

VI. Structural reforms for growth and resilience in the Euro area

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This section discusses how structural reforms in the euro area have contributed to the functioning of the EMU over the past 20 years by stimulating growth, convergence and resilience. There is a high premium on structural reforms in a monetary union, as they increase the capacity of individual economies to adjust and hence compensate for the limited discretion at the national level. However, progress in implementing structural reforms has been uneven across countries. Efforts to complete the Single Market and establish the Banking and Capital Market Unions also help to make growth more inclusive and sustainable and improve resilience in the euro area, but the full benefits of cooperation among Member States can only be reaped when EU action is complemented by structural reforms at national level. The EMU governance framework has offered a number of means to stimulate national reforms. Despite some progress, tools such as the country-specific recommendations have not entirely overcome the political economy constraints facing national governments. Recent initiatives, including the establishment of the National Productivity Boards or the proposal for the Budgetary Instrument for Convergence and Competitiveness, are intended to help implement reforms. The need for reform will be even greater in the future with digital transformation, ageing, climate change and changes in the global economy. ⁽²⁸¹⁾

VI.1. The concept of convergence and its role in the functioning of the EMU

A well-functioning Economic and Monetary Union (EMU) is one that delivers sustainable and inclusive economic growth and proves resilient to economic and financial disturbances. A process of convergence is needed to deliver a strong EMU and ensure that the cohesion between its different parts is not threatened by diverging developments and adverse shocks.

When the euro was introduced, the progress on nominal convergence was a major achievement. In the first decade of the euro's existence, it was broadly accompanied by real convergence of economic output. However, a massive misallocation of cross-border financial flows resulted in the accumulation of imbalances in a number of euro area countries and structural divergence. Once the economic and financial crisis hit, it proved very costly to correct these trends, and it came with great social implications. This painful process resulted in a significant slowdown of the real convergence momentum in the euro area ⁽²⁸²⁾. Twenty years later, a broad consensus has emerged that the euro area members need to

converge towards resilient economic structures. Such structures should provide sufficient adjustment capacity and ensure that the benefits of membership are widely shared across and within countries. Box VI.1 provides a more detailed account of the evolution of the notion of convergence within the euro area.

Already in the early stages of the euro project, economic convergence was recognised to be important. Nominal convergence was recognised as a prerequisite for a common currency. In addition, upward real convergence, a condition that ensures economically weaker Member States catch up, was broadly expected to stem naturally from the benefits of the common currency (price transparency, elimination of transaction costs, cross-border capital flows, etc.) ⁽²⁸³⁾. In other words, nominal convergence was seen as contributing to economic growth, which in turn would ensure that the economically less-developed Member States caught up.

⁽²⁸¹⁾ This section represents the authors' views and not necessarily those of their affiliation.

⁽²⁸²⁾ See, for example, Coutinho, L and A. Turrini (2019), 'Convergence and macroeconomic imbalances', Quarterly Report in the Euro Area, Vol. 18, No. 1, pp. 37-51 and Tamas Borsi, M. and N. Metiu (2015), 'The evolution of economic convergence in the European Union', Empirical Economics, Vol. 48, No. 2, pp. 657-681.

⁽²⁸³⁾ Perhaps this notion was based on the ideas of OCA endogeneity that could be seen for example in Frankel and Rose (1999), 'The Endogeneity of the Optimum Currency Area Criteria', The Economic Journal, Vol. 108, pp. 1009-1025. The authors show that cyclical synchronisation tends to follow the fixing of exchange rates.

Box VI.1: The notion of convergence in the euro area

The importance of convergence for the proper functioning of the EMU was recognised already at its inception by explicitly mentioning having a high degree of sustainable convergence as a requirement to achieve the EMU in the Treaties. Consequently, the degree of convergence started being examined through the so-called convergence criteria, set forth in Article 140 of the Treaty of the Functioning of the EU (TFEU).

The convergence criteria are: the achievement of a high degree of price stability; the sustainability of the government financial position; the observance of the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System; and the durability of convergence achieved by the country in question and of its participation in the exchange-rate mechanism being reflected in the long-term interest-rate levels. However, it was soon evident that the criteria that prescribe nominal benchmarks related to the fixed exchange rates and to the common monetary policy instrument and the criteria that require prudent fiscal policy might not suffice in ensuring a smooth functioning of the EMU.

In fact, the founders of the euro provided for other relevant metrics to be monitored in order to ensure convergence in the last paragraph of Article 140 of the TFEU. These other criteria depend on the structure of the economy and include integration of markets, the situation and development of the balances of payments on current account and an examination of the development of unit labour costs and other price indices. Starting with the 2012 Convergence Report, the convergence assessment is aligned with the broader European Semester approach which takes an integrated look at the economic policy challenges facing EMU in ensuring fiscal sustainability, competitiveness, financial market stability and economic growth, see European Commission Convergence Report, 2019. It could be argued that such alignment existed implicitly even at the euro inception. For example, the very first Convergence Report published in 1998 included a Commission Communication on EMU and structural policies for growth and employment in view of the 1998 Broad Economic Policy Guidelines ⁽¹⁾.

Thus, a gradual broadening of the convergence concept from the narrow nominal convergence provided for in the Treaties started almost at the same time as the EMU itself. These various interrelated convergence elements are briefly recalled below.

Nominal convergence is a direct consequence of irrevocably fixing the exchange rates and conducting common monetary policy. It results in interest and inflation rate differentials shrinking. Observation of fiscal sustainability requirements also results in convergence of nominal variables such as public debt ⁽²⁾.

Effective common monetary policy requires the synchronisation of the business cycles of the participating Member States (**cyclical convergence**) ⁽³⁾. If countries are at a different stage of the economic cycle, the common monetary policy instrument cannot bring the required price stability in all of them. The interlinkages between the financial systems and interconnected trade patterns of the Member States play an important role for the synchronisation of their business cycles.

⁽¹⁾ European Economy, Growth and employment in the stability oriented framework of the EMU, Convergence Report 1998

⁽²⁾ Consolidated version of the Treaty on the Functioning of the European Union, Article 140, Official Journal of the European Union, C 202/108, 7.6.2016. The different convergence concepts are also detailed in Berti K. and E. Meyermans (2017), 'Sustainable convergence in the euro area: a multidimensional process. Quarterly Report on the Euro Area, Vol. 16, no. 3.

⁽³⁾ The literature on business cycle convergence includes: Belo, F. (2001), 'Some Facts about the Cyclical Convergence in the Euro Zone', Banco de Portugal, Economic Bulletin December 2001, pp. 37-44; Gayer, C. (2007), 'A fresh look at business cycle synchronisation in the euro area', European Economy, Economic Papers No. 287; and Balta, N. (2015), 'Business cycle synchronisation in the euro area, Quarterly Report on the Euro Area', Quarterly Review of the Euro Area, Vol.14, No.2.

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Box (continued)

The convergence of living standards is best described by the aligning of real variables – such as real GDP per capita. The importance of GDP as a component and indicator of welfare has a very long history closely coinciding with the efforts to find metrics of aggregate output ⁽⁴⁾. **Real convergence** has thus started to be understood as catching up in terms of GDP per capita in the sense described by the neoclassical growth model ⁽⁵⁾.

