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Macroeconomic imbalances in the euro area: where do we stand?

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Contents

Abstract

This occasional paper reviews the macroeconomic developments in the euro area countries over the past 20 years. It analyses the accumulation of macroeconomic imbalances in the first decade of the EMU and their unwinding during the second decade. It shows that while flow imbalances have been corrected to a large extent, stock imbalances persist. The presence of large stock imbalances implies that the adjustment process needs to continue in the years to come. Accordingly, this paper reviews the national responses so far and the importance of well-functioning national economic structures for facilitating the adjustment process within the EMU. It shows that national structural policies are able to stimulate the supply side of the economy, increase adjustment capacity and mitigate the adverse growth effects of high debt and deleveraging. Finally, it gives an overview of the European response to address macroeconomic imbalances, i.e. the establishment of the Macroeconomic Imbalance Procedure (MIP). The MIP has contributed to increasing the general attention given to macroeconomic imbalances in the euro area and to the critical role that structural reforms play in facilitating their adjustment. Looking forward, further steps would appear to be warranted in order to move from greater awareness towards stronger ownership and implementation of reforms.

Keywords: Monetary Union, stock and flow imbalances, economic resilience, structural reforms, Macroeconomic Imbalance Procedure.

JEL codes: E02, F45, O52.

Executive summary

Wieser (2011), the former president of the EU's Economic and Financial Committee (EFC), defined macroeconomic imbalance as "the (negative or positive) position of a domestic, external or financial variable… [which] may – if uncorrected over time – make the national savings-investment balance so untenable that it self-corrects abruptly, thereby causing significant adjustment shocks." This paper uses this definition for the analysis of flows and stock variables. Imbalances therefore refer to situations where stock and flow variables are out of equilibrium for an extended period of time, which is manifested through protracted savings-investment imbalances, losses of competitiveness accompanied by excessive credit and house price growth, and accumulation of debt. The correction of these imbalances in an environment characterised by severe rigidities in product and labour markets is painful in the short term, i.e. it leads to a high number of job losses, and can be harmful for potential growth in the long term.

This definition of imbalances is used to review the process of accumulating imbalances in the euro area and their unwinding over the past 20 years. While there is by now a significant amount of empirical literature analysing what happened during the first decade of the EMU, the analysis of the economic developments during the second decade is still in progress. This occasional paper links the developments in the two decades and draws some lessons for the future.

During the first decade of the EMU, the euro area countries experienced very diverse macroeconomic developments, with some countries losing competitiveness and accumulating liabilities vis-à-vis the rest of the world and others gaining competitiveness and accumulating assets vis-à-vis the rest of the world. The accumulation of imbalances, which had been initially interpreted as a result of benign catching-up developments, became unsustainable and triggered a painful correction. This correction started in 2008 with the financial crisis, in particular after Lehman Brothers filed for bankruptcy. While this financial crisis had a global dimension, with the euro area therefore being just one actor among many, the decisive watershed moment for the euro area came in 2010 when Greece requested an international assistance programme. The sovereign debt crisis that started to unfold afterwards was localised in the euro area and led to a double-dip recession.

Between 2010 and 2012 the re-pricing of sovereign risk intensified and spread from Greece to other vulnerable economies. The traditional exposure of banks in vulnerable countries to their own sovereign issuers became a quick carrier of financial contagion. This adverse sovereign-bank feedback loop interacted with existing vulnerabilities. Some countries suffering from persistent competitiveness losses and with significant external deficits and debt lacked the necessary financial, macroeconomic and structural strength to enhance resilience and retain the international investor base that they had enjoyed before the crisis. As a result, several countries after Greece entered EU/IMF financial assistance programmes.

The second decade of the EMU has been characterised by a serious drive towards reforms at national and supranational level and multipronged measures to repair and rebuild the foundations of the monetary union. The European Stability Mechanism (ESM) was created as a permanent crisis mechanism tool that had not been available before the crisis; the main pillars of a Banking Union were established; a new Macroeconomic Imbalance Procedure (MIP) was put in place to prevent and facilitate the correction of macroeconomic imbalances, the Stability and Growth Pact was reformed and the Fiscal Compact introduced. These reforms were implemented while monetary policy became increasingly accommodative and successfully addressed the severely impaired transmission mechanism, large deflationary pressures and major tail risks for the euro area.

A number of countries, in particular those most severely hit by the sovereign crisis, embarked on a comprehensive reform process in 2010-2013, while correcting the large flow imbalances – e.g. external and fiscal deficits – accumulated in the previous decade. However, the crisis-driven reform process quickly lost steam once the euro area countries started to move towards a recovery phase. By 2014, very few countries were still reforming and since then the reform pace has been reduced significantly. This happened while vulnerabilities and stock imbalances remained elevated. This paper does not address the reasons for the slowdown in the reform process, which might be varied: administrative capacity constraints and other implementation bottlenecks, reduced market pressures, reform fatigue and other political economy considerations. It instead reviews the importance of resuming the path of structural reforms to boost the supply side, reduce stock imbalances and increase economic resilience.

The economic recovery which started in 2014 has helped to further reduce flow imbalances, mainly via the denominator effect. However, debt levels in a number of countries remain close to their peak levels. At the same time, low potential and productivity growth and the absence of broad reform momentum elicit two key questions: First, what are the risks that the reduction of flow imbalances is temporary? Second, how much further reduction of flow imbalances is needed to bring stock imbalances at a level that would alleviate sustainability concerns?

This paper presents some analysis that suggests that the level of stock imbalances still appears elevated. This analysis indicates that the correction of flow imbalances in several euro area countries might have been cyclical to a large extent, thus warning against complacency. While it is not possible to pin down with one single indicator how much flow imbalances need to be reduced, the analysis presented shows that ensuring a downward path of the NIIP in countries with large external debt would mean maintaining current account surpluses above 3% of GDP over the next 10-15 years. Similarly, the positive gap between the current level of private debt-to-GDP ratios and their benchmark values suggests the presence of potentially large deleveraging needs in some countries. This analysis shows that the euro area is still vulnerable in several dimensions and in need of further reforms to tackle rigidities, vulnerabilities and inefficiencies in the various parts of the economy.

This paper looks at the national and European responses to macroeconomic imbalances with a view to underlining how further adjustment could be promoted.

As regards the national dimension, various reform indicators show that there is still significant scope for many euro area countries to increase the resilience of their economic structures. There is a significant amount of literature that unequivocally shows that the pay-offs from reforms are elevated (see ECB, 2018a). However, to be manifested in full, they require long-term commitments, persistence in implementation and no back-tracking. This means that ownership over reforms is key to ensuring their success.

Further to the assessment of the national dimension, the paper takes a look at the European response through the lenses of the Macroeconomic Imbalance Procedure introduced in 2011. The aim of this new instrument was to support the prevention and correction of harmful imbalances in the sense of Wieser (2011). Seven years after its first application, the MIP has been successful in raising awareness about imbalances and the need for preventive and corrective measures. Moreover, the MIP scoreboard indicators have good early warning properties. Had these indicators been properly monitored in the first decade of the EMU, they would have predicted the crisis well in advance of its appearance in several euro area countries.

This occasional paper does not discuss the future of the EMU, but it points to a critical condition for a stronger EMU, which involves translating the greater awareness of the risks associated with imbalances into stronger ownership and implementation of reforms.

1 Introduction

This occasional paper reviews the process of accumulating imbalances in the euro area and their unwinding over the past 20 years. The definition of macroeconomic imbalances followed in this paper is close to that of Wieser (2011), the former president of the EU's Economic and Financial Committee (EFC): "A macroeconomic imbalance is the (negative or positive) position of a domestic, external or financial variable… [which] may – if uncorrected over time – make the national savings-investment balance so untenable that it self-corrects abruptly, thereby causing significant adjustment shocks." This paper uses this definition for the analysis of flows and stock variables. Imbalances therefore refer to situations where stock and flow variables are out of equilibrium for an extended period of time, which is manifested through protracted savings-investment imbalances, losses of competitiveness accompanied by excessive credit and house price growth, and accumulation of debt. The correction of these imbalances in an environment characterised by severe rigidities in product and labour markets is painful in the short term, i.e. it leads to a high number of job losses, and is harmful for potential growth in the long term.[1]

Since the start of the European Monetary Union (EMU), euro area countries have experienced very diverse macroeconomic developments. Some countries saw a boom in external demand and a significant improvement in their current account balances during the period preceding the 2008 crisis; this was supported by significant competitiveness gains, as reflected, for example, in the sizeable reductions in relative price levels or unit labour cost (ULC) relative to their trading partners. In contrast, other countries experienced a sustained loss of competitiveness, often leading to mounting current account deficits. For most countries, large and persistent competitiveness losses were linked to booms in domestic demand as nominal interest rates declined significantly and consumers, firms and banks were overly optimistic about future income and profit prospects. This was often accompanied or intensified by insufficient banking regulation or supervision and/or countries' insufficiently tight underlying fiscal stance even where fiscal headline figures (such as the deficit or the debt ratio) were in line with the criteria of the Stability and Growth Pact, e.g. in Spain and Ireland.

Excessive demand and the associated credit boom led to the build-up of large domestic and external debt in several euro area countries. In some cases, this was associated with unsustainable booms in real estate markets. House prices nearly tripled between 1998 and 2007 in Spain and Ireland, and they more than

[1] We follow the European Commission distinction between flow and stock imbalances (see European Commission (2016). They refer to the MIP scoreboard indicators as being either stock variables and therefore reported in annual values for the most recent available year, or flow variables, which are either transformed into 3-year moving averages or percentage changes over a 3-year or 5-year window. This makes it possible to read the data through possibly noisy yearly evolution. Accordingly, the Commission defines unit labour cost growth, the unemployment rate, the current account balance, house prices and credit growth as flow variables, while the stock of public and private sector debt as well as the net international investment positions are typical stock variables.

doubled in Greece. On the supply side, capital inflows were not sufficiently channelled towards investment in the tradable sector, which would have yielded the returns necessary to service and repay the accumulated external debt. The heavy reliance on debt financing, rather than on equity-based foreign direct investment, tended to further accentuate the problem of repayment. The lack of ambitious reform efforts to tackle the existing structural rigidities and inefficiencies led to a further weakening of the supply side and made the subsequent adjustment more difficult.

The correction of macroeconomic imbalances and structural vulnerabilities began in 2008 but the pace of adjustment varied significantly across countries and accelerated after the 2010 sovereign debt crisis. The sovereign debt crisis generated strong cross-border spillover effects through the loss of confidence by financial markets. Between 2010 and 2013, Greece, Ireland, Portugal and Cyprus entered into fully-fledged European Union (EU)/International Monetary Fund (IMF) financial assistance programmes, involving far-reaching economic policy adjustments, including those pertaining to fiscal, financial and structural reform. Spain entered into an EU financial assistance programme for the recapitalisation of its financial institutions, and other vulnerable countries implemented a series of fiscal consolidation measures and structural reforms. Currently, only Greece is still in a financial assistance programme.

Over the past decade the correction of flow imbalances has been remarkable. Most current account deficit countries turned their deficits into balanced positions or surpluses and managed to improve cost competitiveness, in particular those which had an official adjustment programme. This happened while the governance and the institutional framework of Europe was radically changing: the European Stability Mechanism (ESM) was created as a permanent crisis mechanism tool that had not been available before the crisis; the main elements of a Banking Union (and initiatives towards a Capital Markets Union) were established; a new Macroeconomic Imbalance Procedure (MIP) was put in place to prevent and facilitate the correction of macroeconomic imbalances, the Stability and Growth Pact (SGP) was reformed and the Fiscal Compact introduced.

Notwithstanding the significant adjustment in flow imbalances, several stock variables remain elevated in euro area Member States, indicating remaining vulnerabilities. Stock imbalances can be generally described as a set of stock variables (private or public debt, net foreign assets position) whose level is considered as being far removed from sound economic fundamentals and thus assessed to be potentially harmful for economic resilience and long-term growth. Their correction can be achieved by either an abrupt or a gradual adjustment of flow variables which is not reversed afterwards, and it is also facilitated by denominator effects, i.e. higher nominal GDP growth. This paper shows that despite (a heterogeneous pace of) deleveraging of households and firms, and consolidation in public finances in past years, economy-wide debt levels remain very high and above relevant thresholds (as e.g. included in the SGP or MIP) in many countries. The debt of the private and public sectors is in some cases mirrored in high net external liabilities. Such high debt levels could pose a risk to individual member countries.

Against this background, this occasional paper links the assessment of imbalances to the need to implement ambitious structural reforms at national level. It shows that structural policies by member countries, in particular in the area of labour markets, product markets and conditions for doing business, would provide a significant boost to resilience and growth potential in the euro area as a whole, thus helping the absorption of stock imbalances. At the same time, it also points to negative spillover effects in the event of a continuous lack of such reforms.

Strong EU-wide coordination of economic policies remains of the essence in order to facilitate ambitious reforms in Member States. In this vein, this occasional paper focuses in particular on the main functions of the Macroeconomic Imbalance Procedure (MIP) created in 2011, on its impact on collective surveillance, and on possible improvements going forward. The MIP procedure responded to the need to identify potential risks earlier, prevent the emergence of harmful imbalances and correct excessive imbalances earlier on. It shows how the MIP has contributed to increasing the general attention given to macroeconomic imbalances. However, there is so far little evidence that the preventive arm of the procedure is employed effectively, while its corrective arm has not yet begun to be used.

The occasional paper is organised as follows: Section 2 reviews the existing literature on different types of imbalances and analyses the key macroeconomic developments in the euro area countries by focusing on the economic variables included in the MIP scoreboard over the past 20 years. Section 3 looks more closely at the evolution of stock imbalances, which are partly the manifestation of the build-up of imbalances in the pre-crisis period and partly a crisis legacy, pointing to persisting vulnerabilities. Section 4 describes the status of structural reforms and reforms gaps, while Section 5 reviews the role of the Macroeconomic Imbalance Procedure in the adjustment achieved so far. Section 6 presents a conclusion.

2 The adjustment of macroeconomic imbalances: where do we stand?

2.1 Review of the literature

At the start of the EMU the expectation was that the euro area would represent a catalyst for growth and convergence, in particular in the countries with lower GDP per capita. Therefore, the associated boom in demand was seen as a benign manifestation of a catching-up process. The influential paper by Blanchard and Giavazzi (2002) showed that savings-investment correlations fell significantly at the start of the EMU, as a result of the increased financial integration that the adoption of a single currency brought about. They showed that the current account balances of the Member States were positively correlated with per capita income, as capital was flowing "downhill" from richer and capital abundant countries to the poorer and capital-scarce partners. This was interpreted as an example of "benign" imbalance, where countries with attractive investment opportunities and outstanding growth prospects were capitalising on the advent of the euro and deeper financial integration. Although they did not see a reason for concern over persistent current account imbalances in the euro area, Blanchard and Giavazzi (2002) recognised the existence of significant nominal rigidities in the euro area, the impossibility of nominal exchange rate adjustment, and the lack of sufficiently countercyclical fiscal policy rules as factors distorting the allocation of resources.

