

Structural reforms for higher productivity and growth

Karin Fischer,
Alfred Stiglbauer¹

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

JEL classification: E60, E24, O43

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

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

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

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

Refereed by:
Erik Canton,
European
Commission

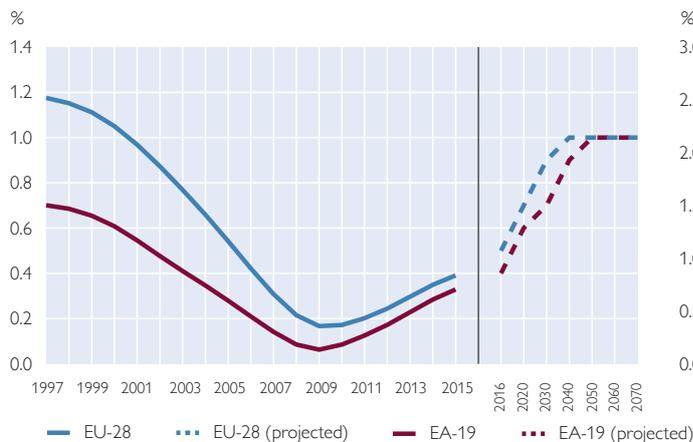
¹ Federal Ministry of Finance, Directorate General for Economic Policy, k.fischer@bmf.gv.at; Oesterreichische Nationalbank, Economic Analysis Division, alfred.stiglbauer@oenb.at (corresponding author). The views expressed in this paper are exclusively those of the authors and do not necessarily reflect those of the OeNB, the Federal Ministry of Finance or the Eurosystem. The authors would like to thank the referee, Christian Beer, Andreas Breitenfellner, Ernest Gnan, Doris Prammer and Lukas Reiss for helpful comments and valuable suggestions.

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

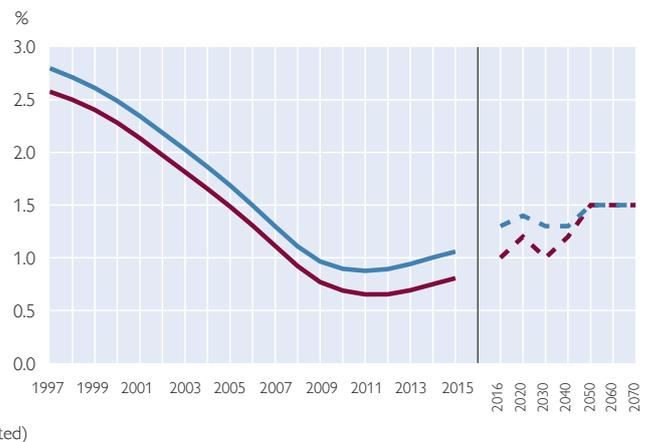
Chart 1

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

Past and projected trend TFP growth



Past and projected trend GDP growth



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

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

1 What are structural reforms and why are they important?

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

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

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

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

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

2 How structural reforms affect economic growth: theoretical aspects

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

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

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

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

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

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

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

Table 1

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

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

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

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

Table 2

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

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

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

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

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

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

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

2.2 Long-term aspects: (new) institutional economics

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3 Structural reform areas

3.1 Product markets

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

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

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

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

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

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

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

Chart 2

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

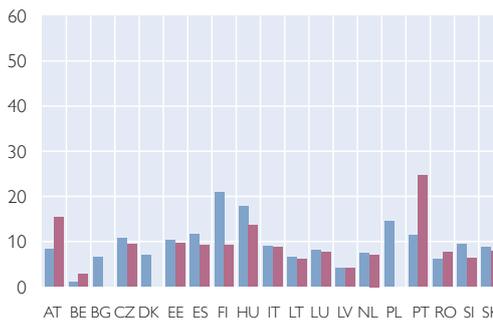
Business start-up rates

% of the business population



Business death rates

% of the business population



Source: OECD.

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

3.2 Innovation

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

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

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

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

Chart 3

Competition and innovation

Product market regulation of the whole economy

Index=2013



Source: OECD, European Commission.

