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IMF STAFF DISCUSSION NOTE

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EXECUTIVE SUMMARY

The creation of the euro area two decades ago played a central role in boosting European integration, but cross-country differences in economic resilience—an economy's ability to withstand and adjust to shocks—persist. This reflects in part the lack of independent nominal exchange rates and monetary policy at the national level and the consequent greater reliance on other mechanisms to adjust to shocks and mitigate their human and social costs. Union-wide architectural changes can help foster greater international risk sharing and soften the effects of shocks. However, because reforms at the center cannot insure against all shocks—especially country-specific shocks—national policies have a vital role to play. This Staff Discussion Note investigates whether and how growth-enhancing national structural reforms of labor and product market regulations, as well as corporate insolvency regimes, can enhance euro area member states' resilience to shocks, helping safeguard people's income and living standards.

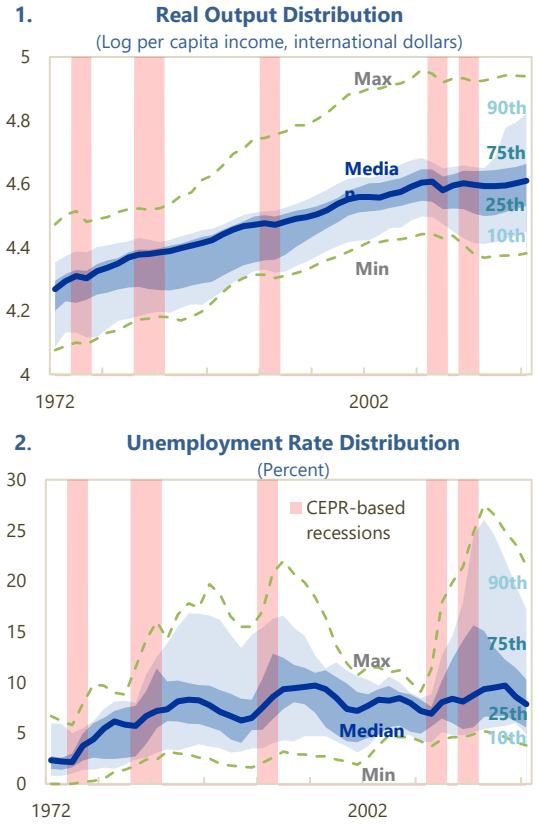
Model simulations and analyses of country, sector, and firm-level data across the euro area and other advanced economies yield the following key findings:

- Recessions in euro area economies have been both more severe and more frequent relative to other advanced economies over the last two decades. Moreover, there has been an increase in the diversity of experiences of euro area economies.
- Policies that reduce real and nominal rigidities and encourage greater reallocation of labor and capital after shocks are associated with greater resilience. In the past four decades, output responses after major recessions were dampened in advanced economies that had reformed their labor and product markets. Such reforms also strengthen resilience more in economies that belong to a monetary union. In addition, reforms that improve the quality of insolvency regimes hasten the reallocation of resources to more productive sectors and firms, particularly after major downturns. The greater resilience of more flexible economies reduces the burden on cyclical policies—either national fiscal or common monetary policies—to stabilize the economy.
- Structural and cyclical policies interact. In and of themselves, greater rigidities make economies more sensitive to shocks and hence tend to make fiscal policy more powerful. But in the absence of fiscal space, adverse debt and confidence channels can undo the typical expansionary effects of stimulus, raising the debt burden for no return. If credit conditions tighten sharply, as in a financial crisis, fiscal policy can be more effective in deregulated product markets, because stronger competition, by reducing profits, increases firms' sensitivity to external financing.
- There is no one-size-fits-all strategy for national structural policies. Different packages can achieve flexibility—for example, the "Anglo-Saxon" and "Nordic" approaches to labor market institutions—implying some scope to tailor policies to country-specific circumstances.
- National and euro area reforms can also be mutually reinforcing. For example, banking and capital markets unions can lower the incidence and severity of adverse financial shocks, while structural reforms make it easier to weather a shock of given size. Together, this implies smaller and less frequent shocks, which are more efficiently countered when they occur.

INTRODUCTION

1. Output and employment paths across euro area countries diverged markedly in the aftermath of the global financial crisis, pointing to the importance of country-specific factors (Figure 1). There are many reasons for this, including country-specific macroeconomic imbalances leading into the crisis, and an incomplete architecture to deal with the crisis once it arrived. But part of the story is that members of a monetary union cannot rely on independent monetary policy and the nominal exchange rate to absorb adverse country-specific shocks or the country-specific effects of common shocks. This places a greater burden on other mechanisms to buffer shocks and facilitate adjustment—such as wage and price flexibility to avoid a protracted period of slack and low employment when an overvalued real exchange rate needs to depreciate. Moreover, the common monetary policy cannot fully counter the country-specific consequences of common shocks to the euro area nor those of country-specific shocks.

Figure 1. Output and Employment over Time in the Euro Area



Sources: Annual Macro-economic Database of the European Commission; Center for Economic and Policy Research; OECD National Accounts; and IMF staff calculations.
Note: Sample consists of the EA-12 countries = 12 founding euro area countries. Percentiles, maximum, and minimum of the indicated variable over the sample in a given year are shown. Red-shaded periods are CEPR-identified recessions for the euro area.

2. Structural reforms are needed to enhance the resilience of individual members and the monetary union as a whole. Union-wide architectural changes—including a well-integrated banking union and capital markets union and a central fiscal capacity—could help foster greater international risk sharing and soften the effects of shocks. Such reforms to the supranational architecture have been analyzed in much previous work (Goyal and others 2013; Allard and others 2013; Arnold and others 2018). But they cannot fully substitute for the economic flexibility afforded by national structural reforms. There has been some progress with national reforms over the past decade, with a number of euro area members planning or having implemented significant structural reforms, either in the context of IMF or European Stability Mechanism programs (such as Greece, Portugal, and Spain) or on their own (such as France and Italy). The primarily goal of these reforms is to raise economic growth. Recent research suggests that while such reforms take time to pay off, they do indeed raise output and living standards through higher productivity and employment over the medium term and help foster convergence, and may also have side effects—positive or negative, depending on their nature and design—on inequality (Causa, Hermansen and Ruiz, 2016; IMF 2016a; IMF 2017; Duval and Furceri 2018, among

others). However, much less is known about the ancillary benefits of national structural reforms, in terms of a country's ability to weather shocks in a monetary union.

3. This note examines the specific issue of whether, and if so to what extent, national structural policies—labor and product market regulations and corporate insolvency regimes—could improve euro area countries' resilience to shocks.[1] Economic resilience refers to a country's ability both to absorb shocks—or even avoid them in the first place—and to recover quickly in their aftermath.[2] To ensure the long-term viability of economic and monetary union, member countries' resilience to shocks—whether temporary or permanent—must be improved. In more resilient economies, temporary shocks should be absorbed, while permanent shocks should entail swift labor and capital reallocation and broader adjustment to the new economic conditions. Left unaddressed, temporary shocks can have permanent effects through physical and human capital investment decisions and other channels for hysteresis (technical appendix). Some of the key questions considered in this note are:

- How have business cycles in euro area economies evolved in the post–Bretton Woods era, including compared with other advanced economies? Have some euro area economies been less resilient than others? Did the euro and global financial crises make a difference?

- How are national structural policies—labor and product market regulations and corporate insolvency regimes—related to differences in business cycles across economies, including their responses to large adverse shocks? To what extent could reforms in these areas improve euro area economies' resilience to adverse shocks? What reforms are most effective? Are there complementarities across reforms?

- How much of a difference do labor and product market reforms make for a member country's resilience in a monetary union compared with a flexible exchange rate at the country level? How do national structural policies influence the effectiveness of individual fiscal policies and the common monetary policy? Likewise, are there complementarities between national structural reforms and actions at the euro area level to strengthen the architecture of the monetary union?

4. The results suggest that a package of growth-enhancing reforms to labor and product market regulations and corporate insolvency regimes could strengthen economic resilience,

[1] Labor market reforms entail measures to ensure that policy instruments such as the labor tax wedge, minimum wages, collective bargaining arrangements, employment protection, and unemployment insurance are appropriately structured and calibrated to help protect workers from adverse shocks while also enabling the economy to flexibly respond and adjust. Product market reforms include lowering barriers to entrepreneurship, such as administrative burdens on start-ups, regulatory protection of incumbent firms (for example, antitrust exemptions, legal barriers to entry in professional services, barriers in network industries), and licensing and permitting requirements, among others (for further examples, see Koske and others 2015). Insolvency regime reforms include measures to ensure that procedures to restructure or resolve insolvent firms are timely and predictable and do not excessively discourage risk taking by entrepreneurs. Labor and product market reforms in particular have been identified as high priority for many euro area members (IMF 2016a; OECD 2017; Masuch, Anderton, and Setzer 2018).

