

Growth returns but will have to be sustained in order to heal scars and reverse re-emerging divergence

Introduction

The most recent European Commission forecasts have been consistently suggesting that there is evidence of a recovery in output growth across Europe. The European Commission's Winter Forecast from February (European Commission 2018) showed a higher than previously estimated output growth rate for 2017, at 2.4% for both the EU28 and the euro area, predicted to ease to 2.3% in 2018 and 2.0% in 2019. These figures compare favourably to those of the US and Japan and are the highest seen in Europe since 2010.

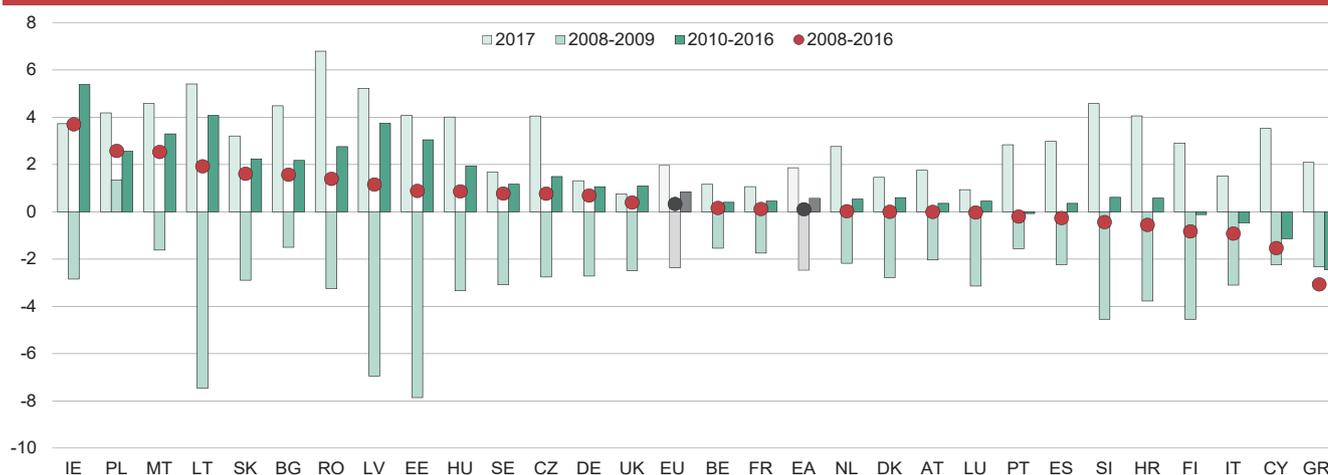
While this is certainly good news, a closer look at certain fundamental variables gives reason to be cautious when it comes to policy decisions. Wage growth and inflation have remained relatively weak, suggesting that deep scars in the labour market have yet to be healed. The prediction that we may be already approaching the peak of growth in the business cycle while there is still labour market 'slack' suggests that measures to keep on supporting demand should be reinforced rather than rolled back. In addition, big uncertainties still remain in the international environment, with possible moves towards protectionism in the US and the risk of great disruption when the UK formally leaves the EU in March 2019. Both developments could harm exports from the EU.

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Economic developments: real GDP per capita growth

Figure 1.1 Average annual growth rate (%) in real GDP per capita (EU Member States) (2008-2009, 2010-2016, 2017 and 2008-2016)



Source: Own calculations using AMECO data (RVGDP series).

Growth returns after long period of stagnation

Figure 1.1 shows the average annual real GDP per capita growth rates in the EU Member States between 2008 and 2017 and various sub-periods thereof. In 2017, all Member States demonstrated positive growth. Eleven Member States from central and eastern Europe and Malta experienced the strongest growth rates, between 4% and 6.8%. Southern Member States which received financial support during the crisis and Ireland, but also Slovakia, Finland and the Netherlands all grew at rates above the EU average in 2017, between 2.1% and 3.7%.

As seen in Figure 1.1, this recovery comes in the aftermath of a period of stagnating, if not receding, GDP per capita for most of the 2008-2017 period. Eight Member States – Greece, Cyprus, Italy, Finland, Croatia, Slovenia, Portugal and Spain – had negative average annual real GDP per capita growth rates between 2008 and 2016. In another seven countries – Luxembourg, Austria, Denmark, the Netherlands, France, Belgium and the UK – real GDP per capita stagnated, with annual average growth rates between 0% and 0.4%.

The 2008-2009 financial crisis sent all Member States bar Poland into negative GDP per capita growth, in most cases even below 2%, a threshold signalling exceptionally critical circumstances in the context of the EU’s fiscal rules. However, what seems to have determined the extent of stagnation/recession during the 2008-2016 period was the evolution of GDP per capita between 2010 and 2016. The year 2010 marked a shift from a coordinated fiscal stimulus across Europe to a coordinated consolidation of government budget deficits as all Member States bar Sweden and Estonia entered excessive deficit procedures, under the corrective arm of the Stability and Growth Pact, while some southern countries followed harsh economic adjustment programmes of fiscal austerity and internal devaluation in exchange for financial support to their governments or banks. Similar programmes had already been implemented in Ireland and Latvia at an earlier stage. What the evolution of real GDP per capita growth rates, shown in Figure 1.1, suggests is that the effects of post-2010 policy responses were more important in determining growth during the 2008-2016 period than the effects of the early financial crisis itself.

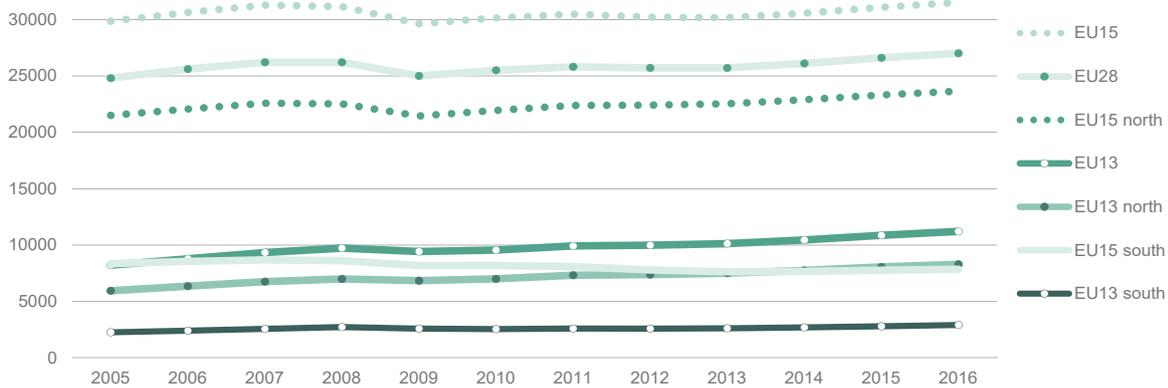
Overall, the majority of the Member States that joined the EU after 2004 (EU13) fared better during the 2008-2017 period than the rest, a fact that could be explained by several factors, such as the

operation of ‘catching up’ mechanisms, the fact that many of them were not eurozone members and were therefore less prone to the systemic failures of the latter, and crucial differences in the priorities of the economic adjustment programmes that some of them had to follow during the early crisis years, most notably the decisive tackling of problems in their banking sectors.

