Box 7

THE MACROECONOMIC EFFECTS OF STRUCTURAL REFORMS

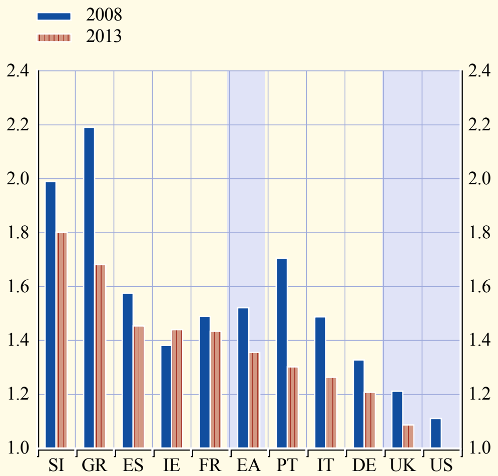
Overall, the financial crisis and subsequent sovereign debt crisis and ensuing recessions have acted as a catalyst for structural reforms in a number of euro area countries. Since the start of the crisis, several euro area countries have stepped up structural reform efforts to enhance the functioning of labour and product markets and to improve economic framework conditions, particularly as part of macroeconomic adjustment programmes. Despite these efforts, progress has been only partial and uneven (as an illustration, see Charts A, B and C for summary indicators of product market and employment protection regulation and the business climate in selected euro area countries, the United Kingdom and the United States).

Analytical work finds that such reforms deliver positive medium to long-term benefits, such as higher potential output. At the same time, some studies find that there may be negative effects on some variables in the short run (e.g. consumption), while other studies show that reforms start producing positive effects on key macroeconomic variables, even in the short run. This box presents a summary of the main findings in the empirical literature on the macroeconomic effects of structural reforms.

Long-term effects of structural reforms

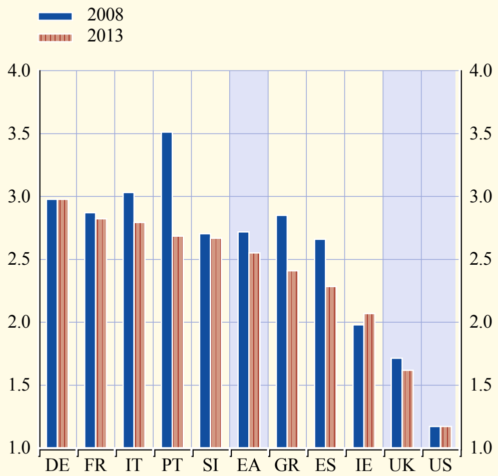
One can expect important employment and output gains from structural reforms via various channels. For instance, reforms to (early) retirement and disability schemes and more emphasis on activating the unemployed through active labour market programmes (e.g. via training or more efficient employment services) will increase labour market participation and

Chart A Product market regulation



Source: OECD.
Notes: It concerns a synthetic indicator of the strictness of regulation of product markets (e.g. state control, barriers to entrepreneurship, trade and investment). A higher value means stricter regulation.

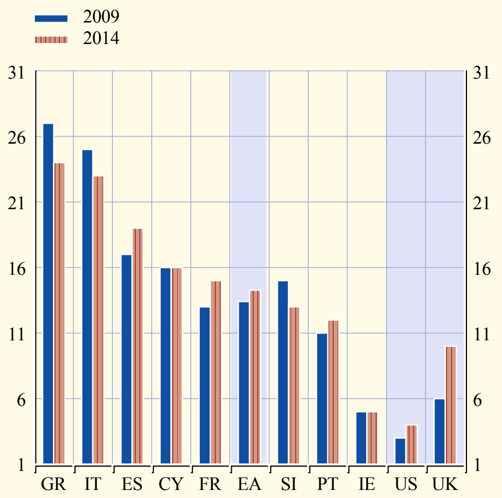
Chart B Employment protection legislation



Source: OECD.
Notes: It concerns a synthetic indicator of the strictness of regulation of labour markets (e.g. notice periods, severance payments, use of temporary contracts). A higher value means stricter regulation.

employment, thereby increasing potential growth. In addition, more flexible wage-setting will increase the responsiveness of wages to the business cycle and productivity developments, meaning that wages can be better tailored to the specific circumstances and needs of individual firms. Furthermore, a lower degree of employment protection and more competition in product markets can lead to more efficient job matches, improve resource allocation and facilitate the restructuring of economies, thereby supporting productivity and growth and helping to reduce structural unemployment.