[2] See also OECD (2018a) on the concept, importance, and drivers of resilience, as well as European Commission (2017) and Giudice, Hanson, and Kontolemis (2018) on its role in the European context in promoting growth and positive social outcomes and encouraging faster convergence within the monetary union.

which is doubly important when an economy does not have access to nominal exchange rate adjustment. A number of indicators of economic resilience are investigated, both at the macro and micro levels, in new empirical work that leverages information on structural policies and reforms over the past 40 years. The analysis of labor and product market regulations explores their links to business cycle patterns, as well as the dynamic responses of output to shocks. Because corporate insolvency regimes may affect resilience primarily through their impact on capital reallocation in the wake of shocks, their consequences are examined through sectoral and firm-level capital growth's response to shocks. Moreover, complementing the empirical analysis, simulations of a new model of an individual euro area economy incorporating key labor and product market regulations are used to study the effects of structural reforms on resilience in a monetary union versus a flexible exchange rate regime, as well as their interactions with cyclical policies.[3] The following key messages emerge from these different analyses:

- Euro area economies have had more frequent and severe recessions vis-à-vis other advanced economies over the last two decades. While business cycles were more synchronous with other advanced economies prior to the late 1990s, since then recessions have been more widespread and longer in euro area economies, and heterogeneity across euro area countries themselves has increased. This was most striking following the 2008 financial crisis, but also to a milder extent in the early 2000s.

- Policies that reduce real and nominal rigidities in the economy and encourage greater labor and capital reallocation after shocks are associated with greater resilience. Both the level of ridigity and the direction of reforms matter. For example, over the past four decades, major recessions have engendered lower output losses in advanced economies that reformed their labor and product markets than in those that did not, all else equal.

- Labor and product market reforms deliver disproportionate benefits for resilience in a monetary union. Model-based analysis shows that liberalizing labor and product markets improves resilience to shocks less under a flexible exchange rate regime than it does under a fixed exchange rate regime. Moreover, the burden on cyclical policies—either national fiscal or common monetary policies—to stabilize the economy is lower in more flexible economies, as the impacts of shocks are attenuated.

- That said, there is no one-size-fits-all strategy for national structural policies—in particular, different sets of labor market institutions can facilitate adjustment to shocks. Greater flexibility need not imply weaker worker protection. The Danish model of "flexicurity" illustrates success on both fronts, imposing few obstacles to layoffs while providing generous unemployment benefits paired with strong conditionality and active labor market policies to ensure reskilling and reemployment. Unemployment systems can also be designed in ways that provide income insurance without undermining labor market flexibility and fluidity. For example, greater reliance on unemployment insurance savings accounts can be combined with complementary active

[3] This part of the analysis relies on Cacciatore and Duval (forthcoming). Analytical contributions from Matteo Cacciatore at HEC Montreal to this note are gratefully acknowledged.

labor market policies that strengthen job search support and mobility across jobs and geographic locations. Job protection legislation that relies on price signals—such as layoff taxes—rather than cumbersome administrative procedures for layoffs, and that is more uniform across permanent and temporary contracts can also help resilience.[4] Likewise, different wage bargaining systems can work so long as they allow wages or hours worked to respond to economic conditions.

- *Structural and cyclical policies are interdependent*. In and of themselves, rigidities, particularly in labor markets, make the effects of shocks on the economy larger and more persistent and hence tend to make fiscal policy more powerful. But if a rigid economy also lacks fiscal space, the greater expansionary effects of fiscal stimulus can be undone through adverse debt and confidence channels. Even with reforms, many euro area economies' labor and product market institutions will likely remain less flexible compared with international peers over the foreseeable future, as they are far from the frontier. This is why it is important to build fiscal space in good times so that it is available as a stabilization tool. In the case of a financial crisis that causes a sharp tightening of credit conditions, (national) fiscal and (common) monetary policy can be more effective where product markets are deregulated; this is because stronger competition, by reducing profits, increases firms' sensitivity to external financing.

- *National and euro area reforms can also be mutually reinforcing*. For example, the banking and capital markets unions help lower the incidence of adverse shocks from the financial sector and foster buffer building, reducing vulnerability and improving absorptive capacity. Reforms to improve the quality of corporate insolvency regimes may further improve these changes to financial markets, enhancing firms' access to financing and diversifying financing sources.

5. In addition to national reforms, union-wide architectural reforms—such as the completion of banking union, deepening of the capital markets union, and a central fiscal capacity—remain necessary to further buttress euro area economies against shocks. The establishment of an integrated system of banking supervision and resolution to help sever the damaging bank-sovereign loop in times of crisis represents important progress, but the banking union still lacks a common deposit insurance scheme and a common fiscal backstop (EU 2013, 2014). Discussions surrounding some form of a budgetary instrument for the euro area are ongoing (EU 2018), but these fall well short of a central fiscal capacity for macroeconomic stabilization (Arnold and others 2018). And an integrated, well-functioning capital markets union is needed to encourage greater cross-country risk sharing within the union (Mitra and others, 2019). However, the prospects for fully implementing these key supranational architectural reforms remain uncertain at this stage. Moreover, even if adopted, they cannot insure completely against country-specific shocks within a monetary union.[5]

[4] Layoff taxes require employers to pay a tax when they lay off a worker. This induces firms to internalize the social cost of dismissals. There are recommendations that such tax be proportional to the employee's income, rise gradually with tenure length, and contribute to funding the unemployment insurance system (Blanchard and Tirole 2004).

[5] For example, Owyang, Rapach, and Wall (2009) document heterogeneities in business cycles across US states.

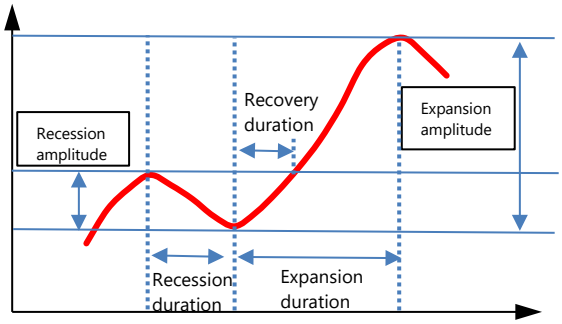
6. While carefully accounting for other drivers of resilience, the empirical analysis in the note generally presents patterns and associations between the behavior of economic activity in euro area and other advanced economies and national structural policies. Moreover, the focus is firmly on the impact of structural reforms and policies on an economy's resilience, rather than their effects on the long-term prospects of productivity, output, and employment, which have been widely studied before.

ECONOMIC FLUCTUATIONS IN THE EURO AREA AND OTHER ADVANCED ECONOMIES

7. This section presents evidence on the properties of business cycles in output—including the length and depth of recessions, the speed of recoveries, and the likelihood of entering into recession—in euro area economies in the post–Bretton Woods era, comparing them with each other and contrasting them with other advanced economies.

8. Euro area economies' business cycles were more synchronous with other advanced economies prior to the late 1990s, but since then recessions have been more severe and prolonged. Figure 2 provides a stylized diagram of how expansions, recessions, and recoveries are identified from movements in real output.[6] Since the early 1970s, the broad pattern of business cycle phases (expansions versus recessions) across advanced economies has been relatively similar; advanced economies have spent about 80 percent of their time on average in the same phase (Figure 3). However, there are some marked differences across countries' recession severity and recovery speed. Some advanced economies have spent about 10 percent of the time in recession (France and United States), while for others it is closer to 20 percent (Germany and Italy). The euro area economies appear to have split from the other advanced economies since the late 1990s, with more widespread and longer downturns, most notably after the global financial crisis.[7] However, even among euro area economies, heterogeneity appears to have increased since euro adoption—Germany had anemic growth and a protracted downturn in the early 2000s before transforming into a growth engine later in the decade, while Spain experienced the opposite pattern.

