

106. Simon Lester, “America’s Free Trade Conundrum,” *The National Interest*, January 8, 2015, <http://nationalinterest.org/feature/americas-free-trade-conundrum-11993>.

The concerns are echoed by other critics, including Democrats such as Elizabeth Warren. As Dani Rodrik has argued: “Contemporary trade agreements go much beyond traditional trade restrictions at the border. They cover regulatory standards, health and safety rules, investment, banking and finance, intellectual property, labor, the environment, and many other subjects.” In his view: “Trade agreements have been shaped, in part, by rent-seeking, self-interested behavior on the export side. Rather than reining in protectionists, this view holds that trade agreements empower another set of special interests and politically well-connected firms, such as international banks, pharmaceutical companies, and multinational corporations. Such agreements may result in freer, mutually beneficial trade, through exchange of market access. But they are as likely to produce welfare-reducing or purely redistributive outcomes under the guise of free trade.”<sup>107</sup> Needless to say, the impact of various provisions of trade agreements will continue to be debated.

Given the obstacles to reaching multilateral trade agreements with the WTO membership, the trend toward more bilateral and regional agreements is likely to continue. Because of their overlapping nature, to say nothing of their complexity, regional trade agreements detract from the simplicity that was part of the multilateral system’s design. While the nondiscriminatory multilateral approach to trade liberalization may be closer to the economist’s ideal, most countries seem unwilling to wait for a WTO consensus to undertake efforts to further expand trade.

107. Dani Rodrik, “What Do Trade Agreements Really Do?,” *Journal of Economic Perspectives* 32 (2018): 73–90.

# Conclusion

Free trade, one of the greatest blessings which a government can confer on a people, is in almost every country unpopular.

—THOMAS BABINGTON MACAULAY (1824)

Nearly two centuries after Macaulay, one of Britain's great historians, made this observation, it still rings true. Growing world trade has helped lift standards of living around the world, and yet today, as in Macaulay's time, free trade arouses passions and protests. Trade policy has always been a highly controversial subject, a source of never-ending debate. The reason is clear: trade affects not just our jobs and standard of living, but our approach to it also reflects our priorities and our values. Our trade policy decisions help shape the kind of world we live in.

The open world trading system has faced many challenges in the past and will continue to face challenges in the future. In the 1970s and 1980s, the major threat to open trade was protectionism in developed countries. Back then, painful recessions and structural adjustments in manufacturing led to an increase in the demand for trade restrictions. In the United States and elsewhere, industry after industry, from footwear and apparel to automobiles and steel to semiconductors and consumer electronics, received protection from foreign competition through antidumping duties, import quotas, voluntary export restraints, orderly market arrangements, and other trade barriers.<sup>1</sup>

1. See Douglas A. Irwin, *Clashing over Commerce: A History of U.S. Trade Policy*, Chicago: University of Chicago Press, 2017, chap. 12.

These import barriers proved temporary, and most of them had lapsed by the 1990s.

In the early 2000s, the main challenge facing the world trading system was not so much protectionism driven by interest groups, but the emergence of an antiglobalization movement. This new challenge came from nongovernmental organizations (NGOs) that did not represent economic interests but stood for particular causes and included “consumer associations, conservation and environmental groups, societies concerned with development in poor countries, human rights groups, movements for social justice, humanitarian societies, organizations representing indigenous people, and church groups from all denominations.”<sup>2</sup> In many instances, these groups were hostile to the existing system of world trade and even the idea of a market economy.<sup>3</sup> They achieved broad appeal by focusing on human rights, corporate responsibility, and sustainable development, all of which are agreeable in principle but behind which are very different views of policy.

At the time, these groups questioned the benefits of globalization and seemed poised to become very influential. “If the critics were right,” Martin Wolf, the chief economics commentator of the *Financial Times*, pointed out, “supporters of the global market economy would be in favour of mass poverty, grotesque inequality, destruction of state-provided welfare, infringement of national sovereignty, subversion of democracy, unbridled corporate power, environmental degradation, human rights abuses and much more.”<sup>4</sup>

But, of course, the critics were not right. Time and experience demonstrated that globalization did not lead to an intensification of poverty, but rather the opposite. The past three decades have seen extraordinary progress in reducing poverty in the developing world. Between 1990 and 2015, the share of the world’s population living in extreme poverty fell from 36 percent to 10 percent, according to the World Bank. The International Labor Office

2. David Henderson, *Anti-Liberalism 2000: The Rise of New Millennium Collectivism*, London: Institute of Economic Affairs, 2001, 19.