Chart C Ease of doing business, rank



Source: World Bank/International Finance Corporation.
Note: The y-axis shows the ranking of the respective country (out of 181 resp. 189) on the overall ease of doing business as measured by a large set of indicators.

Both model simulations and empirical studies largely point to a positive impact of structural reforms on output, consumption, investment and employment.[1] In DSGE model simulations, reforms are typically modelled as reductions in wage and price mark-ups or as increased labour supply. Simulations which introduce reforms with the aim of reducing mark-up levels to the EU or OECD averages typically raise GDP and employment in the least flexible countries by several percentage points. Introducing more radical reform packages, for example by targeting the best performers in the EU or the United States, could boost GDP in the long run by double digits.[2] Cross-country empirical work tends to support this.[3]

Transitory effects

The impact of the reforms mentioned above could take several years to materialise in full. In some cases, the adjustment process following a reform might also entail short-term costs, as the implied reallocation of resources from low to high-productivity firms – resulting from, for example, a product market reform – may translate into a temporary fall in activity and private consumption could be temporarily suppressed.[4] Most DSGE model simulations find

1 See, for example, Gomes, S., Jacquinot, P., Mohr, M. and Pisani, M., "Structural reforms and macroeconomic performance in the euro area countries. A model-based assessment", *Working Paper Series*, No 1323, ECB, 2011; Annicchiarico, B., Di Dio, F. and Felici, F., "Structural reforms and the potential effects on the Italian economy", *Journal of Policy Modeling*, Vol. 35(1), 2013, pp. 88-109; Lusinyan, L. and Muir, D., "Assessing the Macroeconomic Impact of Structural Reforms: The Case of Italy", *IMF Working Papers*, No 13/22, 2013; Varga, J., Roeger, W. and In 't Veld, J., "Growth Effects of Structural Reforms in Southern Europe: The case of Greece, Italy, Spain and Portugal", *European Economy – Economic Papers*, No 511, European Commission, 2013; Anderson, D., Barkbu, B., Lusinyan, L. and Muir, D., "Assessing the Gains from Structural Reforms for Jobs and Growth", Chapter 7 in IMF, *Jobs and Growth: Supporting the European Recovery*, 2014.

2 See, for example, Gomes et al., op. cit.; Varga et al., op. cit.; Annicchiarico et al., op. cit.; Anderson et al., op. cit.

3 See, for example, Bouis, R. and Duval, R., "Raising potential growth after the crisis. A quantitative assessment of the potential gains from various structural reforms in the OECD area and beyond", *Economics Department Working Papers*, No 835, OECD, 2011.

4 The preventive arm of the Stability and Growth Pact allows taking into account the short-term budgetary cost of major structural reforms when defining the adjustment path towards the medium-term budgetary objective defined in terms of the structural budget balance, provided that an appropriate safety margin with respect to the 3% of GDP nominal deficit reference value is preserved and the budgetary position is expected to return to the medium-term budgetary objective within the Stability or Convergence Programme period (see Article 5(1) of Council Regulation (EC) No 1466/97).

no or negligible short-term costs,[5] but in other analyses small costs are found to be incurred.[6] Of course, to a large extent, outcomes depend on the calibrated elasticities and other model assumptions. For instance, in models that feature a zero lower bound of monetary policy, reforms delivering a fall in prices that in turn leads to an increase in real interest rates could act as a drag on growth.[7] On the other hand, this might be more than compensated for by expectations of future improvements in consumers' income and firms' growth as a result of the reforms, which could therefore mean a positive impact on growth, even in the short run.[8] In empirical cross-country estimations, structural reforms typically have no or small transitory effects.[9] Of course, the occurrence of transitory costs may also greatly depend on the type of reform as well as on the state of the economy. For instance, while in normal times more activation in unemployment insurance schemes will yield positive employment gains already in the short run, this might not be the case when the degree of slack in the labour market is significant.