Figure 2. Diagram of Business Cycle Phases



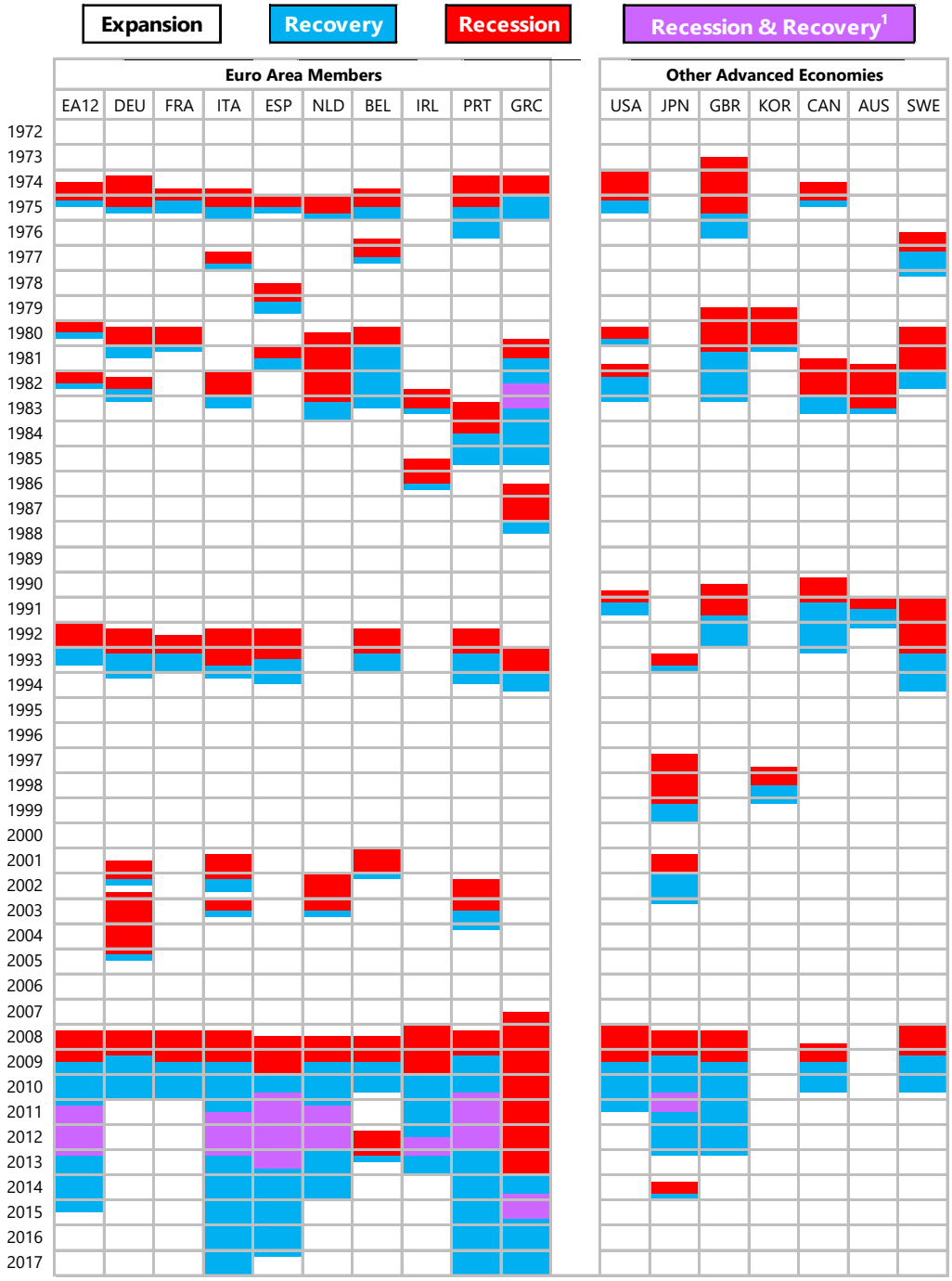
Source: IMF staff graphic.

[6] Recoveries are defined as periods from identified troughs to the time when their previous historical maxima are reached; expansions are periods between identified troughs and peaks. See the technical appendix for further details regarding the Harding and Pagan (2002) algorithm used to identify business cycle phases in real output at a quarterly frequency from the first quarter of 1972 through the first quarter of 2018 by country and for the aggregate of the EA-12 (the 12 founding euro area countries). If real output per capita series are used instead, business cycle patterns may change depending on differences in working-age population growth.

[7] The euro was formally launched in 1999, but the previous exchange rate mechanism, under which there were permissible bands of fluctuation around a benchmark exchange rate, had been in place since 1979.

9. After the global financial crisis, euro area economies' experiences diverged, but on average they tended to take longer to recover compared with other advanced economies. Euro area economies tended to be hurt more than other advanced economies, with many experiencing double-dip recessions and longer and weaker recoveries (Figures 3 and 4; see also section 1 of the technical appendix). Mirroring the picture painted by unemployment rates in the euro area, business cycle differences among euro area members grew after the global financial crisis. Some experienced shorter recessions (Germany and the Netherlands) and others endured very long and deep recessions, with output still not recovered (Greece and Italy). This is consistent with a view that differences among euro area economies in both exposure to the global financial crisis (and hence the effective size and types of shocks experienced) and in national structural factors—including policies—likely contributed. In general, there is a weak positive correlation between the length of recessions and recoveries prior to the global financial crisis—longer recessions are associated with longer recoveries. Note that euro area countries do not appear to be significantly different from other advanced economies (Figure 5, panel 1). However, after the global financial crisis, there is a marked difference between euro area countries and other advanced economies. Although the relationship steepens for all countries—reflecting the tendency for recoveries from financial crises to be especially drawn out—it steepens even more for the euro area economies (Figure 5, panel 2).

Figure 3. Business Cycle Phases in Advanced Economies

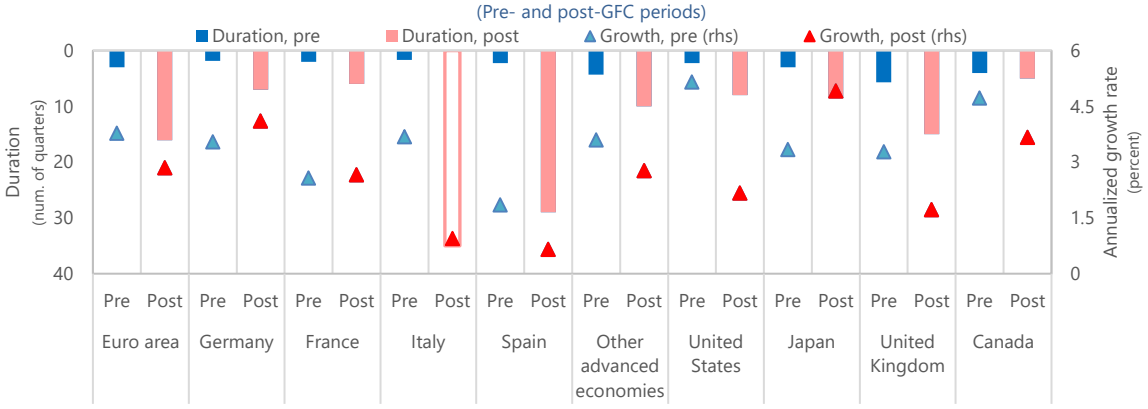


Sources: OECD quarterly national accounts; and IMF staff calculations.

Note: Business cycle phases in output are identified using the algorithm of Harding and Pagan (2002). Real output is real GDP in purchasing power parity terms on a quarterly basis. See technical appendix for details. EA12 is the aggregate of the euro area membership as of 2001. International Organization for Standardization (ISO) three-letter country codes indicate the country.

[1] These are recessions that occur during a recovery phase.

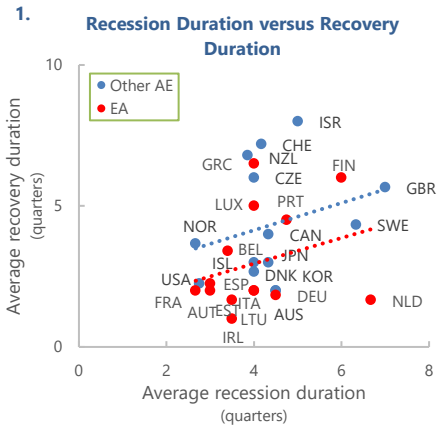
Figure 4. Average Output Recovery Characteristics
(Pre- and post-GFC periods)



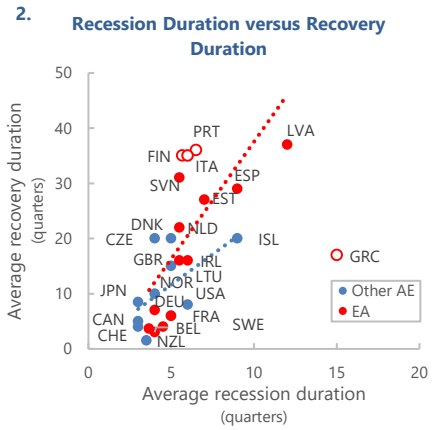
Sources: OECD Quarterly National Account; and IMF staff calculations.
Note: Statistics for pre-global financial crisis are calculated using completed phases during 1972–2006. Statistics post-global financial crisis are calculated using completed recovery phases during 2007–17. Italy's recovery phases after the global financial crisis is incomplete and hence marked by hollow bar. Euro area aggregate is calculated with EA-12 membership countries.

Figure 5. Association of Average Recession and Recovery Characteristics

Pre-Global Financial Crisis (1972-2006)



Post-Global Financial Crisis (2007-17)



Sources: OECD National Account Statistics; and IMF staff calculations.
Note: Statistics for pre-global financial crisis are calculated using completed phases during 1972–2006. Statistics post-global financial crisis are calculated using completed and incomplete phases during 2007–17, with incomplete phases being indicated by a hollow marker. Trendlines by sub-sample are indicated by color. Trendlines post-global financial crisis exclude Greece's incomplete phase as a marked outlier. EA = euro area economy; other AE = other advanced economy. International Organization for Standardization (ISO) three-letter country codes indicate the country.