3. “With some exceptions, they are hostile to, or highly critical of, capitalism, multinational corporations, freedom of cross-border trade and capital flows, and the idea of a market economy,” notes David Henderson (*Anti-Liberalism 2000*, 20), the former chief economist of the Organization for Economic Cooperation and Development (OECD). Despite differences of interest and emphasis among these groups, the more radical elements “share a vision of the world in which past history and present-day market-based economic systems are portrayed in terms of patterns of oppression and abuses of power. Free markets and capitalism are seen as embodying and furthering environmental destruction, male dominance, class oppression, racial intolerance, imperialist coercion and colonial exploitation.”

4. Martin Wolf, *Why Globalization Works*, New Haven, CT: Yale University Press, 2004, 23.

reported that the number of workers in the world earning less than \$1.25 a day has fallen from 811 million in 1991 to 375 million in 2013.<sup>5</sup>

Who should get the credit for these astounding improvements in living standards—the Millennium Development Goals of the United Nations (MDGs) and international aid agencies? Not quite. As *The Economist* put it, “The MDGs may have helped marginally, by creating a yardstick for measuring progress, and by focusing minds on the evil of poverty. Most of the credit, however, must go to capitalism and free trade, for they enable economies to growth—and it was growth, principally, that has eased destitution.”<sup>6</sup> Expanding world trade proved to be an escalator for bringing poor people out of poverty.

Such developments silenced many of the antiglobalization protesters, but then the system of open trade was rocked by a global financial crisis and the Great Recession of 2008 and 2009. Marked by plummeting stock markets, sharply rising unemployment rates, a slump in output, and the threat of deflation, the crisis prompted many comparisons to the Great Depression of the 1930s. Many commentators feared a resurgence of protectionism and beggar-thy-neighbor policies, as seen in the 1930s. Although trade barriers did increase during the crisis, trade interventions were more muted than just about anyone expected.

There are many reasons why 1930s-style protectionism did not reappear. Unlike the 1930s, governments were able to use stimulative monetary and fiscal policies to mitigate the economic crises, diminishing the severity of the downturn and preventing an outbreak of protectionism. World Trade Organization (WTO) agreements also restricted the use of protectionist policies, and countries that were tempted to violate the agreements had no illusion that they could avoid swift foreign retaliation if they choose that path. Foreign investment had also transformed the world economy. Producers around the world became so inextricably linked to global supply chains that they came to have a vested interest in resisting protectionism.

Today, of course, new challenges to the trading system have arisen. Currently, one of the greatest threats to the system is the drift away from a rules-based approach. Unfortunately, this drift has been led by the United States, the country that helped create the very rules that have guided the system since World War II. In the absence of such rules, governments will

5. World Bank press release, September 19, 2018, <https://www.worldbank.org/en/news/press-release/2018/09/19/decline-of-global-extreme-poverty-continues-but-has-slowed-world-bank>.

6. “Toward the End of Poverty,” *The Economist*, June 1, 2013, 11.



feel more empowered to intervene in trade when politically convenient, arbitrarily restricting access to its markets or cutting special deals that grant privileges or advantages to selected partners in selected products. In such a scenario, world trade would be shaped less and less by market forces and more and more by political power and favoritism. The rules will still be on the books, but increasingly disregarded.

The United States has taken some steps down this road. This book opened with three simple words penned by President Donald Trump: “TRADE is BAD.” The president views the United States as being attacked by other countries on a commercial battlefield. Imports take our jobs and destroy our livelihoods. Trade deals, such as the North American Free Trade Agreement (NAFTA) and the WTO, have been a disaster. His trade representative, Robert Lighthizer, shares these complaints about the existing system: “This Administration inherited a trade landscape characterized by outdated, imbalanced trade agreements, a failing multilateral approach to trade, and rampant unfair trade practices by some of our major trading partners.”<sup>7</sup>

Therefore, proclaiming that he is “a Tariff Man,” President Trump has imposed import duties on friend and foe alike, roiling financial markets, weakening the global economic outlook, and producing swift retaliation against U.S. exports.<sup>8</sup> Yet for all the turmoil unleashed by his trade policies, the results are almost sure to be a disappointment. President Trump wants to reduce the trade deficit, create new manufacturing jobs, enhance national economic security, and force China to change its policies. As has been discussed in previous chapters, particularly chapter 4, he is unlikely to achieve any of these objectives. By increasing the fiscal deficit, he has contributed to a larger trade deficit. Tariffs can create manufactured jobs in some sectors (steel), but only at the expense of jobs elsewhere in the economy (steel-using sectors). By attacking trade allies and threatening alliances, he has isolated the United States and made it less secure. And his confrontational demands on China are unlikely to achieve the goals he professes. In the end, his policies will likely be an exercise in futility. Unfortunately, there has been a lot of collateral damage done along the way.

7. Testimony of Ambassador Robert E. Lighthizer, Senate Committee on Finance, Hearings on the President’s 2019 Trade Policy Agenda, June 18, 2019, 2.

