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ASSESSING THE GAINS FROM STRUCTURAL REFORMS FOR JOBS AND GROWTH

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Structural Reforms and Gaps in Euro Area Countries

Euro area countries, particularly those in the periphery, have made strong progress on their structural reform agendas since the global financial crisis. The crisis created the impetus to implement difficult, but needed, structural reforms. In particular, important labor market reforms aimed at reducing labor adjustment costs and promoting employment have been put in place in Greece, Italy, Portugal, and Spain, while countries in the core have primarily focused on increasing labor force participation, for example, through pension reform. Product market reforms have pursued market liberalization and deregulation, mainly in the periphery, although the overall progress on implementing the European Union (EU) Services Directive has been slow in both the periphery and the core.

Progress has been impressive, but important structural gaps still exist, with specific priorities varying across countries.[1] Indicators of product market regulation and the degree of competition in various sectors of the economy suggest scope for easing regulation and strengthening competition in the euro area vis-à-vis the Organization for Economic Cooperation and Development (OECD) frontier cases. Although some euro area countries (notably, Ireland) are among the OECD best-practice cases, product markets are, on average, more heavily regulated and less open to competition in the euro area than in other advanced economies (Figure 7.1, left panel), reflected also in higher price markups, which is a proxy measure for the degree of competition, especially in services (Figure 7.1, right panel).

There is also significant scope for making European labor markets more inclusive, dynamic, and efficient, while recognizing that there is no single optimal labor market model. Employment protection is more stringent in the euro area than elsewhere in advanced OECD countries (Figure 7.2, left panel), which can have a negative impact on labor productivity (Bassanini, Nunziata, and Venn, 2009). Unemployment insurance is relatively more generous while retirement incentives encourage early exit from the labor force. In addition to labor adjustment costs, the tax wedge is high in most euro area countries, and reducing it by shifting taxation from direct to indirect taxes

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[1] IMF (2013a) discusses the key priorities for euro area countries, based on in-depth country-specific analyses carried out by IMF country teams as part of economic surveillance or program work.

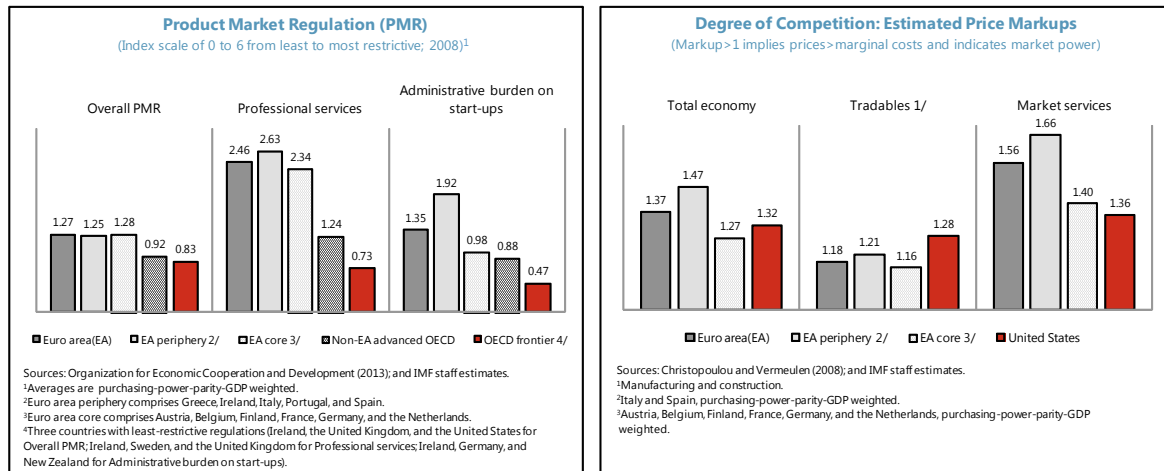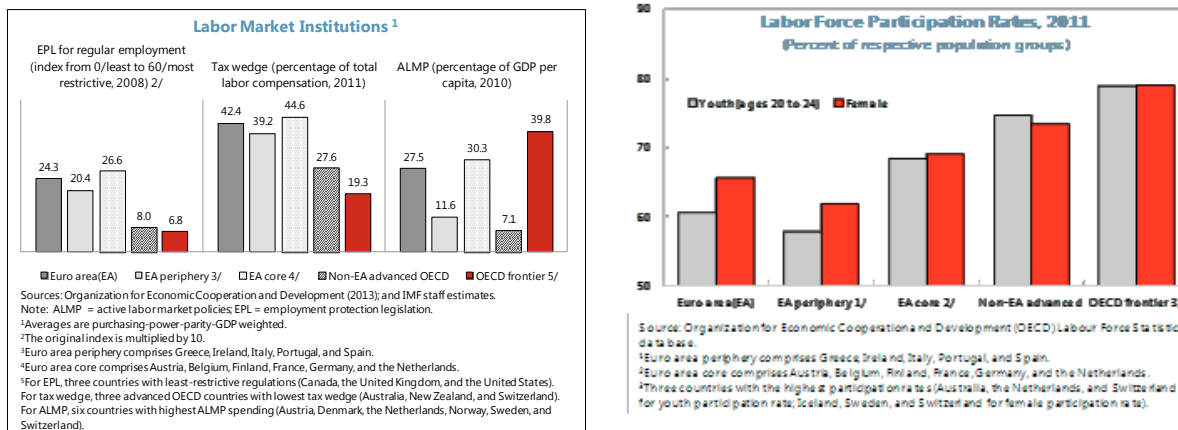### Figure 7.1 Selected Indicators of Product Market Regulation and Competition

Product Market Regulation (PMR)
(Index scale of 0 to 6 from least to most restrictive; 2008)[1]

Sources: Organization for Economic Cooperation and Development (2013); and IMF staff estimates.
[1]Averages are purchasing-power-parity-GDP weighted.
[2]Euro area periphery comprises Greece, Ireland, Italy, Portugal, and Spain.
[3]Euro area core comprises Austria, Belgium, Finland, France, Germany, and the Netherlands.
[4]Three countries with least-restrictive regulations (Ireland, the United Kingdom, and the United States for Overall PMR; Ireland, Sweden, and the United Kingdom for Professional services; Ireland, Germany, and New Zealand for Administrative burden on start-ups).