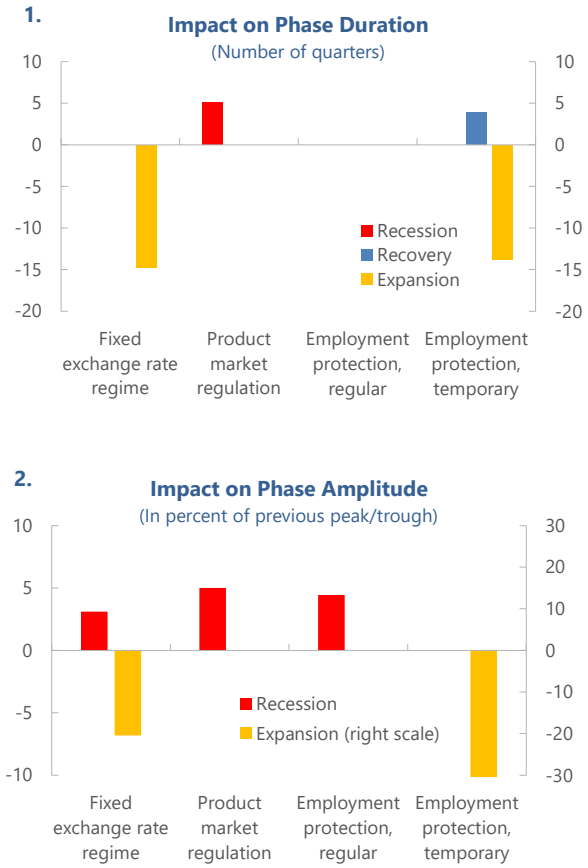
STRUCTURAL POLICIES TO ENHANCE ECONOMIC RESILIENCE

10. Against this backdrop of poorer business cycle performance in euro area member countries, particularly following the global financial crisis, this section looks at how pro-growth national structural policies—including labor and product market policies and corporate insolvency regimes—may be designed to improve economies' ability to recover and respond to large shocks, whether major recessions or systemic banking crises, highlighting the channels through which they impact an economy's adjustment.

A. Enhancing the Design of Labor Market Policies and Institutions

11. Properly calibrated labor market policies can provide both macroeconomic flexibility—stable overall employment—and microeconomic flexibility—timely and smooth reallocation of workers to the most productive jobs—in the wake of large macroeconomic shocks (Blanchard, Jaumotte, and Loungani 2013; OECD 2017). Relevant policies for both dimensions of flexibility include, in particular, employment protection regulations, unemployment insurance programs, the labor tax wedge, and active labor market policies, as well as a minimum wage and collective bargaining systems. Each of these labor market policy instruments is considered in turn.

Figure 6. Structural Policies and Business Cycle Properties



Source: IMF staff calculations.
Note: Duration is length in quarters of the indicated phase, while amplitude is the phase depth or height as a percent of the previous peak (recession) or trough (expansion). Phases are identified by the Harding and Pagan (2002) algorithm (see technical appendix). Bars show the statistically significant (at 10% level) effects of a change in the indicated variable from the 25th to the 75th percentile over the full sample, apart from the fixed exchange rate regime indicator, which is the effect of shifting from a flexible to a fixed national exchange rate regime or monetary union membership. For employment protection effects, the marginal effects are shown (see technical appendix).

Employment protection legislation

12. Less stringent and more equal job protection across different types of contracts can strengthen resilience. Although significant reforms have simplified and eased legislation since the global financial crisis, many euro area economies still have relatively stringent employment protection for regular workers—such as comparatively longer notice periods for layoffs, larger severance payments, longer and more complex layoff procedures, and additional costs for collective dismissals (OECD 2013). Although there is generally a positive cross-country correlation between the

strength of protection for regular and temporary employment contracts, in some countries, the difference in protection is marked and accompanied by a larger share of temporary workers in total employment. This in turn makes the labor market more segmented and less inclusive, with more disadvantaged groups, such as those with few skills, youth, and women, stuck in a series of temporary contracts. Meanwhile, highly skilled and prime-age workers have more stable employment. Consequently, although tighter protection of regular contracts dampens the destruction of jobs with regular contracts after a negative shock (see technical appendix), this may be more than offset in aggregate by job losses for temporary workers, as seen in Spain after the crisis. The burden of adjustment to negative shocks falls much more heavily on temporary workers, which weakens not only resilience but also labor market equity. In general, overly stringent employment protection leads to labor cost adjustments in response to shocks through the slow, grinding attrition of more widespread job losses or through the more rapid destruction of jobs with less protection. Reflecting these forces, the overall effect of more stringent employment protection for regular workers is found to be associated with deeper recessions on average, while more stringent protections for temporary workers are found to be associated with longer recovery times and shorter expansions (Figure 6). Likewise, over the past five decades, output responses after a major recession have tended to be milder in economies that eased employment protection legislation prior to the recession (Figure 7).[8] Overall, less stringent job protection for regular contracts and greater homogeneity in protection between regular and temporary contracts could both reduce labor market dualism and strengthen resilience in many euro area economies. But design details matter. For example, reducing the uncertainty surrounding layoff procedures may be more important than lowering severance pay (Pissarides 2001). More broadly, relying on price signals—such as for example layoff taxes—rather than cumbersome administrative procedures could make employment protection legislation more efficient and inclusive.

Figure 7. Output Impact of Major Recessions with or without Reforms

(Percent, from baseline)

Source: IMF staff calculations.

Note: Dashed lines are 90 percent confidence bars. Other explanatory variables include changes in government consumption (in percent of GDP), credit-to-GDP, exchange rate regime, trade openness, and their interaction with financial crises. *X*-axis denote years after the shock at time t = 1. See technical appendix for details.

[8] The statistical significance of the differences in the impulse responses of output to shocks between pre-reform and post-reform periods varies depending on the shock (financial crisis, major recession), type of reform, and horizon (one to five years) considered. See the technical appendix for details.

Unemployment insurance

13. Unemployment insurance provides income security to the unemployed while they look for a good new job match, but can slow economic recovery if poorly designed. Since it is sensitive to the duration of unemployment and implicitly shares risks across all workers in the economy, unemployment insurance generally provides more efficient insurance against income loss risks than severance payments. It is also more robust than job protection to changes in the nature of work, such as the ongoing rise in the so-called gig economy, with its new, more flexible forms of labor. Moreover, unemployment insurance can play a buffering role for the macroeconomy, particularly if job losses in a downturn are heavier for lower-income households, which tend to have higher marginal propensity to consume. At the same time, if benefits are overly generous (either as a share of previous income or duration of payments), they can discourage search and raise the reservation wage for the unemployed, making wages less responsive to the business cycle and leading to longer unemployment spells and slower recoveries. The technical appendix describes how this latter channel was operating in Germany prior to the Hartz reforms in the early 2000s, which lowered the duration of unemployment benefits and generated greater wage flexibility, dampening the rise in unemployment after the global financial crisis (see also Krebs and Scheffel 2017). These dynamics are also evident in the milder output response after a major recession in countries where unemployment benefits had been lowered (Figure 7). In calibrating the replacement rate and duration of unemployment insurance, it is therefore important to balance income security for workers and improved job matches against the costs of slower recoveries. This may mean keeping benefits and duration moderate while ensuring broad coverage, and designing the benefit system to facilitate rather than inhibit wage responsiveness to shocks. For example, Austria complements a regular benefit system based on risk pooling with individual unemployment insurance savings accounts, which can reconcile the twin goals of providing income security and keeping the incentive to search for and accept jobs strong (Duval and Loungani 2019).[9]

Active labor market policies

14. Programs that provide job search assistance, training, and on-the-job learning can help boost the resilience of employment, hasten recovery, and give disadvantaged groups a leg up. Job search and matching assistance complements unemployment insurance programs—the higher the unemployment benefits, the more important and effective job search and matching assistance are to a speedy recovery. It can also help address the geographic and sectoral employment mismatches that may arise after large shocks, facilitating labor reallocation. In general, the effectiveness of active labor market policies depends on the specific context and design parameters (Card, Kluve, and Weber 2018); they should be closely monitored and adjusted when value for money is assessed to be low.[10] For example, in a recession in which total employment is

[9] Austria's individual accounts replaced traditional severance payments, promoting greater mobility by enabling workers to take their accounts with them to a new job if they quit (Wilthagen 2007).