Spillovers

The literature also suggests that the impact of reforms depends on the broader institutional environment. For instance, labour market reforms can be more effective when product markets are flexible. As a result, there can also be important spillover effects between reforms. Studies indeed show that the gains from a comprehensive reform package, which includes both labour and product market reforms, can be proportionally larger than those from stand-alone reforms.[10] Furthermore, the benefits from reforms can also spill over across countries through positive trade linkages.[11]

As an illustrative example of the results from the literature, Table A shows the outcomes of IMF simulations of the impacts of possible reforms in euro area countries in both the short and the long run. For each of the euro area countries, the simulations model the impact of closing roughly 50% of the gap with the OECD frontier cases in labour and product market policies.[12] The table shows that such reforms could boost growth in the long run by more than ten percentage

Table A Growth effects of simultaneous reform packages in the euro area

	Year 1	Year 2	Year 5	Long run
Product market	0.2	0.5	1.7	7.2
Labour market	0.5	0.9	1.4	3.0
Product and labour market	0.7	1.5	3.3	11.0

Source: Anderson et al. (2014).

5 See, for example, Bouis, R. and Duval, R., "Raising potential growth after the crisis. A quantitative assessment of the potential gains from various structural reforms in the OECD area and beyond", *Economics Department Working Papers*, No 835, OECD, 2011; Annichiarico et al. op. cit.; Varga et al., op. cit.

6 See, for example, Eggertsson, G., Ferrero, A. and. Raffo, A. "Can structural reforms help Europe?", *Journal of Monetary Economics*, Vol. 61, 2014, pp. 2-22.

7 See, for example, Eggertsson et al., op. cit. This model does not account for the effects of non-standard monetary policy measures.

8 See, for example, Fernández-Villaverde, J., Guerrón-Quintana, P.A. and Rubio-Ramírez, J., "Supply-Side Policies and the Zero Lower Bound", *NBER Working Papers*, No 17543, 2011.

9 See, for example, Bouis, R., Causa, O., Demmou, L., Duval, R. and Zdzienicka, A., "The Short-Term Effects of Structural Reforms. An empirical analysis", *Economics Department Working Papers*, No 949, OECD, 2012.

10 See, for example, Cacciatore et al. (2012); Lusinyan and Muir (2013); Anderson et al. (2014).

11 See, for example, Gomes et al. (2011); Anderson et al. (2014).

12 The simulations are performed using the Global Integrated Monetary and Fiscal Model and assume that countries move their regulations halfway towards the OECD frontier case in 13 years, while frontloading the reforms in the first 5 years. See Anderson et al. (2014) for details.

Table B 2013 Implementation of country-specific recommendations

	Progress					Total number of recommendations
	Full	Substantial	Some	Limited	No progress	
Belgium			3	4		7
Germany			2	2		4
Estonia		1	3	1		5
Spain	1		8			9
France			4	2		6
Italy			1	5		6
Latvia		1	5		1	7
Luxembourg			1	5		6
Malta			3	2		5
Netherlands		1	2	1		4
Austria			6	1		7
Slovenia		1	2	6		9
Slovakia			2	4		6
Finland		2	3			5

Source: European Commission staff assessment.

points.[13] The reforms also deliver positive effects on GDP even in the first year. Furthermore, the table shows the gains from implementing product market and labour market reforms jointly.

Conclusions

The literature on structural reforms shows that there are large benefits to be gained from the introduction of structural reforms, especially in more rigid economies. Despite important progress made in recent years, there is still much scope and need for reforms to improve the functioning of the economies of euro area countries and, thereby, support output growth and job creation. For example, in quantitative terms, according to the assessment by European Commission staff, euro area countries have only fully or substantially implemented 7 out of the 86 country-specific recommendations endorsed in 2013 by the European Council (see Table B).

Flexible labour and product markets are essential to help euro area countries respond optimally and rapidly to shocks and to avoid the higher costs of lost output and higher unemployment associated with the slower and more protracted adjustment of rigid economies. The gains from reforms will clearly be larger when reforms are more ambitious and when they are implemented jointly with reforms in other areas. In this light, more efforts are warranted to deregulate product markets, where reform effort has been muted in recent years. Further labour market reform is also necessary and will help to reduce structural unemployment. Designing a comprehensive reform package will also reduce the possibility of transitory costs that might arise in the adjustment process. Overall, in order to achieve these goals, it is crucially important that euro area countries implement swiftly and fully the reforms specified in the 2014 country-specific recommendations recently published by the European Commission.

13 After allowing for the relatively larger reductions in mark-ups in the IMF paper, the results are quantitatively and qualitatively similar to ECB model simulations (see Box 2 in the article entitled "Country adjustment in the euro area: where do we stand?", *Monthly Bulletin*, ECB, May 2013).