European Innovation Scoreboard 2016

Score



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

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

3.3 Labor market reforms

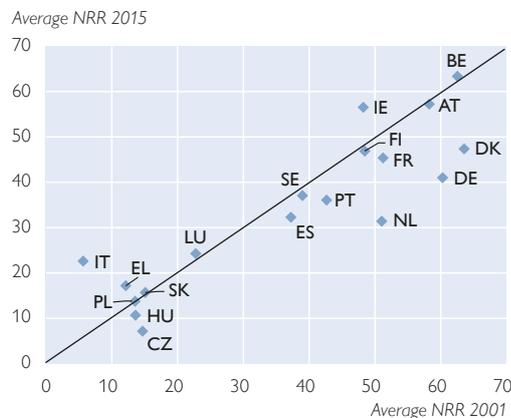
Policies to reform labor market institutions (LMI) feature prominently in discussions of structural reforms. Inadequate LMI affect the economy in the short to medium run by reducing potential output and raising equilibrium unemployment, but also in the long run because they may impede reallocation processes.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

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

Chart 4

Labor market institutions over time (I)

Unemployment benefit net replacement rates



Strictness of employment protection legislation¹



Source: OECD.

¹ 1 = low, 5 = high.

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

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

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

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

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

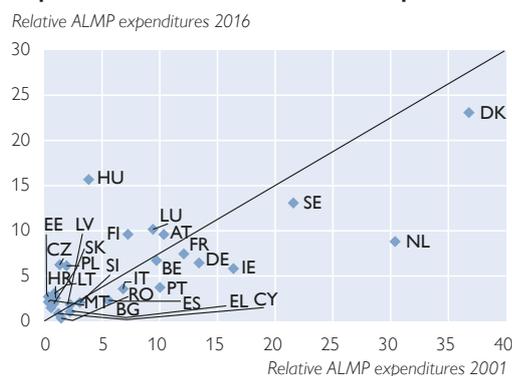
desirable, i.e. because it increases the incentives to invest in firm-specific capital. Strong employment protection, however, tends to favor incumbent workers and fuel the use of irregular employment contracts (for which EPL is typically much less strict), contributing to labor market duality and higher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

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

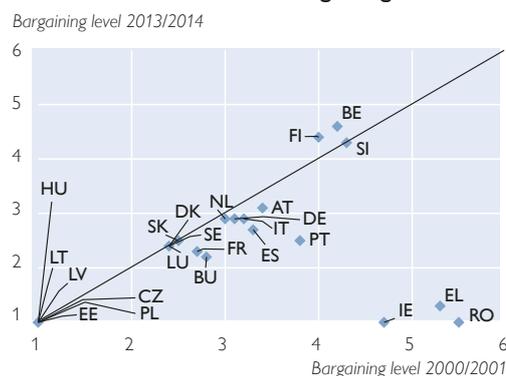
Chart 5

Labor market institutions over time (II)

Expenditures for active labor market policies



Effective level of collective bargaining¹



Source: Eurostat, Visser (2016).

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

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

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

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

3.4 Reforms of tax and benefit systems

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

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

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

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

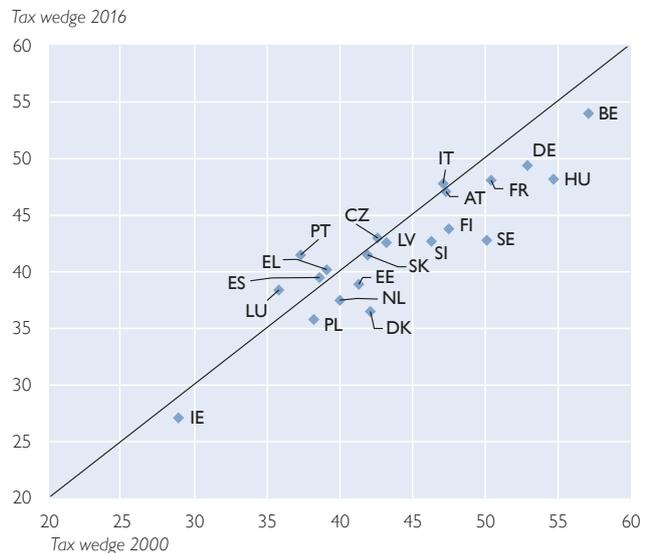
¹⁷ The Eurogroup (the group of finance ministers of the euro area countries) has endorsed common principles for reforms aimed at reducing the tax burden on labor and engages in an annual monitoring exercise. This seems to have stimulated reform efforts within the euro area.

