

MONETARY POLICY & THE ECONOMY

Quarterly Review of Economic Policy

Europe 2030: building a more resilient
European monetary union

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Call for applications: Visiting Research Program

The Oesterreichische Nationalbank (OeNB) invites applications from external researchers (EU or Swiss nationals) for participation in a Visiting Research Program established by the OeNB's Economic Analysis and Research Department. The purpose of this program is to enhance cooperation with members of academic and research institutions (preferably postdoc) who work in the fields of macro-economics, international economics or financial economics and/or pursue a regional focus on Central, Eastern and Southeastern Europe.

The OeNB offers a stimulating and professional research environment in close proximity to the policymaking process. Visiting researchers are expected to collaborate with the OeNB's research staff on a prespecified topic and to participate actively in the department's internal seminars and other research activities. They will be provided with accommodation on demand and will, as a rule, have access to the department's computer resources. Their research output may be published in one of the department's publication outlets or as an OeNB Working Paper. Research visits should ideally last between three and six months, but timing is flexible.

Applications (in English) should include

- a curriculum vitae,
- a research proposal that motivates and clearly describes the envisaged research project,
- an indication of the period envisaged for the research visit, and
- information on previous scientific work.

Applications for 2018 should be e-mailed to eva.gehringer-wasserbauer@oenb.at by November 1, 2018.

Applicants will be notified of the jury's decision by mid-December. The following round of applications will close on May 1, 2019.

Editorial

This special issue of the OeNB's Monetary Policy & the Economy quarterly was written on the occasion of the Austrian EU Presidency taking place in the second half of 2018. Under the heading "Europe 2030: building a more resilient European monetary union," this issue explores whether the EU and the euro area are sound and resilient enough to prevent future crises, or whether they will at least be able to handle them more adroitly. Authors from the OeNB, some of them in cooperation with authors from other institutions, venture into the future of the European Union and in particular of European monetary union.

Following the onset of the global financial crisis, weaknesses and flaws in crisis prevention and shock absorption quickly came to the fore – not only in EU governance, but also in economic policies, which have remained a national responsibility in Economic and Monetary Union. As a consequence, EU governance underwent a comprehensive reform in 2010/2011. The objective was to shore up the fundamentals of sound fiscal policies in the Member States, to consider to a greater extent national economic conditions and specificities in the European fiscal framework and to anchor the latter in Member States' national law. Moreover, the reform aimed at enhancing both structural policy coordination and surveillance to counteract the buildup of macroeconomic imbalances.

By taking rapid and decisive action, European monetary policy makers played a key role in overcoming the crisis. Cutting the key interest rate to the effective lower bound and using a broad range of nonstandard measures, the Eurosystem successfully managed to ensure the transmission of monetary policy, stabilize inflation and financial markets, counteract financial market fragmentation, restore bank lending to the real economy and stabilize the monetary union. The study by Gnan et al. in this issue addresses a number of current monetary policy topics and forward-looking perspectives on central bank mandates, price stability/inflation targets and international monetary policy linkages.

In 2011, the foundation for a European banking union was laid. This initiative attests to the importance of a well-functioning, stable banking and financial sector for transmitting monetary policy and for funding the real economy. To date, the EU has already made great strides in implementing banking union. The crisis in the financial sector has also shown that microprudential supervision alone, albeit more effective and harmonized for systemically relevant large banks, does not suffice to safeguard overall financial stability. Thus, macroprudential supervision gained in importance. Clearly, implementing banking union and safeguarding financial stability with the help of effective macroprudential supervision may be regarded as milestones in advancing European monetary union. The studies by Boss et al. and Posch et al. address specific issues in these two important areas.

Establishing a European capital markets union (CMU) is yet another milestone. Expectations run high for CMU, as market-based corporate financing is meant to complement, rather than substitute, bank-based financing. In addition, CMU measures are expected to promote private sector risk sharing – similar to that already seen in the United States – across EU Member States in the event of asymmetric shocks. The pursuit of private risk sharing via a single European capital and credit market would reduce the urgency to introduce new common fiscal risk-sharing mechanisms in the euro area. The study by Beer and Waschiczek examines the challenges in implementing CMU and explores the economic expectations associated with it.

In the wake of the crisis, the economic policy debate about whether to introduce additional risk-sharing instruments in the EU and the euro area intensified, with the rationale centering on strengthening resilience in order to respond better to future shocks. The proposals on common fiscal risk-sharing mechanisms among euro area countries in case of shocks, in particular asymmetric shocks, are receiving a great deal of attention. The studies by Katterl and Köhler-Töglhofer and by Prammer and Reiss analyze the European fiscal framework, which underwent reform in response to the crisis, also addressing room for improvement and controversy surrounding various proposals for implementing fiscal risk sharing.

In the decades to come, Europe's prosperity will depend, among other things, on the political will of the individual Member States of the EU and the euro area alike to implement structural reforms. Such reforms will be key to achieving a level of flexibility that is necessary to absorb shocks, to improving the growth potential in the long run and to attaining sustainable real convergence among EU and euro area economies. The study by Fischer and Stiglbauer is dedicated to this topic.

Looking ahead, the likelihood of future crises has been reduced by implementing the fiscal governance framework and numerous regulatory requirements in the financial sector. However, it is of particular importance to ensure that the respective national and European institutions can take targeted action as needed.

A handwritten signature in black ink, appearing to read 'Ewald Nowotny', written in a cursive style.

Ewald Nowotny, Governor

In focus:

Europe 2030: building a more resilient

European monetary union

Monetary policy after the crisis: mandates, targets, and international linkages

Ernest Gnan,
Claudia Kwapil,
Maria Teresa
Valderrama¹

The global financial and economic crisis of 2008 has raised several questions on the future of central banking in general, and of monetary policy in particular. This paper focuses on three of these questions: central bank mandates, price stability/inflation targets and international monetary policy linkages. While the crisis has effectively moved financial stability to the center stage of central banks' policymaking, no consensus has emerged on the extent to which financial stability needs to be reflected formally in central bank mandates. There has, however, been a change in how financial stability concerns are reflected in monetary policy analysis. We do not see that the crisis has produced any new arguments in favor of dual central bank mandates that include growth or employment in addition to price stability. Despite ongoing debate, the crisis has not prompted constraints on central bank independence as central banks' consistent drive for more transparency has enhanced their accountability commensurately with their broader scope of action. Regarding inflation targets, we discuss the pros and cons of several proposals, in order to cope with a possible secular decline in the natural rate of interest and a flatter Phillips curve. The most promising strategies in our view are those with a flexible interpretation of the inflation target, e.g. with flexible time horizons for reaching the target or with tolerance bands. Finally, unconventional monetary policies have highlighted international monetary policy spillovers and raised concerns about global competitive devaluations and monetary easing cycles. Attempts toward closer international coordination have, however, been muted. It seems that future generations of policymakers will also have to deal with spillovers from large countries as best as they can.

JEL classification: E58, E61, E65

Keywords: central bank mandate, monetary policy strategy, price stability/inflation target, international monetary policy spillovers, international policy coordination

The 2008 Great Financial Crisis and its global consequences sharply changed monetary policy from what had been considered best practice during the “Great Moderation.” Central banks had to deal with the deepest financial and economic crisis since the 1930s. As a result, financial stability concerns dominated monetary policy considerations for some time around the world. A sovereign debt crisis in several euro area countries jeopardized the very existence of the currency union, prompting the Eurosystem to take far-reaching steps to preserve the integrity of the monetary union. These crises caused inflation to temporarily drop below zero, with inflation and inflation expectations deviating persistently from central banks' targets. With official monetary policy rates approaching the effective lower bound, new territory was tested both for interest rates and “unconventional” monetary policies.

Now, more than ten years after the onset of the crisis, the world economy and the euro area are enjoying a long period of robust economic recovery with unemployment rates receding markedly. However, financial and real asset prices have risen in many countries, reflecting improved economic prospects and expansionary monetary policies, but raising concerns about new price bubbles and possible financial imbalances. Central banks have become key arbiters in a fast-changing financial sector, acting alongside newly created regulatory and supervisory bodies.

Refereed by:
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Income pressure from low interest rates and cost pressures from financial innovation, combined with more stringent financial sector regulation, have induced a surge in less regulated shadow banks and prompted financial firms to adjust their business models and change their lending behavior.

Hence, monetary policy faces a different environment than the one before the crisis. Wage and price developments seem to have changed their response to growth and unemployment, keeping consumer price inflation low. In addition, the level of the “natural rate of interest” may be lower than before the crisis. Expansionary “unconventional” monetary policies (including large-scale purchases of various asset classes and zero or negative policy rates) have replaced pre-crisis standard monetary policy measures. Through large-scale asset purchases, central banks have become prominent holders of government and corporate debt, influencing asset prices, yields, risk premiums and market liquidity. The monetary policy stimulus injected – or eventually removed – in major countries also accentuates potential spill-overs to other countries.

Against this background, this paper discusses three topics. Section 1 provides an overview of the ongoing discussion whether the pre-crisis consensus on the central bank mandate(s) warrants adjustments. In this context, box 1 addresses the question of whether the increased responsibilities of post-crisis central banks are compatible with current arrangements for independence and accountability. Based on this, section 2 discusses recent developments and arguments relating to the definition of price stability. In this context, box 2 outlines the implications of the zero (or effective) lower bound of interest rates. Section 3 addresses international monetary policy spillovers and reflects on lessons to be drawn from the crisis. Finally, section 4 offers a summary and draws conclusions.

1 Central banks’ mandates between monetary and financial stability

1.1 Flexible inflation targeting as central banks’ pre-crisis best practice during the “Great Moderation” ...

Central bank mandates reflect both the evolution of economic thinking as well as society’s preferences, which in turn reflect economic developments. The prevailing consensus in central bank mandates – the pursuit of price stability – is the product of lessons from previous crises. In the past, flawed monetary policy regimes were often the cause of both economic and financial crises (Bordo and Siklos, 2017).

The policy responses, as well as the growth and inflation experiences (“stagflation,” “Great Inflation”) after the 1974 and 1981 oil price shocks, prompted economists and policymakers to fundamentally reconsider their understanding of macroeconomics and the role of monetary policy in stabilizing the economy. The consensus that arose, and still prevails, is that economic growth is driven by real economic factors (such as the capital stock, labor force and technological progress). Monetary policy can mitigate fluctuations in growth and employment around potential or trend growth only in the short run, but is neutral in the long run. Moreover, since central banks can only control nominal variables, they should provide a nominal anchor and therefore be primarily accountable for consumer price stability. This is the best contribution the central bank can make to stabilize the economy (Mankiw and Reis, 2017).

In Europe many countries pegged their currencies to the Deutsch mark after the breakdown of the Bretton Woods System. Thus, the Bundesbank provided the nominal anchor in a fixed-exchange rate system – a system that would eventually be replaced by the Economic and Monetary Union (EMU). During the 1990s, inflation

targeting became the standard global approach to monetary policy (Bordo and Siklos, 2017; Cobham, 2018). Inflation targeting – understood as “the commitment to a quantitative objective for medium-term inflation” (Reichlin and Baldwin, 2013) – has evolved since its introduction in New Zealand in 1991. Its implementation and exact definition varies across central banks (Mishkin and Posen, 1998). “Flexible inflation targeting” refers to an approach where a central bank’s response to economic shocks depends on the type of shock. This gives the central bank some leeway in the speed at which it should return to its inflation target.

While the European Central Bank (ECB) does not pursue an inflation targeting strategy, it does aim for consumer price stability, which it defined as reaching an inflation rate of below, but close to, 2% over the medium term. The EU Treaty relegates the pursuit of growth and full employment to a secondary level. In practice, the state of the business cycle and the labor market feeds into the ECB’s assessment of the outlook for price stability.

By contrast, the U.S. Federal Reserve (Fed) has a dual mandate that considers both full employment and price stability, for which the Fed adopted an explicit (numerical) inflation target of 2% in 2012. Advocates of a dual mandate argue that there are situations where a tradeoff between output stability and price stability exists (in the short run). For example, a cost-push shock (e.g. an oil-price shock) increases consumer prices, while it slows down economic activity. In such a scenario, the central bank should, according to advocates of a dual central bank mandate, take into account both economic and price stability. Assuming long-run neutrality of money, this means in practice that the speed at which price stability is restored is slower than if economic stability is ignored. Another example is a situation in which growth is vigorous but inflation is below target, due to structural and global factors. In such a situation, a dual mandate might give the central bank more leeway in the speed at which it normalizes its monetary policy stance, by temporarily tolerating below-target inflation.

1.2 ... but then came the Great Financial Crisis

The two decades up to 2007 are often called the “Great Moderation,” reflecting the smooth path of growth at consistently low rates of consumer price inflation. Part of the reason for this success was attributed to independent central banks pursuing the primary objective of consumer price stability (mostly by using inflation-targeting strategies). However, in 2008 the Great Financial Crisis prompted an abrupt reconsideration of this assessment.

In the aftermath of previous crises, monetary policy was often perceived either as having sowed the seed of the crisis (due to an overly expansionary pre-crisis monetary policy stance) or as a reason why the crisis was not adequately managed (e.g. too little accommodation too late, undue accommodation weakening the necessary adjustment incentives of other actors, etc.). This time has been no different, and the notion that price stability is a necessary and sufficient condition for economic and financial stability has been questioned (Reichlin and Baldwin, 2013).

The long-term neutrality of monetary policy and the existence of a natural rate of interest² serving as a guidepost for monetary policy are seen as the foundations

² *The natural rate of interest is broadly defined as the rate at which the economy is at full capacity and the rate of inflation is constant. The monetary stance is considered restrictive if the policy rate is above this natural rate, because in this case inflation will fall, and vice versa.*

of inflation targeting (Blanchard, 2018). Monetary policy is said to be neutral because in the long run it only affects nominal variables (interest rates, prices, money stocks) but not real variables (GDP, consumption, employment, etc.). However, the Bank for International Settlements (BIS) argues in several studies that the expansionary monetary policies followed by most major central banks since the introduction of inflation targeting have led to a secular decline in real interest rates, which in turn contributed to a build-up of financial imbalances (Borio et al., 2017). The main argument is that structural changes³ have altered the inflation process,⁴ so that monetary policy has less control over inflation. Since real interest rates are nominal rates minus inflation expectations, each time the nominal interest rate is cut (while inflation expectations do not change) real interest rates are pushed downward. As, however, inflation does not recover sufficiently due to the aforementioned global factors, the central bank subsequently does not bring nominal and real interest rates back up to the initial level. As a result, monetary policy may in the long run turn out to influence the level of real interest rates and thus no longer be neutral. In this view, a protracted period of expansionary monetary policies geared narrowly toward consumer price inflation targeting can create financial imbalances and a misallocation of credit, which as a further consequence can weaken potential output and therefore also may lower the natural rate of interest.

Many argue that the natural rate of interest has fallen considerably since at least the onset of the crisis (but probably for longer), due to weaker productivity growth, a slower-expanding and aging population, cheaper capital entailing lower investment needs, higher income inequality, a global savings glut emanating from emerging economies, and higher risk premiums. There is no agreement, however, on the scale of this effect or its duration. Furthermore, looking at very long-term developments, Borio et al. (2017) question the very existence of this phenomenon and its frequently cited possible explanations. Due to the uncertainties surrounding estimates of the natural rate of interest, critics argue that it should not be used as a guidepost for monetary policy. The fact that inflation has recently not responded to monetary policy as fast as in the past, is considered by some as evidence that central banks are using a flawed economic model (Reichlin and Baldwin, 2013). As a result, there is an ongoing debate whether consumer price inflation targeting is still best practice, or whether central bank mandates should be extended to include financial stability.

1.3 What should be the relationship between monetary policy and financial stability?

The Great Financial Crisis highlighted one of central banks' core functions, namely to act as a lender of last resort, and prompted them to devote more attention and effort to maintaining and restoring financial stability. Central banks in many countries had to "mop up the mess" of the financial crisis. Many of the tools implemented in response to the crisis as well as the institutional arrangements developed in response to the crisis to bolster financial stability conferred major powers on central banks (see Aziz, 2013, for a detailed review of changes after the crisis).

³ *Globalization, digitalization of the economy, etc.*

⁴ *Inflation responds less strongly/quickly to the level of slack in the economy.*

More importantly, the financial crisis made clear that central banks cannot simply ignore financial stability. On one hand, the Great Financial Crisis disrupted the monetary transmission mechanism and the effectiveness of monetary policy, thus seriously hampering the achievement of price stability for a prolonged period. On the other hand, the financial crisis as well as the deployment of unconventional monetary policy measures, has also made clear that monetary policy has a large influence on financial stability (Papadia and Välimäki, 2018). Therefore, the crisis highlighted the need to analyze financial sector developments very closely and to integrate financial markets in central banks' models and analytical tools (Reichlin and Baldwin, 2013).

1.4 ... should central banks have a financial stability mandate as part of their monetary policy function?

There seems to be a broad consensus on the importance of micro- and macro-prudential policies as separate tools to contain financial imbalances. At the same time, the hotly debated question as to whether monetary policy should additionally “lean against the wind” to avoid financial asset bubbles has still not been resolved.

A related question is whether to include financial stability in the central bank mandate (Bordo and Siklos, 2017). This would mean that monetary policy not only considers price stability, but also its effects on financial stability. Thus, central banks would not just forecast economic activity and inflation: they would also have to perform stress tests to gauge the effects of the monetary stance on credit conditions, asset prices and ultimately financial stability. Such an approach would go beyond the hotly debated issue of whether central banks should “target asset prices” and would imply that central banks analyze and assess whether financial imbalances are building up. The task would then be to design monetary as well as micro- and macroprudential policies in an integrated manner so as to optimize economic performance while minimizing risks (Eichengreen et al., 2011).

Others argue that financial stability policies (rather than monetary policy) are better equipped to take measures to control the buildup of financial imbalances, in particular when they affect specific sectors. Macro- and microprudential measures are more effective than monetary policy in preventing such imbalances. In this view, monetary and financial stability policies should remain distinct, with separate mandates, instruments and institutions (see e.g. Bordo, 2017). The most compelling argument is that price stability and financial stability may imply tradeoffs. For example, in a balance sheet recession the central bank would reduce interest rates to stimulate the economy, while the financial stability authority might wish to tightening regulation to avoid exaggerated risk-taking (Hellwig, 2014).

For a currency union like the euro area, this last argument is even more compelling. In a monetary union, there will inevitably be countries and/or sectors at different phases of the business and financial cycle. Overheating could theoretically occur in one isolated market. Interest rate policies aimed at curbing this market may have unnecessary adverse effects for the rest of the economy. In this case, national micro- and macroprudential measures are better suited to address the buildup of local imbalances.

Central bank independence and accountability

The lessons drawn from the Great Inflation of the 1970s combined with new developments in economic theory (rational expectations, time inconsistency theory) have led to the consensus that central banks are more credible and thus effective when they are independent from their governments. Being exempt from the political decision-making process, with its short-term electoral pressures, central banks are seen to be in a position to react more consistently and effectively to safeguard price stability.

The concept of time inconsistency – the rational temptation of policymakers to renege on their initial promises in order to stimulate demand by allowing a higher rate of inflation – was a major theoretical breakthrough, prompting legislators worldwide to grant central banks independence from governments (Kydland and Prescott, 1977). By delegating monetary policy to an independent central bank, the promise of stable prices becomes more credible with economic agents. The resulting stabilization of inflation expectations allows the achievement of low inflation without foregoing growth or employment, thus maximizing economic welfare.

The corollary to central bank independence are mechanisms to ensure accountability, which give the central bank democratic legitimation (Eijffinger and Hoeberichts, 2000). In fact, the concept of inflation targeting goes hand in hand with a numerical target and reporting by the central bank to the government, parliament and the public on the success in meeting this target. This has made conventional pre-crisis monetary policy accountability fairly straightforward.

The extension of central bank tasks to include macroprudential policies and financial supervision as well as the use of unconventional measures have revived debates about central bank independence and accountability. For example, the notion that unconventional measures affect the distribution of wealth more than conventional policies earned central banks criticism about their democratic legitimation (Goodhart and Lastra, 2017). The large-scale purchase of government debt by central banks is seen by some as blurring the frontiers between monetary and fiscal policies, again raising questions of democratic legitimacy.

There are also different views regarding the need for independence of financial supervisors. On the one hand, some argue that financial stability authorities are subject to time inconsistencies in similar ways to monetary policymakers. Independence may also be useful to withstand regulatory capture. Only an institution with far-reaching delegated powers can react to financial crisis situations sufficiently quickly and effectively. On the other hand, there is no agreed definition of what financial stability is, except the “absence of crisis.” Therefore, mechanisms for accountability seem much more difficult than for monetary policy. The decision to let banks fail (or rescue them) may have vast and highly uncertain consequences for welfare. Bail-outs may have very damaging effects on fiscal balances, while bail-ins could have negative effects on financial stability through contagion and uncertainty (Hellwig, 2014) and may be politically controversial. Thus, the consequences are too far-reaching and too complex to allow adequate mechanisms for accountability and should thus be left to elected policymakers.

Finally, the concentration of responsibilities for monetary policy and financial stability is sometimes perceived as conferring too much power on a single, unelected governmental body (Aziz, 2013; Cukierman, 2013; Hellwig, 2014).

2 Which inflation target/definition of price stability?

Monetary policymakers face three major challenges which have prompted discussions about the optimal price stability aim or inflation target, and how to approach it in a flexible way.

First, as outlined above, the natural level of real interest rates may, for an extended period, remain considerably lower than in the past decades, due to domestic and global structural factors. As argued in box 2, the zero or effective

lower bound on nominal interest rates could effectively limit the scope for an expansionary monetary policy.

Second, the relationship between domestic economic slack and inflation – the Phillips curve – has proven rather weak for several decades. Again, this may be due to structural factors. Thus, inflation responds more weakly to domestic output gap developments than in the past. Even if the natural level of real interest rates were known, using it as a guidepost would not reliably bring inflation back to target with the usual lag of one-and-a-half to two years, as had been the case in the past. Therefore, some economists spoke of a “twin puzzle” after the Great Financial Crisis: first, “missing disinflation” between 2009 and 2011 in response to the deep recession (Coibion and Gorodnichenko, 2015), and second, “missing inflation” following the recovery after 2012, particularly in Europe (Constâncio, 2015).

Third, the sum of structural shifts affecting the level of interest rates and the inflation process raises the issue of how monetary policy should best deal with these supply shocks in the pursuit of price stability and macroeconomic stability at large. In particular, we ask how the tradeoff between inflation and output volatility should be handled.

This section discusses various options, put forward in the literature, regarding post-crisis modifications to inflation targeting that would create a coherent framework to explicitly address the above three challenges systematically.

Box 2

Zero or effective lower bound

When inflation and nominal interest rates approach zero, the central bank finds itself in a situation where monetary policy must be forceful and credible to avoid a deflationary spiral, while the normal policy instrument, the interest rate, cannot be cut any further. Until the Great Financial Crisis, the existence of the zero lower bound (ZLB) for nominal interest rates was mostly found in theoretical papers. Most concluded that with an inflation target of around 2%, the probability of being restricted by the ZLB was negligible (Fischer, 2016). As most major central banks were dangerously close to the ZLB by 2009, the discussion shifted to, first, which monetary policy instruments can be used to avoid a deflation spiral and, second, whether nominal interest rates could actually fall below zero.

Such a situation requires other monetary policy instruments that can increase inflation expectations and stimulate demand. The theoretical papers written in the previous decade foresaw the use of forward guidance as well as large-scale asset purchases to lower real interest rates and manage inflation expectations (Goodfriend, 2000; Eggertson and Woodford, 2003). The argument was that setting negative interest rates would be ineffective because people would hoard cash and banks' profits would fall due to legal or practical impediments to cut deposit rates below zero. Thus, negative rates would have little or no effect on aggregate demand and could even be counterproductive in managing inflation expectations.

Despite these theoretical concerns, several major central banks, such as the ECB, have used slightly negative interest rates either to boost inflation and inflation expectations or to discourage capital inflows (e.g. the SNB). The jury is still out on the effects of negative interest rates. Experience to date, however, shows that cash hoarding seems to be a negligible problem. The prevalent view now is that zero is not the lower bound because cash hoarding carries a cost (e.g. cash handling, transport, storage and insurance). At the same time, there are limits on how low negative nominal interest rates can be: estimates point to an effective lower bound (ELB) of -0.5% to -0.75% . In the same vein, interest rates clearly cannot be maintained at negative levels for too long without threatening financial stability.

Looking ahead, the secular decline of nominal and real interest rates implies that compared to previous decades, the distance to the ELB will be small more frequently. Thus, the policy space will be more constrained. This is the consequence of low inflation combined with a lower natural rate of interest, which together have shifted the probability distribution of nominal interest rates closer to zero, increasing the likelihood of falling below zero or of reaching the ELB (Kiley and Roberts, 2017).

2.1 When a lower level of the natural interest rate moves the effective lower bound closer ...

2.1.1 ... one could increase the inflation target

In response to lower natural interest rates, central banks could raise inflation targets from the currently common 2% to, say, 3% or 4%. If the new target is credible, inflation expectations would adjust, and – based on the Fisher equation – nominal interest rates would rise accordingly. This would then give the central bank more space to cut rates in a downturn (see e.g. Ball, 2013). Dorich et al. (2017) find that such an increase in the level of the inflation target can indeed be helpful in enhancing macroeconomic stability in two cases: first, when unconventional monetary policy is not available; second, when the neutral real interest rate is persistently and deeply negative, forcing monetary policy to operate close to the effective lower bound. However, if the central bank has powerful unconventional policy tools and the real natural interest rate is positive, as generally assumed, these authors claim that increasing the inflation target only produces modest improvements in macroeconomic outcomes.

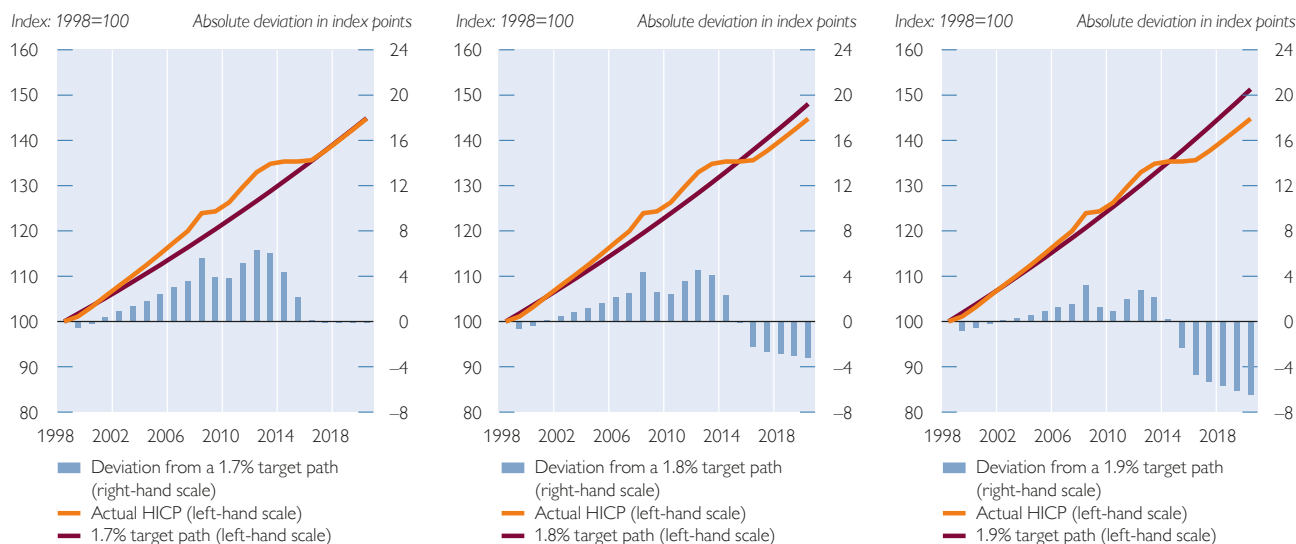
The potential gains must therefore be weighed against the costs of higher inflation, such as greater variability in relative prices, higher volatility of inflation itself (and thus increased probability of misallocations of resources) and greater distortions in the tax system. Finally, inflation expectations might become unanchored. For decades, central banks have worked hard to establish credible inflation targets anchoring inflation expectations. Increasing them once might be perceived as the beginning of an upward spiral. If a central bank changes its target once, why not a second time – or more often?

Eggertsson and Woodford (2003) as well as Krugman (1998) argue that raising the inflation target is an inefficient approach in dealing with the zero lower bound (ZLB). Under the theoretically optimal approach, inflation should rise only temporarily when monetary policy is constrained by the ZLB. As Woodford (2012a) points out, raising inflation permanently would be suboptimal, as it forces society to bear the costs of higher inflation at all times, instead of only when needed. This raises the question of how the central bank might bring inflation expectations back down after such a temporary intended hike in inflation. The experience of the 1980s suggests that this might incur considerable output costs (“Volcker recession”).

2.1.2 ... one could switch to a price level target

An alternative – and according to Eggertsson and Woodford (2003) and Krugman (1998) more effective – monetary policy framework for managing temporary inflation expectations is price-level targeting. The idea is to keep the level of prices

Theoretical price-level target for the euro area HICP



Source: ECB (forecast for 2018–2020).

on a steady growth path of, say, 2% per year. Shortfalls in inflation are matched by inflation lying above target at other times. Following this strategy, monetary policy keeps the expected real burden of nominal debts at what they were expected based on the central bank's inflation target, and so the long-term risks for savers and investors are smaller than in an inflation-targeting environment.

Chart 1 shows hypothetical inflation gaps for the euro area, which would have accumulated because the actual path of the harmonised index of consumer prices (HICP) deviated from a hypothetical price stability path, assuming (purely for the sake of illustration) 1.7%, 1.8% and 1.9% as numerical values for the ECB's price stability definition. Thus, monetary policy decisions become history dependent and must make up for past misses. Price-level targeting builds in a commitment to higher inflation rates in the future, when inflation missed the target in the past (see the middle and right panels of chart 1). The resulting “low for longer” interest rate path is, according to Eggertsson and Woodford (2003), the theoretically optimal strategy in a zero lower bound environment.

To make this strategy work, economic agents must be forward looking. If they are in a low-inflation situation, they will expect higher inflation rates in the years to come, which feed into lower real interest rates that stimulate demand and encourage firms to raise their prices. However, Gaspar et al. (2007) show that if price expectations do not change at all, a price-level target may even be less effective than an inflation target. Similarly, Andersson and Claussen (2017) argue that if inflation expectations are adaptive, a price-level target implies greater fluctuations in the real economy than an inflation target.

Another drawback of this strategy is that the central bank cannot “look through” supply shocks, such as an oil-price hike that temporarily drives up inflation.⁵

⁵ Under a flexible inflation-targeting framework, the central bank can disregard the initial inflationary effect of a cost-push shock and can concentrate on mitigating second-round effects, if they materialize.

Instead, it has to commit to tightening in order to reverse the oil price effects on the price level. This will lead to bigger fluctuations in real output growth and inflation rates, which casts doubt on the usefulness of this strategy in stabilizing inflation expectations. Furthermore, given that in the case of cost-push shocks, price-level targeting is costly in terms of output fluctuations, it might not be fully credible. Mester (2018) points out that apart from the Swedish Riksbank, which pursued such a strategy from 1931 to 1937, there is little international experience with this framework. Moreover, policymakers would have to contend with measurement issues, such as the choice of the starting point and revisions to price-level data (which are, however, usually negligible).

Because of these serious drawbacks, Bernanke (2017b) suggests a compromise approach that he calls “temporary price-level target.” This applies a price-level target only to periods when the zero lower bound becomes binding. In normal circumstances the central bank follows an inflation target. This approach should combine the advantages of a price-level target at the zero lower bound and at the same time avoids the drawbacks during normal times, when cost-push shocks might hit the economy. However, it may be doubtful whether economic agents would understand such changes or would find the announcement of a return to inflation targeting after the end of the crisis credible.

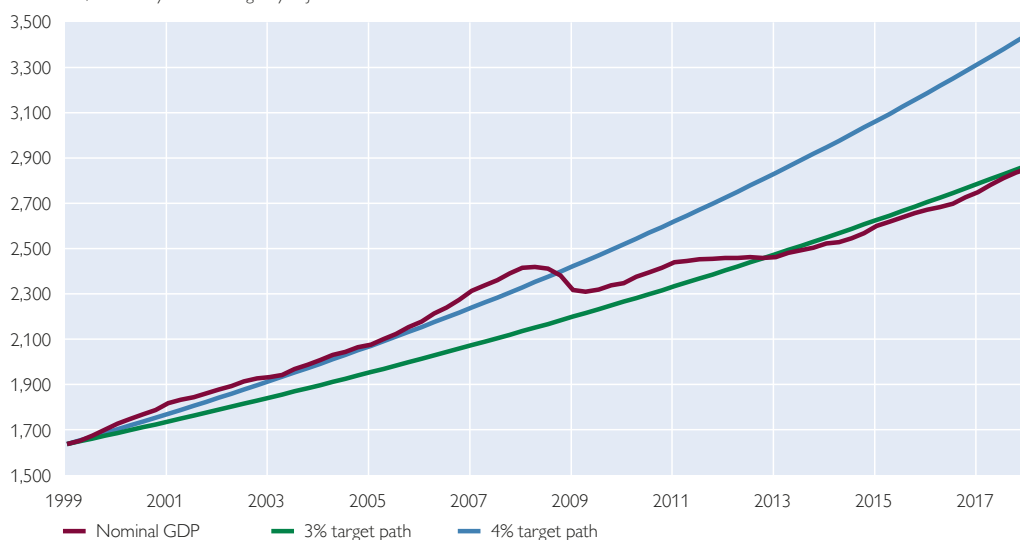
2.1.3 ... one could switch to nominal GDP targeting

Proponents of stabilizing the level of nominal GDP around a targeted path, such as Romer (2011) and Woodford (2012b), argue in much the same way as the advocates of price-level targeting. Like price-level targeting, nominal-income targeting is also history dependent. Deviations from trend are to be corrected by subsequent deviations in the other direction. A central bank following this strategy could, for instance, aim to stabilize nominal GDP along a path that grows by 4% annually,

Chart 2

Nominal GDP target

EUR billion, seasonally and working-day adjusted data



Source: Eurostat, authors' calculations.

assuming that long-term potential growth averages 2% and annual inflation is 2%. Thus, the nominal growth target can be regarded as a combined inflation target and a target for real GDP growth. Central banks pursuing this strategy are indifferent whether they achieve the target because of inflation or real GDP growth. Both variables feature prominently in their reaction functions.

Woodford (2012b) argues that a nominal GDP target path would not achieve quite the full welfare gains associated with a credible commitment to the price-level target as suggested in Eggertsson and Woodford (2003). However, such a proposal would retain several of its desirable characteristics. Additionally, it entails the central bank explicitly taking into account the real economy. Thus, the expectations channel not only works via inflation expectations, but also – as Romer (2011) argues – via economic confidence.

At the same time, nominal GDP level targeting poses several problems. The most challenging one is already evident in chart 2, and relates to uncertainty and changes to the long-term growth potential of GDP. If potential output growth changes, for example due to a crisis, what will be the correct target path afterwards? Should it be adjusted, and if so, by how much? If the long-term sustainable real growth rate changes and the central bank's targets are not adjusted accordingly, there will be undetected changes in the implicit inflation target. Anchoring inflation expectations will prove to be a difficult task in this regime.

This task might also be problematic because there is no explicit inflation target guiding expectations. Moreover, the built-in inflation objective is defined in terms of the GDP deflator. If the link between the GDP deflator and inflation as measured by a consumer price index is weak, or if the public does not understand the link, the anchoring of inflation expectations may be weak. Bean (2013) highlights two more problems. First, overshooting the (implicit) inflation target deliberately might be perceived by the public as an attempt to inflate away debt burdens. Inflation expectations might become unanchored. Second, maintaining low interest rates for too long carries financial stability risks.

A practical problem with nominal GDP targeting is that GDP data are published with a time lag and tend to be revised frequently and substantially. It is difficult to determine monetary policy without data on the current level of the target variable. If GDP data are revised, it might prove difficult for central bankers to explain their policy decisions after the event.

2.2 When structural changes in price-setting depress inflation ...

2.2.1 ... one could adjust the inflation target downward

Several reasons have been put forward why the Phillips curve has become flatter. One explanation is the greater anti-inflation credibility that central banks have gained over the past decades, making actual wage and inflation developments less responsive to domestic cyclical activity (Bernanke, 2007a). Moreover, the indexation of wages to domestic inflation developments has become less prevalent, reducing inflation persistence. Wage dynamics have also changed because of globalization and increased global labor competition (Freeman, 2007). At the level of goods markets, Auer et al. (2017) argue that the expansion of global value chains has intensified global interconnectedness, making the global output gap more important in driving domestic inflation (“globalization of inflation hypothesis”). Hence, Constâncio (2015) points out that “a flatter slope of the Phillips curve would make

controlling inflation either more costly or more difficult.” Thus, it might prove hard for monetary policy to achieve an inflation target of 2% (BIS, 2017).

One conclusion might be to adjust the inflation target downward to a level which is more easily achievable, such as 1% or 1.5%. This would lower the risk of overheating and the same time scale down financial stability risks. The major risk associated with such a move is that inflation expectations might adjust downward or become unanchored altogether, further reducing the future scope of monetary policy to counter economic downturns and deflationary episodes.

2.2.2 ... one could use target intervals for inflation instead of point targets

Another option would be to replace inflation point targets by target intervals. Thus, instead of a point target of 2%, a central bank could aim for a range between 1% and 3%. This seems especially appealing if global forces pushing down inflation were to be only temporary. As long as they are at work, the central bank can (internally) aim for the lower region of the target interval. Once they fade out, it can slowly return to the middle of the corridor, without changing its target.

Only a few central banks (e.g. the Reserve Bank of Australia, South African Reserve Bank) follow a target interval in the sense that within the target interval there is no preferred target point.

A central bank that utilizes a target range to change the point target from time to time may, however, experience instability in inflation expectations. Economic agents are bound to notice that the central bank is aiming for a different part of the target interval, so inflation expectations will adjust accordingly. Furthermore, absent explicit central bank guidance on inflation expectations, different economic agents might expect different levels. Hence, inflation expectations may become more heterogeneous and unstable, leading to more volatile wage and price changes. Svensson (2001) argues that it is more difficult to anchor inflation expectations with a target range than with a point target. Also, real economic stabilization becomes trickier and there will be larger fluctuations in economic activity.

In essence, there is little difference between aiming for different regions within a target interval and changing the point target every now and then. Apel and Claussen (2017) conclude that “if the motivation for a target range is to be able to adjust for changes in the optimal rate of inflation, it seems more reasonable to discuss and evaluate the appropriate level of a point target.” This argument becomes even more relevant should the global forces currently dampening inflation persist for longer.

2.3 When supply shocks create a tradeoff between inflation volatility and output volatility in the short to medium term ...

2.3.1 ... one could target core inflation

The conventional wisdom (see e.g. Mishkin, 2007) is that policymakers should “look through” cost-push shocks, as long as inflation expectations remain anchored. This insight is rooted in the experiences gained in the 1970s. When an oil-price shock pushes energy prices up, headline inflation will rise in line with energy prices. However, once energy prices have reached their (permanently) higher level, headline inflation will revert to its underlying trend rate. As the long transmission lags mean monetary policy can do little about such first-round effects of unexpected cost-push shocks, and as headline inflation will ultimately revert to trend anyway, central banks should refrain from monetary policy intervention. If, however, the

temporarily higher headline inflation rates lead to higher inflation expectations feeding into wage negotiations and bring about second-round effects in inflation dynamics, then there needs to be monetary policy action (see e.g. Clarida et al., 1999).

The challenge of cost-push shocks is that they drive up inflation and depress GDP growth (or vice versa). So monetary policy must decide whether to bring inflation back to its target level or to close the output gap. However, it cannot do both at the same time. Put differently, it faces a tradeoff in the short term between output and inflation volatility.

One way to shield monetary policy decisions from being distracted by commodity-price shocks is to use core inflation instead of headline inflation as target. Wynne (2008) argues that the basic idea of core inflation is that there is an aggregate inflation component in the inflation process (besides a relative price change component) strongly influenced by monetary policy. Consequently, abstracting from shocks to relative prices, core inflation captures the underlying rate of inflation going forward and hence is a better guide to where headline inflation itself is moving.

However, there is no single measure capturing the underlying rate of inflation. The most commonly used measure excludes food and energy and dates back to the 1970s. Depending on the type of shocks commonly hitting the economy, specific product categories can be excluded from core inflation measures. Having compared different subindices of the HICP, the ECB (2013) concludes that none of them satisfies the criteria for an unbiased underlying-inflation measure for the euro area. Any core measure will itself likely be subject to transitory shocks. New approaches to core inflation measurement, such as one isolating the common component in monthly price statistics, might improve upon simple subindices of headline inflation (see e.g. Vega and Wynne, 2003). However, Mishkin (2007) concludes that no measure of core inflation will work in all situations, because the nature of shocks changes over time.

Furthermore, a strand of literature challenges the conventional wisdom that monetary policy should look through commodity price shocks. Filardo et al. (2018) argue that oil price rises due to worldwide exuberant demand would call for a different monetary policy response than if caused by a supply shortage; particularly if the currency area for which the central bank is in charge makes up a significant fraction of global demand. In this case, targeting core inflation measures that exclude energy prices can lead to poor policy outcomes.

Consequently, as Wadsworth (2017) points out, most central banks – like the Bank of Japan, the Bank of Canada, the Bank of England, the Swedish Riksbank, the Reserve Bank of Australia and the European Central Bank – target headline inflation. Headline inflation is based on the theory of the cost-of-living index,⁶ which is by far the most well-developed and coherent framework for inflation measurement. Because households care about the prices of all the items they buy, controlling headline inflation, instead of some subset of it, is the ultimate target for most central banks.

⁶ *The European Central Bank targets the harmonized index of consumer prices (HICP) which captures “final household monetary consumption”. For example, the HICP omits the cost of owner-occupied housing, which is – by Eurostat’s definition – no monetary consumption of households. Hence, the HICP’s conceptual framework does not follow the theory of the “cost-of-living index” like most other consumer price indices.*

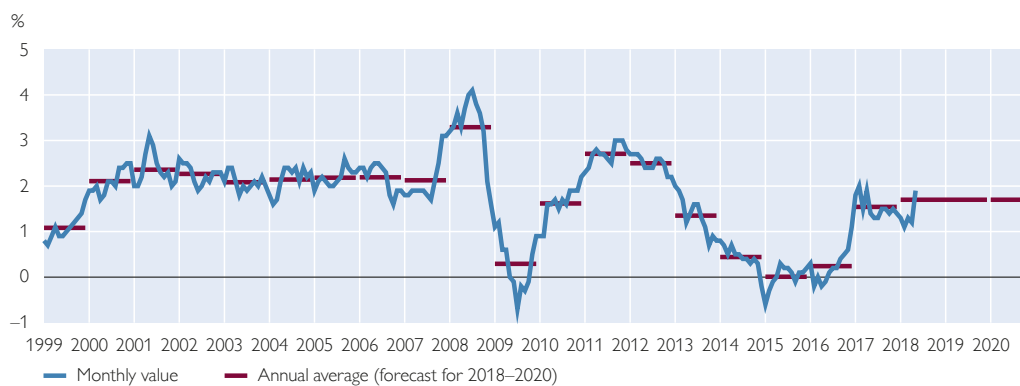
2.3.2 ... a medium-term orientation of monetary policy creates some leeway

Most (formal or informal) inflation-targeting frameworks have built-in room for maneuver, as central banks are not required to bring back inflation to its target immediately after a shock. Wadsworth (2017) shows that most central banks of advanced economies are given several years for inflation to return to its target level. Their policy frameworks state that inflation should return to target within “two years” (Swedish Riksbank), “in the medium term” (e.g. European Central Bank, Swiss National Bank, U.S. Federal Reserve), “over time” (e.g. Bank of Canada, Reserve Bank of Australia, Norges Bank), or over a time horizon that depends on the shock (Bank of England). This more or less concrete “time to target” (Wadsworth, 2017) gives central banks some leeway to find the right balance between inflation and output variability.

When Borio (2017) calls for lengthening the horizon over which monetary policy brings inflation back toward target at the current juncture, he refers to the inflation-output tradeoff. If inflation is indeed pushed down by various global forces, bringing inflation quickly back up to target might imply an overly expansionary monetary policy and a significant overshoot of the output gap. By contrast, a more gradual upward convergence of inflation to target would reduce output volatility.

Chart 3

HICP inflation in the euro area



Source: ECB.

Take the ECB’s price stability target, which aims for an HICP inflation rate for the euro area of below, but close to, 2% over the medium term. Starting in 2013, inflation dropped and deviated from its target for five consecutive years after a – severe double-dip recession (see chart 3). At the same time, for almost the same period, the euro area has experienced a robust economic recovery. The ECB’s flexible medium-term orientation provides the necessary leeway to allow for a smooth return of inflation to the price stability definition, without undue risks to output volatility.

2.3.3 ... one could use “tolerance bands” around the inflation target instead of point targets

Tolerance bands around an inflation target (not to be confused with target intervals)⁷ are based on a similar line of argument as the medium-term orientation. They give the central bank some leeway in meeting the inflation target. Some central banks (e.g. in Canada, New Zealand, Poland and Brazil) define their inflation targets as being the mid-point of a variation (i.e. tolerance) band. Only recently, the Swedish Riksbank also switched its policy target to a tolerance band of 1%–3%. This band makes clear that inflation varies around the target and will rarely be exactly 2%. Generally, tolerance bands work like point targets, with the distinction that they recognize that monetary policy operates with considerable and unpredictable time lags. Because of the explicit reference to the short-term limitations of monetary policy, this inflation-targeting strategy might be especially successful in highlighting that moderate deviations from the point target are unavoidable. Hence, Apel and Claussen (2017) argue that using a tolerance band may strengthen confidence in the point target.

2.3.4 ... one could switch to nominal GDP growth targeting

Targeting nominal GDP growth could be another option to deal with the short-term tradeoff between inflation volatility and output volatility. When a central bank targets nominal GDP growth, higher inflation and lower output growth in response to an adverse supply shock might ideally cancel out and monetary policy “looks through” the shock automatically. McCallum (2011) argues that this strategy might help simplify central bank communication, as there is only one target even if central banks try to stabilize both growth and inflation. Bean (2013) counters that a nominal income growth target means less to the average person than an inflation target.⁸

As with price-level targeting and nominal GDP-level targeting, nominal GDP growth targeting also seems attractive in certain circumstances, but is not necessarily optimal more generally. Over and above the arguments already stressed against nominal GDP-level targeting in section 2.1.3, Ball (1999) adds that practical problems may arise if monetary policy affects output and inflation with different time lags (which is the case according to empirical findings and many models). Assuming backward-looking inflation expectations, nominal income targeting can lead to increasingly volatile inflation and growth.

3 Monetary policy in an integrated world economy

It has long been known that the impact of a large country’s monetary policy can spill over to other countries. Three recent episodes have highlighted the potentially powerful nature of such spillovers. First, the repercussions from a prolonged period of expansionary U.S. monetary policy prior to the outbreak of the financial crisis. Second, the “taper tantrum,” following statements by the Federal Reserve in 2013

⁷ A tolerance band allows for ex post flexibility in contrast to a target range that allows for ex ante flexibility in defining the target. Monetary policy operating a tolerance band is intended to return inflation to the middle of the corridor.

⁸ Summers (2017) finds another benefit in nominal GDP growth targeting in a low interest rate environment, similar to arguments in favor of price level and output level targeting discussed above, since targeting a constant nominal GDP growth rate will automatically result in a higher implicit inflation target.

that it would scale back its quantitative easing (QE), triggering capital outflows and financial instability in several emerging economies. Third, the discussion about competitive exchange rate devaluations resulting, among other things, from “competitive monetary policy easing” or “competitive QE.” While in the past, research focused primarily on spillovers from U.S. monetary policy to emerging economies and also the euro area (e.g. Bowman et al., 2015; Chen et al., 2015; Fisher, 2017; Georgiadis, 2015; Hofmann et al., 2015; Lombardi et al., 2017; and Miyajima, 2014; Tillmann, 2016), recently the effects from euro area unconventional monetary policies on other countries have attracted greater attention from researchers (see e.g. Falagiarda et al., 2015; Feldkircher et al., 2017; Fratzscher et al., 2013; Moder, 2017). As a result, the debate has revived about possible ways to deal with far-reaching externalities from monetary policies. The next section first recalls the main spillover channels, then illustrates the possible consequences of uncoordinated policy behavior, and concludes by surveying views on the desirability, feasibility and limitations of a global coordination of monetary and exchange rate policies.

3.1 Monetary policies may spill over to other countries through various channels

The literature distinguishes the following channels: a global demand channel; an exchange rate channel operating through exports and through global financial flows; a signaling or interest rate expectations channel; a portfolio rebalancing or risk-taking channel; and interactions among monetary policy authorities.

In the face of global shocks, which affect countries in the same direction and in a largely synchronized way, a big country’s expansionary monetary policy benefits other countries by stimulating import demand for global goods (global demand channel). But what if economic conditions and shocks are of a more idiosyncratic nature?

Exchange rates affect countries’ relative international price and cost competitiveness, and thus aggregate demand. The more open a country is to trade, the bigger the impact of exchange rate fluctuations on net exports. Thus, exchange rate developments are often included in measures of overall financial conditions, with currency appreciation being equivalent to rising domestic interest rates and therefore implying a tightening of financial conditions (exchange rate channel). In the case of fixed exchange rate regimes, the interest-rate level of the pegging economy is determined by the level of interest rates in the anchor economy. The “impossible trinity” implies that with liberalized capital flows, countries with fixed exchange rate regimes may be faced with inadequately loose or tight financial conditions. An example for the constraints arising from participation in the Exchange Rate Mechanism (ERM II) is Denmark. Other forms of exchange rate pegs to the euro are followed by several Central, Eastern and Southeastern Europe (CESEE) countries. In the case of floating exchange rate regimes, the exchange rate is determined by current and expected interest-rate differentials – the uncovered interest rate parity. Indeed, empirical results based on event studies suggest that exchange rates react to information on the future relative path of short-term interest rates contained in QE announcements (see Coeuré 2017a, b). In practice, however, exchange rates reflect complex portfolio decisions by international investors, who react to incoming information (data releases, statements by policymakers, publication of minutes/accounts etc.), but these reactions are seldom in line with the theoretical forecasts from the uncovered interest rate parity.

The “financial channel of exchange rates” rests on the observation that capital inflows into smaller economies following ultra-loose monetary policy in a big anchor country may reduce bond yields and credit spreads, leading to an easing of financial conditions (see Bruno and Shin, 2012; Shin, 2017; Hofmann et al., 2016). These monetary policy spillovers may create booms and busts and financial instability, which may in turn spill back to the originating country. Another recent example is Switzerland. Due to the expansionary policy of the ECB (as well as safe-haven capital inflows in the context of the European sovereign debt crisis), Switzerland faced such strong upward pressure on its exchange rate against the euro that the Swiss National Bank had to abandon its exchange rate goal, cut key interest rates below zero and intervened in foreign currency markets to contain the appreciation of the Swiss franc.

Beyond their effect on short-term interest rates, unconventional monetary policies (large asset purchases and forward guidance) affect longer-term interest rates through the expectations channel. This effect can be observed also across countries. Furthermore, monetary shocks in one country (or area) prompt global investors to rebalance their portfolios across countries, which will also affect yields as well as term and risk premiums (global portfolio rebalancing channel). A large body of research has documented spillovers from U.S. yields to other currency areas including emerging economies and the euro area (see e.g. Nyholm, 2016). Monetary policy in the euro area has also been shown to trigger spillovers to other jurisdictions (for an overview, see Coeuré, 2017b).

Similar portfolio rebalancing effects can occur in equity markets, when the monetary policy of a large country not only influences equity valuations in the home country but also abroad. In the extreme, boom and bust cycles can be propagated this way. These considerations can be extended to real-estate prices (see e.g. Luo et al., 2017) and to financial cycles more generally (see e.g. WGEM, 2018). In a world of free capital movements, financial cycles have been shown to contain an important global component (see e.g. Borio 2014; Gourinchas et al., 2016; Rey, 2015). In other words, the links between monetary policy and financial stability policy highlighted in section 1 not only apply domestically, but also globally.

What has made the topic of international monetary policy spillovers even more complex and controversial since the financial crisis is that theoretical and empirical evidence indicates these spillovers are time-variable and state dependent. One argument is that they are stronger in times of crises (see e.g. Ostry, 2014). There is also the notion that unconventional monetary policies (QE, longer-term open market operations and forward guidance), which affect medium and long-term interest rates, exert stronger spillover effects than conventional monetary policies, which focus on short-term interest rates. Furthermore, when the zero or effective lower bound of interest rates is reached, cross-border monetary policy spillovers from foreign countries may force central banks to react with nonstandard measures as well. By contrast, Ammer et al. (2016) argue that it is not the type of instrument that makes the difference, but the large scale of the monetary expansion in response to the crisis which causes spillovers to be more noticeable.

3.2 Interaction between monetary policymakers

Spillovers may also be propagated through interactions among different countries' policymakers. Exchange rate developments are a case in point: central bankers usually hesitate to comment on exchange rate misalignments or exchange rate movements as policy targets. Even so, exchange rates do play a role in central banks' monetary policy considerations because they affect net exports, aggregate demand, import prices, domestic financing conditions, and ultimately consumer price inflation and potentially financial stability. Therefore, the current level and the expected path of exchange rates are by necessity an element included in monetary policy considerations (see e.g. Draghi, 2017).

“Competitive devaluations” or “currency wars” describe a situation in which countries seek to devalue their currency to stimulate aggregate demand (see e.g. Coeuré, 2013; Fels, 2018). During the financial and economic crisis, a variation of this idea – “competitive (monetary policy) easing”⁹ – was discussed. In this scenario, monetary policy easing in one country leads to a tightening of financial conditions in other countries through the exchange rate channel. “Other central banks are then forced to react to defend their domestic mandates” (Draghi, 2016) by also easing their monetary policies. The result of such interaction may be a monetary policy easing cycle, which overall at global level, leads to excessively loose monetary conditions and in turn becomes the source of global imbalances and financial instability.

Naturally, these considerations are particularly relevant for central banks of large countries or monetary areas. Given the strong impact of their policy on the world economy, reactions to big countries' monetary policy actions by other policymakers are likely to be the norm. These reactions therefore become a normal part of the monetary policy transmission and financial stability considerations.

3.3 Approaches to coordination: options and practice

The global monetary system in force since the end of the Bretton Woods System rests on national monetary authorities pursuing their own independent monetary policies to achieve price stability. During the “Great Moderation” from the 1980s until the early 2000s, the widespread use of inflation targeting ensured that, even without formal coordination, the international monetary system operated close to a cooperative equilibrium. Thus, the outcome of these domestically oriented monetary policies was almost as good as formal coordination (see e.g. Taylor, 2013).

The expansionary monetary responses to the Great Financial Crisis have increased monetary policy spillovers and thus highlighted the risks from uncooperative policy interactions, prompting calls for more formal coordination. The main argument is that without coordination, policies with positive spillovers are undersupplied, while those with negative spillovers are oversupplied from a global wealth perspective. Closer cooperation would improve Pareto welfare (Ostry, 2016).

Ostry (2014) suggests that the lack of cooperation is because policymakers fail to recognize the tradeoffs and are uncertain (or disagree) about the nature and size of the spillovers. He therefore suggests introducing a “neutral assessor” (such as the IMF) with detailed knowledge of the economies involved to reduce uncertainty, to

⁹ For a situation where the easing happens mainly through central bank asset purchase programs, the terms “competitive QE” (Rajan, 2014) or “beggar thy neighbor QE” (Grosse et al., 2018) were coined.

provide “rules of the road” and limit the damage when coordination turns out to be infeasible.

Taylor (2013) proposes instead to reinstate an expanded rule-based global monetary system similar to the one of the 1980s and 1990s, in which equilibrium was reached without coordination. Similarly, Eichengreen (2016) advocates widespread adoption of flexible inflation targeting that also addresses financial stability and improved communication, which he expects would deliver more stable exchange rates across countries with inflation targeting regimes.

Mishra and Rajan (2016) suggest that countries should agree on guidelines for responsible monetary policy behavior, which would improve collective outcomes. Another proposal is to achieve at least some coordination by means of transparency and communication on reaction functions and policy frameworks. This approach aims for an “alignment” of policies in the sense of a “shared diagnosis” and a “shared commitment to sound ... domestic policies on that diagnosis” (Draghi, 2016). In this vein, in October 2017 the members of Washington’s International Monetary and Financial Committee (IMFC) reaffirmed their “commitment to communicate policy stances clearly” (IMFC, 2017).

Skeptics on international monetary policy coordination base their view on empirical or theoretical findings showing that the gains from such coordination are quantitatively quite small (see e.g. Coenen et al., 2008; Obstfeld and Rogoff, 2002). Alternatively, they argue that such coordination is legally and institutionally difficult to realize as well as politically impractical (see e.g. Coeuré, 2014, who emphasizes political economy constraints; Blanchard, 2017, who categorizes recurring attempts as “empty calls for cooperation at G20 meetings”; or Eichengreen, 2016, who, given political resistance to radical reform, advocates incremental reforms, “tinkering around the edges” of the current global monetary order).

So, what did recent attempts toward closer international monetary and exchange rate policy coordination actually achieve? In 2013, in response to growing concerns about global financial stability repercussions from major central banks’ monetary policy measures, the G7 issued a statement which established market-oriented rules on how to deal with exchange rate effects from global monetary policies (G7, 2013). Very similar formulations were reiterated in the Communiqué of the Thirty-Sixth IMFC Meeting on 14 October 2017, in which members committed to “*refrain from competitive devaluations*” and that they “*will not target ... exchange rates for competitive purposes*” (IMFC, 2017).

So, while spillovers from monetary policies and the risk of competitive devaluations have repeatedly been acknowledged by global policymakers, the solution has been limited to joint commitments on a code of conduct, which shuns formal rules or coordination.