Degree of Competition: Estimated Price Markups
(Markup>1 implies prices>marginal costs and indicates market power)

Sources: Christopoulou and Vermeulen (2008); and IMF staff estimates.
[1]Manufacturing and construction.
[2]Italy and Spain, purchasing-power-parity-GDP weighted.
[3]Austria, Belgium, Finland, France, Germany, and the Netherlands, purchasing-power-parity-GDP weighted.

Figure 7.2 Selected Indicators of Labor Market Institutions and Performance

Labor Market Institutions[1]

Sources: Organization for Economic Cooperation and Development (2013); and IMF staff estimates.
Note: ALMP = active labor market policies; EPL = employment protection legislation.
[1]Averages are purchasing-power-parity-GDP weighted.
[2]The original index is multiplied by 10.
[3]Euro area periphery comprises Greece, Ireland, Italy, Portugal, and Spain.
[4]Euro area core comprises Austria, Belgium, Finland, France, Germany, and the Netherlands.
[5]For EPL, three countries with least-restrictive regulations (Canada, the United Kingdom, and the United States). For tax wedge, three advanced OECD countries with lowest tax wedge (Australia, New Zealand, and Switzerland). For ALMP, six countries with highest ALMP spending (Austria, Denmark, the Netherlands, Norway, Sweden, and Switzerland).

Labor Force Participation Rates, 2011
(Percent of respective population groups)

Source: Organization for Economic Cooperation and Development (OECD) Labour Force Statistics database.
[1]Euro area periphery comprises Greece, Ireland, Italy, Portugal, and Spain.
[2]Euro area core comprises Austria, Belgium, Finland, France, Germany, and the Netherlands.
[3]Three countries with the highest participation rates (Australia, the Netherlands, and Switzerland for youth participation rate; Iceland, Sweden, and Switzerland for female participation rate).

could further boost employment, growth, and competitiveness. The use and scale of active labor market policies vary across the euro area. Strengthening such policies, together with other measures to boost labor force participation (e.g., child care support), can have an important impact on employment, employability, and efficiency of job matching, which would help address the problems of low labor utilization, especially female and youth, that many euro area countries are facing (Figure 7.2, right panel).

Quantifying the Impact of Structural Reforms

This chapter analyzes the potential macroeconomic impact of structural reforms that would help narrow the structural gaps in the euro area. For each of the euro area countries, the simulation models the impact of closing roughly 50 percent of the gap with OECD frontier cases in labor and product market policies as well as improving the functioning of the pension and tax systems. Product market reforms seek to reduce anticompetitive regulations, lower barriers to entry, and

increase competition. Labor market reforms are more varied, and include reducing employment protection legislation, reducing unemployment benefits, increasing child care support, implementing active labor market programs, and enacting pension-related reforms such as increasing the standard retirement age and increasing the incentive to work between the ages of 60 and 65. Finally, revenue-neutral tax reforms shift taxation from labor and corporate income to consumption. OECD empirical estimates of the dynamic effects of structural reforms on macroeconomic variables such as labor participation, unemployment, and productivity are used as inputs to the model to generate the estimates of the impact of reforms on real GDP.[2]

To quantify the impact, the IMF's Global Integrated Monetary and Fiscal model, a general equilibrium model that features nominal and real adjustment costs and incomplete asset markets, is used.[3] The model brings together economic agents that optimize freely (firms maximize profits, and households maximize utility based on a consumption-leisure choice) and liquidity-constrained agents that consume their income fully. The analysis in this chapter uses a six-region version, composed of the core euro area countries, the euro area periphery countries, the United States, emerging Asia, Japan, and the rest of the world.[4]

Several key features drive the short-term dynamics of the reform impact. The euro area core and periphery regions follow a common inflation targeting regime. Fiscal policy is independently determined in each region and is based on a policy rule that ensures long-term sustainability[5] while allowing for short-term countercyclical stabilization policies. The gradual implementation of reforms, combined with the gradual adjustment of labor supply and capital in response, drives the difference between short- and long-term effects. The simulations are conducted with monetary policy that accommodates the increase in inflation in the short term, complementing the positive effects on real GDP.

Households and firms are assumed not to believe initially that the government will successfully enact its reform agenda, which affects their behavior. Households and firms base their current decisions and expectations only on the reforms actually implemented up to that point. However, the government continues to implement its reforms each year, so households and firms continually update their decisions, gradually adjusting their expectations. After five years, households and firms are assumed to believe fully that the entire announced reform package will be implemented. This process of gradual acceptance affects the outcome in the short to medium term, but the long-term outcome will be the same as if households and firms immediately

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[2] For a detailed discussion of the methodology used to obtain the empirical estimates of the impact of structural reforms, see, for example, Bouis and Duval (2011); updated estimates have been used in the simulations in this chapter.

[3] Kumhof and others (2010) and Anderson and others (2013) provide details on the theoretical foundations and properties of the Global Integrated Monetary and Fiscal model.

[4] In what follows, the euro area periphery comprises Greece, Ireland, Italy, Portugal, and Spain; the remainder of the euro area countries make up the core euro area.

[5] By doing so, this analysis abstracts from considerations of the way different sovereign debt levels may impact fiscal policy and its effects.

believe in the full implementation of the announced reform package (see the section titled Reform Implementation: Macroeconomic and Policy Environment).

The analysis has some limitations. In particular, employment is represented only as total hours worked, but it cannot be further decomposed into the unemployment rate, the participation rate, or average hours worked. The way the equilibrium wage is set does not allow involuntary unemployment to be captured. In addition, the analysis is conducted around an initial steady state that does not account for different cyclical or competitiveness positions across countries, which could affect the extent of possible reforms or their full effects. The estimates are therefore only illustrative examples of what might be achieved in the short and long terms. The section titled Reform Implementation: Macroeconomic and Policy Environment looks at how reform implementation and its impacts may be affected by policy credibility, price stickiness, and demand conditions.

The Benchmark Scenario

Structural reforms can raise real GDP markedly, though the full effects of reforms only materialize with time. This section uses estimates of the distance from the OECD frontier cases to consider the scope and potential gains from reforms and constructs a benchmark scenario (see Table 7.1), using as a baseline the IMF's country-specific projections, as reflected in the April 2013 *World Economic Outlook*. The dynamic effects of different reforms on real GDP, employment, and competitiveness for the periphery and core euro area countries are discussed.