In recent years, the economic fallout from the crisis and the related perception of growing inequalities spurred a further broadening of the concept of convergence by including social elements, such as the convergence of living standards and working conditions (**social convergence**) ⁽⁶⁾.

Structural convergence is an element that came into prominence with the understanding of the EMU's role in building up imbalances in certain countries. With gradual convergence of nominal variables such as inflation and interest rates towards the lower values in the euro area core countries like Germany and France, capital started flowing towards the euro area periphery and predominately in services and construction. The growth of non-tradable sectors there stood in contrast to the performance of tradable sectors in the euro area core. The ensuing divergences, for example in current account balances and external competitiveness in general, prompted policy makers to talk about the need to align the structures of the economies in the various parts of the EMU.

The Great Recession also led to the creation of the framework of **economic resilience** in the EMU. It is based on three dimensions: (a) vulnerability, whether and how strongly a shock hits the economy, (b) absorption, ability of an economy to cushion the direct impact of a shock, minimising immediate output and job losses and reallocation, (c) recovery, how persistent the effects of shocks to the economy are. Turning the EMU into a more resilient economic entity will inevitably make it a more durable project and will increase the political support for it and will make it truly self-sustained.

⁽⁴⁾ See Oulton N. (2012), 'Hooray for GDP! GDP as a measure of wellbeing', VOXEU, 22.12.2012.

⁽⁵⁾ An empirical investigation can be found in Barro, R.J. and X. Sala-i-Martin (1992), 'Convergence', Journal of Political Economy, Vol. 100, No. 2.

⁽⁶⁾ Commission Recommendation of 26.4.2017 on the European Pillar of Social Rights, C(2017) 2600 final.

The economic and financial crisis has clearly demonstrated the importance of structural reforms for the functioning of the euro area, going well beyond their contribution to sound growth ⁽²⁸⁴⁾. Reforms can dampen the impact of shocks, ease the recovery process and make growth more sustainable by providing flexibility to markets and by incentivising market participants to adjust. This flexibility of economic structures can serve as a stepping-stone to a renewed process of real convergence, when both EU and national institutions and policies are in place ⁽²⁸⁵⁾. Reforms

that ensure flexibility on product and labour markets can also reaffirm the benefits of the single currency, for example, by facilitating its role in price transparency in a product market that is open to foreign competitors, by helping risk sharing through labour mobility and by easing the transmission of monetary policy ⁽²⁸⁶⁾. EU-wide initiatives such as the completion of the Single Market, the creation of the Banking and the Capital Markets Union and the Budgetary Instrument for Convergence and Competitiveness, on the other hand, will help achieve sustainable and inclusive growth.

⁽²⁸⁴⁾ A good overview of studies that link structural reforms to economic growth is given in Table 1 of Barkbu, B., J. Rahman and R. O. Valdes (2012), 'Fostering growth in Europe now', IMF Staff Discussion Note, No. 12/07.

⁽²⁸⁵⁾ Buti, M. and A. Turrini (2015) "Three waves of convergence. Can Eurozone countries start growing together again?", <https://voxeu.org/article/types-ez-convergence-nominal-real-and-structural>

⁽²⁸⁶⁾ Masuch, K, R. Anderton, R. Setzer and N. Benalal (editors) (2018), 'Structural policies in the euro area', ECB Occasional Paper, No. 210.

Finally, reforms can enable euro area economies to address challenges to robust and sustainable growth in an adequate way as prioritised in the forthcoming Commission programme ⁽²⁸⁷⁾. Ageing populations, technological transformations, climate change and spillovers from global economic tensions can make growth underperform and can prevent its benefits reach all citizens. Economic policies that ensure sustainable growth, that gradually eliminate the adverse effects of human activity on climate and help businesses and consumers embrace changes in technology will make the euro area more coherent and economically stronger.

The rest of this section will show how structural reforms, national policies and EU initiatives can ensure growth and resilience and thus contribute to a coherent and well-functioning EMU. The section is structured as follows. Sub-section VI.2 discusses Member States' progress with structural reforms since the crisis. Sub-section VI.3 focuses on actions at EU level. Sub-section VI.4 discusses the challenges encountered in designing and implementing the structural reforms and solutions put in place. Sub-section VI.5 concludes by focusing on digitalisation and the new reform challenges for the future.

VI.2. Progress in implementing structural reforms at national level and their impact on growth and resilience

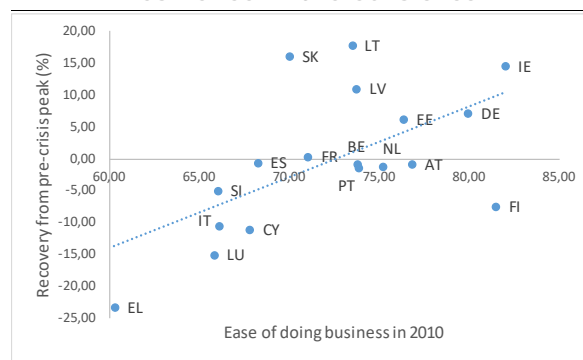
The global economic and financial crisis affected EU and euro area Member States in an uneven way, and the response in terms of reforms and policies varied.

The capacity to absorb and recover from a negative shock requires a substantial reallocation of labour and capital. Structural rigidities may leave resources trapped after a recession and therefore reduce the economy's ability to adapt after a shock. Examples of such rigidities include regulations limiting the ability of firms to adapt labour demand in a recession or making it difficult for a 'zombie' firm to exit the market; the lack of re-training or other support schemes for the unemployed; banking

regulations providing an incentive to banks to roll over the debt of insolvent clients.

In contrast, with market flexibility it is easier to reallocate resources across firms and sectors in case of shocks, therefore making market flexibility critical to ensuring a country has the effective capacity to adjust. Improving governance can also reduce the economic and social costs associated with rent-seeking while supporting innovation-related activities and entrepreneurship ⁽²⁸⁸⁾. A range of empirical studies confirms that well-functioning product and labour markets have a positive effect on resilience ⁽²⁸⁹⁾. For example, Graph VI.1 shows that euro area countries with a more enabling business environment experienced a stronger recovery from the crisis. Furthermore, wide differences in business regulations between euro area Member States may hamper not only individual Member State economies but also affect the functioning of the Single Market and the overall growth prospects of the euro area.

Graph VI.1: Business environment and resilience in the euro area



Recovery from the pre-crisis peak is the % difference in 2017 from the maximum value in 2007-2008 in real Gross National Income per capita. Malta is not included because ease of doing business is not available for 2010.

Source: European Commission, World Bank

Weaknesses in the business environment and rigidities in labour and product markets can also

⁽²⁸⁷⁾ See Political guidelines for the next Commission (2019-2024) - "A Union that strives for more: My agenda for Europe", and more specifically the part: "An economy that works for people", presented by Ursula von der Leyen at the European Parliament on 16 July 2019.

⁽²⁸⁸⁾ Masuch, K., Anderton, B., Setzer, R. and N. Benalal (2019) "Structural policies in the euro area", ECB occasional paper 210.