Against this background, the question is how can countries deal with spillovers in the future? A first option, which has gained prominence since the financial crisis, is to deploy macroprudential policies. Second, capital controls have become more common and accepted since the financial crisis. In fact, both sets of tools were explicitly mentioned in the G20 Communiqué of March 2018 (see G20, 2018). Third, central banks can develop customized instruments to contain undesired spillovers from foreign monetary policies. Mexico and Turkey are two recent examples of such attempts. In February 2017, the Foreign Exchange Commission in Mexico announced interventions of up to USD 20 billion in foreign-exchange-hedging

non-deliverable forwards. The measure seems to have contributed to stabilizing the peso's exchange rate. Similarly, in November 2017, the Central Bank of the Republic of Turkey announced an auction of foreign-exchange-hedging instruments to mitigate risks from the corporate sector's open foreign exchange positions (see Ortiz et al., 2017). Ghosh et al. (2017) suggest that emerging economies experiencing a combination of currency appreciation and compression of bond yields and credit spreads, due to ultra-loose monetary policies in the major economies, should resist this development by issuing government bonds to increase their foreign exchange reserves ("reverse QE"). Along more conventional lines, Eichengreen (2016) advocates shifting investors' incentives toward longer-term and equity investments through adjustments in national tax and capital adequacy regimes, and developing domestic corporate debt markets to reduce the incentive for firms to take out foreign currency denominated debt.

4 Summary and conclusions

While the post-crisis discussion on central bank mandates, their targets and international monetary policy spillovers is still in full swing, our reading of the current related literature at this point suggests the following broad tendencies.

The crisis has clearly highlighted that central banks will always have to play a role when it comes to safeguarding financial stability. While most of them have effectively built expertise in this field as the crisis unfolded, so far this has barely been reflected in changes to formal mandates. In many countries mixed institutional solutions have been chosen, requiring complex interactions between several institutions, but at the same time ensuring checks and balances. In the euro area, the single monetary policy needs to rely on national fiscal and macroprudential policies to take care of divergent business and financial cycles.

The greater legal or *de facto* scope of central banks' actions has so far not prompted limitations to their independence. One reason may be that central banks' consistent drive for more transparency well before and throughout the crisis has enhanced their accountability, commensurately with their wider scope of action. However, it may also have helped that memories of the crisis, and central banks' important actions and success in overcoming it, are still too fresh to seriously question central banks' legitimacy.

Bringing inflation back up to target has proven to be a challenge in many developed economies, most likely reflecting a weaker response of inflation to domestic capacity utilization due to global structural factors. At the same time, there are reasons to assume that the level of the natural rate of interest may remain subdued. All else being equal, this would make the constraint of the effective lower bound for nominal interest rates more likely binding in the future. Central banks may respond to this by making unconventional monetary policy instruments permanent elements of their toolboxes in the future. We have not elaborated further on operational issues such as future monetary policy instruments and the size of central bank balance sheets in a post-crisis new normal. Instead, we have provided an overview of the current literature on possible responses regarding the price stability or inflation target.

To respond to a lower natural rate of interest, we discussed three options: a (temporary or permanent) hike in the inflation target, price-level targeting, and nominal income targeting. To respond to structurally lower inflation, we identified two options in the literature: a cut in the inflation target, and the use of inflation

target intervals. To deal with a possible tradeoff between volatility in inflation and output, caused by the supply shocks that currently dampen inflation, we discussed four options: to target some measure of core inflation, to emphasize that the price stability definition needs to be achieved over the medium term, to use inflation targeting tolerance bands, and to adopt GDP growth targeting.

It is clear from our discussion that all options have their merits and limitations. In addition, some of them contradict each other, e.g. the proposal to increase inflation targets in response to a lower natural rate of interest, on the one hand, and the proposal to lower them to adjust for structural factors dampening inflation, on the other. Furthermore, it also became clear that changes to monetary policy strategies potentially come at a high price in terms of loss of credibility and should only be done occasionally and with very thorough consideration of second and third-order effects over many years. Against this background, we think the ECB's definition of price stability of below, but close, to 2%, in combination with the emphasis on reaching this objective over the medium term, is still the best solution in the foreseeable future for dealing with the two possible challenges of a structurally low inflation and a persistently low natural rate of interest. Another promising approach, adopted by some central banks, appears to be the introduction of tolerance bands around inflation point targets.

The crisis has also drawn more attention to the international dimension of monetary policy. Our survey shows that monetary policy spillovers happen through a number of real and financial channels. The size and scope of unconventional monetary policies have exacerbated spillovers. In particular, a cycle of “competitive monetary easing” and “competitive exchange rate devaluations” was at times seen by some authors as a tangible risk or as actually happening, potentially leading to excessively loose monetary conditions and surplus liquidity at the aggregate global level. The views regarding closer international coordination of monetary policies range from strong advocacy in favor of explicit coordination to hopes for implicit coordination through similar rule-based policies, agreement on the effects of policy, and increased transparency. Recent G7, G20 and IMFC statements signal that global spillovers are recognized as a relevant topic, but there is no commitment to coordination beyond vague declarations. Thus, countries need to continue to cope with spillovers from other large countries' monetary policies as best as they can in the foreseeable future, potentially resorting to innovative instruments.

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Strengthening the euro area by addressing flawed incentives in the financial system

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The costs of the financial crisis have been high in all major economies and particularly high in the euro area economy. Enhancing financial stability will strengthen monetary union, but it can also increase regulatory complexity. The set of measures presented in this article are designed to enhance financial stability and strengthen monetary union without adding complexity. The measures focus on realigning the incentive structure for bank shareholders and bank creditors with the objective of maintaining financial stability.

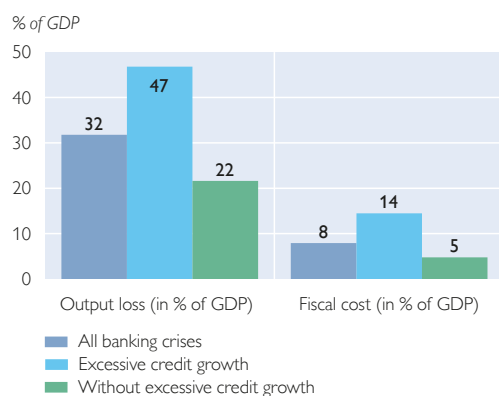
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The financial crisis has brought the issue of financial stability to the top of the agenda – not only for supervisory authorities, but also for public policy makers in general. This is largely due to the high costs systemic banking crises cause in terms of both loss of GDP and fiscal cost. In the European Free Trade Association (EFTA) countries, 34 systemic banking crises have occurred since 1977. International Monetary Fund (IMF) data suggest that, on average, systemic banking crises result in a loss of output equivalent to 32% of GDP and a fiscal cost of 8% of GDP (chart 1). Systemic banking crises that follow excessive credit growth impose particularly high costs on societies. In such cases, the average output loss amounts to 47% of GDP and the average fiscal cost to 14% of GDP.¹

Chart 1

Average cost of systemic banking crises (EFTA: 1977–2008)



Source: Laeven and Valencia (2012), OeNB calculations.

In the aftermath of the financial crisis, the G-20 and the EU substantially strengthened microprudential regulation (BCBS, 2017a, 2017b). However, the financial crisis demonstrated that compliance with microprudential regulation does not guarantee financial stability (IMF, 2013). During the buildup to the crisis, banks were already subject to tighter regulation and supervision than were most other sectors of the economy. The banks generally complied with the regulatory requirements. However, placing the regulatory focus solely on idiosyncratic risk proved both insufficient and misleading. As a result, macroprudential supervision, i.e. the identification and mitigation of systemic risk, has taken center stage throughout the EU.

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The costs of the financial crisis – which varied widely across the euro area countries in terms of both output loss and fiscal cost² – have put the euro area under substantial pressure. Consequently, some euro area countries have faced problems in rolling public debt forward. In response, the European legislators have acted to strengthen monetary union by undertaking institutional reform in addition to regulatory reform. The EU approach has thus far concentrated on enacting ever more detailed banking regulations as well as creating several new institutions and the associated legal structures (see section 1). This has in turn increased regulatory complexity in the euro area (EC, 2016a). Not only have the sheer number and volume of legal acts and legal instruments increased (regulations, directives, delegated acts, implementing technical standards, regulatory technical standards), but their cross-references and interpretations have expanded as well.

First, this paper argues that regulatory complexity is costly. Second, it presents a broad outline for strengthening financial stability and monetary union without increasing regulatory complexity. Rather than focusing on symptoms, we recommend to address flawed incentives such as the too-big-to-fail issue, the implicit government guarantee of bank debt, tax subsidization of bank debt, and the debt overhang problem.

This paper is structured as follows: section 1 summarizes the milestones of financial regulatory reform in the G-20 and the EU. Section 2 argues that, in the case of Austria, the benefits outweigh the costs of regulation. Section 3 identifies the costs of regulatory complexity. Section 4 studies the reasons for regulatory complexity. Section 5 presents the current proposals to reduce regulatory complexity, which we regard as insufficient. In section 6, we propose a combination of measures to address flawed incentives in the financial system. Section 7 presents our conclusions.

1 Milestones of financial regulatory reform

The regulatory reforms undertaken by the G-20 and the Basel Committee on Banking Supervision (BCBS) following the financial crisis have contributed to shaping financial regulation in the euro area. The introduction of Basel III and its transposition into EU law via the CRR/CRD³ addressed the most severe shortcomings of microprudential regulation in Basel II by strengthening the capital framework and introducing liquidity standards (BCBS, 2010a). The framework is still evolving, with the latest adaptation in December 2017 when the BCBS disclosed its final revision designed to reduce the excessive variability of risk-weighted assets (BCBS, 2017a).

An important part of the CRR/CRD package is the establishment of macroprudential supervision in the EU, which is responsible for addressing cyclical and structural systemic risk (Eidenberger et al., 2014a). Its main cyclical instruments – countercyclical capital buffers and capital conservation buffers – address cyclical systemic risk by building up capital in “good times” and depleting it when systemic events occur. Its main structural instruments – systemic risk buffers and other systemically important institutions buffers – aim to address long-term, noncyclical

² The direct fiscal costs (2008–2014) in the euro area averaged 4.7% of GDP and varied between –0.1% of GDP in Italy and 31.1% of GDP in Ireland (ECB, 2015, table 1).

³ Capital Requirements Regulation/Capital Requirements Directive.

systemic risk. Banks that fail to meet their capital buffer requirement face restrictions on the payout of dividends, among other penalties. By legally limiting possible dividend payouts, this should avoid a further deterioration in their capital base.

To complement Basel III and macroprudential supervision, European regulators introduced the Bank Recovery and Resolution Directive (BRRD). The BRRD addresses the problem – observed during the financial crisis – of governments being incentivized to rescue banks due to the lack of insolvency procedures for banks. It does so by introducing a gradual approach to dealing with ailing banks. In the early phase, supervisory authorities are able to intervene, using powerful tools such as appointment of a temporary administrator before the point of non-viability. Although not yet applied in practice, early intervention has the potential to bring about a paradigm shift in banking supervision. In practical terms, this is intended to provide resolution authorities with a toolkit that will enable them to deal with failing institutions by allowing the latter to leave the market without recourse to public money and without causing serious market disruptions.

In the euro area, the financial crisis led to a sovereign debt crisis that put monetary union under severe strain. In addition to implementing the G-20 financial regulatory reforms, the EU aims to strengthen monetary union by introducing a set of institutional reforms. Building on the outcomes of the de Larosière Report (EC, 2009), the European System of Financial Supervision (ESFS)⁴ was created in 2010 to ensure a stronger, more coordinated system of supervision for all financial actors in the EU. The European policy response to the sovereign debt crisis has been to introduce institutional reforms to strengthen monetary union, including the European Stability Mechanism (ESM) and banking union. Once fully implemented, the latter will consist of the Single Supervisory Mechanism (SSM), the Single Resolution Mechanism (SRM), and the European Deposit Insurance Scheme (EDIS), with EDIS yet to take effect. Banking union aims to strengthen monetary union by reducing the likelihood of banking crises caused by inadequate banking supervision due to political interference and regulatory capture of national supervisors.

2 In Austria, the benefits of regulation outweigh the costs

With respect to Austria, we argue in this section that the benefits of financial reform have outweighed its costs. We distinguish between intended cost effects (higher weighted average cost of capital) and unintended cost effects, i.e. higher regulatory complexity, which we discuss in section 3.

Austria has implemented its global reform agenda primarily via (EU) secondary legislation. The core elements consist of the Capital Requirements Regulation (CRR), which is directly applicable, along with the Capital Requirements Directive (CRD IV) and the Bank Recovery and Resolution Directive (BRRD), which were transposed into national law in the form of amendments to the Austrian Banking

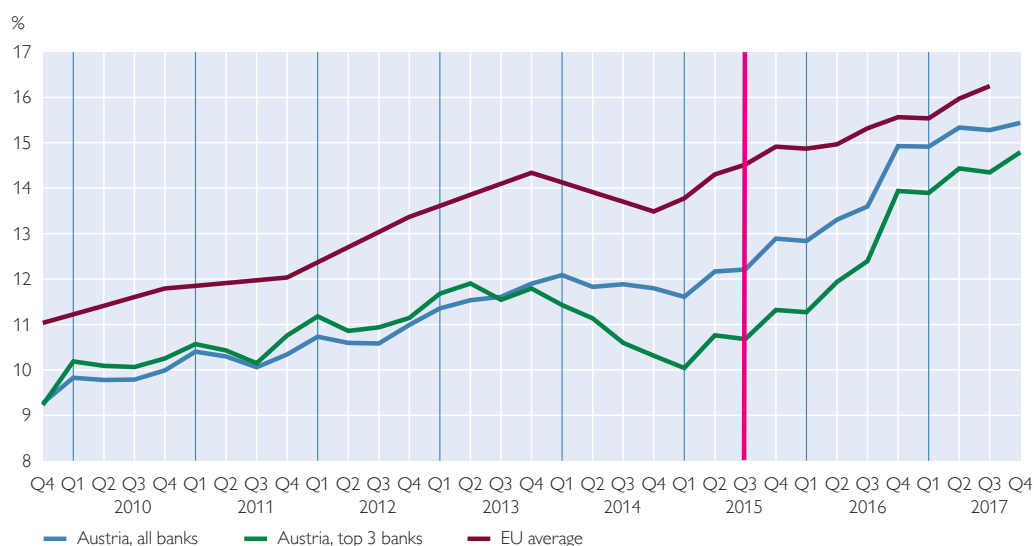
⁴ Consisting of the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), and the European Insurance and Occupational Pensions Authority (EIOPA), the ESFS ensures stronger coordination in the application of supervisory standards and deeper cooperation between the national microprudential supervisors. In addition to the three European Supervisory Authorities (ESAs), the European Systemic Risk Board (ESRB) takes responsibility for coordinating the national designated authorities' macroprudential supervision of systemic risk in the EU.

Act (BWG) and the introduction of the Austrian Bank Recovery and Resolution Act (BaSAG).

Financial reform has helped substantially strengthen Austrian banks' balance sheets which led to various rating upgrades for the Austrian banking system and Austrian banks.⁵ The tier 1 (T1) ratio for the Austrian banking sector increased from 9.3% of risk-weighted assets (RWAs, consolidated) at the beginning of the reform process in 2009 to 15.4% at the end of 2017 (chart 2). The increase has accelerated since 2015, absolutely and relatively to the EU average, with the introduction of a systemic risk buffer of 1% to 2% of RWAs (phased in until 2019) for 12 Austrian banks.

Chart 2

Tier I ratio



Source: OeNB, ECB.

Note: The red line marks the announcement in June 2015 that a systemic risk buffer will be phased in Austria from 2016 to 2019. Tier 1 ratios are used here instead of CT1 ratios because the latter were only available until 2014. At 0.3 percentage points, the difference at year-end 2017 is marginal.

The social benefits of financial reform are significant in Austria, as higher capitalization substantially reduces the probability of a national financial crisis. According to a BCBS study (2010b), a systemic crisis occurs once every 20 to 25 years and the annual crisis probability is around 4% to 5%. The study analyzes the long-term economic impacts of higher core tier 1 (CT1) ratios on the annual probability of a systemic banking crisis (without any changes in liquidity ratios). In order to mitigate model risk, it presents the results of seven different simulation models employing a variety of methods, regional samples, and periods of calibration (see table A1 in the annex). The results should nonetheless be interpreted as “order of

⁵ See *inter alia* the upgrade of the Austrian banking system from BICRA (Banking Industry and Country Risk Assessment) group 3 to group 2 out of 10 (1 lowest risk, 10 highest risk; no banking system in group 1 as of 1 June 2018): “...its stability has improved, primarily due to capital strengthening, supported by the derisking of larger banks in Central and Eastern Europe. Given this positive transformation in recent years, we consider that overall industry risk for the Austrian banking sector has reduced to be on par with that of previously stronger peers, such as Germany, France, Belgium, or the Netherlands.” (Standard and Poor’s 2018) and Moody’s (2017).

magnitude” estimates, given that the samples used in the empirical analyses cover time periods and regions that are only imperfect proxies for today’s banking system in Austria.

Based on the BCBS findings, we estimate that the increase in the level of capitalization in the Austrian banking sector of 6.5 percentage points of CT1 since 2008 has reduced the probability of a banking crisis by about three-quarters. At a capitalization rate of 8.5%, the average crisis probability across the six models shown in table A1 is approximately 2.25% per year. The probability decreases to approximately 0.5% at a capitalization rate of 15%.

The social costs of financial reform have been benign in Austria. Higher capital requirements increase banks’ average weighted cost of capital and thus banks’ internal hurdle rate for asset generation. The minimum internal hurdle rate is the rate of return on newly generated assets at which the transaction is neutral in terms of economic value added. All else being equal, this results in higher loan spreads. The downward sloping demand curves in the various asset markets in which banks operate (e.g. corporate loan market, interbank market, securities financing transactions) imply that bank balance sheets adjust to the rise in the weighted average cost of capital. The adjustments affect all components of bank balance sheets (Eidenberger et al., 2014b): Bank leverage came down markedly in Austria between 2009 and 2014, which was mainly attributable to increases in capital and decreases in interbank loans and external assets (outside the euro area and Central, Eastern and Southeastern Europe) as well as in securities issued by other banks. In contrast, exposures in the real economy (i.e. of households, nonfinancial corporations (NFCs), and the public sector) have increased. Furthermore, the link between bank loans and macroeconomic growth has been weakening over the past 20 years. In 2017, loans to NFCs accounted for only 17% of total bank assets in Austria (1999: 23%) and loans to small and medium-sized enterprises (SMEs) for around 6%. Faced with higher bank loan spreads, NFCs in particular are increasingly turning to alternative sources of funding, such as raising capital, retaining earnings, obtaining funding from other NFCs along the value chain, issuing debt instruments (including promissory notes), and factoring.

The higher weighted average cost of capital applicable to banks is largely intentional, as this serves to redistribute the costs of financial crisis from the public to bank shareholders. In addition, the higher costs for banks are partly mirrored by higher tax receipts. Notably approximately one-third of the higher loan spreads ensuing from higher capital requirements are due to reductions in tax shields (assuming an effective tax rate of 25%). This is a consequence of replacing debt with equity, which reduces tax-deductible debt servicing costs.

The higher costs arising from complexity are not intentional, however.

3 The cost of regulatory complexity

Complexity imposes costs on banks, investors, and supervisors alike. Banks incur higher costs for reporting, compliance, and supervisory risk management. For bank investors, bank balance sheets become more difficult to decipher and the information contained therein is prone to greater uncertainty (e.g. the risk weights and valuation of complex instruments such as interest rate swaps or distressed assets). As the cost of information gathering also increases, complexity impedes effective market surveillance and discipline – the third pillar of Basel III (Haldane,

2011). For supervisors, the costs of on-site and off-site supervision increase, as do impediments to resolution (BCBS, 2013).

Complexity in regulation leads to complexity in financial structures and systems, particularly in light of market participants' efforts to mitigate the costs and complications induced by regulation (Spatt, 2012) – including tailoring structures and products around regulation (Haldane and Madouros, 2012).

Complexity increases the chance of encountering loopholes in financial regulation, which can be highly profitable for banks to exploit (Archaya et al., 2013). The possibility of regulatory arbitrage may result in banks' generating asset portfolios with higher risk in order to maximize return on capital (Koehn and Santomero, 1980). Risk weighting of assets in bank portfolios ought to mitigate that effect somewhat (assuming the risk weights are accurate). However, bank efforts to actively manage risk weights (Mariathasan and Merrouche, 2014) can push many risks off balance sheet (Goodhart, 2011).

Complexity-induced executive decisions have governance implications and entail high agency costs, as managements adopt business strategies and structures for hiding excessive risk and posting “inflated” short-term profits. This also increases the size of performance-based executive compensation packages (Avgouleas and Cullen, 2015a). Furthermore, complexity incentivizes lobbying to undermine regulatory constraints given that highly technical regulations largely escape public scrutiny that might otherwise serve as a counterforce. This in turn increases the danger of regulatory capture that occurs when regulatory bodies protect and advance the agenda of the industry. Complexity might even become a source of systemic risk (Haldane, 2011; Freixas et al., 2015).

4 The reasons for regulatory complexity

In our view, flawed incentives are the main cause of regulatory complexity. The divergence between the private and social costs of bank failure incentivizes regulators to minimize the probability of failure, while at the same time encouraging bank stakeholders to take excessive risk.

Complexity is a consequence of conflicting incentives for banks with regard to financial stability (Admati, 2015). On the one hand, incentives for increasing leverage are created by implicit government guarantees, the tax deductibility of the cost of debt, and bank shareholders' limited liability. In some cases, the regulatory framework itself is used to promote non-financial stability-related policy objectives; examples that spring to mind are the promotion of SMEs (SME supporting factor; EBA, 2016) and the sustainable/green finance initiative (EC, 2018). By contrast, financial regulation aims to limit leverage to counterbalance the negative consequences of flawed incentives.

There are trade-offs to be made within the regulatory framework (BCBS, 2013). To some degree, policy makers deliberately embrace complexity in exchange for greater risk sensitivity and less intrusiveness.

Current regulation aims for a high degree of risk sensitivity to avoid incentives for banks to shift to riskier portfolios within the very simple approach under Basel I. This has increased the complexity of the framework due to the broad set of different risk weights used in the standardized approach, and even more so by allowing banks to use their internal models to calculate regulatory risk weights (BCBS, 2013). To this end, the current regulation incentivizes banks to “optimize”

their internal models, forcing supervisors to increase scrutiny of banks' internal models. However, the discretionary powers granted to supervisors under Pillar 2 make the framework even more opaque (Bruni, 2005; Haldane, 2011). Some components of Pillar 2 (Pillar 2 guidance) do not even have to be disclosed. Moreover, there is some risk of further inconsistencies when national regulators employ different practices, which can create an unlevel playing field (Döme and Kerbl, 2017).

Although using tools targeted toward specific policy objectives reduces the intrusiveness of regulation, such tools increase complexity. The Tinbergen rule states that for policy makers to achieve independent objectives, the number of independent instruments available to them must equal the number of objectives (Tinbergen, 1952). Accordingly, it is not possible to achieve two independent objectives using a single policy instrument if policies are to be effective. As a result, this rule increases complexity by adding instruments. However, the different instruments in play do allow policy makers and authorities to act less intrusively and in a more targeted manner. Macroprudential supervision is an example of targeted, evidence-based regulation.⁶

Some degree of complexity is unavoidable, however.

Banks, products, and systems are complex, and the regulatory framework mirrors that complexity. The complexity, size, and interconnectedness of banks were among the main motivators for public bailouts during the financial crisis. For example, many of the major banks have hundreds if not thousands of subsidiaries, which makes it very hard for market participants to monitor them (Cetorelli and Goldberg, 2014). Furthermore, the financial instruments themselves have become more complex (e.g. structured products). The financial system is highly complex due to the increasing interconnectedness of financial institutions across sectors, the lengthening of the intermediation chain, and closer international financial integration (Landau, 2009).

Globalization and European integration are additional sources of complexity. The interaction between international, European, and national regulators (“multi-level regulation”) makes the allocation of regulatory responsibilities unclear and confusing to both the public and market participants. This results in greater risk of fragmentation, possible inconsistencies, and conflicts between the various regulatory regimes (Wallace et al., 2005).⁷ European banks often lobby for preserving national specificities, whereas EU regulators thrive to harmonize regulation.

5 Current proposals to address complexity

Regulatory complexity has been receiving increasing attention from both global and European policy makers recently (Dombret, 2014; Ingves, 2016; Nouy, 2017; Dombrovskis, 2018). However, few policy makers have presented concrete proposals

⁶ The case of the countercyclical capital buffer (CCyB) illustrates this well. Instead of increasing the minimum capital requirement permanently by 2.5%, the CCyB is only activated when credit growth is excessive. It is again released when credit growth returns to its long-term average or below (e.g. due to a credit bubble bursting). While establishing rules and guidance on its activation and release adds complexity, the CCyB is less intrusive for banks.

⁷ This is also the case within the euro area with respect to the Single Supervisory Mechanism (SSM), where the relevant legal basis becomes more complex due to the combination of European and national law consisting of 19 different legal systems (Angeloni, 2017). While with the SSM a further player has been added to the already complex decision-making process, the SSM aims to harmonize the rules for banks in the banking union and thus contributes to simplicity.

to address the problem. Boss et al. (2018, in this issue) make the case for greater proportionality in banking regulation and supervision in the EU.

The two most concrete proposals suggest reducing risk sensitivity in order to decrease complexity.

The most detailed proposals came from the BCBS Task Force on Simplicity and Comparability (BCBS, 2013) and build on an increasingly skeptical view of the role and robustness of internal risk models within the regulatory framework. Now that Basel III (2010) has significantly simplified the numerator used to calculate capital adequacy ratios (the definition of capital), Basel IV (BCBS, 2017a) aims to reform the denominator (i.e. the risk-weighted asset calculation methodologies). At the center of the Basel IV reforms is the so-called output floor, which sets a capital requirements floor of 72.5%, calculated using internal models.⁸ Output floors will be gradually implemented from 2022 onward and fully phased in by 2027. In the United States, such a backstop was introduced in 2010 with the Collins amendment to the Dodd-Frank Act. It prescribes a 100% floor based on the simpler standardized approach. So far, each new Basel standard that has corrected unintended consequences of earlier versions has contributed to increased complexity. The risk weightings are still rather opaque and the actual effect on complexity of the introduction of the floors depends on their consistent implementation.

Haldane (2013) and Admati and Hellwig (2013) go one step further and suggest that the leverage ratio should be higher so that weighted capital ratios and unweighted leverage ratios are on an (at least) equal footing. Basel III includes a simple leverage ratio as backstop for the complex capital adequacy ratio. This is a step in the right direction, but the new minimum leverage ratio requirement is only 3%, or about the same as that of the largest U.S. banks when the global crisis erupted. According to Haldane (2013) and Admati and Hellwig (2013), the hierarchy should be reversed, with the leverage ratio playing the frontstop role given its simplicity and superior predictive performance. The more complex the bank, the stronger this case is. Admati and Hellwig (2013) call not only for the leverage ratio to play a more prominent role, but also suggest that it should be much higher at 20% of bank assets and completely replace capital adequacy ratios based on risk weights. They argue that their proposal only seems costly for banks due to the distortions inherent in the implicit government guarantee and the tax subsidies for explicit bank debt guarantees. Based on historical banking crisis data, a group of IMF researchers suggests a minimum leverage ratio of 9% (Dagher et al., 2016).

6 Addressing the root causes, rather than the symptoms, of complexity

We argue that any attempt to reduce regulatory complexity without addressing flawed incentives is unlikely to succeed. As long as the potential rewards for regulatory arbitrage and product innovation around complex regulation are high for bank shareholders and the potential costs of failure are partially externalized, the race between bankers and regulators will increase complexity on both sides. Correcting flawed incentives for bank shareholders and creditors is the most efficient contribution to enhancing financial stability and thus strengthening

⁸ The BCBS (2017a) also imposes additional restrictions on the use of internal models for certain types of portfolios.

monetary union. Therefore, we suggest the following medium-term measures to realign incentives for bank stakeholders with the objective of maintaining financial stability.

First, the implicit government guarantee of bank debt should be abolished. The introduction of the BRRD and its implementation in Austria (BaSAG) constitute progress in this respect. However, the debate on fiscal and liquidity backstops⁹ for euro area banks highlights the fact that a significant number of these banks are still considered to be too big to fail as well as too big to be resolved without recourse to public funds (Regling, 2018; Mersch, 2018). Similarly, activating macroprudential buffers for systemically important institutions (O-SII) can make an important contribution. If well calibrated, such buffers can reduce the likelihood of failure and hence the value of the implicit government guarantee. Should a failure occur, the buffers decrease the capital shortfall, consequently facilitating resolution. However, the CRD IV sets the maximum value of the buffer at 2% of RWAs, which translates into only around 0.6% of total assets in the case of large European banks. It is also important that insolvency procedures and – in selected cases – the resolution framework be transparent and rule based in order to stabilize expectations. These gone concern rules are prerequisites for the risk-sensitive pricing of liabilities that are subject to bail-in in resolution in a going concern scenario. The minimum requirement for loss-absorbing liabilities (or MREL) needs to be high enough to ensure that the bail-in potential is sufficient to avoid relying on public funds.¹⁰ Deposit guarantee schemes (DGSs) should be strengthened to ensure credible protection for insured depositors in the event of market exit, without amplifying systemic risk, should a bank become insolvent.¹¹ Either the ex ante funds must be sufficiently large to require only small ex post contributions, or banks should hold additional capital to enable them to absorb the contingent costs of substantial ex post contributions, and ex ante credit arrangements should allow the deposit guarantee scheme to raise additional funds in a timely manner. Moreover, national insolvency regimes need to become more efficient and harmonized (Lautenschläger, 2018; König, 2018).

Second, macroprudential supervision needs to ensure that the financial system is well equipped to absorb direct losses and indirect shock waves arising from market exits by banks and other financial institutions. In other words, the framework should be such that the market exit of banks does not result in external costs such as financial instability or public bailouts. Financial systems operate risk-sharing mechanisms such as DGSs (see above) and interbank liabilities. For a bank market exit to be credible, banks must be prepared to absorb the potential losses inherently arising from the intended functioning of those mechanisms

⁹ Calls for a fiscal backstop focus on the ESM as backstop for the Single Resolution Fund (SRF); the envisioned liquidity backstop would be provided by the Eurosystem, if the bank exiting resolution faces a liquidity gap too large to be closed by the SRF.

¹⁰ The precise minimum level of MREL that is necessary to achieve these objectives is institution specific and is determined by the Single Resolution Board or the national resolution authority.

¹¹ Systemic risk can result from large ex post contributions and/or the need to close a funding gap by a loan. The Deposit Guarantee Schemes Directive (DGSD) requires an ex ante fund of only 0.8% of covered deposits and relies on ex post contributions and/or loans to the DGS (Article 10 (9) of the DGSD) to cover insured deposits. Currently, not all national DGSs in the EU have put mechanisms in place that ensure that they obtain short-term funding in a timely manner. For DGS data, see <https://www.eba.europa.eu/regulation-and-policy/recovery-and-resolution/deposit-guarantee-schemes-data>.

without compromising financial stability. This was not the case during the financial crisis. Rather, the mechanisms were perceived as channels of contagion that amplified systemic risk, which resulted in intervention by the authorities: e.g. the liquidity injections by the Eurosystem in August 2007 (ECB, 2007) and public rescue packages (Weber and Schmitz, 2011). The burden of risk sharing was thus transferred to the public. As a consequence, in Austria, the systemic risk buffer component of “systemic vulnerability” was calculated to require a set of 12 banks to hold 1% of RWAs to absorb potential losses arising from risk-sharing mechanisms (e.g. due to direct interbank exposures, indirect contagion in the form of a spread shock, or ex post contributions and loan provision to the DGS). This approach to the too-big-to-fail problem complements the other systemically important institutions (O-SII) buffer, which aims to reduce the probability and the cost of failure of systemically important institutions.

Third, better disclosure would help restore market discipline and strengthen transparency. More reporting data should be made public in the EU, similar to the U.S.A.

Fourth, certain very large and complex banks need to make adjustments to ensure that they become resolvable. The more complex a bank, the harder it is to put it into resolution (when it is failing or likely to fail) and hence the greater the value of the implicit public subsidy arising from the perception of systemic importance (BCBS, 2013). Major events (such as the Société Générale/Kerviel case in 2008) serve as a reminder that the problems encountered in managing the risk of large, complex financial firms can make the world’s largest banks too big to manage. While the framework for global systemically important banks (G-SIBs) aims to address their complexity and size, there is no quantitative evidence at present that the G-SIB buffers have been effective in this regard (Carmassi and Herring, 2016; Goldberg and Meehl, 2018). Article 17 of the BRRD provides resolution authorities with alternative tools to remove impediments – such as complexity and size – to the resolution of going concern institutions. This applies in cases where it is neither feasible nor credible for the resolution authority to either liquidate an institution in normal insolvency proceedings or to resolve it without causing major disruptions in the financial system. If banks remain too complex and too big to be credibly resolved, resolution authorities should make use of their intrusive powers to require changes in the legal or operational structures of institutions, to restrict existing business lines, or to require the institution to divest specific assets or cease certain activities altogether.

Fifth, the debt overhang problem needs to be addressed ex ante. Once capital is low, limited liability can distort incentives. At the borderline between going and gone concern, it is the bank’s debtors that are the main beneficiaries of recapitalization, and the bank’s shareholders less so.¹² This gives bank shareholders less incentive to recapitalize banks that feature low levels of capital. One way to address this problem is contingent convertible bonds (CoCos). Under certain conditions – defined by the CRR – CoCos count as eligible capital (as additional tier 1 or tier 2

¹² Before CoCo triggers and early intervention triggers bite, macroprudential policy already requires shareholders and bank management to reduce dividend payments if the bank does not fulfill its combined buffer requirement. To contribute to reducing the probability of a debt overhang problem, macroprudential buffers need to be sufficiently high throughout the euro area. Even then, dividend restrictions are ineffective when profits are low or negative.

instruments; BCBS, 2010a). If designed well, they can improve the incentive structure for bank shareholders to recapitalize the bank in a timely manner. In particular, a relatively high conversion threshold (e.g. at a common equity tier 1 (CET1) ratio of at least 7% of RWAs, mirroring the CET1 Pillar 1 minimum requirement and the capital conservation buffer) could ensure timely recapitalization. Moreover, mandatory conversion into equity at a low conversion price in combination with a higher proportion of CoCos on banks' balance sheets would result in a substantial dilution of existing shareholders and thus give incentives for shareholders to recapitalize the banks well before the debt overhang problem takes hold. A study by Goldman Sachs (2009) shows that during the height of the financial crisis, well-designed CoCos would have incentivized U.S. bank shareholders to recapitalize the banks privately without government support. Currently, a large percentage of the CoCos issued in the EU is not well designed, as the triggers are too low (Deutsche Bundesbank, 2018) and the CoCos are often written down rather than converted into equity. The CRR should be amended to ensure that CoCo design improves. Furthermore, supervisors should make active use of their early intervention powers to avoid bank capitalization falling to a level at which debt overhang becomes an issue.

Sixth, supervisors should allow market discipline to work for banks in going and gone concern scenarios, even if this might cause temporary market volatility. The Pillar 3 disclosure and market discipline requirements are an important element of Basel III. However, alternative considerations often undermine the workings of market discipline when it actually takes hold. For example, the short-term unsecured money market can react very sensitively to changes in perceptions of bank stability. The disciplining effects are often undermined when central banks replace market funding with central bank funding (as was the case with the large liquidity injections by the Eurosystem in 2007). In the short term, this might be rational from the point of view of central banks given their concerns about effective monetary policy implementation and financial stability. In the long term, it, however, undermines the workings of market discipline. To avoid such time inconsistency in the future, central banks and supervisors should learn to accept some short-term volatility when market discipline is in operation. Over time, financial market participants will learn to live with this as well. At the same time, market discipline should concentrate on liabilities for which alternative considerations are unlikely to undermine its workings. CoCos fulfill this objective.¹³ Their risk-bearing characteristics in gone concern situations and the sensitivity of their coupon payments in going concern situations increase the risk sensitivity of their market prices. The maximum distributable amount (MDA) constitutes a central element in this respect: it restricts banks' ability to pay coupons on additional tier 1 (AT1) instruments and dividends when their capitalization fails to meet the combined buffer requirement (CBR).¹⁴ This simple and binding rule helps anchor investor

¹³ The recapitalizations of UniCredit and Deutsche Bank in 2017 (after sharp drops in the market prices of their CoCos) provide an initial indication that additional tier 1 instruments can supply incentives that are conducive to financial stability.

¹⁴ The MDA decreases from a maximum dividend payout ratio of 60% to no dividend at all as the gap between the CBR and the actual capitalization level widens. MDA acts as a mild yet effective measure that raises the risk sensitivity of bank funding costs at the margin.

expectations, facilitates the pricing of AT1 instruments, and avoids a time inconsistency problem for supervisors.¹⁵

Seventh, tax subsidies for leverage need to be eliminated at the margin. The tax deductibility of business expenses constitutes a core element of business taxation. As such, the tax subsidization of leverage applies to all companies, not only banks, and is consistent with the nature of the tax system. However, for banks, debt costs are typically the largest cost factor as they are highly leveraged. Unlike nonbanks, however, their leverage can have substantial negative externalities. One way to address the issue is to make not only the cost of debt, but also the cost of equity, tax deductible for all companies (EC, 2016b).¹⁶ Another would be to address the problem in a bank-specific manner. A bank levy could be structured in a way that counterbalances the tax subsidy at the margin. A target rate for bank debt would have to be defined for tax purposes, say 80% to 85% of RWAs and 90% to 95% of total assets, and EU governments would no longer subsidize debt beyond those levels. Banks with capitalizations below the stated levels would have to pay a levy equal to the tax subsidy for any debt that exceeds the target rate. That would still leave debt cheaper than equity, but by a smaller margin.

Eighth, financial regulation should not be used to promote non-financial stability-related, general economic policy objectives. The European Commission (2018a, 2018b) triggered a public debate in suggesting policy initiatives on “sustainable finance,” “green bonds,” and a “green supporting factor.” The latter would lower capital requirements for green investments by applying lower risk weights. Banks could then fund these loans with less loss-absorbing equity, which means more bank leverage. The European Commission had already introduced a SME supporting factor to decrease capital requirements for loans to SMEs and encourage banks to lend more. However, there is little evidence that SME loans are less risky than other non-financial corporate loans or that the SME supporting factor has been effective (EBA, 2016). Evidence suggests that quite large changes to risk weights would be needed to have any effect on bank lending decisions (BoE, 2014; EBA, 2016). Incorporating other objectives when setting capital requirements is at best ineffective, and at worst undermines financial stability and increases complexity (Bruegel, 2018; Finance Watch, 2018).

Ninth, building a capital markets union (CMU) – which would strengthen alternatives to bank financing for the real economy – should be supported. Banks are fragile by construction; their liabilities are liquid and nominally fixed, while their assets are illiquid and risky. Banking regulation and banking union seek to mitigate the potentially destructive consequences of bank fragility for monetary union by means of ever more complex regulation and supervisory structures. A shift from bank-based to more market-based financing (including private placements) would be even more effective in strengthening monetary union (EC, 2015). This would reduce the size of the banking sector and, as a result, the costs of banking crises in the euro area. This positive effect would be enhanced by

¹⁵ In the past, supervisory inaction was often justified by the negative signaling effects potentially associated with taking action. In addition, the sensitivity of AT1 prices provides an early warning signal not only for investors but also for supervisors, which improves the incentive structure for the bank to close the gap to the CBR.

¹⁶ The European Commission proposed to relaunch the Common Consolidated Corporate Tax Base in October 2016 with the aim of reducing the tax bias for all companies in the EU. Addressing the tax bias could also lead to more equity in nonbanks and thus increase both bank debtors' credit quality and financial stability.

diminishing the threat to the euro area stemming from the bank-sovereign nexus. It would also reduce the politico-economic hurdles to monetary union, as it would promote risk sharing through private markets (see Beer and Waschiczek, 2018, in this issue). In this respect, we regard CMU as an important complement to banking union. Finally, risk-adequate capital requirements for sovereign bonds, to be gradually implemented to avoid an unsettling of monetary union, would weaken the bank-sovereign nexus further and strengthen monetary union.

Tenth, to address the potential buildup of excessive leverage in the financial system and to anticipate a potential future crisis, the macroprudential regulatory framework should be expanded to the nonbanking sector (Houben et al., 2015). The growing shift from bank-based financing to a more market-based financing model – mainly deriving from the diversification of funding for the real economy, incentives stemming from CMU, and increased regulation of banking – calls for the introduction of new macroprudential tools. The latter are needed to address possible risks emerging in the securities markets, for mutual funds, and in the insurance and pension sectors and could be, for instance, margin and haircut requirements for derivatives and securities financing transactions as well as leverage and liquidity requirements for investment funds (Constâncio, 2017).

7 Conclusions

We suggest ten medium-term measures that address flawed incentives for banks. These would shield the euro area against the fallout from financial crises in its member countries more effectively than adding complex regulation and supervisory structures would. The most important recommendations are: First, abolish the implicit government guarantee and tax subsidization of bank debt. Second, strengthen the risk bearing capacity of the financial system to enable it to absorb the costs of the temporary market volatility associated with bank market exits. Third, improve the design of contingent convertible bonds. Fourth, reduce the size and complexity of banks by promoting alternatives to bank funding for the real economy. Not least, supervisors would have to accept the temporary market volatility inevitably associated with bank market exits.

Once this has been achieved, the social costs of bank market exit would be substantially lower. As a result, society would have a higher tolerance for bank failures, and regulation could be greatly simplified. The externalities/consequences of bank failure would be internalized within the banking/financial sector and among bank creditors. Simpler regulation might then result in more bank failures, but without having any significant detrimental effects on the wider financial system or the real economy and without destabilizing monetary union.

Annex

Table A1

Impact of higher capital ratios on crisis probability in six selected models

TCE/ RWA ¹ (%)	FSA model	Linear BoJ model	Non-linear BoJ model	Bottom-up approach	BoE model for major U.K. banks	BIS model for global banks	BoC stress testing model	Average	
	Crisis probability in % per annum								
6	6.9	3.2	7.3	8.3	12.8	4.9	6.4	7.1	
7	5.5	2.5	4.2	5.6	6.0	3.8	4.7	4.6	
8	4.3	1.9	2.3	3.8	2.6	2.9	1.7	2.8	
9	3.4	1.5	1.2	2.5	0.8	2.3	0.1	1.7	
10	2.7	1.1	0.6	1.6	0.3	1.8	NA	1.4	
11	2.1	0.8	0.2	1.0	0.1	1.4	NA	0.9	
12	1.7	0.6	0.1	0.7	NA	1.2	NA	0.9	
13	1.3	0.5	NA	0.4	NA	1.0	NA	0.8	
14	1.0	0.3	NA	0.3	NA	0.8	NA	0.6	
15	0.8	0.2	NA	0.2	NA	0.7	NA	0.5	

Source: BCBS (2010b): Annex 2, table A2.1.

¹ TCE/RWA = tangible common equity divided by risk weighted assets. We proxy TCE by CT1 in the discussion of this table in section 2.

Note: Annex 2 of BCBS (2010b) provides brief descriptions of the six models presented here. They include models from the U.K.'s Financial Services Authority (FSA)/National Institute for Economic and Social Research (NIESR), the Bank of England (BoE), the Bank of Japan (BoJ), the Bank of Canada (BoC) and the Bank for International Settlements (BIS). Three of these models are structural logit or probit models, two are estimated portfolio models, one is a Merton-style model and one is a stress test model.

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Proportionality in banking regulation

In response to the international financial crisis of 2007–2009, supervisory standard setters tightened the regulatory framework for banks at the global and European level, making banks and the financial system more resilient to exogenous shocks. In accordance with previous reforms, in the European Union the scope of the standards that the Basel Committee on Banking Supervision (BCBS) had designed for large, internationally active banks was extended to all credit institutions based on single market considerations. This, in turn, has led to an intensified discussion about the proportionality of the regulatory framework, the fundamental question being if and how to adapt the regulatory requirements for small banks with a business model of low complexity and, in particular, little or no international business.

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1 Why proportionality in banking regulation?

The principle of proportionality is new neither to bank regulation (i.e. the establishment of rules for banks) nor to banking supervision (i.e. the enforcement of rules in ongoing banking supervision). In fact, the Basel Committee on Banking Supervision (BCBS) has taken proportionality into account for many years. The 2006 Basel II framework already provided banks with a simplified standardized approach to calculate capital charges for market risk and credit risk in addition to the use of more complex internal model-based approaches². Furthermore, the BCBS introduced a principles-based approach to Pillar 2 under which the supervisory authorities, in their assessment of banks, have to consider among other things the size, complexity, business model and risk profile.³ Since 2012, the BCBS has also explicitly referred to proportionality in its Core Principles for Effective Banking Supervision⁴.

The principle of proportionality is also reflected in EU legislation – more generally in the Treaty on European Union⁵ and, specifically with reference to banking regulation, in recital 46 of the Capital Requirements Regulation (CRR)⁶, i.e. the implementation of the 2011 Basel III⁷ framework into EU law. For banking, the principle of proportionality means in particular that establishing and applying regulatory requirements must take into account not just the size and scale of a bank's operations, but also an institution's complexity and risk profile.

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² See BCBS (2006).

³ Compare also Castro Carvalho et al. (2017), p. 4.

⁴ See BCBS (2012), p. 11: "Principle 8 – Supervisory approach: An effective system of banking supervision requires the supervisor to develop and maintain a forward-looking assessment of the risk profile of individual banks and banking groups, proportionate to their systemic importance; ...".

⁵ See European Union (1999), Article 5 (4): "Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties. The institutions of the Union shall apply the principle of proportionality as laid down in the Protocol on the application of the principles of subsidiarity and proportionality."

⁶ See CRR (2013), recital 46, in particular the first sentence: "The provisions of this Regulation respect the principle of proportionality, having regard in particular to the diversity in size and scale of operations and to the range of activities of institutions."

⁷ See BCBS (2017).

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In the CRR, the EU broadened the scope of application of the Basel provisions to include virtually all EU banks with the objective of establishing a single rulebook. Yet the CRR also contains a number of requirements based on proportionality, among other things with regard to market risk (e.g. derogations for banks with a small trading book) and disclosure (reduction of the content and frequency of disclosure for smaller, non-listed institutions).⁸

The ongoing supervision of banks also allows for proportionality, in particular under Pillar 2, that is, assessment of the adequacy of banks' internal risk measurement and management process. As a case in point, the European Banking Authority (EBA) has recognized the principle of proportionality in its guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP).⁹ Additionally, proportionality has also been enshrined in the area of recovery and resolution planning through the establishment of "simplified obligations" for smaller institutions.¹⁰

The scope of regulatory requirements has expanded substantially since the Basel Capital Accord (Basel I) was first implemented.¹¹ Whereas Basel I addressed only credit risk and was just 30 pages long, the Basel framework has since been supplemented by a complex three-pillar regulatory framework that takes into account credit risk, market risk and operational risk. Additionally, the framework stipulates capital requirements, a leverage ratio and the regulation of short- and medium-term liquidity risk. The respective rules comprise standardized and rules-based approaches (Pillar 1) as well as principles-based approaches that have supplemented banks' internal approaches with supervisory review (Pillar 2). To ensure market transparency, banks must moreover meet comprehensive regulatory disclosure requirements (Pillar 3) in addition to the standard accounting and transparency obligations. Apart from the Basel framework, updated and supplemented by the recent agreement on Basel III reforms,¹² banks must comply with numerous additional specific international rules and standards.¹³

Above and beyond the Basel framework, EU prudential requirements reflect various national particularities that make EU supervisory legislation all the more intricate. Moreover, institutions must also fulfill common EU and some national securities, capital market, accounting and consumer protection requirements. These developments have made in particular the European implementation of the Basel framework increasingly complex, with small institutions finding it particularly difficult to keep pace with these developments.

Regulatory initiatives taken since 2008 predominantly reflect a reaction to the experience of the 2007–2009 financial crisis, and they have markedly helped boost the banking system's resilience to exogenous shocks. As a corollary to the reinforced resilience of the banking sector, compliance and back-office resources have been increased, entailing higher regulatory costs.¹⁴ Whereas the basic

⁸ See CRR (2013), Article 94 and Article 431 ff.

⁹ See EBA (2014).

¹⁰ See BRRD (2015), Article 4 and Article 11 ff.

¹¹ See BCBS (1988).

¹² See BCBS (2017).

¹³ For a comprehensive overview, see <https://www.bis.org/bcbs/publications.htm>.

¹⁴ See Hackethal and Inderst (2015), p. 4 ff.; EBA Banking Stakeholder Group (2015), p. 7 ff. as well as Genossenschaftsverband Bayern (2017).

development of the regulatory framework must be welcomed from the prudential stability perspective, the cost imposed by regulation – which is in relative terms larger for smaller banks for economies-of-scale reasons – may trigger unintended externalities. This includes in particular impacts on the structure of the banking sector, such as greater pressure on banks to merge or higher market entry barriers because of regulatory costs or complexity. Especially against the background of progressive digitalization of financial services, the size and complexity of the existing regulatory framework as a market entry barrier for new actors could inhibit financial innovation and could ultimately have an impact on the cost of financial intermediation. Generally speaking, the basic orientation of banking regulation should thus be structurally neutral.

These externalities hence raise the issue of whether there are regulatory or supervisory ways and solutions to achieve the objective of maintaining financial stability by increasing cost efficiency and reducing the complexity of requirements without at the same time affecting the effectiveness and soundness of the overall system. That is the pivotal issue in the discussion about the application of the principle of proportionality in regulatory and supervisory practice.

Inadequate proportionality may lead to an unjustifiably high resource burden not just on banks, but notably also on the regulatory authorities themselves. By extension, the importance of containing costs and achieving high efficiency in the public sector calls for a more proportionate and risk-oriented deployment of supervisory resources.

Achieving a suitable balance between various aspects in the context of proportionality is crucial for upholding fair competition while at the same time ensuring financial stability. Critics have pointed out in connection with proportionality that smaller banks are not per se less risky.¹⁵ Therefore, proportionate regulations should not create negative incentives in the sense that they induce regulatory arbitrage or result in lower supervisory quality and thus affect financial stability.

Another factor to take into account is that proportionate rules could in fact increase the regulatory burden rather than reduce it, especially if a separate framework is created for a particular group of banks. Establishing a parallel regime, or even several regimes, would increase the complexity of regulatory requirements and make competitive conditions even less transparent. However, complexity increases even within a single framework if proportionality is applied to many specific requirements based on different criteria.¹⁶ To prevent such negative effects, it is paramount to uniformly define which banks are eligible for proportionate treatment in specified areas and to base this definition on clear-cut criteria. This definition should preferably be used throughout the entire regulatory framework, with a set of fundamental, simple rules being applied to all banks.¹⁷ Conversely, potential proportionate treatment could depend on the respective requirement

¹⁵ As a case in point, data from the Federal Deposit Insurance Corporation indicate that from 2000 to 2017, most failed banks were small banks (according to the U.S. definition, these are institutions with total assets of less than USD 30 billion). See www.fdic.gov/bank/individual/failed/.

¹⁶ Compare section 3.2 on the existing proportionality rules in the CRR and the discussion about increasing them in section 4 below.

¹⁷ On this issue, see the Pillar 1+ proposal of the FMA and the OeNB, which is presented in section 5 and which takes precisely these aspects into account.

itself, so that the criteria do not necessarily have to be identical in all areas. Once again, it is important to strike a balance between proportionality in the individual case and the least possible complexity of the entire framework.

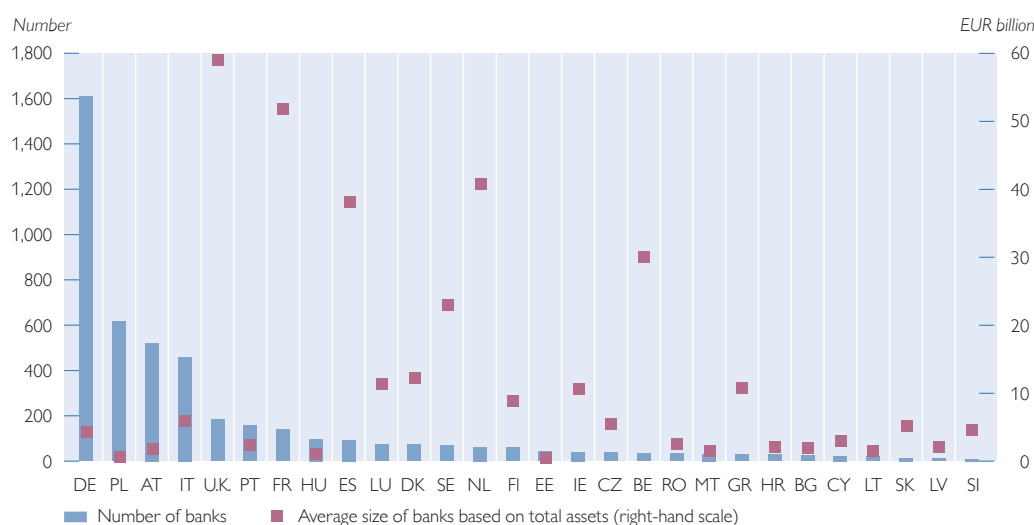
Against this backdrop, we present an overall assessment regarding the current structure of the European banking sector through the lens of proportionality. We highlight existing approaches to implementing regulatory proportionality in various countries as well as relevant measures under discussion at the European level. Finally, we also look at the Austrian supervisory authorities' stance on proportionality.

2 The heterogeneous structure of the European banking sector

The European banking industry continues to be characterized by a comparatively large number of banks. At the end of 2016, there were 4,144 banks in the EU as a whole,¹⁸ with a high degree of variability across individual EU Member States. Some countries have a large number of small banks and a handful of large banks, whereas the banking sector in other countries is dominated heavily by just a few very large banks.

Chart 1

Number and average size of banks in the EU



Source: ECB consolidated banking data (CBD) statistics.

Note: For SSM countries, the number of banks is based on the list of supervised entities published by the ECB for 2016 (2017a).

Germany accounts for the lion's share of EU banks – some 1,600 institutions – followed by Poland, Austria and Italy; more than two-thirds of all banks in the EU are located in these four countries. By contrast, most other EU countries have (significantly) less than 100 banks each. The heterogeneous structure of the European banking sector is also reflected by the average size of banks in each EU Member State in terms of total assets: whereas average total assets were below EUR 5 billion in Germany, they are, at over EUR 50 billion, considerably higher in the U.K. and France, countries that are comparable with Germany in terms of

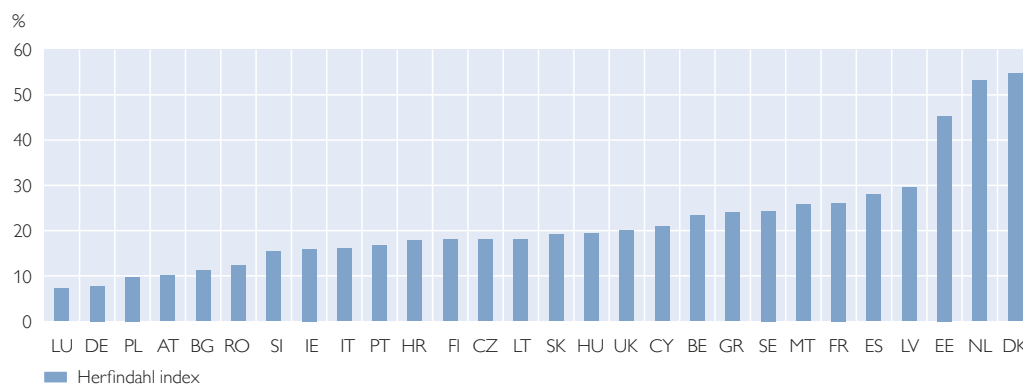
¹⁸ Consolidated view based on the ECB's consolidated banking data (CBD; i.e. banking groups and banks that are not part of a banking group), see <https://sdw.ecb.europa.eu/browse.do?node=9691533>.

banking sector size. The disparity in the average size of credit institutions is even larger when smaller EU Member States with similarly sized banking sectors are compared. In Austria, banks' average total assets fall short of EUR 2 billion, whereas they are (significantly) higher than EUR 40 billion in the U.K., France and the Netherlands.

The disparate historical development of banking sectors in individual EU countries is at the heart of the large range of average total assets. The number of banks in relation to the size of the respective banking sector in an EU Member State largely accounts for these differences, but this is not the only reason, as the chart below based on the Herfindahl index (HI)¹⁹ shows. The banking structure is also characterized by the size distribution of banks.

Chart 2

Banking industry concentration in the EU



Source: Authors' calculations based on data from S&P Global Market Intelligence (formerly SNL Financial) and national reports.

While banking sector concentration is very high in some EU countries, with the Netherlands and Denmark at the top of the range, it is partly markedly lower in other EU countries. Remarkably, countries like Luxembourg, Bulgaria and Romania are among the countries with a low concentration level. Chart 1 and chart 2, which show the number of banks and the degree of concentration within the banking system, signal that proportionality considerations may be an issue for countries with a large number of small banks (especially Germany, Austria, Italy and Poland). However, there are also countries with relatively few large banks, which have an oligopolistic banking market (e.g. Denmark and the Netherlands). In such countries, proportionality could boost competition and innovation because of lower market entry barriers – which means that the case for proportionality is not limited to small or decentralized banking markets.

In the euro area and consequently in countries participating in the Single Supervisory Mechanism (SSM), banks are classified as significant institutions (SIs) or less significant institutions (LSIs)²⁰; banks with total assets of more than EUR 30

¹⁹ The Herfindahl index (HI) is a statistical measure of concentration. In highly simplified terms, the HI for the banking sector is to be understood as follows: in a monopoly banking system with just one single bank, the total assets of this bank will equal those of the banking system (HI=100%). At the other end of the spectrum, a huge number of small or equally sized banks would yield an HI of close to 0%.

²⁰ Unlike SIs, which are supervised directly by the ECB, LSIs are supervised by the national competent authorities.