Product market reforms

Euro area countries tend to have higher markups than other advanced economies, indicating substantial scope for gains from reforms. Reforms are assumed to close roughly half the gap between the countries' current regulatory burden and a frontier measure (defined differently for different reforms) within 13 years, but the reforms are front-loaded into the first 5 years (Table 7.1). The empirical estimates of the impact on productivity from reducing regulatory barriers are based on Bourlès and others (2010), and take into account the short-term dynamics of reforms in Bouis and others (2012), as well as the estimates for markups from other sources, such as Forni, Gereli, and Pisani (2010). The regulatory burden indicators are estimated using the OECD's survey-based product market regulation index (Boylaud and Nicoletti, 2003). In the tradables sector, the indicators cover product market regulations, such as state control of business enterprises, legal and administrative barriers to entrepreneurship, and barriers to international trade and investment. The nontradables sector consists of retail trade, network industries, and professional services. The indicators for retail trade are barriers to entry, operational restrictions, and price controls; for professional services, they are barriers to entry and conduct regulation in the legal, accounting, engineering, and architectural professions; and for network industries they are barriers to entry and public ownership in the energy, transport, and communications sectors.

Increasing competition in the tradables and nontradables sectors in the euro area could raise the level of real GDP by 1¾ percent after five years and by more than 7 percent in the long term. The first-year impact on real GDP would, however, be limited to ¼ percent (Figure 7.3). Greater
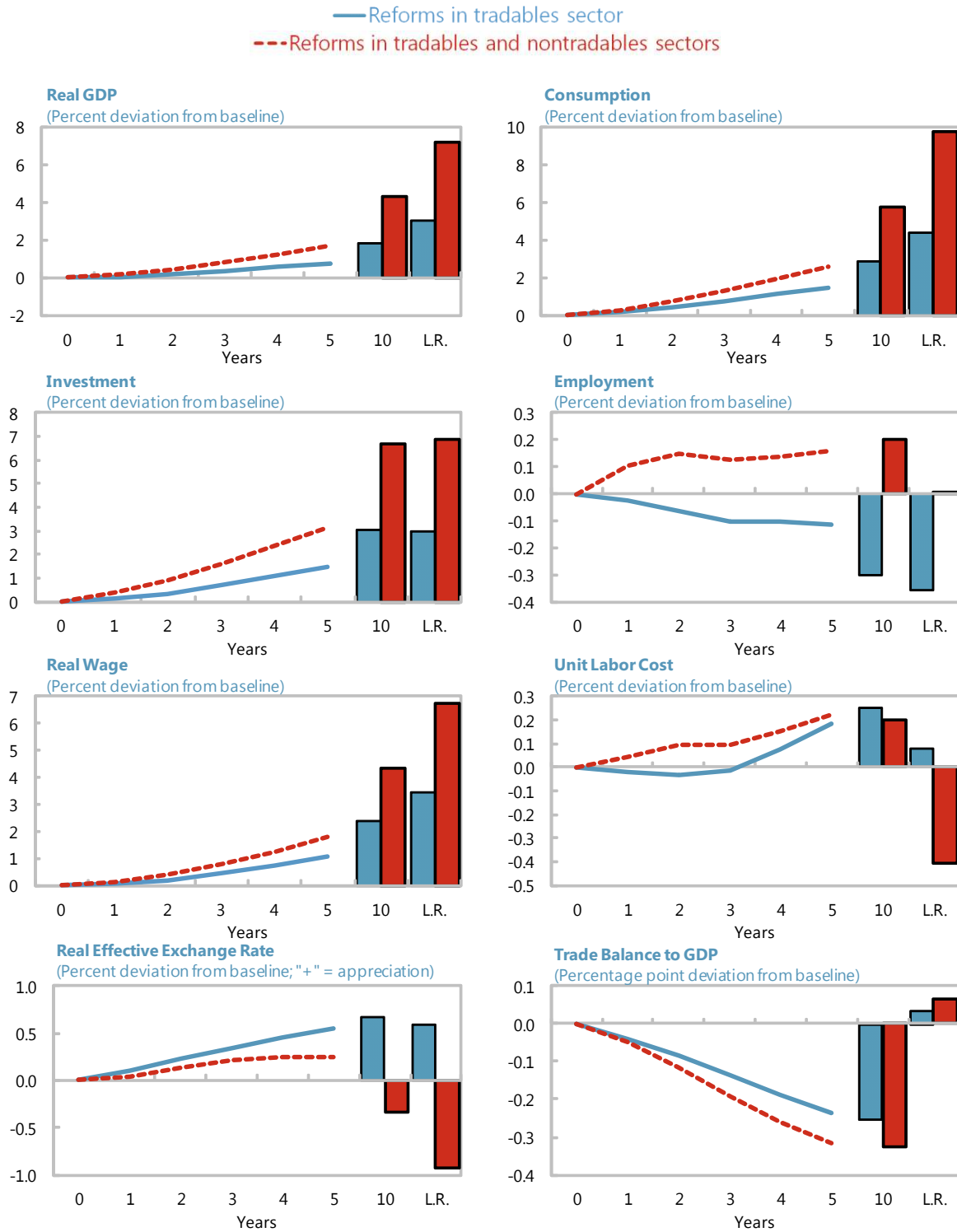
Table 7.1. Assumptions for Structural Reforms