The extent to which real GDP per capita growth reflects the improvement in living standards enjoyed by the population as a whole depends not just on how well the tax-benefit system redistributes from the richer to the poorer (for more on which see Chapter 3) but also, in the era of multinational corporations, on the extent to which the resources produced within a country are reinvested domestically, distributed towards its labour or instead exported as profits to wherever the managements of multinational companies see fit. Considering that the economies of several of the EU13 Member States have been relying on multinational corporations paying substantially lower wages compared to the international price of the products produced (Galgóczy 2017), the figures above may be overestimating the extent to which the actual living standards of their populations have been improving.

Economic developments: disparities in real GDP per capita

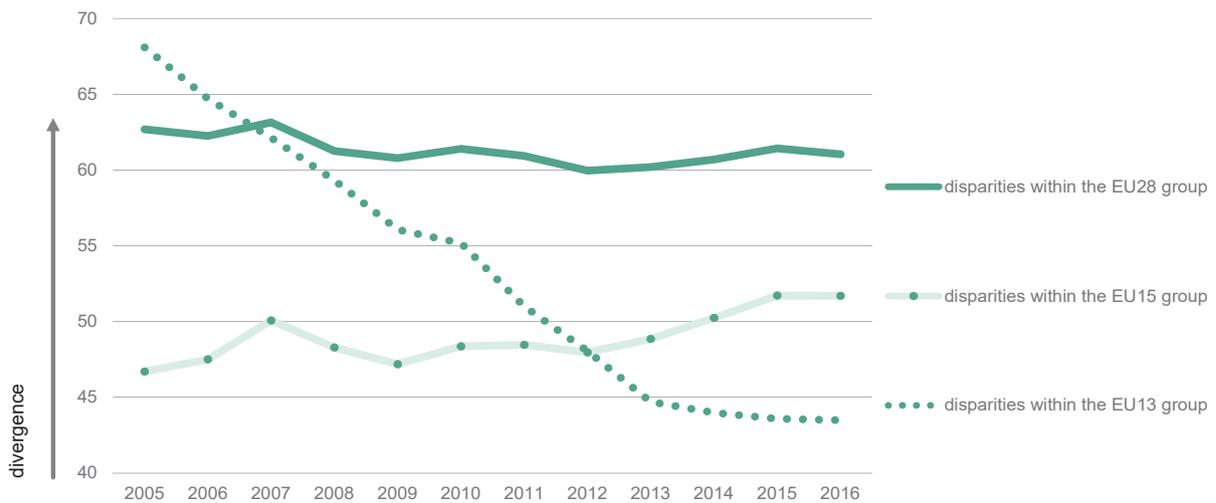
Figure 1.2 Evolution of real GDP per capita (euros: in thousands) in the EU28, EU15 (total, north and south) and EU13 (total, north and south)



Source: Own calculations using Eurostat data (nama_10_pc and nama_10_pe series).

Note: EU15=BE, DK, DE, IE, GR, ES, FR, IT, LU, NL, AT, PT, FI, SE, UK; EU15 north=BE, DK, DE, IE, FR, LU, NL, AT, FI, SE, UK; EU15 south=GR, ES, IT, PT; EU13=BG, CZ, EE, HR, CY, LV, LT, HU, MT, RO, SI, SK; EU13 north=CZ, EE, LV, LT, HU, SI, SK; EU13 south=BG, HR, CY, MT, RO, SI.

Figure 1.3 Disparities (coefficient of variation, %) in real GDP per capita within the EU28, EU15 and EU13 groups (2005-2016)



Source: Own calculations of population weighted averages using Eurostat data (nama_10_pc and nama_10_pe series).

Divergence between north and south

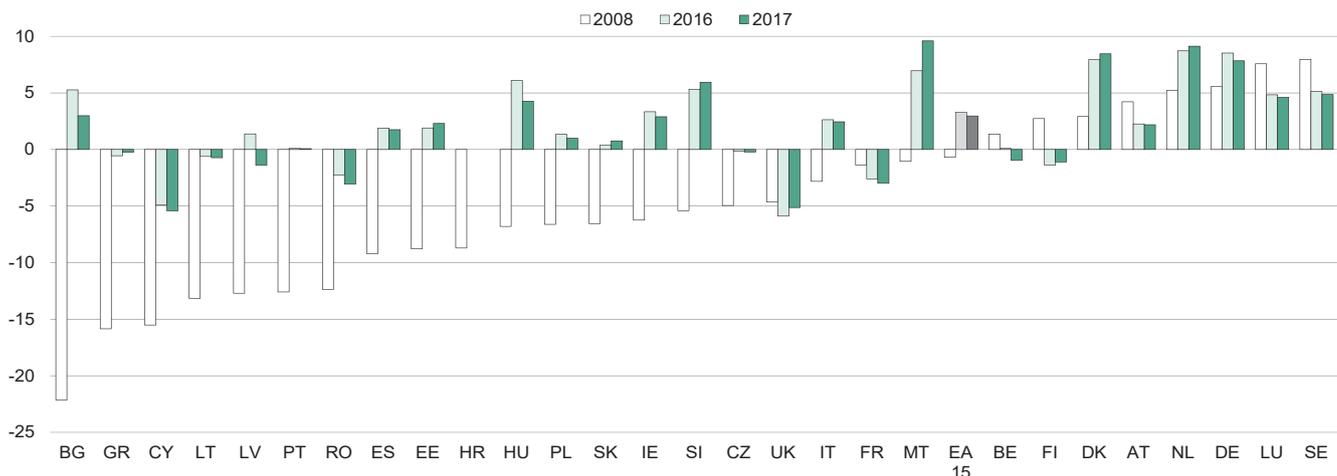
Figure 1.2 shows the evolution of real GDP per capita population-weighted averages by large groups of countries, namely the EU28, the EU15 and the EU13 (the 'new' Member States), and the sub-groups

within these groups. We see that the average GDP per capita for the EU13 as a whole has been increasing continuously since 2010 despite the stagnation in 2008-2009 and grew faster every year than that of the EU15 in the period 2005-2016, including the crisis years. Interestingly, there are divisions within both the EU15 and the EU13 groups, between their northern and southern members. In both groups, the southern member sub-groups have fared much worse than their northern counterparts, both in levels and in growth rates.