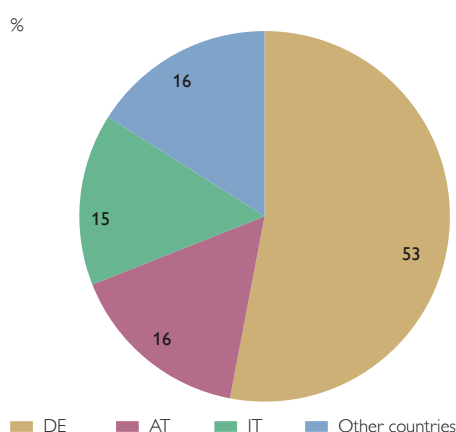
billion are in any case classified as SIs. Only LSIs are usually perceived to qualify for proportionality considerations.

According to an ECB report on LSI supervision in the SSM²¹, there were 3,267 LSIs at solo level at end-2016; these institutions represent 15% of total SSM banking assets. The bulk of the LSI sector is concentrated in Germany, Austria and Italy; in Italy, the ongoing consolidation of the banking sector will markedly reduce the number of LSIs in the next few years. At end-2016, over 84% of all LSIs were located in Germany, Austria and Italy, and these three countries also accounted for more than 70% of total LSI assets in the SSM.

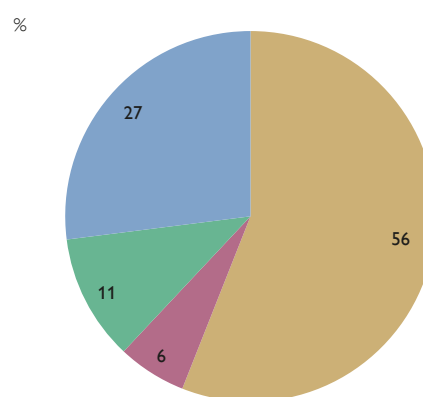
Chart 3

National shares

National shares of LSIs in SSM countries



National shares of total LSI banking assets in SSM countries



Source: Annual reports of national supervisors for 2016, ECB (2017b), p. 4.

Average total assets of an LSI in the SSM amounted to EUR 1.5 billion at end-2016 compared to just roughly EUR 200 million in Austria. By contrast, average total LSI assets were much higher in SSM Member States with larger banking sectors and fewer LSIs, such as the Netherlands, France, Ireland or Belgium.²²

Banks with total assets of less than EUR 1.5 billion account for at most 15% of total assets within each SSM Member State, and in most countries, the share lies (substantially) below 10%. In relation to the number of LSIs the share is much higher and – with the exception of a handful of countries that have only few LSIs –, the share of LSIs with total assets below EUR 1.5 billion in total LSIs is over 90%. In Austria, such small LSIs account only for around 10% of total assets, while in terms of number, well over 95% of all LSIs fall into this category. The pattern is similar, though not as pronounced, in Germany.

LSIs use a wide variety of business models, but retail banking predominates. Also, LSIs' activities are – geographically more concentrated than those of SIs.²³

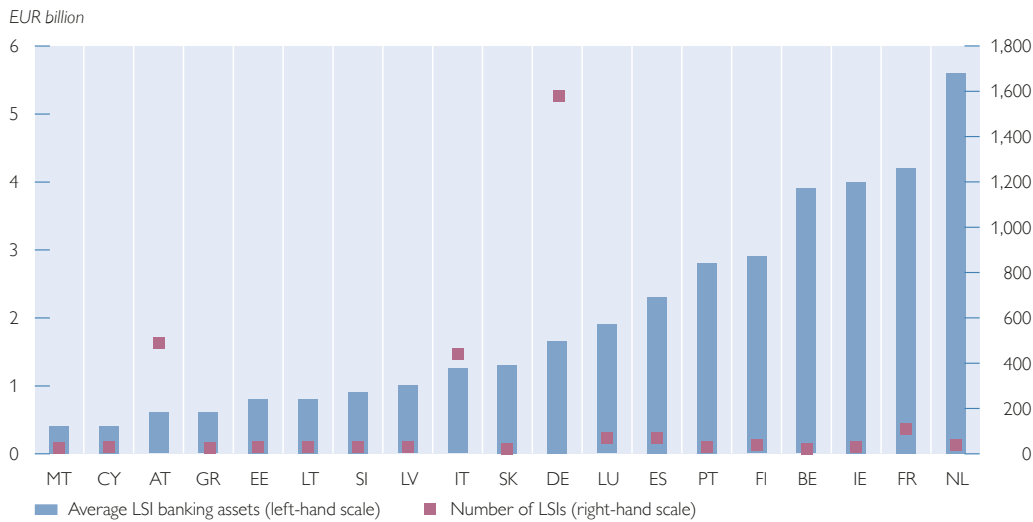
²¹ As published in ECB (2017b), p. 4.

²² See ECB (2017b), p. 5.

²³ See ECB (2017b), p. 6.

Chart 4

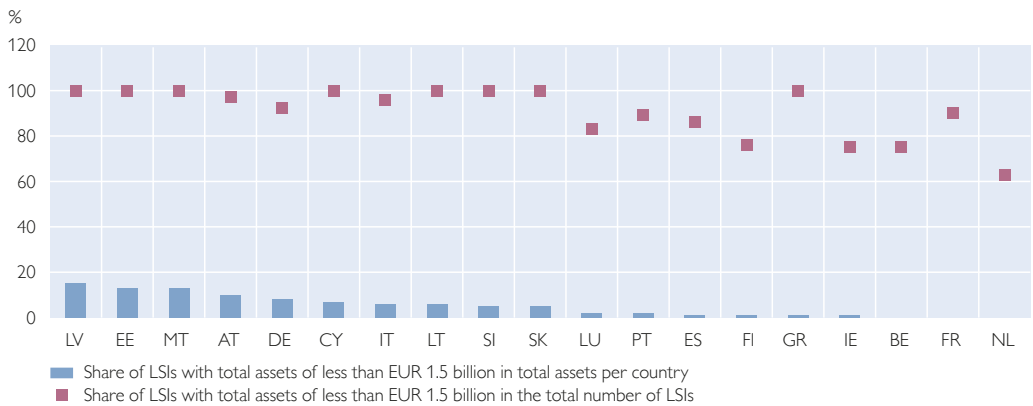
Average total assets and number of LSIs in SSM countries



Source: ECB (2017b), p. 5.

Chart 5

LSIs with total assets of less than EUR 1.5 billion



Source: Authors' calculations based on data from S&P Global Market Intelligence (formerly SNL Financial) and national reports.

The overall conclusion thus is that the bulk of small SSM banks are located in Germany, Austria and (at least still up to 2016) Italy. This reflects the presence of large, decentralized savings and cooperative bank systems, which in Germany and Austria are often organized within joint institutional protection schemes (IPS). However, one must not jump to the conclusion that proportionality is relevant only in these countries. As stated in section 1, the size and complexity of existing regulatory frameworks may represent a market entry barrier for new players, especially as the digital transformation of financial services progresses.

3 Overview of existing proportionality approaches

3.1 Globally, existing proportionality approaches are very heterogeneous

As indicated before, the principle of proportionality is firmly established in the Basel regulatory and supervisory framework.

The Financial Stability Institute (FSI) at the Bank for International Settlements (BIS) distinguishes between the following basic approaches in implementing proportionality in selected regional jurisdictions:²⁴

- *Categorization approach for proportionality (CAP)*: banks are categorized by various qualitative and/or quantitative characteristics – with size being the decisive characteristic as a rule – and a specific regulatory regime is applied to each of the categories.
- *Specific standard approach for proportionality (SSAP)*: tailored criteria are established for the application of specific requirements for a subset of prudential standards, such as disclosure requirements, liquidity indicators, large exposure limits and market risk.

In principle, the CAP establishes consistent prudential rules for banks sharing similar characteristics in a particular jurisdiction. Brazil, Japan and Switzerland, where banks are classified by size and/or the degree of cross-border activity, with different rules applying in different segments, may serve as examples of the CAP.²⁵ Brazil has divided its financial system into five segments, taking into account size, cross-border activity and banks' risk profile. The complete Basel framework is applied only to the six largest, internationally active banks in segment 1. The remaining banks in segments 2 through 5 are subject to less comprehensive prudential requirements, depending on their risk profiles and business models.²⁶ Switzerland groups banks (and securities dealers) into five categories based on measurable criteria related to total assets, assets under management, privileged deposits²⁷ and required capital. The Basel standards apply fully to institutions classified under categories 1 through 3, whereas banks in categories 4 and 5 are subject to a less comprehensive regulatory regime.²⁸ Japan roughly divides its banking system into two categories: internationally active institutions (with branches or subsidiaries abroad) that apply full Basel standards and banks that are subject to domestic regulation.

Unlike the CAP jurisdictions, the SSAP jurisdictions, i.e. the European Union, Hong Kong SAR and the United States, grant exemptions or permit the application of simplified regulation on specific areas to banks that fulfill particular criteria. These criteria are explained separately for the EU below. These exemptions are targeted at reducing the operational burden for banks without unduly weakening overall prudential standards. Traditionally, the U.S. approach to financial supervision and regulation has been characterized by flexibility²⁹ with a view to avoiding an

²⁴ See Castro Carvalho et al. (2017), p. 5f.

²⁵ See Castro Carvalho et al. (2017), p. 6 ff as well as annex p. 13 ff.

²⁶ See Central Bank of Brazil (2017).

²⁷ Privileged deposits benefit from protection up to a maximum of CHF 100,000 by analogy to the "covered deposits" of EUR 100,000 under Article 2 (5) in conjunction with Article 6 (1) Deposit Guarantee Scheme Directive (DGSD 2014) in the EU.

²⁸ See <https://www.finma.ch/en/supervision/banks-and-securities-dealers/categorisation/>.

²⁹ The current U.S. administration is seeking to relax banking regulation (in particular the Dodd-Frank Act). The U.S. Congress has already passed legislation easing bank rules. Recently the U.S. Federal Reserve issued a proposal to ease the Volcker Rule; see <http://www.handelsblatt.com/finanzen/geldpolitik/us-notenbank-fed-legt-vorschlag-fuer-erleichterungen-beim-banken-eigenhandel-vor/22627478.html?ticket=ST-4543869-iOWSMLoAo75ruLFZLGka-ap3>.

excessive regulatory burden. While the existing standards principally apply to all institutions equally, under certain conditions, specific exemptions with respect to different regulated areas may be granted in addition to the selection of banks into different regulatory categories.³⁰ Such regulatory relief is provided for especially in the context of stress tests and capital planning and with regard to counterparty risk, market risk and liquidity risk.³¹ Hong Kong SAR provides for proportionate application of the standards above all with regard to liquidity risk and credit risk (including large exposures and counterparty risk as well as disclosure).³²

The key feature of every proportionality regime is the set of criteria used to identify the banks to which a proportionate framework is applied. These criteria vary widely across the reviewed jurisdictions and differ considerably between the CAP and SSAP approaches. Size plays an important role in each of these concepts, where the respective thresholds³³ for applying the full Basel framework are set in either absolute or relative terms to total exposures, GDP or capital. These thresholds vary considerably. It must be noted that the different thresholds also result from the size and structural characteristics of the banking sectors in the individual countries:³⁴

- In Switzerland, the absolute threshold of total assets is EUR 13 billion and hence comparatively low.
 - The threshold is about twice as high in Hong Kong SAR, with total assets coming to over EUR 26 billion.
 - Japan does not apply a threshold for size; the criteria for considering a bank internationally active, however, create an implicit size threshold similar to that applied by Hong Kong SAR.
 - Brazil uses a relative threshold (total exposure to GDP exceeds 10%), which corresponds to about EUR 170 billion.
 - The United States has set the highest threshold among the jurisdictions for full application of the Basel framework – total assets of around EUR 203 billion.
- Additionally, the SSAP jurisdictions apply size-related thresholds for individual regulatory areas, particularly for the treatment of market and counterparty risk as well as disclosure requirements. As a case in point, the United States exempts all banks with insignificant trading activities (trading assets below EUR 810 million or 10% of total assets) from full application of market risk requirements.

Size-related thresholds cannot capture the full extent of business models and related risks. Therefore, other variables to categorize banks are used in both approaches, e.g. supervisory approval (Hong Kong SAR, Brazil), the business model (Hong Kong SAR, Brazil), the bank's role in the banking system (Hong Kong SAR), the risk profile (Brazil, the United States, Hong Kong SAR and Japan), and involvement in cross-border activities (Japan).³⁵ The FMA/OeNB proportionality concept presented in section 5 provides also for (absolute and relative) size thresholds, additionally taking into account criteria for business model complexity and risk,

³⁰ See Joosen et al. (2018), p. 12.

³¹ See Castro Carvalho et al. (2017), p. 6 ff as well as annex p. 13 ff.

³² See Castro Carvalho et al. (2017), p. 6 ff as well as annex p. 13 ff.

³³ All absolute thresholds are given in euro below to make comparisons easier. Conversion is at the exchange rates of March 29, 2018.

³⁴ See Castro Carvalho et al. (2017), p. 7 f.

³⁵ See Castro Carvalho et al. (2017), p. 8.

complemented with a revocation right for supervisory authorities regarding the proportionality status.

3.2 Proportionality in current EU banking regulation

The CRR and the Capital Requirements Directive (CRD IV)³⁶ contain a total of 26 provisions that are explicitly or implicitly applicable in a “proportionate” manner. As a rule, these provisions standardize the application of a given requirement in a manner that is “proportionate to the nature, scale and complexity of those institutions” or in such a way that the degree of application of a requirement should reflect differences between different types of institutions in a proportionate manner, taking into account their “size, internal organization and the nature, scope and complexity of their activities.” The first wording is regularly found in requirements that must principally be observed by all institutions across the board, respecting a proportionate application (for example implementation and execution of an internal capital adequacy assessment process). In turn, the second wording concerns institutions that must observe more stringent requirements (above all, setting up committees and similar internal management obligations). Thus, proportionality requirements are not uniformly defined under the CRR or the CRD IV.

Proportionality requirements can be found primarily with regard to market risk,³⁷ credit risk³⁸ and partly also with regard to reduced disclosure requirements and a lower disclosure frequency for small unlisted institutions.³⁹ Moreover, the concept of proportionality is also reflected in regulations regarding authorization, waivers and respective exemptions.⁴⁰ According to recital 14 of the Bank Recovery and Resolution Directive (BRRD), the principle of proportionality also applies to recovery and resolution planning. The contents and information requirements specified in the BRRD establish a minimum standard for institutions with evident systemic relevance, but authorities are permitted to apply different requirements to other institutions. For instance, the BRRD establishes appropriate options to categorize and distinguish between institutions in the “simplified obligations” framework.⁴¹ In the FMA’s Bank Recovery Plan Regulation⁴² detailing the content and level of detail of bank recovery plans, the FMA used discretionary powers to

³⁶ See CRR (2013) and CRD IV (2013).

³⁷ As a case in point, Article 94 CRR (2013) envisages a derogation for institutions with small trading book business, enabling such banks to use a simplified framework to calculate capital ratios for trading book business.

³⁸ As a case in point, Article 169 CRR (2013) standardizes general principles on the appropriateness of rating systems, models and systems used to make specific estimates under the internal ratings-based (IRB) approach and the related risk management processes and controls.

³⁹ As a case in point, under Article 433 CRR (2013), all institutions must publish disclosures at least on an annual basis. Large institutions with business that exceeds a specified threshold must publish disclosures more frequently (semiannually, quarterly).

⁴⁰ Examples of waivers for minimum capital requirements in credit institution groups are the solvency waiver for subsidiaries on an individual basis (Article 7 (1) CRR), the solvency waiver for parent institutions on an individual basis (Article 7 (3) CRR) and the solvency waiver for individual credit institutions permanently affiliated to a central body (Article 10 (1) CRR). The application of liquidity coverage requirements under Part Six CRR (liquidity, in particular application of the liquidity coverage ratio, LCR, and the net stable funding ratio, NSFR) may be fully or partly waived under Article 8 CRR for subsidiaries where all institutions of the single liquidity subgroup are authorized in the same Member State (Article 8 (2) CRR), for credit institutions permanently affiliated to a central body (Article 10 (1) CRR), as well as for members of an institutional protection scheme (IPS, Article 8 (4) CRR).

⁴¹ See BRRD (2014), Article 4.

⁴² FMA Bankensanierungsplan-Verordnung (see FMA, 2015).

classify credit institutions into four categories, with proportionate requirements applying e.g. to recovery plan contents and updating frequency.

4 Outlook: additional proportionality proposals under discussion in the EU

In September 2015, the European Commission launched a call for evidence on the EU regulatory framework for financial services. The purpose of this consultation was to identify key areas where efficiency can be increased and that hold potential for improvement. The responses of over 300 stakeholders can be grouped into four main demands:⁴³ reducing unnecessary regulatory constraints on financing the economy, enhancing the proportionality of the regulatory framework without compromising prudential objectives, reducing undue regulatory burdens, and making the regulatory framework more consistent and forward-looking.

The European Commission's report of December 2017 to the European Parliament, the European Council, the European Economic and Social Committee and the Committee of the Regions contains a preliminary conclusion about the measures already taken in response to the results of the call for evidence with respect to the problem areas identified.

In connection with the issue of proportionality, the European Commission pointed out the ongoing review of the CRR, the CRD IV, the BRRD and the Single Resolution Mechanism Regulation. The proposal for the legislative package to reform the cited frameworks (CRR/BRRD review) was published in November 2016.⁴⁴ It contains a number of measures to increase proportionality in the areas of disclosure, reporting, remuneration and market risk.

According to the European Commission's proposal, the frequency and scope of disclosure requirements would depend on whether the requirement applies to a large or to a small, non-listed institution. Large, listed institutions (i.e. global and other systemically important institutions as well as institutions with total assets of at least EUR 30 billion) will have to fulfill the Basel III disclosure requirements as implemented in the revised CRR, whereas small, non-listed institutions will only need to fulfill selected annual disclosure requirements. Small institutions are defined as having total assets averaging up to EUR 1.5 billion in the past four years. Non-listed institutions are institutions that have not issued securities admitted to trading on a regulated market in a Member State. Small, non-listed banks will only be required to make selected disclosures of key metrics, in particular regarding own funds, liquidity, governance, remuneration and risk management information on an annual basis. Institutions that are neither large nor small (other institutions) will be required to make full annual disclosures and to publish key metrics on a semiannual basis.⁴⁵

With respect to remuneration, institutions that had total assets averaging up to EUR 5 billion in the past four years or employees whose annual variable remuneration does not exceed EUR 50,000 or does not represent more than 25% of their total

⁴³ See European Commission (2016a).

⁴⁴ See European Commission (2016b and 2016c). For a critical academic appraisal of the European Commission's proposals taking into account proportionality aspects, see Stern (2017).

⁴⁵ See European Commission (2016b) Article 430a CRR as proposed.

annual remuneration shall be exempted from specific remuneration rules (regarding the partial payment of variable remuneration in instruments and deferral principles). However, it will remain at the competent authorities' discretion to apply more stringent rules.⁴⁶

With reference to market risk, among other things the thresholds for small trading books shall be increased from EUR 15 million to EUR 50 million.⁴⁷

In the area of reporting, the European Commission's proposal envisages a lower reporting frequency for small institutions (according to the aforementioned definition). Moreover, the proposal explicitly states that data which are already available to competent authorities (though at different levels of granularity or in a different format), shall not be collected once again. This provision corresponds to the "multi use of data" concept that the OeNB has been advocating for some time and that will be described in more detail in the following section on the FMA/OeNB proportionality concept.⁴⁸ Additionally, the European Commission's proposal envisages mandating the EBA, first, to deliver a report on the cost of the existing supervisory reporting system, including recommendations to simplify reporting. Second, the EBA is to develop a compliance tool aimed at facilitating institutions' compliance with the relevant prudential provisions in relation to their size and business model to reduce the related operational burden and costs especially for small institutions.⁴⁹

The European Commission intends to focus particularly on reporting, above and beyond the CRR/BRRD review. To this end, the European Commission launched a "fitness check of supervisory reporting requirements" in financial services legislation in the summer of 2017. This fitness check included a public consultation from December 1, 2017, to March 14, 2018, to gather quantitative evidence on the cost of compliance with existing supervisory reporting requirements and to collect negative examples of inconsistent, redundant or duplicate supervisory reporting requirements.⁵⁰

In November 2017, based on the European Commission's legislative proposal, the European Parliament published an initial preliminary report with amendments that itself contains proposals on increasing proportionality in the framework. Accordingly, the report cites the following criteria for defining a small and non-complex institution:⁵¹

- quantitative criterion: total assets of less than or equal to EUR 1.5 billion (option for the competent authority to lower the threshold value from EUR 1.5 billion to 1% of GDP of the Member State provided that the threshold value exceeds 1% of the respective Member State's GDP, or increase the threshold value from EUR 1.5 billion to up to 0.1% of the Member State's GDP at the consolidated level), and

⁴⁶ See European Commission (2016c) Article 430a CRR as proposed.

⁴⁷ See European Commission (2016b) Article 94 CRR as proposed.

⁴⁸ See European Commission (2016b) Article 99 (11) CRR as proposed.

⁴⁹ See European Commission (2016b) Article 519b CRR as proposed.

⁵⁰ See European Commission (2017a and 2017b).

⁵¹ See European Parliament (2017a), Article 4 (1) 144a CRR as proposed. The authors are aware of the fact that the document published by the European Parliament is a draft report. The final outcome of the proportionality debate of the Parliament's Committee on Economic and Monetary Affairs is yet to be published.

- qualitative criteria: the bank is not a large institution in the sense of a global systemically important institution, an “other systemically important institution” or an SI, its trading activities are low, the total value of the derivative positions is less than or equal to 2% of total on- and off-balance sheet assets, liquidation in insolvency proceedings is credible and feasible, and the institution does not use internal models.

In addition to these criteria, the proposals envisage a revocation right for the competent supervisory authorities and an opt-out clause for institutions. Institutions meeting this definition will mainly be subject to less stringent reporting and disclosure requirements and a simplified calibration and reporting of the net stable funding ratio (NSFR).⁵²

The final design of these proposals and the choice of which ones to take on board in the amended EU legislation depends on the outcome of the trilogue negotiations between the European Commission, the Council of the European Union and the European Parliament that are scheduled to begin mid-2018.

5 The FMA/OeNB proportionality concept: “Pillar 1+ approach”

In the context of the CRR/BRRD review, the FMA and the OeNB have proposed a comprehensive concept on proportionality referred to as “Pillar 1+ approach.” The cornerstone of this joint concept are compelling premises to be considered when introducing proportionality in the regulatory framework with a view to addressing arguments in favor of and against proportionality in equal measure. According to the concept, rules of proportionality must not create negative incentives. Above all, they must not result in regulatory arbitrage or impair the quality of supervisory activity, thereby undermining financial stability.

Given the complexity of the current regulatory framework, a near-term introduction of a new, separate framework for small, non-complex banks was not deemed feasible, which is why, as a starting point, proportionality considerations ought to lead to simplification within the existing framework (rather than to the development of a parallel regime for small, non-complex banks). Future regulatory proposals should account for how the concept of proportionality may be applied during implementation. Such an approach does not rule out that there will eventually be a separate rulebook for small, non-complex banks. Compared with setting up an entirely new regulatory framework, introducing proportionality into the existing one has the advantage that uniform regulatory principles are ensured for all banks. With this in mind, the principle of proportionality should be taken into account at an early stage,⁵³ especially when adopting new Basel standards in EU supervisory legislation (e.g. when enacting the final Basel III framework into the EU legal framework). Proportionality should be limited to areas in which application to small, non-complex institutions appears expedient to enhance financial stability.

The FMA/OeNB concept for introducing proportionality in the regulatory framework provides for a “Pillar 1+ approach”: small, non-complex banks will remain subject to all Pillar 1 requirements, but are to be partly exempt from Pillar 2 requirements and fully exempt from Pillar 3 requirements. This approach is designed to ensure that the basic principles of the regulatory framework remain

⁵² See *European Parliament (2017a and 2017b)*.

⁵³ See *BCBS (2017)*.

uniform for all institutions. For this reason, no exemptions under Pillar 1 are envisaged (e.g. of the NSFR).

To reduce the complexity of the framework, Article 4 CRR as proposed should include a uniform definition of small, non-complex institutions⁵⁴ consisting of three criteria:⁵⁵

- Total assets must not exceed any of the following thresholds: EUR 5 billion, 0.4% of the Member State's GDP and 0.2% of total assets of all institutions established in that Member State at the unconsolidated level.
- In light of their low risk profile, these banks must not issue any transferable securities admitted to trading on a regulated market (according to the definition of the Markets in Financial Instruments Directive – MiFID II).
- Furthermore, these institutions may have only a small trading book according to Article 94 CRR as proposed (up to 5% of total assets or EUR 50 million) and the exposure value of their derivatives must not exceed the threshold stipulated in Article 273a CRR as proposed (less than or equal to 5% of total assets or EUR 20 million).⁵⁶

The supervisory authority is to be given a revocation right. Even if an institution meets the above-mentioned criteria, it may be refused application of the Pillar 1+ approach due to its risk profile, company structure, legal form and status, interconnectedness to other institutions and/or the financial system, or the complexity and scope of its activities. Specifically, this could mean, e.g., high holdings of complex products or cross-border activities (outside the EU). Particular thresholds for such activities could conceivably be included in the above-mentioned list of criteria.

Principally, institutions that fulfill the criteria and are thus eligible for application of the proportionate approach must notify the supervisory authority thereof. Separate authorization will not be given. To ensure transparency and legal certainty, the EBA shall publish a list of the names of all credit institutions that have been authorized to apply the proportionate regime.

Institutions meeting the criteria cited above will benefit from the following regulatory relief:

- Pillar 2: the internal capital adequacy assessment process (ICAAP) and the internal liquidity adequacy assessment process (ILAAP) provide a substantial input into the determination of the capital and liquidity requirements in the supervisory review and evaluation process (SREP). Considering the high operational burden and large amount of resources needed to implement these processes in small, non-complex institutions, their relative contribution to financial stability is limited. Hence, it is proposed to use at least highly simplified, broadly automated supervisory procedures in these areas, and to refocus on the

⁵⁴ The European Commission is currently proposing a similarly consistent categorization of investment firms as part of the investment firm review, see https://ec.europa.eu/info/publications/171220-investment-firms-review_en.

⁵⁵ The criterion “the institution does not use internal models” listed in the draft proposal of the European Parliament (see section 4 or European Parliament (2017a), Article 4 (1) 144a CRR as proposed) might be used as an additional criterion – subject to clarification that proportionate requirements would still be an option for small, non-complex institutions within a banking group which qualify as small, non-complex institutions in line with the harmonized definition except for the fact that they use an internal model developed for the entire banking group and managed by another group entity (typically the parent bank) rather than a dedicated internal model. At the same time, it must be ensured that the simplifications do not benefit the group entity managing the internal model – comprehensive supervision at the consolidated level must not be compromised.

⁵⁶ See European Commission (2016b).

principle of letting banks decide for themselves how to conduct their internal assessment processes. Another option might be to exempt small, non-complex banks from the ICAAP, ILAAP and SREP requirements completely and instead introduce an additional blanket Pillar 2 requirement for these institutions. However, the potential calibration of this blanket requirement should be based on previous supervisory experience and benchmarks. Besides, it would be necessary to ensure that waiving banks' individual Pillar 2 requirements (given the resulting lack of risk sensitivity) does neither result in a preferential nor disadvantageous treatment for these banks compared to others.

- Governance and “fit and proper” criteria: raising thresholds in this area could mean that the requirements for institutions to establish committees and apply more stringent fit and proper criteria may be scaled back and that committees could be merged to a greater extent.⁵⁷
- Disclosure: for lack of informative value, the comprehensive disclosure requirements should be completely eliminated for small, non-complex banks or, as the European Commission proposed in its CRR review, should at least be reduced to key metrics.
- Reduction of the administrative burden: replacing the authorization requirement with a notification requirement, e.g. in the case of a marginal reduction of own funds in line with Articles 77 and 78 CRR could reduce the related administrative burden without compromising financial stability.

The proportionality concept of the FMA and the OeNB therefore combines the CAP and SSAP approaches insofar as, according to the CAP, a uniform definition for small, non-complex banks is established for which, under the SSAP, exemptions or relief measures are to apply in specific regulatory areas. In this sense, the proposal does not envisage a separate rulebook for small, non-complex institutions.

Moreover, small, non-complex institutions could be made exempt from drawing up a (formal) resolution plan and from meeting a (formal) minimum requirement for own funds and eligible liabilities (MREL) if, in the view of the resolution authority, insolvency proceedings or a private-sector solution appears credible and feasible.

To preserve the quality of supervisory activities, continued supervisory access to core information from banks, in particular from small institutions, is important. Under the FMA/OeNB proportionality concept, all existing reporting requirements would continue to apply to small, non-complex institutions, as availability of sufficient reporting data is a key component of a risk-based supervisory approach that appears all the more important given the (potential) exemption from Pillar 2 requirements. With respect to supervisory reporting it is crucial to implement the “multi use of data” concept so that all institutions involved in banking regulation are obligated to establish whether required reporting information is already available in another, e.g. a more granular, form, to rule out the collection of duplicate information except for exceptional circumstances.⁵⁸ This concept is designed to improve transparency and interinstitutional cooperation; also, it increases efficiency by automating data collection processes and thus above all reduces the burden on small banks.

⁵⁷ In Austria, the thresholds for installing a nomination committee, a remuneration committee and a risk committee were raised from EUR 1 billion to EUR 5 billion when the Austrian Banking Act was amended in 2017 (Federal Law Gazette Part I 2017/149).

⁵⁸ The “multi use of data” concept has been envisaged in Article 99 (11) CRR as proposed for amending the supervisory framework.

For institutions subject to CRR requirements, the introduction of the proportionate requirements presented above would be possible only via an amendment at the European legislative level, more specifically, within the framework of the CRR/BRRD review. Overall, the relief measures detailed above would considerably ease burdens and save costs both for credit institutions and for the supervisory authorities. Even if simplified requirements were introduced, the quality of supervisory activity and financial stability would remain ensured above all by clear criteria for defining small, non-complex institutions, the right to revoke the proportionality status in specific cases, the availability of up-to-date reporting data, hence risk data, as well as a capital add-on offsetting the optional exemption from Pillar 2.

In the course of the CRR/BRRD review, besides the FMA/OeNB concept, the “small banking box” presented by the German Finance Ministry was likewise discussed. While certainly being comparable, both concepts diverge with respect to details, which we will outline below.

The premise of first introducing proportionality to the existing prudential framework, or reinforcing it within the framework, represents a major difference compared with the German concept, as the small banking box approach envisages the creation of a separate supervisory regime for small, non-complex institutions.⁵⁹

The German proportionality approach classifies banks into three groups: systemically important (significant) institutions with total assets of more than EUR 20 billion, medium-sized institutions and small, non-complex institutions. The definition of a small, non-complex institution contains quantitative criteria (total assets of up to EUR 3 billion, supplemented by a relative criterion still under discussion) and a number of qualitative criteria. Apart from the dissimilar thresholds, the definition of a small, non-complex institution under the FMA/OeNB approach, in contrast to that under the small banking box approach, does not preclude small institutions that use internal models, provided these models were developed at the group level and are simply applied by the subsidiaries.⁶⁰

The small banking box framework does not imply any changes compared with the status quo for systemically important (significant) institutions, as they will continue to be subject fully to the regulatory framework based on the Basel rules. Whereas only selected exemptions are envisaged for medium-sized institutions, the third group of small institutions is subject to a separate, i.e. the small banking box framework. Essentially, the latter institutions are exempt from all disclosure requirements, remuneration rules and the need to draw up recovery and resolution plans. In addition, a simplified NSFR applies to these banks, and reporting is reduced to a core reporting process.⁶¹

The objective of the Pillar 1+ approach proposed jointly by the FMA and the OeNB is to ensure that the basic principles of the regulatory framework continue to apply uniformly to all banks. Therefore, the FMA/OeNB approach – unlike the German proportionality concept – does not provide for any exemptions from the NSFR, a Pillar 1 requirement. Moreover, the core reporting process for small, non-complex banks proposed for the small banking box must be viewed with a

⁵⁹ See Dombret (2017a and 2017b).

⁶⁰ See Dombret (2017a and 2017b). Compare also footnote 55.

⁶¹ See Dombret (2017a and 2017b).

certain skepticism, as the possible reduction in reporting could in the medium term contradict the “multi use of data” concept envisaged under the FMA/OeNB proportionality approach (e.g. because data might not be reported to the Eurosystem’s AnaCredit analytical credit dataset).

6 Summary and conclusions

The extension of the scope of the Basel regulatory framework to small banks that are not internationally active as a corollary to greater financial stability has noticeably increased the cost of compliance for such banks relative to other institutions in the EU.

Considerations on introducing proportionality to prudential regulation must balance different needs, especially the possible impact on competition and on financial stability. Consequently, in devising the proportionality concept, it is key to strike a balance between keeping the regulatory burden to a minimum and ensuring compliance with prudential standards, subject to the aim of risk-based supervision to guarantee effective and efficient monitoring. Proportionality should be understood as reducing the regulatory burden if less cumbersome rules are just as effective in ensuring sufficient levels of capital and liquidity in small, non-complex banks.

The Austrian supervisory authorities consider it crucial in connection with strengthening proportionality in banking regulation to introduce a uniform definition of a small, non-complex institution to the entire regulatory framework and to (also) include a relative criterion in order to keep banking regulation from becoming even more complex overall.

However, the complexity of an institution’s business model cannot be judged based on quantitative criteria alone; there is also a need for qualitative evaluation. Moreover, supervisory authorities must have the power to remove proportionality exemptions granted earlier. Introducing greater proportionality to the regulatory framework must not create any undesirable incentives or regulatory arbitrage options. Therefore, no relief measures should be granted under Pillar 1 to ensure that the basic principles of a uniform regulatory framework apply to all banks. In particular in the core areas of banking regulation (i.e. with regard to minimum capital and liquidity requirements), regulatory relief should focus only on Pillar 3 and on the reduction of the operational burden under Pillar 2. Alternatively, the (optional) exemption from Pillar 2 requirements for small, non-complex banks might be offset with a blanket capital add-on, which would need to be calibrated in such a way as to safeguard a level playing field with competitors that continue to be subject to capital add-ons under the regular Pillar 2 framework. Any new supervisory rules ought to be designed already with the concept of proportionality in mind. Thus, the principle of proportionality should be taken into account at an early stage, especially when enacting new Basel standards (e.g. the fundamental review of the trading book) into EU supervisory legislation, limiting proportionality to areas in which application to small, non-complex institutions appears expedient to enhance financial stability. In this respect, we support a combination of the two approaches in the Financial Stability Institute’s paper (Castro Carvalho et al., 2017), under which institutions are classified on the basis of specified criteria, by analogy to the categorization approach for proportionality (CAP), and under which, provided these conditions are fulfilled, eligible institutions are granted particular exemptions or relief measures within the existing regulatory framework, by analogy to the specific standard approach for proportionality (SSAP).

The comparison of the proportionality regimes in various countries signals that proportionality approaches differ with respect to the classification criteria for banks. Nevertheless, banks are classified by size as a rule. Additional criteria include indicators suited to reflecting the complexity and/or risk content of the business model. The actual design of the proportionality requirements varies markedly from country to country, as do the areas to which they apply. To conclude, further analyses at the international and European levels are needed to evaluate the impacts of the different proportionality approaches as well as to establish a solid analytical basis for future proportionality rules. Ideally, more resource-friendly and cost-efficient rules could be developed on the basis of such analyses to reduce the operational burden for supervisors and supervised institutions alike without undermining the effectiveness of banking regulation.

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Capital markets union: a more diverse financial landscape in the EU?

This paper assesses the potential of a European capital markets union (CMU) to diversify the funding structure of European companies and foster risk sharing. CMU is meant to improve corporate financing by promoting a larger diversity of financial products and avenues of (dis)intermediation. This would allow companies to better cover their various financing needs by tapping into appropriate financing sources. However, banks and capital markets complement rather than substitute each other in financing corporate investments. Yet, CMU does not sufficiently address the high leverage of companies, which makes it difficult to obtain funding. The level of macroeconomic risk sharing across EU Member States is currently very low. It remains to be seen how successful the CMU measures will be at promoting risk sharing. CMU might also create additional risks and policy challenges because it is likely to shift credit risks to other – perhaps less regulated – institutions and because cross-border investments might increase.

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JEL classification: E61, G1, G2, G32

Keywords: capital markets union, investment, corporate finance, disintermediation, risk sharing

In reaction to the downturn in investment during the financial and economic crisis, the European Commission developed an investment plan for Europe, the so-called *Juncker Plan*, consisting of three main pillars: (1) the European Fund for Strategic Investments, (2) the promotion of investment in the real economy, and (3) measures to improve the investment environment. The capital markets union (CMU) project is part of the third pillar. CMU is meant to foster economic growth and employment as well as to increase risk sharing across EU Member States. Moreover, CMU aims to facilitate investment financing, extend available options for investors, enhance the resilience of the financial system and promote cross-border investments.

In 2015, the European Commission put together a set of 33 measures, each dealing with specific capital market aspects, in an Action Plan (European Commission, 2015a). This Action Plan is designed to strengthen market-based corporate financing (without discouraging bank financing), open up national markets and remove barriers to transnational capital flows. In this context the term *capital market* is used more broadly and includes all nonbank-based forms of financing.² The plural in “capital markets” union reflects this wide range of measures. The 33 individual measures are to be implemented by 2019. However, the heterogeneity of measures implies that the CMU “completion date” is rather uncertain, and it remains to be seen to what extent CMU will eventually be implemented. Moreover, implementation on the side of the Commission is not equivalent with being effectively operational.

There are two basic rationales behind the CMU project. The first is that corporate financing relies too heavily on debt and in particular on bank loans. This increases volatility in financing patterns. Second, European capital markets are still insufficiently integrated. With diverging insolvency rules, supervisory practices

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² In the debate on CMU, the reference to “capital markets” is often used as shorthand for sources of nonbank lending and is preferred to the rather negatively connotated expression “shadow banking” (Véron and Wolff, 2016).

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Overview of CMU measures

In its 2015 Action Plan the Commission defined 33 specific measures for six main categories. The first category includes financing for innovations, start-ups and nonlisted companies. The second set of measures intends to make it easier for companies to enter and raise capital on public markets. The third category promotes investments for long-term infrastructure and sustainable projects. The fourth fosters retail investment. The fifth set of actions aims to strengthen the capacity of EU capital markets. The sixth category deals with measures to facilitate cross-border investment.

In the 2017 mid-term review, the Commission presented several follow-up and additional actions. Nine new priority actions that had not been part of the original Action Plan were introduced. Seven of these priority actions (e.g. harnessing the potential of financial technologies and facilitating the transfer of nonperforming loans from balance sheets to capital markets) are new measures within one of the above-mentioned six main categories, while two address the new objective of strengthening the capacity of EU capital markets.

and tax regimes between individual member countries, European capital markets remain fragmented.³ This fragmentation actually increased in the wake of the crisis when cross-border financing dropped considerably (see ECB, 2017).

This paper assesses the potential of CMU to foster diversity in corporate financing and risk sharing on the basis of the relevant economic literature. In view of the highly diverse nature of the CMU measures, it is however beyond the scope of this paper to discuss the current state of the individual measures. The underlying dynamic process quickly renders such a discussion obsolete.⁴ Given the scope of the Action Plan, the paper takes an EU-wide⁵ perspective and does not discuss the effects on individual countries such as Austria⁶.

The paper is structured as follows: section 1 locates the CMU project within the EU's institutional landscape. Section 2 discusses potential contributions of CMU to growth based on the literature on finance and growth. In section 3, we focus on risk sharing in the EU and ask whether CMU will enhance cross-border risk sharing. Section 4 summarizes and concludes.

1 CMU within the EU's institutional landscape

The free movement of capital is one of the four fundamental freedoms of the single European market. Thus, the core idea of CMU – the development of an EU-wide capital market through the removal of national boundaries – is not new. Rather, it is one of the key objectives of European integration that has been promoted by many EU initiatives and projects: the abolition of capital controls in the EU in 1988, the Financial Services Action Plan launched in 1999, and the proposals of the Giovannini Group in 2001 to remove obstacles to the cross-border settlement of securities transactions (for a comprehensive survey, see Valiante, 2016). Yet,

³ Naturally, numerous other factors, including pension systems, saving behavior, investors' risk taking and financial education, are also relevant in this respect.

⁴ The Commission regularly monitors the CMU implementation progress on its website (<https://ec.europa.eu/info/business-economy-euro/growth-and-investment>).

⁵ A number of statistics in this paper refer to the euro area only instead of the entire EU, which is due to reasons of data availability.

⁶ For an analysis of the possible effects of CMU on corporate financing in Austria, see Elsinger et al. (2016).

financial markets in the EU are still not fully integrated. In fact, the crisis has even reduced integration (ECB, 2017; see also section 3). In this sense, the CMU project should be seen as a further step toward a single European capital market, but it is safe to say that it will not be the final step in that direction.

Technically, the CMU Action Plan employs a rather diverse set of approaches. It includes directives, modifications and addenda to existing rules, public consultations as well as stocktaking and benchmarking tools to accumulate more knowledge before proposing a specific measure. In many instances, harmonization of national laws is envisaged only if nonlegislative means, such as self-regulation or benchmarking, are not successful. Overall, this leads to a complex host of legal acts, regulatory measures and recommendations aimed at changing economic agents' financing (and saving) decisions regarding individual financial instruments.

The heterogeneous approach of CMU is best illustrated when contrasting it with the banking union, the other landmark project currently being pursued to further the integration of the European financial markets. While both aim to foster a single market for financial services within the EU, there are notable differences between the two, not only in scope but also in the way they intend to reach their goals. While the banking union focuses on the banking sector of the euro area, CMU addresses the nonbanking part of the financial market of the entire EU. Unlike the banking union, which regulates and limits bank operations, the CMU program actively promotes capital market integration. While the banking union has shifted responsibilities for banking supervision and resolution to a European level, the Action Plan does not intend to centralize the supervision of the relevant instruments and institutions.⁷ Thus, CMU does not intend to create a new institutional architecture or a public risk-sharing mechanism (such as the common fiscal backstop for bank deposits). Instead, it aims to strengthen the current institutional framework and to address the shortfalls of the regulatory and supervisory system in cross-border trading. The numerous individual measures within the Action Plan are not as interdependent as the elements of the banking union.

2 Effects of the financial structure on economic growth

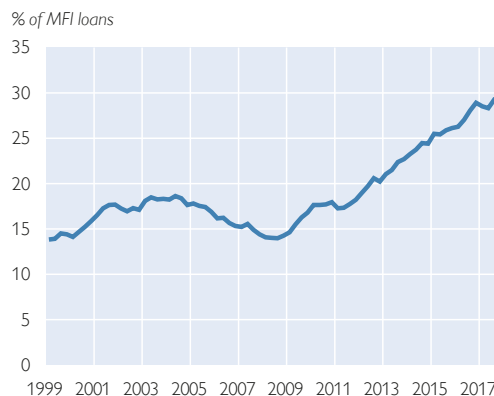
Based on the literature on finance and growth, this section analyzes the potential of CMU to foster growth. In particular, we address the objective of CMU to promote market-based financing, especially measures with regard to the financing of small and medium-sized enterprises (SMEs) and the role of other financial institutions. Furthermore, we discuss whether high leverage is an impediment for financing.

2.1 CMU and market-based (debt) financing

The first central assumption of the CMU project is that the European corporate sector depends too much on bank financing. While earlier studies had indicated that it is irrelevant to the growth of an economy whether the financial system is more bank or more capital market based (e.g. Levine, 2002; Beck and Levine, 2002, 2004), recent studies have suggested that capital market-based systems are better able to absorb shocks and have higher long-term growth rates (Levine et al.,

⁷ However, with its proposals on the review of the European supervisory authorities, the European Commission has started first steps toward more centralized supervisory arrangements for capital markets.

Chart 1

Bonds issued by euro area NFCs

Source: ECB.

2015; Gambacorta et al., 2014). However, these findings are not uniform. Bolton et al. (2013), for instance, conclude that a close bank-borrower relationship has a stabilizing effect. Recent studies have shown that with economic and technological progress, the importance of the services provided by banks for economic activity is decreasing, while the services provided by securities markets are gaining importance. This development is also driven by advances in technology as well as the greater availability and application of hard information. In particular, market financing is better

suited for driving innovation and productivity and for financing new sources of growth (for an overview, see Popov, 2017). Thus, by promoting market-based financing, CMU could contribute to enhancing the EU's productive capacities.

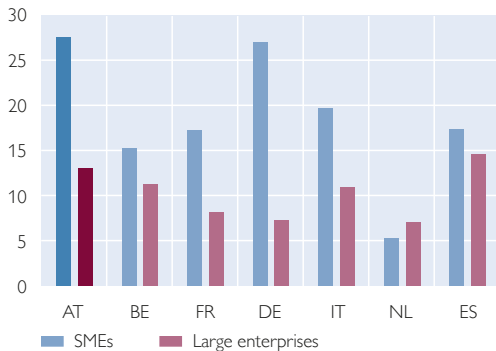
The shift from loans to market-based debt is not a new phenomenon. It had already been gaining momentum before CMU. In the euro area, a simple disintermediation ratio, defined as the ratio between debt securities issued by nonfinancial corporations and bank loans granted to nonfinancial corporations, has almost doubled since the onset of the crisis (chart 1).⁸ Yet, although corporate bonds have partly offset bank loans as a funding tool, there are limits to substituting bank loans by bond financing as they differ in a number of areas (see Waschiczek, 2004; Elsinger et al., 2016). For one, there is the issue of strongly digressive costs in issuing bonds, while costs for bank loans generally increase in proportion to the loan volume. Bonds come with a series of one-off costs, which are mostly unrelated to the credit volume. The adaptation of the Prospectus Directive within the CMU Action Plan aims to address this issue by introducing simplification and flexibility regarding the securities prospectus for all types of issuers. However, the directive leaves a number of cost factors unchanged. Furthermore, bank loans are better suited than bonds to overcome information asymmetries between lenders and borrowers. Long-standing relationships give banks enhanced insights into the finances of their customers and enable them to arrive at a more informed assessment of borrowers' credit quality. The implicit relations that emerge over time between banks and their borrowers facilitate negotiating services that cannot be agreed upon upfront. Improving and standardizing the public availability of credit data related to SMEs with initiatives such as the Prospectus Directive may facilitate bond issuance, but it will not make bonds as flexible as bank loans.

⁸ From its pre-crisis high in 2007 to its post-crisis low in 2015, lending by banks in the euro area to nonfinancial corporations fell by EUR 545 billion. Capital markets largely compensated for this shortfall. Outstanding corporate bonds rose by EUR 429 billion between 2008 and 2015 as companies took advantage of record-low interest rates.

Chart 2

Amounts owed to credit institutions

% of balance sheet total, 2014



Source: BACH database.

2.2 Addressing SME finance

In light of the digressive cost structure when issuing bonds and information asymmetries that weigh more heavily for smaller and more opaque enterprises, SMEs depend more strongly on banks for external financing. In some European countries, the share of bank loans in the balance sheet total was more than twice as high for SMEs than for large enterprises in 2014 (chart 2). CMU intends to facilitate the financing of SMEs by increasing securitization of SME loans (see next subsection). It also aims to help smaller companies overcome the information barriers for raising

external funds. Given the reduced availability of transparent and credible information on the economic condition of smaller firms, the Action Plan includes measures to investigate how to develop or support EU-wide information systems. As information gaps between capital providers and capital-seeking companies increase the cost of external financing, a higher degree of transparency may contribute to lowering companies' financing costs or simply make fundraising possible in the first place. Moreover, greater transparency may improve risk identification and pricing in the financing process, thus reducing the misallocation of capital. However, direct contact with investors and the need to keep them thoroughly informed – in particular when raising funds on a regulated market – can have considerable repercussions on the corporate governance of a company. Other channels to improve the supply of finance to SMEs include the promotion of private placements and venture capital. However, both these channels merely concern certain types of SMEs. Private placements are a form of raising debt financing and are predominantly used by larger SMEs (and the smaller segment of major enterprises). Venture capital, which is mostly equity finance, tends to be applied in particular by technology firms in the earlier stage of their development.

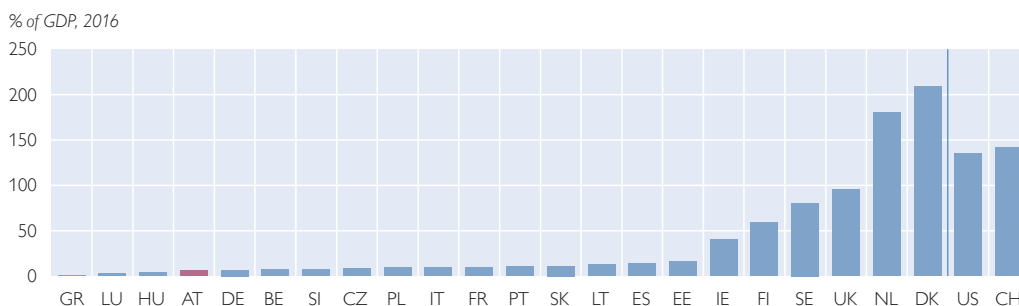
2.3 Shifting intermediation to other financial intermediaries

These considerations give rise to the notion that banks and capital markets do not substitute but complement each other. This is reflected in a number of CMU measures that aim to increase the capacity of EU banks to finance the real sectors of the European economy. A case in point is the proposal on simple, transparent and standardized (STS) securitization. While securitization may increase the willingness and/or capacity of banks to extend credit, it does not reduce firms' dependency on banks, and may even create room for more loans in banks' balance sheets. However, while potentially increasing the investor base for bank loans to the corporate sector, securitization, even in its revised form, still entails considerable systemic risks.⁹ The increase of available credit due to the expansion of the securitization market

⁹ See for example *Levieuge and Pollin (2017)* and the literature cited therein.

Chart 3

Total investment of providers of funded and private pension arrangements



Source: OECD.

seems to have played a major role in fueling the dynamics of the U.S. subprime mortgage crisis (Segoviano et al., 2013).

Apart from the initiative to revive securitization, other CMU measures that aim to strengthen the lending capacities of the European banking sector include an EU-wide framework for covered bonds and similar structures for SME loans. Concerning both securitization and covered bonds, banks would retain their economic function in information provision but not in ultimate funding. Moreover, the securitization of loans or the issuance of covered bonds do not only concern loans to firms, but also mortgage loans to households. Ultimately, these measures might result in more mortgage lending to the household sector and thus actually be detrimental to more growth (e.g. Beck et al., 2012). Finally, given that in most EU Member States banks are universal banks, they would have a key role in capital market financing of enterprises by providing advice and guidance.

In essence, CMU does not aim at promoting direct financing of enterprises by the real sector of the economy but rather at shifting intermediation to other financial intermediaries such as mutual and pension funds, insurance companies and venture capital funds. This includes newer types of intermediaries like loan-originating funds, for which the Action Plan envisages an enhanced role. Additionally, these intermediaries will be important investors in securitized products and covered bonds. While in some respect institutional investors perform similar financing functions as credit institutions, they tend to have different strategic objectives regarding their time horizon, underlying risks and liquidity. Moreover, their lesser role in many EU Member States stems from different institutional arrangements such as a smaller importance of pension funds as a consequence of pay-as-you-go pension systems. Chart 3 shows that total assets of providers of funded and private pension arrangements are very low in most EU Member States (with the notable exception of some northern countries and the U.K.) and distinctly lower than for example in the U.S.A. and in Switzerland. These institutional arrangements are beyond the reach of CMU, and it is doubtful whether they should be adapted only for reasons of corporate financing. Furthermore, institutional investors are often less regulated than banks. This is especially true in light of the increase in banking regulation which we have seen in response to the crisis. At the same time, institutional investors often maintain relationships with the banking systems (e.g. via holdings). Thus, while the basic principle of disintermediation is to spread risks among

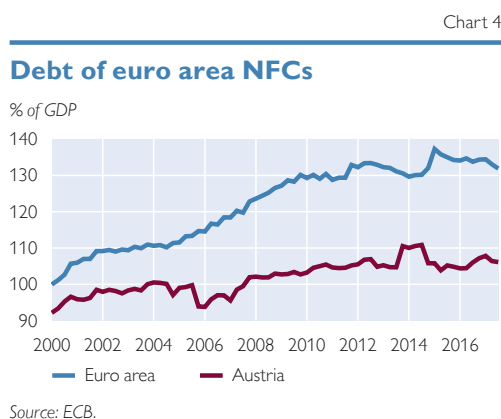
a wide array of investors rather than among comparatively few credit institutions, disintermediation might bring about risks of its own. In terms of bank-related risks, the European banking union aims to scale up protection at the European level. CMU, however, does not envisage similar arrangements concerning risks for other intermediaries to the same extent.

2.4 High leverage as a barrier to financing

Moreover, high debt levels might constitute an essential barrier to financing. As chart 4 indicates, corporate debt as a percentage of GDP increased considerably in the euro area between end-1999 and the onset of the crisis (end-2008). It has continued to rise since, albeit at a significantly slower pace.¹⁰ The lackluster loan dynamics since the onset of the crisis can most likely be attributed to the buoyant loan growth in the preceding period. With rising debt, borrowers' ability to repay becomes progressively more sensitive to lower revenues and profits as well as higher interest rates (Cecchetti et al., 2011). At the same time, in an economic downturn, the pressure of debt service will cause highly leveraged firms to cut back investment more severely than low-leverage firms. Thus, high leverage may make the economy less stable (Bernanke and Campbell, 1988) and lead to a debt overhang (Myers, 1977).¹¹

Empirical studies on the relationship between credit to the private sector and economic growth confirm this notion. While earlier studies found a positive effect of credit on macroeconomic performance, especially in the earlier stages of a country's economic development, recent studies suggest that these effects on macroeconomic performance are not always positive and may even become negative (Arcand et al., 2015; Beck et al., 2014). Manganelli and Popov (2013) find that at higher private credit-to-GDP ratios, industries with high growth opportunities are hampered. Similarly, Cecchetti und Kharroubi (2012) show that credit booms harm in particular those industries that have either lower asset tangibility or high R&D intensity, i.e. industries that are commonly deemed engines of growth.

These findings lead to the conclusion that reviving debt financing – be it by banks or nonbank intermediaries – may not be of much help in the current situation. Yet, although concerns about large debt would warrant otherwise, the Action Plan does not touch upon debt reduction and includes few measures regarding the capital structure of the corporate sector. The measures of the Action Plan to support equity financing in the EU are mostly targeted at financing the earlier stages of enterprises



¹⁰ Debt is defined here as debt securities, loans, pension entitlements, claims of pension funds on pension managers and entitlements to nonpension benefits, trade credits and advances.

¹¹ Debt overhang refers to a situation in which a firm whose debt has become too large cannot take on additional capital to finance future projects, even if these projects could generate a positive net present value, because the anticipated profit would be used to service existing liabilities.

(e.g. venture capital), i.e. enterprises that generally have not tapped bank loans.¹² The biggest single item within the Action Plan regarding firms' capital structure is the proposal to introduce a corporate tax offset allowance for equity issuance as part of the legislative proposal on a Common Consolidated Corporate Tax Base (CCCTB). Given the long history of this debate, it remains to be seen how successful this initiative will be. Moreover, the extent to which equity financing, for lack of tax deductibility, is relatively more expensive than debt does not only depend on the level of the tax rate, but also on other specifics of the tax system, such as additional tax deductions and the allocation to provisions. Interest rates also play a key role. In the current low interest rate environment, the cost advantage of debt financing is less relevant than with high nominal interest rates.

Overall, CMU might contribute to a larger diversification of financing sources, beyond "traditional" bank lending. However, to what extent smaller enterprises, which currently rely on bank lending more than larger companies, will benefit from CMU remains to be seen. The Action Plan clearly addresses only some of the factors that hinder SMEs' access to market finance. The same may hold for greater geographical diversification. A larger variety of funding sources may go hand in hand with risks associated with increased cross-border capital flows. Possible implications are discussed in the following section.

3 Increased private risk sharing across EU Member States

The second central premise of the CMU project is that insufficient financial integration within the EU constitutes a major impediment to cross-border risk sharing. This section gives an overview of the extent of risk sharing. Here, we discuss both potential reasons for the currently low risk sharing in the EU and the CMU measures to enhance risk sharing in the EU.

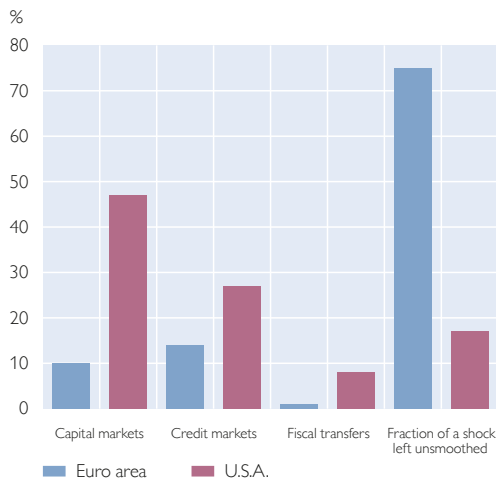
3.1 Risk sharing in the EU is low at present

Risk sharing helps absorb fluctuations in gross domestic product. Regions or countries affected by a shock or in a recession receive income or funds from other countries or regions and can keep consumption levels stable despite the downturn. Smoothing consumption is generally considered an effective means to promote welfare. In order for risk sharing to actually have this effect, the various EU economies would have to be developing differently. If all EU countries experience a similar drop in GDP, risk sharing within the EU will not be effective.

Under certain circumstances, cross-border risk sharing could contribute to higher growth. According to Kalemli-Özcan et al. (2003), risk sharing facilitates exploiting the gains from industrial specialization by providing insurance against the risks arising from specialization. Furthermore, increased risk sharing could foster growth by shifting portfolios to riskier projects with higher returns (Obstfeld, 1994). At the same time, enhanced risk sharing has ambiguous effects on the savings rate and consequently on economic growth (Levine, 1997). For common currency areas such as the euro area, augmented cross-border risk sharing could have further positive macroeconomic effects. By helping synchronize business cycles, it would

¹² The Action Plan proposes pan-European venture capital fund-of-funds and multi-country funds, a revision of the EuVECA and EuSEF legislation, and a study on tax incentives for venture capital and business angels. In the same vein, the prudential treatment of private equity in Solvency II should be reassessed.