Tax structure and labor tax wedges

Tax structure 2016



Labor tax wedge for a single worker



Source: Eurostat, OECD.

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

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

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

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

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

Table 3

Marginal effective tax rates when taking up a new job

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

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

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

3.5 Good governance and the quality of institutions

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

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

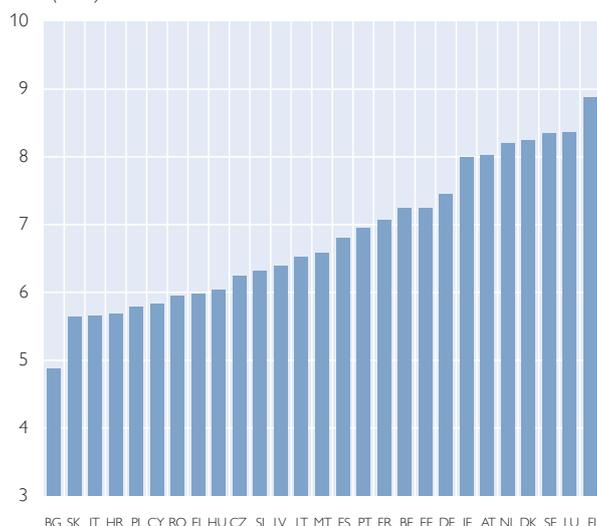
of tax collection. The right-hand panel of the chart shows estimates of the gap between the potential revenues from value-added tax and actual revenues. These gaps are particularly high in some CESEE and Southern European countries.

Chart 7

Quality of institutions in the EU

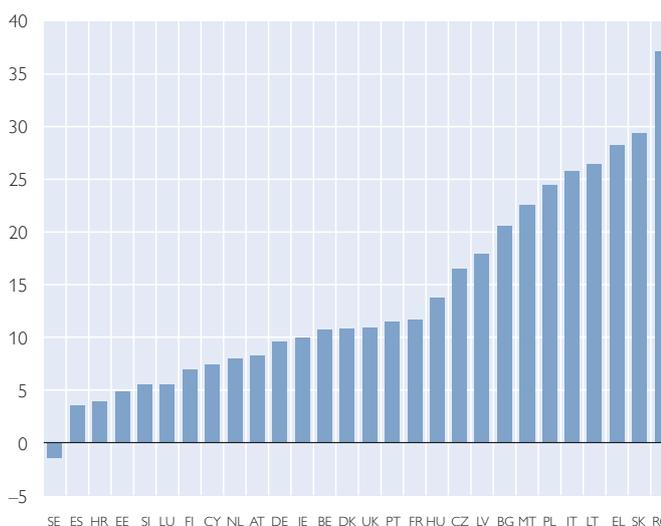
Frazer index of judicial system and property rights

Score (0–10)



VAT gap estimates for 2015

%



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

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

4 Progress with structural reforms

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

4.1 European Semester surveillance

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

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

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

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

4.2 More efforts in labor markets than in product markets

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

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

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

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

4.3 Drivers of reform

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

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

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

4.4 Sequencing and packaging

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

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

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

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

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

5 Summary and conclusions

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

Structural reforms affect the institutional and regulatory framework in which firms and households operate. Economic policy aims at increasing participation rates and reducing structural unemployment in order to counter the projected decline in the working-age population. Product market policies increase competition and support the process whereby less efficient firms are replaced by more efficient ones. Innovation policies are directly relevant to raising productivity levels. These include competition policies but also the framework conditions for public and private R&D and access to finance. Labor market reforms touch upon many areas, including unemployment benefits, employment protection, active labor market policies and systems of collective bargaining. Reforms in these areas aim at increasing work incentives, promoting the reallocation of jobs and workers and making wages more flexible while at the same time providing adequate safety nets. Reforms of tax and benefit systems should minimize disincentives to the use of productive factors. High tax burdens on labor, for example, could be addressed through revenue-neutral reforms that raise less distortive consumption or property

taxes, while the interaction between labor taxes and benefits also deserves policy makers' attention. Finally, the quality of institutions, such as the "rule of law," measures countering rent-seeking and corruption, and strong enforcement institutions have been found to be crucial for economic growth.