Figure 1.3 shows measures of disparity in real GDP per capita for the EU28, the EU15 and the EU13. We can see that within the entire EU28, divergence began to increase after 2012. There was an impressive and continuous convergence within the EU13 group throughout the 2005-2016 period, while divergence increased within the EU15 group. We therefore observe that while the still wide gap between east and west seems to be closing, a gap between north and south persists, and in the case of the EU15 southern countries it is continuing to widen.

Macroeconomic performance: current accounts

Figure 1.4 Current account balances with the rest of the world (percentage of national GDP in current prices) for EU Member States and the Euro area (2008, 2016, 2017)



Source: AMECO database (UBCA series).

An unbalanced rebalancing

The building pressure on large current account deficits – that is, the increasing inability of certain Member States to carry on financing them by borrowing at affordable interest rates from the private sector – triggered a crisis in some Member States as early as 2008, and in others from 2010 onwards. Figure 1.4 shows the current account balances of EU Member States and of the euro area as a share of their GDP in 2008 and then again in 2016 and 2017. In 2008 there were several Member States with large current account deficits: Bulgaria, Greece, Cyprus, Lithuania, Latvia, Portugal, Romania and Spain all had deficits of about 10% of GDP and above. At the other end of the spectrum the current accounts of several Member States in the north-west region of the EU and in Scandinavia were either balanced or in surplus. The euro area went from having a virtually balanced external account to developing a sizeable current account surplus of around 3% by 2016-2017.

As the figure shows, the burden of adjustment of these current account imbalances fell predominantly on the shoulders of Member States with deficits,

which in most cases reduced them substantially or even turned them into surpluses. On the other hand, Member States with current account surpluses in 2008 (Belgium, Finland, Denmark, Austria, the Netherlands, Germany, Luxembourg and Sweden) underwent much smaller adjustments, if any. Finland, Belgium and Austria moved towards smaller deficits or surpluses. Denmark, the Netherlands and Germany increased their surpluses to reach substantial levels (close to 10% of GDP), while Luxembourg and Sweden reduced their surpluses while keeping them fairly high. The UK's current account deficit in 2016 and 2017 was not much different than in 2008, although its size had fluctuated in the intervening period. The weaker value of the pound from 2016 seemed to have a rebalancing effect on the trade balance. On the other hand, the deficits in primary income and current transfers expanded between 2016 and 2017.

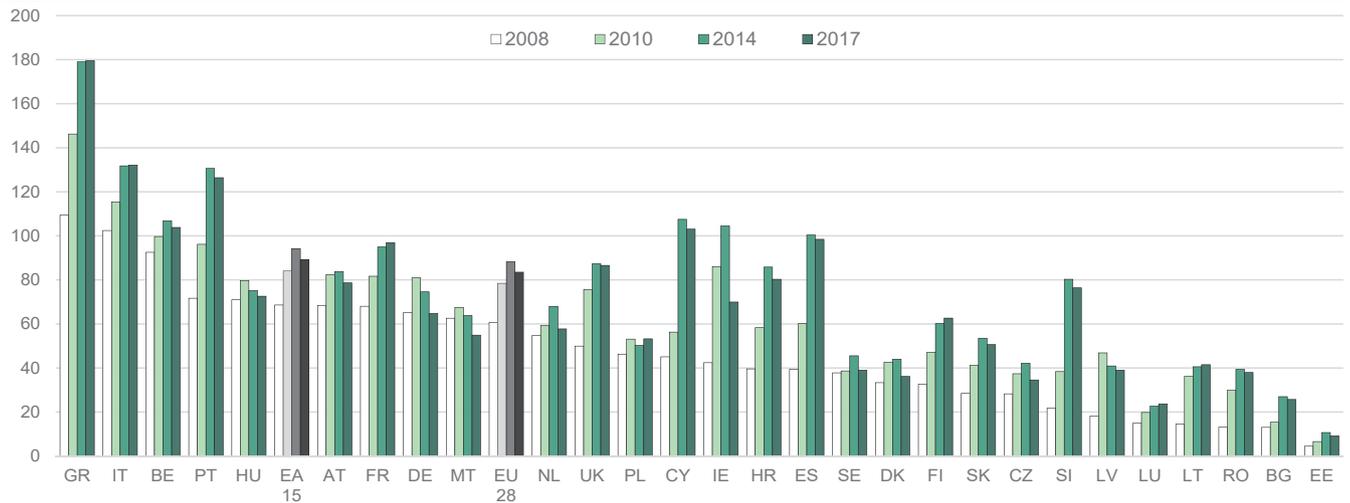
The rebalancing of current account deficits has been a much more painful exercise for those Member States who could not (euro area members) or would not (Latvia) devalue their nominal exchange rate in order to stimulate their exports and curb their imports. In many cases, financial support had to be provided to Member States by the EU and the IMF, accompanied by economic adjustment conditionality. In

this context, measures were taken aimed at producing an 'internal devaluation', with the objective of squeezing the growth of unit labour costs. To that end, public spending cuts and labour market deregulation measures were pursued, which achieved the rebalancing of current account deficits by suppressing imports rather than expanding exports (see Myant et al 2016, ETUC and ETUI 2017).

This 'unbalanced rebalancing' of current accounts across Europe has generated a shortfall in domestic demand, especially in the euro area, which went from having a virtually balanced current account to a persistent surplus of around 3% of GDP, reflecting among other things the persistent shortfall in investment in the area and causing concerns about global financial stability.