The capital flows turned out to be fuelling imbalances, driven by domestic distortions and capital misallocation. This included credit-driven asset price booms, excessive budget deficits and unrealistic expectations of future growth. In the mid-2000s, some academics noted that the macroeconomic heterogeneity across Member States could become a source of concern (Lane, 2006; Mongelli and Wyplosz, 2008). Zemenek et al. (2009) and Berger and Nitsch (2010) documented the tendency for intra-euro area capital flows towards the countries where domestic distortions were most severe while structural reforms were not happening. Among others, the ECB (see Trichet, 2005 and 2006; ECB, 2008a; Bini Smaghi, 2007; Papademos, 2007) had identified large competitiveness challenges and imbalances across a number of countries and stressed that 10 years after the start of the EMU most euro area countries still exhibited structural impediments triggered by rigid legal and regulatory environments, high taxes on labour and rigidities associated with wage regulations. Overall, limited attention was given to the institutional differences among the different countries joining the euro area, despite the seminal work by Acemoglu (2004) which showed that long-term real convergence is conditional not just on the gap in per capita incomes but also on the quality of policies and institutions. Only very recently has the importance of the latter, and its interaction with the initial level of public debt, begun to be analysed in greater depth for the euro area countries (Masuch et al., 2017).

With the benefits of hindsight, catch-up and convergence in many euro area countries were not sustainable. Productivity growth did not materialise (Chen et al. 2012; van Ark et al., 2013), while all countries, in particular those with low income per capita, stopped reforming at the start of the EMU. In the booming countries there was little or no evidence that productivity was the engine of growth; by contrast the rise in investment had mainly taken the form of residential construction. At the same time, the sharp increase in wages compared to productivity and inflation pointed to real overvaluation, evidence that differentials in inflation rates exceeded what could be explained by Balassa-Samuelson effects.

A large number of empirical studies published between 2010 and 2014 helped to provide a critical analysis of the build-up of imbalances and rebalancing across the euro area countries. In particular, Chen et al. (2012) showed that residential investment booms had been financed at the expense of the tradable sector. As this type of investment is not productive it undermined prospects for repaying debt in the future (Giavazzi and Spaventa, 2010). Holinski et al. (2012) argued that growing current account imbalances within the euro area indicated an ongoing process of economic divergence rather than convergence among the euro area countries.

Insufficient national economic and financial policies reinforced the accumulation of large imbalances. Credit to the domestic economy expanded strongly in spite of growing asset-liability maturity mismatch. Supervisory bias towards “national champions” coupled with increasing leverage allowed the build-up of financial excesses in part of the euro area (Veron, 2013). In strongly growing countries, where inflation rates were higher than in other parts of the currency area, low real interest rates contributed to booming domestic demand and widening of current account deficits (Lane, 2006). Fiscal policies did not mitigate the expanding demand, partly because revenue windfall gains caused by the booms were mistaken for permanent improvements (European Commission, 2008). Excessive credit growth (often financed by surplus countries in the search for higher yields) combined with misallocation of capital in some cases was also supported by weak institutions, allowing rent-seeking and political interventions in bank governance (see also ECB, 2008).

All euro area countries that had large external imbalances experienced severe financial stress when the sovereign debt crisis started. The correction of macroeconomic imbalances and structural vulnerabilities began in 2008; the pace of adjustment varied significantly across countries and accelerated after the 2010 sovereign debt crisis. Between 2010 and 2013, Greece, Ireland, Portugal and Cyprus entered into fully-fledged EU/IMF financial assistance programmes, involving far-reaching economic policy adjustments, including those pertaining to fiscal, financial and structural reform. Spain entered into an EU financial assistance programme for the recapitalisation of its financial institutions, and other vulnerable countries implemented a series of fiscal consolidation measures and structural reforms.

The reassessment of macro-financial risks by private investors resulted in a drastic reduction of cross-border exposures within the euro area (Merler and

Pisani-Ferry, 2012; Tressel, 2012; Laeven and Tressel, 2013). In a country outside the monetary union this would have triggered a sudden-stop scenario, as happened during the financial crisis in the Baltic States. However, in the euro area deficit countries, the current account adjustment took place in a gradual manner, thanks to the EU/IMF financial assistance programmes and central bank liquidity provision, as manifested in a strong increase in Target 2 balances (Tressel et al., 2014).

While by now there is ample literature explaining the mechanisms behind the accumulation of imbalances in the first decade of the EMU, the literature examining what happened afterwards is still in its infancy. One key reason is that the adjustment process is still ongoing and many important institutional changes have occurred whose effect cannot yet be isolated from the data. Still, on stock imbalances, there is a consistent and increasing body of literature that deals with the economic implication of high debt, deleveraging and the interaction between private and public debt. This literature appears very relevant for understanding the adjustment process of the euro area countries going forward, as the burden of adjustment has shifted from flow to stock variables. In this respect, in a recent study Zorell (2017) analyses the risks arising from large net foreign liabilities and the prospects for their unwinding.

A number of empirical studies have shown that high levels of debt make economies more vulnerable to adverse shocks as they hinder the ability of households and firms to smooth consumption and investment spending decisions, and the ability of governments to cushion adverse shocks. Negative feedback loops between high private and public sector debt and a weak financial sector are constraining investment decisions and economic growth (Sutherland and Hoeller, 2012). The negative relationship between debt and GDP growth has been documented by several studies. In particular, there is some evidence that above certain thresholds public and private debt levels (e.g. between 70 to 90% of GDP) are harmful for growth in the euro area (Baum et al., 2013; Cecchetti et al., 2011). Other important studies, while failing to find a universally applicable threshold effect in the relationship between public debt and economic growth, do find significant negative long-run effects of public debt build-up on output growth (Chudik et al., 2015).

Looking forward, a sustained reduction of the high debt ratios would be facilitated by better insolvency frameworks. Reducing high debt levels requires better debt workout mechanisms, including enhanced efficiency of judicial processes and out-of-court mechanisms. In particular, it has been found that a good insolvency framework is associated with speedier adjustment of non-performing loan (NPL) ratios (Carcea et al., 2015). Episodes of successful deleveraging are also more frequent in the presence of good insolvency frameworks (Consolo et al., 2018).

Higher GDP growth would also help debt sustainability, which can be achieved by fostering the implementation of structural reforms. Many studies have simulated the impact of structural reforms on euro area GDP and productivity. They generally show very large gains coming as a result of adopting best practices. Recently, Varga and in't Velt (2015) show that by closing half of the gap vis-à-vis best performance, EU GDP is raised by 3% after five years and 6% after ten years. Cette

et al. (2016) conduct an alternative analysis but with similar findings. They simulate the impact of reforms on total factor productivity (TFP) towards the lightest regulations in product and labour markets. For the larger euro area countries, they show that all countries could achieve significantly higher productivity growth if they moved towards best practices, ranging from 4% to more than 6% (depending on the specific euro area country) in the medium term. While the results of these simulations are comforting, they assume a number of conditions (e.g. full credibility, no back-tracking, ownership and commitment, effective implementation, no reform fatigue) which are not necessarily fulfilled in practice.

2.2 Key developments in the euro area countries over the past 20 years

The 2010 sovereign debt crisis was idiosyncratic to the euro area and essentially related to the bursting of a number of imbalances and vulnerabilities which had been accumulated in the previous decade. As the literature review above shows, the harmful nature of imbalances inside the EMU was not widely identified or recognised up until the second half of the 2000s. This was mainly due to the fact that in the initial years of the EMU the assessment of the need for adjustment in the euro area countries was complicated by the notion that differences in levels of economic development across Member States could be associated with the process of real and nominal convergence of catching-up countries. However, several empirical works[2] that tried to quantify such catching-up effects (in the form of Balassa-Samuelson effects) were scarcely able to find evidence of such effects at play after Stage 3 of the EMU (see also ECB, 2008b). By contrast, in some countries several indicators were already pointing to a dangerous accumulation of imbalances some years before the sovereign debt crisis.

This build-up and the subsequent adjustment of macroeconomic imbalances can be well-documented by means of a few indicators. Those variables comprise key indicators of competitiveness, as well as of external and internal imbalances. With the help of these indicators, this section will outline both the accumulation and adjustment phase observed in the last 20 years. Those indicators correspond to those forming the core analytical basis of the new EU governance tool, the Macroeconomic Imbalances Procedure (MIP); see Section 5 for more details), which is set to monitor the correction and build-up of future imbalances.

In several euro area countries labour costs deviated significantly from developments in other Member States. Chart 1 depicts the developments of unit labour costs (ULC) since 1999. It shows increasingly divergent patterns up to 2009 followed by convergence across countries. After the introduction of the euro in 1999 up to around 2009, ULC growth was very dynamic in Spain, in the other Post

[2] For evidence of the Balassa-Samuelson effect in the early years of the EMU, see Wagner (2005).

Programme Surveillance (PPS)[3] countries (Cyprus, Ireland, and Portugal), in Greece and in Italy. These persistently divergent patterns have been associated with the fact that the competitiveness channel, i.e. the adjustment of the real exchange rate, as measured by relative price and cost developments between euro area countries, worked very slowly in the euro area in the pre-crisis period. The slow working of the competitiveness channel was in turn due to significant rigidities in the labour, goods and services markets across euro area countries.[4] The subsequent correction was relatively large in Greece, Spain and the other three PPS countries. By contrast, among the larger euro area countries, Italy and France have seen steady growth of ULC above the euro area average. In the PPS countries and Spain the correction seems to have stopped in 2015, despite little evidence that the reabsorption of competitiveness losses had already been achieved by then. On the other side of the spectrum, developments in ULC had been very moderate in Germany up to the financial crisis, but since then they began to converge to the euro area average as a result of favourable cyclical conditions.

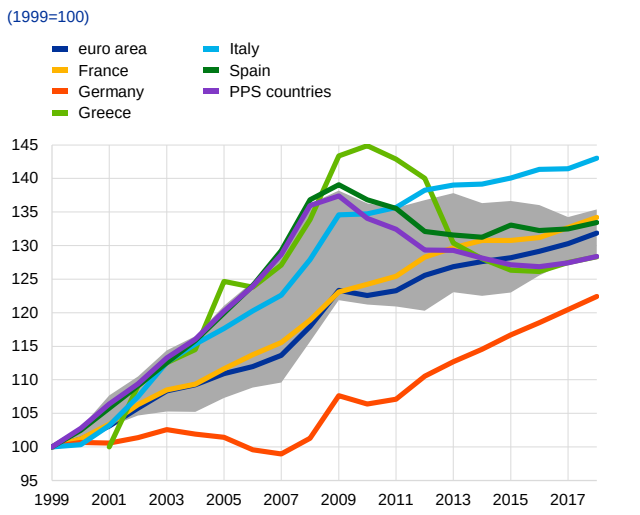
To some extent higher labour costs fed through to more elevated price developments in many countries. The real effective exchange rate (REER; HICP deflated) is a variable that is monitored in the context of the MIP, given its role as a broader proxy of price competitiveness. Given that the nominal exchange rate is identical for all euro area countries, differences in the REER relate to different price developments (and different weights of extra-euro area trading partners). Chart 2 suggests that most countries or groups that have experienced significantly higher unit labour costs before the inception of the crisis also lost price competitiveness more broadly. With the start of the crisis, this trend corrected. Yet, compared to changes in ULC, inflation differentials did not adjust to the same extent. The lack of transmission from reduced labour costs to prices can be attributed, among other things, to a lack of competition in many sectors.

[3] Throughout the charts, in order to condense information we group the 3 PPS countries (Cyprus, Portugal, and Ireland) together. We exclude Spain as the charts show the four large euro area countries individually.

[4] See European Commission (2008).

Chart 1

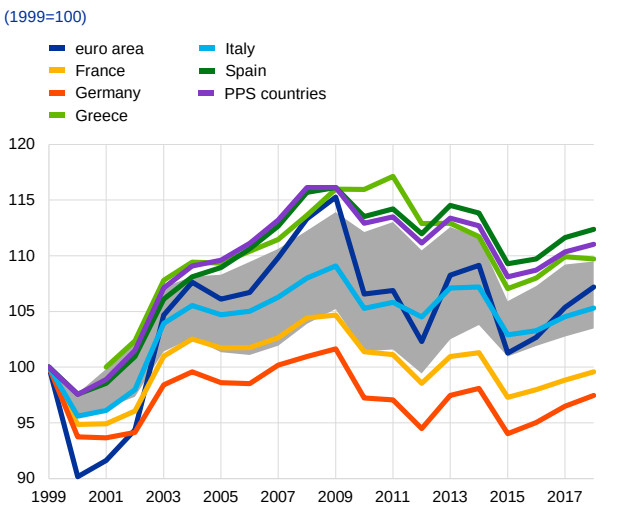
Unit labour costs



Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

Chart 2

Real effective exchange rates HICP deflated



Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

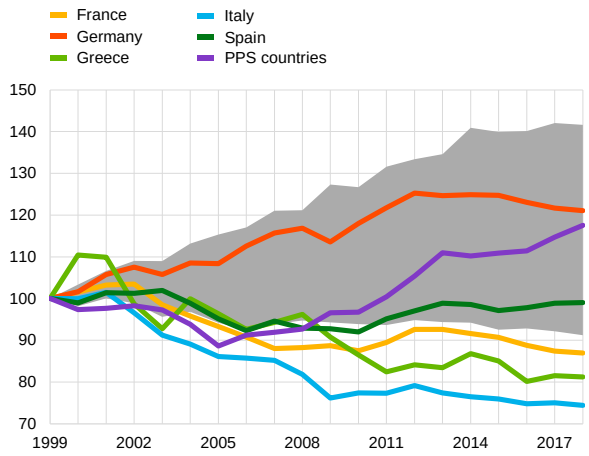
The deterioration in competitiveness had also been reflected in losses of export market shares in many countries. Chart 3 indicates that most countries that had experienced sustained losses of cost competitiveness relative to their euro area peers also faced losses in market share in the years up to 2009. Losses in export market shares have been particularly pronounced in Greece, Italy, France and Spain. Since the sovereign crisis, losses in market shares have been less marked in Greece, Italy and France, while Spain has been able to reverse the negative trend. Portugal and Cyprus have also recently experienced a significant reversal of their losses in export market shares.

Domestic demand grew strongly in some countries prior to the crisis, in particular on the back of excessive residential property price increases and abundant credit supply to the private sector. Chart 4 depicts residential property price developments in selected euro area countries. House prices in fact increased strongly up until 2007 in some countries, in particular Spain. Among others, house prices were fuelled by abundant supply of credit (Chart 5) often based on overly optimistic assumptions regarding the long-term growth potential of the respective economies. This often excessive credit supply also was also expressed in the growth of overall liabilities of the financial sector, which sharply increased in the years preceding the crisis (Chart 6). With the onset of the crisis and the reduced willingness to provide credit to the private sector, house prices adjusted sharply. The adjustment stopped in 2013 in Spain and the PPS countries, while it continued in Greece. Among the largest euro area countries, house prices have remained very dynamic in France.

Chart 3

Export market shares

(1999=100)

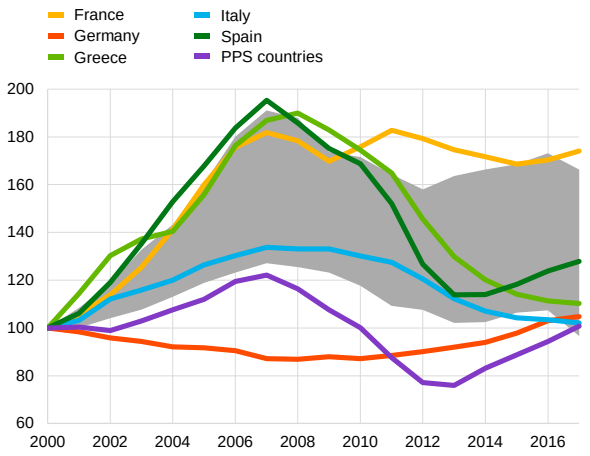


Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Cyprus and Portugal. Ireland is excluded due to the large distortive impact of multinational activities.