The indicators presented in this article suggest that structural reforms have been undertaken in many areas and in most EU Member States during the past few years. How can further reforms be stimulated? Policy coordination within the European Semester serves as a platform for discussion and recommendations of structural reforms. In "normal" times, the EU institutions do not exercise strong pressure on Member States, although this would be possible in principle within the macroeconomic imbalance procedure. Rather, "soft power" in the form of publicity and peer pressure is used. Reform intensity, however, was high in the countries most affected by the crisis in the euro area. Pressure from financial markets (and later from financial assistance programs) encouraged a number of structural reforms, most of which were directed at labor markets in order to restore wage (and price) competitiveness. The current boom creates a window of opportunity in all EU Member States. Transparent processes, suitable packaging and sequencing of reforms may help overcome short-term negative economic effects, undesirable distributional consequences and the resistance of vested interests.

References

- Acemoglu, D., S. Johnson and J. Robinson. 2005.** Institutions as the fundamental cause of long-run growth. In: Aghion, P. and S. Durlauf (eds.). *Handbook of Economic Growth*. Elsevier.
- Addison, J. T. 2016.** Collective bargaining systems and macroeconomic and microeconomic flexibility: the quest for appropriate institutional forms in advanced countries. In: *IZA Journal of Labor Policy*. 1–53.
- Adler, G., R. Duval, D. Furceri, S. K. çelik, K. Koloskova and M. Poplawski-Ribeiro. 2017.** Gone with the headwinds: global productivity. IMF Staff Discussion Note 17/04. April.
- Agell, J. 1999.** On the benefits from rigid labour markets: norms, market failures, and social insurance. In: *The Economic Journal* 109. 143–164.
- Alston, L. J. 2008.** New institutional economics. In: Durlauf, S. N. and L. E. Blume (eds.). *The New Palgrave Dictionary of Economics*. 2nd edition.
- Arnold, J. M., B. Brys, C. Heady, Å. Johansson, C. Schweltnus and L. Vartia. 2011.** Tax policy for economic recovery and growth. In: *The Economic Journal* 121. 59–80.
- Beer, C. and W. Waschiczek. 2018.** Capital markets union: a more diverse financial landscape in the EU? In: *Monetary Policy & the Economy Q2/18*. Vienna: OeNB.
- Berti, K. and E. Meyermans. 2017.** Maximising the impact of labour and product market reforms in the euro area – sequencing and packaging. In: *Quarterly Report on the Euro Area* 16(2). 7–19.
- Boeri, T. and J. van Ours. 2013.** *The economics of imperfect labor markets*. 2nd edition. Princeton University Press.
- Bouis, R. Causa, O. Demmou, L., R. Duval and A. Zdzienicka. 2012.** The short-term effects of structural reforms. OECD Economics Department Working Paper 949.
- Breitenfellner, A., A. Dragu and P. Pontuch. 2013.** Labour costs pass-through, profits and rebalancing in vulnerable Member States. In: *Quarterly Report on the Euro Area* 12(3). 19–25.
- Canton, E. 2016.** Drivers of total factor productivity growth in the EU – the role of firm entry and exit. In: *Quarterly Report on the Euro Area* 15(1). 25–35.