Macroeconomic performance: public debt

Figure 1.5 Gross public debt (percentage of GDP) in the EU, euro area and Member States (2008, 2010, 2014, 2017)



Source: AMECO database (UDGG series).

Persistently higher public debt

Figure 1.5 shows the evolution of the gross public debt/GDP ratio since 2008 when the economic crisis began. No Member State avoided an increase in their public debt/GDP ratios between 2008 and 2010. In 2017 the average in the EU stood at 83% whereas in the euro area it was 89%, both well above the 60% of GDP stipulated by the EU's fiscal rules. By far the biggest increases since 2008 took place in the Member States which received financial support (Greece, Portugal, Cyprus, Ireland, Spain, Latvia, Romania) but also in Slovenia. The initial debt levels varied widely. Figure 1.4 also shows that the reversal of the increases in the public debt/GDP ratio has been in most cases very slow, especially in those cases (with the exception of Ireland) that saw the most dramatic increases. The fact that the recovery has been weak in many Member States explains to a significant extent this sluggish reversal.

High public debt/GDP ratios may reduce the available space for governments to deal with future crises by borrowing money (for example, should a bank need to be recapitalised, a pension fund supported to continue paying

benefits to recipients, or the victims of a national disaster compensated) (Obstfeld 2013). The environment of economic stagnation (with its effects on the balance sheets of banks) and historically low interest rates, together with an ageing population, suggest that the risk of such crises occurring in the not-so-distant future is far from negligible. Also, insofar as high public debt/GDP ratios imply a relatively higher need to roll over debt (that is, borrow to replace expired government bonds), any sudden increase in borrowing interest rates in the financial markets may increase the interest payment burden of a highly indebted government or even result in a liquidity crisis. Still, and contrary to what is often considered as popular wisdom (Reinhart and Rogoff 2010), there is no robust evidence of a negative effect of a specific public debt/GDP ratio on output growth (see Panizza and Presbitero 2013 for a review). Instead, there seems to be quite a lot of evidence on the adverse effects that pursuing fiscal austerity has on growth, especially when an economy is already weak.

Recent research on the ways in which public debt/GDP ratios were reversed between 1800 and 2014 suggests that economic growth is the most benign way of doing so but that it was only used in just over half of the cases they studied (Reinhart et al. 2015). Therefore, under the current circumstances of prolonged

stagnation in many parts of Europe and weak recovery of a by now chronically deficient public investment rate, a route of promoting debt consolidation by fiscal expansion rather than austerity is likely to be more effective.

Developments in domestic demand

Figure 1.6 Private final consumption expenditure per head of population relative to the EU (EU=100) (2004, 2008, 2017)



Source: AMECO database (HCPHPR).

Convergence in private consumption per head

Figure 1.6 shows the evolution of private final consumption expenditure per head of population relative to the EU average level in three different years (2004, 2008 and 2017). Private final consumption refers to the expenditure of households and non-profit institutions on goods and services and excludes benefits in kind financed by the government and supplied to households. Insofar as private final consumption depends largely on disposable incomes, its comparison with the evolution of GDP per head provides an (imperfect) indication of how much of the produced output has been used by domestic households (as opposed, for example, to foreign capital owners operating multinational companies in a country) to improve their current living standards. That the value for private final consumption expenditure per head of population in the EU is equal to 100 for all three years examined in the figure does not mean that its level was the same in all three years. In fact, it was higher

in 2008 than it was in 2004, and higher again in 2017.

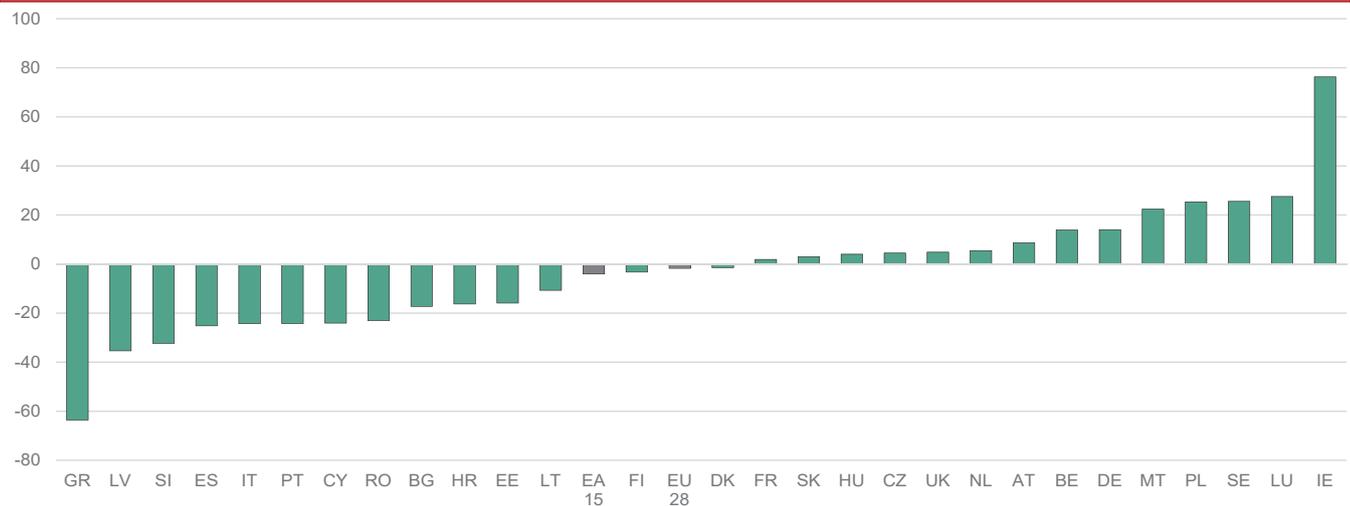
In Figure 1.6, the distribution of Member States to the right and left of the EU base (100) broadly follows a division between older Member States and their newer and poorer counterparts, although the composition of total consumption and its distribution between private and government final consumption also matters for the ranking of countries presented in the figure. Government final consumption includes social transfers in kind that the government finances and which are offered as goods and services to households. Thus, rich Member States such as Sweden and Finland appear to have a private final consumption per head roughly equal to or somewhat lower than the EU average because private final consumption in Sweden and Finland accounts for about two thirds of total consumption, while in the EU it accounts for about three quarters of total consumption.