Chart 4

Residential house prices (nominal)

(2000=100)

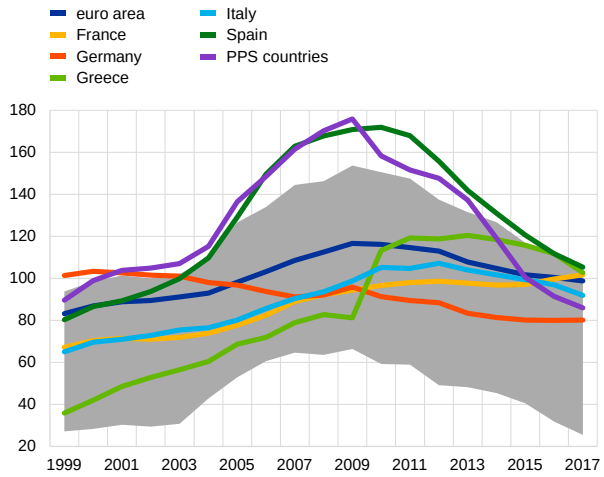


Sources: authors' calculations based on Eurostat data.
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland and Portugal (Cyprus not included due to data limitations). Also note that the PPS line hides very buoyant house price growth in IE and subdued growth in PT before the crisis.

Chart 5

Private sector credit flow

(in % of GDP)

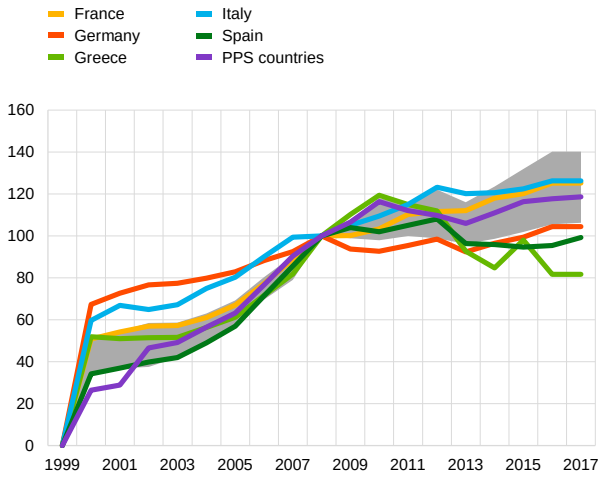


Sources: authors' calculations based on European Commission data.
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

Chart 6

Total financial sector liabilities (cumulative changes)

(2008=100)



Sources: authors' calculations based on European Commission data.
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

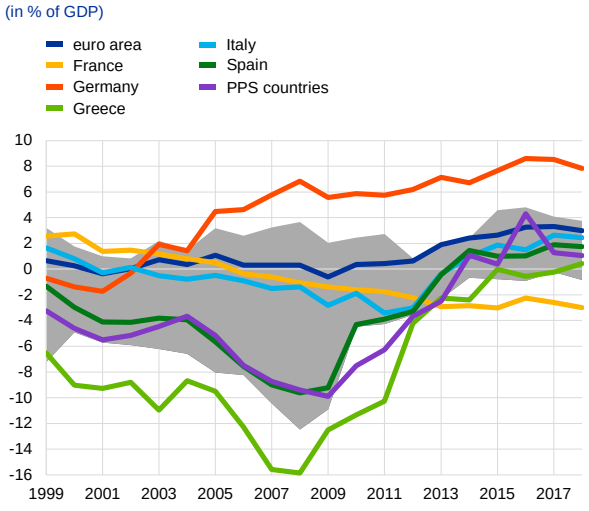
The loss in export market shares and buoyant domestic demand, in turn, were mirrored in the development of current account positions, which turned negative in many countries (Chart 7). Growing current account deficits in the PPS countries, Greece and Spain were mirrored by an increasing surplus in Germany. Since the economic downturn in 2000, Germany's economic policies have been directed towards recovering lost competitiveness via labour market and pension reforms and relocating part of production through strong foreign direct investment (FDI) outflows to central and eastern European countries. The ULC adjustment in the

deficit countries has been an important driver of the correction of current account imbalances over the past 10 years in the countries which had accumulated large deficits. In addition to (this measure of) competitiveness having improved, the strong compression of domestic demand – mirroring fiscal consolidation and an adjustment of excessive private consumption and residential investment – also brought current deficits closer to balance through compressed imports.

The structural rigidities and imbalances contributed to a strong increase in unemployment rates when the crisis hit euro area countries. Chart 8 shows that the dispersion of the unemployment rate increased massively across countries after 2009. The strong decline in employment in the crisis years struck low-skilled workers hardest (see ECB, 2012b). With employment falling, unemployment (particularly among young people) rose dramatically. This has been most acute in the countries where the crisis has been most intense; for example, unemployment reached rates above 25% in Greece and Spain between 2012 and 2014. Since 2014, the reabsorption of unemployment has been relatively strong, including in countries with very high unemployment rates. On aggregate, the euro area unemployment rate has declined significantly; however, the cross-country variation remains very large. On a more structural level, Chart 9 shows that the share of long-term unemployment increased significantly between 2007 and 2013, and since then its reduction has been relatively limited. High rates of long-term unemployment might lead to an increase in structural unemployment via hysteresis effects.

Chart 7

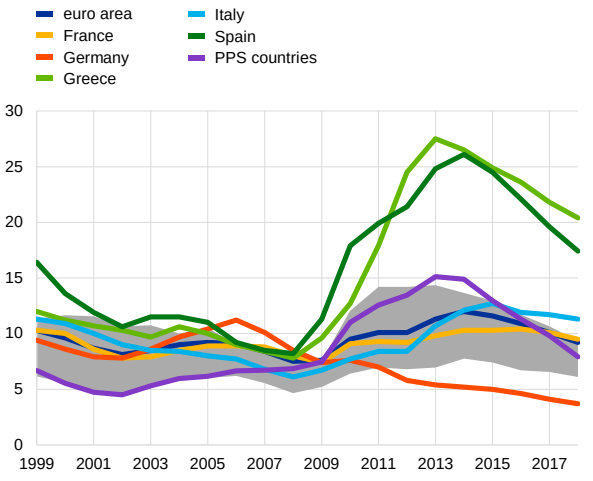
Current account balances



Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

Chart 8

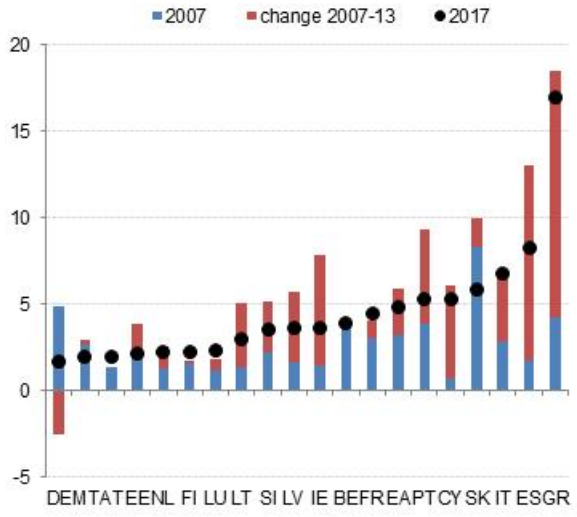
Unemployment rates



Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

Chart 9

Long-term unemployment rates

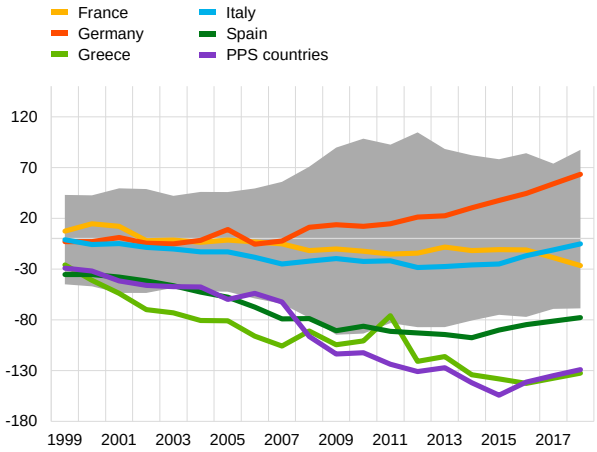


Sources: authors' calculations based on EC (AMECO) data.

Chart 10

Net international investment positions

(in % of GDP)



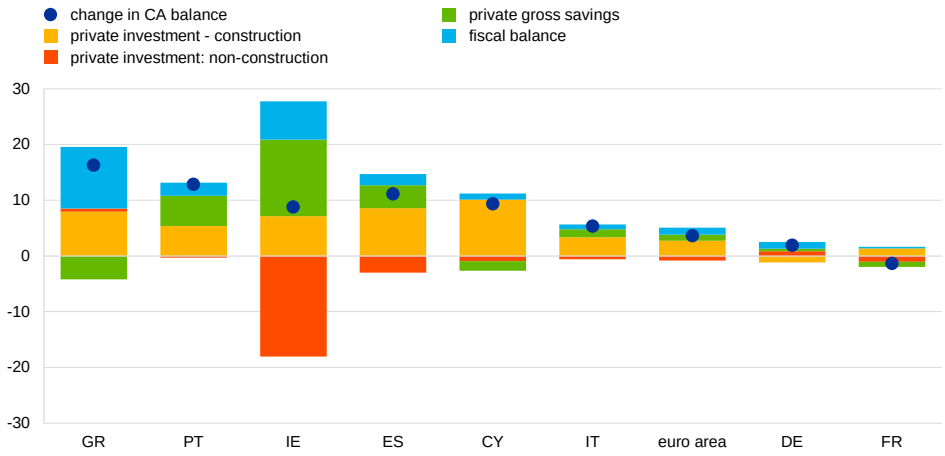
Sources: authors' calculations based on European Commission data. 2018 is calculated in the spirit of Zorell (2017).
Note: shaded area is 25th and 75th quartile of the distribution. PPS countries include Ireland, Cyprus and Portugal.

Chart 11 shows that in the programme and PPS countries the adjustment took the form of a large reduction of private investment in the construction sector (Greece, Portugal, Ireland, Spain and Cyprus), an increase in private savings (Portugal, Ireland, Spain) and an improvement in fiscal balances (Greece, Portugal, Ireland, Spain). Most of the euro area countries are currently running a surplus, with the notable exception of France. Across countries, a debate has emerged in recent years regarding the nature of the large current account surplus, in particular in the larger euro area countries such as Germany and the Netherlands. Drivers of the German current account surplus are the high household saving rate and the increasing saving rates of the corporate and government sectors. It is also driven by weak investment dynamics, notably in the public sector, as evidenced by a persisting public sector investment differential compared to the euro area. Stronger investment demand in Germany would likely contribute to a more symmetric average euro area rebalancing.

Chart 11

Savings and investment contributions to changes in current account

(2009-2018)



Sources: authors' calculations based on European Commission data (2018 is taken from the Commission's autumn forecast).

While the correction of flow imbalances has arguably taken place, stock imbalances are still large. Labour costs and inflation differentials, credit growth and house prices as well as unemployment developments and the current account balance have been among the indicators that made the accumulation and adjustment of macroeconomic imbalances most visible. While those variables adjusted at a different pace after the onset of the crisis, this adjustment has only impacted the stock of imbalances to a limited extent. This is most evident when looking at the stock of public debt, the stock of private (NFC and households) debt and the stock of external debt accumulated vis-à-vis countries' trading partners.

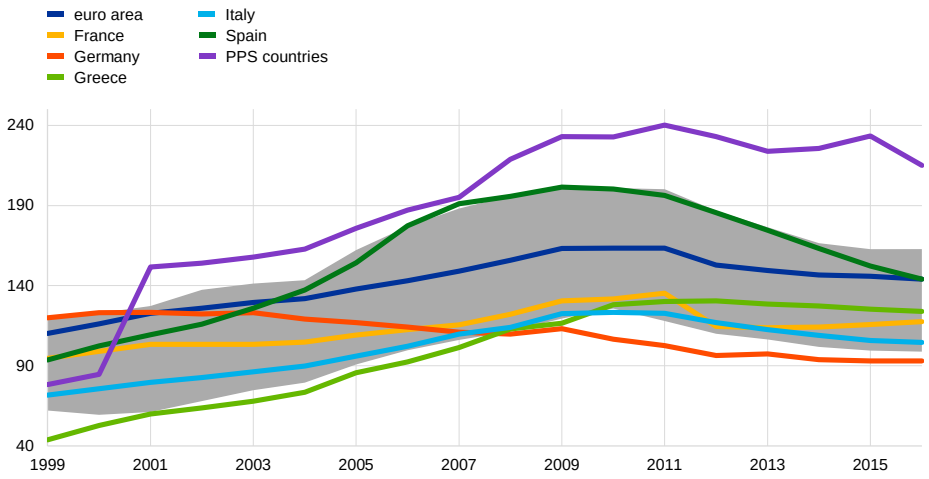
The historically high negative NIIP positions of many Member States adjusted very slowly (Chart 10) from 2015 onwards. While current account balances have turned positive for many euro area countries, their levels are not high enough to foster quicker adjustment of the stock of external debt (see Section 3).

Following significant increases in the run-up to the crisis, private debt continued to increase less speedily afterwards (Chart 12). After 2009, the general upward trend in private sector debt was brought to a halt as the deleveraging efforts of households and corporations resulted in some actual reductions in the debt-to-GDP ratio.

Chart 12

Private sector debt

(in % of GDP)



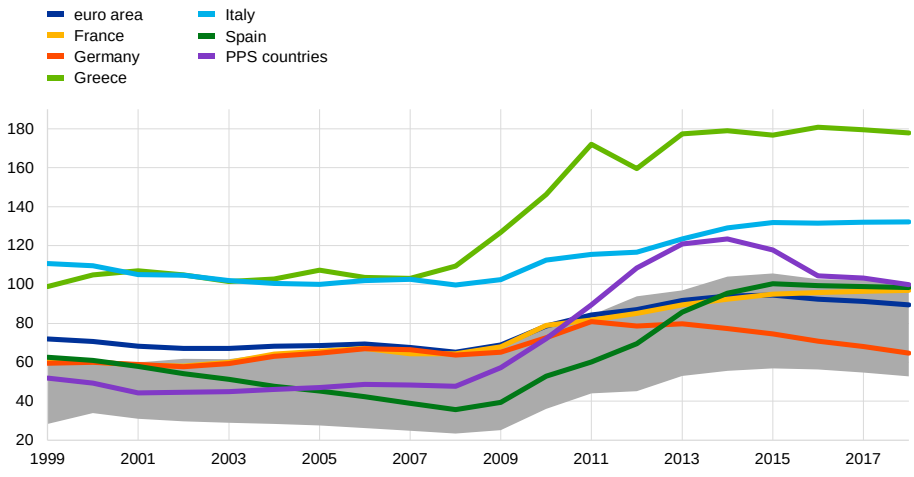
Source: authors' calculations based on EC (AMECO) data.
Note: shaded area is 25th and 75th quartile of the distribution.
PPS countries include Ireland, Cyprus and Portugal.