8. The Trump administration has even reintroduced import quotas and export restraints into the world trade policy mix, something that previous presidents tried to eradicate from the trade landscape. See Geraldo Vidigal, “The Return of Voluntary Export Restraints? How WTO Law Regulates (and Doesn’t Regulate) Bilateral Trade-Restrictive Agreements,” *Journal of World Trade* 53 (2019): 187–210.

President Trump's approach is quite different from his Republican predecessors, such as Ronald Reagan. In 1988, then-President Reagan gave a radio address in which he said:

Part of the difficulty in accepting the good news about trade is in our words. We too often talk about trade while using the vocabulary of war. In war, for one side to win, the other must lose. But commerce is not warfare. Trade is an economic alliance that benefits both countries. There are no losers, only winners. And trade helps strengthen the free world.

Yet today protectionism is being used by some American politicians as a cheap form of nationalism, a fig leaf for those unwilling to maintain America's military strength and who lack the resolve to stand up to real enemies—countries that would use violence against us or our allies. Our peaceful trading partners are not our enemies; they are our allies. We should beware of the demagogues who are ready to declare a trade war against our friends—weakening our economy, our national security, and the entire free world—all while cynically waving the American flag. The expansion of the international economy is not a foreign invasion; it is an American triumph, one we worked hard to achieve, and something central to our vision of a peaceful and prosperous world of freedom.<sup>9</sup>

If the United States weakens its commitment to a system of open world trade, other countries will inevitably follow. The United States is expected to set an example for the world, and people everywhere look to it for leadership. The trade policy choices that the United States makes have ramifications far beyond America's shores and have implications well beyond economics.

The post-World War II trading system was not created by other countries to take advantage of the United States; it was created by the United States to foster a more peaceful and prosperous world. As Ronald Reagan put it: "This desire to cut down trade barriers and our open advocacy of freedom as the engine of human progress are two of the most important ways the United States and the American people hope to assist in bringing about a world where prosperity is commonplace, conflict an aberration, and human dignity and freedom a way of life."<sup>10</sup>

9. President Ronald Reagan, Radio Address to the Nation on the Canadian Elections and Free Trade, November 26, 1988, <https://www.presidency.ucsb.edu/documents/radio-address-the-nation-the-canadian-elections-and-free-trade>.

10. President Ronald Reagan, Address to the 39th Session of the United Nations General Assembly in New York, New York, September 24, 1984, <https://www.presidency.ucsb.edu/documents/address-the-39th-session-the-united-nations-general-assembly-new-york-new-york>.

If the United States adopts a more isolationist trade policy, erecting tariffs against others and refusing to negotiate new agreements to open trade, it will be left behind as other countries move along that path without us. That will leave U.S.-based producers, farmers and manufacturers alike, facing discriminatory barriers in the markets of the world. By staying outside of the Trans-Pacific Partnership, for example, the United States has chosen not to participate in the expanding markets of the Asia-Pacific region.

Yet, realistically speaking, many of President Trump's policies could live on after his administration. While critical of some aspects of the administration's trade policy, many Democratic politicians also believe that the United States has gotten a bad deal from trade. Most opposed the TPP, and some, such as Elizabeth Warren, support "economic patriotism" to revitalize America's industrial heartland.

Furthermore, the United States and China seem poised for a prolonged standoff on trade. If taken to an extreme, this could split the world economy into different trade blocs, like those seen in past decades.<sup>11</sup> It is worth remembering that the system of world trade established after World War II, and fostered by the United States, is often described as multilateral. But it was not a global system; it originally consisted of a small number of Western, market-oriented economies and Japan and excluded the Soviet Union and other communist countries. That division was about more than politics: Market and nonmarket economies are in many ways incompatible. In a market economy, a firm losing money has to adjust or go bankrupt. Under state capitalism, state-owned firms get subsidies to maintain production and save jobs, forcing non-state-owned firms—at home or abroad—to make the painful adjustment instead. As China retreats from pro-market reforms and the state reasserts its controlling position in the economy, and as the Western democracies see China as a potential national security threat, the world may be moving back to the historic norm of separate political and economic blocs.

And looking farther down the road, there are other looming threats to open trade. At some point, the world is going to have to deal with the problem of climate change. If there is no coordinated international effort, individual countries might work to reduce their own carbon emissions by imposing a carbon tax. Because a carbon tax on domestic producers would affect their

11. See Chad P. Bown and Douglas A. Irwin, "Trump's Assault on the Global Trading System: And Why Decoupling from China Will Change Everything," *Foreign Affairs* 98 (September/October 2019): 125–36.

competitive position relative to foreign producers, a border tax adjustment that imposes a similar levy on the carbon content of imports could be used to level the playing field with foreign producers of those goods. This would prevent “carbon leakage,” or the substitution of dirty imports for cleaner domestic production.