⁽²⁸⁹⁾ Sondermann, D. (2018) "Towards more resilient economies: the role of well-functioning economic structures", *Journal of Policy Modeling* 40, pp. 97-117; Canova, F., Coutinho, L. and Kontolemis, Z. (2011) "Measuring the macroeconomic resilience of industrial sectors in the EU and assessing the role of product market regulations", *European Economy – Occasional Paper 112*, European Commission. There are also some authors who caution that structural reforms can have negative short-term consequences on growth when the country is at the zero lower bound. Eggertsson G, A. Ferrero and A. Raffo (2014), 'Can structural reforms help Europe?' *Journal of Monetary Economics*, Vol. 61, 2-22.

weaken investment in dynamic and growing firms and sectors and delay projects or postpone investment decisions. Investment in EU Member States in fact took a big hit with the global economic and financial crisis and was very slow to recover. While microeconomic barriers cannot account for the entire drop in investment during the crisis, removing these barriers is especially relevant in the post-crisis context.

Indeed, when looking at survey data, barriers to investment seem to be related to firms' actual ability to invest. Across EU Member States, there is a positive relationship between the share of firms that declare that there is an obstacle to investment and the percentage of firms that declare that they cannot make any investments (Graph VI.2) ⁽²⁹⁰⁾.

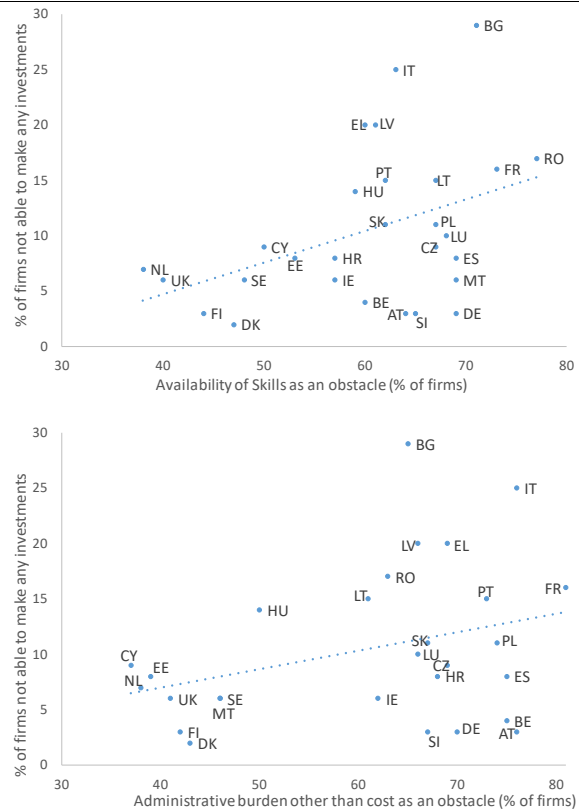
To sum up, structural and institutional barriers and challenges can make an economy less resilient and, by hindering investment, they can slow down the recovery process after a crisis.

Against this background, the European Commission has put a lot of emphasis on the importance of structural reforms, for example, with its co-ordination of policy in the European Semester. The multilateral surveillance that is the backbone of the European Semester has also created incentives for Member States to take ownership of reform. The structural reforms recommended in the Semester aim at strengthening the architecture of the EU and the euro area, improving Member States' competitiveness and attractiveness to investment and reducing their macroeconomic imbalances. Ultimately, this increases their economic resilience.

EU and especially euro area Member States (notably countries that underwent macroeconomic adjustment programmes) have made significant reform efforts in the last few years. Graphs VI.3 and VI.4 show convergence in implementing reforms. Euro area economies have generally become more flexible since the crisis, but this is especially true for countries which were less

flexible (or more regulated) before the crisis. We can therefore observe a degree of structural convergence in reaching up to the higher institutional quality of the leading EU economies.

Graph VI.2: **Perceived barriers and firms' ability to invest**



Source: Flash Eurobarometer 459.

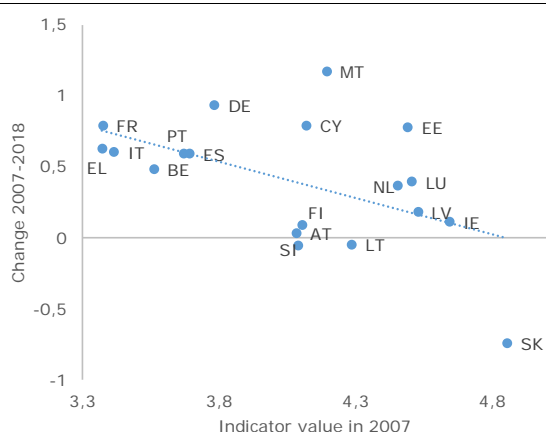
Speeding up the adoption and implementation of national reforms is crucial to improving the conditions for investment and growth. In the framework of the European Semester, Member States' progress in implementing country-specific recommendations (CSRs) is ranked from 'no progress' to 'limited progress', 'some progress', 'substantial progress' and 'full implementation'. Since the start of the European Semester in 2011, Member States have adopted, with at least 'some progress', about two thirds of the country-specific recommendations in the framework of the European Semester, although to varying degrees depending on the country and the policy area ⁽²⁹¹⁾. In particular, the policy area where most progress

⁽²⁹⁰⁾ One could argue that survey data in this case might be biased because firms with poorer business models might perceive stronger barriers to investment and therefore have a higher chance of not being able to make any investment, leading with the positive relationship observed here. However, even if we replace the variable on the vertical axis with the investment gap, measured as the difference between a country's pre-crisis average investment rate and the rate in the survey year, this relationship is confirmed.

⁽²⁹¹⁾ European Commission (2019), "2019 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011", COM(2019) 150 final.

has been made is that of financial services, because of the priority given to the stabilisation and soundness of the financial sector in the aftermath of the financial crisis. Moreover, since the crisis had a large initial impact on labour markets, there has been sound progress with the implementation of the recommendations aimed at promoting job creation on permanent contracts and addressing labour market segmentation. Progress has been weaker, on the other hand, in the policy areas of competition and regulatory frameworks, as well as in addressing recommendations related to state-owned enterprises. In some cases, there is even some evidence of backtracking of reforms, in particular concerning the long-term sustainability of public finances, including pensions.

Graph VI.3: Degree of flexibility



This indicator is one of the sub-components of the Global Competitiveness Index. It ranges from 1 to 7 where 7 is the best practice.

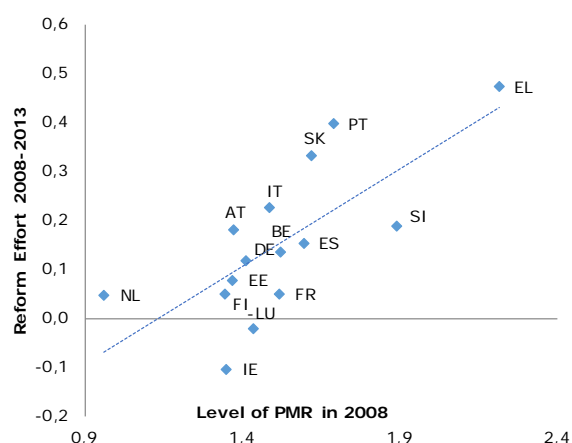
Source: World Economic Forum

The reforms adopted since the outset of the global economic and financial crisis have the potential to contribute to faster growth, job creation and resilience in the euro area. The European Commission has used two approaches in quantifying the reform impact.