Government debt in percent of GDP increased significantly from 2008 onwards. Chart 13 shows that the financial and sovereign crisis led to a surge of government debt in particular in the countries in the process of adjusting their current account deficits. Balance sheet migration to the government sector, rising interest costs and unfavourable nominal GDP developments have generally been responsible for the large increase in indebtedness observed between 2009 and 2014 in a number of euro area countries. Since 2014, the level of government debt has stabilised or fallen in most euro area countries. However, the dispersion across countries remains very elevated, with three of the largest countries being at the upper limit of the interquartile distribution or significantly outside.

Chart 13

General government debt

(in % of GDP)



Source: authors' calculations based on EC (AMECO) data (2018 is taken from the Commission's autumn forecast).
Note: shaded area is 25th and 75th quartile of the distribution.
PPS countries include Ireland, Cyprus and Portugal.

3 Remaining vulnerabilities: more adjustment needed?

While the narrowing of flow imbalances is a positive development, its durability and self-sustainability remain to be analysed. Two issues remain open: first, what are the risks that the reduction of flow imbalances was temporary and, second, how much further reduction of flow imbalances is needed to reach sustainable levels of stock imbalances. Consensus on these two questions has yet to emerge. This occasional paper does not claim to have an answer but presents some data analysis that shows that the level of stock imbalances still appears to be elevated, thus warning against complacency.[5] It also shows that both cyclical and structural factors have contributed to the correction of flow imbalances in several euro area countries. The possible development of flow imbalances is important in order to understand the likelihood that their associated stock imbalances will be further reduced going forward.

Large net external liabilities remain a major vulnerability in some countries. Table 1 shows that over the past nine years the net international investment position (NIIP) has further deteriorated for the group of debtor economies. Among this group, only a limited number of countries saw an improvement in their net international investment position. This stock of external liabilities may constitute a vulnerability that needs to be brought back to more prudent levels in order to prevent risks of capital outflows in the event of a re-appraisal of risks by foreign investors. When looking at the group of creditor countries one can instead observe a further significant improvement in the NIIP, mainly attributable to Germany. For a more detailed analysis of past build-up of the NIIP and its components as well as scenario simulations as to the likely development of current net external debt levels, see Zorell (2017).

5 The paper goes beyond Zorell (2017), who focused on the external debt position only, by reviewing the entire set of macroeconomic imbalances that increase a country's vulnerability to shocks (including private and public indebtedness).

Table 1

Debtor and creditor economies in the euro area (net international investment position)

Debtor Economies					Creditor Economies				
	2009		2017			2009		2017	
	EUR bn	% of GDP	EUR bn	% of GDP		EUR bn	% of GDP	EUR bn	% of GDP
EE	-11	-80.1	-8	-36.0	BE	201	57.5	218	51.2
IE	-198	-116.5	-496	-177.2	DE	615	25.0	1789	56.3
GR	-208	-87.5	-241	-136.6	MT	1	12.6	5	54.7
ES	-1009	-93.5	-973	-86.5	NL	9	1.4	475	66.9
FR	-287	-14.8	-460	-20.5	AT	-14	-5.1	28	7.9
IT	-351	-22.3	-226	-13.5	FI	6	3.2	111	51.0
CY	-19	-100.3	-23	-127.0					
LV	-16	-82.7	-15	-57.6					
LT	-16	-58.4	-16	-41.7					
PT	-189	-107.9	-194	-103.9					
SI	-16	-43.6	-14	-35.6					
SK	-43	-66.5	-46	-56.8					
Tot.	-2362	-39.2	-2713	-45.1	Tot.	816	16.4	2627	52.8

Source: authors' calculations based on ECB data.

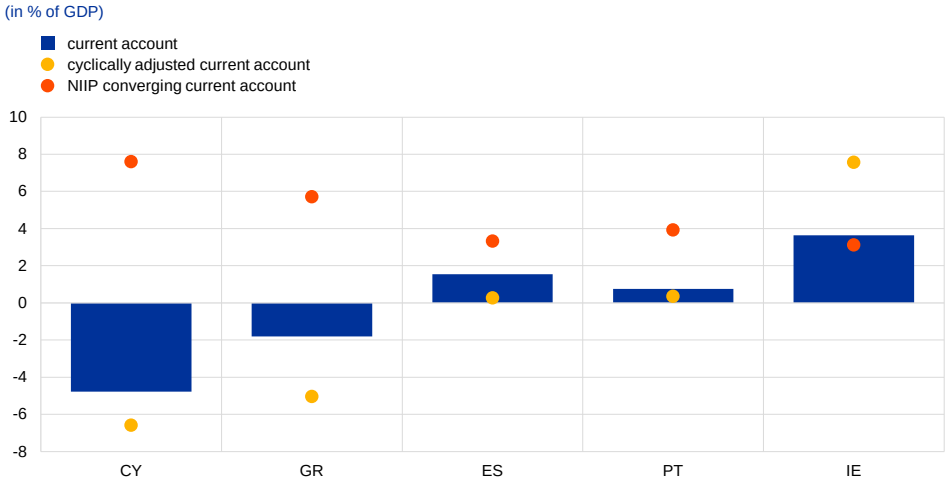
Given that the NIIP mainly represents the accumulation of current account positions over time (including valuation effects), external debt can only be brought down by sustained and significant current account surpluses. Box 1 shows that the adjustment in flow imbalances, among which is the current account balance, can partly be explained by cyclical developments. Taking out these cyclical developments, the need for structural adjustment remains significant for many countries. In fact, several of the more vulnerable euro area countries currently have cyclically-adjusted current account balances which are far removed from the current account balances that would be needed to achieve convergence towards more sustainable NIIP levels. The European Commission (in its 2017 Alert Mechanism Report) calculated the necessary current account balance for countries to arrive at the -35% of GDP MIP scoreboard threshold within 10 years. Chart 14, showing the current and past programme countries (Greece, Cyprus, Spain and Portugal), indicates that all of them (with the exception of Ireland) require (much) higher current account surpluses compared to current levels for the NIIP to converge back towards the MIP threshold value within a decade. This is also in line with the NIIP sustainability assessment in Zorell (2017). The author argues that the net foreign liabilities of several euro area countries still stand at levels that are typically associated with an increased susceptibility to external crises.[6] The analysis also finds that the net payments associated with the external positions of the euro area debtor countries are relatively low at the current juncture, while the burden could increase markedly if euro area interest rates were to normalise again. Against this backdrop, a timely and well-designed policy response would provide critical support

[6] Specifically, Zorell (2017) finds that five euro area countries (namely Ireland, Greece, Spain, Cyprus, and Portugal) have NIIP vaslues which exhibit a substantial risk of sustainability.

to the orderly unwinding of the remaining external stock imbalances in the euro area, bringing those to more sustainable levels.

Chart 14

Current account, cyclically-adjusted current account and NIIP converging current account positions



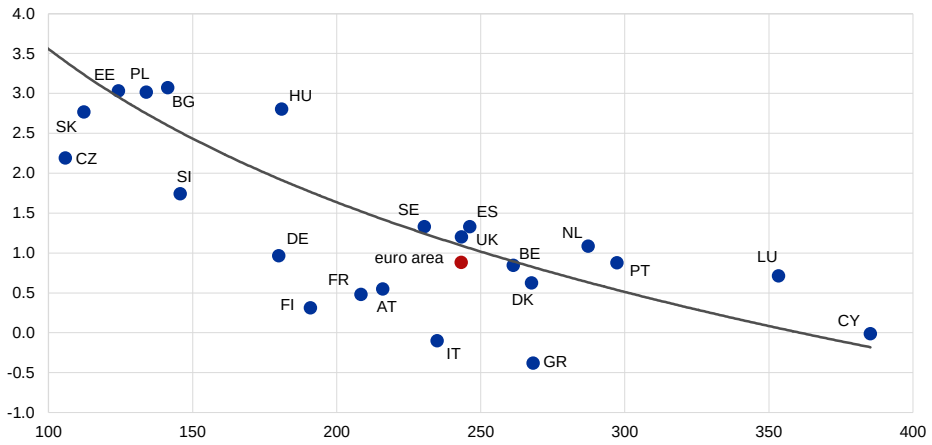
Sources: Authors' calculations based on the European Commission's 2017 Alert Mechanism Report.

High debt levels could have a significant bearing on growth. As noted in Section 2, there is ample evidence that, at least beyond a certain threshold, high private and public debt might be detrimental to economic growth. A simple visual inspection seems to confirm these findings for European countries: Chart 15 suggests a negative relationship between the level of total debt (public and private), on average in the period 2008-12 and subsequent average GDP growth (2012-16). Finally, there is also evidence for the EU countries that, in the presence of high levels of public debt, only those countries with high institutional quality can avoid substantial negative effects of debt on long-term growth (Masuch et al. 2017).

Chart 15

Public and private debt

(x-axis: public and private debt, in % of GDP (average 2008-2012); y-axis: real per capita GDP growth (2012-18))

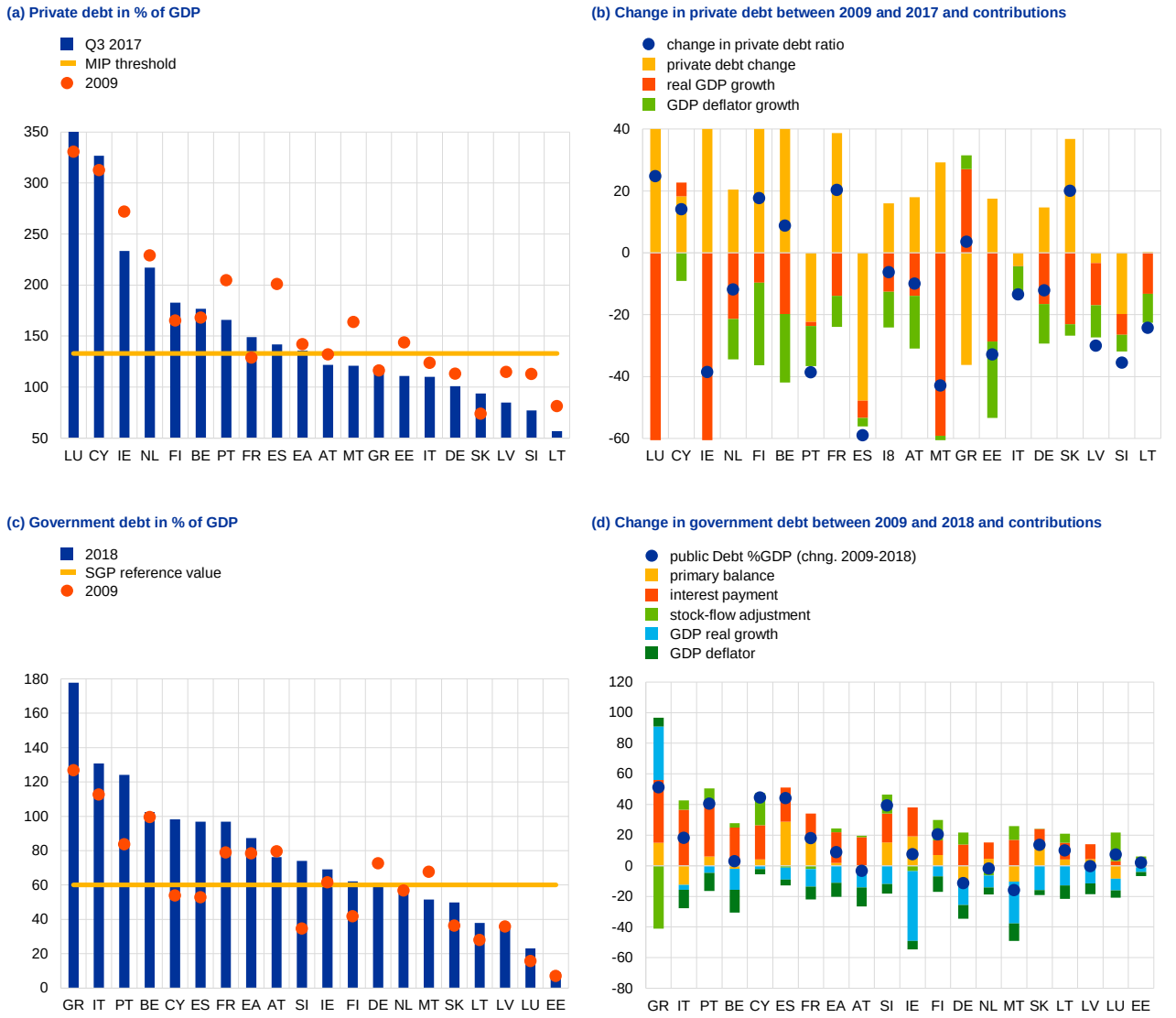


Source: Authors' calculations based on European Commission and EUROSTAT data

Private debt levels remain elevated in many countries. Looking at the change in private debt since 2009, a reduction in private debt ratios has been taking place in most euro area countries since 2009. Chart 16 (b) shows that this reduction of the private debt-to-GDP ratio has largely taken place via an increase in nominal GDP (passive deleveraging), while active deleveraging, i.e. a reduction in the level of private indebtedness has been significant in a few euro area countries. Across all countries only in Greece did active deleveraging not lead to a reduction of the private debt-to-GDP ratio as this was offset by an equally large fall in nominal GDP.

Chart 16

Private and public debt and deleveraging over the past decade



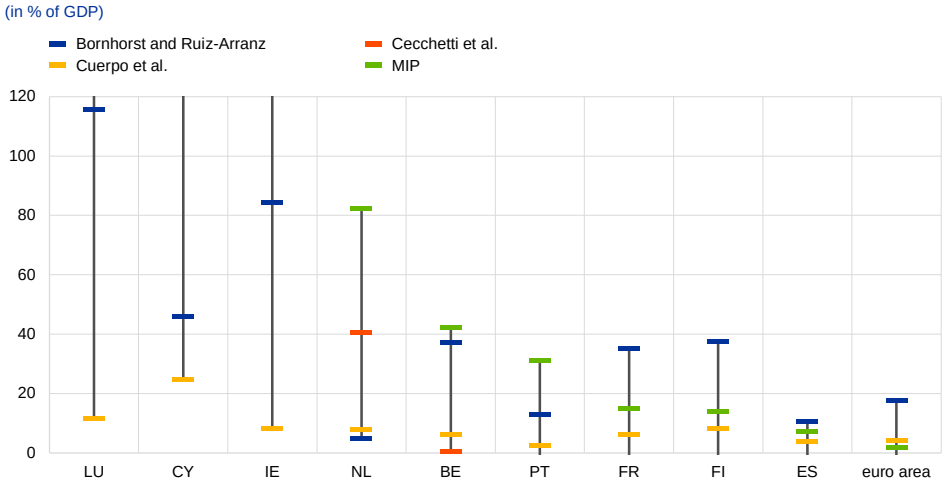
Source: Authors' calculations based on European Commission and EUROSTAT data

Different approaches have been proposed to assess the extent to which private debt is too high and thus harmful for future growth. Cecchetti et al. (2011) have computed debt thresholds for household and corporate debt by estimating a non-linear relationship between debt and GDP growth and found a threshold level of 90% for household debt and 85% for corporate debt. Bornhorst and Ruiz-Arranz (2013) extract their benchmark value for private debt from the historical evidence collected on credit cycles. This evidence shows that past deleveraging episodes brought about a reduction of indebtedness of at least two-thirds of the boom increase. Thus, on the basis of this evidence, the authors suggest considering the deleveraging process unfinished for as long as two-thirds of the pre-crisis increase have not been reabsorbed. Cuerpo et al. (2015) instead define a threshold value for private debt based on the notional long-term average of the leverage ratio (debt over assets net of revaluation effects, debt write-offs and

reclassifications). Most recently, the Commission in its 2018 Country Reports also reported estimates of benchmark debt levels derived from the equilibrium relationship between private debt and economic fundamentals. Chart 17 shows the potential deleveraging needs, computed as the difference between actual values of private debt and their computed threshold values in 2017 according to different methods. It focuses on the countries that in 2017 had a private debt-to-GDP ratio above the MIP threshold. The chart indicates the large degree of uncertainty surrounding potential deleveraging needs across the different methods. This notwithstanding, all methods point to some significant deviations from the thresholds. Having identified potential deleveraging needs does not mean that there is an immediate threat to debt sustainability, but they signal vulnerabilities in the event of adverse shocks to growth and interest rates.