[10] Interactions with other instruments should also be taken into account when designing active labor market policies. For example, the Danish model of flexicurity provides generous unemployment benefits paired with strong conditionality and active labor market policies to ensure reskilling and reemployment. By contrast, the Anglo-Saxon

driven largely by aggregate demand, active labor market policies targeted at job placement of specific groups run the risk of simply displacing other employed workers, rather than leading to new job creation. If untargeted, however—such as general vocational training—such policies may help maintain labor force attachment if ramped up in a downturn. For example, participation dropped in the United States after the global financial crisis much more than it did in some European countries, possibly partly reflecting differences in the prevalence of active labor market policies.[11]

Labor taxation

15. A high labor tax wedge—the difference between what employers pay per worker and what workers receive net of all contributions and personal income taxes—can lower wages and employment and possibly also dampen turnover. If combined with other binding market features, higher tax wedges can further raise labor costs to firms and make it harder to reduce them when needed, decreasing employment and amplifying job losses from adverse shocks. For example, if there is a high and binding minimum wage, larger labor taxes cannot be passed on to low-skilled workers in the form of lower wages, which leads to high overall labor costs that cannot be adjusted down if there is a bad macroeconomic shock. Consequently, it can be desirable to reduce these wedges, which remain high in many euro area economies, while raising less harmful taxes and/or cutting inefficient public spending instead.

Minimum wages

16. If set at moderate levels relative to the median wage, minimum wages may have the potential to support workers' incomes and make growth more inclusive, with little adverse impact on aggregate employment or its response to shocks. There is a wide range of minimum wages across Europe and other advanced economies (Figure 8). Where minimum wages are high, however, some adjustment may be needed to achieve macroeconomic flexibility in the event of major competitiveness losses or recessions, as was the case for some southern European economies during the global financial and euro area sovereign debt crises. This suggests retaining some discretionary power in minimum wage setting and avoiding excessive reliance on automatic indexation formulas, which can delay wage adjustment. One option is a strong social dialogue between representative social partners—or a regular review by an independent expert body, whose powers might range from policy recommendations to legally setting the minimum wage, as is the case in more than a third of euro area countries (ILO 2013). For minimum wages to deliver microeconomic flexibility, some differentiation by demographic groups (such as youth), regions, industries, or occupations may also help, provided it is kept simple. In fact, there is differentiation along at least one of these dimensions in more than half of euro area countries.

model provides lower benefits but also relies little on active labor market policies. These models can both deliver flexibility and resilience, but the Danish model provides workers with greater insurance against the risk of income loss at a larger fiscal cost.

[11] Other forces, such as recent pension reforms boosting participation by older workers in Europe and factors that were idiosyncratic to the United States, were also at play (IMF 2017).

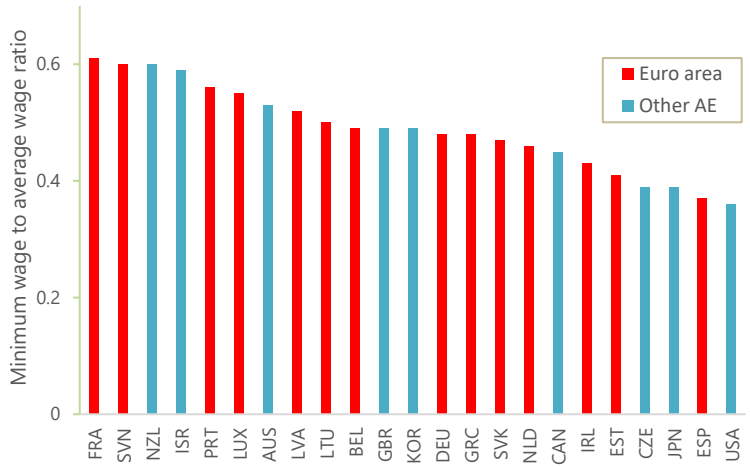
Collective bargaining

17. Collective bargaining systems are ubiquitous in the euro area, and their design features can profoundly impact an economy's resilience. On average, bargaining coverage—the share of workers covered by a collective agreement—stands at about 60 percent, but it is much higher in some southern and northern euro area members; it is lower in eastern euro area members. There is also wide variation in the degree of centralization and coordination and in other features of bargaining systems (Figure 8). Decentralized bargaining delivers macroeconomic flexibility by ensuring that wages respond to each firm's economic conditions. Whether sector-level bargaining also delivers strong macroeconomic flexibility depends on a number of elements:

- *Coordination:* Strong coordination can incorporate economy-wide considerations and pin down aggregate competitiveness, which has led some to advocate national wage negotiations within the euro area (Blanchard 2018). There is indeed evidence that overall labor cost adjustment was quicker, and job losses were smaller, in countries with more coordinated systems (Germany, Netherlands) after the global financial crisis (IMF 2016a; OECD 2018b; Hijzen, Martins, and Parlevliet 2017). However, coordination is typically rooted in a long tradition of social dialogue and mutual trust between partners, which is difficult to build from scratch. (IMF 2016a).

Figure 8. Minimum Wage and Collective Bargaining

1. Minimum Wage Level, AEs, 2015



2. Taxonomy of Collective Bargaining, 2015

Bargaining System	Country
PCC	Belgium
PCW	France
	Slovenia
	Portugal
	Spain
ODC	Germany
	Netherlands
LD	Luxembourg
	Greece
	Slovak Republic
FD	Latvia
	Lithuania
	Ireland
	Estonia

Sources: OECD employment and labor market statistics and OECD collective bargaining taxonomy.

Note: Minimum wage level is measured as the ratio of minimum wage over average wage of full-time workers. Euro area countries are grouped using the OECD's taxonomy of collective bargaining: PCC = predominantly centralized and coordinated; PCW = predominantly centralized and weakly coordinated; ODC = organized decentralized and coordinated; LD = largely decentralized; FD = fully decentralized.

- *Sector-level contract design:* Moderate contract duration and other built-in incentives for (re)negotiation—such as avoiding strict "ultra-activity," which allows an agreement to remain in effect after its expiration date—as well as strict union and employer association representation criteria can all help (Hijzen, Martins, and Parlevliet 2017).

- *Accommodating firm heterogeneity:* Even a strongly coordinated bargaining system needs some firm-level flexibility to achieve the microeconomic flexibility that decentralized bargaining

delivers. An "opening clause" allows firms under stress to set less favorable wages and working conditions than those in the applicable sector-level agreement. Opening clauses can cut unemployment and have been credited in part for the resilience of the German labor market during the global financial crisis (technical appendix). By contrast, administrative extensions of collective agreements, which increase coverage beyond the negotiating parties to all workers in a sector, can undermine flexibility by imposing conditions across firms without respect for their individual circumstances. This suggests that country authorities should extend only agreements that meet a test of public interest—that is, whose extension is considered to yield broader economic benefits beyond those to the negotiating parties themselves—and are signed by representative unions and employer associations.

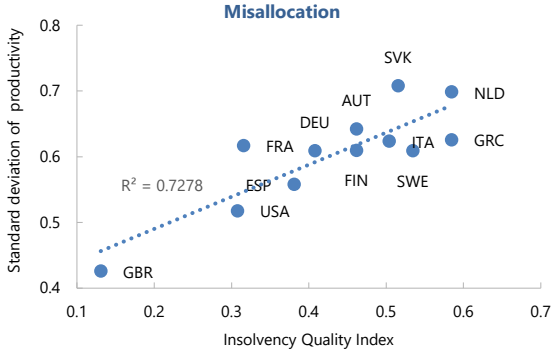
B. Product Market Deregulation and Open Markets

18. Pro-competitive product market regulations lower barriers to the entry and exit of new firms, enhancing the economy's ability to adapt to changing circumstances. Measures that encourage competition include less state involvement in the economy, easing the way for entrepreneurs to start businesses through lower administrative burdens and start-up costs, and allowing the entry of foreign products and firms into the market. In turn, greater competition raises firm-level investment and output (IMF 2019). However, firm-level evidence from the global financial crisis suggests that greater competition also makes investment more sensitive to financial shocks by reducing firms' ability to keep on investing—especially in noncollateralizable assets such as intangibles. As a result, productivity and output losses are amplified (see technical appendix). At the same time, by reducing profits, greater competition can also dampen the sensitivity of new entrants' expected profits—and, all else equal, the sensitivity of firm entry—to shocks. Greater competition may also facilitate firm exit and speed up capital and labor reallocation away from their least profitable uses. Overall, less stringent product market regulations are empirically found to be associated with less severe recessions (Figure 6). For example, the analysis suggests that, all else equal, if France were to loosen its product market regulation to the level of the United Kingdom, economic recessions might be 1.2 quarters shorter on average and 1.25 percentage points shallower. Similarly, the adverse effects of a major recession on real GDP are dampened in economies that undertook reforms to strengthen product market competition (Figure 7). Product market reforms may be complemented by improved corporate insolvency reforms to facilitate the turnover of firms in product markets in response to adverse shocks.