Chart 5

Risk sharing – U.S.A. and euro area

Source: Alcidi et al. (2017).

contribute to an effective, smooth and even transmission of the single monetary policy and help deal with asymmetric shocks when national monetary policies are no longer viable (Jochem and Reitz; 2010; Ioannou and Schäfer, 2017).

Asdrubali et al. (1996) distinguish three channels of risk sharing: first, risk sharing through the ownership of assets via capital markets (*capital market smoothing*). Individual investors can insure themselves against local income risks by cross-border diversification of their equity investments. In the case of a negative shock in a region, the resulting income decline is at least partially borne or compensated for by other regions. Cross-border equity investments can smooth both persistent and transitory

shocks because capital market smoothing entails claims to the output of another state or region. The size of this claim hinges on the economic situation of the region in which the investment took place, in other words it is state contingent. The second channel works via lending and borrowing from other Member States or regions (*credit market smoothing*).¹³ In this case economic agents aim to alleviate the impact of a shock on consumption by lending and borrowing. A third smoothing mechanism is (*federal*) *tax transfer system smoothing* (e.g. unemployment insurance, revenue sharing, automatic stabilization through centralized taxes and social benefits¹⁴ or institutions like the European Stability Mechanism). CMU deals with the first two channels that smooth shocks via market transactions.¹⁵

Recent evidence suggests that the degree of risk sharing in the EU is low and less pronounced than in the U.S.A. or within some EU Member States (e.g. among the federal states of Germany, see Hepp and von Hagen, 2013). Alcidi et al. (2017), for instance, show – using the methodology introduced by Asdrubali et al. (1996) – that in the period from 1998 to 2013, shocks in the U.S.A. were smoothed significantly (83%), while shocks in the euro area were only smoothed by 25% (chart 5). All smoothing channels are more important in the U.S.A. than in the euro area. In particular, capital markets smooth shocks by 47% in the U.S.A. and only by 10% in the euro area. Credit markets smooth shocks by 27% in the U.S.A. and by 14% in the euro area. Similar results are reported by Furceri and Zdzienicka (2013). They found that between 1999 and 2010 shocks in the euro area were smoothed

¹³ Strictly speaking, this channel allows for intertemporal risk sharing using international markets and not for international risk sharing. Sometimes the literature refers to this channel as “consumption smoothing channel.”

¹⁴ In the EU, these mechanisms are either nonexistent or weak. Existing redistributive instruments, such as the Structural Funds or the Cohesion Fund, have long-term goals of convergence in the real economy, but they are not suited to compensate for temporary country-specific income fluctuations. Regarding plans for a European unemployment insurance scheme, see e.g. Beer et al. (2014). Further channels of income smoothing are commuting and migration.

¹⁵ The third channel is discussed in the contribution by Prammer and Reiss (2018) in this issue.

by 34%. Smoothing was mainly accomplished by credit markets (approximately 31%). Capital markets had a smoothing effect of about 8%.¹⁶ The differences in the results of Alcidi et al. (2017) and Furceri and Zdzienicka (2013) can be attributed to methodological choices and the time period analyzed. Nevertheless, the main results emerging from these analyses do not differ substantially: smoothing, and in particular capital market smoothing, is much more pronounced in the U.S.A. than in the euro area. As capital markets in the U.S.A. are more integrated than in Europe, further integration of EU capital markets as envisaged by CMU could lead to higher risk sharing among EU Member States. The ECB's financial integration composite indicator that aggregates data from a selection of market-specific indicators suggests that even long-term progress in financial integration in the euro area has been limited (ECB, 2017). In the third quarter of 2016, the quantity-based financial integration composite indicator that reflects the number of intra-euro area cross-border holdings was on approximately the same level as in 2004. In addition, the price-based indicator that reflects price dispersion on money, bond, equity and banking markets suggests roughly the same degree of financial market integration as between the year of the introduction of the euro and the year 2004. The indicator does show an increase in financial market integration before the crisis. However, according to the ECB (2017), it is likely that this increase was a result of the underestimation of fundamental risks in this period. According to these indicators, the level of integration dropped considerably during the crisis. These developments suggest that there is room for deeper integration of European capital markets.

3.2 Will CMU enhance risk sharing in the EU?

One of the six main categories of the CMU Action Plan is devoted to enhancing cross-border investments. The proposed measures are organized under the following headings: remove national barriers to cross-border investment, improve market infrastructure for cross-border investing, foster convergence of insolvency proceedings, remove cross-border tax barriers, strengthen supervisory convergence and capital market capacity building, and enhance the capacity to preserve financial stability. To date, only a few measures have been implemented. However, some additional legislative proposals already exist. In the following, we will discuss the potential of the proposed measures to increase risk sharing in the EU.

Consumption smoothing via cross-border risk sharing in the EU requires that equities and securities play an important role in household wealth. According to financial accounts data, in 2016, 17% of total financial assets of EU households were equities, 2% debt securities, 7% investment fund shares and 40% insurance policies and pensions. Hence, overall indirect holdings amounted to 47% of total financial assets of households. As indirectly held funds might eventually be invested differently than directly held funds, the distribution between these two types of funds might have an impact on cross-border investments (see below). Even though aggregate data show a high percentage of financial assets in household portfolios, data from the Household Finance and Consumption Survey (HFCS) show that only a minority of households own financial assets (apart from deposits). In the

¹⁶ Furceri and Zdzienicka (2013) additionally report capital depreciation to have a negative effect on smoothing. Alcidi et al. (2017) include capital depreciation in the capital markets channel in order to make euro area results comparable with U.S. results. For further findings on risk sharing in the euro area, see ECB (2017).

countries taking part in the survey, 9.4% of households owned mutual fund shares, 4.6% bonds, 8.8% publicly traded shares and 30.3% voluntary pensions or life insurance policies in 2014 (ECB, 2016). Higher-income and wealthier households have higher shares of equities and securities. The participation rates suggest that only a minority of households would be affected by promoting cross-border investments. This is not necessarily an impediment to stabilizing aggregate consumption. However, if a larger share of households should benefit from risk sharing, participation rates must be higher, and investments must also be made in other countries or regions.

The European Commission (2017) suggests that in order to promote capital market investments of EU households, retail investors need to have “access to attractive investment propositions on competitive and transparent terms” (e.g. EU-wide personal pensions). A larger group of households might benefit from the internationalization of indirect investments via e.g. pension funds (see also below). As discussed in section 2.3, CMU does not aim primarily at promoting direct financing of companies by households but rather by other financial intermediaries, e.g. pension funds, mutual funds and insurance companies. However, stepped-up capital market participation of households would increase portfolio risks. Furthermore, consumption smoothing through capital markets would be regressive as wealth inequality is more pronounced than income inequality. Greater tolerance for differences in income and wealth in the U.S.A. might make capital market smoothing more apt for the U.S.A. than for the EU (D’Imperio and Schelke, 2017).

Regarding cross-border investments, one reason for low risk sharing via the capital markets channel in Europe is investors’ equity home bias (French and Poterba, 1991). Investors only hold a small share of their equity investments in foreign equity.¹⁷ Chart 6 (left panel) shows that domestic equities play the most important role in the equity portfolios of euro area investors. At the end of 2016, the share of assets that euro area investors (all sectors) allocated to equities from other euro area countries in relation to the share they allocated to domestic market equities stood at 0.39. A ratio of 1 indicates identical portfolio shares, and a lower ratio indicates a stronger home bias (ECB, 2017). The pronounced home bias in Europe suggests a strong potential for CMU to encourage cross-border investments.

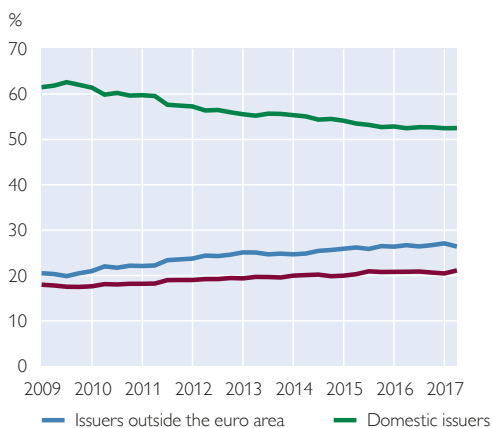
Coeurdacier and Rey (2013) distinguish three classes of explanations for home bias: hedging motives, asset trade costs, and informational frictions and behavioral biases. Hedging motives in otherwise frictionless financial markets could be related to exchange rate risk. Clearly, within the euro area exchange rate risk does not play a role. Furthermore, for the EU Member States outside the euro area, CMU does not aim to alter the exchange rate regime. Hence, CMU does not deal with this source of home bias.

Further obstacles for cross-border investments are trade and transaction costs, differences in the taxation of national citizens and foreigners, as well as country-specific

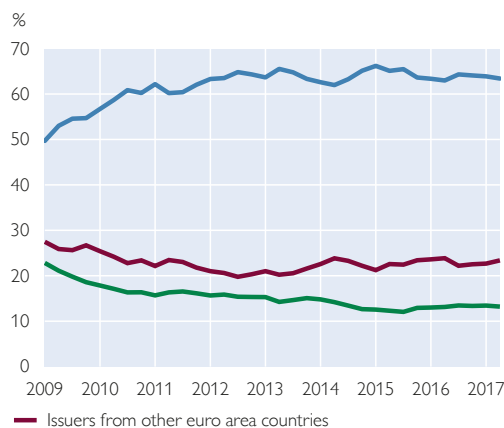
¹⁷ A strong home bias is not necessarily associated with low risk sharing. For example, despite a pronounced home bias, risk sharing might be high if the credit market channel works smoothly. On the other hand, a reduction of the home bias will not necessarily lead to more risk sharing if aggregate investment is low or the returns to foreign and domestic assets are highly correlated. However, Sorensen et al. (2007) empirically show that a lower home bias goes hand in hand with higher macroeconomic risk sharing.

Equity holdings in the euro area

All sectors



Investment funds



Source: ECB.

differences in the legal framework.¹⁸ CMU includes several measures to lower transaction costs such as removing national barriers to the free movement of capital, fostering convergence of insolvency proceedings and reducing tax barriers, e.g. by simplifying the withholding tax procedure.

Regarding informational frictions and behavioral biases, Coeurdacier and Rey (2013) mention exogenous information sets of investors (i.e. potential country-specific differences regarding the assessment of future domestic and foreign stock returns) or endogenous information acquisition that leads to a specialization in the local capital market. According to these authors, behavioral biases partly arise from overconfidence toward local assets and the role of familiarity in the portfolio choice. CMU can help lower the costs of information acquisition by fostering convergence of insolvency procedures and removing tax barriers. According to Darvas and Schoenmaker (2017), institutional investors can play an important role in lowering home bias. The authors show that the role of institutional investors for risk sharing increases with the size of the assets managed. The underlying rationale is that larger investors tend to be professional investors, who exhibit a smaller home bias. A comparison of the geographical distribution of equity holdings of investment funds (chart 6, right panel) with the geographical distribution of total equity investments (chart 6, left panel) suggests that investment funds' equity holdings are indeed more dispersed geographically. Hence, support for institutional investors by CMU (as discussed above) could contribute to lowering households' home bias. However, the fact that a large proportion of euro area investment funds' assets are invested outside the euro area implies that increased investment by households in investment funds could be a disadvantage for investment financing in the euro area and probably also in the EU.

Credit market smoothing is less suitable for risk sharing than capital market smoothing for several reasons. For one, effective cross-border risk sharing requires

¹⁸ However, Coeurdacier and Rey (2013) conclude that transaction costs would need to be very large to explain the equity home bias – unless diversification benefits are very small.

sustainable financing relationships. Equity made available across borders is more stable than debt capital. For creditors – especially in times of crisis – there is a roll-over risk upon expiry of a loan agreement. Strong dependence on debt instruments also increases the risk of a liquidity crisis (Kose et al., 2009). Second, credit markets are prone to collapse in prolonged periods of crisis and are insufficient as stand-alone shock absorbers (Ioannou und Schäfer, 2017). In this respect, Furceri and Zdzienicka (2013) show that smoothing is smaller in times of recessions compared to normal times. This result is driven by a lack of credit market smoothing, especially in times of large downturns when loans are not available.

Foreign lending currently does not play an important role in consumption smoothing in Europe. At the end of 2016, 86% of outstanding loans extended by monetary financial institutions (MFIs) to non-MFIs in the euro area were domestic loans. The share of assets that euro area investors (all sectors) allocated to debt securities from other euro area countries in relation to the share they allocated to domestic debt securities stood at 0.62 at the end of 2016 (ECB, 2017).

According to the European Commission (2015c), the crisis-induced weak development of bank lending in some Member States was a consequence of low risk sharing as companies depended heavily on domestic banks. The relevant literature suggests that lowering the dependence on domestic banks' loan supply can indeed facilitate credit market smoothing. Barboni (2017) shows that when domestic lending is impaired because of a shock, the presence of foreign banks can alleviate supply shocks on the loan market. The role of access to loans for SMEs in risk sharing was analyzed by Hoffmann and Shcherbakova-Stewen (2011). The starting point for their analysis was the observation that risk sharing among U.S. states is more pronounced in booms than in recessions, in particular in those states in which SMEs play an important role. SMEs depend strongly on conditions in the local loan market, and access to loans changes with the business cycle. Banking deregulation in the 1980s attenuated the impact of the business cycle on risk sharing by improving credit market access of SMEs and reducing their dependence on the local loan market.

In this respect, the ECB (2017) suggests that more cross-border bank mergers and the establishment of pan-European banks would increase retail bank integration and therefore facilitate risk sharing via credit markets. Several measures proposed within the scope of CMU are potentially favorable in this respect, e.g. the harmonization of insolvency laws. However, it must be taken into account that cross-border bank lending could transmit country-specific shocks from the home country to the host country (e.g. Ongena et al., 2015; Popov and Udell, 2012). In this context, CMU includes measures to strengthen supervisory convergence.

Finally, it should be noted that even if CMU did make a major contribution to enhance cross-border investment, from a theoretical point of view the optimal level of risk sharing would not be reached. Farhi and Werning (2017) show that even with complete markets, households would tend to underinsure because they ignore macroeconomic externalities when insuring against country-specific idiosyncratic shocks.

4 Summary and conclusions

There is no consensus in the literature as to whether bank-based or market-based financial systems are better suited to foster investment and growth. CMU may improve financing conditions by diversifying financial products and creating

avenues for (dis)intermediation. This may allow firms to tap additional financing sources and thus be able to better meet their various financing needs. Moreover, as seen at the height of the financial and economic crisis, a greater diversity of funding channels may strengthen the stability and resilience of corporate financing.

As cross-border investments are relatively low in the EU, private risk sharing across markets does not play a significant role in the EU and is much less pronounced than in the U.S.A. CMU provides several proposals to facilitate cross-border investment and thereby private risk sharing in the case of idiosyncratic country-specific shocks. However, it remains to be seen just how successful these measures will eventually be.

At the same time, the potential benefits from CMU come at the cost of higher risks. Depending on the extent to which CMU will be shifting financing of European firms from banks to nonbanks (“shadow banks”), it will diversify the range of entities that bear the risk associated with providing financing. The concentration of risk within one sector could decline but risks might shift to other – perhaps less regulated – institutions. This may create additional risks, such as higher complexity via cross-holdings.

Furthermore, funding models vary significantly across individual EU Member States, with bank lending and other forms of finance playing more or less important roles. CMU may thus have different effects in different parts of the EU. In any case, the results of CMU will materialize only in the medium to long term because it will take some time until measures are implemented and even more time until they actually show effect. Moreover, the impact of CMU must be seen in the context of other measures. CMU has been conceived as part of the Juncker Plan and other financial regulatory projects such as the banking union. In fact, measures to regulate the banking sector may well mitigate the pressure to resort to other intermediaries. Overall, however, CMU is certainly another step toward a more diverse European financial landscape.

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Stabilization and shock absorption instruments in the EU and the euro area – the status quo

In Europe, the global financial crisis had triggered an almost decade-long economic crisis, which – amplified by structural problems in a number of EU/euro area countries – has resulted in exceptionally high macroeconomic costs. Coping with this crisis has put the economic policy strategies of the EU and its Member States, as well as the institutional decision-making structures, to the test and has prompted adjustments in the existing economic and legal framework. EU governance was reformed and new measures were introduced to combat crises. As financial market integration is vital for the effective transmission of the common monetary policy, it was decided to create both a banking union and a capital markets union, and macroprudential supervision was established. At the same time, the economic policy debate about whether to introduce additional risk-sharing instruments in the EU/euro area has intensified in the wake of the crisis. We examine whether this is actually necessary. In light of the existing shock prevention and absorption measures, we find that, in principle, there are already sufficient fiscal and macroeconomic buffers in place. That presupposes, however, that sound fiscal policies are pursued, already agreed banking union measures are implemented, the capital markets union becomes a reality, macroprudential supervision is effective, and the Member States shape their economic and structural policies in line with the basic principles of the EU and European monetary union. Since it is, however, not possible to prevent all future crises, neither through compliance with the fiscal governance framework nor through compliance with all the regulatory requirements in the financial sector, it is of particular importance to ensure that national and EU/euro area institutions can take targeted action as needed.

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Cyclical fluctuations in economic activity are regarded as a normal occurrence in modern economies – i.e. those based on market economy principles – even aside from wars and exogenous shocks such as oil price rises and natural disasters. In normal economic cycles, economies recover from a downturn relatively quickly.

However, not only did the financial crisis lead to an exceptionally sharp global decline in growth, giving rise to fears of a (second) global depression, it also caused an almost decade-long crisis in Europe, which was exacerbated by structural problems in a number of EU/euro area countries. These problems had, in the years prior to the outbreak of the crisis, led to the buildup of internal and external imbalances that were not sustainable in the long term. The crisis therefore resulted in high macroeconomic costs. Real GDP in the euro area fell by 4.5% in 2009 (4.3% in the EU as a whole) and it was not until 2015 (2014 in the EU as a whole) that this decline in real terms was made up for. A return to the normal cyclical situation (i.e. when realized GDP equals potential output) is expected for 2018. According to Eurostat, the unemployment rate in the euro area went up from 7.6% in 2008 (7% in the EU as a whole) to 12% in 2013 (10.9% in the EU as a whole). In addition,

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the financial crisis and subsequent economic crisis caused far-reaching problems for the European financial sector, in particular the banking sector. In the pre-crisis years, the banking sector had, in a search for yield, taken on increased balance sheet risk, while being insufficiently capitalized and faced with governance problems. Not only did the outbreak of the crisis present banks – particularly in the countries on the periphery of the euro area – with serious financing/refinancing problems, it also presented them with the problem of a sharp rise in the volume of nonperforming loans. Therefore, extensive packages to stabilize and support banks were adopted (acceptances of liability/guarantee commitments, recapitalization measures), banks underwent emergency nationalizations and/or “bad banks” were formed. In the euro area alone, the support measures for banks in the period 2007–2016 implied a cumulative increase in the deficit of around EUR 205 billion and an increase in the government debt of EUR 488 billion in 2016 (see Holler and Reiss, 2017).² For some countries, such as Ireland, the bailout of banks led to a sovereign debt crisis. Interest rates were cut as part of the Eurosystem’s monetary policy. The Eurosystem also reacted with a wide range of nonstandard measures in order to stabilize inflation and financial markets, as well as to counteract financial market fragmentation and stabilize the European monetary union. As some euro area countries lost access to capital markets, specific emergency financing facilities were created (bilateral loans between countries, the European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM)).

The cascade of economic events resulting from the outbreak of the global financial crisis in turn entailed a cascade of monetary and economic policy decisions in the EU/euro area, such as reform of EU governance and the rapid implementation of new measures to combat crises. At the same time, the economic policy debate about whether to introduce other – additional – risk-sharing instruments in the EU/euro area intensified in the wake of the crisis, with the rationale centering on strengthening resilience in order to respond better to future shocks. These instruments would be better suited to prevent crises and improve shock absorption. The proposals on common risk-sharing mechanisms among euro area countries for when there are shocks, in particular asymmetric shocks, are receiving a great deal of attention. In December 2017, the European Commission presented concrete proposals for the future development of the EU/European monetary union.³

The discussion on the future development of the EU/European monetary union continues to range from, on the one hand, strengthening the principle of individual national responsibility and market discipline, as laid out in the Maastricht Treaty, to, on the other, stronger fiscal integration, solidarity and a reduction in the influence of the market.

To answer the question of whether there is a need for further risk-sharing mechanisms in the EU/euro area, we will first analyze the status quo of the existing shock prevention and absorption mechanisms. This article therefore provides an overview of the mechanisms that already existed before the outbreak of the global financial and economic crisis, as well as of the new mechanisms that have been implemented since 2008 or are still being implemented to stabilize the real economy

² In Austria, the measures taken by the government to stabilize the banking sector (“Bankenpaket”) resulted in a (cumulative) increase in the deficit of EUR 13.8 billion in this period.

³ See European Commission (2017a, 2017e, 2017f).

and to safeguard sound financial markets, together with an assessment of their effectiveness. However, the latter depends on whether Member States are willing to align their policies to the governing principles of the EU/monetary union and on how committed they feel to the common objectives.

Section 1 of this article is therefore dedicated to the governance framework of the EU/euro area and hence the principles governing fiscal and economic policies. Section 2 discusses the fiscal shock prevention and absorption mechanisms. These comprise the fiscal policies that are decided at national level but aligned to the requirements of the Stability and Growth Pact (SGP) and the European Stability Mechanism (ESM), the newly created crisis mechanism as the lender of last resort for the euro area countries and the EU budget. Section 3 is dedicated to European financial union, which was initiated – at EU level – following the outbreak of the financial crisis, with the setting up of the banking union, a capital markets union and the establishment of macroprudential supervision. The final section concludes, *inter alia* by answering whether additional common risk-sharing instruments are necessary in the euro area.

1 The EU governance framework and its challenges

Coping with the global financial and economic crisis and the European debt crisis has been a tough test for the economic policy strategies of the EU and its Member States, as well as the institutional decision-making structures, and has prompted adjustments in the existing economic and legal framework. This framework contains provisions aimed at preventing crises and improving shock absorption, thereby increasing the resilience of Member States and the euro area/EU as a whole.

Box 1

What characterizes a resilient economic system?

Resilience comprises two characteristics of an economic system: a low susceptibility to adverse shocks and a high degree of flexibility when absorbing shocks in order to keep adjustment costs low. Sound financial and fiscal policies, as well as structural policies that are geared toward improving the growth potential in the long run, tie in with the objective of making Member States and thus the EU/euro area as a whole less vulnerable to shocks. The governance framework of the EU/euro area is committed to this objective. This framework comprises the European fiscal rules and the macroeconomic imbalance procedure (MIP) – a mechanism which was implemented in 2011 to prevent internal and external imbalances within the EU/euro area. It also includes banking union, the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM); both set up in 2014. Moreover, macroprudential supervision was transferred to the European Systemic Risk Board¹ (ESRB), which is located at the European Central Bank (ECB). In the same vein, national policy instruments for preventing boom-and-bust cycles for asset prices and loans aim to reduce an economy's vulnerability to crisis.

However, not only does compliance of financial, fiscal and economic policy with this wide-ranging regulatory system reduce vulnerability to shocks, it also improves the ability of economic systems to absorb shocks, as they are required to build up fiscal or regulatory buffers that help reduce the amplitudes of shocks. Member States' tax systems that are matters of

¹ This is composed of representatives of the ECB, national central banks (NCBs), national supervisory authorities and the relevant EU institutions (European Commission, the European Banking Authority, the European Insurance and Occupational Pensions Authority, the European Securities and Markets Authority).

national sovereignty are also of considerable importance in this context. For example, the income tax and transfer systems exert a profound influence on the strength of the automatic stabilizers in an economy. The fiscal treatment of debt versus equity capital has an impact on the degree of leverage of banks, enterprises and also households (in particular for real estate financing) and thereby on these entities' risk-bearing capacity and ability to absorb shocks.

In addition, shock absorption capacity is heavily influenced by the institutional setup of the individual countries. This is reflected in particular by the nature/degree of flexibility of the factor markets (labor and capital) and product markets (goods and services). Rigid factor markets and competition restrictions for the product and services markets reduce the ability to adjust to shocks and, as a result, increase the associated macroeconomic costs of shocks. Rigidities in the labor markets (tight provisions on protecting against termination of employment and dismissal, inefficient unemployment insurance systems, dual labor markets) and rigid wages hamper or prevent an efficiency-increasing reallocation of the factor "labor" when there are shocks.² It is precisely in the design of the current monetary union that – besides fiscal policy – the flexibility of wages and prices and the mobility of the factors of production are especially important for coping with shocks, as the exchange rate is no longer available as an adjustment mechanism.

In addition, an efficient and well-functioning national legal system influences the resilience of an economic system, as legal and contractual certainty and the safeguarding of property rights are essential preconditions for the readiness to assume corporate risk.³ Corruption and inefficiencies in public administration result in an inefficient allocation of resources and increase the macroeconomic costs of adjusting to shocks. International governance rankings⁴ show that some EU/euro area countries still have considerable institutional deficits, with, inter alia, the quality of the regulatory environment, the effectiveness of the state institutions and the size of the shadow economy going into the ratings.⁵

² See Sanchez et al. (2015).

³ See Fischer and Stiglitz (2018) in this issue.

⁴ See World Bank. Reports on Worldwide Governance Indicators (WGI).

⁵ Problems or deficits in the institutional setup in a broader sense that conflict with a sustainable long-term alignment to fiscal and economic policies justify financial aid by the IMF or ESM being accompanied by adjustment programs.

European monetary union rests on an independent, stability-oriented monetary policy whose primary objective is to maintain the price stability of the euro – which is reflected in the independent institutions of the ECB, the Eurosystem and the European System of Central Banks (ESCB). When monetary union was established, it was agreed that fiscal and economic policy would remain a national responsibility. In accordance with Articles 119 and 121, as well as Article 136, of the Treaty on the Functioning of the European Union (TFEU) (in accordance with Article 5 of the Treaty on European Union (TEU)), the activity of the Member States and the EU is based on the coordination of the economic policies remaining under the responsibility of the Member States – building on the underlying principles of Economic and Monetary Union, i.e. on an open market economy with free competition, price stability, healthy public finances, stable general monetary conditions and sustainable external balances. These principles essentially include the macrofinancial conditions or restrictions for the economic and budgetary policies of Member States and the EU in order to ensure a monetary union that is oriented toward (price) stability.

The principles shaping this macrocoordination include applying market discipline to Member States' budgetary policies, expressed through the no bailout clause (Article 125 TFEU), the prohibition of monetary financing of countries by

central banks (Article 123 TFEU) and the prohibition of privileged access to the financial market for the public sector (Article 124 TFEU).⁴

As the designers of European monetary union did not solely rely on the financial markets penalizing unsound fiscal policies, they considered a straitjacket indispensable. A stricter regime of regulation and control of national budgetary policy making to ensure sound policies and the long-term sustainability of public finances represents another principle shaping macrocoordination. Article 126 TFEU obliges EU Member States to avoid excessive deficits and lays down provisions to counteract the occurrence of excessive deficits; in the event that excessive deficits do occur, it provides for a procedure to correct them. Second, Member States committed themselves to aim for debt ratios of below 60% of GDP.⁵ The SGP, which was adopted in 1997,⁶ followed the remit to strengthen the fiscal policy framework defined in the Treaty by determining differentiated rules and procedures for budget surveillance and by accelerating and clarifying the deficit procedure.

To preserve its stabilizing function – and to prevent moral hazard and the associated negative spillovers to other Member States and to the common monetary policy – fiscal policy making, which remains the responsibility of the Member States, was therefore embedded in a tight regulatory framework, which de facto represents national governments' self-commitment to sound fiscal policies. However, since its implementation and despite the reforms carried out, this governance framework has the problem of a lack of enforceability and ultimately an arguable lack of commitment from EU/euro area Member States.⁷ The nonfulfillment of the rules, in particular the requirements of the preventive arm in the years prior to the crisis – but also (and especially) since the outbreak of the crisis in 2008 – makes it clear that European political bodies (i.e. European Commission, European Council) would not implement and/or enforce the rules.⁸

Before the reform of EU governance in 2011, however, there was also a lack of suitable common instruments/mechanisms to prevent the buildup of macroeconomic internal and external imbalances in some euro area countries in the years prior to the outbreak of the global financial and economic crisis, which then intensified the crisis. As a reaction to this, the EU attempted to strengthen the rules of economic governance in the EU/euro area by means of several legislative packages.⁹

⁴ Even so, however, when some euro area countries lost access to the capital markets as their public debt ratios increased rapidly in the course of the global financial and economic crisis, solidarity mechanisms (bilateral loans, the European Financial Stability Facility (EFSF) and the ESM) were created – albeit outside the EU's regulatory framework – and market mechanisms were suspended. As part of the conditional adjustment programs, basic freedoms laid down in the governance framework of the EU/euro area such as the free movement of capital were – temporarily – restricted.

⁵ The financial markets should act as a watchdog and sanction unsound fiscal policies through rising risk premiums on their government debt.

⁶ The SGP was adopted in 1997 on the basis of secondary law (Regulation (EC) Nos. 1466/97 and 1467/97) and has since been reformed a number of times. Major reforms were implemented in 2005, 2011 and 2013. See Diebalek et al. (2006), Holler and Reiss (2011), Prammer and Reiss (2016).

⁷ Controversial decisions made by the European Commission have also contributed to the fiscal rules having credibility problems.

⁸ See Prammer and Reiss (2016) as well as Holler and Reiss (2011).

⁹ These comprise Regulation (EU) Nos. 1175/2011, 1177/2011, 1173/2011, 1176/2011 and 1174/2011.

The intention of the EU governance reform of 2011 was to monitor national public budgets more closely, to design the budgetary policy framework more robustly by anchoring national fiscal rules¹⁰ and to pay more attention to the development of public debt. In particular, the preventive arm of the SGP was to be strengthened. Furthermore, a macroeconomic imbalance procedure was introduced as a new tool to prevent or reduce internal and external macroeconomic imbalances.¹¹ Another two regulations (the so-called two-pack) were adopted in 2013 to complement the SGP.¹² The European fiscal framework and the imbalance mechanism form key parts of the governance framework for the EU/euro area.

2 Fiscal shock prevention and absorption mechanisms in the EU/euro area

2.1 Sound fiscal policy – the most important instrument for stabilizing asymmetric shocks in the euro area

In signing the Maastricht Treaty, EU/euro area Member States did not just agree on the principle of national sovereignty in economic and fiscal policy, they also committed themselves to rules-based budgetary discipline. The fiscal rules aim, on the one hand, to prevent crises in the euro area that are motivated by fiscal policy (shock prevention) by requiring governments to operate fiscal policies that are sustainable in the long term (i.e. moderate public debt).¹³ On the other hand, they aim to orient the fiscal policies of Member States in such a way as to be able to fulfill their stabilizing function in the economic cycle (shock absorption) and not have to act procyclically in certain circumstances (shock intensifying). This is made possible by the fact that at least the automatic stabilizers can have an effect in normal cyclical downturns, combined with the buildup of (cyclical) deficits in recessions and the achievement of (cyclical) surpluses in booms. With particularly deep recessions or crises, exceptions to these requirements are appropriate, provided that the increase in the debt ratios caused by the recession or crisis is reversed once it has ended. The long-term sustainability of fiscal policies is secured through the fact that, although the cyclical fluctuations may be cushioned through deficit financing, permanent structural deficits associated with a swift increase in the debt ratio are prevented. The danger of rapidly increasing public debt ratios is that countries lose access to the capital markets and pressure is subsequently exerted on monetary policy and thereby on the central bank to act as the lender of last resort, which could put the stability of monetary policy at risk.

The SGP establishes a regulatory straitjacket for fiscal policy to the extent that it stipulates upper limits for the current general government deficit and public debt as a percentage of GDP, and defines and quantifies the medium-term/structural budget objective that the individual Member States have to achieve and comply with. But it also defines the requirements in respect of the development path for

¹⁰ As part of the fiscal compact, which was adopted in 2012.

¹¹ The coordination of structural policies in the broader sense received comparatively little attention in the years prior to that with the “open coordination” approach based on the Lisbon Strategy. There was therefore barely any response in the economic policy discussions to the internal (public and private debt) and external (loss of competitiveness as well as current account deficits) imbalances that were building up in some EU/euro area countries in the pre-crisis years.

¹² Regulation (EU) Nos. 472/2013 and 473/2013.

¹³ The financial markets in particular should be able to regard the sustainability as being safeguarded by virtue of credible rules.

public expenditure and the public debt ratios, as well as determining the procedures that should lead to the requested objectives being met/met again. Furthermore, the responsibilities of Member States, the European Commission and ECOFIN are regulated.

However, the SGP does not contain any requirements for the amount, structure or composition of the public revenue or expenditure of Member States. But the size of the public sector and the formulation of the tax and transfer system are important parameters for the strength of the automatic stabilizers, as they determine the responsiveness of the budget to the underlying developments in the real economy and influence the multiplier effect of the individual budget aggregates on the real economy. The automatic stabilizers are therefore a by-product of other national agendas, such as a country's distributive and allocative objectives.¹⁴ It is therefore not surprising that the automatic stabilizers differ considerably between euro area countries in their ability to absorb shocks.¹⁵

In order that the automatic stabilizers can be effective in downturns, Member States are obliged as a matter of principle to align their budget policies to a structural budget objective (the so-called medium-term objective, or MTO) – as stipulated in the preventive arm of the SGP. A large number of country-specific factors go into calculating the MTO. The more cyclically sensitive a national budget and the greater the output volatility of a Member State, and the higher the costs of aging in connection with demographic developments and the greater the deviation from the public debt ratio of 60% of GDP reference value, the stricter are the requirements concerning a country's MTO. In addition, the signatory countries of the fiscal compact have committed themselves to comply with an MTO of -0.5% of GDP for as long as they have a public debt ratio of greater than 60% of GDP.¹⁶

The preventive arm of the SGP determines the extent of the structural improvement (i.e. consolidation) that a Member State has to produce if it has not yet met its MTO or if it has missed it. In principle, a Member State should generally improve its structural balance by 0.5% of GDP in such cases until it meets/returns to its MTO.¹⁷ In accordance with the European Commission's flexibility note (2015), the cyclical position in which a country finds itself and the level of the public debt ratio are particularly decisive for setting the actual structural consolidation requirements.¹⁸ In "exceptionally bad times" and in some circumstances in "bad times," a structural improvement may even be foregone completely,¹⁹ with the approach selected by the European Commission being asymmetrically in favor of

¹⁴ *As automatic stabilization is of great importance, the question arises as to how effective the automatic stabilizers are in absorbing shocks. The quantification regarding this is not trivial, as both the budget sensitivity and the size of the multipliers, as well as the type of shocks that hit an economy, are important. See Brunila et al. (2003), Scharnagl and Tödter (2004), Dolls et al. (2009), European Commission (2005), In't Veld et al. (2012) and Price et al. (2014).*

¹⁵ *There is no disguising the fact that various structural reforms have definitely reduced the strength of the automatic stabilizers since the 1990s. If Member States assess the extent of the automatic stabilization as insufficient, the national stabilizers should be strengthened by targeted reforms.*

¹⁶ *See Prammer and Reiss (2016, p. 35).*

¹⁷ *In good times, however, the structural improvement requirement amounts to 0.6% of GDP or 0.75% of GDP if the public debt ratio is less than 60% of GDP, and 0.75% or 1% if the debt ratio is greater than 60% of GDP.*

¹⁸ *Prammer and Reiss (2016), p. 36.*

¹⁹ *See European Commission (2015, 2017e).*

more limited consolidation. A deviation from this adjustment path to the MTO may also be excused by recourse to one or more exemptions. These exemptions became more and more numerous over time.²⁰ With the governance reform of 2011, the preventive arm of the SGP was also expanded to include an expenditure rule, meaning that maximum allowable growth (= benchmark) rates of expenditure were defined alongside the required improvements in the structural balance. Member States have to comply with these upper limits on government spending as long as they do not meet the MTO. Overshooting these expenditure benchmarks is only allowed if any excess expenditure growth is matched by discretionary measures yielding additional revenues. However, the calculations under the expenditure rule are also complex and difficult to understand. If a country has met its MTO, it should pursue a cyclically neutral budget policy.

Respecting or returning to the 3% or 60% upper limit for the general government deficit ratio/public debt ratio is at the heart of the corrective arm of the SGP. A debt ratio of more than 60% of GDP is also regarded as conforming to the rules as long as it is diminishing sufficiently and therefore moving in the direction of the reference value at a satisfactory pace.²¹ If an excessive deficit procedure (EDP) has been initiated and the deficit is deemed to be excessive, the breach normally has to be corrected in the following year and the structural deficit ratio reduced by at least 0.5 percentage points. In principle, financial sanctions can be imposed if the breach continues. However, the procedural steps leading up to this are now characterized by numerous factors, methods and exemptions with considerable discretionary scope for decision making.²² Given the potential exemptions, special features and scope for decision making in the EDP, persistently high deficits above the 3% limit are also possible while still conforming to the rules and/or consolidation may be considerably delayed.²³

Since the introduction of the European Semester in 2010, the European Commission assesses Member States' compliance with the fiscal rules in the preventive and corrective arms over the first six months of every year. Owing to the complexity and the many discretionary powers that the European Commission

²⁰ Possible exemptions are structural reforms that improve the long-term growth potential and are therefore advisable in terms of the long-term sustainability of public finances, and/or the investment clause via which various potential expenditure may be temporarily exempted from restrictive fiscal rules, provided that the expenditure was incurred in connection with projects co-financed by EU budget funds. The full allowed deviation with these exemptions may amount to up to 0.5% of GDP per clause or 0.75% of GDP if both clauses are applied. The deviation from the level of the structural balance without exemptions is currently limited to three years. Other expenditure may also be temporarily classified as an exemption, such as that on refugees and combating terrorism. In addition, there is also the "general escape clause" for cases when the euro area or the EU as a whole are affected by an exceptionally sharp economic downturn. This general escape clause may be activated both in the preventive and corrective arms. See Deutsche Bundesbank (2017).

²¹ Not until the governance reform of 2011 was the exact adjustment requirement for a sufficient reduction in a debt ratio standing above the 60% benchmark specified – a decrease in the differential of the debt ratio over the previous three years at an average rate of 1/20 per year. However, a sufficient reduction also exists if this reduction arises for the last year and the following two years in accordance with the European Commission's budgetary forecasts. In addition, the influence of the economic cycle can be excluded in the numerator and in the denominator. Furthermore, in accordance with Council Regulation (EU) No. 1177/2011, numerous other relevant factors are taken into account in the assessment of whether a procedure is opened concerning an excessive debt ratio. See Prammer and Reiss (2016).

²² With regard to the debt ratio, this means that the determination of an excessive debt ratio can be avoided in the first place.

²³ For the exact procedure, see Prammer and Reiss (2016) and Deutsche Bundesbank (2017).

has, the effectiveness of the preventive arm of the SGP is very low, as there are numerous ways to permanently and significantly deviate from the budget objective while conforming to the rules. The MTO of an almost balanced structural budget has therefore rarely been achieved. Up to now, no euro area country has been assessed to deviate significantly from the adjustment path, even if the structural balance had worsened. The overall complexity and the European Commission's decision-making leeway in interpreting the rules also take a toll on how comprehensible, traceable and transparent the procedure is. As a result, the Member States have, in no small part, been released from their responsibility to actually achieve the objectives. As sanctions *de facto* have no meaning in actual budgetary surveillance, there is little incentive for the Member States to comply with the upper limits. The determination of an excessive deficit in respect of the debt criterion is also barely enforceable. In the case of Italy, for example, the European Commission's interpretation of the rules was particularly generous in 2016 and 2017, which in fact amounted to nullifying the debt rule as an autonomous criterion.²⁴ Therefore, even debt ratios rising over several years are possible in spite of the debt criterion without an excessive debt ratio being determined or an excessive debt procedure being initiated.

Since the establishment of European monetary union in 1999, the regular Maastricht ceilings have failed to be met on multiple occasions. To date, no financial sanctions (of up to 0.5% of GDP annually) owing to a breach of the rules in accordance with Article 126 TFEU have been imposed, despite some countries breaching them significantly.²⁵

Overall, the European Commission has watered down the fiscal rules meant to be strengthened through the 2011 EU governance reform by ever more relaxing these rules and increasingly exploiting its discretionary powers in the area of budgetary surveillance.²⁶ It is similarly difficult, if not impossible, to enforce the structural reforms required under the MIP to prevent macroeconomic imbalances.²⁷ The attempt, by way of the fiscal compact, to create additional national fiscal rules (to safeguard the EU's fiscal framework) and national fiscal councils tasked with ensuring compliance with the EU rules has not been crowned with success either insofar as national commitment to rules-based EU governance has not become noticeably stronger,²⁸ but the regulatory system has become more complex.

Developments since 2008 have been heavily shaped by the financial and economic crisis. For example, the EU Member States took concerted, discretionary economic stimulus measures²⁹ in view of the sharp decline in GDP in 2008 and

²⁴ *Deutsche Bundesbank (2017, p. 41).*

²⁵ *See Prammer and Reiss (2016).*

²⁶ *This in turn shows that purely transferring responsibility to another institution does not guarantee that rules-based governance will be strengthened.*

²⁷ *See Fischer and Stiglbauer (2018) in this issue.*

²⁸ *One exception is Germany, where the national budgetary rules are much more binding than the European rules.*

²⁹ *However, some Member States, such as Italy, were not able to take part, as they were already too close to losing access to the capital markets.*

2009³⁰ and the heads of state and government agreed to de facto suspend the SGP for two years in fall 2008. Thus, most euro area countries did not begin consolidating their budgets until 2010 or 2011 even though their debt ratios were on the rise.

However, strict application of the SGP alone in the run-up to the financial and economic crisis probably would not have been able to prevent the sovereign debt crisis in every case. For one thing, because the trigger was an external shock to the European financial markets which, in connection with the problems that had accumulated in this sector in the preceding years (too little capital, increased financing via the interbank market, excessive risk taking, etc.), left no or hardly any room for maneuver to prevent or absorb shocks. And for another, because, in the case of Ireland, Spain and Cyprus, there was additionally credit-financed macroeconomic overheating associated with a sharp rise in private debt.³¹ For the latter, the diagnostic instruments of the EU/euro area and the budgetary rules of the SGP were not enough to justifiably call for a more restrictive course.³² In the case of Portugal and Greece, however, the adjustment problems and costs would have been significantly smaller if the SGP had been applied strictly.³³ The adjustment problems that Greece has had since 2009 can also be attributed to a national governance problem that it would not have been possible to solve through any euro area architecture – only by national legislators or through improved national institutional governance. The adjustment programs in the context of the financial aid were therefore accompanied by a limited temporary curtailment of national sovereignty. In every case, however, it is true that sounder national fiscal policies at the time of the outbreak of the crisis would have made shock absorption easier. In other words, if Member States had built up sufficient fiscal buffers in the previous good years, i.e. had they met their MTO, they would have been able to react much more strongly to the economic downturn in a fiscal sense. Here, it is worth discussing why Germany is called on time and again to reduce the fiscal buffers it has reaccumulated in the course of the upturn. This suggests a broad political preference for not building up national fiscal buffers in good times and seemingly calls into question euro area countries' commitment to the European fiscal framework and to the principles of macrocoordination in monetary union; along with

³⁰ Real GDP of the EU-28 contracted by 4.3%, while that of the then 12 euro area countries (EA-12) contracted by 4.5%. Austria recorded a decline in GDP of 3.8%. The unemployment rate in the EU-28 went up from 7% in 2008 to 10.9% in 2013 as a result. However, the rise in the unemployment rate was even sharper in the EA-12, where it went up from 7.6% in 2007 to 12% in 2013. In Austria, too, unemployment increased by 1.2 percentage points to reach 5.3% in 2010.

³¹ These were then transferred to the public sector.

³² Prior to the outbreak of the crisis, Ireland and Spain performed comparatively well in fiscal terms, with low public deficit and debt ratios. At the start of the financial crisis, it was therefore still assumed that they would certainly be able to shoulder the fiscal costs of the bank rescues thanks to their comfortable public budgets and their low public debt. However, this assessment was based on a misjudgment of the underlying structural circumstances. For example, the potential growth had been overestimated in both cases and, as a result, so had the underlying structural budget balance. However, the bursting of the real estate price bubble in both countries led to a dramatic reassessment of the structural circumstances, as well as an explosion of nonperforming loans. If the government bond markets had initially remained calm in 2008 and 2009 – despite the bursting of the real estate price bubble – the situation changed drastically at the end of 2009 when the sharply rising deficit and debt ratios became apparent.

³³ Awareness of the actual scale of the Greek deficit developments at the start of 2010 led to a crisis of confidence among international investors and, as a result, to the outbreak of the European sovereign debt crisis which – beginning with Greece – rapidly spread to Ireland and Portugal. This went hand in hand with a sharp rise in risk premiums on these countries' government bonds, as well as to the de facto loss of access to the international capital markets.

the fact of shifting their responsibility for stabilizing short-term cyclical shocks toward – ideally – shared responsibility (risk sharing), if not outsourcing it to the others completely (risk shifting). Against this backdrop, any further deepening measures in the sense of implementing common fiscal risk-sharing instruments in the euro area need to be combined with more stringent governance requirements on the Member States in order to prevent moral hazard and unintended permanent transfers from the outset.³⁴

However, the flexibility applied by the European Commission from 2014 onward may also be interpreted as a backlash against the “toughness” shown previously. From 2011 to 2013, the average annual consolidation in the euro area amounted to 1 percentage point (peaking in 2012), while real GDP growth was negative throughout. However, the actual degree of consolidation was in effect more attributable to the expiry of the approved economic stimulus programs, as well as to the loss of confidence in the capital markets, than to the consolidation requirements resulting from the fiscal rules. The fact that no further structural improvements were pursued after 2014, while the output gap moved into positive territory, shows that the flexibility currently applied by the European Commission does not necessarily lead to countercyclical stabilization.

The problems in the application or implementation of the fiscal rules are, among other things, probably also attributable to the fact that the euro area countries have different economic policy models or traditions. Indeed, there are great differences in respect of their preference for more rules-based or more discretionary economic and fiscal policy making. Adherence to these country-specific traditions does not just mean that the euro area countries would not follow a uniform economic policy-making concept in a broader sense, even after two decades of common monetary policy. It also means that the enforcement problems will continue into the future – partly because there is little support in the European Council for strict, rules-based behavior.

However, even if significant improvements in the sense of a greater stabilization capacity and thereby better shock absorption through fiscal policies were associated with effective enforcement of the existing rules, there are limits to the effectiveness of governance built on *ex ante* rules. In such case, not all future challenges/shocks can be taken into consideration when defining the rules. This goes not just for the fiscal rules, but in particular also for the regulatory requirements applicable to the banking and financial systems. For a sound and resilient EU/euro area, it is therefore critical that national policy makers and both national and EU/euro area institutions are well equipped to take targeted action.

2.2 The European Stability Mechanism as lender of last resort

The original governance framework of the EU had already envisaged an EU community instrument, the European Financial Stabilisation Mechanism (EFSM), with a volume of around EUR 60 billion, to cushion against exceptionally strong

³⁴ *The deepening options so far put forward do not go far enough in this respect. In this context, the fundamental question arises as to whether, for the purpose of strengthening monetary union, an effective sharing of fiscal risk among the Member States would not have to be accompanied by a centralization of decision-making competencies and suitable decision-making structures.*

adjustment processes in the context of a balance of payments crisis. Prompted by the sovereign debt crisis, a new intergovernmental temporary crisis resolution mechanism was created in 2010, namely the European Financial Stability Facility (EFSF),³⁵ which was replaced in 2012 by the permanent European Stability Mechanism (ESM).

These financial facilities in the euro area became necessary because acute government financing difficulties and impending excessive debt entail the risk of disorderly developments and do not just limit the room for fiscal maneuver, but also put a strain on – if not threaten – the financial system and, in extreme cases, the functioning of the economy as a whole. Furthermore, owing to the close interdependence within a monetary union, spillover effects on the other member countries are foreseeable or, in extreme cases, a breakup of monetary union. It is therefore the role of the ESM to act as the lender of last resort for the euro area countries. It is designed as an intergovernmental institution which, subject to certain conditions, provides financial assistance to euro area countries that face crisis-induced liquidity problems and may no longer tap into capital markets.³⁶ Up to now, financial assistance amounting to EUR 273 billion has been made available to Greece, Ireland, Portugal, Spain and Cyprus.³⁷

The total subscribed capital of the ESM amounts to EUR 704.8 billion.³⁸ As with other international financial institutions, the capital is made up of paid-in and callable capital. The paid-in capital currently equals EUR 80.55 billion, which is more than any other international financial institution has. The ESM has an effective lending capacity of EUR 500 billion.³⁹ As a result of this and the EFSF guarantees, the ESM can issue debt instruments on the capital markets on favorable terms (AAA rating). The ESM passes on assistance loans to program countries at the interest rate at which it borrows money from financial markets, as well as its de facto costs in funding the loans. Not only does this prevent the insolvency of the countries that can no longer tap the financial market, it also allows them to benefit from very favorable financing conditions. For Greece, this now means an interest rate saving of roughly EUR 10 billion per year (around 5.6% of Greece's GDP).⁴⁰

In principle, the ESM counts on a lending toolkit that comprises several instruments, such as financial assistance in the form of loans, precautionary financial assistance in the form of a credit line, dedicated loans to recapitalize financial institutions of an ESM member and/or the purchase of government bonds of affected euro area countries in the primary or secondary market. ESM stability support is always conditional upon reform requirements. Depending on the choice of instrument, these may range from a comprehensive macroeconomic adjustment program to the continuous fulfillment of predetermined eligibility criteria. The

³⁵ From May 2010 running until mid-2013, the EFSM as an EU community instrument and the EFSF as an inter-governmental facility formed financial backstop mechanisms for euro area countries that got into financial difficulties. These instruments were supplemented by IMF financing. In being superseded by the permanent ESM, the EFSM was abolished without being replaced; the EFSF was superseded by the ESM.

³⁶ Solvency problems would have to be addressed by making creditors participate in debt restructuring.

³⁷ See Regling (2018a).

³⁸ The Austrian share amounts to 2.8%, or EUR 19.5 billion. The Austrian share of the paid-in capital amounts to EUR 2.2 billion.

³⁹ In addition, the lending capacity of the ESM should be supplemented by the involvement of the IMF where possible.

⁴⁰ See Regling (2018b).

European Commission negotiates economic policy requirements for the assistance with the ESM member concerned together with the European Central Bank (ECB) and – where appropriate – the International Monetary Fund (IMF). These are documented in a Memorandum of Understanding (MoU). The disbursement of subsequent tranches of the financial assistance depends on consistent compliance with the conditions attached to the financial assistance. This means that program countries have to resolve their structural problems, put their public budgets back on a solid footing, restore competitiveness and clean up the banking sector. Four of the five euro area program countries, namely Spain, Ireland, Cyprus and Portugal, ended their programs after three years and regained access to the capital markets; Ireland, Spain and Cyprus are currently again among the euro area countries experiencing strong growth. They have subsequently been subject to post-program surveillance, which has to be maintained until at least 75% of the financial assistance (EFSF, ESM, bilateral loans) is repaid. Greece is currently the only country that is still operating under a program. The third financial assistance program for Greece runs until August 20, 2018.

An extension of the ESM's areas of responsibility is currently being discussed.⁴¹

2.3 The EU budget – strengthening resilience and fostering real convergence in the EU/euro area

In the debates on the EU/euro area fiscal governance framework and the establishment of additional instruments for cyclical risk sharing among the Member States, the role that the EU budget has had up to now has been largely ignored. To date, the EU budget is the only “common” stabilization instrument in the EU – albeit with a more indirect effect and more limited in scale. Its focus is primarily directed toward redistribution and convergence efforts among the Member States and the direct provision of public goods. With a volume of around EUR 150 billion per year, or around 1% of EU GDP, it does have a certain amount of macroeconomic importance. However, it does not conform to the construction of a “traditional” federal entity where one task of central government is stabilization – accompanied by the authorization to deficit financing.⁴²

The primary objective of the EU budget is to make the European economy, i.e. the national economies of all Member States, stronger and more resilient in a comprehensive sense, i.e. improve their ability to absorb shocks by strengthening the growth potential and fostering sustainable real convergence (aligning the GDP per capita of the lower-income countries in a sustainable manner with the level of the higher-income countries).

The EU's cohesion and regional policy in particular aims at permanently reducing the considerable economic and social differences between Member States or regions.⁴³ The cohesion policy, which – including the national cofinancing – amounts to around EUR 480 billion for the period 2014–2020, entails considerable

⁴¹ See Prammer and Reiss (2018) in this issue.

⁴² Redistribution and stabilization are typically central government functions in a federal entity.

⁴³ The Common Agricultural Policy (CAP), on the other hand, in principle aims at maintaining an independent agricultural sector in Europe, i.e. in terms of food supply, keeping a high degree of self-sufficiency and independence in the EU and, by way of subsidies and transfers, achieving a balance of income conditions or promoting rural regions. Around EUR 420 billion is being paid through the CAP in the current budgetary period, of which EUR 300 billion is being paid to farmers as subsidies for market-related measures and as direct payments.

Table 1

Member States' average operating budgetary balances (EU budget) 2007–2016

Net contributors			Net recipients		
	EUR billion	% of GNI		EUR billion	% of GNI
DE	-107	-0.4	PL	90	2.4
FR	-64	-0.3	EL	47	2.4
UK	-57	-0.3	HU	35	3.5
IT	-41	-0.3	ES	29	0.3
NL	-23	-0.4	RO	28	2.0
SE	-15	-0.3	PT	28	1.7
BE	-13	-0.3	CZ	25	1.7
DK	-8	-0.3	SK	13	1.9
AT	-8	-0.3	BG	12	3.0
FI	-5	-0.3	LT	12	3.9
LU	-1	-0.2	LV	7	3.0
			EE	5	2.9
			SI	4	1.1
			IE	4	0.2
			HR	2	0.4
			MT	1	0.9
			CY	0	0.1

Source: European Commission.

redistribution via permanent transfers among the Member States of the EU. The main beneficiaries are the least developed regions – especially the EU Member States in Central and Eastern Europe, on which approximately 70% of the funds are concentrated, but also a number of euro area countries on the periphery.

The net transfers from the richer countries of the EU to the poorer ones amount to up to 4% of the recipient countries' GDP (see table 1). The euro area program countries (Greece, Portugal, Spain, Ireland, Cyprus) were/are also net recipients. The countries on the periphery of the euro area were also net recipients during the boom years prior to the outbreak of the crisis.⁴⁴

However, empirical studies⁴⁵ show that not only has the real convergence among the original euro area countries since 1999 not improved in a sustainable manner despite all the structural/investment and cohesion funding (see chart 1), it has actually worsened since the outbreak of the economic crisis.⁴⁶

The structural, investment and cohesion funds also contribute to macrostabilization insofar as there is a continuous and foreseeable flow of financing to the Member States, which in principle ensures a constant level of investment that is relatively independent of the economic cycle. However, the way money from the structural and investment funds is absorbed is heavily influenced by specifics of the award

⁴⁴ This had fueled their already buoyant demand even further.

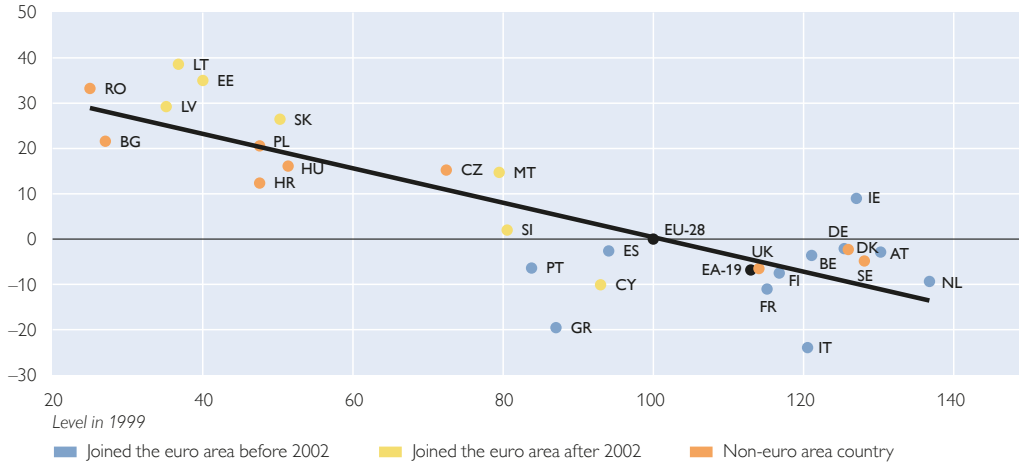
⁴⁵ See the ECB (2015), Diaz del Hoyo et al. (2017) and the European Commission (2016 and 2017d).

⁴⁶ These studies also show that the estimates of the growth potential of the euro area countries on the periphery were biased upward prior to 2008 as a result of the credit-financed boom in demand/real estate prices and that the actual underlying long-term growth had been masked by the credit boom.

Chart 1

GDP per capita relative to the EU-28 average, initial level in 1999 vs. cumulative change 1999–2016

Cumulative change, 1999–2016



Source: Eurostat, Diaz del Hoyo et al. (2017).

Box 2

EU budget

The EU budget, which has to be balanced,¹ is adopted annually in agreement between the Council of the European Union and the European Parliament. It must comply with the maximum spending limits for the EU’s various areas of expenditure, which are laid down in the EU’s multiannual financial framework. This framework reflects the policy priorities over the entire planning period. It is subject to unanimity on the Council. The current period for the multiannual financial framework is 2014–2020. In accordance with Article 318 TFEU, the EU budget is financed by the EU’s own resources.²

The EU’s own resources comprise (a) traditional own resources (customs duties on imports from outside the EU, and sugar levies), as well as financial contributions paid by its members, which in turn are made up of (b) VAT resources (based on the notional harmonized VAT base) and (c) gross national income (GNI)-based own resources (including the U.K. rebate). The revenue system is not just adopted unanimously by all Member States, but also ratified by national parliaments. The large number of complex correction mechanisms makes the entire system complicated and opaque. Up for discussion in the forthcoming renegotiation of the financial framework this year are the functions/objectives that are to be covered or are envisaged with the EU budget and thereby the volume of the EU budget and its future financing – with a particular focus on Brexit.