Chart 17

'Excess' private debt: difference between current private sector debt and different equilibrium values (2017)



Source: Own calculations based on Cecchetti et al. (2011), Bornhorst and Ruiz-Arranz (2013), Cuerpo et al. (2015). Only countries with private debt above their MIP thresholds are shown. The chart is truncated for LU, CY and IE, where the gap with the MIP was in 2017 346% of GDP, 189% GDP and 182% of GDP respectively. It should be noted that in some countries with very large cross-border intra-company loans used by multinationals located in the country (in particular LU, CY, IE, NL and BE) the size of deleveraging needs in the NFC sector is likely overestimated.

Public debt is still in excess of the SGP reference value of 60% in many euro area Member States. Public debt ratios are significantly above the 2009 levels, i.e. prior to the start of the sovereign crisis in most countries. The increase in public debt over the past 10 years (see Chart 16 (d)) has been largely the result of higher interest payments, adverse stock-flow adjustment and, in some countries, increases in primary deficits. Adverse GDP effects have been at play only in Greece. Among the countries with the highest debt ratios only Italy has registered primary surpluses over the past ten years, which were however not sufficient to compensate for the adverse interest-growth differential. In terms of overall sustainability, given the high debt levels, the European Commission's 2017 Debt Sustainability Monitor (European Commission, 2018) concludes that several countries remain exposed to unfavourable shocks. Precisely, ten countries are deemed to be at high fiscal sustainability risk in the medium term, including as a result of inherited high post-crisis debt burdens and weak projected fiscal positions in some cases. This is in line

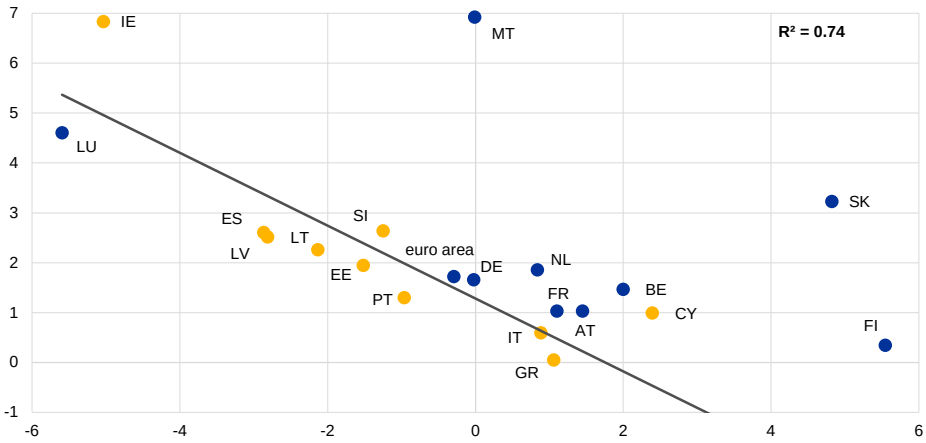
with the ECB (2017b), which simulates public sector debt evolution under different scenarios. Those simulations suggest that countries with debt above 90% of GDP face high sustainability risks, in particular in the absence of additional consolidation efforts ("no fiscal policy change" scenario).

There appears to be some evidence that frontloaded deleveraging has been subsequently associated with stronger GDP per capita growth (Chen et al., 2015). This notwithstanding, it should be noted that a reduction in private debt ratios via balance sheet deleveraging might be associated with negative GDP effects (Eggertson and Krugman, 2010). Chart 18 shows that early and swift reduction in credit growth in Estonia, Ireland, Spain, Latvia, Lithuania and Slovenia has been associated with subsequently higher real GDP growth per capita. It has also been shown that recessions occur more frequently when debt levels are high. Sutherland et al. (2012) find that the frequency of recessions during total economy high-debt periods is almost twice as high compared to low-debt periods. The authors also find that high levels of private sector debt increase the likelihood of a recession occurring the following year.

Chart 18

Changes in credit (2008-13) and subsequent changes in real GDP (2013-16)

(x-axis: average private credit growth 2008-13; y-axis: average real GDP growth 2013-16)



Source: authors' calculations based on European Commission and Eurostat data.
Notes: For IE, real GDP growth is computed as the average in 2013-2014 and 2016, i.e. 2015 is excluded from the average, due to statistical distortions. Red dots are used for countries undergoing major adjustment challenges during the period from 2008 to 2010. They include euro area countries with average credit default swap rates during the period from 2008 to 2010 above 150bp. Credit growth refers to loans and securities to NFCs and households,

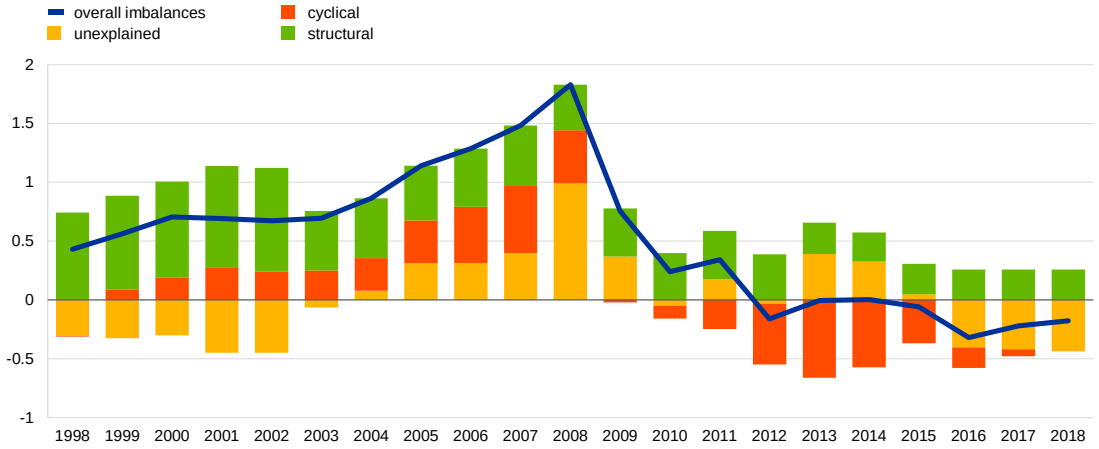
Given the still very high levels of debt, deleveraging needs and pressures are likely to remain for some years to come. Chart 16 confirms this as many euro area countries still exhibit private and public debt ratios above the MIP reference values. In this environment, better debt workout mechanisms for the private sector would facilitate balance sheet adjustments. In particular, policies to further improve insolvency frameworks, including enhanced efficiency of judicial processes and out-of-court mechanisms, could make a significant contribution to the swift and sustainable reduction of non-performing debt, lead to more efficient rescues of viable firms and increase debt recovery for lenders, as suggested by the literature reviewed in Section 2. In addition to the role of stronger insolvency frameworks, an increase in

nominal GDP would provide an important contribution to sustainable and fast debt reduction.

Box 1
The adjustment of flow variables – cyclical or structural?

As noted in Section 2, imbalances have started to adjust, in particular flow variables, such as current account balance and unit labour costs. This adjustment is important as it makes it possible to stabilise stock variables; it reduces the pressure for further adjustment needs and alleviates market concerns over sustainability issues. However, it is important to gauge to what extent the adjustment has been cyclical, i.e. driven by macroeconomic developments that are reversible, or structural, i.e. driven by more fundamental factors which would be more difficult to reverse.

Chart 19
Adjustment of flow imbalances in Spain



Source: authors' calculations based on data from Eurostat, OECD, IMF.

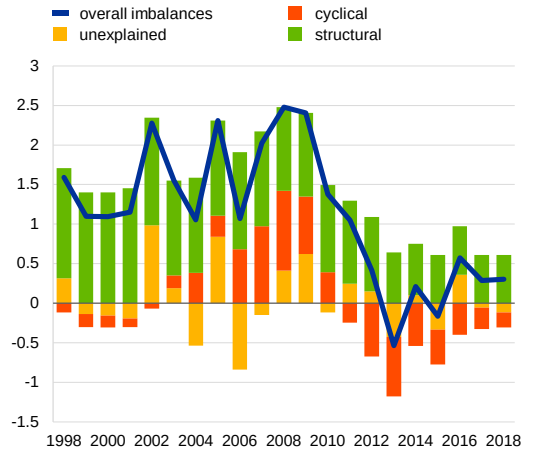
In a simple panel model, this box aims to disentangle the role of cyclical and structural factors in explaining the adjustment of key flow variables (following the classification of flow and stock imbalances of the European Commission, 2016). The aim is to explain the overall development of the current account, unit labour costs and the unemployment rate. We have computed a composite indicator where we inversely rescale the current account balance so that an increase indicates an accumulation of imbalances and therefore is similar to the ULC and the unemployment rate. Subsequently, a principal component analysis is run to derive the first component, as explained by a set of exogenous variables. The line contained in the three country charts in this box is exactly this composite imbalances indicator which, if increasing in positive territory, denotes an increase in imbalances, while a negative and decreasing value indicates adjustment. The cyclical part is proxied by the output gap. The structural part is constructed by using a set of institutional indicators, more precisely a combination of a composite indicator (the

Economic Freedom index of the Heritage Foundation)[7] and a sector specific variable (either the employment protection legislation or the product market legislation index of the OECD).[8] Country-fixed effects have been included with the aim of capturing all additional country-specific structural features. All variables are standardised around zero. The sample runs from 1995 to 2018, while the last two years are European Commission forecasts (or a random walk where forecast is not available, i.e. for the institutional variables).

The analysis shows that structural factors remain a key determinant of imbalances in euro area countries. A significant share of the composite imbalances variable showing the evolution of the three imbalance variables seems to be driven by structural factors. As these structural indicators are standardised around zero, a positive value in the bars reflects the fact that the weaker economic structures compared to their peer countries were correlated with the accumulation of imbalances. (Former) programme countries, such as Portugal, Spain or Greece, which have exhibited and to some extent still feature economic structures that are considerably less efficient than in other peer Member States, have seen a large part of their imbalances explained by structural factors.

Chart 20

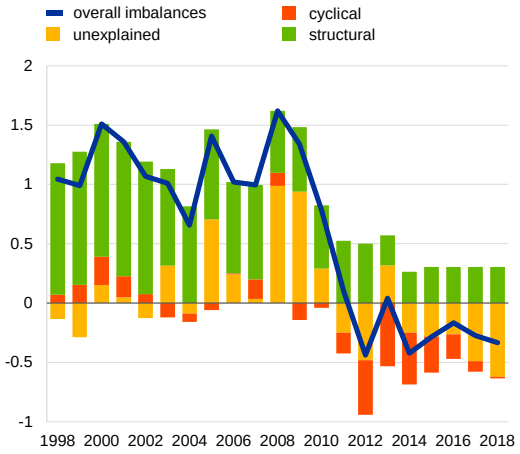
Adjustment of flow imbalances in Portugal



Sources: authors' calculations based on the European Commission's 2017 Alert Mechanism Report.

Chart 21

Adjustment of flow imbalances in Greece



Source: authors' calculations based on European Commission and EUROSTAT data

Depending on the state of the business cycle, cyclical conditions push imbalances above or below their level explained by fundamentals. While the build-up of imbalances happened during the boom phase in euro area economies, the adjustment was accompanied by a severe recession and a mild recovery up until now. The three variables in question are therefore likely to increase again in coming years when the output gap turns positive again (in a recent analysis, Blanchard and Portugal (2017) make the same argument).

7 The Heritage Economic Freedom indicator is a very broad composite indicator signalling the well-functioning of institutions and economic structures in a country. It includes indicators of basic government quality (e.g. property rights, legal system), the efficiency of labour and product markets, trade and investment barriers and financial openness. A similar indicator of the same coverage is the Economic Freedom indicator of the Fraser Institute. The picture shown in the chart does not vary significantly using one or the other index.

8 These two sector specific variables are highly collinear, which is a standard feature of structural variables in the literature (see Bénassy-Quéré et al, 2007 for a discussion). For the regression therefore either one or the other could be included. The picture does not change, however.

While the importance of structural policies seems to be confirmed in this empirical exercise, significant caveats to the analysis should be born in mind. In particular, the charts show that the unexplained part of the regression is not negligible in some cases (e.g. Greece and Spain), indicating that the model was only partly able to explain movements of the flow variables. This might be related to potential omitted variable biases.

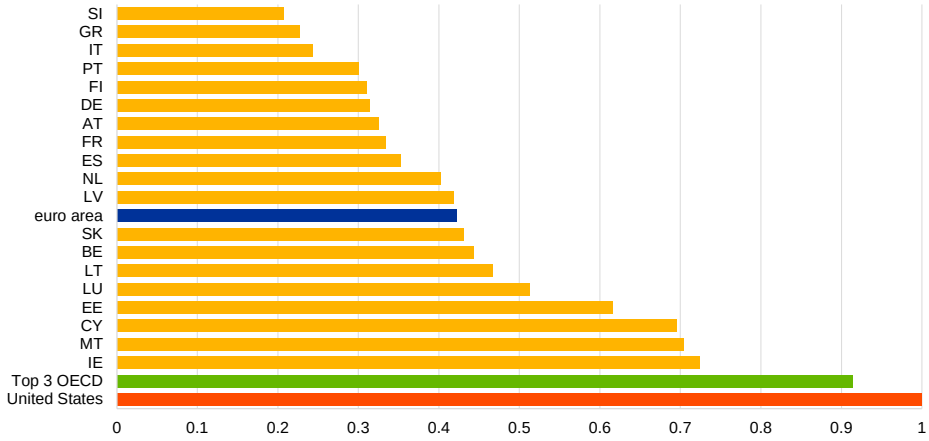
4 Facilitating the adjustment: the importance of structural reforms

The build-up of imbalances before the inception of the crisis (documented in Section 2) occurred in a context of limited reform effort. This means that the pre-crisis good times were not used to increase resilience to adverse shocks. Both limited shock absorption capacity and weak underlying growth potential were partly caused by rigid economic structures. In the event of structural changes or an abrupt adverse shock, rigid economic structures hinder the timely reorientation of resources, i.e. capital and labour, towards other sectors. At the same time, rigid economic structures prevent structural change in an economy more generally and are an obstacle to resources being utilised where they are most efficiently used. Thus, they limit productivity and thereby potential growth. Following the ECB (2016a), economic structures include the existing set of laws, regulations and policy measures in the area of labour markets, product markets and framework conditions for doing business. Their importance is explained in turn below. A more detailed outline can also be found in ECB 2016a.