First, the European Commission has done a model-based exercise that shows that if Member States were to close half of the observed gaps with best performers in areas such as market competition and regulation, labour market and skills-upgrading, tax structure and R&D, EU GDP would be lifted by 3% after 5 years and almost 6% after 10 years. Country effects can be even larger

for Member States further away from best performance ⁽²⁹²⁾.

Graph VI.4: Reform effort in product markets



A higher value of the Product Market Regulation indicator means more stringent product market regulation (PMR). The reform effort is calculated as the change in the PMR between 2008 and 2013 (most recent value), where a positive value means a less stringent regulation.

Source: OECD

Second, efforts were also made to estimate the impact of actual reforms put in place by Member States. Model simulations on reforms adopted by four Member States (France, Italy, Spain and Portugal) in their 2013-2015 National Reform Programmes (NRPs) suggest that, by 2020, they will raise GDP by some 1.25% in Italy and Spain, some 2% in Portugal, and close to 0.5% in France, for which only measures included in the 2015 National Reform Programme were considered. These gains in output are driven by higher productivity and/or higher employment rates. Reforms also generally improve government balances, as higher growth boosts tax revenues ⁽²⁹³⁾.

Although the results of the two approaches cannot be directly compared, the order of magnitude of the estimated gains suggests that further benefits from structural reforms can be reached.

⁽²⁹²⁾ Varga, J. and in't Veld, J. (2014) "The potential growth impact of structural reforms in the EU: A benchmarking exercise", European Economy – Discussion Papers 541.

⁽²⁹³⁾ European Commission (2016) "The Economic Impact of Selected Structural Reform Measures in Italy, France, Spain and Portugal", European Economy – Institutional Paper 023.

Box VI.2: Real convergence in the euro area regions

This box evaluates if the real convergence patterns for the euro area Member States over 2000-2016⁽¹⁾ hold at the regional level. It uses two standard metrics of convergence. The first one (sigma convergence) evaluates if there has been a decline in the variation of GDP per head across the units considered (i.e., countries or regions). The second one (beta convergence), if poorer countries / regions have, on average, grown at a faster pace than richer ones over the period of analysis.

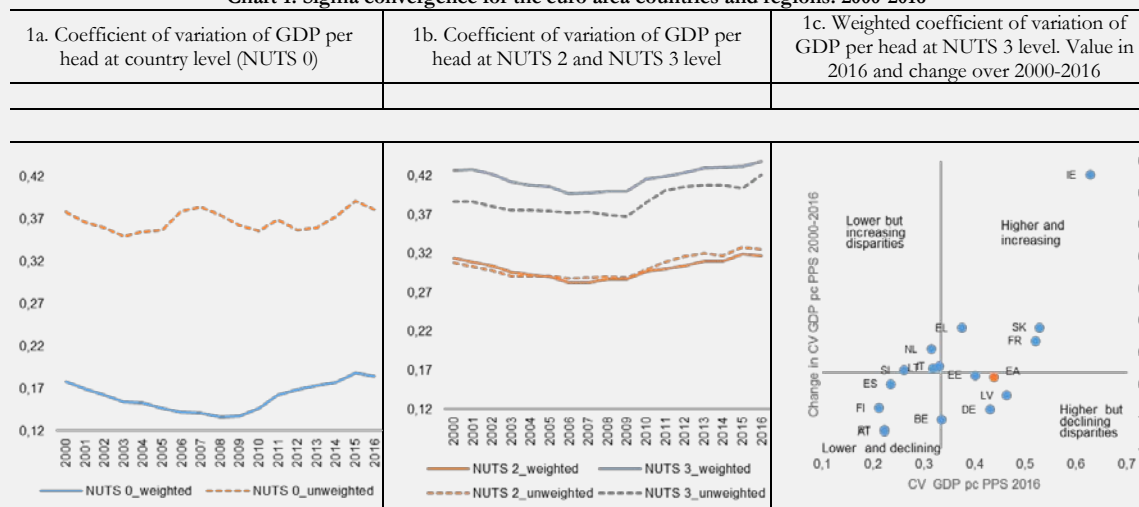
Sigma and beta convergence at country level (NUTS 0)

At the country level (NUTS 0), there is no visible downward trend in the GDP per head's dispersion (Chart 1a). Disparities in GDP per head declined slightly in the years preceding the euro area financial crisis and then increased, only to go back in 2016 to a level similar to the starting one in 2000. However, Chart 2a suggests that without conditioning on other factors beta convergence in the euro area countries has taken place during the considered period. This is based on the negative relation between the starting level of GDP per head and its growth rate, which suggest that on average, poorer euro area countries have grown at a higher rate than richer ones over 2000-2016.

Sigma convergence at regional level

The results at the regional level do not show evidence of sigma convergence either. GDP per head at NUTS 2 and NUTS 3⁽²⁾ level euro area regions fluctuated over the reference period in a similar way as the country level and reached values in 2016 broadly comparable to the starting ones (Chart 1b).

Chart 1. Sigma convergence for the euro area countries and regions. 2000-2016



(1) Source: Eurostat and own calculations.

(2) The coefficient of variation is the ratio of the standard deviation of the variable of interest to its mean. The weighted coefficients of variation shown in charts above use population weights.

There are, however, differences within the euro area countries –see chart 1c, which shows the coefficient of variation of GDP per head for the NUTS 3 regions of each euro area Member State in 2016 and its change over 2000-2016.⁽³⁾ Over 2000-2016, disparities declined in the Austrian, Portuguese, Belgian, Finnish, Latvian, Portuguese and German NUTS 3 regions. Conversely, they

(1) Traditionally, the convergence analyses use longer time series, e.g., 30 years of data or more, as those can better capture structural changes in the economy and are logically less influenced by the business cycle. This box relies on a shorter time span, i.e., the 2000-2016 period, as this is the period for which there are regional data available for the euro area countries. While this time horizon is narrower than in most studies, it allows for cross-country comparison of regional developments.

(2) 190 NUTS 2 and 932 NUTS 3 euro area regions.

(3) Countries with two or less NUTS 3 regions are excluded.