The largest budget expenditure is still on agricultural support – although this has become much less significant over the decades and the objectives have been adapted slightly – followed by support for sustainable growth and regional assistance through the European structural and cohesion funds (ESI funds).³ In particular, expenditure on programs in the area of competitiveness have gained significantly in importance, compared with the previous multiannual financial framework.

¹ In practice, however, the actual revenue and expenditure often deviates from the estimates. There are normally surpluses, which are used to reduce the budget contributions of EU Member States for the following year.

² European Parliament (2014).

³ Consisting of the European Regional Development Fund (ERDF), the European Agricultural Fund for Rural Development (EAFRD), the European Social Fund (ESF) and the Cohesion Fund (CF). The CF mainly supports projects in the areas of transport and the environment in countries whose GNI per inhabitant is less than 90% of the EU average.

procedure, the administrative modalities as well as shifting priorities underlying the EU budget, which then determine an (inherent) cycle of its own.⁴⁷

The macroeconomic significance of the returns from the EU budget became apparent for the net recipient countries after the outbreak of the economic crisis in particular, when their national public budgets were severely restricted and the Cohesion Fund was important as a stable source of financing for investment that promoted growth.⁴⁸ In order to prevent a decline in investment demand – because of the national cofinancing requirement – the national financing share for Cyprus, Greece, Hungary, Ireland, Portugal and Romania was temporarily reduced following the outbreak of the crisis.⁴⁹ In some Member States, the structural funds (European Regional Development Fund (ERDF) and the European Social Fund (ESF)) are the main source for financing public investment.⁵⁰

In addition, the EU budget – albeit without an EU central government – acts as a very moderate automatic stabilizer in the case of asymmetric shocks, since contributions to the EU budget fall in line with developments in the relevant levy-based schemes (a country's GNI growth declines relative to growth in the EU as a whole), but the return flows of funds remain the same, in line with the multiannual financial framework (and thanks to the system's inherent buffers).⁵¹

3 Euro area risk-sharing mechanisms and shock prevention outside fiscal policy

The global financial crisis and subsequent economic crisis caused far-reaching problems for the European financial sector, in particular the banking sector, which is critical for financing the real economy in Europe. The banking sector was insufficiently capitalized⁵² and characterized by governance problems, as well as weak national supervisory systems marked by different standards and capacity.

The establishment of European monetary union had brought about a sharp fall in interest rates for a number of countries, which had then fueled credit-financed private and/or public demand and had led to a buildup of current account deficits, which, even in a monetary union, are unsustainable in the long term. Financial resources would flow from the banks of the core euro area countries to those of the countries in the periphery, but they dried up when the crisis began. This was due to the unsecured short-term interbank market grinding to a hold.⁵³ European banks had increasingly used the short-term interbank market to finance themselves

⁴⁷ “The projects identified and agreed on by the EU and recipient countries often take time to start and implement. EU funds absorption is therefore largely influenced by exogenous factors related to project implementation, as well as by changes in EU-wide policies.” (IMF, 2014, p. 25).

⁴⁸ In the period 2007–2015, approximately 40% of EU return flows of funds went toward supporting the infrastructure of Member States, around 28% toward supporting the private sector and roughly 20% toward supporting human capital. Support for infrastructure is particularly important for the countries that joined in the 2000s, where some 50% of their respective return flows of funds is concentrated on infrastructure projects. Infrastructure support also dominates in Greece and Spain. See Monfort et al. (2017).

⁴⁹ See Matthews (2012) and Regulation (EU) No. 1303/2013.

⁵⁰ See European Commission (2017g).

⁵¹ This stabilization effect does not exist if it is a symmetric shock that affects all Member States.

⁵² Basel I/II was applied as minimum standard for capitalization.

⁵³ The ECB had to step in and largely take over the money market's role as an intermediary.

after the establishment of the monetary union. As a result, banks were faced with serious refinancing problems.⁵⁴

Furthermore, the sharp economic downturn and the bursting of the credit-financed real estate price bubbles in several euro area countries caused nonperforming loans on banks' balance sheets to increase abruptly and rapidly. Therefore, extensive packages to stabilize and support banks were adopted, banks underwent emergency nationalizations and/or bad banks were formed. In addition, there was a vicious circle between banks and governments – a fundamental problem in overcoming the crisis and stabilizing the euro area. Banks that got into problems were rescued by governments if they were deemed systemically important. In other words, losses in the banking system were thus borne by the state (“taxpayers”) as they were transferred from the private to the public sector. As a result, the risk of default and hence the risk premiums on the sovereign debt of some countries rose sharply (or the market value fell sharply). If, in turn, banks had large holdings of such bonds, the price losses for government bonds put their balance sheets under severe pressure – a move normally associated with a sharp rise in financing costs. In extreme cases, banks will even lose access to the monetary policy operations of central banks if they are no longer able to use such government bonds as collateral for these operations. The vicious circle (“bank-sovereign nexus”) is that the bailout of banks may trigger a sovereign debt crisis that then turns into a banking crisis.⁵⁵ Establishing a European banking union has aimed at breaking this “doom loop.”

3.1 European banking union and macroprudential policy

Creating a European banking union – with work on this beginning in 2011 – became a key undertaking at European level in light of the bank-sovereign nexus and given the importance a functioning, stable banking and financial sector has for both transmitting monetary policy and financing the real economy.⁵⁶ Common European banking supervision and resolution – based on the Single Supervisory Mechanism (SSM), the Bank Recovery and Resolution Directive (BRRD) and the Single Resolution Mechanism (SRM), whose resolution fund is to have EUR 55 billion available for pre-financing resolution costs when complete – will also help better protect countries from banking risks in future. The third pillar of the banking union, namely a European deposit insurance scheme (EDIS), is still pending and currently the subject of intense discussion, as this would naturally go hand in hand with risk sharing among the Member States.⁵⁷ Like the national deposit guarantee schemes, EDIS is meant to prevent bank runs by safeguarding deposits on the basis of a functioning European insurance fund and a binding European legal framework. EDIS is aimed in particular at those cases which a purely national deposit

⁵⁴ *Monetary union had considerably boosted the integration of the European interbank market. The interbank market has been of particular importance for monetary policy: the monetary stimulus is given to the banks via the interbank market and is then passed on to the other financial sectors and then, in turn, to the real economy. The interbank market is therefore the key transmission channel for the common monetary policy.*

⁵⁵ *The problem with the bank-sovereign nexus also exists if the original problem is a sovereign debt crisis, because investors lose confidence in the ability and/or willingness of a country to service its debt.*

⁵⁶ *Fragmented financial markets make lending more difficult in crises.*

⁵⁷ *It is important for both the resolution fund and the deposit insurance fund to have an adequate fiscal backstop when it comes to global systemically important banks. With respect to the deposit insurance fund, it is also a question of removing problematic legacy assets from banks' balance sheets, i.e. treating nonperforming exposures accumulated on the balance sheets.*

insurance system would not be able to resolve.⁵⁸ However, the question of how banks are to be better protected against the consequences of a loss of investor confidence in the sovereign debt issuer is also the subject of fierce debate. In this respect, preventing concentration risks – which result from the propensity to invest in government bonds of the home country (home bias) – on banks' balance sheets and the regulatory treatment of government bonds in relation to risk weighting are at the heart of the discussion.⁵⁹

However, the crisis in the financial sector has also shown that microprudential supervision alone does not suffice to safeguard financial stability as a whole. Although it has become more effective and has been harmonized for significant credit institutions in banking union, microprudential supervision is geared solely toward maintaining the stability of individual financial institutions.⁶⁰ This is why central banks were put in charge of safeguarding the stability of the financial system as a whole through macroprudential supervision⁶¹ – by means of regulatory and supervisory instruments.⁶²

In the euro area, responsibility for macroprudential supervision is shared between the respective national authorities and the ECB. In principle, the Member States are in charge of conducting macroprudential policy. As of 2014, the necessary institutional structures for macroprudential supervision were set up both at the European and at the national level. At the ECB, the European Systemic Risk Board (ESRB) was created, with its key task being the early identification of risks in the European financial system. The national institutions are responsible for implementing macroprudential measures.⁶³

The requirements of the Basel III regulatory framework are fundamental to safeguarding financial stability.⁶⁴ The framework obliges banks to now hold more and better-quality capital in order to become more resilient to crises.⁶⁵ It stipulates how much capital banks have to hold depending on their balance sheet risks and that the higher the risk on banks' balance sheets, the higher the minimum capital

⁵⁸ From 2024 onward, a full European insurance scheme is supposed to be in place, according to the European Commission's original plans. It would fully fund all payouts in the participating countries in the event of bank failures. Implementation of the third pillar of banking union also depends, among other things, on whether it can be ensured that all members make an equal effort to limit the risks to this European deposit guarantee scheme, for example by implementing and complying with existing rules such as those for the restructuring and resolution of credit institutions and those for the harmonization of existing national deposit guarantee schemes.

⁵⁹ European Safe Bonds (ESBies) are being propagated as an alternative to removing preferential regulatory treatment of government bonds.

⁶⁰ As Janet Yellen (2015) put it, "We looked closely at the trees and not as intently as we should have at the forest" and the many different interdependencies between the trees (Weidmann, 2015).

⁶¹ Opinions diverge on the extent to which the two tasks of maintaining price stability and safeguarding financial stability are compatible or conflict with each other. See also Gnan et al. (2018) in this issue.

⁶² See Posch et al. (2018) in this issue.

⁶³ The ECB in its capacity as microprudential banking supervisor has the right to apply more stringent measures than adopted nationally (in the case of certain instruments defined in EU law).

⁶⁴ The CRD IV package (Capital Requirement Regulation and Capital Requirement Directive) transposes the global standards on bank capital (Basel III agreement) into EU law.

⁶⁵ Higher capital requirements improve banks' risk-bearing capacity and thereby their ability to absorb shocks. The banking sector becomes more resilient as a result.

has to be.⁶⁶ Furthermore, banks have to hold additional capital buffers if this is necessary from the point of view of financial stability.⁶⁷

The requirements are aimed at increasing the resilience of and reducing the systemic risks in the financial system so that it can bear the effects of significant exogenous or endogenous shocks independently – without support from the taxpayer. In particular, excessive credit growth and the associated excessive debt (leverage) should be mitigated or prevented so as not to give rise to asset price bubbles. Empirical studies show that, in particular, banking crises that follow excessive credit growth are associated with much higher real economic and fiscal costs.⁶⁸ In addition, mitigating and preventing excessive maturity mismatches between financial companies' assets and liabilities as well as liquidity shortages in the markets should avert the excessive use in the future of short-term and volatile refinancing sources which may in some circumstances make fire sales of assets unavoidable and thus lead to illiquidity spirals and contagion effects. When there is a high degree of interconnectedness, limiting direct and indirect risk concentrations should in turn prevent shocks at individual financial institutions or in segments of the financial system from spreading rapidly in the financial system and to other parts of the economy via direct links or correlated exposures. The focus is also on limiting systemic effects of misaligned incentives in the financial system which arise from implicit and explicit government guarantees – resulting from the fact that the probability of implicit state guarantees increases with the size/significance of an institution.⁶⁹ However, as it is not possible to prevent banks from failing in the future – despite the more stringent regulation – functioning resolution mechanisms are key, as are requirements concerning those liabilities that can be “cut” if there is a problem (bail-in) (minimum requirement for own funds and eligible liabilities, or MREL). The orderly restructuring or resolution of systemically important institutions in the context of the elements of the banking union that have so far been implemented should in particular help permanently weaken the bank-sovereign nexus. To this end, the SSM is to prevent undesirable developments as far as possible and, notably, the need for any fiscal support measures in a crisis must be kept to a minimum – also by applying the rules on the orderly bail-in of creditors.⁷⁰

3.2 A European capital markets union – private sector risk sharing across countries

However, a European financial union comprises not just the banking sector, but also the capital markets. The goal of the capital markets union is therefore to transform

⁶⁶ The calculation of risk-weighted assets determining the minimum level of regulatory capital banks must maintain is meant to deter banks from making riskier-than-average investments.

⁶⁷ The countercyclical capital buffer can be used to require banks to hold additional capital if excessive aggregate credit growth may contribute to the buildup of systemic risk.

⁶⁸ See Claessens and Kose (2013) and Laeven and Valencia (2012).

⁶⁹ Implementation of the BRRD should also help get the “too big to fail” problem and the associated incentive problems under control. See also Posch et al. (2018) in this issue.

⁷⁰ In principle, a predetermined decision-making process based on a predefined creditor hierarchy (liability cascade) begins when a bank becomes insolvent, in accordance with the intentions of the SRM, in which the owners and creditors of the bank initially bear the losses that arise. Subsequently, assistance comes from the resolution fund that the banks themselves have financed. The government and thus the taxpayer do not feature in this liability cascade until right at the end. See Bertelsmann Stiftung and Jacques Delors Institut – Berlin (2017).

the – currently 28 – national capital markets into an integrated capital market.⁷¹ One key element of this plan is to reduce investors’ “home bias” in order to activate a further channel in monetary union to smooth out cyclical fluctuations among euro area countries. This would reduce the necessity of risk sharing via new fiscal instruments.⁷² In line with the empirical literature, private sector risk sharing via integrated capital markets and credit markets is of considerable importance in other federal structures, in particular the United States, Canada and Germany, in the event of asymmetric shocks. This type of risk sharing implies that the economic risk of investments is jointly borne by lenders in various federal states. Profits and/or losses are thereby not concentrated in the federal state in which an enterprise is based. Cross-border borrowing cushions further against economic downturns if banks in other federal states are better able to bridge the gap than domestic banks during a tough economic period. Private risk sharing through loans that are taken out in a downturn for consumption smoothing cushions against around 25% of an economic shock in the United States. The figure is far higher (40%) when cushioning against an economic shock via the capital markets.⁷³ In contrast, the fiscal risk-sharing channel absorbs a comparatively small percentage of a shock.⁷⁴

Milano and Reichlin (2017) have found that the scale of fiscal and private risk sharing is smaller in the EU/euro area than in the United States and than in Germany on its own. According to their estimates, however, the scale of fiscal risk sharing increased significantly in the EU following the outbreak of the crisis as a result of the actions of the EFSM, EFSF and ESM (from approximately 23% prior to the crisis to approximately 31% following the outbreak of the crisis) and is thereby higher than for the fiscal risk-sharing mechanism in the U.S.A. But they also conclude that, in the U.S.A., a more integrated capital and credit market represents the most important channel for risk sharing in the event of idiosyncratic national shocks.⁷⁵

As the euro area is not a federal state, but a common currency area for sovereign states, an increase in the significance of cross-border financing of enterprises, in particular via capital, is desirable in order to cushion against national/regional/sectoral shocks in the euro area more effectively. However, forming a single European capital market is an extremely complex undertaking. To make cross-border holdings more attractive, harmonizing tax and insolvency law in particular is of key importance, as investors need reliable conditions and as level a playing field as possible.⁷⁶

Cross-border bank loans are a second channel for private risk sharing. This mechanism, however, failed in the euro area in the course of the economic crisis because confidence in the banking systems of the countries in the periphery that were under stress was lost and interbank market trade virtually broke down. To

⁷¹ See Beer and Waschiczek (2018) in this issue.

⁷² See Constâncio (2017).

⁷³ See Asdrubali et al. (1996). For Canada, see Balli et al. (2012).

⁷⁴ Although various empirical estimates on the scale of shock absorption diverge in respect of the individual channels, all are agreed that private risk sharing is the most important channel in other federal entities.

⁷⁵ However, it is interesting that not only has the expectation of cost sharing through factor income flows, in particular in the course of the crisis, not been fulfilled, the smoothing capacity of this channel has even fallen – both in the U.S.A. and in the euro area.

⁷⁶ In other words, the envisaged harmonization of the corporate tax base at EU level also plays a role in this context and not just in the context of combating tax avoidance or evasion. See Weidmann (2017).

reduce their risks, banks subsequently scaled back their cross-border activities, which resulted in this private risk-sharing channel failing. Banking union therefore aims at preventing a loss of confidence in the national banking systems of the euro area countries. This would also improve the effectiveness of the private risk-sharing channel via cross-border lending.

4 Summary and conclusions

The global financial and economic crisis presented the EU and the euro area with the biggest challenges since their inception. Monetary, fiscal and economic policy makers deployed a wide range of instruments in order to prevent a second major global depression. Moreover, extensive bank stabilization measures were taken to support the financial – and in particular the banking – sector. The crisis in Europe was further amplified by internal and external imbalances that had built up in a number of Member States in the pre-crisis years and that reflected national structural problems and ineffective economic and structural policy coordination in the euro area. Some euro area countries were stretched to their financing limits and lost access to the capital markets. Because fiscal policy had been too lax and the European fiscal framework had not been respected in the “good” economic years prior to the outbreak of the crisis, there were no fiscal buffers in some countries to counteract or cushion against this exceptionally strong shock.

The huge economic challenges triggered a cascade of monetary and economic policy decisions, such as reform of EU governance, the rapid implementation of new measures to combat crises and the creation of a European financial union, including banking union and capital markets union. Besides, the question whether monetary union needs further – new – common instruments for risk/cost sharing among its members in the event of strong (asymmetric) shocks is the subject of an intensive economic policy debate (see also Prammer and Reiss, 2018, in this issue).

To safeguard the cyclical stabilization function of fiscal policy, as well as to prevent moral hazard and fiscal policies in euro area countries that are unsustainable in the long term, monetary union relies on a framework of tight fiscal rules, given that fiscal policy continues to be under national sovereignty, and a supranational, independent surveillance body. This complements the common monetary policy and the mandate to maintain price stability in the euro area. However, the developments before and particularly since the outbreak of the crisis in 2008 have shown that policy makers within the EU have not been in a position or willing to enforce these rules, even though compliance with the existing rules would imply significantly better absorption of cyclical shocks. Compliance would also make the system as a whole more resilient because the rules aim at fiscal policies that are sustainable in the long term (shock prevention).

This article shows that, in principle, there are already enough fiscal and macro-economic buffers in the euro area provided the banking union measures – which are agreed in principle – are implemented, capital markets union becomes a reality and macroprudential policies are effective. Still, the effectiveness of the instruments depends on Member States’ willingness to align their policies to the “ground rules” of the EU and of monetary union and on how committed they are to these objectives. Enforcing compliance with said existing and agreed rules and regulations would help both prevent risks and crises and better absorb future short-term/cyclical shocks.

Nevertheless, neither strict compliance with the fiscal regulatory framework nor all the regulatory efforts in the financial sector are likely to prevent all potential crises in the future. Hence, the resilience of the EU and the euro area will continue to be determined mainly by the respective institutions' ability to take effective action. This also calls for strengthening the economic structures, i.e. product and factor markets, in such a way that enables them to react flexibly enough in the event of unpredictable adverse shocks without economic or social crises coming about.

This applies all the more as there is currently no sign of political majorities for further comprehensive deepening measures or giving up national sovereignty. It is not just the ability of the European institutions to take effective action that is of particular importance for coping with future crises, but also – and especially – that of the national institutions. In relation to fiscal policies, this could also mean that Member States specifically strengthen their national automatic stabilizers or consider setting up a national rainy day fund.

Furthermore, in discussions on deepening monetary union, we should bear in mind that functioning markets are a cornerstone of the EU and the euro area. Macroeconomic fluctuations are an inevitable byproduct of market dynamics. Recent research shows that fiscal risk sharing in the euro area has already improved, owing to measures taken in the wake of the crisis, such as the ESM. In this respect, there is, however, still considerable potential in implementing the capital markets union and completing the banking union.

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How to increase fiscal stabilization at the euro area level?

Economic and Monetary Union (EMU) as originally designed failed to stabilize the euro area economy during the financial and economic crisis. In this contribution, we discuss prominent proposals to stabilize EMU through (1) risk reduction, which usually does not require explicit transfers, and (2) risk sharing mechanisms, which mostly involve fiscal transfers. We argue that mechanisms without transfers, e.g. building fiscal buffers at the national level in good times, help countries avoid large consolidation packages in bad times. Furthermore, we find that various, recently suggested mechanisms that involve explicit transfers (e. g. unemployment reinsurance) are somewhat flawed, as they involve a tradeoff between limiting permanent transfers and moral hazard and ensuring sufficient stabilization. However, allowing countries to be permanent net recipients or net contributors would considerably improve the stabilization capacity, and so would schemes that may run budget deficits in bad times. These features of a risk sharing mechanism would also be more in line with how existing fiscal federations work.

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Keywords: fiscal union, fiscal federalism, euro area

Even though the euro area had some stabilizers in place (see Katterl and Köhler-Töglhofer, 2018, in this issue), it is often quoted to have been outperformed by the U.K. and the U.S.A. in terms of GDP growth and unemployment development in the early 2010s. Many economists and politicians therefore argued that the current setting for fiscal stabilization in the euro area is insufficient. A different picture emerges when we look at GDP per capita and the employment rate (chart 1), with the euro area performing better than the U.S.A. in terms of the employment rate. However, there was a marked difference in terms of GDP growth per capita compared to both countries in the years 2012 and 2013. So the question arises what measures should be implemented to avoid a repeat of the so-called “European Sovereign Debt Crisis”.

Two fiscal factors have typically taken a large part of the blame for the weak performance in 2012/13, namely (1) (excessive) fiscal consolidation and (2) sovereign-financial feedback loops contributing to unfavorable lending conditions in parts of the euro area. Yet chart 2 shows that while the fiscal stimulus around 2009 was much smaller in the euro area than in the U.S.A. (only Portugal and Spain had deteriorations in the structural primary balance of a similar size), fiscal consolidation from 2011 to 2013 was much less pronounced, too. However, adjustments in the euro area were very unevenly distributed: compared with the U.S.A., Greece, Portugal and Spain had far larger consolidation packages in 2011 to 2013 (resp. 2010 to 2013 for Greece), which contributed to their very weak economic performance over this time span (chart 4). Furthermore, while the U.K. and the U.S.A. enjoyed low interest rates on government bonds despite their

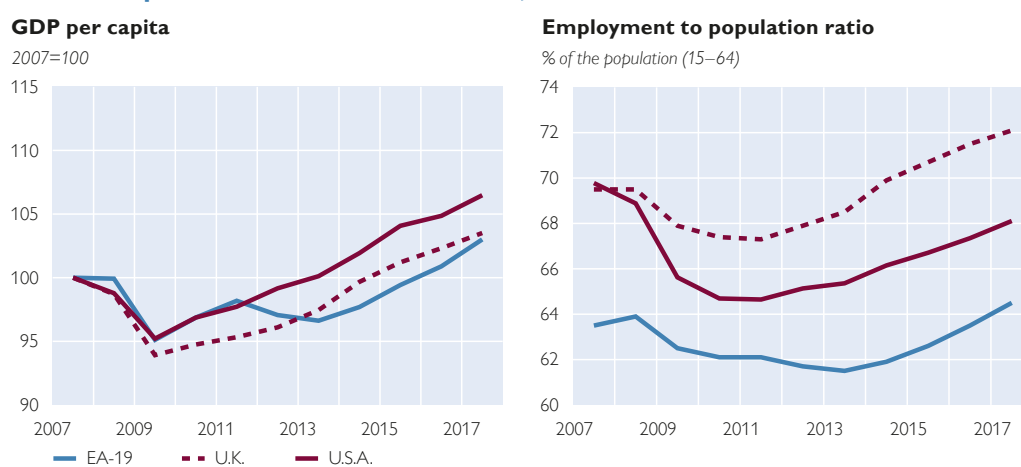
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high budget deficits,² interest rates soared for several euro area countries, including Italy and Spain (chart 2, right-hand panel). The sharp rise in interest rates not only created problems for the sovereigns themselves, but it also (at least partly) translated into higher interest rates on bank loans to the private sector. The latter issue was to some extent tackled through monetary policy measures (e.g. the Outright Monetary Transactions program and long-term refinancing operations) and the banking union (which, however, has not been completed yet as it still lacks a common deposit insurance scheme).

Chart 1

Economic performance in the euro area, the U.K. and the U.S.A. since 2007



Source: Eurostat, OECD.

Our contribution, however, does not discuss financial stability or private sector risk premiums. Instead, we focus on how to avoid strong increases in sovereign risk premiums and especially on how to increase the room for fiscal maneuver (and reduce consolidation needs) in bad times.

Section 1 looks at the fiscal mechanisms for stabilization and risk sharing employed in existing fiscal federations. The subsequent sections discuss several proposals in the literature on how to increase fiscal stabilization in the euro area. Special attention is given to a very recent paper by leading French and German economists (Bénassy-Quéré et al., 2018) and to proposals by the European Commission (e. g. 2017a; 2017 December Package: Completing Europe's Economic and Monetary Union policy package (European Commission, 2017b–e)). Section 2 tackles approaches without explicit transfers among Member States (e. g. fiscal rules which are stricter in good times or mechanisms to directly reduce risk premiums on government debt). While most are risk reduction mechanisms, some also have a risk sharing component. Section 3 discusses schemes that involve some kind of risk sharing through net transfers to Member States in bad times. Section 4 highlights the tradeoff between limiting moral hazard and permanent transfers on the

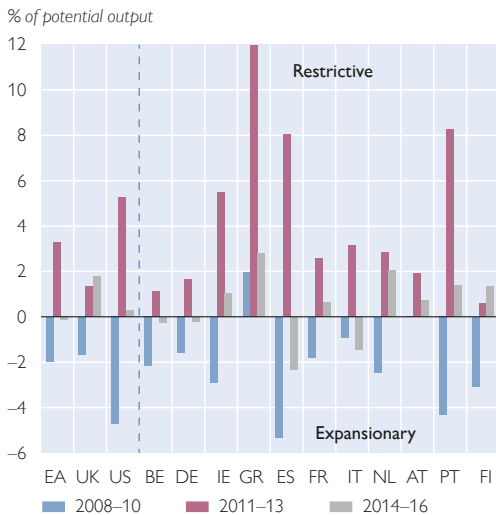
² Note that the interest rates on U.K. and U.S. government bonds (denominated in GBP and USD, respectively) are not fully comparable to those on bonds issued by governments in the euro area (denominated in EUR). This is especially true for the later years in chart 2 when monetary policy rates diverged completely.

one hand and facilitating risk sharing and providing stabilization capacity on the other. Finally, section 5 concludes.

Chart 2

Fiscal consolidation and government bond yields in the euro area

Fiscal adjustments¹ in selected time spans



Yields on 10-year government bonds



Source: OECD, ECB, Macrobond.

¹ Fiscal adjustments are proxied by the change in the underlying (i. e. structural) primary balance as calculated by the OECD (November 2017).

1 Fiscal stabilization in existing fiscal federations

In most existing fiscal federations (i. e. countries with a central government and several state governments), there are some fiscal rules for subnational governments (for an overview, see Eyraud and Gomez Sirera, 2015). In some countries, they were adopted voluntarily by the state governments (e. g. in the U.S.A.), while in others they were defined by intergovernmental agreements (e. g. in Austria).

Besides fiscal rules, fiscal stabilization for state governments has worked mostly via transfers, while loans have not played an important role. Palomba et al. (2015) argue that in normal times, loans provided by the federal government to state governments have only been relevant in the relatively centralized federation of Austria. However, in episodes of fiscal crisis, loans to the federal states have been quite common (Cordes et al., 2015). Guarantees on the debt of other federal states (typically via the federal government) have also played a very limited role. In Germany, several states have issued joint bonds (*Länderjumbos*), and the federal government and some states have jointly issued one Deutschland bond (*Bund-Länder-Anleihe*³), but liability has been several (i. e. not joint) in all cases.

In typical federations, fiscal centralization contributes to the smoothing of subnational economic shocks. The mechanisms involved can be grouped into two broad categories (see also Poghosyan et al., 2015):

³ The International Securities Identification Number (ISIN) is DE000A1X2301.

- **Stabilization:** in all federations, the central government and federal social security funds provide services (e.g. defense) and social transfers (e.g. pension and unemployment benefits) to the private sector as well as acyclical transfers to state governments (e.g. salaries and pensions for state teachers in Austria) or countercyclical transfers to state governments (e.g. transfers for the extension of unemployment benefits in the U.S.A.). The central government and the social security funds act as shock absorbers for state governments, as these expenditures are mostly financed by cyclical taxes. Also, state and municipal taxes (like property taxes) tend to be relatively less cyclical than federal taxes (see e.g. Escolano et al., 2015). Such mechanisms insure state governments against both common shocks affecting the whole federation and idiosyncratic shocks affecting only a few states.
- **(Fiscal) Risk sharing:** in some countries, revenue sharing between states is extensive. It can be achieved by the federal government collecting taxes and paying (procyclical) transfers to the states (as is the case in Austria) or by the state governments collecting taxes and sharing them with the other states. Such mechanisms insure state governments against idiosyncratic shocks but not against common shocks.

What these mechanisms have in common is that stabilization or fiscal risk sharing with regard to subnational budgets⁴ is mostly a side effect, especially for countries like Austria or Germany. They are mainly intended to be (1) of an allocative nature due to the high fixed cost involved in the provision of certain public services and the administration of social transfers and taxes or (2) to avoid (excessive) tax competition. Moreover, distributive considerations also play a prominent role in that living conditions are not supposed to differ too much across states.

Neither the European Union as a whole nor the euro area are fiscal federations. As the EU budget has to be balanced every year, it cannot provide any stabilization in case of a negative shock affecting all countries at the same time (as was the case in 2009). However, the design of the EU budget involves some implicit revenue sharing between states. The contributions by EU Member States are based on a fictional harmonized VAT base and especially on gross national income. So when a country's share in EU gross national income (which is relatively close to GDP for most Member States) declines, its share in the contributions payable to the EU budget will decline, too (chart 5). While net transfers out of the EU budget to the main beneficiaries of structural and cohesion funds are sizeable (see Köhler-Töglhofer and Katterl, 2018, in this issue), overall fiscal risk sharing through transfers is much smaller in the EU or the euro area compared to fiscal federations.

2 How to increase stabilization without explicit transfers

In this section, we summarize the main political and academic ideas on how to increase fiscal stabilization and reduce fiscal risks in the euro area without (necessarily) using monetary transfers. All proposals, including those in section 3 (which involve monetary transfers), also indirectly aim at supporting the banking union in the prevention of negative sovereign-banking loops, as they are supposed to decrease the probability of high risk premiums on government debt in crisis.

⁴ This should not be confused with a stabilization of household income, which could be achieved by the central government or by state governments.

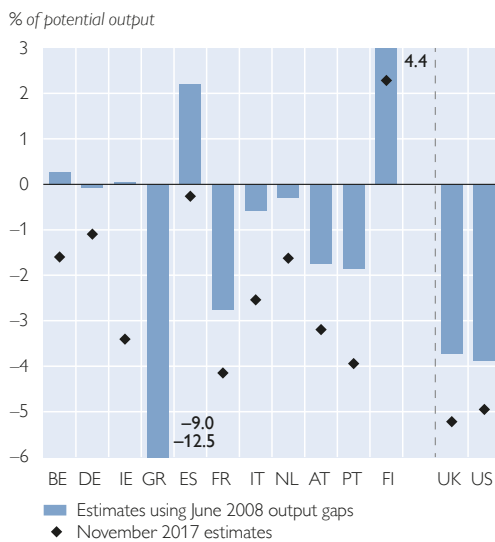
2.1 Less procyclical fiscal rules

Several proposals have been made to amend the fiscal rules such that they are stricter in good times and provide sufficient buffers for bad times. At least on first sight, Ireland and Spain had relatively good fiscal positions in 2007 (chart 3), and yet they were hit very hard by the crisis. By contrast, Portugal had a rather low structural balance, Italy had a very high debt ratio, and Greece had a very high structural deficit and a very high debt ratio directly before the crisis (chart 3).⁵ France and Austria had rather weak fiscal positions in 2007, too. While the consolidation packages of the latter two countries were not as large as in the countries with macroeconomic adjustment programs, they had to do significantly more than Germany (chart 2), which is likely to have contributed to their relatively weaker growth performance. An interesting case is Finland, which was hit particularly hard by the crisis. Thanks to its extraordinarily good fiscal position in 2007 (chart 3), however, its fiscal policy was able to expand considerably around 2009, and it had relatively small consolidation needs afterward (chart 2). Finland also did not experience a strong increase in sovereign risk premiums. Nevertheless, the country performed badly in terms of GDP per capita growth between 2007 and 2017 (chart 4). Consolidation needs in 2011 to 2013 would have been much smaller in the euro area if countries such as Greece, France, Italy, Austria and Portugal had had better pre-crisis positions.

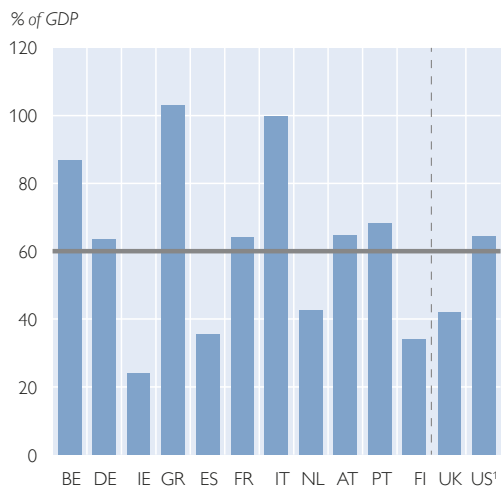
Chart 3

Fiscal positions in 2007

Structural balances (OECD)



Public debt (EDP definition)



Source: OECD, Eurostat.

¹ Data for the U.S.A. refer to “gross financial liabilities” (OECD), which are not fully comparable with the concept of EDP debt.

⁵ Note that Greece, Portugal and Austria had to make sizeable ex post revisions of their 2007 headline deficit ratios.

In a nutshell, the current subsets of EU fiscal rules have three anchors: (1) the 3% upper limit for the headline deficit, (2) the 60% benchmark for the debt ratio and (3) the country-specific medium-term targets for the structural balance. If a country does not achieve one or more of these targets, there will be certain consolidation requirements. The amount of consolidation is measured by (1) the change in the structural balance and (2) expenditure growth adjusted for the impact of discretionary revenue measures (for details, see European Commission, 2018b). Many aspects of the current framework are highly complex and/or procyclical (i.e. they tend to ask for more consolidation in bad times; for an overview, see Prammer and Reiss, 2016). This is true not only of the regulations themselves, but also of the application of the Stability and Growth Pact (SGP) by the European Commission. For example, just when economic conditions in the euro area improved around 2014, additional flexibility was introduced, which in fact reduced consolidation requirements (see Katterl and Köhler-Töglhofer, 2018, in this issue). In the following, we discuss two proposals which are supposed to make the EU fiscal rules at the same time less procyclical and less complex.

Many articles (e. g. Claeys et al., 2016) suggest expenditure growth – adjusted for the estimated impact of discretionary revenue measures – should be the main indicator for consolidation efforts in the SGP. Supposedly, this would not only increase predictability (due to fewer measurement issues in real time) but also decrease procyclicality: the expenditure benchmark compares expenditure growth with a multi-year average of potential GDP growth rates instead of the more procyclical growth rate of the current year (such as the change in the structural balance). Furthermore, this benchmark calculates adjustments on the revenue side based on the estimated impact of discretionary measures instead of the change in estimated structural revenue. While these advantages have to be acknowledged, one should not forget that measurement problems with discretionary revenue measures go far beyond the treatment of improvements in tax collection or the uncertainties concerning the true effect of base-broadening measures. For example, the current expenditure benchmark ignores the following conceptual issues: revenue increases via bracket creep in the income tax, statistical interactions of expenditure with both tax and nontax revenue⁶ as well as the virtual impossibility of correctly accounting for revenue measures of smaller government entities.^{7,8} Some of these problems could be solved quite easily by deducting nontax revenue from the expenditure aggregate.

With a view to simplify the EU fiscal framework, several commentators (e.g. Claeys et al., 2016) also suggest using debt as the main (or even sole) anchor in the

⁶ For example, cuts in rental payments by Austrian schools to the country's central provider of space for certain public sector functions (Federal Real Estate Company) would reduce revenue and expenditure by the same amounts, and cuts to expenditure on personnel by universities would (in addition to reducing compensation of employees) decrease (imputed) government investment and revenue from output for own final use by the same amount. Furthermore, a cut to public pensions also has a direct impact on revenue (lower income tax on pensions), and, in the same vein, increases to employers' payroll taxes or social contributions automatically increase government expenditure.

⁷ For example, when the central government cuts intragovernmental transfers to museums or public railways, they may respond with expenditure decreases (which would be captured by the expenditure benchmark) or increases in ticket prices (which would be ignored in this framework).

⁸ These issues also make it extremely difficult to break down the requirements for government subentities (like the Austrian Stability Pact does for states and municipalities).

fiscal rules (i.e. the headline budget balance and the structural balance would be sidelined). However, relying on the current debt ratio alone to judge whether consolidation is necessary might lead to excessive consolidation: would Greece or Italy need to implement additional expenditure cuts (or tax hikes) if their structural balance ratio were already at +3% but their debt ratio was still more than 100%? The current fiscal framework would likely indicate that there is some room for expansion in that case.⁹ Furthermore, this measure might also lead to less adjustment in good times: while adjusted expenditure growth in Spain and Ireland was fairly high before the crisis (European Commission, 2011), their pre-crisis debt ratios were very low by euro area standards (chart 3). Larger consolidation requirements for high-debt countries could also be achieved by increasing the existing penalty term in the calculation of structural balance targets.

Various proposals have been made on how to improve the implementation of surveillance: Bénassy-Quéré et al. (2018) suggest replacing the current sanctions regime with a forced issuance of junior bonds in case of planned deviations from the fiscal rules (see section 2.2 for a discussion of the practicability of junior sovereign bond issues). They also argue (in line with other commentators) for reducing the European Commission's role and strengthening the European Stability Mechanism (ESM) and/or national fiscal councils.

2.2 Different forms of “Eurobonds”

More stabilization in bad times cannot only be achieved through better initial fiscal positions (i.e. reducing risk ex ante), but also through mechanisms which avoid an increase in sovereign risk premiums (and possibly also private sector risk premiums) in case of fiscal problems.¹⁰ While almost all proposals discussed in this paper could potentially help in this respect, the joint issuance of public debt by Member States would be the most direct way to achieve this in that it includes risk sharing. Some proposals involve joint and several liability of the issuing Member States (i.e. Germany would not only be liable for its own share but also, say, for the Italian share in the joint instrument and vice versa). Others, most prominently the European Safe Bonds (ESBies), have several (or proportionate) liability.

Prominent proposals for the issuance of bonds with joint and several liability include Blue Bonds (Delpa and von Weizsäcker, 2011) and “Eurobills” (Philippon and Hellwig, 2011). In both cases, only a part of government debt (60% of GDP for “Blue Bonds”, 10% of GDP in the form of short-term bonds for “Eurobills”) is issued jointly, and Eurobonds are senior to government debt instruments issued by individual Member States. However, when we look at government balance sheets, the distinction between junior and senior debt is much trickier than for corporations. This can lead to situations where even small amounts of senior debt are not fully repaid by a Member State (i. e. the other countries would have to step in). First, off balance sheet liabilities of governments tend to be extremely large,

⁹ The only binding rule in the current framework in this case is the debt benchmark. However, even in a fiscally bleak situation with a debt ratio of 150% and nominal trend growth of 2%, a structural balance of around +1½% would suffice to meet the requirements of the debt benchmark (assuming a deficit-debt adjustment of close to zero).

¹⁰ There are also strong reservations against this aim based on the argument that the threat of a high risk premium is an effective tool to encourage governments to pursue sound fiscal policies.

especially entitlements to pensions and other social transfers. Typically, they are neither senior nor junior to financial liabilities. Countries may cut their off balance sheet liabilities significantly before even slightly cutting financial debt. However, unlike for junior debt in a corporate bankruptcy, countries are very unlikely to reduce pensions or social transfers to zero before touching their financial debt at all. Second, in the national accounts, government consists of numerous entities, many of which may issue debt. Caps on the issuance of senior liabilities applicable to the core central government can be circumvented by reducing intragovernmental transfers (which improves the core central government balance). These cuts could be compensated for by the issuance of (possibly secured) debt by municipalities or corporations classified as government (like public railway corporations) and/or by legally binding guarantees on future payments by central government to them. If governments were unwilling to reduce these implicit liabilities from intragovernmental transfers and social payments (and if they were unwilling to increase taxes), they could be unable to redeem even relatively small amounts of financial debt.¹¹ Furthermore, taking joint liability for debt instruments would go beyond what is usual in existing fiscal federations (section 1).

ESBies, which were suggested by Brunnermeier et al. (2016), are the most prominent example of bonds with several liability where, similar to collateralized debt obligations, regular government bonds of Member States are bundled together into a senior and a junior tranche. A major advantage of this proposal is that, possibly in combination with regulatory incentives, it might induce banks to reduce their concentration risk or home bias by replacing bonds of their own government with ESBies. This could also be achieved through direct regulation by lifting the exception of government bonds from concentration risk rules. Concerning the effects on the financing conditions of governments, there is some uncertainty as to how the junior tranche would perform in times of fiscal stress in the euro area, as even the default of a smaller Member State would have a relatively large effect on this tranche. This is why ESBies should probably be seen as a risk reduction tool for sovereign-financial feedback loops. If the junior tranche carries a high risk premium in times of crisis, ESBies may not be that helpful in ensuring good financing conditions for troubled Member States. However, if banks did not hold parts of the junior tranche, they would be much less affected by increases in sovereign risk premiums (or defaults of single Member States) than if they held regular government bonds. This effect is accompanied by the side effect of a reduction in the cost of default for the defaulting Member State (while increasing the cost for the others) due to higher diversification. German banks would, for instance, be less affected by a German default if they held ESBies instead of German bonds (see S&P, 2017). Joint and several liability would also reduce the cost of a default for the defaulting country (due to the transfers the other Member States would have to pay), thus potentially encouraging moral hazard.

2.3 European Monetary Fund and European Stability Mechanism

Federal loans to subnational entities in times of fiscal crisis are a relatively common stabilization tool in existing fiscal federations (section 1). The December 2017

¹¹ Note also that governments own certain assets which they cannot be forced to privatize.

package of the European Commission (2017b-e) included a proposal to establish a European Monetary Fund (EMF) to be built on the structures of the existing ESM.¹² Like the ESM, it is to provide financial assistance to Member States in need. They would have (guaranteed) access to EMF liquidity at rates lower than their countries' market rates (due to lower risk and liquidity premiums), which would reduce the cost of financing in future budgets. However, in contrast to the ESM, which is based on intergovernmental legislation, the European Commission's proposals suggests to set up the EMF as a legal entity under Union law. In addition to providing financing to Member States, it would also provide a common backstop to the Single Resolution Fund, i.e. the EMF would provide credit lines in case the Single Resolution Fund lacks the financial capacity to resolve failing banks.¹³ Moreover, the proposal foresees a more active role of the EMF in financial assistance programs (like that of the European Commission). These short-term features would restrict the EMF to providing credit (lines), i.e. loans, to Member States and their banks without including any transfer arrangements between Member States. One additional feature of the proposal might also imply a transfer capacity for the EMF, however: *“Over time, the European Monetary Fund could develop new financial instruments to supplement or support other EU financial instruments and programs, for instance in support of a possible stabilization function in the future”* (European Commission, 2017b, p. 2). Hence, the short-term measures would provide stabilization at the national level by reducing risk, as fiscal and financial problems would not aggravate and spread to other countries, while a future transfer capacity would also incorporate a risk sharing feature.

Bénassy-Quéré et al. (2018) go one step further by attributing the sole responsibility of assistance programs to the ESM/EMF¹⁴ and by making the ESM/EMF directors (to be elected like at the IMF) accountable for these programs to the European Parliament. Moreover, like the European Commission, they suggest extending low-cost ESM/EMF loans to pre-qualified countries in case of large economic shocks, which would turn the ESM/EMF into an institution offering a fiscal capacity (see section 3). To reduce moral hazard from the provision of (emergency) loans, the no bailout rule would have to be credibly enforced. Hence, the proposals would restrict ESM/EMF lending to countries with sustainable debt levels or explicitly require restructuring of debt as a condition for access to ESM lending. The credibility of the no bailout clause can be enhanced by reducing the expected economic disruptions from debt restructuring, which could be achieved by weakening the sovereign-bank nexus and/or by increasing the degree of formal risk sharing. According to Berger et al. (2018, p. 14) *“the presence of a formal arrangement to share some fiscal risk that limited the negative consequences of a default (for example, in the form of a common fiscal backstop for bank resolution and deposit insurance and fiscal transfers linked to the recession) could make default acceptable from an economic and political standpoint.”*

¹² For details on the current design of the ESM, see Katterl and Köhler-Töglhofer (2018).

¹³ The funds should be recovered from banking union members.

¹⁴ Bénassy-Quéré et al. (2018) do not request a name change for the EMF but propose an overhaul of the current ESM, as described above.

2.4 Sovereign debt restructuring mechanisms

Mechanisms for sovereign debt restructuring are considered for various reasons in the context of enhancing stabilization in the euro area (e.g. Bénassy-Quéré et al., 2018; Andritzky et al., 2016). Arguments for the desirability of more debt restructuring do not only include the classic arguments of alleviating the country's debt burden and imposing more market discipline: maturity extensions of existing debt instruments at the beginning of macroeconomic adjustment programs could also significantly reduce the financing needs of program countries and thereby shrink lending by supranational organizations and/or other Member States.¹⁵ Bénassy-Quéré et al. (2018) stress that the exemption of government bonds from concentration risk regulations for the financial sector would have to be abolished; otherwise a single country default might drag banks into bankruptcy. Note that while such a regulatory change would force banks to diversify their government bond holdings, it would not make holding government bonds more expensive per se (in contrast to abolishing the zero risk weights for government bonds denominated in euro). Another strand of the literature does not stress the desirability of restructuring but rather focuses on the framework needed for restructuring: if restructurings take place, they should be conducted orderly and symmetrically (i.e. holdouts of single bonds should be prevented).

Whether a higher frequency of sovereign debt restructuring is desirable and would lead to more or less stabilization is subject to debate. However, when there is a default, it is likely to be less destabilizing when it is orderly and comprehensive. Furthermore, such a mechanism could be a political prerequisite for the introduction (or extension) of other stabilizing mechanisms.

3 Recent proposals for risk sharing via explicit transfers¹⁶

Most proposals for reforming or deepening EMU comprise some form of fiscal risk sharing through a fiscal capacity to stabilize the EU or the euro area in the event of economic shocks. A non-exhaustive list includes the European Commission (2017a, 2017b-e), Berger et al. (2018), Buti (2017), Bénassy-Quéré et al. (2018), Allard et al. (2013), Dullien (2013, 2014) and Dullien et al. (2018). There seems to be a broad consensus that such a capacity should spare the Member State from losing market access and having to resort to the ESM/EMF. Access to the capacity should be based on transparent ex ante conditionalities that contribute to sound public finances, and the capacity should be large enough to provide the necessary stabilization. Moreover, its design should guarantee timely activation and limit moral hazard. However, the existing proposals diverge widely with respect to the following aspects: (1) Should this fiscal support take the form of temporary or permanent transfers,¹⁷ (2) what should trigger it (cyclical asymmetric or also symmetric large economic shocks), (3) should the trigger be automatic or discretionary, (4) should the support be general or earmarked to specific programs like investment protection, and (5) how should the fiscal capacity be financed?

¹⁵ A large part of lending in previous macroeconomic adjustment programs was used for the refinancing of maturing long-term debt.

¹⁶ In the face of the criticism current proposals are met with, one should not forget that also schemes with weak incentives, like the *Finanzausgleich* system of fiscal sharing in Austria, can provide substantial long-term risk sharing and stabilization.

¹⁷ The Five Presidents' Report calls for avoiding permanent transfers (Juncker et al., 2015, p. 15).

In subsections 3.1 to 3.3, we will summarize the key features of the most prominent proposals that involve risk sharing through monetary transfers and go beyond strengthening the existing programs (with a particular focus on European Commission proposals).

3.1 Investment protection

Several authors (e.g. IMF, 2016) advocate the centralized provision of EMU-wide public goods (e.g. defense, border control) or the centralized financing of common investment (e.g. in cross-border networks). A special version of this is an EMU investment protection scheme, which the Commission proposed in its 2017 December package. Even though investment expenditure supports long-term potential growth, it is usually cut first when a country faces consolidation needs (e.g. Eckerstorfer et al., 2017). In order to preserve investment expenditure in the event of large asymmetric shocks, the European Commission put forward two suggestions in its December 2017 package, both designed as risk sharing tools. First, as an immediate risk sharing tool, the European Commission suggests adjusting the requirements of the European Structural and Investment Funds: depending on the circumstances, the EU co-financing rate could be increased or payments from the Funds could be frontloaded. The second proposal, the European Investment Protection Scheme, also aims at supporting well-identified priorities and already planned projects. However, it sets eligibility criteria to access financing, namely compliance with the EU surveillance framework during the period preceding the shock. It suggests automatic triggers for disbursement based on defined parameters (*“for example, based on a large temporary negative deviation from their unemployment or investment trend”*; European Commission, 2017e, p. 14). Financing of the Investment Protection Scheme could take the form of loans (provided by the EMF), grants or reinsurance, where participating Member States contribute prior to becoming eligible for payouts. Hence, the Investment Protection Scheme does not necessarily imply a redistribution of resources among Member States.

However, a trigger based on deviations of actual investment from trend investment is not supportive of minimizing moral hazard. Investment expenditure is a policy variable so policy makers could cut it deliberately to gain access to grants or insurance payouts.

Two other risk sharing tools, a rainy day fund and a European unemployment (re)insurance scheme, are mentioned – albeit not elaborated on – in the December 2017 package. Given the importance of these tools in the policy discussion, we outline the details of these two proposals below.

3.2 Rainy day fund

The rainy day fund, as sketched by the European Commission (2017a) in its reflection paper and by the IMF staff discussion note (Allard et al., 2013)¹⁸, clearly represents a macroeconomic stabilization and risk sharing tool. It collects contributions from Member States and pays transfers to them in case of negative shocks.

¹⁸ Based on the suggestions by the Tommaso Padoa-Schioppa Group (2012).

While the European Commission's proposal would provide for disbursement “*on a discretionary basis to cushion a large shock*” (European Commission, 2017a, p. 26), the tool envisaged by Allard et al. (2013) and Furceri and Zdzienicka (2015) is based on automatic disbursement in the event of a negative output shock, which is defined as either a negative output gap or a growth deviation from historical averages. When there is no negative shock and hence no disbursement, the contributions are saved. Thus, the fund not only provides insurance against country-specific shocks (risk sharing) but also allows for anticyclical policy responses in case of common shocks (stabilization). The European Commission stresses that disbursements of a rainy day fund are usually limited to the overall contributions, which might limit the fund's stabilization capacity. Allard et al. (2013) and Furceri and Zdzienicka (2015) attribute a considerable income and consumption smoothing capacity to rainy day funds. Both papers estimate the contributions needed to achieve a level of stabilization similar to that observed in Germany – where about 80% of regional shocks are smoothed – to 1½–2½% of gross national income (GNI) annually. According to Furceri and Zdzienicka (2015), gross (net) contributions of about 4½% (1½%) of GNI per annum would suffice to fully insure euro area countries against severe downturns.¹⁹ In addition, the European Commission (2017a) and Allard et al. (2013) also consider some – limited – borrowing capacity of the fund to further smooth the impact of shocks.

In the proposals discussed above, the correct and timely trigger of disbursement could be problematic in practice. Discretionary activation might come with decision and implementation lags, while automatic disbursement might be subject to measurement, and hence activation, errors. Moreover, a rainy day fund might generate permanent transfers and thus decrease the incentives Member States have to build national fiscal buffers or engage in necessary structural reforms. Hence, ex ante conditionalities such as sound public finances or (partial) repayment of the distributed funds might be required (see also section 3.3).

3.3 European unemployment (re)insurance

Despite the alternatives mentioned above, a European unemployment insurance (EUI) scheme has often been advocated as the most attractive risk sharing tool. Unemployment (unlike the output gap) is comparatively easy to observe, it generally reacts quickly to cyclical movements, the EU Member States have a broadly harmonized measure of unemployment, the recipients of the benefits are well defined, and unemployment expenditure has a high multiplier effect as it allows for consumption smoothing.

When looking at the growing body of literature²⁰ suggesting some kind of unemployment (re)insurance as a risk sharing mechanism, we have to distinguish between macroeconomic risk sharing schemes (so-called equivalent systems) and true microeconomic unemployment insurance schemes (genuine systems). These mechanisms have in common that they focus more on risk sharing (i.e. handling idiosyncratic shocks to single Member States) than on stabilization after a common shock to the euro area as a whole.

¹⁹ Currently, Austria's annual gross contribution to the EU budget amounts to roughly 1% of GDP.

²⁰ For an overview of different EUI schemes, see Beblavý and Lenaerts (2017).

The setup of an equivalent system is similar to that of a rainy day fund in that it supports Member States and not individuals. A country's EUI contributions are based on its (un)employment developments and/or linked to GDP (Italianer and Vanheukelen, 1993; Beblavý and Maselli, 2014; Beblavý et al., 2015; Dolls et al., 2016b; Carnot et al., 2017; Bénassy-Quéré et al., 2018). The country can still choose how to finance its contributions. Payouts to Member States are also triggered by employment indicators, e.g. changes in the unemployment rate and/or the unemployment level. Even if the fund's payouts are earmarked as unemployment benefits, the Member States are free to decide how to distribute the money exactly.

In contrast, a microeconomic unemployment scheme (genuine system) would rely on a supranational institution to levy unemployment contributions and distribute benefits directly to individuals (Dolls et al., 2016b; Jara and Sutherland, 2014; Dullien, 2014). The Member States would only administer revenue collection and payouts and provide the necessary unemployment information, if at all. Most proposals advocate a European unemployment scheme as the basic scheme, which could be complemented by national schemes.

Avoiding moral hazard is a serious issue when setting up an EUI system, no matter if it is a genuine or an equivalent scheme. The Member States' unemployment schemes differ widely with respect to their generosity and eligibility requirements. Furthermore, the unemployment rate according to the internationally standardized definition may be only loosely correlated with the actual number of recipients of unemployment benefits (Beer et al., 2014). Hence, some common eligibility criteria would be needed, because otherwise countries could claim higher transfers than justified. As indicated by Beer et al. (2014) and Beblavý et al. (2015), an EUI could also prevent governments from taking structural measures to decrease unemployment risks, in particular if these measures involve political costs. Moreover, countries might reduce active labor market policies (such as subsidizing short-time employment) to absorb shocks at the intensive margin, as the common pool only reimburses unemployment benefits but not preventive measures.

As harmonization is vital for a genuine unemployment system but politically unfeasible, the literature has recently focused on equivalent unemployment schemes. To limit moral hazard, proposals for an equivalent EUI usually include ex ante and/or ex post conditionalities. Bénassy-Quéré et al. (2018) and Carnot et al. (2017), among others, suggest compliance with the fiscal rules and country-specific recommendations of the European Semester as a condition for access to EUI funds.²¹ Of course, access is only granted once certain triggers (e.g. unemployment level) have been activated; Carnot et al. (2017) suggest a double trigger that consists in a deviation from long-term average unemployment and the most recent change in unemployment. Furthermore, these more recent proposals (e.g. Bénassy-Quéré et al., 2018; Carnot et al., 2017) design the EUI as a reinsurance scheme or as a combined self-insurance and reinsurance scheme (Dullien et al., 2018). Reinsurance means that the EUI covers only a portion of the losses incurred above a certain threshold; hence, the EUI pays in case of large shocks only. Member

²¹ *The implicit assumption seems to be that the country-specific recommendations would include labor market recommendations if the labor market was strongly unbalanced.*

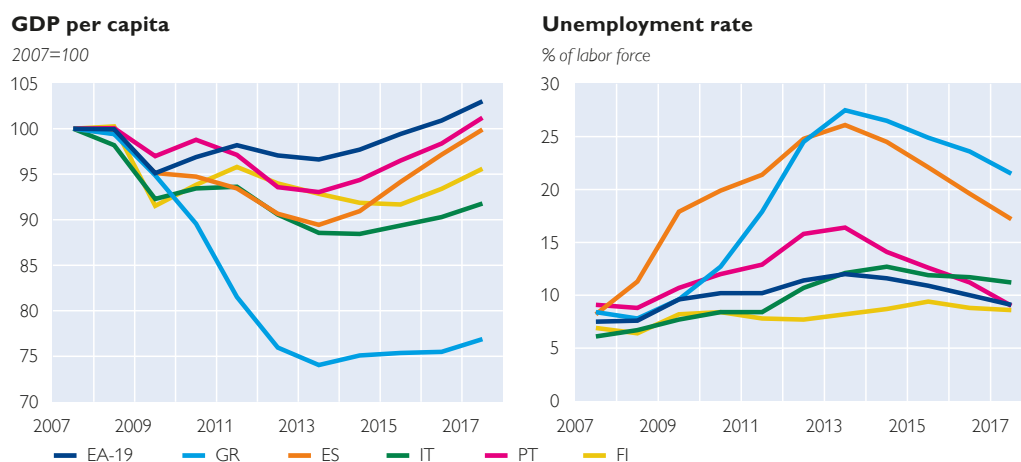
States are still incentivized to reform inefficient labor markets. They have to cover anything below that threshold by using either their national schemes (Bénassy-Quéré et al., 2018; Carnot et al., 2017) or their prior contributions to the part of the EUI dedicated to national self-insurance (Dullien et al., 2018). To avoid permanent transfers, the proposals (for both unemployment schemes) often suggest adjusting a Member State's contribution to its payout likelihood, hence balancing the system *ex ante* (experience rating, e.g. Carnot et al., 2017; Dullien et al., 2018). Clawbacks balance the system *ex post* by adjusting contribution rates to balance past net payouts received by a Member State within a specified period (e.g. Dullien, 2014; Dolls et al., 2016b; Beblavý et al., 2015; Dullien et al., 2018). In their comparison of 18 EUI variants that all include either experience rating or clawbacks, Beblavý and Lenaerts (2017) consider experience rating to be more useful, as it allows for more gradual adjustment than claw-backs.