The proper working of economic institutions can significantly affect peoples' and firms' choice of production, consumption or investment. Acemoglu et al. (2004) define institutions as the set of rules and policies able to deliver a level playing-field for all economic actors and ensure that sound economic incentives are in place to encourage people to invest, innovate, save and solve problems of collective action, and to ensure the efficient provision of public goods. Chart 22 shows an average of the six available institutional indicators of the World Bank for the euro area countries, the United States, and the three best performers in the OECD. A higher index number indicates higher institutional standards. For all four indicators, the quality of institutions in the euro area is on average weaker than in its peer regions. Moreover, an even more significant heterogeneity is observable among euro area countries.

Chart 22

Euro area countries' distance to the frontier in terms of institutions

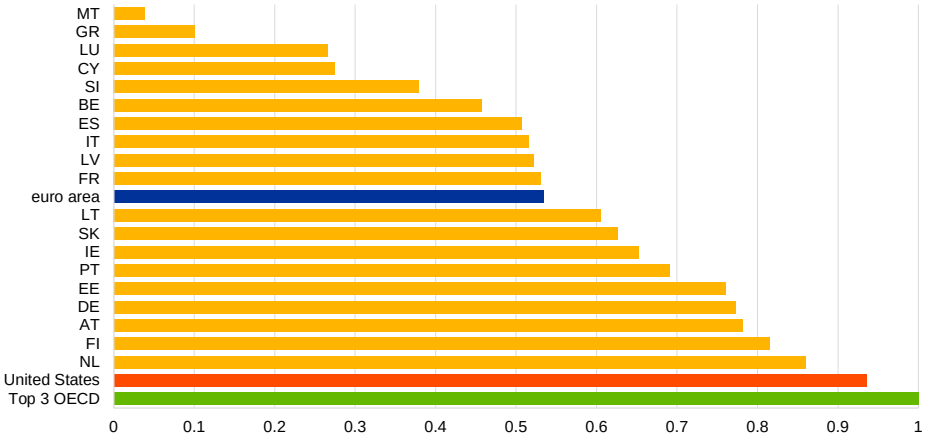


Source: World Bank data and own calculations.
Notes: Composite indicator covering all World Bank Governance Indicators (WGI), averaged, and rescaled to rank between 0 and 1 (frontier). "Top 3 OECD" comprises New Zealand, Switzerland and Finland.

Labour market structures affect the potential of an economy to grow and adapt in a timely manner to (abruptly) changing circumstances. Economic changes could happen gradually, such as structural change brought about by globalisation or more abruptly in the event of adverse shocks hitting the economy. In such cases the price and quantity of labour need to be able to adjust. Moreover, the degree to which reallocation between sectors is possible can be very important. Against this background, labour market policies must provide sufficient flexibility in the wage-setting framework and prevent excessively strict labour protection legislation from creating a "lock-in" effect. At the same time, security must be ensured for workers in the event of temporary unemployment by granting sufficient unemployment benefits, and the reactivation of workers must be facilitated through targeted employment programmes. Looking at a composite indicator of labour market functioning (Chart 23), through the lenses of distance to best practices, it becomes evident that there is significant heterogeneity among euro area countries, as was the case for the basic institutions shown in the previous chart. The distance to the top OECD countries and the US is striking, although this is less important for the imbalances among euro area countries.

Chart 23

Euro area countries' distance to the frontier in terms of labour market efficiency

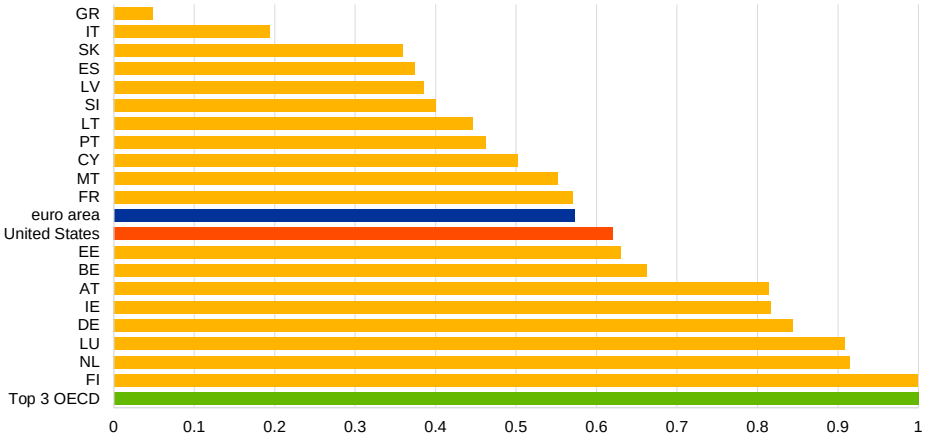


Sources: Latest OECD EPL, GCI and Fraser Institute indicators of labour market efficiency and own calculations.
Notes: Composite indicator covering the two standardised indices, averaged, and rescaled to rank between 0 and 1 (frontier). "Top 3 OECD" comprises New Zealand, the United Kingdom and Denmark.

Excessive product market regulation is likely to have adverse effects on productivity, growth and resilience. A high degree of competition among firms in goods and services markets ensures that prices do not become excessive in relation to the costs of production. Given that markets with higher competition tend to exhibit lower prices than markets with limited competition, consumers benefit from more competitive markets. In addition, it seems that firms in markets with high barriers to entry tend to innovate less. This in turn impedes technological progress, productivity and thus job creation. Product market structures also affect the shock absorption capacity of economies. In order for the economy to weather shocks, it must be possible for prices to adjust quickly and for production factors to be reallocated between firms and sectors. Price adjustments are essential to ensure a pass-through of changes in labour costs to consumer prices. In the event of a decline in labour costs after a negative shock, the competitiveness of an economy can only improve if prices also adjust. Without swift price adjustment the cost of an adverse shock would otherwise fall on the real disposable income of households. Chart 24 depicts a proxy for product market efficiency across euro area countries and their peers. This aggregate indicator suggests once again that performance among euro area countries appears to be quite divergent.

Chart 24

Euro area countries' distance to the frontier in terms of product market efficiency

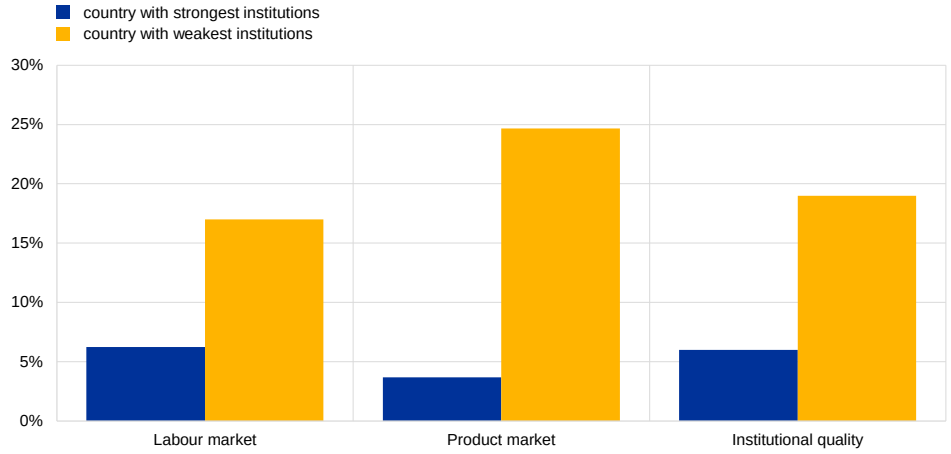


Source: Latest OECD PMR, World Bank Doing Business indicator and own calculations.
Notes: Composite indicator covering the two standardised indices, averaged, and rescaled to rank between 0 and 1 (frontier). "Top 3 OECD" comprises New Zealand, the United Kingdom and Denmark.

Shock absorption capacity is significantly increased through better functioning of economic structures and fundamental institutions. Various empirical contributions to the literature (e.g. Sondermann, 2018; Duval and Vogel, 2008; Blanchard and Wolfers, 2000) have shown that countries with stronger labour or product markets as well as more conducive conditions for doing business have coped much better with common shocks than countries with weak structures. In a similar fashion, other empirical results show that the likelihood of a severe economic crisis is significantly reduced if a country exhibits more flexible and adaptable institutions. Chart 25 depicts the result of a probit model contained in Sondermann (2018) which measures the likelihood of ending up with extreme GDP events depending on the strength of the countries' institutions and economic structures. The results show that the probability of a severe reduction in GDP, i.e. a crisis event falling under the tenth percentile of the distribution, is significantly lower for a country with the strongest institutions and structural characteristics in the sample than for a country with the weakest institutions and characteristics.

Chart 25

Probability of crisis events occurring, conditional on the quality of institutions

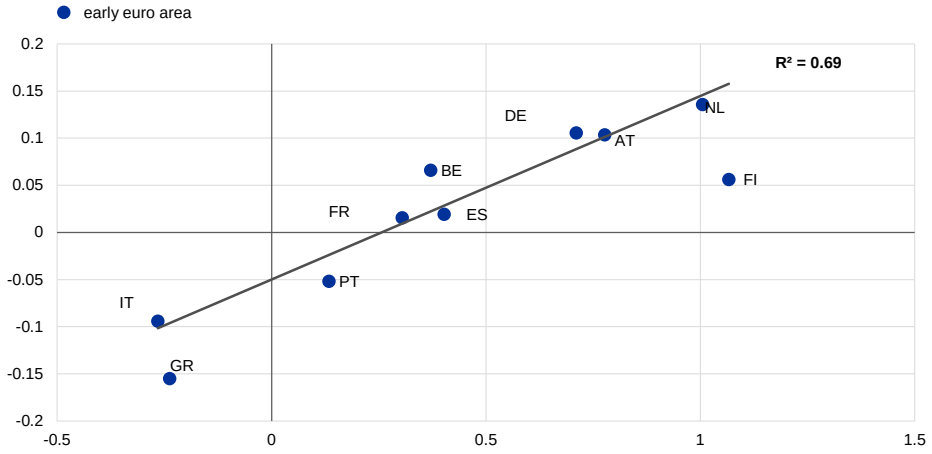


Sources: Sondermann (2018).
Notes: The chart shows the result of a probit model where the probability of crisis is computed on the extremes of institutional variables, i.e. the lowest and the highest institutional value across countries, while control variables (total government expenditure and nominal short-term interest rates) are assumed to be average. For institutional quality, the average probability is obtained from WGI; for product market institutions, the average probability is obtained from Doing Business and GCI product market efficiency; and for labour market institutions, average probability is obtained from EPL, GCI and Heritage labour market flexibility. Data are based on the period 1990-2014 and are for a sample of OECD countries.

The importance of sound and efficient institutions and economic structures for long-term growth has been established in a number of research contributions since the 1970s. Aside from the work of e.g. Acemoglu et al. already noted above, recent evidence focusing on European countries also confirms this relation (see Masuch et al. 2017). Chart 26 shows the correlation between the residual of a simple catching-up model and the quality of institutions in 1999, where the average per capita GDP growth between 1999 and 2014 depends solely on the level of GDP per capita in 1999 and a constant. For the first wave of euro area countries a clear positive relationship emerges between institutional quality and the residual. The empirical analysis shows that the results seem particularly relevant for countries where institutional delivery is below the EU average and initial public debt is above a certain threshold. They are also consistent with the view that the quality of institutions may be more important for long-term growth in countries where the exchange rate tool is no longer available. Chart 27 shows the outcome of an exercise where a selected group of EU countries is simulated to move their institutional quality to the EU average. Even without benchmarking best performers but simply the EU average, the improvement of institutional quality brings about large gains in per capita GDP growth. While Masuch et al. (2017) focus on deep-rooted economic institutions (rule of law, government effectiveness, regulatory quality and control of corruption), other studies confirm the importance of efficient economic structures, as measured through labour and product market regulations, for productivity and long-term growth (see e.g. Bouis and Duval, 2011; Bassanini et al., 2001 for the link to labour markets or Bourlès et al., 2013 for the link to product markets.).

Chart 26

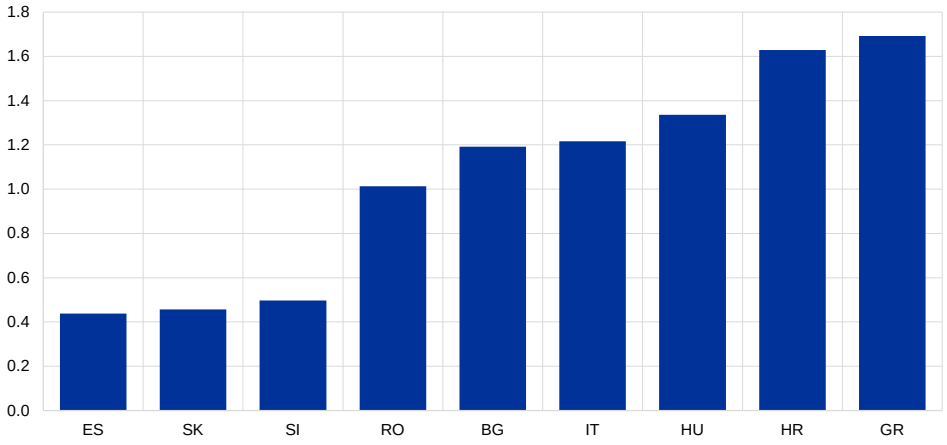
Link between institutions and growth in the euro area



Source: Eurostat, World Bank and ECB calculations.
Notes: Institutional quality is measured as an average of the **four** World Bank Worldwide Governance Indicators (government effectiveness, rule of law, regulatory quality, and control of corruption). In the y-axis expected growth is the outcome of a simple catching-up regression, where the average per capita GDP growth between 1999 and 2014 depends solely on the level of GDP per capital in 1999 and a constant.

Chart 27

Annual per capita GDP growth impact (over 15 years) of moving institutional quality to the EU average



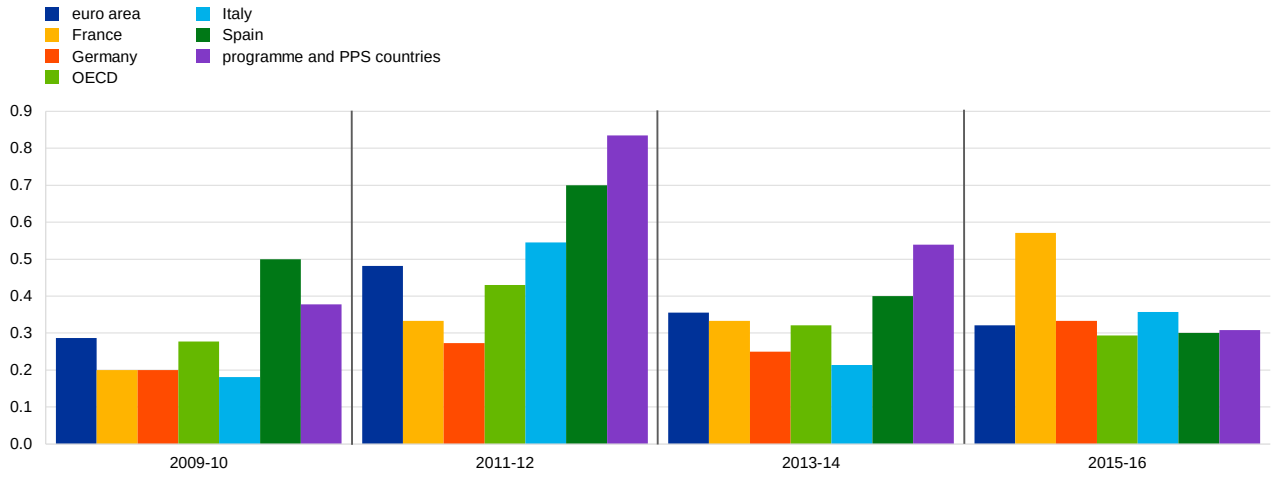
Source: Masuch et al. (2017).