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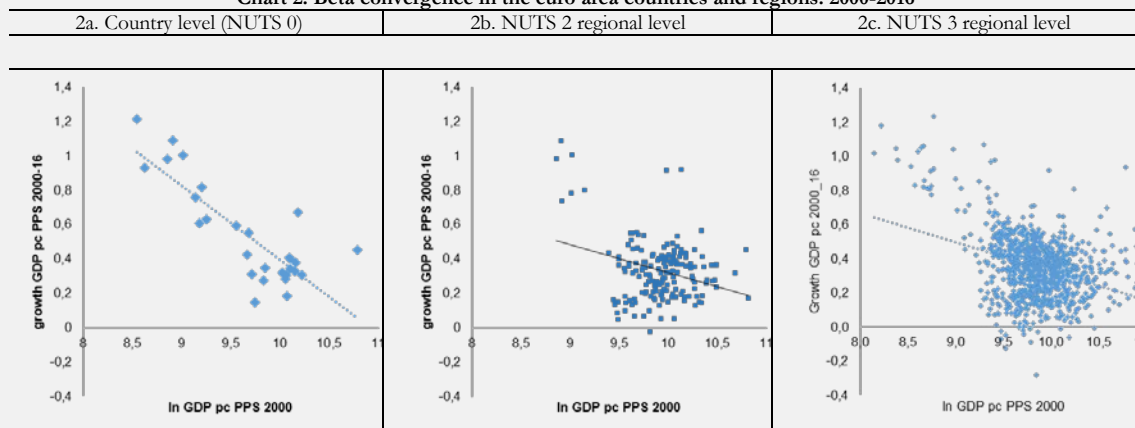
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increased in the Irish, Greek, French, Dutch and Slovak regions. As for the level, in 2016, disparities were lowest in the Finnish, Portuguese, Austrian and Spanish NUTS 3 regions.

Beta convergence at regional level

In spite of the above, we observe a negative relation between the starting level of GDP per head and its growth rate over the reference period, this being suggestive of beta convergence. Nevertheless, this relation is weaker than at the country level (NUTS 0); see the lower slope of charts 2b and 2c compared with 2a.

Chart 2. Beta convergence in the euro area countries and regions. 2000-2016



(1) Source: Eurostat and own calculations.

There is also evidence of beta convergence after conditioning for variables taken from the standard neoclassical growth theory, such as the investment rate, the rate of growth of population and an educational attainment level indicator. Table 1a reports the results for all euro area NUTS 3 regions. The coefficient of the starting level of GDP per head is statistically significant in all specifications. However, its value is rather small, thus pointing to a low speed of convergence.

This beta convergence pattern across the euro area regions masks differences within the euro area countries. Table 1b reports the regression results for the NUTS 3 regions of the four largest euro area countries (i.e., Germany, France, Italy and Spain).⁽⁴⁾ These suggest that there has been beta convergence in the NUTS 3 regions of Germany and Spain. However, there is no evidence of convergence within the NUTS 3 regions of Italy. The results point to regional divergence in France but only when including the six Île de France NUTS3 regions, two of which, Paris and Hauts-de-Seine, are outlying observations in terms of GDP per head. ⁽⁵⁾

⁽⁴⁾ The results for other countries are not reported, given the low number of observations.

⁽⁵⁾ More research is needed to understand better the convergence dynamics in France.

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Box (continued)

Table 1a Beta convergence regressions. EA NUTS 3 regions

	(EA) gr_GDPpc_~16	(EA) gr_GDPpc_~16	(EA) gr_GDPpc_~16	(EA) gr_GDPpc_~16
ln_GDPp~2000	-0.1707** (0.002)	-0.1110** (0.002)	-0.0911*** (0.000)	-0.0439* (0.023)
Irate_avg~16		0.2043** (0.002)		0.0957* (0.016)
n_avg_200~16		-0.2041** (0.004)		-0.1800*** (0.000)
EAL_low_a~16		-0.1512*** (0.000)		-0.0635*** (0.000)
_cons	2.0350*** (0.000)	1.6236*** (0.000)	1.2482*** (0.000)	0.5831* (0.038)
Country dummies	No	No	Yes	Yes
N	932	932	932	932
R-sq	0.123	0.471	0.694	0.721
adj. R-sq	0.122	0.469	0.687	0.715
rmse	0.1727	0.1344	0.1031	0.0985

p-values in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Table 1b: Beta convergence regressions. Large EA Member States' NUTS 3 regions

	(DE) gr_GDPpc_~16	(ES) gr_GDPpc_~16	(FR) gr_GDPpc_~16	(IT) gr_GDPpc_~16
ln_GDPp~2000	-0.0780** (0.008)	-0.2668** (0.009)	0.1334*** (0.000)	0.0262 (0.556)
Irate_avg~16	0.2574*** (0.000)	-0.1281 (0.450)	-1.6005** (0.001)	0.0892 (0.279)
n_avg_200~16	-0.2084** (0.001)	-0.3194*** (0.001)	0.1604 (0.190)	-0.1765 (0.355)
EAL_low_a~16	-0.0167 (0.395)	-0.3139 (0.111)	-0.0640 (0.182)	0.0118 (0.898)
_cons	1.0178* (0.018)	3.0994 (0.124)	-2.8261** (0.004)	-0.5239 (0.628)
N	403	57	96	110
R-sq	0.278	0.621	0.324	0.043
adj. R-sq	0.271	0.592	0.294	0.007
rmse	0.1053	0.0660	0.0692	0.0758

p-values in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Notes:

- (1) OLS regressions with robust standards errors clustered at NUTS 2 level. The dependent variable is growth in GDP per head over 2000-2016 for the EA NUTS2 regions excluding the French DOM-TOM regions, Ceuta, Melilla, Aland and Acores. The regressors are the following: i) the log of the GDP per head in PPS in 2000; ii) the log of the ratio of gross fixed capital formation to GDP (i.e., the investment rate) averaged over 2000-2016; iii) the log of the sum of population growth (n), growth in technological progress (g) and the depreciation rate (δ) averaged over 2000-2016; g plus (δ) are assumed to equal 5% (as in Mankiw (1992) and iv) an indicator of education attainment level, defined as the log of population aged 25-64 having attained ISCED levels 0-2 (i.e., less than primary, primary and lower secondary education).
- (2) The regressions use NUTS 3 GDP per capita and population data while investment rates and educational attainment level are at NUTS 2 level. The analysis assumes that all NUTS 3 units belonging to the same NUTS 2 region share the same investment rate and educational attainment level. Using NUTS 3 level data increases substantially the number of observations per country relative to the NUTS 2 level, thus easing the estimation of OLS regressions with multiple covariates.

Sources:

Mankiw, G., Romer, D. and Weil, D. *A contribution to the empirics of economic growth*. The Quarterly Journal of Economics, May 1992

VI.3. How EU-level actions help to improve growth and resilience in the euro area

In addition to national measures, EU initiatives and reforms have helped to improve the growth and resilience of the EU and especially the euro area.

These initiatives have built on the foundations laid by the creation of the Single Market in 1993 and have been followed by more recent initiatives like the Services Directive, the Capital Markets Union, the Digital Single Market, to name a few. Whereas these measures and initiatives are adopted for the whole EU, to the extent that they contribute to a better functioning of the four freedoms (movement of goods, services, people and capital), they also contribute to a better functioning of the EMU.

The process of European integration has brought substantial benefits to citizens and the European economy, although measuring the full extent of the welfare gains is challenging. A conservative estimate puts the magnitude of economic benefits brought by the Single Market since 1993 at 4.4% of GDP at EU level ⁽²⁹⁴⁾. Alternative estimates using a structural macro-model simulating a counterfactual scenario where trade barriers are reintroduced put the effect of the Single Market between 8% and 9% of EU GDP, as a result of direct trade effects, economies of scale and competition ⁽²⁹⁵⁾.