We also see that in the majority of new Member States, except for Malta, Slovenia and recently Croatia, private final consumption expenditure per head of population was higher relative to the EU average in 2008 than in 2004 and higher again in 2017. In this respect, we can identify some convergence with the older Member States, although some part of this is due not only to the new Member States growing faster but also to growth

slowing down in the older Member States due to the crisis.

Developments in domestic demand

Figure 1.7 Gross fixed capital formation (2007-2017) (percentage change, 2010 prices)



Source: Calculated from AMECO database.

Unclear results from investment support

Figure 1.7 shows that fixed capital investment in the EU as a whole in 2017 was still 1.8% below the peak level of 2007. Recovery has left 12 Member States still more than 10% below their pre-crisis levels and all of these have per capita GDP levels below the EU average. Investment is therefore currently promoting divergence rather than convergence.

A revival of investment would seem essential to convergence, providing an immediate stimulus to demand in countries still in depression. All countries also have demonstrable needs for investment to cope with future challenges in transport and communications, education and research, climate change, energy, environment, and the ageing of populations.

In 2013 the ETUC presented a proposal for an investment plan (ETUC 2013) that would increase investment by the equivalent of 2% of GDP every year over a ten-year period. A more modest plan from European Commission President Jean-Claude Juncker for an investment of 2.4% of EU GDP over three years is set to be extended to the end of 2020. The crucial

element is a financial guarantee through the so-called European Fund for Strategic Investment (EFSI), billed as enabling the European Investment Bank (EIB) to raise finance on commercial markets and increase lending, supporting in the first phase of the plan an investment of €315bn. This target is likely to be reached, but only with the help of contributions from other public bodies, while claims of a significant economic impact are not justified.

In practice, the guarantee has supported typical EIB projects, some of which have been extensions of past projects with no evidence of additionality compared with past investment (EIB 2016a; Rubio et al. 2016). The net effect of EFSI has been to enable the EIB to maintain credits at €71bn per annum, slightly below its 2014 and 2015 levels (EIB 2016b). It has done nothing new to close the perceived investment gap. Nor has there been a consistent bias towards promoting investment in countries where it has fallen the most. Romania, Bulgaria and Croatia remain grossly underrepresented, relative to their populations, with very small levels of credit promised. Exceptionally, Greece has benefited from substantial guarantees for small business support such that it accounts for 6.2% of promised EU funding (bearing in mind that Greece has only 2.1% of the EU population).

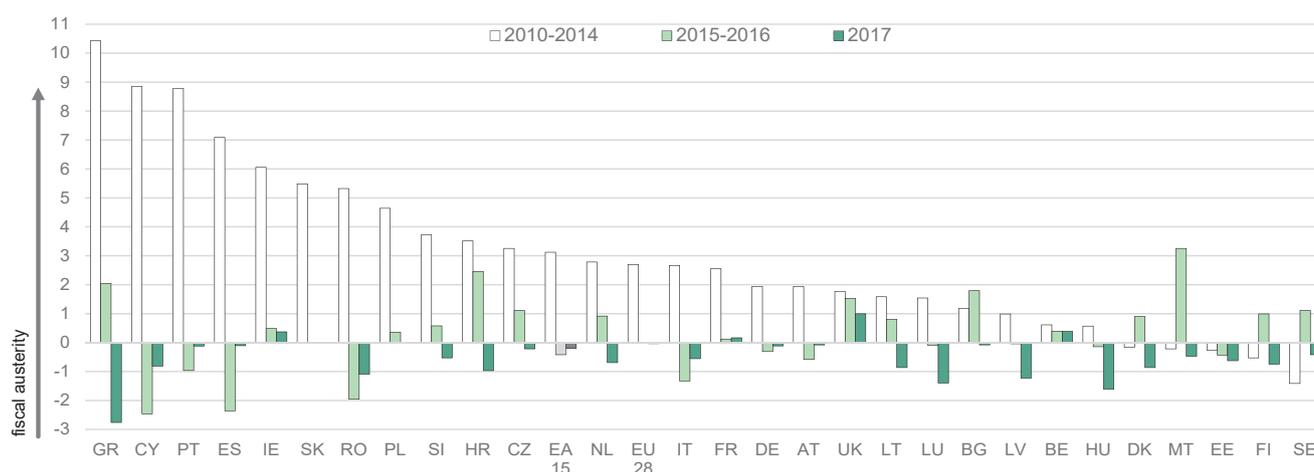
The European Structural and Investment Funds (ESIF) remain the main, but less well-publicised, EU instrument for

reducing regional disparities and promoting economic, social and territorial cohesion. The spending planned for 2014-2020 will account for almost 0.36% of likely total GDP. Unlike the EU's investment plan, the bias towards lower-income countries is clear and deliberate, with the largest stimuluses likely to be in Croatia, Hungary and Poland (2.8%, 3.0% and 2.8% of GDP respectively). Romania and Bulgaria, the two lowest-income countries, continue to receive slightly less (2.55% and 2.2% of GDP) than the above-mentioned countries.

These transfers have been crucial for supporting continued investment in transport (covering 40% of public capital expenditure in the twelve new Member States) and supporting more than half of total government capital investment in Hungary, Lithuania, Slovakia and Latvia (European Commission 2016a: 18). They therefore promote some degree of convergence. However, European Commission evaluations have pointed to a number of weaknesses. Projects tend to be directed from above and justified by spending money rather than achieving changes in business behaviour. Research spending has gone into constructing research facilities rather than undertaking research or disseminating innovations. The long-term impact in promoting convergence therefore also remains unclear.

Macroeconomic policy developments: fiscal policy

Figure 1.8 Cumulative change in government structural budget balances excluding interest (pp) (EU Member States, EU and euro area) (2010-2014, 2015-2016, 2017)



Source: Own calculations using AMECO database (UBLGBPS series).

A softening fiscal stance

Figure 1.8 shows the evolution of individual Member States' and aggregate (EU and euro area) underlying fiscal policy stances. This is calculated as the change (in percentage points of potential GDP) in the government budget balance once the effects of automatic stabilisers and interest payments on the government budget balance are excluded. Roughly speaking, automatic stabilisers include tax revenues levied upon incomes and expenditure, and unemployment benefits. To put it simply, the structural balance excluding interest shows the balance between a government's discretionary expenditure and revenues. A positive change is equivalent to consolidation (that is, revenues exceeding expenditure), whereas a negative change signals an expansion (expenditure being greater than revenues).