Thus, in an effort to reduce carbon emissions, countries might start imposing tariffs on the carbon content of imports to compensate for taxes on domestic producers. Unless this issue is handled well, it could lead to “green protectionism” that would severely disrupt world trade.

In that case, domestic firms would be tempted to complain about foreign pollution as a way of getting carbon tariffs imposed on their foreign rivals. Such a situation could lead to absolute chaos in the world trading system.<sup>12</sup> Even Ralph Nader has warned that “runaway environmental protectionism—which Washington’s K Street lobbyists would be only too happy to grease—would almost certainly lead to a collapse of the multilateral trading system.”<sup>13</sup>

Should governments begin to get serious about limiting carbon emissions, the challenge of integrating new environmental rules into the world trading system and avoiding “green protectionism” will be critical. Some WTO rules may have to be changed.<sup>14</sup>

Arguably the best solution would be an international agreement on a global tax on carbon dioxide (CO<sub>2</sub>) emissions. Such an agreement, although difficult to reach and to implement, would address the underlying source of greenhouse gas emissions, provide for a uniform treatment of producers across different countries, and thereby preserve the open world trading system and all the benefits that it creates.

12. This raises the problem of calculating the “carbon content” of foreign goods. For example, if an automobile manufactured in the United States generates ten tons of carbon dioxide, which is then taxed at \$60 per ton, the additional cost per car is \$600. Should cars imported from Korea be taxed at that rate as well, or should a calculation be made about the carbon tonnage associated with producing the car in Korea? Should the United States investigate how many tons of carbon dioxide are associated with different goods produced by different firms in different countries and levy the tax accordingly? This sounds much like an antidumping investigation but involves an even more complicated set of factors, as discussed by Michael O. Moore, “Implementing Carbon Tariffs: A Fool’s Errand?,” *World Economy* 34 (2011): 1679–702. In fact, it is likely that making border tax adjustments based on carbon emissions consistent with WTO rules “will have such onerous informational needs that importing countries will find implementation nearly impossible” (Moore, 1681).

13. Ralph Nader and Toby Heaps, “We Need a Global Carbon Tax,” *Wall Street Journal*, December 3, 2008, A17.

14. Gary C. Hufbauer, Steve Charnovitz, and Jisun Kim, *Global Warming and the World Trading System*, Washington, DC: Peterson Institute for International Economics, 2009.

Such a tax would reduce trade, but more trade is not always the goal. Effective environmental and safety regulations should not be avoided simply because they reduce international trade. The notion that all trade must be kept free at all costs is simply wrong. As Thomas Babington Macaulay put it in a parliamentary speech in 1845,

I am, I believe, as strongly attached as any member of this House to the principle of free trade, rightly understood. Trade, considered merely as trade, considered merely with reference to the pecuniary interest of the contracting parties, can hardly be too free. But there is a great deal of trade which cannot be considered merely as trade, and which affects higher than pecuniary interests. And to say that government never ought to regulate such trade is a monstrous proposition, a proposition at which Adam Smith would have stood aghast.<sup>15</sup>

In any event, the difficult policy choices at the intersection of trade policy and climate change could be where the key battles over the world trading system are fought in coming years.

To conclude, trade policy has always been one of the most contentious areas of economic policy and is therefore the subject of a never-ending debate. Though the last few decades have been marked by a general reduction in trade barriers, the matter is not settled because the pressures to weaken the commitment to open markets never abate. The world trading system is far from perfect, and many reforms and changes in rules should be under discussion. Yet, in so doing, we should always keep in mind the manifold benefits of world trade and the contribution of trade to the welfare and prosperity of billions of people around the world.

15. Thomas Babington Macaulay, *The Complete Writings of Lord Macaulay*, vol. 18, *Speeches and Legal Studies*, Boston: Houghton, Mifflin, 1900, 102.

## ACKNOWLEDGMENTS

This fifth edition of *Free Trade under Fire* has been updated to deal with a host of new developments, many arising from the Trump administration's unique approach to trade policy. As noted in the first edition, this book draws on the vast amount of economic research on international trade policy that lends insight into these issues. As before, I wish to acknowledge all of the scholars who have made contributions to this field in recent years. In addition to those mentioned in previous editions, I would particularly like to thank Chad Bown and Nina Pavcnik for providing valuable advice (whether they knew it or not) on this edition. Colleagues at Dartmouth College and the Peterson Institute for International Economics have done much of the research that has informed this book. Margaret Snyder provided superb research assistance. My faithful friend Christine Hoskin has once again done a great job with the index. Thanks also go to Joe Jackson and everyone at Princeton University Press for their continued support of this ongoing project. If the twists and turns of trade policy seen over the past four years are any guide, there will likely be a need for a sixth edition of this book in the years to come.



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## A NOTE ON THE TYPE

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