19. Despite progress in product market reforms in several euro area economies over the past 20 years, there remains significant room to liberalize euro area product markets. For example, many member countries still have comparatively stringent anticompetitive regulations in professional services, retail trade, and network industries (Koske and others 2015). A number of countries have taken steps to reduce state involvement in the economy and lower entry barriers, by privatizing some state-owned enterprises, allowing more firms—including foreign companies—to enter regulated sectors, and eliminating price and quantity restrictions (Spain 2000, Portugal 2001, and Germany 2005, among others). However, in some areas, such as rail and other transport services, competition remains low because entry barriers are still high (for example, in France,

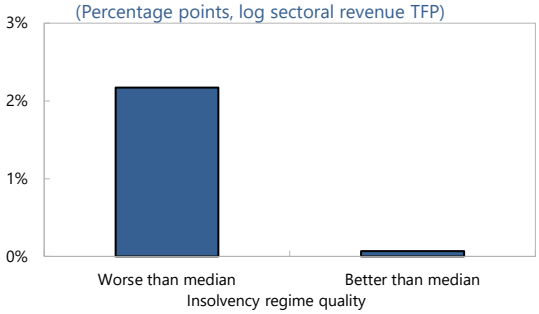
Germany, and Italy). The independent role of local competition authorities could be further enhanced in other countries, encouraging greater competition more broadly and helping to ensure that local public services provision is provided efficiently (for example in Italy). Some countries have taken steps to liberalize trade by extending business hours and relaxing professional licensing and regulatory requirements for certain sectors (for example, France 2015). EU-level initiatives have also played a role. The 2006 EU Services Directive aimed to remove barriers to trade in services by lowering firms' entry costs, facilitating the provision of cross-border services, and cutting red tape. However, uneven implementation and lack of enforcement have weakened its effectiveness (IMF 2018). In many countries, there are still opportunities to create more competitive markets in services, both through the effective implementation of existing laws and new liberalization efforts (for example, France Germany, and Italy; Spain's domestic Market Unity Law). Finally, maintaining strong competition policies at both EU and local levels is a key complement to product market deregulation.

Figure 9. Insolvency Regime and Sectoral Misallocation



Sources: OECD insolvency indicators; EU KLEMS; and IMF staff calculations.
Note: Higher insolvency quality index indicates less flexible, less efficient, and more costly insolvency regimes. Conceptually, there are two broad components in the index: flexibility in restructuring and efficiency of procedures. For example, Greece scores poorly on efficiency, while the Netherlands scores poorly on restructuring flexibility. These lead to overall index scores that are roughly similar. Productivity is measured by sectoral revenue total factor productivity as estimated by EU KLEMS. Under the assumptions of Hsieh and Klenow (2009), revenue total factor productivity dispersion captures the dispersion of marginal productivities in inputs, a fundamental measure of factor misallocation.

Figure 10. Change in Average Sectoral Misallocation from 2004–08 to 2009–13
(Percentage points, log sectoral revenue TFP)



Sources: OECD insolvency indicators; EU KLEMS; and IMF staff calculations.
Note: The figure shows the change in the standard deviation of log revenue total factor productivity, denoted in percentage points, for the average sector in countries with insolvency regime quality below or above the median. Under the assumptions of Hsieh and Klenow (2009), revenue total factor productivity dispersion captures the dispersion of marginal productivities in inputs, a fundamental measure of factor misallocation.

C. Strengthening Corporate Insolvency Regimes

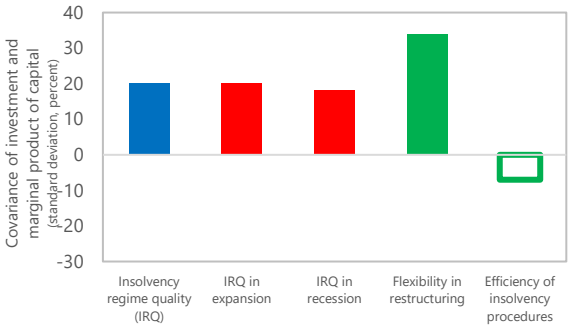
20. The quality of corporate insolvency regimes—their efficiency and predictability—can impact the extent and dynamics of capital and labor misallocation in economies, inhibiting resilience. Cross-sectoral factor misallocation (as captured by the dispersion of sectoral total factor productivity) tends to be greater in countries with lower-quality insolvency regimes (Figure 9).[12] Moreover,

[12] The insolvency regime quality index from the Organisation for Economic Co-operation and Development (OECD) combines assessments of flexibility in restructuring and the efficiency of insolvency procedures: lower values indicate greater flexibility and more efficient and lower-cost procedures. The indicator is a weighted average of selective aspects of the insolvency standards and is useful for cross-country comparisons. The index and its components by country were reviewed by their respective country authorities. For a comprehensive discussion on the limitations of this and related indicators, see Garrido and others (2019), which also makes several proposals to improve the collection of data to assess and design insolvency regimes. Note that the OECD index includes indicators of both corporate and personal insolvency, since the latter are relevant for entrepreneurs pledging personal assets. See the technical appendix for more details.

misallocation rose in countries with lower-quality insolvency regimes after the global financial crisis, suggesting that those countries were less able to reorient and reallocate factors (Figure 10).

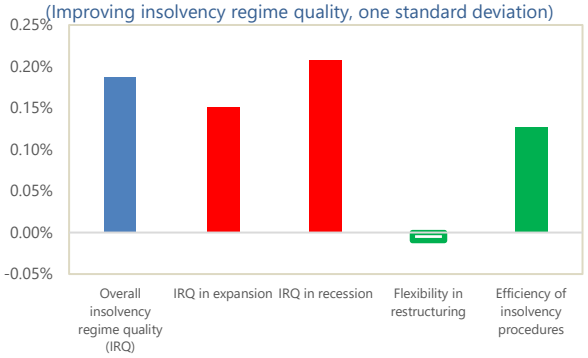
21. Efficient and predictable corporate insolvency regimes hasten an economy's reallocation of resources, particularly after major downturns. The efficiency of capital reallocation, at either the sector or firm level, can be proxied by the strength of the relationship between capital growth and the marginal product of capital—sectors or firms with higher returns to capital (captured by the marginal product) should have higher rates of capital investment and growth.[13] Sectoral and firm-level analyses of the relationship between capital growth and the productivity of capital and corporate insolvency regime quality both suggest that capital reallocation tends to be inhibited in countries with lower-quality insolvency regimes (Figures 11 and 12; see technical appendix for full details). For a one standard deviation improvement in insolvency regime quality, which is roughly equivalent to Italy achieving Spain's insolvency regime quality, sectoral investment is about 20 percent more tightly related to the marginal product of capital. At the firm level, such a change could boost capital growth at firms with higher marginal products of capital by almost a quarter of a percentage point. Although there is little difference in sectoral capital reallocation at the sector level between recessions and expansions, the effects of insolvency regime quality on capital reallocation across firms within a sector are typically larger in recessions, likely reflecting the greater importance of efficient firm exits after a downturn. Moreover, there is some variation across the sectoral and firm levels regarding which aspects of insolvency regime quality are most beneficial for reallocation. At the sector level, it appears that flexibility in restructuring (giving administrators in insolvency greater scope to restructure a firm's balance sheet and operations) is most important. At the firm level, it is instead the efficiency of insolvency procedures—such as the speed and predictability of the judicial

Figure 11. Change in Reallocation Efficiency with Higher Insolvency Quality
(Effect of one standard deviation improvement in insolvency quality)



Sources: : EU KLEMS; OECD; and IMF staff calculations.
Note: Bars with a common color indicate that the displayed coefficients are obtained from the same regression (see technical appendix for details). Solid bars are statistically significant at the 5 percent level, while hollow bars are not. "Recession" includes years in recession and the two following years, while "Expansion" includes years not included in "Recession."

Figure 12. Change in Firm-Level Capital Growth for a 10 Percent Rise in Marginal Productivity of Capital
(Improving insolvency regime quality, one standard deviation)



Sources: Orbis; Eurostat; OECD; and IMF staff calculations.
Note: Regression sample includes about 15 million firms throughout Europe. See technical appendix for full details. Solid bars indicate significance at 5 percent level, and hollow bars indicate insignificance at 5 percent level. Productivity is measured as the marginal productivity of capital at the firm level.