Reform	Proxy	Phasing	Other Assumptions (percent, except as noted)	
Product Market Reforms			**Core**	**Periphery**
Increasing competition in the tradables sector	Decrease in the markup on tradable goods	Reform measures increase productivity for 13 years. Not fully credible until the 6th year.	**Tradables Markup Decrease**	
			4.9	6.7
Increasing competition in the nontradables sector	Decrease in the markup on nontradable goods, decrease in the wage markup	Reform measures increase productivity for 13 years. Not fully credible until the 6th year.	**Nontradables Markup Decrease**	
			14.8	21.0
			Wage Markup Decrease	
			22.5	40.4
Labor Market Reforms			**Core**	**Periphery**
Easing employment protection	Increase in economy-wide labor-augmenting productivity	Reform measures increase productivity for 13 years. Not fully credible until the 6th year.	**Productivity Increase**	
			0.8	0.6
Strengthening active labor market policies	Increase in labor supply, increase in government consumption	Increased fiscal spending phased in over 2 years. Increase in labor supply over 13 years. Not fully credible until the 6th year.	**Labor Supply Increase**	
			0.1	0.2
			Fiscal Spending Increase	
			0.2% of GDP	0.2% of GDP
Increasing female participation through child care	Increase in labor supply, increase in government consumption	Increased fiscal spending phased in over 2 years. Increase in labor supply over 13 years. Not fully credible until the 6th year.	**Labor Supply Increase**	
			0.4	0.5
			Fiscal Spending Increase	
			0.2% of GDP	0.2% of GDP
Reducing unemployment benefits through the average replacement rate	Increase in labor supply, decrease in transfers to LIQ households	Decrease in transfers phased in over 2 years. Increase in labor supply over 13 years. Not fully credible until the 6th year.	**Labor Supply Increase**	
			0.4	0.6
			Transfers Decrease	
			0.2% of GDP	0.6% of GDP
Reducing pension benefits	Increase in labor supply, decrease in transfers to LIQ households	Decrease in transfers phased in over 6 years. Increase in labor supply over 13 years. Not fully credible until the 6th year.	**Labor Supply Increase**	
			0.3	0.2
			Transfers Decrease	
			0.9% of GDP	0.6% of GDP
Tax Reforms			**Core**	**Periphery**
Revenue-neutral tax switching	Increase in the value-added tax offset by cuts to labor and corporate income taxes over two years	Phased in over two years. Immediately credible.	**VAT Revenue/GDP Increase (percentage points)**	
			1.75	1.25
			Labor Tax Revenue/GDP Decrease (percentage points)	
			1.0	0.75
			Capital Tax Revenue/GDP Decrease (percentage points)	
			0.75	0.5

Sources: Organization for Economic Cooperation and Development and IMF staff estimates
Note: LIQ = liquidity-constrained.

Figure 7.3 Product Market Reforms

——— Reforms in tradables sector

- - - - Reforms in tradables and nontradables sectors

Real GDP
(Percent deviation from baseline)

Consumption
(Percent deviation from baseline)

Investment
(Percent deviation from baseline)

Employment
(Percent deviation from baseline)

Real Wage
(Percent deviation from baseline)

Unit Labor Cost
(Percent deviation from baseline)

Real Effective Exchange Rate
(Percent deviation from baseline; "+" = appreciation)

Trade Balance to GDP
(Percentage point deviation from baseline)

Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
Note: L.R. is the long run (2060).

competition would reduce the cost of goods and services to consumers, leading to an increase in consumption, investment, and exports. The increased demand for goods would increase firms' demand for factors of production, putting upward pressure on real wages. Employment would be lower because the stronger income effect outweighs the substitution effect, driven mostly by reforms in the tradables sector.

The euro area's competitiveness would slightly improve in the long term. With labor productivity almost 7 percent higher, unit labor cost would decline. In the long term, the euro would depreciate in real terms by almost 1 percent and the nominal trade balance would slightly improve after an initial deterioration driven by strong imports.

Gains from product market reforms are more extensive in the periphery than in the core. Almost half of the gains from product market reforms originate in the periphery, despite it representing only one-third of the economic size of the euro area (Table 7.2).

Labor market reforms

The benchmark scenario for labor market reforms comprises policies that increase labor supply and ease adjustment. Labor market institutions are a key reform priority, but involve many factors that need to be taken into account when charting a course for reforms and that may vary in importance across countries (Blanchard, Jaumotte, and Loungani, 2013). To model the impact of labor market reforms, estimates are used from Bassanini and Duval (2006), taking into account the short-term dynamics as found in Bouis and others (2012) for reforms to ALMP, unemployment, and EPL, and from Jaumotte (2003).

Active labor market policies (ALMP) aim to encourage the nonemployed to retrain and return to the labor market. The analysis assumes that countries increase the ratio of ALMP spending per unemployed to GDP per capita relative to the average within a set of countries with high ALMP spending (Denmark, Austria, the Netherlands, Norway, Sweden, and Switzerland). This assumption is implemented through a permanent increase in government spending for two years, financed through an increase in public debt and an increase in labor supply.

Unemployment insurance helps workers insure against unemployment, but may also lead to lower employment and longer unemployment duration. The impact of a reduction in the average replacement rate (ARR) of unemployment insurance benefits relative to the average within a set of countries with low replacement rates (Australia, Canada, Japan, New Zealand, the United Kingdom, and the United States) is considered. This impact is implemented in the model through a reduction in government spending and an increase in labor supply.

- *Employment protection legislation (EPL)* encourages stable employment relationships, but may also hamper the reallocation process, with a negative impact on productivity (e.g., Martin and Scarpetta, 2012). Countries are assumed to ease employment protection relative to the average of the three lowest levels observed across OECD economies. The impact of this easing is implemented using the OECD estimates of increased labor productivity in both the tradables and nontradables sectors.