Although there is a clear case for reforms given the prevailing gap in institutions and economic structures compared with the best performers, reform momentum has been relatively weak across euro area countries in recent years. Aside from the countries that underwent a macroeconomic adjustment programme, Member States have not significantly stepped up the reform momentum, as confirmed in major reports from the European Commission and the OECD. Only a fraction of the reform recommendations proposed by the Commission and approved by the Council have been substantially or fully implemented by Member States (see e.g. ECB, 2017a or ECB, 2016b). The OECD's Going for Growth report even stresses that after significant progress made during the various programmes, at the current juncture even the more vulnerable euro area countries

are exhibiting a significant slowdown in reform momentum. Chart 28 shows the responsiveness rate to the OECD recommendation for the euro area aggregate, the largest euro area countries, and the group of programme and PPS countries. On a positive note, the chart shows that the reform effort in the euro area as a whole has been higher than that for the OECD aggregate since 2009. It also shows that the reform effort was stronger in the programme and PPS countries between 2009 and 2014, while it dropped significantly after 2014.

Chart 28

Responsiveness rate to OECD recommendations



Source: Authors' calculations based on OECD Going for Growth (various years).

5 Facilitating the adjustment: the role of the MIP

5.1 The rationale for economic policy coordination

In a monetary union national economic policies affect other Member States and thereby the union as a whole. Such an impact can be both positive and negative. Structural reforms strengthening the functioning and resilience of a country's economy are likely to have a beneficial impact on the euro area as a whole. At the same time, the sovereign debt crisis made it clear that the reverse is also true. A failure to implement the necessary reforms reducing imbalances and rigidities in an economy or policy measures that constrain the adaptability of an economy could undermine the smooth functioning of the EMU.

The EU/euro area governance framework is meant to achieve economic policy coordination to ensure smooth functioning of the EMU. The interdependence of national economic policies among Member States has already been accounted for in Article 121 of the Treaty on the Functioning of the European Union (TFEU) where they are referred to as "a matter of common concern". This objective has been pursued by the Commission and the Council, including through the use of country-specific (reform) recommendations issued annually to Member States.

The existing economic governance framework fell short in achieving effective coordination of economic policies among countries. The common set of rules and practices in place before the inception of the crisis has failed to bring about sufficient reforms in particular in most vulnerable Member States in the run-up to the crisis. With this lesson in mind, Heads of State or Government agreed to strengthen the framework existing at that time. As regards the proper functioning of economic structures, the creation of the Macroeconomic Imbalance Procedure (MIP) and the reinforced country-specific recommendations were meant to ensure sufficient reform momentum (see subsequent sections for more detail).

Even after the strengthening of existing rules, reform efforts in Member States are far from being sufficient to address remaining inefficiencies. Following the Five Presidents' call in 2015 to further deepen the EMU (Juncker et al., 2015), more efforts were undertaken by the Commission to refine the current governance framework, e.g. by recommending the creation of National Productivity Boards. Such bodies are meant to incorporate the debate about the gaps and necessary policy measures into domestic debates. However, the Five Presidents also advocated significant strengthening of the Macroeconomic Imbalance Procedure, e.g. by invoking its corrective arm whenever a country is identified as having excessive imbalances. Measures in this direction are yet to materialise.

Establishing more ambitious and far-reaching economic policy coordination beyond the current framework remains of the essence. The Five Presidents' Report not only recommended refining the current framework, but also thinking

beyond it. Most promising in this regard seems to be the creation of a binding convergence process towards more resilient economic structures. Such a process in which countries continuously strive to improve their economic structures towards international best practices has the potential to significantly increase national resilience and thereby also the shock absorption capacity of the union as a whole.

5.2 The functioning of the MIP

In the run-up to the crisis, the EU economic governance framework had failed to identify the build-up of imbalances early on, to warn Member States, and to demand rectifying policy measures. With this deficiency in mind, the Council decided to introduce a dedicated EU macroeconomic surveillance framework. The Macroeconomic Imbalance Procedure came into force as part of the 'six-pack' of economic governance reforms in December 2011.[9]

The imbalance identification and severity assessment under the MIP is divided into two steps: the Alert Mechanism Report (AMR) and the In-depth Reviews (IDR). In the first stage – the AMR – the Commission looks at a set of high-level indicators to gauge whether imbalances might exist in EU countries. This scoreboard includes variables which are supposed to be good indicators for various types of imbalances, including external or internal imbalances and competitiveness losses more generally. The scoreboard started off with 11 indicators, but has since been extended. The external and competitiveness dimension of the scoreboard captures the current account, the net international investment position (NIIP), the export market share, the real effective exchange rate (REER) HICP deflated and the unit labour costs (ULC). The internal imbalances perspective is covered by house prices and private sector credit flow as well as private sector debt, public debt, the unemployment rate and total sector financial liabilities. Starting with the 2016 exercise, the Commission added three employment indicators (youth and long-term unemployment and the activity rate) to the scoreboard. However, the Commission clarified that these three indicators do not have the same weight as the other variables as high values per se are not seen as an aggravation of macro-financial risks, and consequently are not used to trigger any steps in the MIP. Each of the main 11 indicators above has a threshold attached which should indicate when a country-specific value becomes too high, judged by historical standards. These thresholds are mostly derived from statistical methods (usually the lower quartile of the cross-country distribution over time) and only in a few cases determined on an ad hoc basis (such as for the upper bound of the current account threshold[10]).[11]

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9 The two relevant pieces of secondary legislation are Regulation (EU) 1176/2011 and Regulation (EU) 1764/2011.

10 Thresholds for the current account are chosen to be asymmetric (-4% and +6% of GDP), given that large current account surpluses do not pose the same risk to the smooth functioning of the monetary union as large deficit positions. The latter are particularly vulnerable to sudden interruptions of capital inflow.

11 For more details on the indicators of the scoreboard, see the European Commission (2016) and the European Commission (2012b).

Table 2

MIP scoreboard for the euro area countries on the basis of 2016 data

	External imbalances and competitiveness					Internal imbalances						Employment indicators		
	Current Account balance (% of GDP) - 3 years average	NIIP (% of GDP)	REER (42 industrial countries - HICP deflator) - % change 3 years	Export Market shares - % change 5 years	ULC - 5 change 3 years	Deflated House Prices (% y-o-y change)	Private Sector Credit Flow as % of GDP, cons.	Private Sector Debt as % of GDP, cons.	General Govern-ment Sector Debt as % of GDP	Unemploy. Rate - 3 years average	Total Financial Sector Liabilities (% y-o-y change)	Activitiy rate (3 years p.p. change)	Long-term unemploy-ment rate (3 years p.p. change)	Youth unemploy-ment rate (3 years p.p. change)
Threshold	-4%/6%	-35%	±5%	-6%	9%	6%	14%	133%	60%	10%	16.5%	-0.2pp	0.5pp	2pp
BE	-0.3	52.2	-0.4	-2.3	-0.6	1.0	13.3	190.1	105.7	8.3	1.2	0.1	0.1	-3.6
DE	8.1	54.4	-2.6	2.8	5.2	5.4	3.8	99.3	68.1	4.6	5.2	0.3	-0.6	-0.7
EE	1.4	-37.1	4.5	-0.7	13.4	3.8	5.9	115.4	9.4	6.8	7.2	2.4	-1.7	-5.3
IE	5.5	-176.2	-6.6	59.8	-20.5	6.6	-19.0	278.1	72.8	9.5	2.5	0.7	-3.6	-9.6
GR	-1.0	-139.4	-3.9	-19.0	-3.3	-2.0	-1.7	124.7	180.8	25.0	-16.6	0.7	-1.5	-11.0
ES	1.4	-83.9	-4.3	2.2	0.4	4.7	-1.0	146.7	99.0	22.1	0.9	-0.1	-3.5	-11.1
FR	-0.7	-15.7	-3.1	-2.4	1.4	1.0	6.2	146.9	96.5	10.3	4.3	0.7	0.2	-0.3
IT	2.1	-9.8	-3.4	-2.8	1.9	-0.8	0.6	113.6	132.0	12.1	3.2	1.5	-0.2	-2.2
CY	-3.6	-127.8	-6.5	-3.0	-6.2	1.6	10.2	344.6	107.1	14.7	0.7	-0.2	-0.3	-9.8
LV	-0.3	-58.9	4.9	9.3	16.5	7.4	0.3	88.3	40.6	10.1	5.8	2.3	-1.7	-5.9
LT	-0.3	-43.2	5.4	5.4	14.7	4.5	4.3	56.2	40.1	9.2	16.3	3.1	-2.1	-7.4
LU	5.0	34.7	-1.5	26.2	2.5	5.9	1.5	343.6	20.8	6.3	7.5	0.1	0.4	2.2
MT	6.7	47.6	-2.5	8.7	-0.1	4.8	11.1	128.4	57.6	5.3	1.7	4.1	-1.0	-2.0
NL	8.8	69.1	-2.3	0.1	-1.1	4.4	1.5	221.5	61.8	6.8	5.3	0.3	0.0	-2.4
AT	2.2	5.6	1.0	-4.0	5.8	7.2	3.2	124.0	83.6	5.8	-2.4	0.7	0.6	1.5
PT	0.3	-104.7	-1.9	5.8	0.9	6.1	-2.2	171.4	130.1	12.6	-0.2	0.7	-3.1	-9.9
SI	5.1	-36.9	-0.5	4.0	0.7	3.6	-0.8	80.5	78.5	8.9	3.2	1.1	-0.9	-6.4
SK	-0.7	-62.4	-1.6	7.3	3.5	7.0	9.2	94.7	51.8	11.5	8.5	2.0	-4.2	-11.5
FI	-1.2	-2.3	0.5	-14.1	2.1	-0.3	2.2	149.3	63.1	9.0	4.5	0.7	0.6	0.2

Source: 2018 Alert Mechanism Report, Statistical Annex (European Commission).
Notes: Thresholds refer to the euro area countries. Other EU countries have a different threshold for REER (±11%) and ULC (12%).

Following a selection of countries on the basis of the above first screening exercise in the AMR in autumn each year, the European Commission conducts IDRs on selected countries (included in the annual country reports) to assess the severity of any imbalances. If such imbalances are found to exist, the Member State concerned receives policy recommendations from the Council of the European Union – based on recommendations by the European Commission – under the preventive arm of the procedure. Where the imbalances are found to be excessive, the excessive imbalance procedure (EIP) is supposed to be initiated following a recommendation to the Council by the Commission.[12] Under this corrective arm of the procedure, a corrective action plan must be provided to explain how the excessive imbalances will be addressed. In the event of repeated failures to provide an adequate plan, or if an approved plan is not complied with, the Council may

[12] See Recital 22 of Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances.

impose financial sanctions on the country in question. However, the procedural option of financial sanction only applies to euro area countries.[13]

In its six years of the procedure's application, the European Commission identified a large number of countries still exhibiting macroeconomic imbalances, with a few of them even having excessive imbalances, but never invoked the corrective arm of the procedure for any country.[14] For countries with excessive imbalances, the Commission instead introduced so-called "specific monitoring", which includes fact-finding missions to the countries and separate, more timely reporting to the relevant EU committees. While this has strengthened surveillance, it does not have the same traction as the corrective arm, under which countries need to commit to specific policy measures with a view to facilitating quicker adjustment of imbalances.

The number of countries included in the preventive arm of the MIP, deemed to have excessive imbalances, was increasing until recently (Chart 29). Given the absence of automaticity in the MIP it is not possible to disentangle the reason for the increasing number of countries with excessive imbalances. Chart 29 shows that from 2015 to 2017 three to four countries were continuously included in the excessive imbalance group. One country has been assessed as having had excessive imbalances for 5 years in a row. Despite the unchanged assessment these countries continued to be part of the preventive arm of the MIP. A situation with persistently excessive imbalances warrants a strong policy response as past experience has shown that the correction of imbalances accumulated over a long period of time is very costly. This is the reason why the ECB has consistently argued that the MIP tools – including the full corrective arm of the procedure – should be fully employed in relation to those countries with excessive imbalances (see ECB, 2012c, 2013, 2014, 2015, 2016b, 2017a and 2018b). This has also been explicitly called for by the Five Presidents in their 2015 report.[15] The use of such tools is desirable not only in order to increase the economic prospects of the relevant country itself, but also to help facilitate economic adjustment processes inside the euro area and enhance the resilience of the euro area. It is thus in the interest of the euro area as a whole, in particular given the fact that a tool, the EIP, has already been set up to deal with those cases.

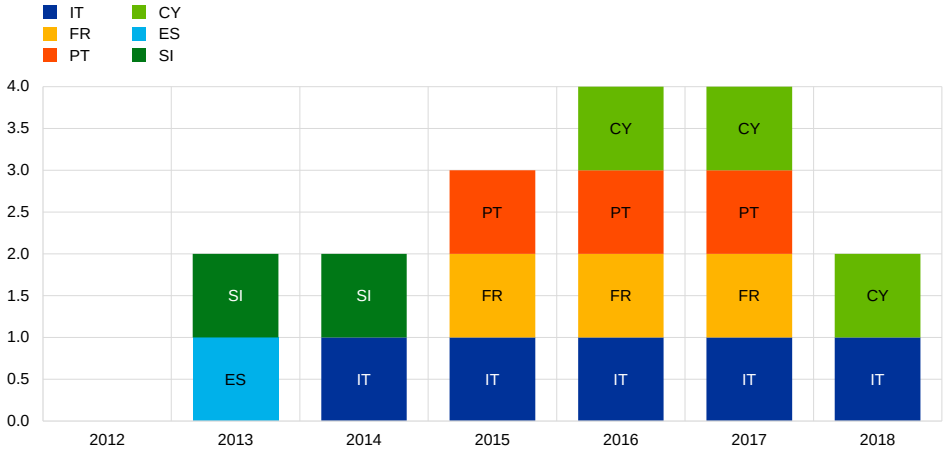
13 As stipulated in Regulation (EU) 1764/2011.

14 The ECB has reported in each year on the Commission's application of the MIP. For details, see ECB, 2012, 2013, 2014, 2015, 2016b, and 2017.