Following a period of fiscal austerity in 2010-2014, fiscal stances turned more neutral in 2015-2016 in most Member States, with a few exceptions, notably Malta, Bulgaria, the UK, Croatia, Finland, Sweden and Greece. Expansionary stances were seen in Cyprus, Spain, Romania, and Italy. In 2017, the fiscal

stance (measured in the way explained above) was neutral on average in both the EU and the euro area, with several Member States – notably Greece, Luxembourg, Lithuania, Latvia, Hungary and Denmark – having expansionary stances.

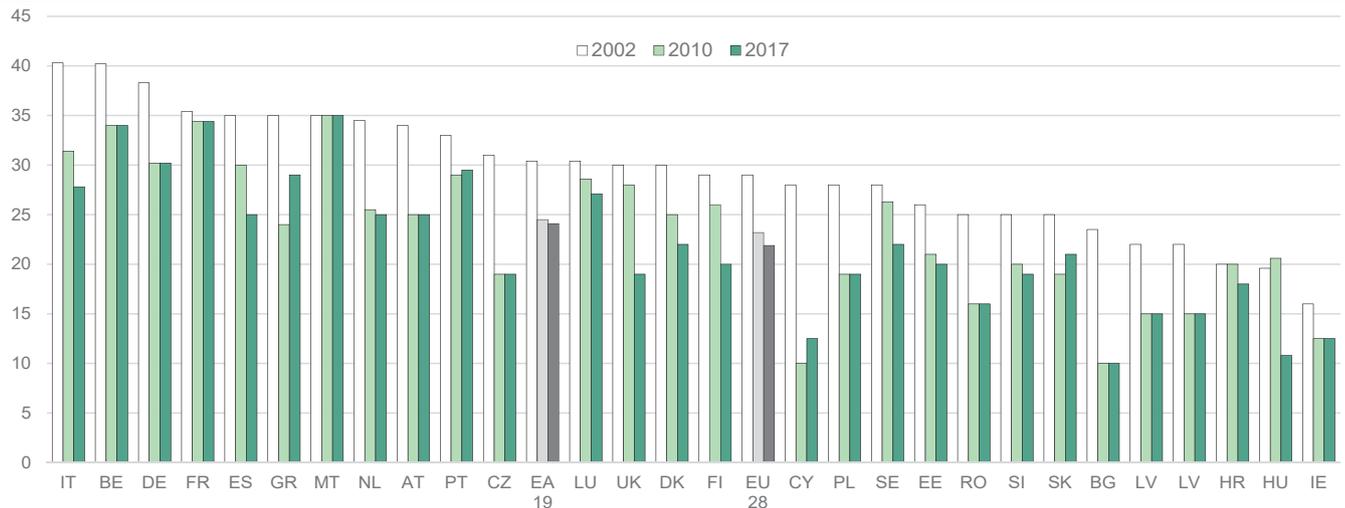
In its latest economic policy recommendations for the euro area (European Commission 2017d), the European Commission proposed a broadly 'neutral' fiscal stance for the area as a whole. According to the Commission (2017a), in proposing this they sought to find a balance between two considerations which would lead to opposing recommendations. The first is that the currently accelerating output growth rate indicates that now would be the right time to consolidate budget deficits. On the other hand, the weak recovery with high labour market slack (for more on which see Chapter 2) and continuously weak wage growth warrants a more expansionary fiscal policy. While in principle these are both valid considerations, the risks from continued labour market slack and the extent of the scars that the crisis has left behind in terms of unemployment, low volume of work and lagging investment rates cast doubt on whether the two considerations should be given equal weight in determining a fiscal policy stance.

What is of paramount importance is that fiscal policies in the euro area and the EU more broadly expand, especially

in those Member States hardest hit by the crisis, so that together with the expansionary policies of central banks they create a policy mix that restarts growth.

Macroeconomic policy developments: taxation

Figure 1.9 Top statutory income tax rates (including surcharges), EU28, EA19 and Member States (2002, 2010, 2017)



Source: Data from European Commission, 2018, Taxation trends in the European Union, table 4.

Continued downward pressures on corporate income taxes

The liberalisation of international capital movements since the mid-1980s has generated pressures on national tax systems regarding the taxation of corporations and capital, sparking a global debate about a so-called 'race to the bottom' in corporate taxation. These pressures concern the tax rates imposed on corporate income but also, and perhaps even more importantly, the legislation governing the obligations of companies to declare their revenues and profits in a particular country. In the latter case, pressures have intensified due to the rise of multinational and, more recently, internet companies.

While there has been a visible decline in corporate tax rates since the 1980s (European Commission 2017d), often matched with an increase in personal and/or labour income taxes, they still vary widely across Europe, reflecting the fact that capital mobility

is but one of the factors influencing corporate-tax-rate policy decisions and that predictions of economic models of a convergence of corporate tax rates to zero may have been based on unrealistic assumptions. Figure 1.9 shows the evolution of top statutory corporate income tax rates (European Commission 2017: 34). The average rate declined in both the EU28 (by 24%) and EA19 (by 21%) between 2002 and 2017, although in the euro area there were small increases in 2009 and again in 2013. While there has been wide variation in this rate between Member States, the range (that is, the difference between the highest and lowest rate in the group of countries examined) remained almost the same between 2002 and 2017. However, the evidence suggests that within this range, top corporate income tax rates diverged in the EU28 between 2002 and 2017.