Table 7.2. Simultaneous Reform Packages, Decomposition of Real GDP
(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Euro Area Periphery				
Benchmark scenario	1.4	2.7	4.8	15.4
Product and labor reforms	0.9	1.8	4.2	14.5
Product market reforms	0.3	0.6	2.4	10.0
Tradables sector	0.1	0.3	1.1	3.8
Nontradables sector	0.2	0.4	1.3	6.2
Labor market reforms	0.6	1.1	1.6	3.5
Employment protection	0.0	0.1	0.2	0.5
Active labor market policy	0.2	0.3	0.1	0.2
Female participation rate	0.4	0.7	0.2	0.7
Unemployment insurance	0.0	-0.1	0.5	0.9
Pensions	0.1	0.2	0.3	0.7
Tax reforms	0.4	0.6	0.6	1.0
Euro Area Core				
Benchmark scenario	1.1	2.1	3.7	10.6
Product and labor reforms	0.7	1.3	2.8	9.2
Product market reforms	0.1	0.3	1.3	5.7
Tradables sector	0.0	0.1	0.6	2.6
Nontradables sector	0.1	0.3	0.8	3.1
Labor market reforms	0.5	0.9	1.2	2.8
Employment protection	0.0	0.1	0.2	0.7
Active labor market policy	0.1	0.2	0.1	0.2
Female participation rate	0.2	0.3	0.2	0.5
Unemployment insurance	0.1	0.2	0.1	0.4
Pensions	0.1	0.1	0.4	0.6
Tax reforms	0.4	0.7	0.8	1.4
Euro Area				
Benchmark scenario	1.2	2.3	4.1	12.3
Product and labor reforms	0.7	1.5	3.3	11.0
Product market reforms	0.2	0.5	1.7	7.2
Tradables sector	0.1	0.2	0.8	3.0
Nontradables sector	0.1	0.3	1.0	4.2
Labor market reforms	0.5	0.9	1.4	3.0
Employment protection	0.0	0.1	0.2	0.6
Active labor market policy	0.1	0.2	0.1	0.2
Female participation rate	0.3	0.4	0.2	0.5
Unemployment insurance	0.1	0.1	0.3	0.6
Pensions	0.1	0.2	0.3	0.7
Tax reforms	0.4	0.7	0.8	1.2

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

- *Increased availability of public child care services* can increase labor supply, especially of women, by reducing the opportunity cost of employment. The analysis assumes that countries increase the ratio of public child care spending to GDP per capita relative to the average of countries with the highest public child care spending (Denmark, Norway, Sweden, and the United Kingdom). This increase in child care spending is modeled through a permanent increase in government spending for two years and an increase in labor supply.

Labor market reforms also cover pension reform. Pension reform would consist of both an increase in the retirement age by two years and a move to actuarial neutrality (a zero implicit tax rate on continued employment for workers between the ages of 60 and 65). This reform would lead to permanently lower pension outlays (represented by a reduction in transfers to liquidity-constrained households), allowing for a permanent reduction in government debt, and to an increase in labor supply.

The labor market reforms could have a positive but modest impact on real GDP of 1½ percent after five years and 3 percent in the long term. The short-term gain would be limited to ½ percent of GDP, but still double the impact of product market reforms (Figure 7.4). In the short term, households would perceive the changes in policies regarding ALMP, ARR, and child care as temporary, and would not fully commit to supplying more labor. Similarly, because productivity gains from EPL would not be fully realized in the short term, its impact would be marginal. Wages would fall in the medium term because the positive effects of higher demand for euro area goods, and hence for the factors of production, would still take time to materialize, but would still increase in the long term. The effects would also be apparent in the dynamics of consumption, which would decline notably after five years before increasing in the long term. In the long term, most of the increase would be driven by the reforms that boost labor supply. However, the productivity impact from EPL would be substantial, accounting for more than a quarter of the impact on real GDP.

Euro area competitiveness and labor productivity would improve in the long term. Although there would be downward pressure on productivity from the increase in labor supply, it would be offset by the EPL reforms. Therefore, the unit labor cost is lower, reinforced by the decline in real wages resulting from higher labor supply. With more labor available for production, firms' demand for capital would also increase, and investment would be permanently higher. Cheaper goods being produced in the euro area would also lead to a permanent real exchange rate depreciation of almost 1 percent and a slightly stronger external position.

Labor market reforms would have a stronger short-term impact than product market reforms, but their effect would become relatively muted. According to OECD estimates, the euro area is not too distant from best practices in ALMPs and child care services. The effects of these reforms on productivity and GDP are empirically found to be relatively small (Barnes and others, 2011; Bouis and Duval, 2011).

However, the fiscal implications of labor reforms would be positive for the euro area. In the long term, the decrease in spending on pensions and unemployment insurance would lead to a fall in the level of government debt in the euro area as a whole of almost 20 percent of GDP (with the

Figure 7.4 Labor Market Reforms
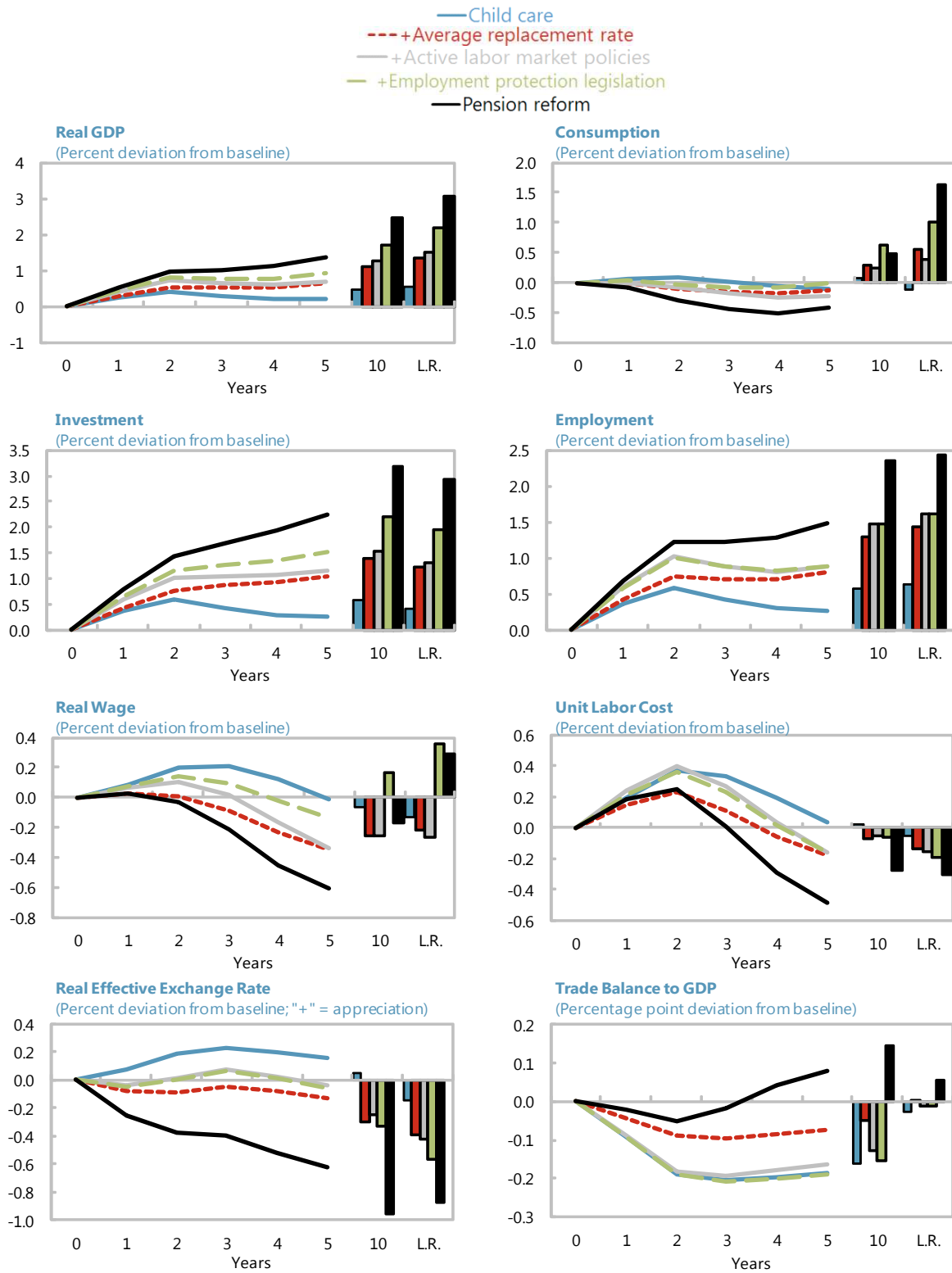
Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
Note: L.R. is the long run (2060).