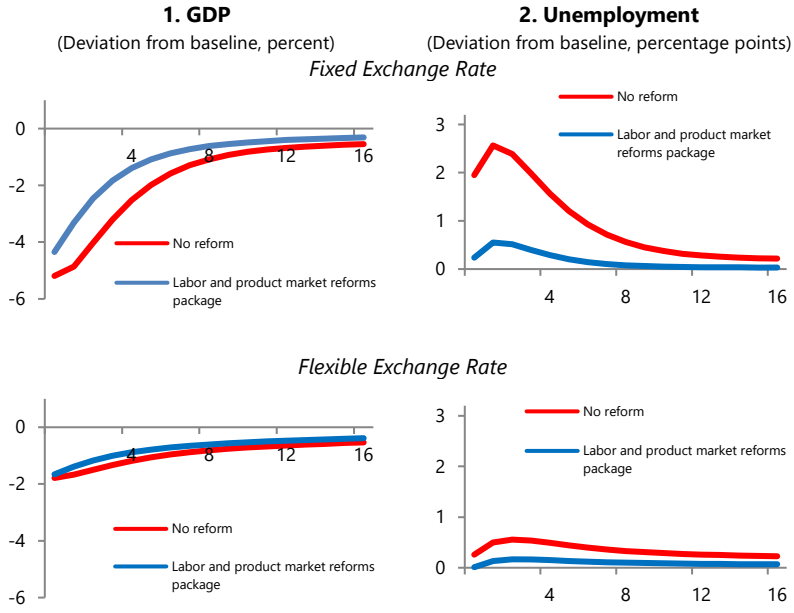
[13] While the analysis here focuses on the reallocation of capital within a country, higher-quality insolvency regimes should also facilitate the reallocation of capital across countries. Such effects underscore the complementarity between national structural reforms of insolvency regimes and union-wide efforts to build a capital markets union.

process and the uniformity of treatment—that appears to be most beneficial. Although any insolvency regime reform should be based on a careful assessment of each country's circumstances, the empirical results suggest that upgrading insolvency regime efficiency and the flexibility of restructuring are in general beneficial, improving both sectoral and firm-level capital reallocation.[14] Well-designed unemployment insurance and activation policies can further facilitate the reallocation of workers across industries and the types of jobs insolvency regime reform could generate, while also easing the social implications of such movements (Andrews and Saia 2017).

MACROECONOMIC AND STRUCTURAL POLICY INTERACTIONS IN THE EURO AREA

22. This section explores the interactions between structural policies and the exchange rate regime and fiscal and monetary policies and their impacts on economic resilience, primarily through a model-based analysis of a small open economy calibrated to the average euro area economy during 1995:Q1–2013:Q1. The model incorporates a number of structural policy channels, enabling the comparison of alternative structural reform scenarios, including no reforms (current stringency of labor and product market regulations maintained) versus a package of reforms for greater flexibility. Importantly, the labor market features job search and matching frictions, with endogenous job creation and destruction, which are affected by the design of labor market regulation (including layoff costs and unemployment benefits) and the labor tax wedge size. There is also endogenous firm creation related to the stringency of entry barriers to product markets.[15]

Figure 13. Output and Employment Responses to Risk Premium Shock
(Rigid versus flexible labor and product market regulations)



Source: IMF staff calculations.
Note: The lines are the responses of GDP and unemployment to an illustrative risk premium shock under two scenarios: the baseline calibration of the small open euro area economy model ("no reform"); calibration of lower entry costs, lower unemployment benefits, and lower layoff costs, considered jointly ("labor and product market reforms package"). See technical appendix for further details.

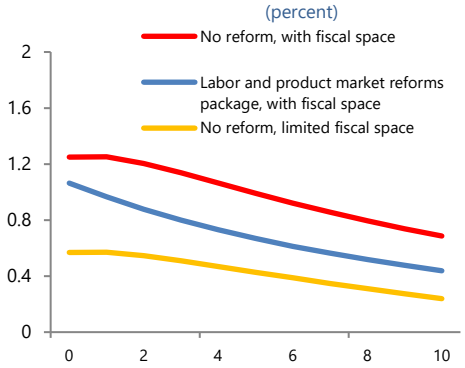
[14] Apart from the benefit in terms of improved factor reallocation, more efficient insolvency regimes also foster resilience by making it easier to work through nonperforming loans (Aiyar and others 2015), thereby improving the health of the banking sector.

[15] See the technical appendix for further details on the model structure, underlying assumptions, and calibration and simulation. The key insights extend qualitatively to a large economy.

A. The Role of the Exchange Rate Regime

23. National structural reforms to improve the economy's ability to adjust to shocks are particularly important for a member of a monetary union. A single currency provides many benefits. The adoption of the euro has reduced transactions costs, eliminated exchange rate risk among member states and supported the wider Single Market. But individual countries lose recourse to a flexible exchange rate to act as a shock absorber (Figure 6).[16] To examine how structural policies interact with the exchange rate regime, output and employment responses for the representative economy to a temporary rise in the risk premium—a shock reducing aggregate demand—are analyzed, with and without a flexible exchange rate and with and without the implementation of a package of structural reforms.[17] The illustrative structural reform package consists of an easing of product and labor market regulations to the levels seen in the United States. This also corresponds roughly to moving to the levels seen in several euro area countries in each individual area—for example, net unemployment benefit replacement rates in Austria, job protection legislation for regular workers in Ireland, or product market regulations in the Netherlands, as suggested by OECD policy indicators in each of these areas.[18] The model simulations confirm that more flexible labor and product markets could go a long way toward offsetting the absence of the nominal exchange rate adjustment channel in individual euro area economies (Figure 13). With more flexible markets, the simulated response of output and—most strikingly—unemployment to risk premium shock becomes much smoother and closer to that obtained under a flexible exchange rate regime (Figure 13, upper panels). Moreover, the dampened output and employment responses to shocks under more flexible markets suggest that the burden for macroeconomic stabilization policies may be lower; there are

Figure 14. Output Responses to Government Spending Shock with and without Fiscal Space



Source: IMF staff calculations.
Note: The illustrative shock is a 1 percent of GDP increase in public spending in a recession. Its dynamic effects are shown under three scenarios: the baseline calibration of the small open euro area economy model with fiscal space ("no reform, with fiscal space"); baseline calibration but with limited fiscal space ("no reform, limited fiscal space"); and a calibration of lower entry costs, lower unemployment benefits and lower layoff costs, considered jointly, where there is fiscal space ("labor and product market reforms package"). In illustrative scenarios here, feedback through the risk premium is minimal for the economy with fiscal space, while in the economy with limited fiscal space, the 1 percent of GDP fiscal shock is assumed to raise the risk premium by 40 basis points (similar to the estimates of Aisen and Hauner 2008 and Belhocine and Dell'Erba 2013). See the technical appendix for further details.

[16] Of course, the euro area as a whole has a flexible exchange rate.

[17] The risk premium shock is calibrated to generate a 5 percent peak-to-trough fall in output, similar to what was experienced in the average euro area economy after the global financial crisis.

[18] In additional analysis, further reforms are added to the package, with qualitatively similar results (see technical appendix). These include enhanced job matching through active labor market policies, further impacts of employment protection legislation reform via reduced bargaining power of permanent workers, and a shift in taxation away from labor toward consumption to lower the labor tax wedge in a budget-neutral manner. As noted in the technical appendix, while the model features far more in-depth modeling of labor and product market dynamics and regulations than standard dynamic stochastic general equilibrium (DSGE) models, it cannot capture all the specific characteristics of individual regulations. In particular, as discussed in detail in the previous section, different institutional setups can deliver labor market flexibility. The set of institutions simulated here is illustrative.

smaller output and employment losses from an adverse risk premium shock to offset when markets are flexible. A small open economy with a flexible exchange rate benefits less, in terms of enhanced resilience, from structural reforms (red versus blue lines in the lower panels of Figure 13), because nominal exchange rate flexibility facilitates macroeconomic adjustment to temporary shocks, reducing the impact of national structural reforms on resilience.[19] The effects of individual reforms on the resilience of a euro area economy to shocks vary, however, depending mostly on how they affect real wage flexibility and job destruction and creation rates.

B. Consequences for Fiscal Policy Stabilization

24. Greater market rigidity tends to increase output losses after an adverse risk premium shock, raising the burden on stabilization policies, but it also makes fiscal policy more powerful in a monetary union, suggesting that many euro area countries would benefit from rebuilding fiscal space to be used in future downturns. In general, fiscal multipliers are larger under a fixed than under a flexible exchange rate regime. This property is further reinforced when markets are more rigid—shocks tend to have larger real effects on output and employment when prices do not adjust. In other words, the impacts of shocks on output and employment tend to be larger when markets are more rigid. At the same time, fiscal multipliers also tend to be larger. Illustrating this point, output for the representative small open economy under a fixed exchange rate rises more in response to a 1 percent of output temporary government spending increase under current policy than if further reforms were adopted (Figure 14, comparing the red and blue lines). This, however, holds only for countries with ample fiscal space. When a rigid economy has limited fiscal space, the positive effects of stimulus are dampened, as the risk premium rises, hurting investment and consumption through higher financing costs and uncertainty (Blanchard and others 2018; Figure 14, gold line).[20] As noted in the previous subsection, reforms that reduce market rigidity are beneficial, in part, because they can reduce the burden on countercyclical policies. However, given that even with reforms, euro area economies' labor and product markets are likely to remain more rigid than those in most other advanced economies over the foreseeable future, the findings here further strengthen the case for budget consolidation that builds sufficient fiscal space in good times to be used to stabilize the economy during recessions.