Recent research (Troeger 2013) suggests that factors such as country size, the financing of the welfare state, and the proportion of mobile capital in the overall capital tax base matter for the extent to which capital mobility will result in lower corporate tax rates, inevitably creating more pressures for some countries, especially smaller and less economically developed ones. In the case of Europe, this can hinder upwards convergence in social standards if Member States with lower social standards are also more hard-pressed in finding the revenues for

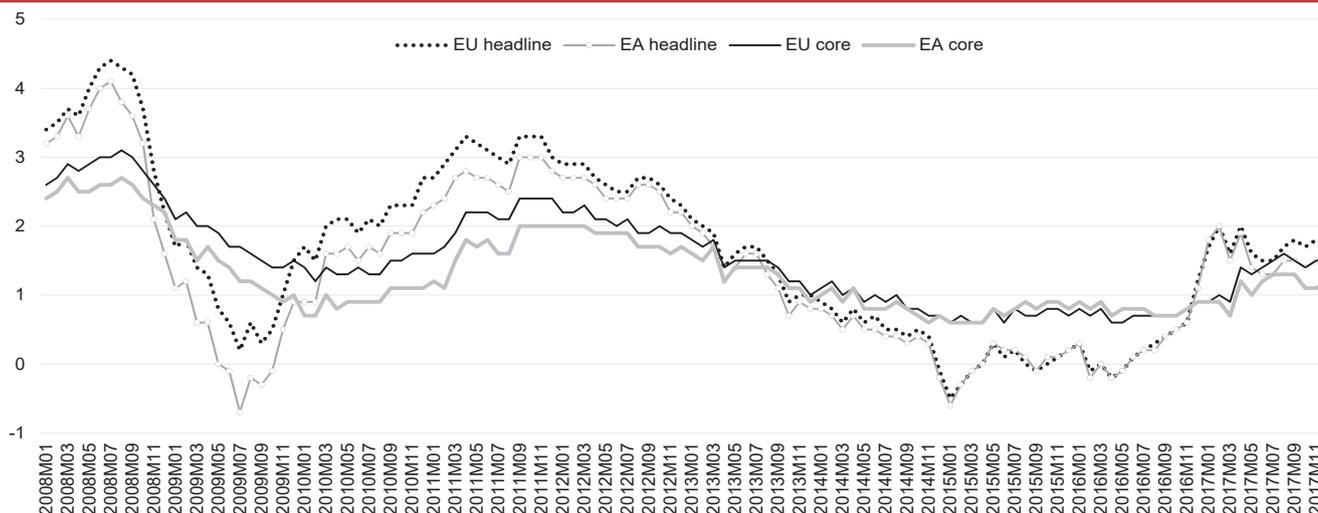
financing the development of their social safety nets.

As taxation is a policy competence which is jealously guarded by Member States, the EU has not managed to take any further action to ease competition on corporate tax rates. However, the Commission has been using state aid rules to justify investigating tax rulings of Member States that have been helpful to particular companies. Since 2016, it has challenged deals giving favourable tax treatment to Apple in Ireland, Starbucks in the Netherlands, Fiat and Amazon in Luxembourg, and Ikea in the Netherlands.

In 2016 the Commission revived the proposal for a Common Consolidated Corporate Tax Base (CCCTB). It includes common tax rules for large multinationals and allocates their taxable profits by formula, based on the labour, assets and sales in each Member State. The proposal would tackle most transfer pricing abuse. It would still leave room for tax shifting through the exploitation of differences in accounting rules, although these could be addressed in a subsequent step. Moreover, the proposal would not stop tax competition through tax rates. In any case, it is unclear if political support can be found among Member States due to opposition from countries wishing to benefit from the status quo.

Macroeconomic policy developments: monetary policy

Figure 1.10 Monthly headline and core inflation rates: annual change (%) in the EU and euro area (2008M1-2017M12)



Source: Eurostat (prc_hicp_manr).

Sluggish inflation

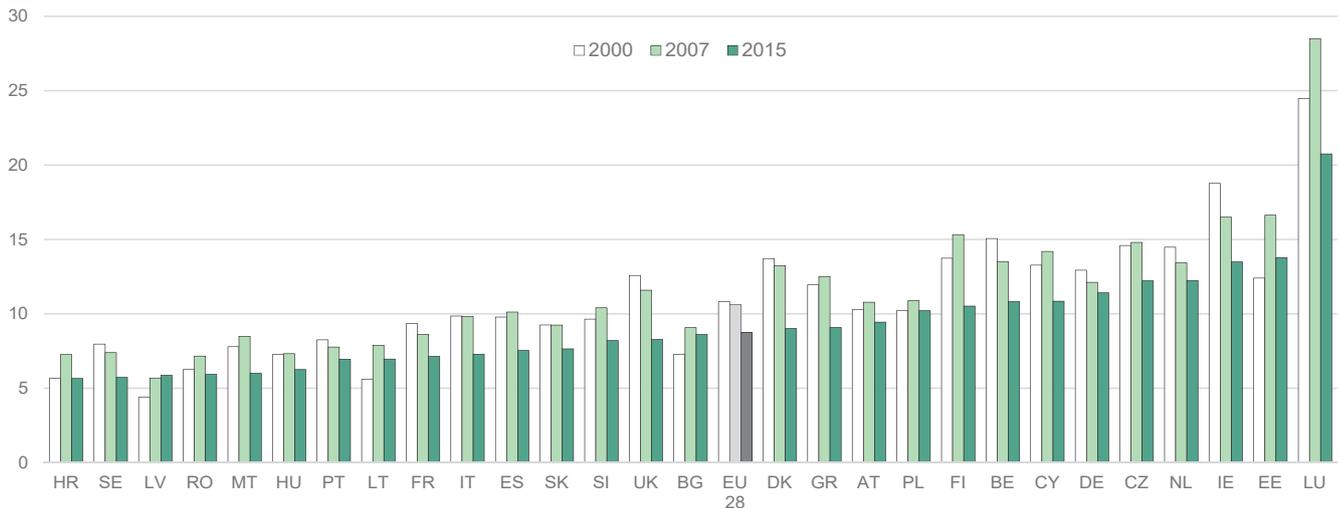
The year 2017 marked an acceleration of inflation for both the EU and the euro area, as Figure 1.10 shows above. The average EU and euro area headline inflation rate reached 2% early in the year, driven by higher energy prices. On the other hand, core inflation – the overall consumer price index excluding energy and seasonal food whose prices tend to be more volatile, and which thus reflects the underlying long-run inflation trend – remained close to 1% for the first part of the year. It later increased to 1.5%, still well below the 2% target of the European Central Bank and other central banks in the euro area (for example, the Bank of England). The inflation rate remained close to 1% in many euro area Member States, also edging close to the 2% target in Member States such as Germany, Belgium, Austria, Slovakia and the Baltic states. Developments in core inflation have been causing concern as they signal a weakness in inflation despite average output growth rates that have not been seen for over a decade in the euro area.