largest reduction in debt occurring in the periphery countries). Because there would be less demand for global saving to maintain the level of euro area debt, the global interest rate would decline permanently, by about 10 basis points.

Labor market reforms would have a larger impact in the periphery than in the core. The long-term gains in real GDP would be 3½ percent in the periphery and 2¾ percent in the core (Table 7.2). The periphery could gain most from reforms to unemployment insurance, female labor market participation, and pensions; for the core, the gains would be largest from reforms to EPL and pensions.

Revenue-neutral tax reforms

Revenue-neutral tax reform shifts the tax burden away from distortionary direct taxes to indirect taxes, increasing the incentives to work and invest. In particular, "fiscal devaluation," which is a budget-neutral shift from employers' social contributions toward value-added taxes (VAT), has been shown in the empirical literature to increase output and employment (see, for example, IMF, 2012). Because labor-related tax revenues constitute a large share of the revenues in the euro area, transferring this burden to VAT would increase the incentive to work and to hire labor, leading to an increase in labor supply and real GDP (Allard and others, 2010). Similarly, a shift away from corporate income taxes to VAT would increase the return on capital, leading to higher investment and real GDP. Tax revenues can be increased by broadening the tax base as well as by increasing tax rates. The table below shows the size of the revenue-neutral tax reform that is assumed to be implemented in the core and the periphery of the euro area over two years, starting in 2013.

Assumed Two-Year Change in Tax Instruments as a Share of GDP

	Corporate Tax	Labor Tax	Value-Added Tax
Core	−0.75	−1.0	1.75
Periphery	−0.5	−0.75	1.25

A shift in taxation from direct to indirect taxes could raise real GDP by ¾ percent after five years and 1¼ percent in the long term. In the first year, GDP would be higher by almost ½ percent (Figure 7.5). The medium-term impact would be dampened because households and firms believe that the reforms are temporary. Therefore, although consumption tax increases would immediately affect consumers' marginal propensity to consume, the direct tax cuts would not have as large an offsetting effect on household and firm behavior. Consumption would fall after five years, although it would increase in the long term. Employment, after a positive short-term reaction, would be only marginally higher in the long term (although the real wage would increase). Because the tax cuts would affect the cost of capital and labor directly, competitiveness would improve. The unit labor cost would fall slightly despite increasing real wages, exports would rise by about 1 percent in the long term, and the real exchange rate would depreciate.

An increase in consumption taxes would lower household consumption, but the positive effects from removing tax distortions would be much greater. In the long term, the labor income tax cut

Figure 7.5 Fiscal Reforms

— Tax switching

Real GDP
(Percent deviation from baseline)

Employment
(Percent deviation from baseline)

Real Effective Exchange Rate
(Percent deviation from baseline; "+" = appreciation)

Exports
(Percent deviation from baseline)

Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
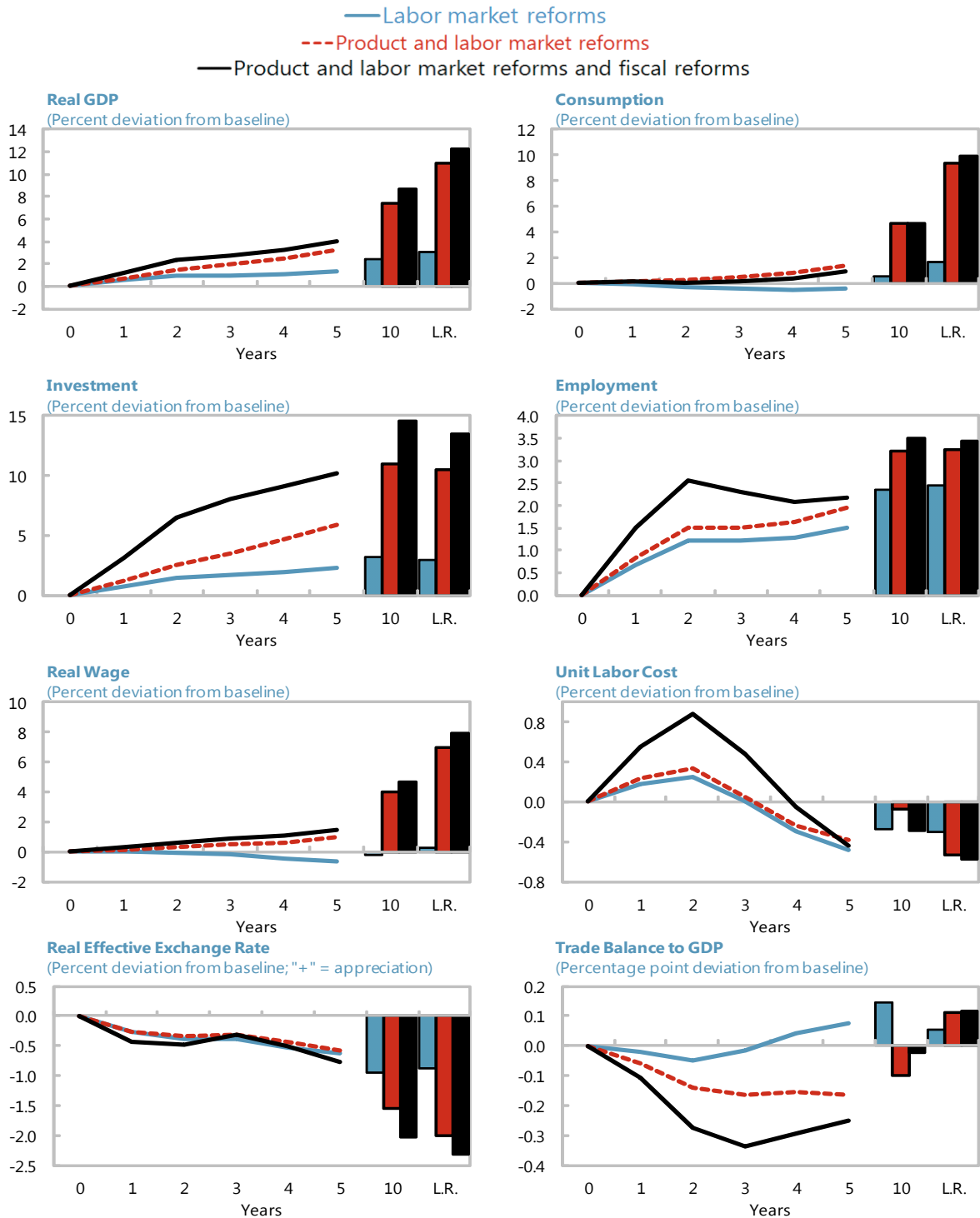Note: L.R. is the long run (2060).

would offset the negative effects from consumption taxes on households' spending power and would provide an incentive for more labor supply. The corporate income tax cut would reduce the cost of capital faced by firms, encouraging greater demand for capital and labor. The assumption that firms only gradually believe in the implementation of the reforms would slow this process.

Combining all structural reforms

Simultaneous implementation of product market, labor market, and tax reforms would be larger than the sum of the components. The impact on real GDP would be 4 percent after five years and 12 percent in the long term (Figure 7.6).[6] Product market reforms would strongly boost consumption even as labor market and tax reforms act as a drag, especially in the short term. Employment would increase in both the medium and long terms, a reflection of the impact of labor market and tax reforms. Real wages would still be higher, despite downward pressure from

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[6] These results differ from those reported in IMF (2013a, 2013b) because these simulations include fiscal reforms, assume a larger gap to close through product market reforms, and use more updated data and a different model.

Figure 7.6 Benchmark Scenario

—— Labor market reforms
---- Product and labor market reforms
—— Product and labor market reforms and fiscal reforms

Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
Note: L.R. is the long run (2060).

Table 7.3. Individual versus Simultaneous Reform Packages, Decomposition of Real GDP

(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Reforms Implemented Individually by Euro Area Core and Euro Area Periphery				
All reforms	1.0	2.1	4.0	12.1
Product and labor reforms	0.6	1.3	3.3	10.9
Product market reforms	0.2	0.5	1.7	7.2
Labor market reforms	0.1	0.3	0.8	2.2
Tax reforms	0.4	0.7	0.8	1.2
Reforms Implemented Simultaneously by Euro Area Core and Euro Area Periphery				
All reforms	1.2	2.3	4.1	12.3
Product and labor reforms	0.7	1.5	3.3	11.0
Product market reforms	0.2	0.5	1.7	7.2
Labor market reforms	0.5	0.9	1.4	3.0
Tax reforms	0.4	0.7	0.8	1.2

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

the labor market reforms. The unit labor cost would decline, and a strong labor productivity increase, driven by product market reforms, would dominate.

Reform Coordination, Spillovers, and Intra–Euro Area Rebalancing

Synergies would come into play from the simultaneous implementation of reforms in the core and the periphery. Implementing the benchmark reform scenario simultaneously in both regions would provide slightly larger gains than the added effect from reform packages implemented in each region in isolation (Table 7.3). Spillovers would be greater from the core to the periphery of the euro area than from the periphery to the core (Tables 7.4 and 7.5). If the periphery reformed alone, the core would gain ¼ percent of real GDP. However, if the core reformed alone, the periphery would gain ½ percent of real GDP in the short term and 1½ percent of real GDP in the long term. First, the periphery exports more to the core than it imports, so if the core reforms by itself, the export increase by the periphery (and the positive effects on periphery real GDP) would

Table 7.4. Structural Reforms in the Periphery, Decomposition of Real GDP

(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Structural Reforms in the Euro Area Periphery				
All reforms	0.7	1.5	4.1	13.6
Product and labor reforms	0.5	1.1	3.7	12.7
Product market reforms	0.2	0.6	2.0	8.6
Labor market reforms	0.1	0.2	0.7	2.2
Tax reforms	0.2	0.4	0.5	0.9
Spillovers to the Euro Area Core				
All reforms	0.2	0.3	0.2	0.3
Product and labor reforms	0.1	0.3	0.2	0.3
Product market reforms	0.0	0.0	0.1	0.3
Labor market reforms	0.0	0.1	0.0	0.0
Tax reforms	0.1	0.1	0.0	0.0

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates
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Table 7.5. Structural Reforms in the Core, Decomposition of Real GDP

(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Structural Reforms in the Euro Area Core				
All reforms	0.8	1.6	3.4	10.2
Product and labor reforms	0.4	0.9	2.6	8.8
Product market reforms	0.1	0.3	1.3	5.4
Labor market reforms	0.1	0.2	0.7	2.1
Tax reforms	0.3	0.6	0.8	1.4
Spillovers to the Euro Area Periphery				
All reforms	0.5	0.9	0.6	1.6
Product and labor reforms	0.3	0.6	0.6	1.5
Product market reforms	0.0	0.1	0.3	1.4
Labor market reforms	0.1	0.1	0.1	0.0
Tax reforms	0.2	0.3	0.1	0.0

Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

be greater than vice versa. Second, the model assumes that productivity improvements would spill over from the more advanced core countries.[7] Finally, the model assumes that monetary policy would remain accommodative in the short term, leading to higher inflation, thereby reducing real interest rates and boosting real GDP.