While limiting moral hazard and permanent transfers, experience rating or clawbacks also limit risk sharing and hence the stabilization capacity when countries are hit by long-lasting shocks (section 3.5). However, if access to the EUI is conditioned on sound public finances, Member States might be more resilient to shocks even without resorting to the EUI (Bénassy-Quéré et al., 2018), and such risk might be reduced *ex ante*.

Another issue to consider is that Member States' labor markets react very differently to downturns (chart 4). For example, Finland and Spain had relatively similar unemployment rates in 2007, and Finland had somewhat lower growth in GDP per capita than Spain after 2007. However, Finland's unemployment rate remained below 10% throughout the crisis, while that of Spain temporarily exceeded 25%. An unemployment reinsurance scheme as those described earlier would have granted much higher transfers to Spain than to Finland. This is quite problematic as GDP is a much better proxy for tax base growth (and therefore tax revenue growth in the absence of discretionary measures) than the unemployment rate. Hence, while Finland would have needed transfers about as much as Spain to keep up revenues, Spain would have received more from an EUI.

Chart 4

Economic performance in selected euro area countries since 2007



4 Limiting moral hazard vs. improving risk sharing and stabilization capacity

As indicated in the previous section, most of the recent proposals focus mainly on how to avoid permanent transfers and limit moral hazard, which most likely reflects current political preferences. However, allowing countries to be permanent net recipients or net contributors considerably improves a scheme's stabilization and risk sharing capacity. Furthermore, a scheme's stabilization properties also depend on its sources of financing.

4.1 Cyclical contributions to a fiscal capacity already provide risk sharing

All the mechanisms discussed in section 3 would need to be financed. The same is true for a centralized EMU budget (or an enlarged EU budget) that provides public goods (e.g. defense). As long as a new mechanism or the euro area (or EU) budget are financed via cyclical contributions, automatic risk sharing would increase, regardless of whether the additional revenue was used for larger transfers to poorer Member States, acyclical lump-sum transfers based on population size or the provision of public services (like border protection). The financing options proposed in the literature range from using existing instruments (the ESM, an extended EU budget), designing new instruments to dedicating a specific source (or a share thereof) to the fiscal capacity.

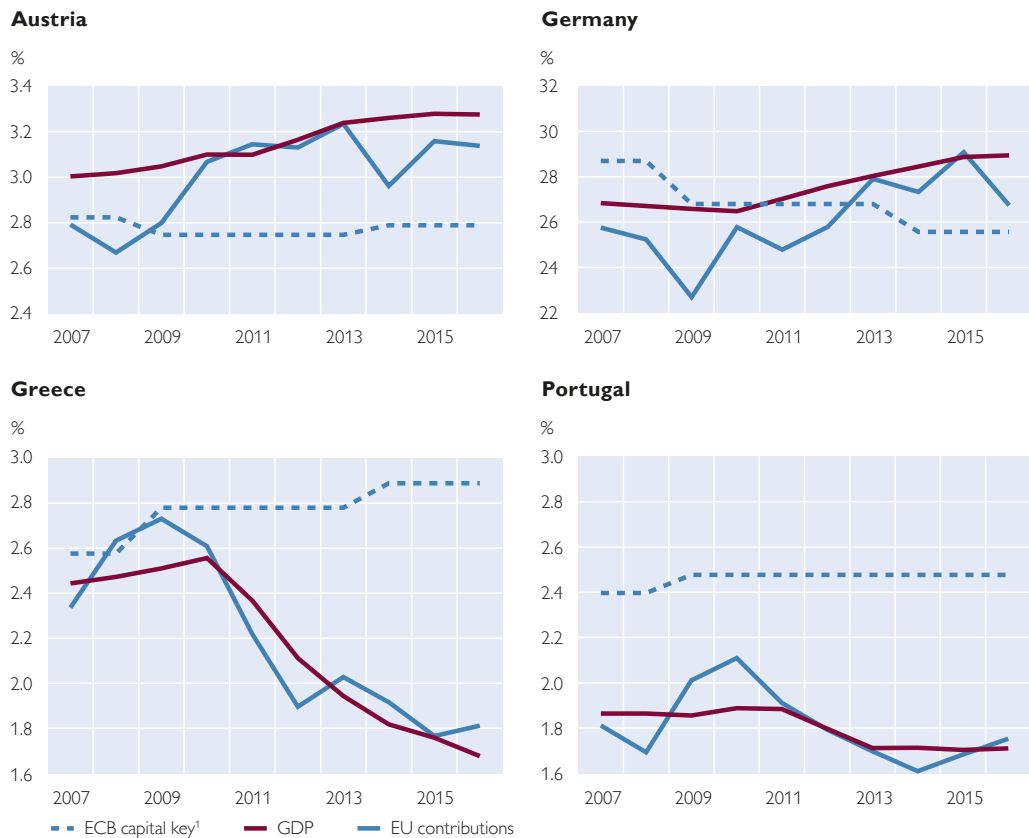
- **Own taxes:** to restrict tax competition, the fiscal federalism literature (e.g. Oates, 1972) usually calls for taxes on highly mobile assets to be allocated to the highest level of government. In addition, taxes on economic bads with large externalities (e.g. emissions) should be levied by the highest level of government to internalize externalities properly. The European Commission (2018a) recently suggested attributing to the EU part of corporate taxation based on a common consolidated corporate tax base (including the digital tax) as well as revenues from emission trading schemes, which seems in line with fiscal federalism literature. In case the fiscal capacity were to be designed as a genuine unemployment insurance system (microeconomic approach), it could be financed by earmarked unemployment insurance contributions levied on an individual basis.
- **GNI/GDP share:** most authors suggest basing a country's contributions to the fiscal capacity on its GNI/GDP. The share itself could be fixed or it could depend on another variable, e.g. unemployment volatility (Carnot et al., 2017).²² This allows the country to choose how to finance its contributions, and it allows for cyclical variations.

While these two types of financing sources would differ substantially in terms of administrative implementation, they would all contribute to risk sharing. The case is simplest for GNI-based contributions (like in the current EU budget framework) or GDP-based contributions. A decline in a country's share in the euro area (or EU) GNI would lead to a decline in its share in contributions paid (chart 5) but not to a decline in the public services and transfers provided by the euro area (EU) budget.

Using actual taxes instead would mean that contributions depend on the cyclicity of the respective taxes shared. If we take at face value the OECD's

²² Suggested contributions are in the order of 0.1% of GNI/GDP (Bénassy-Quéré et al., 2018) or 0.5% of GDP multiplied by the change in the unemployment rate (Carnot et al., 2017) per year.

Share of Member States in the EA-19 from 2007 to 2016



Source: ECB, Eurostat.

¹ We also indicate the share in the EA-19 for the capital key before 2015 (to account for EMU enlargements).

estimates of fiscal sensitivities (Price et al., 2014), using corporate taxes would enhance risk sharing more than unemployment insurance contributions or environmental taxes. However, as mentioned above, risk sharing properties are not the only criteria for choosing the appropriate tax base; externalities play a crucial role, too.

4.2 Permanent transfers would enhance risk sharing

Increasing the size of the EU budget (or constructing a euro area budget) would typically imply permanent transfers, with high-income countries like Austria or Germany being net payers and low-income countries like Greece or Portugal being net recipients.²³ Note that schemes like the EU budget or revenue sharing mechanisms in genuine fiscal federations, where states/countries with high (low) per-capita income are permanent net payers (net recipients), are also stabilizing for the net payers as net contributions would decline if they were hit by an adverse regional shock. However, several prominent proposals (including the Five

²³ This assumes that the enlarged EU budget or a new euro area budget would work like the current EU budget (i.e. income-dependent contributions and own taxes as the financing source, expenditure for common functions and transfers to poorer states) or like a (small-scale) federal budget in a typical fiscal federation (i.e. financed by taxes which are not lump sum).

Presidents' Report, see Juncker et al., 2015, p. 15) call for avoiding permanent transfers. Allowing for permanent transfers has substantial implications for risk sharing. If a scheme were designed such that average net transfers by all countries were zero in the medium run, then the transfers would de facto become loans. While such loans have the advantage of being disbursed more automatically than loans in adjustment programs, the former would also be much smaller than the ones granted in adjustment programs (where large loans are typically necessary just to refinance a country's existing debt).

If economic and financial problems are of a short-term nature and if countries build sufficient buffers in good times, then they should be able to deal with these problems by themselves. This was the case in Germany, which faced the second-largest GDP decline in 2009 among the larger euro area economies (after Finland). Its relatively large buffers allowed the country to let automatic stabilizers operate freely and pass some additional stimulus measures. Germany has often been asked (e.g. by the European Commission, 2016, 2017f) to reduce its buffers despite its good cyclical position, though, so there seems to be a preference against building buffers at the national level. Buffers at the national level may not be sufficient in case of longer slumps like those observed in Italy or Greece. However, in such cases, loans or temporary transfers might not be sufficient for stabilizing a country, in particular if the repayment conditions were not designed properly.

This tradeoff between stabilizing the Member States and avoiding redistribution becomes evident when we look at the various EUI suggestions, which tend to avoid (large) permanent transfers. Beblavý and Lenaerts (2017) report that a high payout trigger threshold would reduce the costs, as payouts would be made to a few countries only and infrequently. However, the EUI's stabilization capacity would be limited to 0.09% of GDP, compared with 0.21% of GDP for low trigger thresholds for equivalence schemes (based on the 19 euro area countries' GDP level in the period 1995–2013). Clawbacks (see section 3.3) would be even more effective at avoiding permanent transfers, but they might risk destabilizing a country if not designed properly. A suggestion put forward by e.g. Dullien et al. (2018) includes a dynamic clawback system that requires Member States to pay back money once the net payouts to them exceed a certain threshold and unemployment has improved. This particular suggestion implies that Greece would have received transfers in 2015 (as its unemployment rate was above the average of the previous five years), but it would have had to pay higher contributions due to the previous long-term payout (as its unemployment rate was below the average of the past three years).

This type of ex post neutrality would also make the term “insurance” misleading, as insurance policies granted by private corporations are only neutral ex ante: when such policies are set up, expected net transfers by all insured members would be close to zero, but ex post some members would be net recipients and others net payers. In the absence of legacy issues (e.g. nonperforming loans in banks' balance sheets), a common deposit insurance scheme may qualify as such an insurance. However, such genuine insurance schemes might be questioned politically if they implied that ex post some high-income countries (such as France or Germany) would become permanent net recipients and some low-income countries (such as Estonia or Greece) permanent net payers, even when accounting for payments from the EU budget. This would run contrary to genuine fiscal federations, where

high-income states (like Bavaria or California) would still be likely to remain overall net payers and low-income states (like Berlin or Mississippi) would still be overall net recipients, even if the former received higher net transfers from federal unemployment or deposit insurance.

4.3 Schemes allowed to run deficits provide more stabilization

From a pure fiscal stabilization perspective, it appears counterproductive that the EU budget cannot run budget deficits in case of negative shocks that affect all (or most) EU Member States, as was the case in 2009 or 2012/13. Allowing members to simply not pay any contributions might be an option in such cases. This would recast the EU (euro area) to fit the definition of an actual fiscal federation, where, according to Poghosyan et al. (2015), stabilization via the federal government tends to dominate risk sharing between state governments.

Such a scheme would create some deficit bias at the EU (euro area) budget level. This might have the effect of reducing Member States' average deficits and to create common EU (euro area) debt, possibly in the form of some kind of Eurobond. The latter (unlike the Eurobonds discussed in section 2.2) would be backed by the EU (euro area) budget, which would be decided upon by European institutions. Thus a deficit bias at the central level would align the EU more closely with a typical fiscal federation, where the central government owes most of the debt and federal states do not guarantee the debt of other states. The same arguments would obviously hold for all facilities described in sections 3.1 to 3.3.

5 Conclusions

The dismal economic performance of the euro area in 2012/13 was, in part, down to high consolidation and its uneven distribution across countries as well as high risk premiums on government debt. This paper looks at various suggestions on how to avoid a repeat of such developments. Some prominent proposals, such as strengthening fiscal rules in good times, do not involve monetary transfers, which probably makes them easier to pass while still providing a reasonable degree of risk reduction. However, building fiscal buffers in good times seems politically difficult in many countries, even though countries like Greece, France, Italy, Austria and Portugal would have had to consolidate much less in the early 2010s had their pre-crisis fiscal positions been as good as those of Germany or Finland. Another interesting proposal is the extension of the European Stability Mechanism. In contrast, the various proposals involving Eurobonds appear ambiguous in terms of their direct effects on sovereigns.²⁴

Many proposals comprise some form of fiscal risk sharing and involve explicit transfers through rainy day funds, investment protection schemes or some kind of European unemployment insurance. While we do not dispute that transfers among Member States could help avoid another crisis like the one observed in 2012/13, the concrete proposals suffer from several limitations. The indicators on which payouts to Member States would be based in these recent proposals either suffer from moral hazard (public investment, unemployment rate), from a lack of observability in real time (output gap, public investment) or from large cross-country heterogeneity in the labor market structure (unemployment rate).

²⁴ *ESBies may help reduce the risks for the banking sector, however.*

Furthermore, in line with current political preferences, the discussion of these mechanisms mainly focuses on how to avoid permanent transfers and how to limit moral hazard. However, allowing for the possibility of countries being permanent net recipients or contributors would enhance the stabilization capacity considerably. Moreover, if schemes with explicit transfers were also allowed to run budget deficits in bad times, this would improve stabilization properties (at least as long as this is compensated for by lower average deficits at the national level over the business cycle). The latter two features would be more in line with the setup of existing fiscal federations.

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Structural reforms for higher productivity and growth

Karin Fischer,
Alfred Stiglbauer¹

The EU faces some significant challenges: a long-term decline in trend productivity and GDP growth, crisis legacies such as high debt levels, population aging, and the impact automation and digitalization have on the world of work. For these reasons, structural reforms are recommended to reverse downward trends in productivity and growth and to improve the functioning of European monetary union. This article illustrates how such reforms may help improve economic outcomes in many areas. Product market reforms and innovation policies foster both competition in product markets and productivity growth. Labor market reforms aim at increasing participation rates, reducing structural unemployment, supporting wage flexibility and improving the reallocation of jobs while preserving adequate safety nets for workers. Tax reforms should reduce high tax burdens on labor. Moreover, to enhance economic performance, it is also crucial to strengthen the quality of institutions and the “rule of law.” The indicators presented in this article suggest that structural reforms have been undertaken in many areas and in most EU Member States. Nevertheless, reform momentum needs to be maintained, and the current boom creates a window of opportunity. Transparent processes, suitable packaging and sequencing of reforms should help overcome short-term negative economic effects, undesirable distributional consequences and resistance from interest groups. And finally, policy coordination within the EU should strengthen reform efforts and their effectiveness.

JEL classification: E60, E24, O43

Keywords: structural reforms, economic growth, European Union, euro area

Europe faces a productivity and growth challenge. Productivity growth has been declining for several decades across advanced economies, but the slowdown in the euro area seems particularly pronounced. A number of explanations have been put forward, e.g. highly regulated product and labor markets, low levels of innovation, skill shortages, and the protracted impact of the financial and debt crisis (Adler et al., 2017). Weak productivity developments in the euro area have been reflected in lower levels of trend growth. As chart 1 demonstrates, both trend productivity growth and trend GDP growth have decreased in the past two decades, reaching a low during the Great Recession.¹

At the same time, Europe is facing new challenges due to the rapid pace of automation and digitalization. Apart from sectoral shifts, the tasks of many workers will likely change; many jobs might be lost and will need to be replaced by completely new job types. According to a recent study by McKinsey (2017), by 2030 more than 60% of all occupations are likely to change and 20% of all workers in advanced economies are likely to be displaced. Moreover, population aging is weakening future growth prospects.

Productivity growth and structural change can be supported by structural reforms which affect conditions on the supply side of the economy, i.e. which provide incentives to increase the quantity and quality of input factors (labor and capital), as well as to improve their specific combination (technology). An ex ante assessment of reforms undertaken in four EU Member States (France, Italy,

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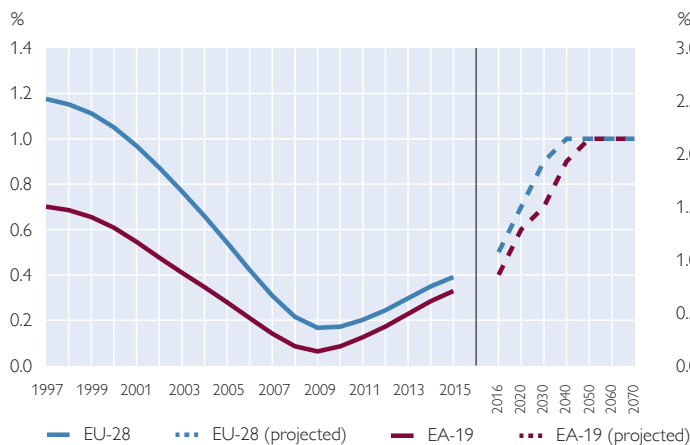
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Portugal and Spain) by the European Commission (2016) suggests that structural reforms during the crisis had significant positive effects on GDP growth. Chart 1 also includes long-term projections by the European Commission. The projections are implicitly based on the assumption that further structural reforms will strengthen and accelerate the recent turnaround in trend total factor productivity (TFP) and GDP growth.

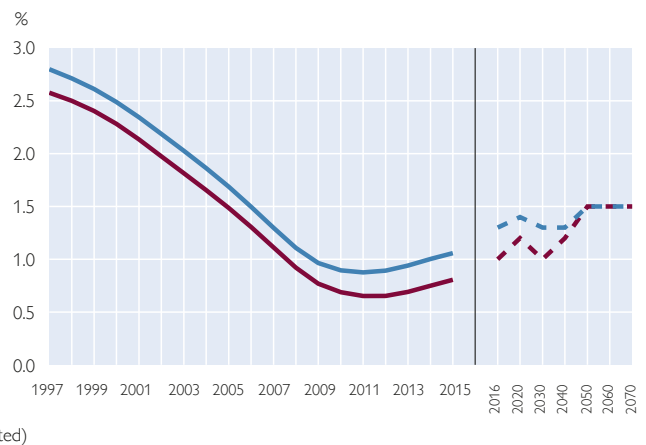
Chart 1

Past slowdown of TFP and GDP growth and projections (hopes) for the future

Past and projected trend TFP growth



Past and projected trend GDP growth



Source: AMECO database, Eurostat, authors' calculations. The projection data from 2016 onward are taken from European Commission (2017a). The data from 1997 to 2015 are based on a simple HP filter of real GDP and TFP series and not strictly comparable to the projections.

This article explores policy tools that could help to increase trend growth and facilitate the functioning of European monetary union. It is structured as follows: Section 1 discusses the meaning of “structural reforms” and clarifies the scope of this article. Section 2 considers elements from economic theory that can serve as guidance on how structural reforms affect the economy. Section 3 discusses policy areas where structural reforms have been implemented. These include product markets, innovation systems, labor markets, tax and transfer systems and the quality of institutions. Section 4 discusses the progress of reforms, implementation challenges and ways to overcome them. Section 5 summarizes and concludes.

1 What are structural reforms and why are they important?

It is difficult to give a precise definition of structural reforms, but the following quotations may provide a sufficient understanding of what is meant. The ECB states on its website: “Structural reforms are essentially measures that change ... the institutional and regulatory framework in which businesses and people operate. They are designed to ensure the economy is ... better able to realise its growth potential in a balanced way.”² In a recent speech, ECB President Draghi (2017) added the aspect of the adjustment capacity of euro area economies: “[... structural reforms are] a pragmatic policy agenda to raise long-term growth and accelerate adjustment to shocks, which is essential for countries in a monetary union.” An

² https://www.ecb.europa.eu/explainers/tell-me/html/what-are-structural_reforms.en.html.

ECB report (forthcoming) puts additional emphasis on social fairness and the quality of institutions.

Another definition can be found on the European Commission's website: "Structural reforms tackle obstacles to the fundamental drivers of growth by liberalising labour, product and service markets, thereby encouraging job creation and investment and improving productivity. They are designed to boost an economy's competitiveness, growth potential and adjustment capacity."³

These quotations demonstrate that structural reform is a vast field. In this article, we restrict our discussion to a number of areas which are central to productivity and growth on the one hand and the functioning of European monetary union on the other. Moreover, we restrict ourselves to policy areas within the responsibility of national governments, leaving aside reform issues of relevance for the design of the euro area as a whole (see contributions by Prammer and Reiss, 2018, and by Beer and Waschiczek, 2018, in this issue). Finally, despite their obvious long-term relevance for productivity and growth, we do not discuss reforms of educational systems because the topic is beyond the scope of this paper.

2 How structural reforms affect economic growth: theoretical aspects

The high hopes associated with structural reforms are rooted in various economic theories. In the following, we discuss relations to institutional economics and longer-term aspects of the development of trend output related to growth theory. We also explore short- to medium-term considerations related to Neo-Keynesian economic models and monetary policy.

2.1 Long-term aspects: growth theory, growth accounting and growth projections

Basic neoclassical growth theory teaches that, for advanced economies, steady state growth of GDP⁴ is determined by population growth, the increase of capital per capita and the growth rate of technological progress (TFP). In empirical applications, growth accounting separates the contributions of labor, capital and residual growth (TFP).

Due to population aging, population growth in the EU Member States is low and will therefore not act as a driver of economic growth in the coming decades. Current projections (European Commission, 2017a) assume the total population⁵ in the EU-28/the euro area will grow by a total of 0.5%/0.8% respectively in the period from 2020 to 2070. However, this is not the growth of labor input that can be expected in the coming decades. Table 1 shows that the working-age population is projected to decline substantially (– 12.7% and – 12.6% for the EU and the euro area, respectively). However, the number of persons employed and the number of hours worked are expected to decline less as a result of pension reforms aimed at lengthening working lives and reforms designed to increase female labor supply.

³ https://ec.europa.eu/info/business-economy-euro/growth-and-investment/structural-reforms/structural-reforms-economic-growth_en.

⁴ *From a welfare perspective, per capita GDP matters. The concern for absolute GDP is driven more by considerations of political and economic power (The Economist, 2006).*

⁵ *The population projections (which include migration assumptions) are provided by Eurostat.*

Table 1

Projections of labor input for the 2018 Ageing Report (2020–2070)

	EU-28		Euro area	
	Total change in %	Average annual change in %	Total change in %	Average annual change in %
Total population	0.5	0.01	0.8	0.02
Working age population (20–64)	–12.7	–0.27	–12.6	–0.27
Labor force (20–64)	–10.1	–0.21	–10.0	–0.21
Employment in persons (20–64)	–8.2	–0.17	–8.8	–0.18
Hours worked (15–74)	–4.9	–0.10	–5.9	–0.12

Source: Calculations based on tables I.2.16, III.30.1 and III.31.1 in European Commission (2017a).

In the European Commission projections, a higher TFP growth rate is the primary source of higher trend output growth. Between 2020 and 2070, TFP is expected to grow by 1.0%/0.9% p.a. on average in the EU/euro area, whereby it is assumed that TFP will converge across countries from the currently observed low average growth toward 1.0% p.a. in the coming decades.⁶ The projected developments of labor, capital and TFP suggest growth rates of trend output of about 1.4%/1.3% p.a. respectively between 2020 and 2070 (see chart 1 and table 2).

Table 2

Projections of TFP, labor input, capital and growth (2020–2070)

	EU-28		Euro area	
	Average annual change in %	Contribution to GDP growth rate	Average annual change in %	Contribution to GDP growth rate
Labor input (hours worked; see table 1)	–0.1	–0.1	–0.1	–0.1
Capital input	1.4	0.5	1.3	0.5
TFP	1.0	1.0	0.9	0.9
Trend GDP growth	1.4	x	1.3	x

Source: Calculations based on tables I.3.4, III.30.1 and III.31.1 in European Commission (2017a).

Neoclassical growth theory sets out how technological progress affects growth but does not try to explain its determinants.⁷ Endogenous growth theory offers ways to explicitly model the growth rate of technological progress. For example, the model developed by Romer (1990, cited in Carlin and Soskice, 2015) highlights the number of workers doing research, which may explain a constant steady state (or an increasing) growth rate of output. The growth model by Aghion and Howitt (1992, see Carlin and Soskice, 2015) highlights the entrepreneurial creation of new products and quality improvements to existing goods which push older goods out of the market (Schumpeterian “creative destruction”). Moreover, endogenous

⁶ For most EU Member States the working assumption is that TFP growth will gradually increase over time to the common target level of 1%. However, for some catching-up economies (e.g. Bulgaria and Romania), TFP growth rates are assumed to decline toward the target level.

⁷ However, the neoclassical model can be extended to account for human and other types of capital. The augmented neoclassical growth model can reduce the unexplained growth residual and is better able to explain cross-country differences. For example the labor input can be refined by measures of educational attainment (“human capital”), or capital can be subdivided into information and communication technology (ICT) and non-ICT capital.

growth theory stresses the importance of education and research, of patents as an entrepreneurial incentive and of venture capital to finance risky investment.

2.2 Long-term aspects: (new) institutional economics

Structural reforms often touch upon topics that are at the core of a subfield called new institutional economics (NIE). Institutions are the informal norms and formal laws of societies that constrain and shape decision-making (Alston, 2008). According to the NIE view, factor accumulation and technological progress are only proximate causes of economic growth; the fundamental explanation of differences in comparative growth lies with the institutions. Indeed, differences in economic institutions have empirically more explanatory power for cross-country differences in growth than cultural or geographical factors (Acemoglu et al., 2005).

These include the structure of property rights and the presence and functioning of markets. Property rights are important for decisions to invest in physical or human capital or to adopt new technologies. They are safeguarded by an efficient judicial system that guarantees the “rule of law.” Weak institutional frameworks create opportunities for rent-seeking (North, 1990, cited in ECB, forthcoming).

Rent-seeking undermines social fairness and trust and tends to affect innovators and young firms more negatively than established producers. Rent-seeking segments of the economy may also attract talent (due to the high income they are able to pay), thus depriving innovative sectors of productive workers. Weak institutions are also detrimental to the business of foreign firms, thereby impeding foreign direct investment. Strong enforcement institutions like the judicial system and sound public administrations can minimize rent-seeking (ECB, forthcoming). Institutional economics also offers insights for the persistence of institutions (the reasons for this “institutional lock-in” or “status quo bias” include informational and collective action problems; Alston, 2008).

2.3 Short- to medium-term aspects: neo-Keynesian macroeconomics

Neo-Keynesian (NK) macroeconomic models, which emphasize imperfect competition in labor and goods markets, remain very influential in terms of how the degree of competition, taxes and especially labor market institutions are seen. In the simplest of these models, labor market equilibrium is characterized by the intersection of the price-setting (PS) and wage-setting (WS) relations.⁸ In the NK framework, stronger competition leads to a favorable shift in the PS relation and a reduction in structural unemployment. Similarly, a reduction in the tax wedge between employers’ total wage costs and workers’ net wage⁹ leads to lower structural unemployment. The WS relation, on the other hand, is influenced by the bargaining power and reservation wages of workers. Factors that increase wage pressure and the reservation wage increase structural unemployment, while policies that decrease bargaining power or reservation wages reduce structural unemployment.

The NK approach to labor market institutions is complemented by the flow approach to labor markets, in particular search and matching models. Institutional

⁸ Compare Carlin and Soskice (2015) and the references therein.

⁹ The tax wedge includes income taxes, social security contributions and other payroll taxes. Some authors include value-added taxes as well to account for the total difference between product and consumption wages.

features in the labor market may impair the process by which workers are matched to new jobs. Specific designs of unemployment-related benefits, rigid employment protection, low efficiency of public employment services and low mobility of workers may lead to a deterioration and an outward shift of the Beveridge curve and to higher structural unemployment.

2.4 Short- to medium-term aspects: the functioning of European monetary union

Structural reforms can significantly improve the functioning of European monetary union, both at individual country level and for the euro area as a whole. Flexible labor markets are especially important if a monetary union consists of countries with heterogeneous output and employment growth (De Grauwe, 2018). More flexible labor and product markets have been found to support adjustment by allowing a smoother reallocation of productive factors (Mohl and Walsh, 2015). Asymmetric shocks may generate undesirable price and output gap differentials in the euro area. Reforms that reduce price and wage rigidities lead to lower inflation persistence in the case of asymmetric shocks, speeding up price and wage adjustment and limiting the real costs of shocks. Wage and price flexibility is also necessary in the post-crisis internal rebalancing process in the euro area.

Recently, however, the standard view that wage flexibility and structural reforms are always beneficial has been challenged. For example, it could be that, in the case of an asymmetric shock toward a small country in a currency union, higher downward wage flexibility leads to such a strong increase in real interest rates that it cannot be compensated for by improved competitiveness (Galí and Monacelli, 2016). On the other hand, according to the same authors this negative effect might be mitigated if higher wage flexibility is accompanied by higher price flexibility. Another argument is that structural reforms might be harmful in the short run, when monetary policy is constrained because policy rates are at the effective lower bound; this also leads to higher real interest rates, fueling expectations of low inflation or deflation and depressing aggregate demand (Eggertson et al., 2014).

Furthermore, monetary policy is influenced by developments in the equilibrium (or natural) real interest rate. Equilibrium real interest rates are on a secular decline, and monetary policy has to “shadow” this development by setting appropriate policy rates.¹⁰ Equilibrium real interest rates are influenced by the marginal returns to capital, which are in turn related to TFP growth, *ceteris paribus*. If structural reforms and technological progress can reverse the downward trend of the equilibrium interest rate, this can facilitate monetary policy, because it becomes less likely that policy rates will need to turn negative or that nonstandard measures will need to be taken (ECB, forthcoming; see also Gnan et al., 2018, in this issue).

¹⁰ In a Taylor rule, when the inflation and output gaps are closed, the policy rate is given by the inflation target and the estimate for the equilibrium real interest rate.

3 Structural reform areas

3.1 Product markets

Product market reforms cover a broad range of measures aimed at increasing competition and reducing regulatory burdens, with a view to facilitating firm entry and exit. Economic theory has established a positive link between firm dynamics and productivity developments.¹¹ The channels proposed in the literature include the disciplining effect of new entrants on existing firms, and the Schumpeterian process of creative destruction, where less efficient firms are replaced by more efficient ones (Canton, 2016).

Efficient product markets are characterized by a responsiveness of prices to market signals and the absence of barriers which hinder reallocation of productive factors toward more efficient use. Barriers to start-ups may protect incumbent firms against new competitors and lead to higher prices and/or lower quality of products and services. This may discourage innovation and investment and reduce productivity growth. Also, delayed restructuring of unproductive firms weighs on average productivity and, to the extent bank balance sheets are exposed to such firms, may constrain access to credit for healthier firms (OECD, 2017b).

Empirical evidence on firm entry and exit in six euro area countries during 2002–2013 suggests that firm dynamics have been deteriorating compared to the pre-crisis years, suggesting considerable room for improvement (ECB, forthcoming). Similarly, the OECD (2016) has found that the number of start-ups as a proportion of total firms fell between 2006 and 2013 in the majority of OECD countries, while the percentage of firm deaths remained broadly stable on average (see chart 2).

Firm entry conditions can be improved by reducing the number of days or procedures required to start a business or by cutting overall administrative costs. Where regulatory burdens may unnecessarily reduce competition, e.g. in professional services or network industries, liberalization could encourage new entrants into the market, reducing prices while increasing the quality of service provision. Rent-seeking by monopolistic firms can be addressed by strengthening competition rules. Firm exit is facilitated by policies that prevent resources from becoming trapped in unproductive firms such as an efficient insolvency and judicial system. Policies to address nonperforming loans on banks' balance sheets have also proved crucial in that respect (OECD, 2017b).

An area where further reform seems particularly pertinent in a number of Member States is the service sector. Being the largest sector in advanced economies (60% of GDP and 75% of employment in the euro area), a competitive service sector can act as a catalyst for productivity growth in other parts of the economy, e.g. in manufacturing (ECB, forthcoming).

¹¹ See ECB (forthcoming) for empirical evidence based on microdata.

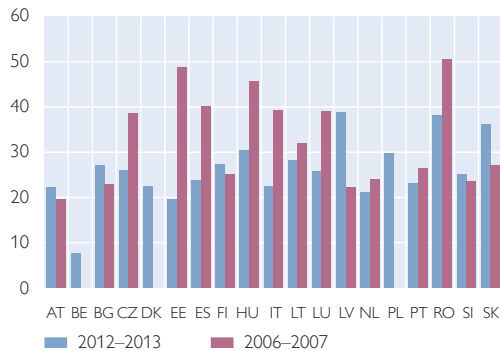
OECD data show that in past years, the extent of product market regulation has fallen substantially; levels of regulation remain heterogeneous (see left-hand panel of chart 3).

Chart 2

Start-up and death rates of employer enterprises in the business sector

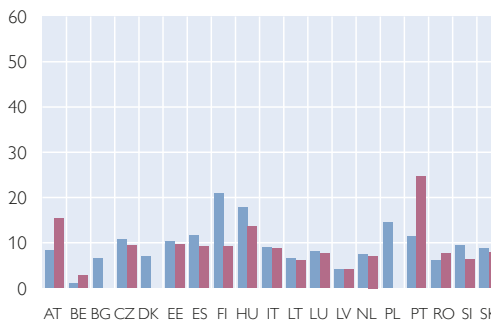
Business start-up rates

% of the business population



Business death rates

% of the business population



Source: OECD.

Note: Employer enterprises are enterprises with at least one employee. Start-ups are defined as firms aged 2 years or less. Because of this convention start-up and death rates are not directly comparable.

3.2 Innovation

Innovation in the private sector is related to product market policy. A more competitive environment generally fosters investment in innovation, thus increasing productivity. However, the benefits of innovation go beyond the returns for the individual or firm; knowledge diffusion allows innovation to be applied by others, creating social returns and awarding innovation the character of a public good (Veugelers, 2017b). This is why governments in advanced countries generally undertake action to support innovation both directly, through the funding of research, and indirectly, via subsidies or tax allowances and the protection of intellectual property (e.g. patents). Governments also provide the basis for innovation through the educational system and may act as innovators and risk-takers themselves (Mazzucato, 2014).

Innovations' full economic returns typically materialize only with significant time lags. This is why the growth impact of innovation and innovation policy is difficult to measure. Input indicators such as R&D expenditures are thus often used to quantify innovation efforts, and the corresponding target within the "Europe 2020 strategy" for EU Member States has been set at 3% of GDP.¹² Empirically, innovation in the EU (proxied by trend TFP growth) has been found to be positively influenced inter alia by educational quality, public R&D expenditures, and private investment in innovative assets (Thum-Thyssen and Raciborski, 2017).

¹² The 3% target is for the EU as a whole. In addition there are country-specific targets which may lie above or below that value.

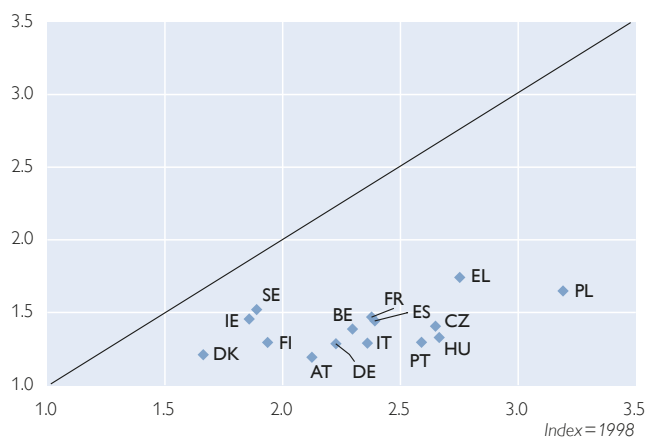
A composite indicator that captures a broader dimension of innovation is the European Commission's European Innovation Scoreboard (EIS), which assesses relative strengths and weaknesses of national innovation systems. The latest data (see right-hand panel of chart 3) indicate that the EU's "innovation leaders" are Denmark, Finland, Germany, the Netherlands and Sweden. Overall, despite improvements, the innovation performance of EU Member States lags behind that of other advanced economies, in particular South Korea, Canada, Australia, Japan and the U.S.A., while the performance lead over China is decreasing (European Commission, 2017b). Another challenge is the heterogeneity in innovation performance among EU Member States, with both a north-south and an east-west divide in evidence (Veugelers, 2017b).

Chart 3

Competition and innovation

Product market regulation of the whole economy

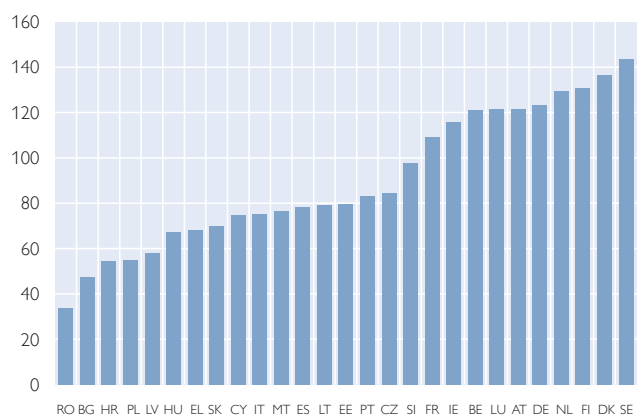
Index=2013



Source: OECD, European Commission.

European Innovation Scoreboard 2016

Score



Veugelers (2017b) has identified the dispersion in business investment in R&D as one of the main reasons behind Europe's innovation challenge and the innovation heterogeneity among EU Member States. These expenditures reflect the capacity as well as the incentives of the private sector to exploit scientific and technological opportunities. The target for this indicator is often set at 2% of GDP. Business R&D expenditures in the EU have remained just above 1% of GDP during the past decade, consistently below those of global innovation leaders and, since 2009, also below China, which has been catching up with advanced countries. However, variation within the EU is considerable, with spending at just 0.5% of GDP in some Southern and Eastern Member States, compared to above 2% of GDP in the innovation leaders Sweden and Finland (European Commission, 2017b).

Innovation policy should thus aim at raising R&D expenditures, in both the public and private sectors, while also addressing barriers to the development of R&D-intensive sectors and companies, including by improving access to finance for fast-growing, highly innovative projects. The latter could be achieved through public funding, by leveraging private risk funding, or by a system of grants.

3.3 Labor market reforms

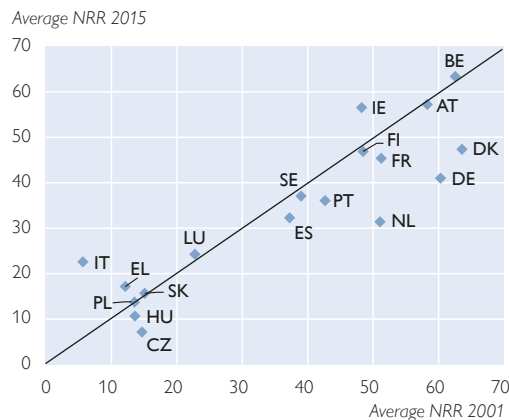
Policies to reform labor market institutions (LMI) feature prominently in discussions of structural reforms. Inadequate LMI affect the economy in the short to medium run by reducing potential output and raising equilibrium unemployment, but also in the long run because they may impede reallocation processes. On the other hand, in the past LMI were often introduced to correct market failures (Agell, 1999), and a globalized world with its multitude of shocks calls for a suitable safety net (Rodrik, 1998).¹³ LMI in Europe remain heterogeneous in the aftermath of the crisis and a “one size fits all” approach does not seem particularly suitable (ECB, forthcoming).

One of the recurring themes in labor market reform discussions is the design of the system of unemployment-related benefits.¹⁴ These benefits often prolong unemployment by reducing search intensity. However, at least some minimum duration of unemployment benefits is required to produce better worker-job matches. The policy discussion usually centers on the net benefit replacement rate (NRR).¹⁵ The left-hand panel of chart 4 compares NRRs in 2015 with those in 2001 for a number of EU Member States. The chart shows that overall benefit generosity declined over time in most countries.

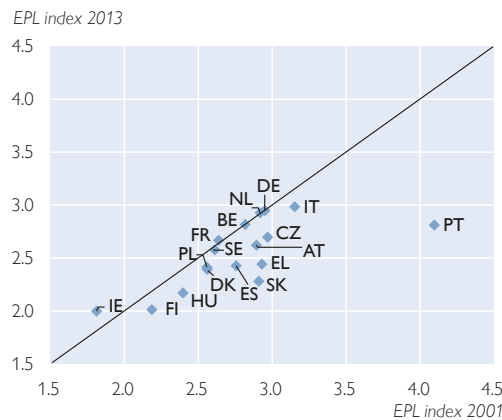
Chart 4

Labor market institutions over time (I)

Unemployment benefit net replacement rates



Strictness of employment protection legislation¹



Source: OECD.

¹ 1 = low, 5 = high.

Note: Data points are only shown for those EU Member States for which data exist in both periods. The NRRs in the left-hand panel are averages over 60 months and four family types. The EPL index in the right-hand panel refers to version 2 of the OECD indicator, for which longer time series exist than for the more recent version 3.

Employment protection legislation (EPL) also aims to protect workers from unemployment. EPL includes the length of notice periods, severance payments, and (potential) trial costs. Empirically, the overall effect of EPL on unemployment is often ambiguous because it reduces the flows out of employment but also makes employers reluctant to hire workers. Some insurance of workers by employers is

¹³ For more details, see Boeri and van Ours (2013).

¹⁴ These include unemployment benefits, unemployment assistance, and also social assistance.

¹⁵ There are other relevant parameters, e.g. the length of the qualification period or the coverage rate.

desirable, i.e. because it increases the incentives to invest in firm-specific capital. Strong employment protection, however, tends to favor incumbent workers and fuel the use of irregular employment contracts (for which EPL is typically much less strict), contributing to labor market duality and higher youth unemployment. In almost all EU countries for which data are available, the level of EPL declined (see right-hand panel of chart 4) during 2001–2013. Another recommendation of the literature is a call for “flexicurity,” which favors income protection via generous unemployment benefits over employment protection.

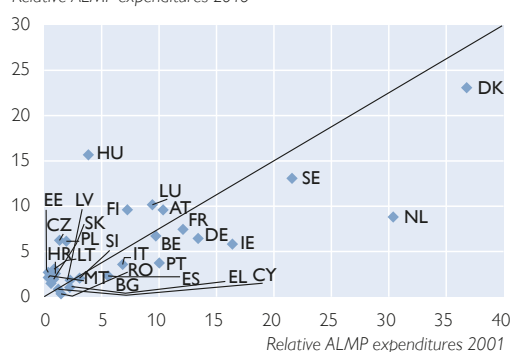
Another important LMI is “active labor market policies” (ALMP). ALMP consist of training measures, subsidized employment, start-up incentives, public employment schemes, etc. ALMP in many cases enhance the labor market prospects of the unemployed and make the matching process more efficient. The importance of ALMP varies considerably between countries. For example, as displayed in the left-hand panel of chart 5, the corresponding expenditures per unemployed person are particularly high in Denmark and Sweden (where intensive ALMP are part of the “flexicurity” concept).

Chart 5

Labor market institutions over time (II)

Expenditures for active labor market policies

Relative ALMP expenditures 2016



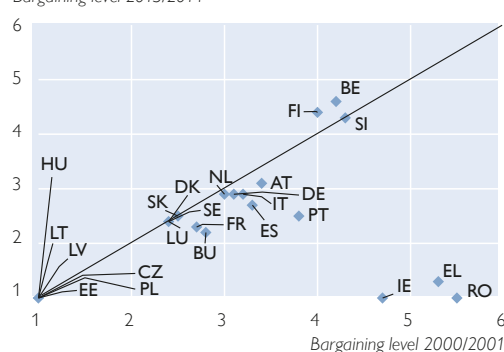
Source: Eurostat, Visser (2016).

¹ 1 = firm level, 5 or higher = highly centralized.

Note: Relative ALMP expenditures are the ALMP expenditure share in GDP multiplied by 100, divided by the unemployment rate.

Effective level of collective bargaining¹

Bargaining level 2013/2014



Finally, wage-setting institutions are a further important set of LMI. The effects of collective bargaining on wages and equilibrium employment are subject to intense discussion, which focuses on relative costs and benefits of unions. If unions cared only about wages they could extract higher wages, which would lead to lower employment than in the competitive case. However, when unions also care about employment, a more efficient bargaining outcome can be achieved. Moreover, when employers exercise monopsony power, countervailing market power by unions can enhance efficiency. Unions act as a collective voice of atomistic agents against their employer and may improve firm outcomes. On the other hand, unions may engage in rent-seeking, driving up wages and favoring middle-skilled over high-skilled workers because they tend to compress wage distributions, which may also be detrimental to low-skilled workers (if higher wages for this group lead to higher unemployment).

The policy discussion about collective bargaining frequently focuses on the level where bargaining takes place (firm or sectoral level) and bargaining coordination.¹⁶ It is regularly suggested that bargaining should be decentralized (e.g. by more opening clauses allowing individual firms more flexibility or through firm-level negotiations). This can enhance microeconomic flexibility. However, it has been shown that centralized (or rather coordinated) bargaining systems exhibit more macroeconomic flexibility and may thus be better able to internalize the effects of wage claims on inflation and to exercise wage restraint in crises (IMF, 2016; OECD, 2017a). The right-hand panel in chart 5 indicates that changes in bargaining levels were quite common in recent years (especially in euro area crisis countries).

3.4 Reforms of tax and benefit systems

Taxes and transfers affect productivity and trend growth through the (dis-)incentives they entail to the use of productive factors. Apart from the overall level of the tax burden, which is largely determined by the size of the public sector and preferences for state-provided services, the distribution over various sources of revenue (the tax structure) seems to matter for growth. Johansson et al. (2008) and Arnold et al. (2011) have investigated the “growth-friendliness” of various taxes empirically. They come to the conclusion that capital and labor income taxes are particularly harmful to growth. Indirect taxes on consumption are less distortive, while property taxes, in particular recurrent taxes on immovable property, have the smallest adverse effect on growth. Other studies have confirmed that property taxes are less detrimental to growth but have failed to provide a clear “ranking” of other taxes (compare Prammer, 2011). One of the reasons for the weak conclusiveness of empirical results is that the economic effects of taxation depend also on how the revenues are spent.

The OECD and the EU have been recommending for years to shift part of the burden from income taxes toward less distortive sources such as property and environmental taxes. The left-hand panel in chart 6 shows that tax structures vary across EU Member States, though in all countries, taxes on consumption and labor income are the largest revenue sources while the contribution of taxes on capital income and the capital stock (which include property taxes) is comparatively small.

Of the different components of taxation, labor income taxes have received the most attention from policymakers because they tend to decrease both labor supply and demand.¹⁷ If labor supply is relatively inelastic, as is the case with prime-age men, then the burden of taxation falls mostly on workers (reducing the net wage). The labor supply of other groups with more elastic supply tends to be affected more strongly by taxation (Boeri and van Ours, 2013). Levies on labor need not produce negative effects when they are regarded as savings or insurance premiums, as is partly the case with social security contributions (Disney, 2004). The right-

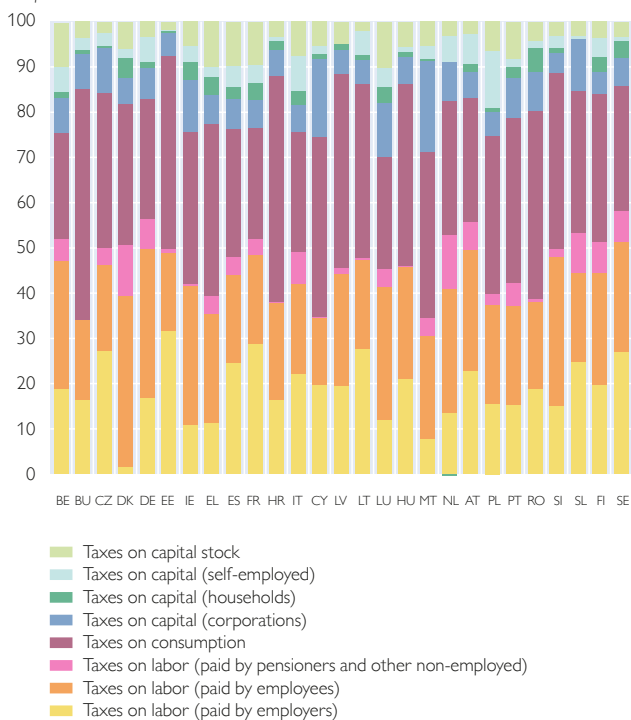
¹⁶ Bargaining level and bargaining coordination are related. While firm-level negotiations can hardly be coordinated, sectoral bargaining can be. Apart from formal structures, trust between social partners is also essential to the economic performance of collective bargaining regimes (Addison, 2016).

¹⁷ The Eurogroup (the group of finance ministers of the euro area countries) has endorsed common principles for reforms aimed at reducing the tax burden on labor and engages in an annual monitoring exercise. This seems to have stimulated reform efforts within the euro area.

Tax structure and labor tax wedges

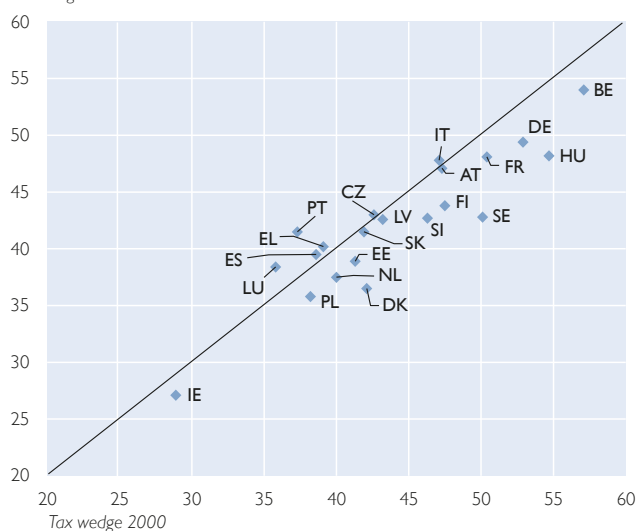
Tax structure 2016

% of total revenues



Labor tax wedge for a single worker

Tax wedge 2016



Source: Eurostat, OECD.

Note: The tax wedge is the sum of income tax plus employee and employer contributions less cash benefits, in percent of total labor costs, measured for a single worker at 100% of average earnings.

hand panel of chart 6 shows that labor tax wedges (i.e. the difference between total labor costs and net wages) differ considerably between countries.

Probably even more important than the extent of taxation of labor are its many interactions with benefit systems, such as unemployment-related benefits and social assistance. These interactions are likely to vary according to family type and wage level. The OECD regularly compiles marginal effective tax rates (METR) aiming to identify cases where the financial incentives to take up work for nonparticipants or the unemployed are weak. Incentives are typically low when the potential wage from taking up work is also low. Reforming tax and benefit systems in such a way as to avoid such inactivity or unemployment “traps” may thus contribute to higher labor supply and employment. For example, METR could be lowered by in-work benefits which are payable until a certain income level is reached. Table 3 shows METR for transitions from inactivity and from unemployment to work. There are sizable differences between countries, which depend on the level of social transfers on the one hand and their specific design in case a worker takes up a job on the other.

Certain features of tax systems can also encourage excessive corporate and household leverage, which can raise vulnerability to shocks and hamper adjustment capacity. A debt bias in corporate taxation, i.e. the deductibility of interest payments from the income tax base, may affect companies’ capital structure by encouraging them to finance investment through debt rather than equity. Similarly,

the deductibility of mortgage interest payments from personal taxable income may create a bias in favor of debt-financed house purchases and fuel bubbles in property markets (European Commission, 2015).

Table 3

Marginal effective tax rates when taking up a new job

Country	"Inactivity trap"			"Unemployment trap"		
	Single person	Family with two children		Single person	Family with two children	
		One-earner married couple	Two-earner married couple		One-earner married couple	Two-earner married couple
	%					
AT	67	86	98	68	71	31
BE	67	78	68	92	82	46
CZ	63	69	76	72	64	34
DE	62	72	80	73	83	43
DK	84	81	114	90	90	40
EE	46	63	72	63	73	23
EL	19	26	12	51	53	8
ES	42	41	46	81	76	21
FI	72	75	94	75	80	24
FR	55	62	64	76	72	24
HU	47	37	37	78	80	35
IE	73	60	87	54	65	44
IT	23	2	-4	81	71	38
LU	70	74	87	88	89	27
NL	78	57	84	82	86	23
PL	49	60	72	65	54	37
PT	40	46	55	80	80	21
SE	69	58	77	69	69	22
SI	62	83	85	90	88	37
SK	29	3	40	45	31	-16

Source: OECD, Tax Benefit Models, <http://www.oecd.org/els/soc/benefits-and-wages.htm>.

Note: The first three columns refer to a case where the potential entrant into employment receives social assistance. The other half of the table refers to unemployed workers receiving unemployment benefits. In each case, the new job is assumed to pay a wage at the level of 67% of average wages. For married couples, one spouse is either inactive (one-earner married couple) or receives a job paying 67% of the average wage as well (two-earner married couple).

3.5 Good governance and the quality of institutions

Strong enforcement institutions are important for sustained growth. A number of studies suggest large welfare costs of rent-seeking (and corruption, which is an extreme form of rent-seeking). The literature has tried to measure proxies for the extent of rent-seeking behavior or other institutional deficiencies. There are also broader institutional indicators, for example for quality of judicial systems, which enter international country rankings.

Chart 7 displays two aspects of the quality of institutions. The left-hand panel shows country scores for the judicial system and for property rights from the annual report by the Canadian Frazer Institute (2017). The data indicate that there is substantial country heterogeneity within the EU, whereby the Nordic countries, Luxembourg, the Netherlands, Austria and Ireland display better institutional quality than some Central, Eastern and Southeastern (CESEE) and Southern European countries. Another aspect of the quality of institutions is the efficiency

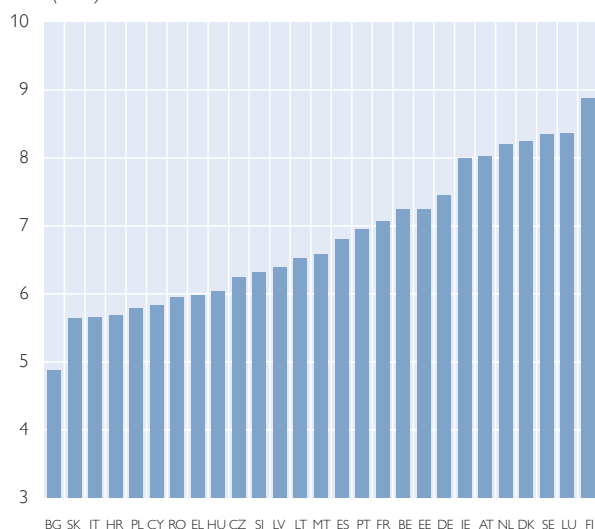
of tax collection. The right-hand panel of the chart shows estimates of the gap between the potential revenues from value-added tax and actual revenues. These gaps are particularly high in some CESEE and Southern European countries.

Chart 7

Quality of institutions in the EU

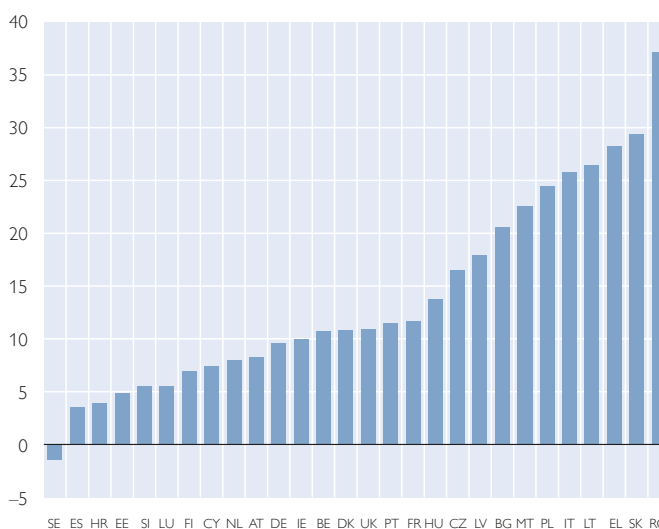
Frazer index of judicial system and property rights

Score (0–10)



VAT gap estimates for 2015

%



Source: Frazer Institute (2017), CASE (2017).

Note: The VAT gap is the difference between expected VAT revenues and the amount actually collected.

4 Progress with structural reforms

Progress with structural reforms has been uneven across Member States, but has led to some convergence of economic structures within the EU. Member States with the largest reform gaps experienced significant market pressure during the sovereign debt crisis, which has supported reform implementation, though in some cases this came at the cost of further dragging down already weak economic conditions.

4.1 European Semester surveillance

Economic policy coordination in the EU is organized within the European Semester cycle. Prior to the crisis, EU surveillance was mainly organized around the requirements of the Stability and Growth Pact (SGP). The economic and financial crisis revealed the importance of structural policy for competitiveness and external positions within the euro area. There was thus a need to expand policy surveillance beyond the fiscal domain. This led to the launch of the macroeconomic imbalance procedure (MIP) in 2013, with the aim of identifying potential risks and recommending corrective action to Member States, within the annual set of country-specific recommendations (which are subsequently endorsed by the European Council). The structure of the MIP is similar to SGP surveillance. The preventive arm applies to all countries where imbalances have been identified and involves reinforced monitoring through an annual report (in-depth review)

and so-called “specific monitoring” with regular assessments of progress by the Economic Policy Committee. The corrective arm allows the opening of an Excessive Imbalance Procedure with the possibility of sanctions.

However, despite the identification of “excessive imbalances” in several EU Member States, the Commission has thus far shied away from recommending the activation of the corrective arm. The obstacles to giving the MIP more bite seem various: For example, it opened almost all areas of economic policy to EU scrutiny and recommendations have become highly political, targeting policy areas beyond the competency of the EU. Certain country-specific recommendations are deeply unpopular with the electorate and can create or underpin skepticism toward the EU and its institutions. Also, the large range of conceivable macroeconomic imbalances offers room for different interpretations. Ultimately, the authority of EU institutions in the structural policy area may be limited to the exercise of soft power, i.e. publicity, peer pressure and incentives. This may explain the caution exercised by the Commission in enforcing the economic policy framework (Leino and Saarenheimo, 2017).