These gains have materialised because the Single Market has allowed for economies of scale, reinforced the incentives for firms to innovate and facilitated the dissemination of knowledge. This has led to more efficient production processes, higher quality, greater product diversity, and higher consumer purchasing power through lower prices and higher wages. The enforcement of common standards for goods and services, the implementation of policies to facilitate the mobility of workers, and the removal of behind-the-border barriers to enforce the freedom of establishment for firms have helped to create a level-playing field

for firms across the EU and improved the efficiency of resource allocation ⁽²⁹⁶⁾.

The actions and initiatives launched since 2014 to complete the Single Market are also delivering benefits in terms of growth and resilience. The combined macro-economic impact of the full and timely implementation of the reforms identified by the Digital Single Market, the Single Market Strategy, the Capital Markets Union and the Energy Union may result in the creation of an additional 1 million jobs by 2030 and an additional increase of EU GDP of 1.5% by 2030 ⁽²⁹⁷⁾.

VI.4. The challenges in implementing structural reforms

Structural reforms remain mostly a prerogative of national economic policy makers. However, they represent a matter of common concern and the Treaties mandate efforts to create and deepen the Single Market, thus requiring coordination of structural reforms at national level and policies at EU level.

EU governance models have gradually changed over the past 20 years since the euro's adoption. It is useful to recall the early days of the euro and the Lisbon strategy, which was the action and development plan in place for the economy of the European Union between 2000 and 2010.

The aim of the Lisbon Strategy was to make the EU 'the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion' by 2010. This Lisbon Strategy was built upon earlier initiatives, in particular the Cardiff, Cologne and Luxembourg processes ⁽²⁹⁸⁾. The adopted governance approach

⁽²⁹⁴⁾ Mayer, T., Vicard, V., and Zignago, S. (2018) "The cost of non-Europe, revisited", CEPII working paper No. 2018-06.

⁽²⁹⁵⁾ in't Veld, J. (2019) "Quantifying the Economic Effects of the Single Market in a Structural Macromodel", European Economy – Discussion Paper 094.

⁽²⁹⁶⁾ 'Behind-the-border barriers' are non-tariff barriers that operate inside the countries rather than at the border and have the ultimate effect of restricting trade. A non-exhaustive list includes technical barriers, export subsidies, health and environmental regulations, administrative rules on public procurement.

⁽²⁹⁷⁾ Christensen, M., Conte, A., Di Pietro, F., Lecca, P., Mandras, G., and Salotti, S (2018). "The third pillar of the Investment Plan for Europe: an impact assessment using the RHOMOLO model". JRC Working Papers on Territorial Modelling and Analysis No. 02/2018, European Commission, Seville, 2018, JRC113746.

⁽²⁹⁸⁾ The 'Jobs Summit' in Luxembourg (November 1997) launched the open method of coordination envisaged by Article 128 EC (now Article 148 TFEU) of the Treaty's Employment Title, which became known as the 'Luxembourg process'. The process involves drawing up annual employment guidelines, national employment action plans and a joint employment report (Article 148 TFEU). In Cardiff (June 1998), Member States decided to put in place an improved macroeconomic dialogue on economic

in the Lisbon Strategy was the so-called open method of coordination (OMC). The OMC uses soft instruments such as guidelines and sharing of best practices. For example, targets are set for R&D spending, but how Member States achieve these targets is left to their own discretion. No official sanctions were envisaged in case of non-compliance, and the effectiveness of OMC essentially depends on whether or not politicians feel some peer pressure to reach the jointly determined targets.

This soft form of coordination aims to combine decentralisation of policy formulation and decision-making with re-integration at the EU level⁽²⁹⁹⁾. The reason behind adopting this governance model is the belief that Member States need to take ownership for implementing structural reforms, whereas countries can learn from each other about the design of policy packages to achieve the targets.

In 2010, the Lisbon Strategy was followed by the Europe 2020 strategy. It emphasises smart, sustainable and inclusive growth as a way to overcome the structural weaknesses in Europe's economy, improve its competitiveness and productivity and underpin a sustainable social market economy. The strategy has explicit targets for employment, research and development, climate change and energy, education, and poverty reduction and social inclusion. Some of these targets are legally binding (CO₂ emissions and renewable energy), while all others were subject to the OMC. This strategy is monitored through the European Semester, which was introduced in 2010 and enables EU Member States to coordinate their economic policies throughout the year and address the economic challenges facing the EU. Within the European Semester cycle, each year the Commission undertakes a detailed analysis of each country's plans for budget, macroeconomic and structural reforms and then provides EU

governments with country-specific recommendations for the next 12-18 months. These are then endorsed by the Council, increasing Member State ownership of the reforms and making the surveillance process truly multilateral. One could argue that this governance model is somewhat stronger than the OMC method used under the Lisbon Strategy, as CSRs can be quite concrete, pointing at specific policy issues.

Whereas progress has certainly been made on the structural reform agenda and in the implementation of CSRs, as discussed in sub-section VI.2 the degree of implementation differs across countries and policy areas. This sluggish implementation of structural reforms at national level not only deprives citizens of the economic gains that could have been achieved, but it also hampers progress in creating the Single Market, especially since delivering services across borders is more complicated when there are large differences in regulatory systems. This section continues with the key challenges to the adoption of structural reforms and the implementation of country-specific recommendations in order to better understand where these differences come from.

Ten challenges for structural reforms

There are various reasons why implementing structural reforms can be difficult. First, structural reforms often generate relatively modest benefits for all, and relatively large costs for a small group. Those who risk to lose can become vocal and may organise themselves better to resist any reform since they are fewer (possibly with the help of lobbyists who specialise in keeping things unchanged). Most people tend to gain from the reform, but it is typically more difficult to become organised in order to push for the change since they are more numerous and diverse.

Second, structural reforms can have negative effects in the short run (in particular when adopted in times of recession and when interest rates are at the zero lower bound), whereas the benefits take more time to materialise, often much longer than the electoral horizon of politicians⁽³⁰⁰⁾. Often

reforms, with a view to unleashing a more dynamic economic performance. The ongoing pursuit of this agenda on the functioning of product and capital markets and on reforms in labour markets and public finances is known as the 'Cardiff process'. Member States created the basis for a Community employment policy, which takes account of all the economic factors that affect employment in Cologne (June 1999). The main objective of the European Employment Pact, known as the 'Cologne process' is to encourage dialogue between all the parties involved in macroeconomic policy and to strengthen their confidence, in order to encourage growth and job creation.

⁽²⁹⁹⁾ Szyszczak, E. (2006), "Experimental governance: the Open Method of Coordination", *European Law Journal*, 12(4), pp. 486–502.

⁽³⁰⁰⁾ Eggertsson et al. (2014), *op. cit.*

reforms simply do not help politicians get re-elected ⁽³⁰¹⁾.

Third, structural reforms are sometimes (but certainly not always) complex. For example, active labour market policies can shorten unemployment spells but require a thorough understanding of the various incentives and barriers at play in the search behaviour of employees and the recruitment decisions by firms. The design of effective reforms thus requires a thorough understanding of the market and the behavioural responses of the main players.