25. By contrast, in the wake of a financial crisis, some reforms can make countercyclical fiscal policy more effective. Specifically, product market deregulation can increase the size of the fiscal multiplier in such cases. Many studies demonstrate that recessions accompanied by financial crises are associated with large permanent output losses—an extreme lack of resilience (Cerra and

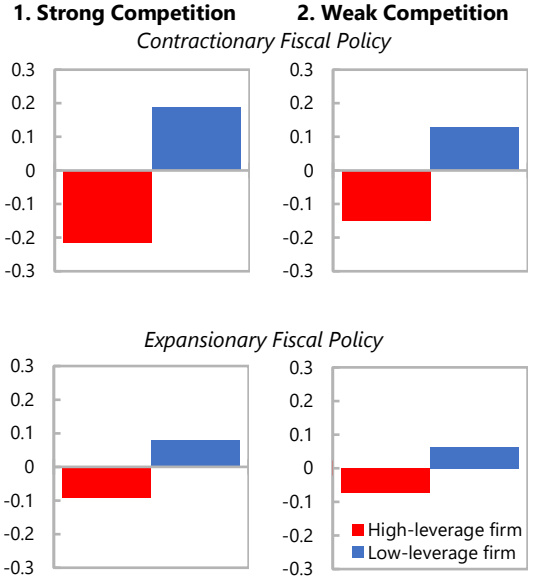
[19] However, it is important to recall that structural reforms have a positive impact on productivity regardless of the exchange rate regime (IMF 2016a). Also, the model used here assumes that export prices are set in the domestic currency of the exporter (producer currency pricing). To the extent that exporters set instead their prices in US dollars (global currency pricing, see Gopinath and others, 2019), nominal exchange rate flexibility would smooth the short-term impact of shocks less—and, consequently, structural reforms would matter more in a flexible exchange rate regime—than shown here.

[20] While a rise in risk premium in response to increased spending is more likely with low fiscal space, the markets' reaction also depends on the quality of spending. For a discussion see IMF (2016b).

Saxena 2008; Reinhart and Rogoff 2009; Romer and Romer 2017).[21] What might account for this? Channels may include the loss of firm-specific human capital from large-scale displacements in a deep recession, weaker investment in physical capital—which can often embody new technologies—and/or lower innovation-enhancing investment in intangible assets. Intangible investment accounts for a rising share of economic growth in advanced economies, at about a third of average labor productivity growth during 2000–13 in the European Union alone (Corrado and others 2016). Intangible investment may be particularly vulnerable in a financial crisis. Unlike physical assets, intangible assets are often difficult to collateralize or liquidate, making their financing more sensitive (Aghion and others 2010). As a result, when credit conditions tighten, firms may cut intangible investment more where product market competition is stronger—competition enhances efficiency, but also lowers profits and thus the amount of internal funds available for investment. Under such conditions, countercyclical fiscal (and monetary) policy may be particularly powerful in stabilizing intangible investment, and thereby the economy, both directly and indirectly by relaxing firms' credit constraints.

26. An analysis of firm-level investment dynamics further bolsters the linkage between product market deregulation and fiscal policy effectiveness after the 2008–09 global financial crisis. More competitive markets are associated with higher productivity, investment, and output—a first-order gain that warrants deregulation. However, a side effect seems to be that greater competition increases the sensitivity of intangible investment to credit conditions. Firms with larger precrisis balance sheet vulnerabilities—either high leverage or high interest payments—reduced their intangible investment after the crisis more than their less vulnerable peers (Duval, Hong, and Timmer, forthcoming). However, these negative effects of balance sheet weakness were smaller where fiscal policy was more expansionary than expected, and particularly in industries and countries where product market competition was stronger (see the technical appendix and Ahn, Sever, and Duval, forthcoming). Figure 15 shows that *relative* to the average in their country sector, high-leverage firms (red bars) reduced their intangible investment rate after the crisis, whereas low-leverage firms (blue bars) increased it—with both groups having likely cut their investment in absolute terms. This greater

Figure 15. Estimated Change in Intangible Assets Investment
(Percent of total assets)



Source: IMF staff calculations.
Note: High (low) leverage corresponds to the 75th (25th) percentile of the cross-firm distribution of precrisis average leverage ratios (debt to assets). Expansionary/contractionary fiscal policy periods are identified through forecast errors in fiscal spending of greater than ±0.5 percent of GDP. Weak (strong) competition corresponds to the 75th (25th) percentile of the country-sector distribution of precrisis average competition (Lerner) index values. If expressed in terms of the conventional ratio of intangible investment to intangible—rather than total—assets, the effects shown in this figure would be roughly seven times larger.

[21] Other recent work suggests that recessions in general, with or without a financial crisis, may have permanent effects (for example, Blanchard, Cerutti, and Summers 2015; Bluedorn and Leigh 2018).

weakening of intangible investment in high-leverage firms was larger when they faced greater product market competition (upper-right versus upper-left panel of Figure 15). The difference between both firms is economically significant; using recent estimates of returns on intangible investment, it would imply a cumulative output loss of more than 2 percent for high-leverage firms compared with their low-leverage counterparts over the 2008–13 period. Finally, higher leverage was associated with smaller intangible investment cuts where fiscal policy was more expansionary, and this was especially the case in countries and industries where product market competition was stronger. These findings suggest that it is important to understand how leverage varies across firms in the economy and what the level of market competitiveness is, when considering the effectiveness of fiscal policy actions.

27. Economic resilience in a monetary union relies heavily on member countries having flexible labor and product markets and sufficient fiscal space to lean against the wind in a downturn. This further strengthens the case for consolidating public finances when the economy is expanding, to build fiscal space. Moreover, the shocks considered here are all temporary. If there are permanent shocks or even hysteresis at work in the economy, then flexible markets to foster adjustment and reallocation in response to permanent changes become even more important.

C. Consequences for Monetary Policy Stabilization

28. National structural reforms could also improve the effectiveness of the common monetary policy. Model simulations suggest that the likelihood of policy rates in the monetary union hitting the zero lower bound falls slightly if all individual member economies have more flexible labor and product markets. This is because greater market flexibility across member countries dampens the decline in euro area output following an adverse shock (as illustrated at the individual country level in the lower panels of Figure 13), leading the central bank to cut its policy rate less than required under more rigid markets. In other words, greater market flexibility brings about somewhat greater conventional monetary policy space for a given size of shock. Moreover, national structural reforms toward a common, best practice would reduce divergence across countries (Franks and others 2018), better aligning countries' needs and boosting the effectiveness of the common monetary policy. Finally, similar to fiscal policy in a financial crisis, the common, countercyclical monetary policy is more powerful in stabilizing corporate investment (primarily in intangibles) where competition is strong—product market deregulation can enhance monetary policy effectiveness (see the technical appendix).

CONCLUSIONS

29. National-level structural reforms are essential to improving euro area economies' resilience. Well-functioning labor and product market institutions can not only raise long-term output and employment—their primary objective—but they can also smooth the transmission of shocks in a monetary union, more so than under an independent national nominal exchange rate regime. Although the effects of individual measures on resilience vary, the findings presented in this note suggest that a package of growth-enhancing reforms to labor and product market regulations

could significantly help individual euro area economies better weather adverse shocks, in addition to raising their long-term output. Reforms need not be one-size-fits-all; there is some scope to tailor reforms to country-specific circumstances, depending in particular on social preferences for worker protection. Different institutions—in particular labor market institutions, which can entail different degrees and forms of worker protection—can deliver resilience so long as they facilitate nominal and real adjustment to shocks.

30. Structural reforms and countercyclical policies can both foster resilience. An economy that has implemented structural reforms will have less need for countercyclical stabilization, because flexible markets act as a shock absorber. When an economy has rigid markets, a fixed exchange rate, and fiscal space, countercyclical fiscal policy is stronger in its effects. However, if a rigid economy with a fixed exchange rate lacks fiscal space, adverse feedback through risk premiums can make fiscal stimulus ineffective or even counterproductive, hitting output. This makes it particularly important for individual countries to build fiscal space in good times so that they can lean against the wind in bad times. No country should be deprived of both—structural reforms and countercyclical fiscal policy—adjustment mechanisms.[22] There is also evidence that following a financial crisis, fiscal policy is more effective in liberalized product markets, thanks to less sensitivity of firms' investments (particularly intangibles) to market financing conditions. This effect also holds for the common monetary policy, whose transmission to individual economies is enhanced when product markets become more competitive.

31. Finally, national structural reforms and euro area architectural improvements can build on each other, improving the resilience of member countries and the union as a whole. For example, banking and capital markets unions help lower the incidence of adverse shocks from the financial sector and promote greater international risk sharing by the private sector, thereby reducing vulnerability and improving the ability of economies to withstand shocks. National structural reforms to improve the quality of corporate insolvency regimes, which enhance the efficiency of capital allocation across sectors and firms, would be amplified by a capital markets union that facilitates cross-border reallocation.

[22] In many cases, building fiscal space in good times would also increase financial markets' confidence in the sustainability of domestic public debt. This would further strengthen the effectiveness of any future fiscal stimulus in bad times by alleviating the risk that it will trigger a spike in sovereign risk premiums.

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