An ongoing issue in EU surveillance is how to increase national “ownership” of reforms as a way to strengthen implementation. While the origin of economic problems in Member States and possible solutions are generally well known, political economy obstacles often prevent decisive action. This applies in particular to structural policies, where recommendations may conflict with national sovereignty and the possibility of sanctions does not seem to be a credible threat. Current discussions on the “deepening of Economic and Monetary Union” are exploring ways to increase incentives for structural reforms through linking the implementation of recommendations under the European Semester with the provision of funds from the EU budget.

4.2 More efforts in labor markets than in product markets

The pace of implementation of structural reforms has differed across Member States, with crisis-hit countries generally undertaking the strongest efforts. Many of the reforms implemented in the period 2010–2013 were targeted at labor market institutions (Meyermans and Nikolov, 2017). Most of these reforms took place in Greece, Spain, Italy and Portugal, and the majority of measures were aimed at decentralizing wage-setting or reducing employment protection legislation (Berti and Meyermans, 2017). This supported profit margins and investment, whereas the direct impact on cost competitiveness was rather limited (Breitenfellner et al., 2013). Also, labor reallocation from sectors that were booming before the crisis to sectors with stronger growth potential took place only sluggishly (Meyermans and Nikolov, 2017).

More recently, the focus of reform efforts has shifted toward labor taxation and social policies, with a view to increasing incentives to work and ensuring a more equitable distribution of income. Other areas with significant reform efforts were education and skills, and to some extent access to finance.

Progress was more limited with regard to removing barriers in product markets and improving the business environment, despite generally weaker negative short-run effects on employment and income distribution as compared to labor market reforms. Reinforcing competition in the service sectors has proven particularly challenging in a number of Member States. The power and influence

of vested interests seems to have formed a crucial obstacle to further efforts. More progress has been made with regard to increasing the efficiency of insolvency and judicial systems. Overall, there has been some convergence in product market structures in the euro area in recent years. The OECD product market regulation indicator suggests that Portugal, Italy and Greece recorded strong decreases in rigidities over the period 1998–2013 (Berti and Meyermans 2017; see left-hand panel of chart 3).

4.3 Drivers of reform

Empirical analysis has identified adverse macroeconomic conditions, external pressures and reform gaps as the strongest drivers of structural reforms (IMF, 2016; ECB, forthcoming). The mechanisms through which crises drive reform efforts are manifold: The costs of the status quo emerge quite clearly, creating a sense of urgency. The strength of interest groups or elites who benefit from rent-seeking may be diminished, as dire economic conditions heighten the cost of further delaying reform. On the other hand, the current cyclical upswing creates a window of opportunity, because without appropriate reforms, the cost of the next recession may be higher than it would otherwise be (ECB, forthcoming).

Crisis situations and the threat of losing access to refinancing sources have proven the strongest drivers of reform in the euro area. Spain and Slovenia, for example, undertook substantial efforts during 2012–2013. In Greece, Ireland, Portugal and Cyprus – the countries most affected by the crisis – financial market pressures were replaced by the conditionality of financial assistance programs. The success of reform packages depended, by and large, on the extent to which governments showed “ownership” of the programs and explained them to the electorate (Leino and Saarenheimo, 2017).

Other factors conducive to reform are sound institutions like a strong government, transparency about political and administrative decisions, and a free press (ECB, forthcoming). While strong governments are better able to overcome vested interests, the importance of transparency and the media derives from the fact that a well-informed electorate can better judge the payoffs from reform and is less easily influenced by small but powerful interest groups. Also national bodies, such as the National Productivity Boards, could spur public discussion on pro-growth policies (Council of the European Union, 2016). Furthermore, reform activity in neighboring countries or trade partners has been identified as supportive (IMF, 2016).

4.4 Sequencing and packaging

While well-designed structural reforms strengthen growth potential, the transition phase may see firms or jobs being restructured or destroyed. Reforms may thus be accompanied by short-term negative effects on aggregate demand and employment, particularly when implemented in “bad times” (Bouis et al., 2012; IMF, 2016). These effects, but also negative distributional consequences,¹⁸ are a reason why structural reforms are often unpopular. Furthermore, falling inflation may

¹⁸ Some kinds of labor market reforms, in particular, are likely to negatively affect less well-off groups (Causa et al., 2016).

generate upward pressure on real interest rates, further depressing aggregate demand (see section 2.4).

However, these effects can, at least partially, be offset through appropriate sequencing and packaging of reforms, supportive macroeconomic policies, and coordination within the EU. For example, labor market reforms that are preceded by product market reforms have smaller negative effects on demand, due to a more limited decline in the purchasing power of wages, as product prices are also expected to fall. Reforms that reduce wages or unemployment benefits can be accompanied by monetary and fiscal policies that support aggregate demand (IMF, 2016). Flexibility-enhancing reforms of labor markets could be supplemented by a strengthening of social welfare systems, active labor market policies and lifelong learning strategies. Alternatively, negative short-term effects of labor market reforms during periods of slack can be avoided by enacting reform measures with a credible proviso that they will come into force at a later point in time. This allows difficult reforms to be pursued when there is a window of opportunity, while postponing their negative effect until the economy can better cope with it (IMF, 2016).

Reforms that increase competition in product markets have been found to generate smaller, if any, negative short-term effects on demand and should thus be prioritized when economic conditions are weak. Such reforms may lead to immediate productivity gains if incumbent firms are induced to eliminate existing inefficiencies. To the extent that the positive impact depends on the entry of new firms into the market, the availability of finance for start-ups is crucial.

5 Summary and conclusions

The long-term decline of trend productivity and GDP growth poses an important challenge for the EU. Future growth prospects are hampered by population aging. In addition, technological change due to the digitalization of production may require substantial reallocation processes of firms and workers. Current long-term projections of future growth are based on the assumption that the downward trend in productivity growth will be reversed. It is widely assumed that structural reforms are the means to accomplish this goal. Such reforms are also beneficial for the functioning of European monetary union.

Structural reforms affect the institutional and regulatory framework in which firms and households operate. Economic policy aims at increasing participation rates and reducing structural unemployment in order to counter the projected decline in the working-age population. Product market policies increase competition and support the process whereby less efficient firms are replaced by more efficient ones. Innovation policies are directly relevant to raising productivity levels. These include competition policies but also the framework conditions for public and private R&D and access to finance. Labor market reforms touch upon many areas, including unemployment benefits, employment protection, active labor market policies and systems of collective bargaining. Reforms in these areas aim at increasing work incentives, promoting the reallocation of jobs and workers and making wages more flexible while at the same time providing adequate safety nets. Reforms of tax and benefit systems should minimize disincentives to the use of productive factors. High tax burdens on labor, for example, could be addressed through revenue-neutral reforms that raise less distortive consumption or property

taxes, while the interaction between labor taxes and benefits also deserves policy makers' attention. Finally, the quality of institutions, such as the "rule of law," measures countering rent-seeking and corruption, and strong enforcement institutions have been found to be crucial for economic growth.

The indicators presented in this article suggest that structural reforms have been undertaken in many areas and in most EU Member States during the past few years. How can further reforms be stimulated? Policy coordination within the European Semester serves as a platform for discussion and recommendations of structural reforms. In "normal" times, the EU institutions do not exercise strong pressure on Member States, although this would be possible in principle within the macroeconomic imbalance procedure. Rather, "soft power" in the form of publicity and peer pressure is used. Reform intensity, however, was high in the countries most affected by the crisis in the euro area. Pressure from financial markets (and later from financial assistance programs) encouraged a number of structural reforms, most of which were directed at labor markets in order to restore wage (and price) competitiveness. The current boom creates a window of opportunity in all EU Member States. Transparent processes, suitable packaging and sequencing of reforms may help overcome short-term negative economic effects, undesirable distributional consequences and the resistance of vested interests.

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Non-technical summaries in German

Geldpolitik nach der Krise: Mandat, Ziele und internationale Verflechtungen

Die Wirtschafts- und Finanzkrise hat viele Fragen zur künftigen Rolle von Zentralbanken und ihrer Geldpolitik aufgeworfen. Dieser Beitrag greift drei dieser Fragen auf und beschäftigt sich mit Zentralbankmandaten, ihren geldpolitischen Zielen und internationalen Verflechtungen.

Die Krise hat die Finanzsystemstabilität in den Fokus der Aufmerksamkeit von Zentralbanken gerückt. Insbesondere hat sich die Art und Weise, wie Finanzsystemstabilität in der geldpolitischen Analyse berücksichtigt wird, deutlich geändert: Verbraucherpreisstabilität wird nicht mehr als ausreichender Garant für Finanzsystemstabilität gesehen. Der Finanzsektor ist in seiner Bedeutung für stabiles Wachstum und für eine reibungslose Übertragung geldpolitischer Impulse in das Zentrum der Aufmerksamkeit gerückt. Hingegen hat die Krise keine neuen Argumente für duale Mandate von Zentralbanken, die neben der Gewährleistung von Preisstabilität auch Wachstum und/oder Beschäftigung gleichrangig anführen, zutage gebracht. Trotz einiger Diskussionen hat die Krise bislang auch keine Einschränkung der Zentralbankunabhängigkeit ausgelöst. Das beständige Streben der Zentralbanken nach mehr Transparenz hat ihre Legitimation im Gleichklang mit ihrer breiteren Aufgabenspanne gestärkt. Auch ist die Erinnerung an die Krise und die wichtige Rolle der Zentralbanken bei ihrer Bewältigung wohl noch zu frisch, um die Zentralbankunabhängigkeit ernsthaft in Frage zu stellen.

Wir diskutieren das Für und Wider mehrerer Vorschläge für Alternativen zu den bestehenden Preisstabilitäts- bzw. Inflationszielen von Zentralbanken. Diese wurden vorgebracht, um strukturellen Veränderungen – wie einem nachhaltig niedrigeren Niveau des „natürlichen Zinses“ (das ist jenes Zinsniveau, bei dem die Inflationsrate stabil ist) und/oder einer Verflachung der Phillips-Kurve (das ist der kurzfristig negative Zusammenhang zwischen Lohn- bzw. Preisentwicklungen und Arbeitslosenquote) – zu begegnen. Wir zeigen, dass alle Optionen Vor- und Nachteile aufweisen. Grundsätzlich können Änderungen an einem so zentralen Parameter der geldpolitischen Strategie, wie es die Preisstabilitätsdefinition ist, die Glaubwürdigkeit der Zentralbank ernsthaft beschädigen. Die aus unserer Sicht vielversprechendste Strategie ist ein flexibler Zeithorizont, um das Preisstabilitätsziel zu erreichen, wie ihn z. B. die EZB mit der mittelfristigen Ausrichtung ihrer Preisstabilitätsdefinition bereits verwendet. Aber auch eine flexible Interpretation des Inflationsziels innerhalb eines Toleranzbandes, wie sie manche Zentralbanken praktizieren, erscheint uns erfolgsversprechend.

Die Maßnahmen der Geldpolitik in Reaktion auf die Wirtschafts- und Finanzkrise haben die Aufmerksamkeit gegenüber internationalen Wechselwirkungen erhöht. Da die Übertragung von geldpolitischen Impulsen über langfristige Zinsen (unkonventionelle Geldpolitik) stärker ist als über kurzfristige Zinsen (konventionelle Geldpolitik), entstanden Befürchtungen vor einem internationalen Wettlauf hin zu immer expansiverer Geldpolitik bzw. vor Abwertungsspiralen. Versuche hinsichtlich einer engeren internationalen Abstimmung der Geldpolitik sind jedoch in der politischen Praxis erfolglos geblieben. Wir erwarten auch für die Zukunft, dass sich die nationalen Wirtschaftspolitiken darauf einstellen müssen, mit den Übertragungswirkungen der Geldpolitik aus anderen Währungsräumen bestmöglich zurecht zu kommen.

Stärkung des Euroraums durch Korrektur von Fehlanreizen im Finanzsystem

Die Kosten der Finanzkrise waren in allen größeren Volkswirtschaften hoch, besonders hoch aber in der europäischen Währungsunion. Durch regulatorische Reformen konnte die Finanzmarktstabilität zwar in den letzten Jahren erhöht und so die Währungsunion gefestigt werden, damit ging aber eine steigende regulatorische Komplexität einher. Diese wird zunehmend als Problem wahrgenommen. Die vorliegende Studie schlägt verschiedene Maßnahmen vor, die die Finanzmarktstabilität stärken, ohne die regulatorische Komplexität zu erhöhen. Im Fokus steht dabei die Beseitigung fehlerhafter Anreizstrukturen im Banken- und Finanzsystem.

Erstens fordern die Autorinnen die endgültige Abschaffung der impliziten Staatsgarantie auf Bankverbindlichkeiten sowie der steuerlichen Bevorzugung von Fremdkapital; zweitens die Stärkung der Risikotragfähigkeit des Finanzsystems, um die Marktvolatilität besser zu verkraften, die mit dem Marktaustritt ausfallender Banken inhärent verbunden ist; drittens Verschärfungen im Regelwerk der sogenannten Contingent Convertible Bonds, die Reduktion der Größe und Komplexität von Banken, falls diese zu groß wären, um abgewickelt zu werden, sowie die Stärkung alternativer Finanzierungsquellen für die Realwirtschaft im Rahmen der Kapitalmarktunion. Letztlich müsste die Aufsicht aber lernen, ein gewisses Maß an unvermeidbarer Marktvolatilität im Zusammenhang mit dem Marktaustritt einer Bank zu tolerieren.

Die Reform würde die Externalitäten von Marktaustritten von Banken deutlich reduzieren und somit zu ihrer höheren gesellschaftlichen Akzeptanz führen. In Folge könnte die Regulierung von Banken vereinfacht werden. Eine geringere Regulierungskomplexität würde vielleicht zu vermehrten Marktaustritten von Banken führen, hätte jedoch keine schwerwiegenden negativen Effekte auf das Finanzsystem und die Realwirtschaft und folglich auch nicht auf die europäische Währungsunion.

Proportionalität in der Bankenregulierung

Als Reaktion auf die internationale Finanzkrise 2007–2009 kam es im Bereich der Bankenregulierung zu einer umfassenden Ausweitung des regulatorischen Rahmenwerks, sowohl auf globaler als auch europäischer Ebene, wodurch die Banken und das Finanzsystem insgesamt widerstandsfähiger gegenüber exogenen Schocks wurden. In Übereinstimmung mit vorangegangenen Reformen umfasst dabei der Anwendungsbereich der vom Baseler Ausschuss für Bankenaufsicht für große, international tätige Banken vorgegebenen Standards in der Europäischen Union – aus der Überlegung eines einheitlichen Binnenmarktes heraus – alle Kreditinstitute.

Vor diesem Hintergrund hat die Diskussion um die Proportionalität des regulatorischen Rahmenwerks zugenommen. Konkret geht es dabei um die Frage, ob und wie regulatorische Anforderungen auf kleine und von ihrem Geschäftsmodell her wenig komplexe – insbesondere nicht international tätige – Banken, am besten zugeschnitten werden können. Im vorliegenden Beitrag wird daher dargestellt, wie die derzeitige Struktur des europäischen Bankensektors im Hinblick auf Proportionalitätsüberlegungen zu werten ist, welche Ansätze zur Umsetzung von proportionalen Regelungen in verschiedenen Ländern bereits existieren, welche Maßnahmen derzeit auf europäischer Ebene in diesem Bereich im Zuge der Überprüfung des regulatorischen Rahmenwerks diskutiert werden und wie dieses Thema aus Sicht der österreichischen Bankenaufsicht im Rahmen des FMA/OeNB-Proportionalitätskonzepts adressiert wird.

Konkret wird darin zur stärkeren Verankerung von Proportionalität in der Bankenregulierung, die Einführung einer einheitlichen Definition für kleine/wenig komplexe Banken für das gesamte regulatorische Rahmenwerk vorgeschlagen, da nur so eine weitere Erhöhung der Komplexität in der Bankenregulierung insgesamt vermieden werden kann. Das Geschäftsmodell eines Instituts kann allerdings nicht anhand von quantitativen Kriterien allein bewertet werden, weshalb zusätzlich auch eine qualitative Beurteilung notwendig ist. Dieser Kriterienkatalog wird durch ein Widerrufsrecht für die Aufsicht ergänzt. Während die Säule 1 vollumfänglich gelten soll, um eine einheitliche Regulierung in den Grundprinzipien für alle Banken sicherzustellen, sollen sich Erleichterungen in den Kernbereichen der Bankenregulierung nur auf die Reduzierung des operativen Aufwands in Bezug auf die Säule 2 (z. B. pauschaler Kapitalzuschlag für kleine/wenig komplexe Institute als Ausgleich für einen gänzlichen Wegfall der Säule 2-Anforderungen) und Säule 3 (z. B. Wegfall der Offenlegungsanforderungen) beziehen. Hinsichtlich zukünftiger Regulierungsvorhaben (z. B. Übernahme von neuen Baseler Standards) sollte der Proportionalitätsgedanke bereits im Zuge der Umsetzung in das EU-Aufsichtsrecht mitbedacht werden.

Das vorgelegte Konzept soll als Beitrag zur wichtigen Diskussion um Proportionalität verstanden werden. Im Idealfall führt sie zu ressourcen- und kosteneffizienteren Regeln, die sowohl Aufseher als auch beaufsichtigte Institute von unnötigen operativen Belastungen befreien, ohne die Effektivität der Bankenregulierung zu unterminieren.

Kapitalmarktunion – ein Weg zu einer vielfältigeren Finanzierungslandschaft in der EU

Als Reaktion auf eine vermeintliche Investitionslücke infolge der Krise und zur Förderung von grenzüberschreitenden Investitionen innerhalb der EU hat die EU-Kommission im Jahr 2015 einen Aktionsplan zur Schaffung einer Kapitalmarktunion (capital markets union, CMU) veröffentlicht. Der ursprüngliche Plan sah 33 Maßnahmen vor und wurde 2017 im Rahmen der Halbzeitbilanz um weitere Maßnahmen ergänzt. Im vorliegenden Beitrag wird das Potenzial der CMU zur Steigerung von Investitionen und Förderung der Risikoteilung untersucht.

Die Verlagerung von bankbasierter zu marktbasierter Unternehmensfinanzierung hat schon seit der Krise an Dynamik gewonnen. Beer und Waschiczek argumentieren, dass die Substitution von Bankkrediten durch marktbasierter Finanzierung aufgrund stark degressiver Kosten bei der Emission von Anleihen begrenzt ist und dass Bankkredite besser geeignet sind, Informationsasymmetrien zwischen Kreditgebern und Kreditnehmern zu überwinden. Banken und Kapitalmärkte sind also keine Substitute, sondern ergänzen sich bei der Finanzierung des Unternehmenssektors und seiner Investitionen. Dies spiegelt sich in einer Reihe von Maßnahmen der CMU wider, die darauf abzielen, die Kapazitäten von EU-Banken zur Finanzierung der realen Sektoren der europäischen Wirtschaft zu erhöhen, wie der Vorschlag für einfache, transparente und standardisierte Verbriefungen oder der Plan für einen EU-weiten Rahmen für gedeckte Schuldverschreibungen. Im Wesentlichen zielt die CMU nicht darauf ab, die direkte Finanzierung des Unternehmenssektors durch die realen Wirtschaftssektoren zu fördern, sondern die Intermediation an andere Finanzintermediäre, wie etwa Investmentfonds und Pensionskassen, Versicherungen, Risikokapitalfonds usw. zu verlagern. Ein wichtiges Hindernis für die Finanzierung ist die hohe Fremdfinanzierung der Unternehmen. Die Autoren kommen zu dem Schluss, dass dieser Aspekt von der CMU kaum angesprochen wird.

Der zweite Schwerpunkt der Analyse ist die makroökonomische Risikoteilung zwischen den EU-Mitgliedstaaten. Derzeit ist das Risikoteilungsniveau in der EU sehr niedrig. Die CMU schlägt mehrere Maßnahmen vor, um die grenzüberschreitenden Investitionen und damit die Risikoteilung zu erhöhen. Es bleibt abzuwarten, wie erfolgreich diese Maßnahmen sein werden. Verstärkte grenzüberschreitende Investitionen schaffen allerdings neue Risiken und politische Herausforderungen.

Die CMU könnte die Finanzierungsbedingungen durch diversifiziertere Finanzprodukte und (Dis)Intermediationswege verbessern, da Unternehmen durch die Erschließung zusätzlicher Finanzierungsquellen den Finanzierungsbedarf besser decken könnten. Eine größere Vielfalt von Finanzierungskanälen könnte die Stabilität und Widerstandsfähigkeit von Unternehmensfinanzierungen stärken. Aber die Finanzierung war nicht die Ursache für die Investitionsabschwächung während der Krise. Darüber hinaus könnte die CMU zusätzliche Risiken schaffen, z. B. durch Verlagerung von Kreditrisiken auf andere (vielleicht weniger regulierte) Institutionen sowie durch verstärkte grenzüberschreitende Investitionen. In jedem Fall werden Ergebnisse der Kapitalmarktunion nur mittel- oder langfristig zum Tragen kommen, da es einige Zeit dauern wird, bis die Maßnahmen umgesetzt sind, und noch weitere Zeit, bis sie Wirkung zeigen.

Instrumente zur Stabilisierung und Schockabsorption in der EU und im Euroraum – der Status quo

Die globale Finanzkrise hat in Europa zu einer beinahe ein Jahrzehnt dauernden Wirtschaftskrise geführt, die durch die in einigen Mitgliedstaaten der EU bzw. Wirtschafts- und Währungsunion (WWU) vorliegenden strukturellen Probleme intensiviert wurde und mit außergewöhnlich hohen volkswirtschaftlichen Kosten verbunden war. Die Bewältigung dieser Krise hat die wirtschaftspolitischen Strategien der EU und ihrer Mitgliedstaaten sowie die institutionellen Entscheidungsstrukturen der EU auf eine harte Probe gestellt und Anpassungen im ökonomischen und rechtlichen Regelwerk ausgelöst. So wurden der Stabilitäts- und Wachstumspakt sowie die EU-Governance reformiert, ein Verfahren bei makroökonomischen Ungleichgewichten als neues Instrument zur Verhinderung bzw. zum Abbau makroökonomischer Ungleichgewichte installiert und neue Krisenbekämpfungsmechanismen, wie die Europäische Finanzstabilisierungsfazilität (EFSF) bzw. der Europäische Finanzstabilisierungsmechanismus (ESM), eingeführt.

Die Finanzkrise verursachte tiefgreifende Probleme im europäischen Finanzsektor, insbesondere in dem für die Finanzierung der Realwirtschaft in Europa überaus wichtigen Bankensektor. Als systemrelevant eingestufte Banken, die in Probleme gerieten, wurden von den Staaten gerettet. Bail-outs von Banken und die auftretenden steigenden Risikoprämien auf Staatsanleihen ließen die Probleme des starken Banken-Staat-Nexus in Europa offenkundig werden. Sowohl um diesen Banken-Staat-Nexus zu durchbrechen als auch aufgrund der besonderen Bedeutung eines integrierten europäischen Finanzmarktes für die gemeinsame Geldpolitik wurde die Schaffung einer europäischen Banken- und Kapitalmarktunion beschlossen. Eine gemeinsame Bankenaufsicht wurde gegründet und die makroprudenzielle Aufsicht implementiert – letztere, weil die Krise lehrte, dass selbst mit einer vereinheitlichten und effektiver gewordenen Einzelbankenaufsicht keine hinreichende Sicherung der Finanzmarktstabilität insgesamt gegeben ist.

Die Krisenerfahrung intensivierte aber auch die wirtschaftspolitische Debatte über die Notwendigkeit von weiteren neuen Stabilisierungs- bzw. Risikoteilungsinstrumenten innerhalb der WWU bzw. zwischen den Euroraum-Ländern. Der vorliegende Artikel beschäftigt sich mit der Frage, ob dies angesichts der nunmehr bereits vorhandenen Schockpräventions- und Schockabsorptionsmechanismen tatsächlich notwendig ist. Die Autoren kommen zum Ergebnis, dass es bereits jetzt ausreichend fiskalische und makroökonomische Puffer gibt, sofern eine solide Fiskalpolitik verfolgt wird, die Maßnahmen der Bankenunion, welche dem Grunde nach akkordiert sind, noch implementiert werden, die Kapitalmarktunion Realität wird, die makroprudenzielle Aufsicht effektiv ist und die Mitgliedstaaten ihre Wirtschafts- und Strukturpolitik entsprechend den Grundprinzipien der EU/WWU gestalten.

Allerdings werden weder durch Einhaltung des fiskalischen Regelwerks noch aller Regulierungsvorgaben im Finanzsektor sämtliche künftige Krisen verhindert werden können, weshalb auch in Zukunft handlungsfähigen nationalen und europäischen Institutionen besondere Bedeutung zukommt.

Maßnahmen zur verstärkten fiskalischen Stabilisierung in den Euroländern

Die letzte Finanz- und Wirtschaftskrise zeigte deutlich, dass im Euroraum – abgesehen von der gemeinsamen Geldpolitik – kaum Instrumente für eine ausreichende makroökonomische Stabilisierung zur Verfügung standen. Der vorliegende Beitrag analysiert einige in jüngster Zeit veröffentlichte Vorschläge für eine verbesserte Stabilisierung – vor allem bei asymmetrischen Schocks – durch fiskalpolitische Maßnahmen. Einige prominente Vorschläge zielen darauf ab, die Wirtschafts- und Währungsunion (WWU) durch Risikoreduktion, die in der Regel keine expliziten Transfers erfordert, zu stabilisieren. Andere Vorschläge konzentrieren sich auf Stabilisierungsmöglichkeiten durch Risikoteilungsmechanismen, die meist fiskalische Transfers beinhalten.

Eine effektive Möglichkeit zur Risikoreduktion würde etwa die Stärkung der fiskalischen Haushaltsregeln in guten Zeiten darstellen. Der Aufbau von fiskalischen Puffern auf nationaler Ebene würde Ländern helfen, große Konsolidierungspakete – mit negativen Auswirkungen auf die Wirtschaft – in schlechten Zeiten zu vermeiden. Ein anderer attraktiver Vorschlag ist die Erweiterung des Europäischen Stabilitätsmechanismus, der Mitgliedstaaten in Notsituationen unbürokratisch Liquidität zur Verfügung stellen könnte. Schon allein das Wissen um diesen Zugang zu Liquidität könnte die Marktsituation beruhigen und dadurch das Risiko reduzieren. Falls die Liquidität durch Kredite zur Verfügung gestellt würde, sind auch bei diesem Vorschlag keine Transfers zwischen den Mitgliedstaaten notwendig. Die in diesem Zusammenhang ebenfalls oft diskutierten European Safe Bonds (ESBies) sind hingegen eher ein Instrument zu Stabilisierung des Finanzsektors; dies könnte indirekt zu einer Stabilisierung der Staatshaushalte beitragen.

Viele Vorschläge umfassen eine Form der fiskalischen Risikoteilung und beinhalten Geldtransfers durch „rainy day funds“, „investment protection schemes“ oder eine europäische Arbeitslosenversicherung. All diesen Vorschlägen ist gemein, dass die Mitgliedstaaten – in einer Art Versicherungssystem – Beiträge leisten, die bei Bedarf an notleidende Mitgliedstaaten ausgeschüttet werden. Die daraus resultierenden Transfers zwischen den Mitgliedstaaten könnten zweifellos dazu beitragen, eine weitere Krise zu vermeiden. Die konkreten Vorschläge weisen jedoch mehrere Schwächen auf: Bei manchen Indikatoren, auf die sich die Ausschüttungen an die Mitgliedstaaten in diesen jüngsten Vorschlägen stützen würden, könnte ein Moral-Hazard-Effekt auftreten (um Auszahlungen zu erwirken werden z. B. aktive Arbeitsmarktmaßnahmen unterlassen oder Kürzungen bei öffentlichen Investitionen vorgenommen). Einige vorgeschlagene Indikatoren sind in Echtzeit schwer beobachtbar (Produktionslücke, öffentliche Investitionen) oder sehr heterogen zwischen den Mitgliedstaaten, etwa jene die sich auf die Arbeitsmarktstruktur beziehen (unterschiedliche Reaktion der Arbeitslosenquote auf das Wirtschaftswachstum).

Zudem konzentriert sich – im Einklang mit den derzeitigen politischen Präferenzen – die Diskussion von Stabilisierungsmöglichkeiten vor allem darauf, wie permanente Transfers vermieden werden können und wie Moral-Hazard-Risiken begrenzt werden können. Allerdings würde die Möglichkeit, dass Länder permanente Nettoempfänger oder -beitragszahler sind, die Stabilisierungskapazität beträchtlich erhöhen. Des Weiteren verbessert bei Systemen mit expliziten Transfers die Möglichkeit von Haushaltsdefiziten in schlechten Zeiten die Stabilisierungswirkung. Die beiden letztgenannten Merkmale entsprechen eher dem Aufbau bestehender funktionierender Fiskalföderationen, wie beispielsweise Österreich oder Deutschland.

Strukturreformen zur Sicherung des Produktivitätswachstums

Der Beitrag widmet sich Strukturreformen und deren Auswirkungen auf die Produktivität und das Wirtschaftswachstum. Es wird erläutert, was Strukturreformen sind und welche wirtschaftstheoretischen Überlegungen dahinterstehen. An Hand einer Reihe von Indikatoren wird gezeigt, dass bereits in vielen Bereichen Reformen stattgefunden haben. Abschließend werden die Umsetzung von Reformen in der Europäischen Union (EU) und politökonomische Faktoren diskutiert.

Der Trendrückgang von Produktivität und Wirtschaftsleistung stellt eine große Herausforderung für die Wirtschaftspolitik in der EU dar. Hinzu kommen die Bevölkerungsalterung und die durch technologische Veränderungen bedingte, wahrscheinlich beträchtliche Reallokation von Unternehmen und Arbeitskräften in der Zukunft. Langfristige Prognosen des Wirtschaftswachstums basieren auf der Annahme, dass es im kommenden Jahrzehnt wieder zu einem Anstieg des Produktivitätswachstums kommen wird. Um dies zu gewährleisten, sind Strukturreformen wichtig.

Um dem Rückgang der Bevölkerung im Erwerbsalter zumindest teilweise gegenzusteuern, gilt es die Erwerbsquoten zu erhöhen und die strukturelle Arbeitslosigkeit zu senken. Auf den Produktmärkten sollen der Wettbewerb intensiviert und der Markteintritt von neuen, produktiveren Unternehmen gefördert werden. Innovation wird zudem durch öffentliche und private Forschung und Entwicklung sowie Finanzierungsmöglichkeiten gefördert. Für die Arbeitsmärkte werden viele Arten von Reformen diskutiert. Diese umfassen unter anderem die Arbeitslosenversicherung, den Kündigungsschutz, aktive Arbeitsmarktpolitik und die institutionelle Gestaltung von Kollektivvertragssystemen. Strukturreformen sollen Arbeitsanreize erhöhen, die Reallokation von Arbeit fördern und die Flexibilität der Löhne steigern. Gleichzeitig soll ein ausreichendes soziales Sicherungssystem für die Arbeitnehmer erhalten bleiben. Steuer- und Transfersysteme sollen Anreizprobleme eliminieren. Die hohe Steuerbelastung von Arbeit kann durch eine Umschichtung in Richtung Verbrauch- und Vermögensteuern vermindert werden. Und schließlich sind auch die wirtschaftlichen Rahmenbedingungen wie Rechtsstaatlichkeit, eine gut funktionierende Verwaltung, die Reduktion des Einflusses von Interessensgruppen und die Bekämpfung von Korruption wichtig für Produktivität und Wachstum.

In der EU bieten das Europäische Semester und die länderspezifischen Empfehlungen einen Rahmen für die Diskussion um weitere Strukturreformen. Unter normalen Umständen setzt die EU auf Überzeugungsarbeit und „peer pressure“. In der Eurokrise war der Reformdruck von Seiten der Finanzmärkte und des Europäischen Stabilitätsmechanismus deutlich größer. Dies führte zu einer Vielzahl von Reformen, vor allem auf den Arbeitsmärkten der von der Krise am stärksten betroffenen Staaten, um die preisliche Wettbewerbsfähigkeit wiederherzustellen.

Die gegenwärtige Hochkonjunktur bietet eine gute Gelegenheit für weitere Reformen. Mögliche Reformwiderstände sowie kurzfristige negative Nachfrageeffekte und Verteilungswirkungen können mit transparenten Entscheidungsprozessen, einer geeigneten Bündelung von Reformen sowie abfedernden wirtschaftspolitischen Begleitmaßnahmen hintangehalten werden.

Analysis

Robust growth in Austria: economic boom continues in 2018

Economic outlook for Austria from 2018 to 2020 (June 2018)

Gerhard Fenz,
Christian Ragacs,
Martin Schneider
and Klaus Vondra¹

Executive Summary

Austria is currently in its second year of an economic boom, with growth being supported by all demand components. Real economic growth amounted to 3.1% in 2017, which means that the pace of expansion doubled compared with 2016. Like in the previous year, real GDP growth will reach 3.1% in 2018. In 2019 and 2020, growth is expected to slow down to 2.1% and 1.7%, respectively, as the current business cycle runs its course. These figures represent upward revisions of 0.3, 0.2 and 0.1 percentage points in 2018, 2019 and 2020, respectively, versus the December 2017 outlook. The unemployment rate will fall by half a percentage point to 5.0% in 2018, but will decline only marginally, namely to 4.9%, in the years thereafter. After peaking in 2017 and 2018 (2.2% in each year), inflation will subside somewhat, decreasing to 1.9% in 2020.

The world economy is currently experiencing a period of strong synchronized growth: both advanced and emerging market economies are contributing to the global expansion and, related to this, strong demand for commodities has meant that prices are rising again, benefiting commodity-exporting countries. However, global economic activity is likely to have reached its peak as risks have recently increased. Euro area growth – driven above all by Germany and France – moderated in the first quarter of 2018; the underlying pace of economic activity, however, remains intact.

In 2017, Austrian exporters benefited from robust international economic activity. Exports of goods and services climbed by 5.6% in real terms, which means that growth more than doubled against 2016. Goods exports peaked toward the end of 2017; since then, a slowdown has become noticeable. It is, however, difficult at present to assess whether this development will only prove to be a foreseeable correction from rather high levels of economic growth or whether it will result in a faster slowdown in exports given the moderating global business cycle, the increase in protectionist measures and, above all, escalating trade tensions between the U.S.A. and its major trading partners. This forecast is based on the assumption that export market growth will weaken only marginally in the forecast period.

Besides exports, domestic demand is the second main pillar of economic activity, with equipment investment playing a decisive role. After having cut back significantly on investment for several years, businesses began, from mid-2015 onward, to increasingly invest in replacing plants and equipment, and later on in further expanding their production capacities. This investment cycle started to moderate slightly in recent quarters and will peter out gradually in 2019 and 2020. By contrast, residential construction continued to strengthen over the last two quarters, with building permits indicating further acceleration. After having peaked at 4.9% in 2017, growth of total gross fixed capital formation will decline markedly to 2.0% by 2020.

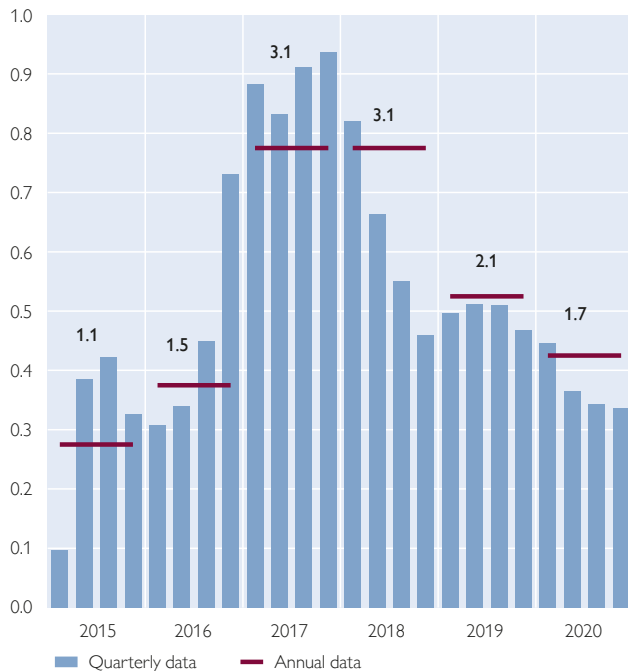
Cutoff date:
May 30, 2018

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Main results of the forecast

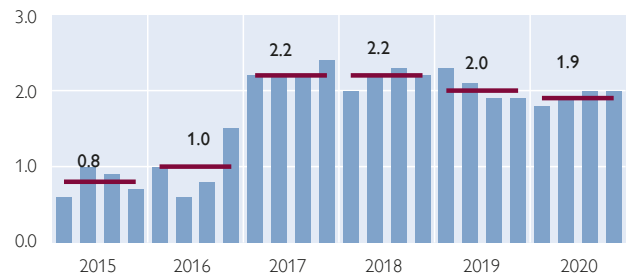
Real GDP growth

Change on previous period in % (seasonally and working-day adjusted)

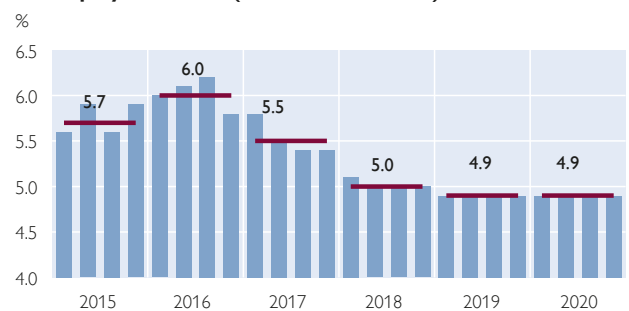


Harmonised Index of Consumer Prices

Annual change in %



Unemployment rate (Eurostat definition)



Source: WIFO, Statistics Austria, OeNB June 2018 outlook.

Labor market conditions are characterized by exceptionally strong employment growth, and payroll employment will increase by 2.2% in 2018. Higher employment growth rates were last recorded in 1991. As the current business cycle runs its course, employment growth is expected to slow down significantly, namely to 1.4% in 2019 and to 1.1% in 2020. However, owing to the strong increase in labor supply, the unemployment rate will dip only slightly. The unemployment rate (Eurostat definition) will sink from 5.5% in 2017 to 5.0% in 2018 and to 4.9% in 2019, and remain at this level thereafter. The brisk economic activity is increasingly leading to a scarcity of skilled labor in a number of occupations.

Private consumption will grow by 1.5% in 2018, which is modest given the favorable framework conditions. In 2019 and 2020, private consumption is expected to decelerate slightly to 1.4% and 1.3%, respectively.

At 2.2%, HICP inflation will remain unchanged in 2018, equaling the rate recorded in 2017. By 2020, inflation will have eased to 1.9%. This decline in the pace of price increases is largely ascribable to the development of energy prices. Oil prices are expected to drop over the projection horizon, and the HICP energy component will decline accordingly. Unit labor costs will experience only a moderate rise, and will therefore not fuel inflation.

The general government budget is projected to be balanced in 2018. Even though the new government decided to scale back several proactive measures (particularly various labor market subsidies), Austria is pursuing an expansionary fiscal policy course in 2018. This can be attributed, in particular, to measures taken by the previous government (above all reduction of contributions to the

family burdens equalization fund, abolition of public long-term care providers' recourse to patients' assets and termination of the "employment bonus" program). The resulting effects, which are responsible for an increase in the deficit, will, however, be offset by the healthy economic environment as well as a further

Table 1

OeNB June 2018 outlook for Austria – main results¹

	2017	2018	2019	2020
Economic activity				
<i>Annual change in %</i>				
Gross domestic product (GDP)	+3.1	+3.1	+2.1	+1.7
Private consumption	+1.5	+1.5	+1.4	+1.3
Government consumption	+1.2	+1.9	+1.4	+1.2
Gross fixed capital formation	+4.9	+3.5	+2.3	+2.0
Exports of goods and services	+5.6	+4.9	+4.2	+3.9
Imports of goods and services	+4.8	+3.8	+3.6	+3.6
<i>% of nominal GDP</i>				
Current account balance	1.9	2.3	2.4	2.7
Contribution to real GDP growth				
<i>Percentage points</i>				
Private consumption	+0.8	+0.8	+0.7	+0.6
Government consumption	+0.2	+0.4	+0.3	+0.2
Gross fixed capital formation	+1.1	+0.8	+0.5	+0.5
Domestic demand (excluding changes in inventories)	+2.2	+2.0	+1.5	+1.3
Net exports	+0.6	+0.8	+0.5	+0.4
Changes in inventories (including statistical discrepancy)	+0.3	+0.4	+0.0	+0.0
Prices				
<i>Annual change in %</i>				
Harmonised Index of Consumer Prices (HICP)	+2.2	+2.2	+2.0	+1.9
Private consumption expenditure (PCE) deflator	+2.0	+2.1	+1.9	+1.9
GDP deflator	+1.5	+1.9	+2.0	+1.9
Unit labor costs (whole economy)	+0.3	+1.5	+1.5	+1.4
Compensation per employee (at current prices)	+1.7	+2.7	+2.4	+2.2
Compensation per hour worked (at current prices)	+1.3	+2.5	+2.4	+2.3
Import prices	+2.6	+1.9	+2.1	+2.1
Export prices	+2.1	+1.6	+2.1	+2.0
Terms of trade	-0.5	-0.3	+0.0	+0.0
Income and savings				
<i>Annual change in %</i>				
Real disposable household income	-0.2	+1.6	+1.7	+1.3
<i>% of nominal disposable household income</i>				
Saving ratio	6.4	6.5	6.6	6.6
Labor market				
<i>Annual change in %</i>				
Payroll employment	+1.9	+2.2	+1.4	+1.1
Hours worked (payroll employment)	+2.3	+2.4	+1.3	+1.0
<i>% of labor supply</i>				
Unemployment rate (Eurostat definition)	5.5	5.0	4.9	4.9
Public finances				
<i>% of nominal GDP</i>				
Budget balance	-0.7	+0.0	+0.2	+0.4
Government debt	78.4	74.1	70.6	67.5

Source: 2017: WIFO, Eurostat, Statistics Austria; 2018 to 2020: OeNB June 2018 outlook.

¹ The outlook was drawn up on the basis of seasonally and working day-adjusted national accounts data (trend-cycle component: Q1 18). The data differ, in the method of seasonal adjustment, from the quarterly data published by Eurostat following the switch to the ESA 2010 framework in fall 2014 (the data published by Eurostat are much more volatile and do not facilitate detailed economic interpretation). The values for 2017 deviate also from the data released by Statistics Austria, which have not been seasonally adjusted.

decline in interest expenditure. In 2019 and 2020, the fiscal stance will be broadly neutral as major expansionary measures initiated by the new government will enter into force (particularly the “Familienbonus”) and as expenditure increases temporarily introduced by the previous government will phase out. The budget balance is expected to improve further also in 2019 and 2020, thanks to the continued favorable economic and interest rate environment; based on the assumption that there will not be any change in policy, the general government budget balance is projected to post surpluses.

The debt ratio is forecast to decline to 67.5% of GDP by 2020, owing mainly to the budget surpluses (or a balanced general government budget in 2018), high nominal GDP growth as well as the continued reduction of debt of public wind-down vehicles through the sale of assets and the liquidation of cash reserves.

2 Technical assumptions

This outlook for the Austrian economy is the OeNB’s contribution to the June 2018 Eurosystem staff macroeconomic projections. The forecasting horizon extends from the second quarter of 2018 to the fourth quarter of 2020. The cutoff date for all assumptions on the performance of the global economy, interest rates, exchange rates and crude oil prices was May 23, 2018. To prepare these projections, the OeNB used its macroeconomic quarterly model, adjusted for seasonal and working-day effects (trend-cycle component), provided by the Austrian Institute of Economic Research (WIFO). These data differ from the quarterly series published by Eurostat since the changeover to the European System of Accounts (ESA 2010) in fall 2014 in that the latter are solely seasonally and working-day adjusted and therefore include irregular fluctuations that – in part – cannot be mapped to specific economic fundamentals. The values for 2017 also differ from the non-seasonally adjusted data published by Statistics Austria. National accounts data were fully available up to the first quarter of 2018. The short-term interest rate used for the forecast horizon is based on market expectations for the three-month EURIBOR: –0.3% in 2018, –0.2% in 2019 and +0.2% in 2020. Long-term interest rates, which are in tune with market expectations for government bonds with an agreed maturity of ten years, will rise from 0.6% in 2018 to 1.3% in 2020. From mid-2018 onward, the exchange rate of the euro vis-à-vis the U.S. dollar is assumed to remain at a constant USD/EUR 1.18 for the period from 2018 to 2020. The projected development of crude oil prices is based on futures prices, as a result of which the price of crude oil will rise from USD 54.4 per barrel Brent in 2017 to USD 74.5 in 2018, before slightly receding during the remainder of the forecast horizon. The prices of commodities excluding energy are also based on futures prices over the forecast horizon.

3 Global upswing continues amid growing risks

The world economy is currently experiencing a period of strong synchronized growth: both advanced and emerging market economies are contributing to the global expansion; the associated strong demand for commodities has meant that prices are rising again, benefiting commodity-exporting countries. However, global economic activity is likely to have reached its peak at the moment, as suggested by several indicators, such as the Ifo World Economic Climate index. The latter reports significantly worsened business expectations for the second

quarter of 2018, while the assessment of the economic situation remains favorable. Since the beginning of 2018, volatility in financial markets has remained elevated, reflecting increasing uncertainty about the further path of the global economy. Since February 2018, expectations of a faster U.S. monetary policy normalization have resulted in a decline in stock market prices particularly in the U.S.A.

The forecast for the global economy has been revised upward since the OeNB's December 2017 economic outlook, which is mainly due to higher growth expectations for the U.S.A. in the wake of temporary fiscal stimulus measures as well as to global trade, which proved to be a pleasant surprise in 2017 and will grow much faster also in 2018 than was anticipated some months ago. For 2019, a weakening in global investment activity is likely to cause global trade and, as a result, also global production to lose some momentum. This is already mirrored by most confidence indicators, which are slightly receding from peaks observed at the turn of the year. Additional downside risks to global growth stem from a further potential escalation of the trade conflict between the U.S.A. and Europe and other major trading partners as well as geopolitical tensions. Finally, the high degree of usage of production capacities in many countries makes it difficult to maintain the currently swift pace of economic expansion.

Economic growth in the *United States* regained speed in 2017, following a dip in growth in 2016. Growth was carried by all components. After contracting in 2016, exports as well as investment in plant and equipment began to climb again, with private consumption contributing to the acceleration. In this respect, the U.S. economy has benefited from strong global economic growth, the low external value of the U.S. dollar and favorable financing conditions. Over the forecast horizon, the most important effect will come from fiscal policy: the *Tax Cuts and Jobs Act (TCJA)* that entered into force in December 2017 provides a powerful stimulus, with the tax reform reducing taxes above all for high-income earners. Substantial changes have been made to corporate taxation. In addition to lower corporate income tax rates, more relaxed depreciation schemes are temporarily in place, which results in a significant fall in capital use costs. Moreover, the tax reform also plays a considerable role in attracting more businesses, reinforcing, among other things, the incentive to move research activities to the U.S.A., and making high-tax countries less attractive for multinational U.S. corporations (following the switch from host country to home country taxation). Hence, the tax reform has the strongest impact on investment activity, whereas private consumption benefits only to a lesser extent. Furthermore, the *Bipartisan Budget Act of 2018 (BBA)* signed into law in February contains expansive fiscal policy measures on the expenditure side. Both the budget and the current account deficit will widen as a result. This could prompt a faster pace of monetary policy tightening in the U.S.A. and hence have a dampening effect on growth in the medium term. On June 1, 2018, the United States started to impose 25% tariffs on aluminum and steel imports from the EU, Mexico and Canada. While the direct macroeconomic impact of these measures on economic growth in Austria via the trade channel are low according to OeNB calculations given the small share of aluminum and steel exports to the U.S.A. in total Austrian exports, uncertainty about potential retaliatory measures of trade partners and an escalation of the trade conflict is high.

After expanding much more strongly than its potential output in 2017, the *Japanese economy* will slow down markedly over the forecast horizon. In addition to

increasing labor shortages and a tightening of monetary policy, the planned hike of the value added tax (VAT) in October 2019 will have a dampening effect on economic activity in Japan.

In the past two years, the *Chinese economy* has been expanding at a robust pace, driven by strong global demand for Chinese products as well as expansive monetary and fiscal policy measures. Additional stimuli for growth have been provided by the real estate sector. However, given the private sector's high and increasing level of indebtedness, the Chinese government has implemented measures to contain credit growth which make a negative contribution to growth. Moreover, the trade conflict with the U.S.A. will have a negative impact on Chinese exports, which is why growth is anticipated to decline marginally over the forecast horizon.

The economy in *Latin America* is benefiting from the U.S. economy and commodity price increases. Falling inflation prompted several countries to loosen their monetary policy, which may provide an additional boost to the economy. After contracting for two consecutive years, the *Russian economy* has returned to a path of positive growth in the previous year, with the rise in oil prices contributing considerably to the economic recovery. At the same time, the economy is burdened by sanctions, tighter fiscal rules and a shrinking working-age population, which prevents a stronger upswing.

Growth in *Central, Eastern and Southeastern European (CESEE)* countries accelerated visibly in the course of 2017. Both an upturn in export growth – particularly owing to stepped-up demand from the euro area – and more vigorous domestic demand, fueled, among other things, by the increased uptake of EU structural funds, are currently the main factors supporting real growth. However, the current growth cycle is likely to peak in 2017. The outlook for 2018 and for the following two years is characterized by a slight slowdown in growth.

In the *United Kingdom*, growth will decelerate in 2018 compared with previous years. The depreciation of the pound sterling following the Brexit vote has led to an increase in consumer prices, with real disposable household incomes and private consumption dampening as a result. However, exporters have benefited from the weaker pound sterling and the strong international economy, which is why the growth downturn has remained moderate so far. Further developments over the forecast horizon very much depend on the turn the U.K.'s negotiations to leave the EU will take and are thus subject to a high degree of uncertainty.

Following stagnation at the beginning of 2017, the economy in *Switzerland* has recovered again. Exports picked up speed again and consumer prices started to rise again as negative impacts of the appreciation of the Swiss franc came to an end. Brisk foreign demand and favorable investment conditions are the driving forces accelerating growth over the forecast horizon.

The *euro area economy* continues to expand. Recently, the composition of growth has changed, with exports and investment playing an increasingly important role and private consumption playing less of a role. According to Eurostat's latest flash estimate, GDP growth in the euro area declined from 0.7% in the fourth quarter of 2017 to 0.4% in the first quarter of 2018 (seasonally adjusted, quarter-on-quarter growth). This development is in line with the picture provided by confidence indicators, which are currently receding from very high levels and thus suggest a slowdown in economic momentum. Growth expectations for the euro area amount to 2.1% for 2018, 1.9% for 2019 and 1.7% for 2020. Compared with the

December 2017 outlook, the course of economic growth was revised downward (−0.2 percentage points) for 2018, and was left unchanged for the years thereafter. During the past six months, inflation in the euro area has been oscillating between 1% and 1½%, coming to 1.2% in April 2018. As a result of the significant rise in oil prices, HICP inflation increased to 1.9% in May 2018, and will remain high over the coming months. Higher oil prices resulted in an upward revision of the HICP inflation forecast by 0.3 percentage points for 2018 and by 0.2 percentage points for 2019 compared with December 2017. In its most recent projections, the Eurosystem therefore anticipates the inflation rate to reach 1.7% in the period from 2018 to 2020.

The *German economy* is still booming. The economic momentum remains intact even though growth in the first quarter of 2018 was disappointing due to temporary factors, such as strikes in the metal and electronics industry, the flu epidemic and a dip in foreign trade. Consumption, too, was weak in the first quarter of 2018; only investment developed dynamically. However, the healthy order book suggests that robust growth in exports will materialize in the course of this year. Given high capacity utilization, the demand for capacity-enhancing investment is increasing. Investment in plant and equipment will therefore continue to rise even though gloomier business expectations are pointing to a moderation in growth. Scarcity of skilled labor, which has increasingly manifested itself, has a dampening effect on growth. Households' real disposable income is benefiting from a number of fiscal measures, such as adjustments to income taxation at the beginning of 2018 or reductions in both pension insurance and statutory health insurance contributions. Additionally, employee compensation was supported by robust wage and employment growth. Hence, private consumption will remain a key pillar of economic activity above all in 2018.

In *France*, the newly elected government has initiated a number of substantial reforms to tackle weak productivity growth and the high budget deficit. These reforms mainly focus on measures aimed at deregulating the labor market, reforming the pension system and facilitating cuts in the public sector. On the revenue side, the almost complete abolition of the wealth tax and reduction of employees' health insurance contributions bolster household income and thereby fuel consumption in 2018. Over the forecasting horizon, growth will slow down as domestic demand weakens.

Spain currently ranks among the engines of growth in the euro area. At +0.7% quarter on quarter, the Spanish economy grew at a markedly faster pace than the euro area as a whole (+0.4%) in the first three months of 2018. This is largely traceable to the strides the country has made in recent years in reducing macro-economic imbalances, above all private indebtedness. The strong increase in private consumption observed at present has been fueled in part by a sinking saving ratio. The latter is expected to increase again in 2019, which will cause private consumption to expand at a slower rate. The public deficit will contract further in the coming years, even though the current budget plan envisages a number of expansive measures set to dampen the reduction of the deficit.

Italy's current growth rate is the slowest among the euro area economies, with its real GDP level still falling short of the 2007 level. The obsolete infrastructure, bureaucratic obstacles and high tax rates keep a lid on the productivity and competitiveness of the Italian economy. As the current investment boom and the tailwinds for the global economy are fading, growth in Italy will decelerate significantly again, after

having registered +1.5% in 2017. In light of the uncertainty surrounding the new government's future economic policy course, the political (and economic) risks are extraordinarily high over the forecast horizon.

Table 2

Underlying global economic conditions

	2017	2018	2019	2020
	<i>Annual change in % (real)</i>			
Gross domestic product				
World excluding the euro area	+3.8	+4.0	+3.9	+3.7
U.S.A.	+2.3	+2.8	+2.5	+2.1
Japan	+1.7	+1.0	+0.8	+0.1
Asia excluding Japan	+6.1	+6.1	+5.9	+5.9
Latin America	+1.2	+2.0	+2.7	+2.8
United Kingdom	+1.8	+1.3	+1.5	+1.5
CESEE EU Member States ¹	+4.8	+4.1	+3.3	+3.2
Switzerland	+1.1	+2.2	+2.0	+2.1
Euro area ²	+2.4	+2.1	+1.9	+1.7
World trade (imports of goods and services)				
World	+5.1	+5.1	+4.6	+4.0
World excluding the euro area	+5.2	+5.1	+4.6	+4.0
Growth of euro area export markets (real)	+5.2	+5.2	+4.3	+3.7
Growth of Austrian export markets (real)	+5.6	+4.7	+4.8	+4.1
Prices				
Oil price in USD/barrel (Brent)	54.4	74.5	73.5	68.7
Three-month interest rate in %	-0.3	-0.3	-0.2	0.2
Long-term interest rate in %	0.6	0.8	1.0	1.3
USD/EUR exchange rate	1.13	1.20	1.18	1.18
Nominal effective exchange rate of the euro (euro area index)	112.0	116.9	116.8	116.8

Source: Eurosystem.

¹ Bulgaria, Croatia, Czech Republic, Hungary, Poland and Romania.

² 2017: Eurostat; 2018 to 2020: results of the Eurosystem's June 2018 projections.

4 Austrian economy keeps booming in the year 2018

4.1 Austrian exports are still robust despite cooling off slightly after 2017 peak

In 2017, Austrian exporters benefited from solid international economic activity. Exports of goods and services rose by 5.6% in real terms in 2017, with their growth having more than doubled against the previous year. Export growth was broadly based in terms of target regions, which include the EU Member States. In addition, trade expanded at an above-average rate also in Central and Eastern Europe, in the U.S.A. and in China. Goods exports peaked toward the end of 2017. The OeNB's export indicator, which is based on truck toll data provided by Austria's highway operator ASFINAG, shows that exports lost momentum from January to end-April 2018. This development is in line with incoming export orders, which – having peaked at the beginning of the year – are currently on the decline. At present, it is hard to ascertain whether this development merely reflects a foreseeable correction following a phase of exceptionally strong growth, or whether it presages a more pronounced slowdown of export activity amid weakening global growth and, possibly, increased protectionist measures. Services exports are less volatile compared with goods exports, and thus have a stabilizing effect on Austria's external trade.

The underlying assumptions about Austria's export markets show that growth in these markets peaked in 2017 and is set to level off slightly during the forecast horizon. Exports nevertheless continue to post robust growth rates of 4.7% (2018), 4.8% (2019) and 4.1% (2020). Austrian exporters will manage to maintain price competitiveness in 2019 and 2020 despite a slight temporary deterioration in 2018. Their market shares will increase in 2018, but decrease again in the following two years.

Import growth will decelerate somewhat more strongly than export growth over the forecast horizon, given that the dynamic cycle of investment in plant and equipment is expected to fade out. In light of the very high import content of this investment category, investment activity is an important determinant of imports. Net exports will, therefore, make a positive contribution to GDP growth throughout the entire forecasting horizon.