Fourth, compelling quantitative evidence on the impact of structural reforms is often not available. While the call for evidence-based policy becomes louder, in many Member States the culture of doing an impact assessment before starting and a policy evaluation at the end is still underdeveloped. Also, such analytical support to the policymaking process would need a set of broadly supported methodological guidelines (such as an agreement on the discount rate to be used to calculate the present value of investment projects, or the systematic use of features when implementing reforms which would allow for a rigorous final evaluation based on experimental techniques ⁽³⁰²⁾).

Fifth, even when such evidence is available, opponents could always try to find popular counterarguments and present them in a way that is biased or not nuanced in order to defend their case. Fake news can also be damaging in this respect.

Sixth, the quality of institutions matters for the actual implementation of structural reforms and more generally their impact. Member States might have difficulties in actually designing and implementing structural reforms on the ground, for example, because they lack the capacity or technical resources or they need to cooperate with local public administrations. This may lead to different

speeds of effective implementation even within the same country. These large differences show up also in the business environment indicators: for example, on the time it takes to start a business, in Spain it is equal to 14 days in Andalusia, and 30.5 days in Ceuta, as captured in a subnational version of the World Bank Doing Business project ⁽³⁰³⁾. Box VI.2 gives some evidence on the regional disparity in the euro area.

Seventh, how effective structural reforms are often also depends on the right sequencing of policies. A well-known example of this is the policy to stimulate R&D. If the supply of R&D workers is inelastic, such policies essentially tend to raise the wages of researchers, not increase R&D activity. Such stimulus programmes are more effective when the supply of research personnel is made more elastic, for example, by making it easier for foreigners to apply. Therefore, in this case one first would need to make the supply of research personnel more elastic before increasing R&D subsidies.

Eighth, how effective structural reforms are can depend on the state of the business cycle, where for example, one should be careful about making labour markets more flexible in times of recession, as people who are laid off may find it particularly difficult to find a new job when business activity is low. This could eventually even lead to permanent effects, for example when people end up in long unemployment spells and see their human capital diminish (hysteresis effects) ⁽³⁰⁴⁾.

Ninth, the existence of complementarities and interactions across policy areas points to the importance of considering reforms in broad packages. A full materialisation of a stand-alone reform in a specific sector might be hampered if bottlenecks remain in other policy domains. Likewise, considering reform packages that are balanced in terms of their distributional effects or include compensation packages might help to overcome the resistance to change mentioned

⁽³⁰¹⁾ This has become known as the Juncker curse, when he stated ‘We all know what to do, but we don’t know how to get re-elected once we have done it’. The empirical relevance of this curse has however been contested, cf. Buti et al. (2008), ‘Defying the ‘Juncker Curse’: Can reformist governments be re-elected?’, European Economy Economic Papers 324, May 2008.

⁽³⁰²⁾ For example, in order to learn about the effectiveness of the proposed intervention, one could set up pilots with randomly created treatment groups (with the intervention) and control groups (without the intervention) in order to study the causal impact of the intervention. Successful pilots can then be scaled up, and less successful pilots can be discontinued.

⁽³⁰³⁾ Cf. Doing Business in Spain 2015, the World Bank.

⁽³⁰⁴⁾ Berti, K. and Meyermans, E. (2017) ‘Maximising the impact of labour and product market reforms in the euro area’, Quarterly Report on the Euro Area (QREA), Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 16(2), pages 7-19, October. See also Meyermans E. and P. Nikolov (2018) ‘Long-term labour market effects of the Great Recession’, Quarterly Report on the Euro Area (QREA), Directorate-General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 16(3), pages 41-56, February.

earlier, but this would also complicate implementation (e.g. because it can be difficult to specify eligibility criteria or mobilise the necessary political support for a comprehensive policy package) ⁽³⁰⁵⁾.

Finally, an agenda for structural reforms needs to be genuinely supported by politicians, stakeholders, and society as a whole. Such ownership is necessary to design an effective reform, to mobilise the financial and human resources that are needed for such a reform and to overcome resistance.

Addressing challenges with implementing structural reforms

Despite these difficulties in implementing structural reforms, they are essential to prepare for future challenges, and are expected to generate substantial benefits when they are introduced in a smart and timely manner. The importance of reforms has been recognised by the Eurogroup when it committed to hold regular thematic discussions to consider and define common policy objectives. Consequently, a number of services, initiatives and instruments have been introduced in recent years in the EU to foster structural reform adoption and improve the effectiveness of the European Semester process.

In order to address the challenges Member States face when preparing, designing and implementing structural reforms, the Commission decided in 2015 to create a permanent structure that could help any EU country with reforms: the Structural Reform Support Service. To provide such tailor-made support, this service manages a specific programme (the Structural Reform Support Programme) with a budget of €222.8 million over the period 2017-2020. The support starts with a request from an EU country and does not require co-financing by Member States. A Member State may ask for support from the programme for reforms undertaken at their own initiative, for economic adjustment programmes or for reforms linked to EU economic governance (country-specific recommendations and implementation of EU law).

Boosted by the Five Presidents' Report, there is also a renewed interest in benchmarking ⁽³⁰⁶⁾ ⁽³⁰⁷⁾.

The main objective of benchmarking is to support the reform processes at the Member State level by cross-examining relative performances, identifying challenges and promoting the exchange of good practices. In this context, benchmarking public policy is defined as the cross-examination of indicators against some point of reference (benchmark value). As such, benchmarking could serve multiple purposes. Benchmarking can help to identify underperformance and need for action. So it can be used as a detection instrument. Second, it can be seen as an accountability or monitoring instrument. The Member States have committed to pursue certain actions, and benchmarking can help to monitor the progress and communicate the results. While benchmarking should not be seen as a panacea for promoting structural reforms, it can serve as a useful complement to support policy action.

Since structural reforms are relevant for implementing fiscal surveillance, flexibility for structural reforms has been introduced in the preventive arm of the Stability and Growth Pact without changing legislation. The Pact's existing rules are applied to strengthen the link between structural reforms, investment and fiscal responsibility in support of jobs and growth. The structural reforms clause takes into account the impact of structural reforms and allows, under specific conditions, temporary deviations from the medium-term budgetary objective or the fiscal adjustment path towards it. The conditions are: (i) reforms have been implemented or are detailed in dedicated plans; (ii) deviation does not lead to a breach of the 3% deficit and the 'safety margin' is preserved and (iii) the budgetary position has to return to the medium-term objective within 4 years.

In addition, new budgetary instruments are proposed under the new Multiannual Financial Framework for 2021-2027 to support Member States' reform agendas. In order to increase proactivity in adopting comprehensive reforms, the Reform Support Programme and more specifically the Reform Delivery Tool will be available for all EU Member States. The Budgetary Instrument for Convergence and Competitiveness (BICC),

⁽³⁰⁵⁾ Berti, K. and Meyermans, E. (2017), *ibid.*

⁽³⁰⁶⁾ Juncker, J.-C., Tusk, D., Dijsselbloem, J., Draghi, M. and M. Schultz (2015), "Completing Europe's Economic and Monetary Union".