- Carlin, W. and D. Soskice. 2015.** *Macroeconomics. Institutions, instability, and the financial system.* Oxford University Press.
- CASE. 2017.** Study and reports on the VAT gap in the EU-28 Member States: 2017 Final report to the Directorate General Taxation and Customs Union. Warsaw. https://ec.europa.eu/taxation_customs/sites/taxation/files/study_and_reports_on_the_vat_gap_2017.pdf.
- Causa, O., M. Hermansen and N. Ruiz. 2016.** The distributional impact of structural reforms. OECD Economics Department Working Paper 1342.
- Council of the European Union. 2016.** Council recommendation of 20 September 2016 on the establishment of National Productivity Boards. (2016/C 349/01).
- De Grauwe, P. 2018.** *Economics of monetary union.* 12th edition. Oxford University Press.
- Disney, R. 2004.** Are contributions to public pension programs a tax on employment? In: *Economic Policy* 19(39). 267–311.
- Draghi, M. 2017.** Structural reforms in the euro area. Introductory remarks at the ECB conference “Structural reforms in the euro area,” Frankfurt, October 19. <https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp171018.en.html>.
- Eggertsson, G., A. Ferrero and A. Raffo. 2014.** Can Structural Reforms Help Europe? In: *Journal of Monetary Economics* 61. 2–22.
- ECB.** Structural policies in the euro area. Report by the MPC Task Force on Structural Reforms. Occasional Paper Series (forthcoming).
- European Commission. 2015.** Tax reforms in EU Member States 2015. Tax policy challenges for economic growth and fiscal sustainability. Institutional Paper 008. September.
- European Commission. 2016.** The economic impact of selected structural reform measures in Italy, France, Spain and Portugal. Institutional Paper 023. April.
- European Commission. 2017a.** The 2018 Ageing Report. Underlying assumptions & projection methodologies. Institutional Paper 065. November.
- European Commission. 2017b.** European Innovation Scoreboard 2017. Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
- Frazer Institute. 2017.** *Economic freedom of the world. Annual Report.* Vancouver.
- Gali, J. and T. Monacelli. 2016.** Understanding the gains from wage flexibility: the exchange rate connection. In: *The American Economic Review* 106(12). 3829–3868.
- Gnan, E., C. Kwapil and T. Valderrama. 2018.** Monetary policy after the crisis: mandates, targets, and international linkages. In: *Monetary Policy & the Economy Q2/18.* Vienna: OeNB.
- Hansen, M. and J. Leschke. 2017.** The strange non-death of ALMPs. *Social Europe.* June 13.
- IMF. 2016.** Time for a supply-side boost? Macroeconomic effects of labor and product market reforms in advanced economies. *World Economic Outlook.* Spring. Chapter 3.
- Johansson, A., C. Heady, J. Arnold, B. Brys and L. Vartia. 2008.** Tax and economic growth. OECD Economics Department Working Paper. 620.
- Leino, P. and T. Saarenheimo. 2017.** Sovereignty and subordination: on the limits of EU economic policy co-ordination. In: *European Law Review* 2. 166–189.
- Mazzucato, M. 2014.** *The entrepreneurial state.* Anthem Press.
- McKinsey Global Institute (MGI). 2017.** Jobs lost, jobs gained: workforce transitions in a time of automation. December.
- Meyermans, E. and P. Nikolov. 2017.** Long-term labour market effects of the Great Recession. In: *Quarterly Report on the Euro Area* 16(3). 41–56.
- Mohl, P. and T. Walsh. 2015.** Revisiting the relative price mechanism. In: *Quarterly Report on the Euro Area* 14(4). 19–32.
- OECD. 2016.** *Entrepreneurship at a glance 2016.* Paris.
- OECD. 2017a.** *Employment Outlook.* Paris.

- OECD. 2017b.** Confronting the zombies: policies for productivity revival. OECD Economic Policy Paper 21. December.
- OECD. 2018.** Going for growth. Paris.
- Prammer, D. 2011.** Quality of taxation and the crisis: tax shifts from a growth perspective. European Commission. Directorate-General for Taxation and Customs Union. Working Paper 29.
- Prammer, D. and L. Reiss. 2018.** How to increase fiscal stabilization at the euro area level? In: Monetary Policy & the Economy Q2/18. Vienna: OeNB.
- Rodrik, D. 1998.** Why do more open economies have bigger governments? *Journal of Political Economy* 106(5), 997–1032.
- The Economist. 2006.** Incredible shrinking countries. January 5.
- Thum-Thyssen, A. and R. Raciborski. 2017.** Determinants of trend TFP growth and key policies that influence it. In: *Quarterly Report on the Euro Area* 16(2), 31–41.
- Veugelers, R. 2017a.** An innovation deficit behind Europe's overall productivity slowdown? In: *Investment and growth in advanced economies. Conference proceedings. ECB Forum on Central Banking in Sintra, Portugal.* June 26–28, 245–251.
- Veugelers, R. 2017b.** Missing convergence in innovation capacity in the EU: facts and policy implications. European Commission Discussion Paper 066. July.
- Visser, J. 2016.** What happened to collective bargaining during the great recession? In: *IZA Journal of Labor Policy* 5(1), 1–35.