The Austrian current account has invariably been in surplus since 2002. In 2017, the surplus equaled 1.9% of GDP, trailing just slightly behind the 2016 value

Table 3

Growth and price developments in Austria's foreign trade

	2017	2018	2019	2020
	<i>Annual change in %</i>			
Exports				
Competitor prices on Austria's export markets	+1.9	+0.4	+2.3	+2.0
Export deflator	+2.1	+1.6	+2.1	+2.0
Changes in price competitiveness	-0.2	-1.2	+0.2	-0.1
Import demand in Austria's export markets (real)	+5.6	+4.7	+4.8	+4.1
Austrian exports of goods and services (real)	+5.6	+4.9	+4.2	+3.9
Austrian market share	+0.0	+0.2	-0.6	-0.2
Imports				
International competitor prices on the Austrian market	+1.5	+0.6	+2.1	+1.8
Import deflator	+2.6	+1.9	+2.1	+2.1
Austrian imports of goods and services (real)	+4.8	+3.8	+3.6	+3.6
Terms of Trade	-0.5	-0.3	+0.0	+0.0
	<i>Percentage points of real GDP</i>			
Contribution of net exports to GDP growth	+0.6	+0.8	+0.5	+0.4
	<i>% of nominal GDP</i>			
Export ratio	54.0	54.8	56.0	57.3
Import ratio	50.5	50.8	51.6	52.6

Source: 2017: WIFO, Eurosystem; 2018 to 2020: OeNB June 2018 outlook.

Table 4

Austria's current account

	2017	2018	2019	2020
	<i>% of nominal GDP</i>			
Balance of trade	2.5	3.0	3.2	3.5
Balance of goods	-0.3	0.1	0.1	0.2
Balance of services	2.8	3.0	3.2	3.3
Balance of primary income	0.2	0.2	0.1	0.1
Balance of secondary income	-0.8	-0.9	-1.0	-1.0
Current account balance	1.9	2.3	2.4	2.7

Source: 2017: OeNB; 2018 to 2020: OeNB June 2018 outlook.

(2.1% of GDP). Travel has typically been the main pillar of the positive current account balance. The goods balance turned slightly negative (−0.3% of GDP) amid strong investment activity and the resulting growth in imports. It is projected to be at least balanced again starting from 2018. The long-standing high services balance will increase further, whereas the income balance will deteriorate minimally. All told, the current account will continue to improve over the forecasting horizon.

4.2 Investment carries current business cycle

Having started in the second half of 2015, the current investment cycle has been underway for a very long period by historical standards. Annual growth in overall *gross fixed capital formation* increased from 1.0% in 2015 to 3.8% in 2016 and to 4.9% in 2017. This investment cycle has benefited from improving sales prospects both in Austria and worldwide. Initially, it was dominated by replacement investment, but starting in 2017, investment in capacity expansion became increasingly important. Even though investment activity lost some momentum in the past few quarters, at +0.9% in the opening quarter of 2018, it still contributed significantly to real GDP growth.

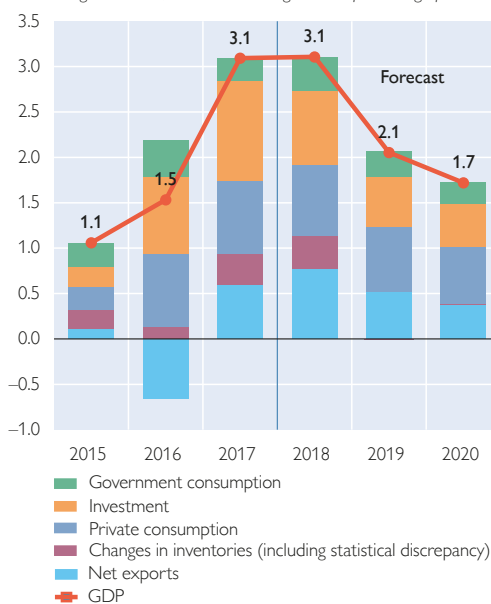
So far, growth in *investment in machinery and equipment* has been a key driver of overall investment activity, having accelerated from 1.3% in 2015 to 8.6% in 2016 and to 8.8% in 2017. Vehicle investment, which dominated in 2015, was later overtaken by investment in machinery. During the current cycle, real investment in machinery and equipment already rose by some 20% from 2015 to 2017, whereas the three previous cycles had posted three-year cumulative growth of just between 10% and 15%.

Chart 2

Significance of investment for the business cycle and development of gross fixed capital formation

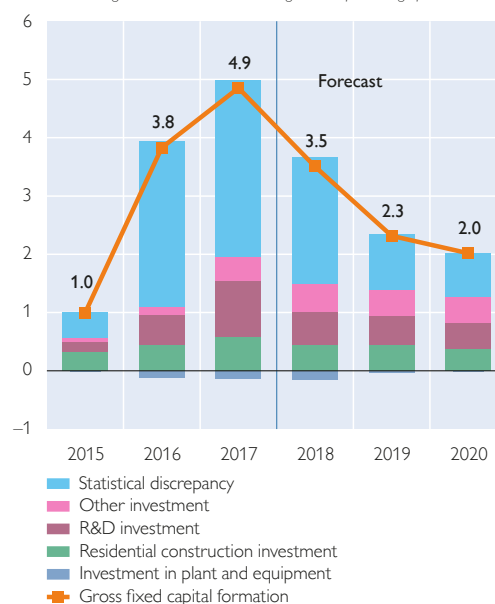
GDP growth and contributions to growth

Real GDP growth in %, contributions to growth in percentage points



Investment growth and contributions to growth

Real investment growth in %, contributions to growth in percentage points



Source: WIFO, OeNB.

In early 2018, capacity utilization was close to its record high, as funding costs remained very low. The economic outlook remains positive, but is subject to greater uncertainty. In addition, more and more businesses are facing a skilled labor shortage. This is why the increase in investment in machinery and equipment is expected to gradually recede in 2018 as growth in export demand is slowing down slightly. In other words, this type of investment is forecast to still advance by 6.0% in 2018 and to weaken to 2.6% in 2019, followed by 2.0% in 2020.

At 2.3%, *residential construction investment* grew at a much livelier pace in 2017 than in 2016 (0.8%), posting the highest rate of growth since 2007, and it accelerated further in the first quarter of 2018 compared with the previous two quarters. In light of the trend in building permits, sharply rising real estate prices, continued strong population growth and persistently low financing costs, residential construction investment is set to register high growth rates also in the future. In 2018 as a whole, housing investment is thus expected to increase by 2.7% in real terms, and to slow down in both 2019 and 2020. The growth pattern for *nonresidential construction investment* is expected to be slightly less dynamic.

Overall, the OeNB expects the growth of gross fixed capital formation to decelerate gradually from 4.9% in 2017 to 2.0% in 2020. The investment ratio (share of overall gross fixed capital formation in GDP) stood at 22.5% at the beginning of the investment cycle in 2015. Equaling 23.5% in 2017, it is expected to edge up to 23.6% by 2020.

With a share of 24% of GDP, gross fixed capital formation has continued to contribute significantly to GDP growth (see chart 2). Its contribution to GDP

Table 5

Investment activity in Austria

	2017	2018	2019	2020
	<i>Annual change in %</i>			
Total gross fixed capital formation (real)	+4.9	+3.5	+2.3	+2.0
<i>of which: investment in plant and equipment</i>	+8.8	+6.0	+2.6	+2.0
<i>residential construction investment</i>	+2.3	+2.7	+2.6	+2.5
<i>nonresidential construction investment and other investment</i>	+2.2	+1.7	+1.7	+1.5
<i>investment in research and development</i>	+4.7	+2.8	+2.4	+2.2
<i>public sector investment</i>	+3.0	+1.5	+1.6	+1.7
<i>private investment</i>	+5.1	+3.8	+2.4	+2.1
	<i>in percentage points</i>			
Contribution to the growth of real gross fixed capital formation				
Investment in plant and equipment	+3.0	+2.2	+0.9	+0.8
Residential construction investment	+0.4	+0.5	+0.5	+0.4
Nonresidential construction investment and other investment	+0.6	+0.4	+0.4	+0.4
Investment in research and development	+1.0	+0.6	+0.5	+0.4
Public sector investment		+0.2	+0.2	+0.2
Private investment	+4.4	+3.3	+2.1	+1.8
	<i>in percentage points</i>			
Contribution to real GDP growth				
Total gross fixed capital formation	+1.1	+0.8	+0.5	+0.5
Changes in inventories	+0.1	+0.5	+0.0	+0.0
	<i>% of nominal GDP</i>			
Investment ratio	23.5	23.5	23.6	23.6

Source: 2017: WIFO; 2018 to 2020: OeNB June 2018 outlook.

growth ran to 0.9 percentage points in 2016 and 1.1 percentage points in 2017. This figure is forecast to drop from 0.8 percentage points in 2018 to a still remarkable 0.5 percentage points in 2020. This means that 56% of GDP growth was carried by gross fixed capital formation in 2016, followed by 36% in 2017. In the forecast horizon, these figures will come to 26.3% (2018), 26.4% (2019) and 27% (2020).

4.3 Rising household income carries private consumption

Households' real disposable income increased by a marked 2.7% in 2016, whereas it contracted slightly (−0.2%) in 2017 even though the economy was thriving. This development is largely ascribable to two factors. For one thing, the positive effects of the tax reform, which had still buoyed up growth of disposable household income in 2016, abated in 2017. For another, at 2.2%, inflation was more than twice as high as one year earlier. In 2018, disposable household income is expected to rise both in nominal terms (+3.7%) and in real terms (+1.6%) provided inflation remains at the 2017 level.

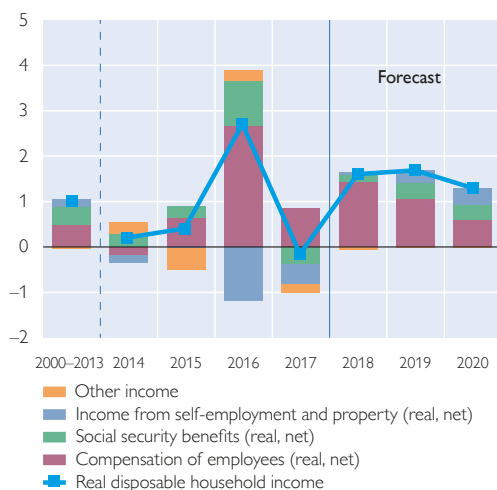
The most important driver of disposable income in 2018 is compensation of employees, which is set to go up by a solid 5% (2017: 3.6%) and which benefits from the high level of employment and the comparatively strong wage settlements. On the back of favorable cyclical developments, operating surpluses and self-employment income in 2018 are expected to post similarly high growth rates as in 2017. Investment income is likely to recover again soon or to at least stop shrinking as it did in previous years. In 2019 and 2020, compensation of employees will contribute slightly less to growth in households' disposable income due to cyclical developments, while the contribution of investment income will go up. Overall, the OeNB projects nominal disposable household income to expand by 3.7% in 2018, by 3.6% in 2019 and by 3.2% in 2020. This contrasts with real growth rates of 1.6%, 1.7%

Chart 3

Private consumption

Contributions to growth of real disposable net household income

Change to previous period in %; contributions in percentage points

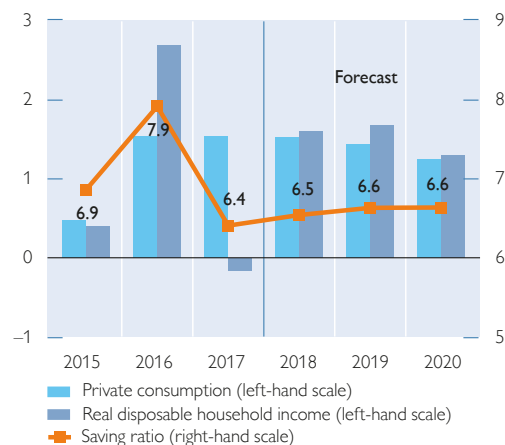


Source: WIFO, OeNB.

Disposable household income, private consumption and saving ratio

Annual change in %

% of real disposable household income



Source: Statistics Austria, OeNB.

and 1.3% over the same three-year forecasting horizon, which signals a longer period of stable growth compared with previous years.

The 2016 tax reform caused private consumption growth to accelerate from 0.5% in 2015 to 1.5% in 2016. Growth remained at 1.5% also in 2017 despite the decline in households' real disposable income. Private consumption increased on the back of a decreasing saving ratio. The latter went down from 7.9% of nominal household income in 2016 to 6.4% in 2017. Substantial employment growth and wage settlements that were significantly higher than in the previous years boosted real household income by 1.6% in 2018. Private consumption is forecast to grow by 1.5% in 2018, as the saving ratio is expected to slightly rise again. In 2019 and 2020, the pace of growth of private consumption will slow down to 1.4% and 1.3%, respectively, which ties in with the trend in real household income and the continued slight uptick in the saving ratio.

Having declined in 2017, the saving ratio will edge up only marginally over the forecasting horizon. On the one hand, increased income makes it possible for households to save more. On the other hand, the precautionary motive of saving is becoming less relevant, as favorable employment conditions add to consumer confidence.

5 Unemployment remains high at 4.9%

In 2017, the number of *persons in payroll employment* grew by 1.9%, more than doubling the average pace registered from 1995 to 2016 (+0.9%). The industrial

Table 6

Determinants of household income and private consumption growth in Austria

	2017	2018	2019	2020
<i>Annual change in %</i>				
Payroll employment	+1.9	+2.2	+1.4	+1.1
Wages and salaries per employee	+1.7	+2.7	+2.4	+2.2
Compensation of employees	+3.6	+5.0	+3.8	+3.3
Property income	-6.1	+0.7	+3.2	+3.1
Self-employment income and operating surpluses (net)	+5.1	+4.9	+4.1	+3.6
<i>Contribution to household's disposable income growth in percentage points</i>				
Compensation of employees	+3.0	+4.3	+3.3	+2.9
Property income	-0.7	+0.1	+0.3	+0.3
Self-employment income and operating surpluses (net)	+0.8	+0.8	+0.7	+0.6
Net transfers less direct taxes ¹	-1.3	-1.6	-0.6	-0.6
<i>Annual change in %</i>				
Disposable household income (nominal)	+1.8	+3.7	+3.6	+3.2
Consumption deflator	+2.0	+2.1	+1.9	+1.9
Disposable household income (real)	-0.2	+1.6	+1.7	+1.3
Private consumption (real)	+1.5	+1.5	+1.4	+1.3
<i>% of household's disposable income growth</i>				
Saving ratio	6.4	6.5	6.6	6.6
<i>% of nominal GDP</i>				
Consumption ratio	52.1	51.3	51.0	50.8

Source: 2017: WIFO, Statistics Austria; 2018 to 2020: OeNB June 2018 outlook.

¹ Negative values indicate an increase in (negative) net transfers less direct taxes; positive values indicate a decrease.

sector increasingly added full-time jobs and, at +2.3%, growth in the overall number of hours worked in payroll employment outpaced growth in the number of jobs. Both developments are typical signs of an economic boom. Despite the robust rise in overall labor supply, some sectors of the Austrian economy face an impending labor shortage (in a number of occupations), which might dampen growth. Matching job seekers and vacancies is therefore likely to become more difficult.

The boom of the Austrian economy continued into the year 2018. In the first three months of 2018, employment advanced by 0.7% quarter on quarter and by 2.5% year on year. Employment thus posted the highest annual growth rate since 1995, i.e. the starting year of the current national accounts database. The leading labor market indicators, such as the number of registered vacancies, currently signal some softening in momentum, but not a general trend reversal. Given the steep increase in employment in the first quarter of 2018, payroll employment is expected to expand further, at 2.2% for the year as a whole, despite the gradual slowdown of the economic recovery. In 2018, the number of hours worked will still inch up somewhat more strongly than the number of jobs. Yet, in 2019 and 2020, hours worked will again grow at a lesser pace than employment measured in heads as the economic boom is set to cool off.

Table 7

Labor market development in Austria

	2017	2018	2019	2020
	<i>Annual change in %</i>			
Total employment (heads)	+1.7	+1.9	+1.2	+0.9
Payroll employment	+1.9	+2.2	+1.4	+1.1
Self-employment	+0.5	+0.0	-0.3	-0.4
Total hours worked	+2.0	+1.6	+0.9	+0.7
Payroll employment	+2.3	+2.4	+1.3	+1.0
Self-employment	+0.4	-2.1	-1.3	-0.6
Labor supply	+1.1	+1.5	+1.1	+0.9
Registered unemployment	-8.1	-6.3	-0.7	+0.4
	<i>% of labor supply</i>			
Unemployment rate (Eurostat definition)	5.5	5.0	4.9	4.9

Source: 2017: WIFO, Statistics Austria; 2018 to 2020: OeNB June 2018 outlook.

In 2019 and 2020, the growth rates of the Austrian economy are expected to decelerate, thus gradually reverting to their long-term trend. Employment growth is therefore set to decline from 2019 onward, also in view of the termination of the employment initiative for the long-term jobless. Yet, at +1.1%, growth of payroll employment will still outperform the long-term average in 2020.

Labor supply dynamics are again very lively in 2018, posting an increase of 1.5%. However, growth will slow down over the forecasting horizon: to +1.1% in 2019 and +0.9% in 2020, which is ascribable to several factors. Chart 4 illustrates the determinants of labor supply development. For one thing, labor supply expands in sync with rising labor force participation rates. In particular, the participation rate for persons aged 55 to 64 is expected to continue its marked rise. For prime-age persons (25–54), participation will only edge up slightly, whereas the rate registered for young persons (15–24) will contract noticeably (chart 4, right panel).

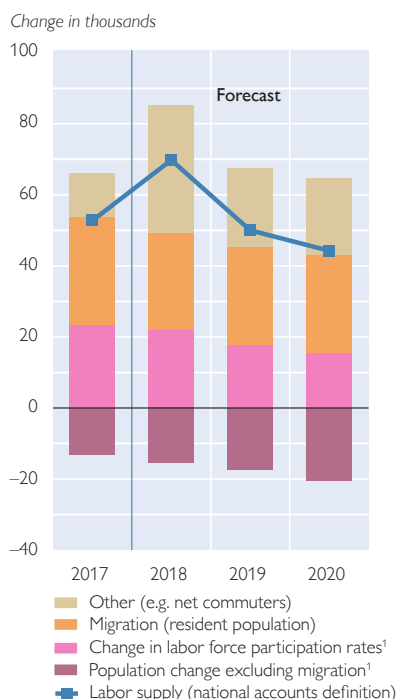
For another thing, labor supply also gets a boost from the expansion of the resident working-age population (aged 15–64).² Although migration figures for Austria were revised downward markedly in the most recent population forecast, immigration will continue to drive the net increase in working-age population from 2018 to 2020. Without net immigration, the working-age population would decline. Any differences in labor supply figures that are evident between the micro-census-based data and the data used in the outlook (national accounts definition) are attributable, among other things, to workers commuting from neighboring countries to Austria.

Both labor demand and labor supply determine the development of the unemployment rate. Given the considerable rise in labor supply, employment growth was accompanied by an increase in the unemployment rate. At 6.2% (Eurostat definition; annual 2016 average: 6%), unemployment peaked in the third quarter of 2016. Since then, employment growth has been strong enough to continuously push down unemployment. Joblessness averaged 5.5% in 2017, and dropped to 5.0% in the first quarter of 2018. This trend will peter out in the coming years, however. Labor supply will continue to expand at a brisk pace (as described above), while growth of labor demand is set to diminish in tandem with the slowdown of

Chart 4

Structure of labor supply

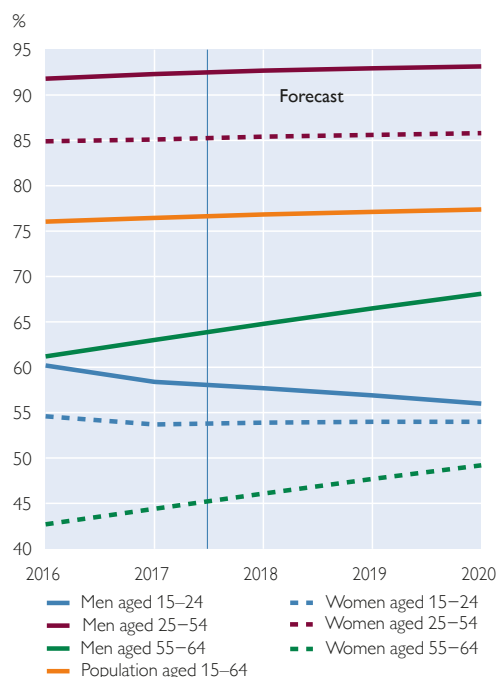
Contributions to the change in labor supply (resident population aged 15–64)¹



Source: Statistics Austria, OeNB.

¹ Resident population: domestic households according to microcensus data; forecast extrapolated from projected labor force participation rates and the November 2017 population forecast of Statistics Austria (as adjusted for actual 2017 population). The overall population forecast is based on the baseline scenario, the "population change excluding migration" figures are based on the scenario "excluding migration." The labor supply data used in the outlook (national accounts definition) may differ from the microcensus-based equivalent.

Labor force participation (resident population)¹



² In line with the population forecast of Statistics Austria of November 2017, as adjusted for the actual population size in 2017.

economic activity. The unemployment rate is projected to decrease to 5.0% in 2018 and to 4.9% in 2019. In 2020, it will remain unchanged at 4.9%, which means that, during the forecasting horizon, unemployment is simply reverting to its long-term average (1995–2017: 4.9%). Amid the current boom phase of the Austrian economy, this figure seems exceptionally high by historical standards.

Box 1

Public finances from 2018 to 2020¹

Austria's general government budget will be balanced in 2018 (2017: –0.7% of GDP). In 2018, the Austrian fiscal stance is expansionary: on the revenue side, contributions to the family burdens equalization fund have been lowered to 3.9% of gross wages (2017: 4.1%). On the expenditure side, raising the number of federal government employees, increasing labor market subsidies (even though the new government terminated several measures) and abolishing public long-term care providers' recourse to patients' assets have an expansionary effect. However, the highly favorable cyclical conditions and a further decrease in debt servicing costs will more than offset these deficit-increasing factors.

In 2019 and 2020, the Austrian government will pursue a rather neutral fiscal stance. On the one hand, several smaller to medium-sized tax cuts will enter into force, which relate in particular to a higher (wage and income) tax relief for some families with children. On the other hand, the restrictive effect of the new government's scaling back of a number of older expansive measures will intensify. Also, some older temporary expenditure increases will expire. The budget balance is expected to improve in 2019 and 2020 owing to the persistently benign cyclical and interest rate environment. Based on a no-policy-change assumption, the OeNB's current outlook foresees a general government surplus in both years. All told, the measures the new government has to date spelled out will have a relatively minor impact on the fiscal development in the forecasting horizon. In 2018, they are set to improve the budget balance marginally (above all because of the termination of several labor market measures). In contrast, they will lead to a slight deterioration in 2019 and 2020 (mostly because of changes in the tax relief for families with children).

The debt ratio will decline noticeably over the forecasting horizon. This decrease will be mainly due to the budget surpluses (and the nearly balanced budget in 2018), high nominal GDP growth and the continued reduction of debt of public wind-down vehicles as the latter sell assets and release cash reserves. By 2020, the debt ratio will stand at around 67.5% of GDP, and thus sink below the 2008 level.

Like in 2017, Austria's 2018 structural budget balance will approximately correspond to the medium-term objective (MTO) of –0.5% of GDP. This measure is likewise set to improve in 2019 and 2020; in 2020, Austria might even record a structural budget surplus based on a no-policy-change assumption.

¹ Author: Lukas.Reiss@oebn.at, OeNB, Economic Analysis Division.

6 Inflation set to soften slightly until 2020

In 2017 as a whole, annual inflation ran to 2.2% in Austria (2016: 1.0%). HICP inflation receded to 2.0% in the first three months of 2018, and stood at 1.9% in April. The decline was carried by a drop in the inflation rates of all main components of the Harmonised Index of Consumer Prices. The following factors were at play: the euro appreciated, base effects were evident for food and energy, commodity prices decreased moderately and unit labor costs increased only modestly in early 2018.

Over the coming months, HICP inflation is expected to spike again, reflecting energy price developments. During the remaining forecast horizon, though, energy price inflation will decrease again owing to the falling profile of oil prices. At the same time, domestic drivers of inflation, such as domestic demand or labor cost growth, will slightly offset the commodity price-driven decrease in inflation. For 2018 as a whole, inflation will remain unchanged from 2017 at 2.2%. The inflation rate is projected to decrease to 2.0% in 2019 and to 1.9% in 2020. Compared with the OeNB's December 2017 outlook, the HICP inflation forecast is revised upward by 0.1 percentage points for 2018 and 2019, respectively, but remains unchanged for 2020.

Core inflation (HICP excluding energy and food) increased from 1.7% in the first quarter to 2.2% in the final quarter of 2017, while falling to 2.1% in the first three months of 2018. At 2.0%, core inflation is forecast to fall short of headline inflation in 2018. In 2019 and 2020, core inflation is expected to total 2.2%, thus slightly exceeding headline inflation.

Collective wages grew by 1.5% in nominal terms in 2017. At 2.2% inflation, this translated into real wage losses on average, all other things equal. All relevant wage settlements have already been concluded for the year 2018. Reflecting the favorable productivity development and the past (high) inflation rate, they point to noticeably higher wage growth looking ahead. In 2018, collective wages are projected to grow at a markedly faster pace of 2.6%. With inflation projected to stand at 2.2%, collective wages are hence expected to rise again in real terms in 2018, in contrast to 2017. In 2019 and 2020, they will grow less dynamically given the loss of economic momentum and the concomitant weakening of productivity increases.

Wage drift will be rather subdued over the entire forecast horizon, with the slight rebound in the share of part-time jobs having a dampening effect. This

Table 8

Price, cost, productivity and profit indicators for Austria

	2017	2018	2019	2020
	<i>Annual change in %</i>			
Harmonised Index of Consumer Prices (HICP)	+2.2	+2.2	+2.0	+1.9
HICP energy	+2.9	+4.1	+0.8	-0.3
HICP excluding energy and food	+2.1	+2.0	+2.2	+2.2
Private consumption expenditure (PCE) deflator	+2.0	+2.1	+1.9	+1.9
Investment deflator	+1.6	+1.8	+1.9	+1.8
Import deflator	+2.6	+1.9	+2.1	+2.1
Export deflator	+2.1	+1.6	+2.1	+2.0
Terms of trade	-0.5	-0.3	+0.0	+0.0
GDP deflator at factor cost	+1.5	+2.0	+2.0	+1.9
Collective wage and salary settlements	+1.5	+2.6	+2.4	+2.2
Compensation per employee	+1.7	+2.7	+2.4	+2.2
Hourly compensation per employee	+1.3	+2.5	+2.4	+2.3
Labor productivity per employee	+1.4	+1.1	+0.9	+0.8
Labor productivity per hour	+1.1	+1.5	+1.2	+1.0
Unit labor costs	+0.3	+1.5	+1.5	+1.4
Profit margins ¹	+1.2	+0.5	+0.5	+0.5

Source: 2017: WIFO, Statistics Austria; 2018 to 2020: OeNB June 2018 outlook.

¹ GDP deflator divided by unit labor costs.

contrasts with full capacity utilization in many economic sectors, which is partly responsible for labor shortages. Both these factors are expected to drive up overpayments. While collective wage hikes in 2018 will be higher overall than in 2016 and 2017, they are still modest considering the favorable state of the economy. Consequently, companies' profit margins will rise over the entire forecasting horizon. The wage share (gross compensation of employees as a share of GDP) is expected to drop from 47.6% in 2018 to 47.2% in 2020.

Since 2011, Austria's HICP inflation has been, on average, 0.7 percentage points above that of the euro area and 0.6 percentage points above Germany's. At 2.2% for 2017 as a whole, Austria's HICP inflation rate once more significantly surpassed that of the euro area and Germany. These long-standing inflation differentials are mainly attributable to the stronger price increases in the services sector. In the Austrian HICP, services are weighted at 47%. They contributed 0.6 percentage points to the overall inflation differentials vis-à-vis both the euro area and Germany. This means that the services sector alone accounted for the entire average inflation differential observed between Austria and Germany since 2011 and for no less than some 90% of the average inflation differential observed between Austria and the euro area. The differences between the price increase of services in Germany and Austria are due, above all, to the fact that catering services (e.g. restaurants, cafés, pubs, dance clubs and canteens) carry a much higher weight in Austria's service inflation. About half of Austria's inflation differential vis-à-vis Germany is attributable to this factor.³

Table 9

Compensation of employees

	2017	2018	2019	2020
<i>Annual change in %</i>				
Gross wages and salaries¹				
In nominal terms	+3.6	+5.0	+3.8	+3.3
Consumption deflator	+2.0	+2.1	+1.9	+1.9
In real terms	+1.6	+2.9	+1.8	+1.4
Collectively agreed wages and salaries¹	+1.5	+2.6	+2.4	+2.2
Wage drift	+0.1	+0.1	+0.0	+0.0
Per person employed (gross, nominal)				
Per person employed (gross) ²	+1.7	-2.7	+2.4	+2.2
Per person employed (real)	-0.3	+0.6	+0.4	+0.3
Per person employed (gross, real)				
Per hour (gross, nominal)	+1.3	+2.5	+2.4	+2.3
Per hour (gross, real)	-0.7	+0.5	+0.5	+0.4
<i>% of nominal GDP</i>				
Wage share	47.6	47.5	47.4	47.2

Source: 2017: WIFO, Statistics Austria; 2018 to 2020: OeNB June 2018 outlook.

¹ Overall economy.

² Including employers' social security contributions.

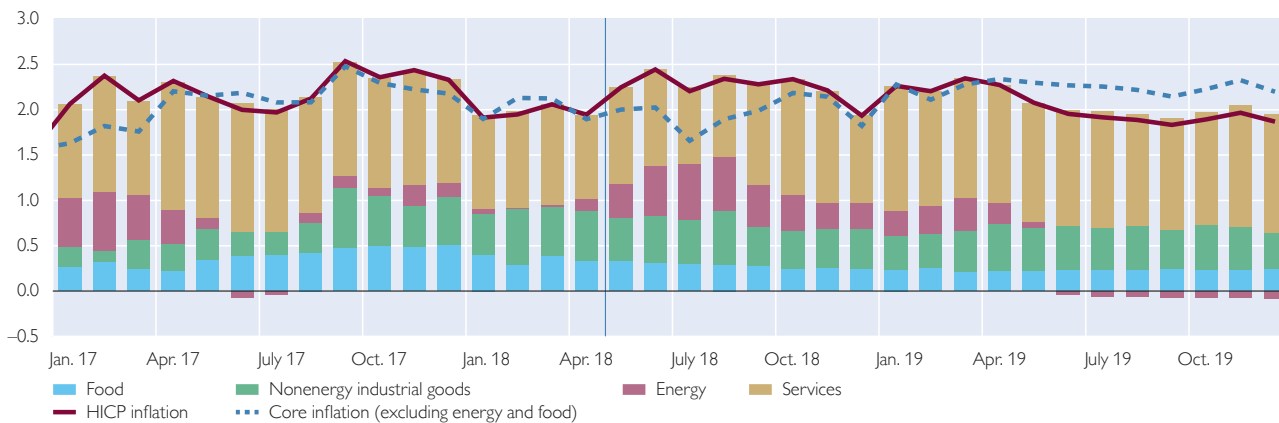
³ For a detailed analysis of the development of the inflation differential vis-à-vis Germany up to the year 2017, see page 27 of the OeNB's Annual Report 2017: https://www.oenb.at/dam/jcr:372a9ac9-5553-4e8c-962d-a61f-3dc99375/AR_2017.pdf.

Chart 5

Contributions to HICP inflation and core inflation

Annual change in % (inflation) and percentage points (contributions to inflation)

Forecast: May 2018 to December 2019



Source: Statistics Austria, OeNB.

Austria's inflation differential vis-à-vis Germany is expected to shrink over the forecast horizon, mainly because the severity of labor shortages differs in both countries. As its labor shortages are much more pronounced, Germany will also face stiffer wage pressures than Austria.

7 Forecast risks are balanced

The *external risks* to the growth outlook are tilted toward the downside, which is, apart from other geopolitical risks, above all due to the level of uncertainty about the future U.S. trade regime. Following the United States' move to also impose 25% tariffs on EU, Mexican and Canadian aluminum and steel imports, uncertainty about said trade partners reacting with sanctions of their own and about an ensuing escalation of the trade conflict is high. In Europe, both the political (and economic) future of Italy and the outcome of the Brexit negotiations are shrouded in uncertainty.

Domestic risks point upward, in particular with regard to short-term growth expectations. The available leading indicators for the domestic economy suggest that the current Austrian economic cycle has already peaked. Yet, this turning point had already been expected in the December outlook. However, confidence indicators deteriorated to a lesser extent than predicted at the time. In addition, some confidence and leading indicators, such as consumer or construction confidence, have rather moved sideways, while remaining at a high level. Moreover, 2018 employment growth has been a pleasant surprise to date, which means that it could post stronger rates than expected in the remaining quarters of the year.

An upside risk prevails specifically for the investment outlook. Capacity utilization continues to be close to its record highs, which points to sustained high demand for extension investment. The slowdown in investment activity in early 2018 may be attributable not only to gloomier export prospects, but also to postponements of investment projects due to labor shortages. In this case, the investment cycle might last longer. Residential construction investment is also subject to upside risks, given the acute need for housing and continued favorable financing conditions. In

contrast, downward risks to the growth outlook might emanate from labor shortages as evidenced by some indicators, should those shortages intensify further.

The risks surrounding the inflation outlook are slightly tilted toward the upside. The assumptions for oil prices based on market expectations as measured by oil futures prices might be too low for the forecast horizon given the above-mentioned global risks. Stronger-than-expected labor shortages could push up wage pressures and hence pose a further upside risk to the inflation outlook.

8 Minor upward revision of the economic outlook

The external environment has, on balance, improved somewhat since the OeNB December 2017 outlook. The favorable prospects for the global economy, and for Austria's key export markets (the euro area and CESEE countries) in particular, have prompted an upward revision of the December 2017 growth outlook for Austria's export markets in 2019 and 2020, while a slight downward revision is made for the year 2018. The assumptions for the euro exchange rate against the U.S. dollar are revised upward only marginally from the December outlook. Yet, since the nominal effective exchange rates indicate a stronger appreciation for 2018, price competitiveness would deteriorate somewhat as a result. The assumption of higher oil prices is also likely to have a dampening effect on growth. Market expectations for the 2018 price of crude oil now stand at USD 74.5 per barrel Brent, up USD 13 from the December outlook. The price of oil is expected to rise by USD 15 in 2019 and by USD 11 in 2020. Short-term and long-term interest rates are revised downward only slightly. In sum, the revised assumptions for 2018 and 2019 have led to upward revisions of the outlook for both GDP growth and inflation in Austria.

Table 10

Change in external economic conditions since the December 2017 outlook

	June 2018				December 2017				Difference			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
<i>Annual change in %</i>												
Growth of Austria's export markets	+5.6	+4.7	+4.8	+4.1	+5.6	+5.0	+4.4	+4.0	+0.0	-0.3	+0.4	+0.1
Competitor prices on Austria's export markets	+1.9	+0.4	+2.3	+2.0	+2.2	+0.3	+1.9	+2.0	-0.3	+0.1	+0.4	+0.0
Competitor prices on Austria's import markets	+1.5	+0.6	+2.1	+1.8	+1.6	+0.3	+1.7	+1.9	-0.1	+0.3	+0.4	-0.1
<i>USD per barrel (Brent)</i>												
Oil price	54.4	74.5	73.5	68.7	54.3	61.6	58.9	57.3	+0.1	+12.9	+14.6	+11.4
<i>Annual change in %</i>												
Nominal effective exchange rate (exports)	-0.5	-1.9	+0.0	+0.0	-0.5	-1.4	+0.0	+0.0	+0.0	-0.5	+0.0	+0.0
Nominal effective exchange rate (imports)	-0.6	-1.1	+0.0	+0.0	-0.6	-0.9	+0.0	+0.0	+0.0	-0.2	+0.0	+0.0
%												
Three-month interest rate	-0.3	-0.3	-0.2	0.2	-0.3	-0.3	-0.1	0.1	+0.0	+0.0	-0.1	+0.1
Long-term interest rate	0.6	0.8	1.0	1.3	0.6	0.7	0.9	1.2	+0.0	+0.1	+0.1	+0.1
<i>Annual change in %</i>												
U.S. GDP (real)	+2.3	+2.8	+2.5	+2.1	+2.3	+2.5	+2.2	+1.9	+0.0	+0.3	+0.3	+0.2
<i>USD/EUR</i>												
USD/EUR exchange rate	1.13	1.20	1.18	1.18	1.13	1.17	1.17	1.17	+0.00	+0.03	+0.01	+0.01

Source: Eurosystem.

Table 11

Breakdown of revisions to the outlook

	GDP			HICP		
	2018	2019	2020	2018	2019	2020
	<i>Annual change in %</i>					
June 2018 outlook	+3.1	+2.1	+1.7	+2.2	+2.0	+1.9
December 2017 outlook	+2.8	+1.9	+1.6	+2.1	+1.9	+1.9
Difference	+0.3	+0.2	+0.1	+0.1	+0.1	+0.0
	<i>Percentage points</i>					
Caused by:						
External assumptions	+0.1	+0.2	+0.0	+0.1	+0.1	+0.0
New data ¹	+0.2	x	x	+0.0	+0.0	x
<i>of which: revisions to historical data up to Q3 17</i>	+0.0	x	x	+0.0	x	x
<i>projection errors for Q4 17 and Q1 18</i>	+0.2	x	x	+0.0	+0.0	+0.0
Other changes ²	+0.0	+0.0	+0.1	+0.0	+0.0	+0.0

Source: OeNB June 2018 and December 2017 outlooks. Note: Due to rounding, the sum of growth contributions subject to individual revisions may differ from the total revision.

¹ "New data" refer to data on GDP and/or inflation that have become available since the publication of the preceding OeNB outlook.

² Different assumptions about trends in domestic variables such as wages, government consumption, effects of tax measures, other changes in assessments and model changes.

Table 11 provides detailed reasons for revising the outlook. Apart from the impact of changed external assumptions, they are attributable to the impact of new data and a residual. The influence of new data includes the effects of the revisions of both the historical data that were available at the time of the OeNB's December 2017 economic outlook (i.e. data up to the third quarter of 2017) and the forecasting errors for the periods for which data have now been published for the first time (i.e. data for the fourth quarter of 2017 and the first quarter of 2018). The residual includes new expert assessments regarding domestic variables, such as government consumption or wage settlements, as well as any changes to the forecasting model.

For 2018, expected GDP growth is revised upward by 0.3 percentage points. On the one hand, this is due to revisions of historical data and newly released national accounts data, which show that the growth outlook for the fourth quarter of 2017 and the first quarter of 2018 were too conservative. Both effects contribute a combined 0.2 percentage points to the upward revision of the growth outlook. On the other hand, the change in external assumptions likewise increases expected growth in 2018, by 0.1 percentage points (see table 11). The outlook for 2019 is also raised by 0.2 percentage points, which is due exclusively to the changed external assumptions. For 2020, the upward revision amounts to 0.1 percentage points.

Compared with the growth outlook, the inflation outlook is revised upward only minimally. Inflation is now expected to be 0.1 percentage points higher in both 2018 and 2019, primarily because of the higher oil price. The inflation outlook for the year 2020 remains unchanged.

Table 12

Comparison of the OeNB June 2018 outlook and the December 2017 outlook

	Actual figures	June 2018			Revision since December 2017 outlook		
	2017	2018	2019	2020	2018	2019	2020
Economic activity							
<i>Annual change in % (real)</i>							
Gross domestic product (GDP)	+3.1	+3.1	+2.1	+1.7	+0.3	+0.2	+0.1
Private consumption	+1.5	+1.5	+1.4	+1.3	-0.1	+0.0	+0.1
Government consumption	+1.2	+1.9	+1.4	+1.2	-0.1	+0.3	+0.4
Gross fixed capital formation	+4.9	+3.5	+2.3	+2.0	+0.6	+0.3	+0.1
Exports of goods and services	+5.6	+4.9	+4.2	+3.9	-0.1	+0.0	-0.1
Imports of goods and services	+4.8	+3.8	+3.6	+3.6	-0.3	+0.1	+0.0
<i>% of nominal GDP</i>							
Current account balance	+1.9	+2.3	+2.4	+2.7	+0.2	-0.2	-0.4
Contribution to real GDP growth							
<i>Percentage points</i>							
Private consumption	+0.8	+0.8	+0.7	+0.6	+0.0	+0.0	+0.0
Government consumption	+0.2	+0.4	+0.3	+0.2	+0.0	+0.1	+0.1
Gross fixed capital formation	+1.1	+0.8	+0.5	+0.5	+0.1	+0.0	+0.1
Domestic demand (excluding changes in inventories)	+2.2	+2.0	+1.5	+1.3	+0.1	+0.1	+0.1
Net exports	+0.6	+0.8	+0.5	+0.4	+0.1	+0.0	+0.0
Changes in inventories (including statistical discrepancy)	+0.3	+0.4	+0.0	+0.0	+0.2	+0.0	+0.0
Prices							
<i>Annual change in %</i>							
Harmonised Index of Consumer Prices (HICP)	+2.2	+2.2	+2.0	+1.9	+0.1	+0.1	+0.0
Private consumption expenditure (PCE) deflator	+2.0	+2.1	+1.9	+1.9	+0.0	+0.0	+0.1
GDP deflator	+1.5	+1.9	+2.0	+1.9	+0.0	+0.1	+0.1
Unit labor costs (whole economy)	+0.3	+1.5	+1.5	+1.4	-0.2	-0.3	-0.1
Compensation per employee (at current prices)	+1.7	+2.7	+2.4	+2.2	-0.1	-0.1	+0.0
Compensation per hour worked (at current prices)	+1.3	+2.5	+2.4	+2.3	-0.3	-0.2	-0.1
Import prices	+2.6	+1.9	+2.1	+2.1	+0.7	+0.4	+0.4
Export prices	+2.1	+1.6	+2.1	+2.0	+0.4	+0.3	+0.2
Terms of trade	-0.5	-0.3	+0.0	+0.0	-0.3	-0.1	-0.1
Income and savings							
Real disposable household income	-0.2	+1.6	+1.7	+1.3	+0.0	+0.2	+0.1
<i>% of nominal disposable household income</i>							
Saving ratio	+6.4	+6.5	+6.6	+6.6	-0.7	-0.6	-0.5
Labor market							
<i>Annual change in %</i>							
Payroll employment	+1.9	+2.2	+1.4	+1.1	+0.3	+0.1	+0.0
Hours worked (payroll employment)	+2.3	+2.4	+1.3	+1.0	+0.6	+0.1	+0.1
<i>% of labor supply</i>							
Unemployment rate (Eurostat definition)	+5.5	+5.0	+4.9	+4.9	-0.1	-0.2	-0.1
Public finances							
<i>% of nominal GDP</i>							
Budget balance	-0.7	+0.0	+0.2	+0.4	+0.5	+0.3	+0.2
Government debt	78.4	74.1	70.6	67.5	-0.8	-1.5	-1.8

Source: 2017 (actual figures): WIFO, Statistics Austria, OeNB; OeNB June 2018 and December 2017 outlooks.

Annex: detailed result tables

Table 13

Demand components (real)

Chained volume data (reference year = 2010)

	2017	2018	2019	2020	2017	2018	2019	2020
	EUR million				Annual change in %			
Private consumption	167,510	170,070	172,506	174,663	1.5	1.5	1.4	1.3
Government consumption	64,599	65,810	66,761	67,571	1.2	1.9	1.4	1.2
Gross fixed capital formation	76,354	79,031	80,860	82,492	4.9	3.5	2.3	2.0
of which: investment in plant and equipment	27,399	29,057	29,804	30,413	8.8	6.0	2.6	2.0
residential construction investment	13,404	13,766	14,126	14,486	2.3	2.7	2.6	2.5
nonresidential construction investment and other investment	20,106	20,444	20,795	21,101	2.2	1.7	1.7	1.5
Changes in inventories (including statistical discrepancy)	6,424	7,647	7,617	7,655				
Domestic demand	314,887	322,559	327,744	332,381	2.6	2.4	1.6	1.4
Exports of goods and services	188,169	197,297	205,619	213,630	5.6	4.9	4.2	3.9
Imports of goods and services	175,459	182,079	188,648	195,362	4.8	3.8	3.6	3.6
Net exports	12,709	15,218	16,972	18,267				
Gross domestic product	327,597	337,777	344,716	350,649	3.1	3.1	2.1	1.7

Source: 2017: WIFO; 2018 to 2020: OeNB June 2018 outlook.

Table 14

Demand components (nominal)

	2017	2018	2019	2020	2017	2018	2019	2020
	EUR million				Annual change in %			
Private consumption	192,881	199,849	206,624	213,147	+3,5	+3,6	+3,4	+3,2
Government consumption	72,265	75,003	77,688	80,224	+2,4	+3,8	+3,6	+3,3
Gross fixed capital formation	86,942	91,648	95,511	99,228	+6,5	+5,4	+4,2	+3,9
Changes in inventories (including statistical discrepancy)	4,964	7,057	7,298	7,442	x	x	x	x
Domestic demand	357,051	373,558	387,121	400,040	+4,4	+4,6	+3,6	+3,3
Exports of goods and services	200,078	213,195	226,768	240,375	+7,8	+6,6	+6,4	+6,0
Imports of goods and services	186,846	197,561	208,904	220,794	+7,5	+5,7	+5,7	+5,7
Net exports	13,233	15,633	17,864	19,581	x	x	x	x
Gross domestic product	370,284	389,191	404,985	419,621	+4,7	+5,1	+4,1	+3,6

Source: 2017: WIFO; 2018 to 2020: OeNB June 2018 outlook.

Table 15

Demand components (deflators)

	2017	2018	2019	2020	2017	2018	2019	2020
	2010 = 100				Annual change in %			
Private consumption	115.1	117.5	119.8	122.0	+2.0	+2.1	+1.9	+1.9
Government consumption	111.9	114.0	116.4	118.7	+1.2	+1.9	+2.1	+2.0
Gross fixed capital formation	113.9	116.0	118.1	120.3	+1.6	+1.8	+1.9	+1.8
Domestic demand (excluding changes in inventories)	114.1	116.4	118.6	120.9	+1.7	+2.0	+1.9	+1.9
Exports of goods and services	106.3	108.0	110.3	112.5	+2.1	+1.6	+2.1	+2.0
Imports of goods and services	106.5	108.5	110.7	113.0	+2.6	+1.9	+2.1	+2.1
Terms of trade	99.8	99.6	99.6	99.6	-0.5	-0.3	+0.0	+0.0
Gross domestic product	113.0	115.2	117.5	119.7	+1.5	+1.9	+2.0	+1.9

Source: 2017: WIFO; 2018 to 2020: OeNB June 2018 outlook.

Tabele 16

Labor market

	2017	2018	2019	2020	2017	2018	2019	2020
	<i>Thousands</i>				<i>Annual change in %</i>			
Total employment	4,412.4	4,498.0	4,550.2	4,593.1	+1.7	+1.9	+1.2	+0.9
of which: private sector	3,671.4	3,751.5	3,800.9	3,844.1	+1.8	+2.2	+1.3	+1.1
Payroll employment (national accounts definition)	3,858.9	3,944.4	3,998.0	4,043.1	+1.9	+2.2	+1.4	+1.1
	<i>% of labor supply</i>							
Unemployment rate (Eurostat definition)	5.5	5.0	4.9	4.9	x	x	x	x
	<i>EUR per real unit of output x 100</i>							
Unit labor costs (whole economy) ¹	61.5	62.4	63.3	64.2	+0.3	+1.5	+1.5	+1.4
	<i>EUR thousand per employee</i>							
Labor productivity (whole economy) ²	74.2	75.1	75.8	76.3	+1.4	+1.1	+0.9	+0.8
	<i>EUR thousand</i>							
Compensation per employee (real) ³	39.6	39.9	40.1	40.2	-0.3	+0.6	+0.4	+0.3
	<i>At current prices in EUR thousand</i>							
Compensation per employee (gross)	45.6	46.9	48.0	49.0	+1.7	+2.7	+2.4	+2.2
	<i>At current prices in EUR million</i>							
Total gross compensation of employees	176,145	184,904	191,843	198,210	+3.6	+5.0	+3.8	+3.3

Source: 2017: WIFO; 2018 to 2020: OeNB June 2018 outlook.

¹ Gross wages and salaries divided by real GDP.

² Real GDP divided by total employment.

³ Gross wages and salaries per employee divided by private consumption expenditure deflator.

Table 17

Current account

	2017	2018	2019	2020	2017	2018	2019	2020
	<i>EUR million</i>				<i>% of nominal GDP</i>			
Balance of trade	9,225.0	11,729.7	13,108.8	14,600.6	2.5	3.0	3.2	3.5
Balance of goods	-1,208.0	229.5	327.4	791.5	-0.3	0.1	0.1	0.2
Balance of services	10,433.0	11,500.2	12,781.5	13,809.1	2.8	3.0	3.2	3.3
Balance of primary income	728.0	770.6	600.0	600.0	0.2	0.2	0.1	0.1
Balance of secondary income	-2,994.0	-3,678.3	-4,043.8	-4,043.8	-0.8	-0.9	-1.0	-1.0
Current account balance	6,959.0	8,822.0	9,665.0	11,156.8	1.9	2.3	2.4	2.7

Source: 2017: OeNB; 2018 to 2020: OeNB June 2018 outlook.

Quarterly outlook results

	2017	2018	2019	2018				2019				2020			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Prices, wages and costs															
<i>Annual change in %</i>															
HICP	+2.2	+2.0	+1.9	+2.3	+2.1	+1.9	+1.9	+1.8	+1.9	+2.0	+2.0	+1.9	+2.0	+2.0	+1.9
HICP excluding energy and food	+2.0	+2.2	+2.2	+2.1	+2.0	+1.8	+2.0	+2.2	+2.3	+2.2	+2.3	+2.1	+2.2	+2.2	+2.2
Private consumption expenditure deflator	+2.1	+1.9	+1.9	+2.0	+2.0	+1.9	+1.9	+1.9	+1.9	+1.9	+1.9	+1.8	+1.8	+1.8	+1.8
Gross fixed capital formation deflator	+1.8	+1.9	+1.8	+1.9	+1.9	+1.8	+1.8	+1.8	+1.9	+1.9	+1.8	+1.5	+1.5	+1.6	+1.6
GDP deflator	+1.9	+2.0	+1.9	+1.9	+2.0	+2.0	+2.0	+2.1	+1.9	+1.8	+1.6	+2.0	+1.9	+1.8	+1.6
Unit labor costs	+1.5	+1.5	+1.4	+2.4	+1.7	+1.1	+0.7	+1.0	+1.4	+1.5	+1.6	+1.8	+1.7	+1.5	+1.1
Nominal wages per employee	+2.7	+2.4	+2.2	+3.1	+2.6	+2.1	+1.7	+2.0	+2.2	+2.2	+2.2	+2.4	+2.3	+2.1	+1.7
Productivity	+1.1	+0.9	+0.8	+0.7	+0.9	+1.0	+1.0	+1.0	+0.9	+0.7	+0.5	+0.6	+0.6	+0.6	+0.7
Real wages per employee	+0.6	+0.4	+0.3	+1.1	+0.6	+0.2	-0.1	+0.1	+0.3	+0.3	+0.3	+0.6	+0.6	+0.4	+0.0
Import deflator	+1.9	+2.1	+2.1	+2.0	+1.9	+2.1	+2.2	+2.2	+2.1	+2.0	+1.9	+1.7	+1.7	+1.7	+1.7
Export deflator	+1.6	+2.1	+2.0	+2.0	+2.0	+2.1	+2.1	+2.1	+2.0	+2.0	+2.0	+1.8	+1.8	+1.8	+1.8
Terms of trade	-0.3	+0.0	+0.0	+0.0	+0.1	+0.0	-0.1	-0.1	-0.1	+0.0	+0.1	+0.1	+0.1	+0.1	+0.1
Economic activity															
<i>Annual and/or quarterly changes in % (real)</i>															
GDP	+3.1	+2.1	+1.7	+0.5	+0.5	+0.5	+0.5	+0.4	+0.4	+0.3	+0.3	+0.4	+0.4	+0.4	+0.4
Private consumption	+1.5	+1.4	+1.3	+0.4	+0.4	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3
Government consumption	+1.9	+1.4	+1.2	+0.3	+0.1	+0.2	+0.3	+0.4	+0.3	+0.3	+0.2	+0.2	+0.2	+0.2	+0.2
Gross fixed capital formation	+3.5	+2.3	+2.0	+0.6	+0.6	+0.6	+0.5	+0.5	+0.4	+0.4	+0.4	+0.4	+0.5	+0.5	+0.5
Exports	+4.9	+4.2	+3.9	+1.0	+1.0	+1.0	+1.0	+1.0	+0.9	+0.9	+0.8	+1.0	+1.0	+1.0	+0.9
Imports	+3.8	+3.6	+3.6	+0.8	+0.8	+0.8	+0.8	+0.9	+0.9	+0.9	+0.8	+1.0	+0.9	+0.8	+0.8
<i>Contribution to real GDP growth in percentage points</i>															
Domestic demand	+2.0	+1.5	+1.3	+0.4	+0.3	+0.3	+0.3	+0.4	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3
Net exports	+0.8	+0.5	+0.4	+0.1	+0.2	+0.2	+0.1	+0.1	+0.0	+0.0	+0.1	+0.1	+0.1	+0.1	+0.1
Changes in inventories	+0.4	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0	+0.0
Labor market															
<i>% of labor supply</i>															
Unemployment rate (Eurostat definition)	5.0	4.9	4.9	5.1	5.0	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
<i>Annual and/or quarterly changes in %</i>															
Total employment	+1.9	+1.2	+0.9	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.3	+0.2	+0.3
of which: private sector	+2.2	+1.3	+1.1	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.4	+0.4	+0.4	+0.4
Payroll employment	+2.2	+1.4	+1.1	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3
Additional variables															
<i>Annual and/or quarterly changes in % (real)</i>															
Disposable household income	+1.6	+1.7	+1.3	+0.3	+0.5	+0.6	+0.4	+0.3	+0.2	+0.1	+0.1	+0.4	+0.3	+0.2	+0.1
<i>% of real GDP</i>															
Output gap	0.9	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.4	0.5	0.5	0.5	0.4

Source: OeNB June 2018 outlook. Quarterly values based on seasonally and working day-adjusted data.

Table 19

Comparison of current economic forecasts for Austria

	OeNB			WIFO		IHS		OECD		IMF		European Commission	
	June 2018			March 2018		March 2018		May 2018		April 2018		May 2018	
	2018	2019	2020	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
<i>Annual change in %</i>													
Main results													
GDP (real)	+3.1	+2.1	+1.7	+3.2	+2.2	+2.8	+1.9	+2.7	+2.0	+2.6	+1.9	+2.8	+2.2
Private consumption (real)	+1.5	+1.4	+1.3	+1.8	+1.6	+1.4	+1.2	+1.6	+1.6	x	x	+1.6	+1.4
Government consumption (real)	+1.9	+1.4	+1.2	+1.1	+1.2	+1.5	+0.9	+1.8	+1.2	x	x	+1.4	+1.3
Gross fixed capital formation (real)	+3.5	+2.3	+2.0	+3.5	+2.5	+2.9	+1.9	+3.3	+3.2	x	x	+3.7	+2.4
Exports (real)	+4.9	+4.2	+3.9	+5.5	+4.5	+5.2	+4.2	+5.1	+5.0	+3.7	+3.2	+5.2	+4.3
Imports (real)	+3.8	+3.6	+3.6	+4.6	+3.8	+3.5	+3.3	+4.0	+5.0	+3.1	+3.2	+3.9	+3.4
GDP per employee ¹	+1.1	+0.9	+0.8	+1.4	+1.0	+0.9	+0.7	+1.1	+0.7	x	x	+1.3	+1.0
GDP deflator	+1.9	+2.0	+1.9	+1.7	+1.8	+1.9	+1.9	+1.9	+2.4	+1.7	+2.2	+1.7	+1.7
CPI	x	x	x	+1.9	+1.9	+2.1	+2.2	x	x	x	x	x	x
HICP	+2.2	+2.0	+1.9	+2.0	+2.0	+2.2	+2.2	+2.1	+2.3	+2.2	+2.2	+2.1	+1.9
Unit labor costs	+1.5	+1.5	+1.4	+1.1	+1.6	+1.9	+1.8	+2.3	+2.4	x	x	+1.2	+1.6
Payroll employment	+1.9	+1.2	+0.9	+1.9	+1.1	+1.9	+1.2	+1.6	+1.2	+1.4	+1.1	+1.5	+1.2
<i>% of labor supply</i>													
Unemployment rate (Eurostat definition)	5.0	4.9	4.9	5.2	5.0	5.2	5.2	5.1	4.9	5.2	5.1	5.2	5.0
<i>% of nominal GDP</i>													
Current account balance	2.3	2.4	2.7	2.3	2.6	x	x	2.1	2.2	2.5	2.0	2.5	2.8
Budget balance (Maastricht definition)	0.0	0.2	0.4	-0.3	0.1	-0.6	-0.4	-0.5	-0.1	-0.3	-0.2	-0.5	-0.2
External assumptions													
Oil price in USD/barrel (Brent)	74.5	73.5	68.7	67.0	63.0	64.0	65.0	69.4	70.0	62.3	58.2	67.7	63.9
Short-term interest rate in %	-0.3	-0.2	0.2	-0.3	-0.1	-0.2	0.1	-0.3	-0.2	-0.3	0.0	-0.3	-0.1
USD/EUR exchange rate	1.20	1.18	1.18	1.23	1.23	1.20	1.20	1.16	1.16	1.24	1.25	1.23	1.23
<i>Annual change in %</i>													
Euro area GDP (real)	+2.1	+1.9	+1.7	+2.4	+1.9	+2.3	+1.9	+2.2	+2.1	+2.4	+2.0	+2.3	+2.0
U.S. GDP (real)	+2.8	+2.5	+2.1	+2.5	+2.0	+2.5	+2.2	+2.9	+2.8	+2.9	+2.7	+2.9	+2.7
World GDP (real)	+3.8	+3.6	+3.5	x	x	+3.8	+3.5	+3.8	+3.9	+3.9	+3.9	+3.9	+3.9
World trade	+5.1	+4.6	+4.0	x	x	+4.5	+4.0	+4.7	+4.5	+5.1	+4.7	+4.9	+4.3

Source: OeNB, WIFO, IHS, OECD, IMF, European Commission.

¹ WIFO: GDP per hour worked.