⁽³⁰⁷⁾ On page 9, the "Five Presidents' Report" mentions: "The Eurogroup could (...) play a coordinating role in cross-examining performance, with increased focus on benchmarking and pursuing best practices. This must go hand in hand with the use of the Macroeconomic Imbalance Procedure (MIP) to its full potential".

intended for euro area (and ERM II, on a voluntary basis) Member States, will support both structural reforms and public investment that reflect the key objective of increasing convergence and competitiveness within the euro area.

Designing and implementing policies to enhance productivity is challenging and requires strong national ownership to succeed. Such policies should be based on robust evidence and comprehensively address the complex drivers of productivity, which are to some extent specific in each Member State. This is why the Five Presidents' Report recommended that each euro area Member State establish an institution to track economic competitiveness and make policy recommendations in the field. The purpose of these institutions is to promote and help implement structural reforms by providing a solid analytical foundation and informing public debates. Member State governments can benefit from the evidence generated by these institutions to gain political and public support for the reforms needed.

Based on a proposal by the Commission, the Council adopted a Recommendation in September 2016 inviting the Member States of the euro area to establish National Productivity Boards by March 2018. The Productivity Boards are envisaged as institutions that could investigate the productivity challenges and contribute to evidence-based policy-making with objective, neutral and independent analysis and content. Based on the common characteristics and tasks envisaged for these Boards, each Member State could decide upon the exact setup of its own productivity board. National Productivity Boards have already been established in a majority of euro area Member States and the number of Productivity Boards is steadily growing.

VI.5. In conclusion: reform challenges for the future of the EMU

There are challenges to the proper functioning of the EMU that go beyond the wide swings of the economic cycle and are more long term in nature.

First, there is a widespread belief in Europe that growth has not been inclusive. Increasing market income inequality is a global phenomenon, and its main causes are likely connected to the process of technological change and the global integration of

production⁽³⁰⁸⁾. At the same time, the effects of the economic and financial crisis contributed to stronger increases in inequality in some EU countries, and to widening differences in average incomes across countries. The resulting divergence also has important implications for the functioning of the euro area. Overall, failure to deliver inclusive growth increases the difficulty of building a political consensus around structural reforms, further reducing potential growth and negatively affecting convergence and resilience in the EMU.

Second, in all likelihood, the new technologies will cause large disruptions in the labour and product markets, and policymakers will have to consider these. However, their full scale and, particularly, net effects on job creation are very uncertain and will depend on the accompanying policies. Researchers have found strong displacement effects in the EU because of routine-replacing technical change, but this has also created new jobs through increased product demand (cf. Gregory, Salomons and Zierahn, 2019)⁽³⁰⁹⁾.

For example, digitalisation — as a General Purpose Technology (GTP), i.e. a technology that can affect an entire economy and potentially drastically change the society — is about to transform both household life and the ways in which firms conduct business (cf. Jovanovic and Rousseau, 2005)⁽³¹⁰⁾. The notion of digitalisation as a GPT helps to understand the secular productivity slowdown we have been experiencing since the 1990s. Van Ark (2017)⁽³¹¹⁾ argues that the 'the new digital economy' (since the 2000s) is driven by a

⁽³⁰⁸⁾ See, for example Autor, D., D. Dorn, L. Katz, C. Patterson and J. Van Reenen (2017), "The fall of the labor share and the rise of superstar firms", NBER Working Paper No. 23396, for the role of market concentration in falling labour share, and De Loecker, J. and J. Eeckhout (2018), "The rise of market power and the macroeconomic implications", NBER Working Paper No. 23687 for the macroeconomic implications of rising market power in general. For the general relation between technological cycles and inequality, see Jovanovic, B. (2009), "The technology Cycle and Inequality", *The Review of Economic Studies*, Vol. 76, No. 2 (Apr., 2009), pp. 707-729. Yet, there have been periods in the past marked by global trade and technology changes but declining inequality. Often inequality is a result of deliberate or involuntary policy choices.

⁽³⁰⁹⁾ Gregory, T., A. Salomons, and U. Zierahn (2019), "Racing with or against the machine? Evidence from Europe", IZA Institute of Labor Economics Discussion Paper 12063. The emerging consensus points towards a possibly positive overall effect, which nevertheless hides high levels of labour market transitions.

⁽³¹⁰⁾ Jovanovic, B., and P. Rousseau (2005), "General purpose technologies", chapter 18 in *Handbook of Economic Growth* (edited by P. Aghion and S. Durlauf).

⁽³¹¹⁾ Van Ark, B. (2017), "Is there an EU productivity challenge?", Presentation at workshop with National Productivity Boards.

combination of mobile technology, worldwide access to the Internet and the shift toward storage, analysis and development of new applications in the cloud. The arrival of a GPT – in this case new digital economy – can cause a temporary decrease in aggregate productivity, as experience is lost upon adoption, and additional skills are needed to operate the new technology. Huge complementary investments are necessary to adapt to the rapidly changing environment. These additional investments are likely to be much higher than the initial investments to develop the new technologies in the first place.

The differences in readiness between countries to embrace the digital transformation can lead to further divergences. The transformation costs to implement digital technologies will depend on the sectoral structure, the fraction of automatable jobs, and the skill set and demographic composition of the population. Countries facing higher adjustment costs possibly experience slower technology diffusion, and this could ultimately lead to greater differences in income between countries. That can prove detrimental to EMU cohesion. Such upward pressure on income dispersion may also occur at regional level, for example when there is an urban-rural divide in technological readiness, see Box VI.2.

Skills are crucial to allow the benefits of technological progress to unfold and to foster inclusive growth. Basic and advanced digital and cognitive-technical skills are a key asset for productivity and economic growth. However, this is only half of the story: a wider set of 'ICT-complementary' and 'transversal' skills will be crucial too. To work with machines, skills that can be used to perform complex non-routine tasks are key: digital skills but also a broader set of 'ICT-

complementary' skills, such as social and communication skills, creativity, entrepreneurship, readiness to learn, critical thinking, problem-solving skills and independent work organisation. A combination of technical and social skills is likely to be the winning strategy.

The package of skills in demand will evolve over time, and the 'job-for-life' model is being replaced by other models such as the gig economy: upskilling and re-skilling via equal access to lifelong learning is necessary to adjust and to foster complementarities between labour and capital. Efficient and effective investment from both the public and private sectors is needed to increase both the level and variety of education and skills. Not only digital and cognitive skills, but also socio-behavioural skills such as self-organisation, self-learning, teamwork, that will complement technological change, are important types of skills for the future.

In conclusion, for the next 20 years of its existence, the Economic and Monetary Union will need to position itself in a profoundly changing environment connected with digitalisation, population ageing, globalisation, climate change and the energy transition. A comprehensive agenda for policy action is needed to prepare and get ready for these changes. This is an agenda of inclusive growth, where the general-purpose nature of the ICT revolution is embraced through technology-neutral policy support and the transitions to the new technological environment are well-managed through supporting measures and modernised social protection systems. Such a revamped growth model will form the basis for delivering on a prosperous, green and inclusive Europe and an EMU where cohesion between the different nations and regions is not questioned.