Since March 2016, the European Central Bank has maintained the interest rate of its main refinancing operations at 0% and the interest rate of its deposit

facility (that is, the interest rate that banks in the euro area receive for depositing money with the ECB) at -0.4%. The latter means in practice that banks would have to pay a penalty for keeping reserves with the central bank. Turning to the more 'unconventional' monetary policy tools, in October 2017, the ECB announced the tapering of its quantitative easing (QE) programme which had begun in 2015 with monthly purchases of bonds worth €60bn. Since last October, the amount of bonds the ECB buys every month has been halved to €30bn. The Bank also announced that it would be ready to continue asset purchases (quantitative easing) after September 2018 and even raise again the value of monthly bond purchases if necessary. At the same time, the ECB committed to keeping interest rates at their current low/negative levels to well beyond the end of the QE programme. These actions reflect the ongoing internal debate in the ECB on whether it is time to roll back these unconventional measures. On the one hand, advocates of ending QE cite the improved ECB forecasts on output growth in the euro area; on the other hand, there are concerns that this might risk stopping the recovery in its tracks given the weak reaction of core inflation and wages to higher output growth and employment.

Green convergence: where a race to the bottom is actually beneficial

Figure 1.11 Greenhouse gas emissions per capita by Member State (tonnes per capita)



Source: EEA (2017).

Visible convergence in emission levels

Implementing climate change mitigation policies remains a challenge for many Member States, but in order to meet long-term targets set by the EU (in line with the Kyoto Protocol and the COP 21), they need to do much further than what has been achieved in the past decades. Rich countries in general have to make greater efforts, while poorer, 'catching-up' countries cannot repeat the past high-pollution development patterns of the rich. As is well documented in the literature, poorer countries are cleaner due to their lower levels of consumption and production, but when they get richer and produce and consume more they also tend to pollute more (Stern 2007), until the moment that climate policies start to kick in. There is then a race between the effects of increased wealth in the country and the strength of climate policies to decouple growth from material and resource use and thus reduce pollution.

Per capita emissions (of greenhouse gases [GHG] or of CO₂, its biggest component) are the best way to compare the climate footprint of countries. According to

the World Bank (2018), the US and Canada were among the top per capita CO₂ emitters in 2014 (16.5 and 15.1 tonnes respectively), while the EU28 emitted 6.5. In sub-Saharan Africa, meanwhile, CO₂ emissions per person were far lower, at just 0.8 tonnes. Figure 1.11 shows per capita, territorial-based GHG emissions by Member State for 2000, 2007 and 2015. It is clear that richer countries emit more, but their reductions are also bigger over time. Luxembourg tops the list with 20.7 tonnes of GHG emissions per capita in 2015 (down from 24.7 in 2000). The EU28 has reduced its per capita GHG emissions from 10.8 tonnes in 2000 to 8.75 tonnes by 2015. Poorer, 'catching-up' Member States with lower original GHG emissions were initially increasing their emissions but then also embarked on a lower emissions path.

The different speeds of emissions reduction have resulted in a visible downwards convergence, with the final target being (net) zero emissions in the last quarter of this century. While in 2000 the ratio between the highest (Luxembourg) and the lowest (Latvia) per capita GHG emissions in the EU was 5.5, in 2015 (between Luxembourg and Croatia) it was just 3.6; this convergence, however, masks a lot of diversity. Three factors are decisive for the performance of Member States: the economic development level and its change (growth), economic structure, and climate policy ambitions

and implementation. With its high per capita emissions Luxembourg is an outlier primarily because of its high GDP per capita. It is noteworthy that its transport sector makes up over half of its total emissions, a much higher share than the EU average (OECD 2015). Among rich countries Sweden has the lowest per capita (territorial) GHG emissions, and even if its consumption-based emissions (that take the embodied GHG emissions in net imports into account) are almost double than that, its good performance reflects climate policy achievements, considering its high growth rate and strong industrial base. Within the EU15, France, Italy, Spain and the UK have lower per capita GHG emission values than the EU28 average. France's favourable position is mostly due to its good climate policy record, while in the cases of Italy and Spain it is more due to slow growth and the effects of the crisis, and in the UK it is the economic structure that seems to be the determining factor. Both the UK and France have higher consumption-based emissions (by 30 and 40%). Among 'catching-up' CEE economies, Croatia, Latvia, Romania and Hungary have the lowest per capita GHG emissions, while Poland, Czechia and Estonia have the highest. In the former group, low GDP/capita levels are still the most decisive factor, while in the latter group the causes lie in high energy intensity and less ambitious climate policies.

Conclusions

- Positive output growth rates have recently returned across the EU and are the strongest among Member States that suffered the greatest GDP per capita losses since 2008, as well as in many of the Member States that joined after 2004.
- Within the entire EU28, divergence in real GDP per head was on a downward trend between 2005 and 2012 but then began to increase. While the still wide gap in real GDP per head between east and west seems to be closing, a gap between north and south persists and in the case of the EU15 southern countries it is continuing to widen.
- The rebalancing of current accounts in Europe since 2008, with the burden falling mostly on Member States with deficits, points again to a persistently weak domestic demand, especially in the euro area, where internal devaluation policies have been pursued.
- Public debt as a share of GDP has been declining only slowly from previously high levels. Past experience has shown that the most effective way to overcome public debt problems is economic growth, which, under the current circumstances, would be likely to benefit from fiscal policy support.
- There has been some convergence in private final consumption expenditure per head between new and older Member States.
- Fixed investment remains low, having fallen the most in lower-income countries. Some EU policies have stimulated investment, albeit with unclear longer-term impacts, but the much-publicised Juncker Plan does not add anything to total investment levels. There is therefore a need for more serious funding, greater transparency over decision-making, and a better targeting of where investment is most needed.
- EU recommendations on fiscal policy have been cautious. A more expansionary fiscal policy stance is needed in Europe to help heal the economic and social scars of the crisis.
- There are continuing pressures on national governments to provide more favourable tax treatment for corporate income, not just in terms of tax rates but also with regard to the rules determining what is taxable income, especially with the rise of multinational and internet companies. The EU's idea for a common consolidated corporate tax base could greatly limit tax avoidance which is costly to public finances. However, it faces opposition and needs to be pursued with vigour.
- The inflation rate has been picking up although at a very sluggish rate, despite unprecedented monetary policy expansion measures, pointing to a continuing relative weakness in demand and the need for greater wage increases, investment and support from fiscal policies.
- There has been noticeable convergence in levels of greenhouse gas emissions, partly because of changes in economic structures and partly because of policy measures. Both of these factors vary between countries. However, considerably greater efforts will need to be made to reach the 2050 targets.