15 Juncker, J.-C. et al., *Completing Europe's Economic and Monetary Union*, June 2015.

Chart 29

Number of euro area countries with excessive imbalances



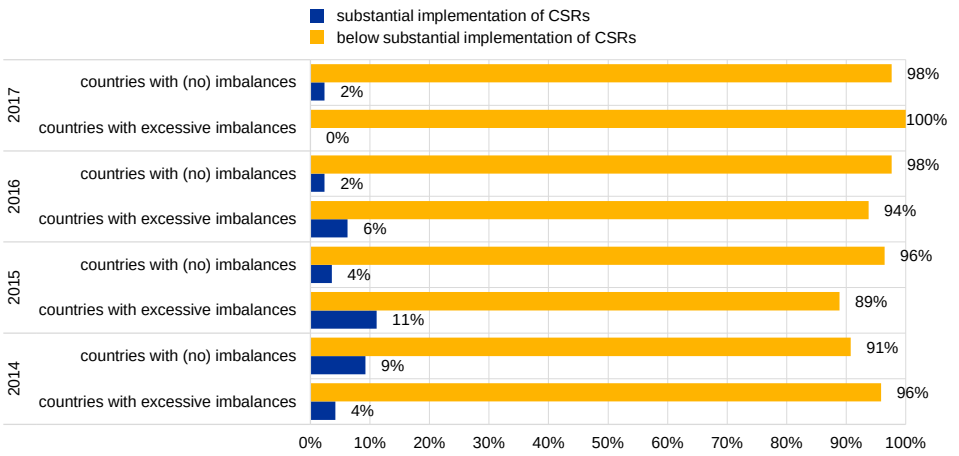
Source: Authors' compilation based on European Commission data.
Notes: The chart shows those euro area countries deemed by the European Commission as having "excessive imbalances" in each year. A country subject to an economic adjustment programme enters the MIP automatically once that programme ends. In 2012, no country was deemed to have an excessive imbalance.

5.3 Raising awareness about imbalances in the euro area

In the current environment where flow imbalances have largely been corrected, the identification of excessive imbalances largely rests on stock problems. Undoubtedly, unlike fiscal surveillance, it is very challenging to evaluate which part of the observed adjustment has been achieved by explicit policy measures as variables such as the unemployment rate, private debt, credit growth or house price growth are only to some extent under the control of policy-makers. This notwithstanding, it is fair to assume that excessive imbalances indicate a greater need for policy action. This suggests that countries that the Commission had identified as having such excessive imbalances should normally be expected to have implemented significantly more reforms than their fellow Member States. However, comparing the implementation track record between these two groups does not seem to reflect this. Countries with excessive imbalances did not implement significantly more reforms than other countries. The share of at least substantially addressed reform recommendations (CSRs) was even somewhat lower for 2014 CSRs, only slightly higher in 2015/2016, and lower again in 2017 (Chart 30).

Chart 30

Countries with excessive imbalances did not implement significantly more reforms than other euro area countries in last three years



Source: Authors' calculations based on European Commission Country Reports (various years) displaying the average share of CSRs (across the respective country group) which have been addressed at least substantially (blue bar). The other CSRs (orange bar) have seen some, limited or no implementation.

Public awareness of macroeconomic imbalances only set in with some delay. Macroeconomic imbalances accumulated gradually among euro area countries in the run-up to the crisis. With the inception of the financial crisis and the ensuing sovereign debt crisis in the euro area, macroeconomic imbalances were painfully exposed. Yet, public awareness of these imbalances seems to have emerged only gradually. Looking at press reports on the issue of "macroeconomic imbalances" or "rebalancing" (in the four most spoken EA languages and English) and associated with the euro area countries (Chart 31), it is interesting to note that the discussion in the press evolved and peaked with a significant lag, namely in 2013.

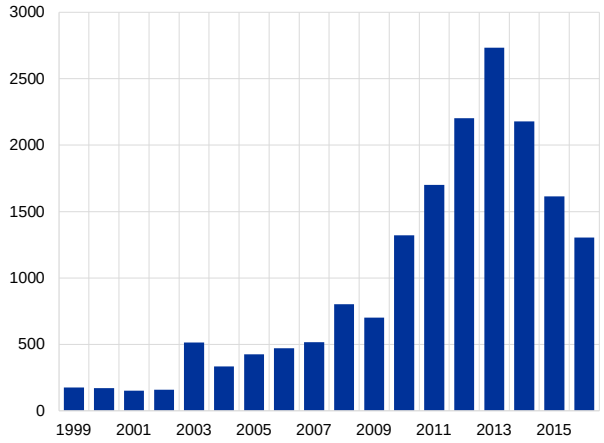
The MIP however has been successful in raising awareness about imbalances and the need for preventive and corrective measures. With the creation of the MIP, a tool was added which helped to increase awareness of the various macroeconomic imbalances persisting in euro area countries among the broader public and among the relevant EU and national policy-makers. This contribution is manifold. First, the Commission adds significant reporting on the nature of imbalances across EU countries. This reporting starts each year with the AMR and continues with the IDRs (or Country Reports as they have been called since 2015). For each of those publications, the relevant Commissioners explain their findings in a press release and subsequent press conference. The Council (and its sub-Committees) discusses those reports in greater detail, raising awareness among the countries concerned, but also among Member States more generally. In addition, the Council also publishes the main conclusions of such debates, once again bringing the debate into the broader public domain. Moreover, with the use of specific monitoring missions and reporting, the Commission adds further analysis, discussion and publications on the state of imbalances for the countries with the most significant need for imbalance adjustment. The increased awareness of the MIP among the general public is also evident from the increase in press reports, in particular in the second year of its application (see Chart 32). Since then, reporting has receded

somewhat, but remains at an elevated level showing that the Commission's analysis and the discussions among Member States help to raise public awareness of the matter. The increased awareness among national policy-makers is a success of the procedure and should stimulate the national debate and potentially also boost reform implementation to facilitate even quicker adjustment of remaining imbalances.

Chart 31

The term 'macroeconomic imbalances' increasingly picked up in press reporting since 2010

(number of press reports per year)

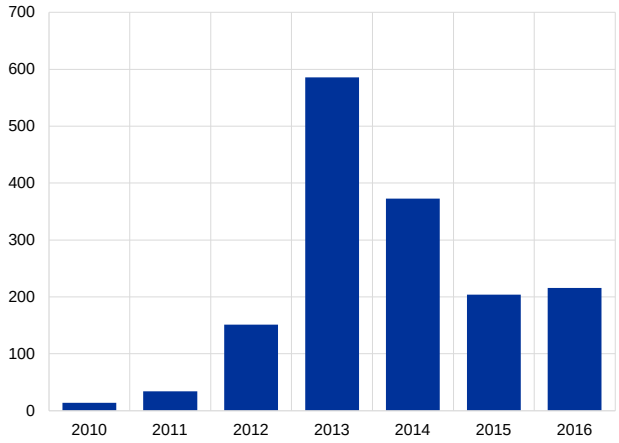


Sources: authors' calculations, FACTIVA.

Chart 32

New Macroeconomic Imbalance Procedure picked up by the press since its creation

(number of press reports per year)



Source: authors' calculations, FACTIVA.

5.4 Evaluation of the MIP early warning properties

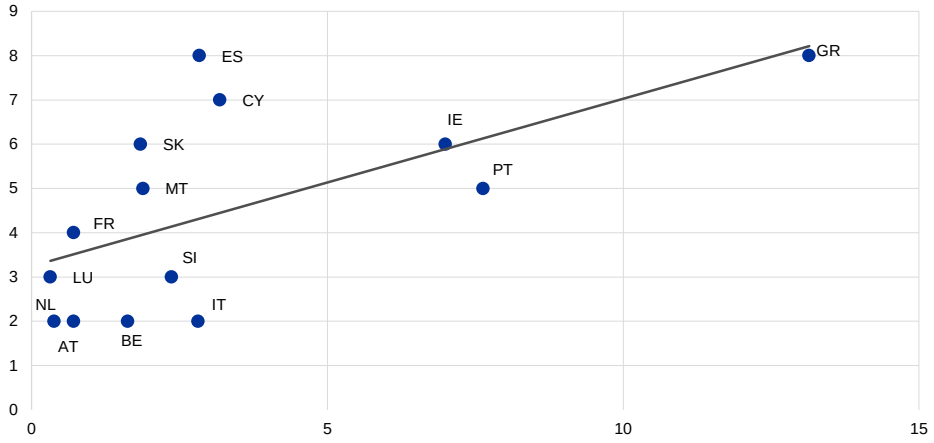
The small set of scoreboard indicators has good early warning properties for detecting potentially harmful imbalances. As noted in Section 4.1, the scoreboard includes a broad set of indicators, covering both stock and flow variables, which should facilitate the early detection of imbalances building up. At the same time, the legal text of the MIP clarifies that an assessment of the existence of imbalances on the basis of the scoreboard variables should be embedded in a broader "economic reading" taking account of other context variables such as economic growth or convergence patterns. This requirement is not least due to the fact that macroeconomic imbalances can be manifold and the country-specific situation needs to be analysed in depth before concluding on the existence of imbalances. This notwithstanding, looking back, the scoreboard indicators themselves would have had important early warning properties as Table 3 and Chart 33 show. A simple tally of the number of scoreboard variables which have been exceeding their respective thresholds is depicted in Table 3. Interestingly, all (former) programme countries already experienced between 5 and 8 breaching indicators several years before the crisis. This suggests that the selected indicators would have been a good early warning tool for the type of macroeconomic imbalances which emerged before the

financial and sovereign debt crisis.[16] Chart 33 shows a correlation of the number of scoreboard indicators exceeding their respective thresholds in 2005 (see Table 3) with the 10-year sovereign bond spreads vis-à-vis Germany in 2011. The positive correlation shows that nearly all of the countries which started to have elevated imbalances were a few years later faced with significantly higher bond spreads than their peers.

Chart 33

MIP scoreboard would have detected vulnerable countries as early as 2005

x-axis: 10 year sovereign yield spread vis-à-vis the German bund; y-axis: number of scoreboard indicator exceeding their respective thresholds.



Source: authors' calculations, ECB and European Commission.

[16] An exception applies for Italy. Italy, which has been identified by the Commission as having had excessive imbalances since 2014, only exhibits three scoreboard indicators above their relevant threshold. The Commission's main argument for including Italy in the group of countries with excessive imbalances pertains to the country's low growth and low productivity performance. The related indicators measuring this are only part of the auxiliary scoreboard indicators, which are also used for the economic reading but which do not carry the same weight as the 11 main indicators.

Table 3

MIP scoreboard: number of variables exceeding their threshold over time

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Belgium	3	3	2	2	3	3	3	2	2	3	3	3	3	2
Germany	2	2	2	2	3	2	2	3	2	4	3	3	2	2
Estonia	(6)	(7)	(6)	(6)	(6)	(4)	(4)	(4)	2	2	4	3	4	2
Ireland	3	6	6	6	5	7	5	5	6	6	4	6	6	6
Greece	6	6	8	5	5	4	6	5	5	5	5	5	5	4
Spain	5	6	8	7	7	6	7	6	6	6	5	5	4	4
France	3	4	4	3	2	2	2	2	2	4	3	4	3	3
Italy	4	4	2	2	2	2	3	2	2	3	3	3	3	2
Cyprus	(4)	(7)	(7)	(6)	(6)	4	5	6	6	6	6	6	7	5
Latvia	(5)	(5)	(6)	(6)	(6)	(4)	(5)	(3)	(2)	(3)	(3)	3	3	4
Lithuania	(3)	(4)	(5)	(6)	(6)	(4)	(4)	(4)	(2)	(3)	(2)	(3)	3	3
Luxembourg	2	3	3	1	3	3	4	3	4	4	3	2	3	1
Malta	(3)	(5)	(5)	(5)	(5)	6	5	5	3	3	3	3	3	1
Netherlands	3	2	2	2	2	3	4	3	4	5	4	4	4	3
Austria	1	1	2	1	2	1	3	2	2	4	2	2	2	2
Portugal	5	5	5	5	5	6	5	6	6	6	4	4	4	5
Slovenia	(2)	(2)	(3)	(1)	3	4	3	2	2	2	3	3	2	2
Slovakia	(4)	(4)	(6)	(5)	(6)	(5)	5	5	2	2	2	2	2	3
Finland	3	3	2	1	1	1	3	4	3	3	3	2	3	3

Source: authors' calculations and European Commission.
Notes: Dark blue (blue; light blue) for countries with 8 and 7 (6; 5 or 4) indicators breaching their respective threshold. Brackets around numbers indicate that countries have not yet been part of the euro area.

6 Conclusions

This occasional paper has reviewed the process of accumulating imbalances in the euro area and their unwinding over the past 20 years. The accumulation of imbalances in the first decade of the EMU became unsustainable and triggered a painful correction, which led to a double-dip recession in the euro area between 2009 and 2012.

The years of the double-dip recession saw a surge of reforms at national and supranational level and multipronged measures to repair and rebuild the foundations of the monetary union were introduced. At the same time, flow imbalances have begun to be corrected. However, the reform process has quickly lost steam over recent years. By 2014, very few countries were still reforming and since then the reform pace has been reduced significantly. This has happened alongside persistently elevated vulnerabilities and stock.

The evidence reported in this occasional paper shows that the level of stock imbalances still appears to be elevated. This analysis indicates that the correction of flow imbalances in several euro area countries might have been cyclical to a large extent, thus warning against complacency. It also shows that various metrics point to non-negligible deleveraging needs in some euro area countries. A number of reform indicators show that there is still significant scope for many euro area countries to increase the resilience of their economic structures. The pay-offs from reforms are high, but they require long-term commitments, persistence in implementation and no back-tracking. This means that ownership over reforms is key to ensuring their success.

Finally, this occasional paper has shown that the MIP has been successful in raising awareness about imbalances and the associated need for preventive and corrective measures. It has also shown that the MIP scoreboard indicators have good early warning properties. Had these indicators been properly monitored in the first decade of the EMU, they would have predicted the crisis well in advance of its appearance in several euro area countries.

Looking forward, a key challenge in achieving a more resilient and stronger EMU involves translating this higher awareness of the risks associated with imbalances into stronger ownership and implementation of reforms.

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Abbreviations

Countries

BE	Belgium	**HR**	Croatia	**PL**	Poland
BG	Bulgaria	**IT**	Italy	**PT**	Portugal
CZ	Czech Republic	**CY**	Cyprus	**RO**	Romania
DK	Denmark	**LV**	Latvia	**SI**	Slovenia
DE	Germany	**LT**	Lithuania	**SK**	Slovakia
EE	Estonia	**LU**	Luxembourg	**FI**	Finland
IE	Ireland	**HU**	Hungary	**SE**	Sweden
GR	Greece	**MT**	Malta	**UK**	United Kingdom
ES	Spain	**NL**	Netherlands	**US**	United States
FR	France	**AT**	Austria		

In accordance with EU practice, the EU Member States are listed in this report using the alphabetical order of the country names in the national languages.

Others

AMR	Alert Mechanism Report
ECB	European Central Bank
EIP	Excessive Imbalance Procedure
EMU	Economic and Monetary Union
EU	European Union
EUR	Euro
GDP	gross domestic product
IDR	In-depth review
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
MIP	macroeconomic imbalance procedure
NIIP	Net International Investment Position
NCB	national central bank
OECD	Organisation for Economic Co-operation and Development
PPS countries	euro area countries involved in the Post Programme Surveillance except Spain (namely IE, PT, and CY)
TFEU	Treaty on the Functioning of the European Union

Conventions used in the tables

“-” data do not exist/data are not applicable
“.” data are not yet available

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