Reforms in the periphery would boost competitiveness and help rebalancing, even if the core reforms simultaneously. The spillovers from increased productivity of one region to the other would lead to extra expansion of their productive capacities, further driving up both employment and real wages (Table 7.6). Consequently, greater gains occur in labor productivity under simultaneous reform. However, the decline in the real effective exchange rate and unit labor costs would not be as great in the long term under simultaneous reform—both regions are producing goods more cheaply, and one region could not have achieved the competitive advantage that would result if only one region had reformed. Nonetheless, in the simultaneous reform scenario, rebalancing between the core and the periphery would still occur because the periphery would depreciate against the core (albeit not as strongly) because it has a more comprehensive package of reforms, which would be reinforced by larger productivity spillovers from the core (larger than the effect of its own productivity reforms spilling over to the core).

In addition, simultaneous reform in both the core and the periphery would have a long-term positive, but modest, impact on the global economy. The rest of world's real GDP would be about ½ percent above baseline in the long term (Table 7.7). The short-term spillovers would be negative for the rest of the world because the euro would depreciate. However, in the long term, spillovers from the euro area would be larger, emanating from higher productivity levels and a positive income effect in the euro area that would increase the euro area demand for goods from the rest of world. Also, because the euro area debt-to-GDP ratio would decline by 20 percentage points from pension and unemployment reforms in the long term, a larger pool of global savings would be available for investment, thereby driving down the global real interest rate. This lower interest rate would lower the global cost of capital and stimulate the global economy.

Reform Implementation: Macroeconomic and Policy Environment

Potential gains from structural reforms could be sizable, but various macroeconomic and policy factors may affect their actual impact. This section focuses on three such factors:

- Policy credibility;

- Short-term price stickiness; and

- Initial demand conditions.

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[7] Cross-country spillovers solely from trade linkages are relatively weak (as is the case in dynamic stochastic general equilibrium models in general), but technology and positive productivity spillovers can be important. We explicitly model a link in which productivity spills over from countries that reform to their closest trading partners based on work in Coe and Helpman (1995), Coe, Helpman, and Hoffmaister (1997), and Lumenga-Neso, Olarreaga, and Schiff (2005).

Table 7.6. Structural Reforms Individually or Simultaneously
(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Core when only Core Reforms				
Real GDP	0.8	1.6	3.4	10.2
Employment	0.9	1.6	1.8	3.0
Real wages	0.1	0.2	0.8	6.1
Unit labor cost	0.2	0.3	−0.7	−0.8
Labor productivity	−0.2	−0.2	1.2	5.9
Real bilateral periphery exchange rate	0.0	−0.1	−0.9	−2.3
Real effective exchange rate	−0.3	−0.4	−0.9	−2.5
Core when Entire Euro Area Reforms				
Real GDP	1.1	2.1	3.7	10.6
Employment	1.4	2.4	2.0	3.0
Real wages	0.3	0.6	1.3	6.9
Unit labor costs	0.6	0.9	−0.4	−0.5
Labor productivity	−0.3	0.4	1.4	6.7
Real bilateral periphery exchange rate	0.0	0.1	0.3	1.5
Real effective exchange rate	−0.4	−0.5	−0.7	−1.8
Periphery when only Periphery Reforms				
Real GDP	0.7	1.5	4.1	13.6
Employment	0.7	1.4	2.3	4.2
Real wages	0.0	−0.2	0.4	7.7
Unit labor costs	0.0	−0.3	−1.3	−1.2
Labor productivity	−0.1	0.0	1.4	7.6
Real bilateral core exchange rate	0.0	−0.2	−1.1	−3.7
Real effective exchange rate	−0.2	−0.3	−1.1	−3.9
Periphery when Entire Euro Area Reforms				
Real GDP	1.4	2.7	4.8	15.4
Employment	1.7	2.9	2.6	4.2
Real wages	0.3	0.7	1.6	9.9
Unit labor costs	0.6	0.9	−0.6	−0.8
Labor productivity	−0.3	−0.3	2.0	9.7
Real bilateral core exchange rate	0.0	−0.1	−0.3	−1.5
Real effective exchange rate	−0.4	−0.4	−0.9	−3.2

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

Table 7.7. The Benchmark Scenario: Effects on the Rest of the World, Decomposition of Real GDP
*(Percent deviation from baseline)*

	Year 1	Year 2	Year 5	Long Run
Euro Area				
Total	1.2	2.3	4.1	12.3
Core	1.1	2.1	3.7	10.6
Periphery	1.4	2.7	4.8	15.4
Rest of the World				
Total	0.0	0.1	0.0	0.4
United States	0.0	0.0	0.0	0.3
Japan	0.0	0.0	−0.1	0.2
Emerging Asia	0.0	0.0	−0.2	0.0
Remaining countries	0.1	0.1	0.0	0.6

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

The Role of Policy Credibility

The speed at which gains could be realized in the euro area is affected by the degree of credibility of the announced reform packages. In the benchmark scenario, households and firms believe only gradually that the reform package will be fully implemented beyond the reforms carried out in the current year. If instead they immediately believed in implementation of the reform package as announced, the increase in real GDP would be faster (Figure 7.7). The households that can save would embrace the future increase in wealth from the promised continuation of the reform early on and would immediately increase their consumption.

The labor market would also behave very differently. If there were full policy credibility, households and firms would foresee the potential for future production, and more labor would be used in the short term, until such time that firms could invest enough to generate a higher capital stock to permanently increase their productive capacity. In the benchmark case, the labor response would be much weaker because no long-term changes in labor demand would be perceived initially. After the sixth year, labor would pick up as the full future benefits come to be understood, and firms still would not have enough capital in place. So, if households and firms believe in the future path of reform, employment would peak early (in year 3) and then decline. Otherwise, employment would build gradually and would peak at a lower level (in year 6), but the peak would be sustained for a longer time. Once households and firms fully believe in the reform package, the results are the same as under the case in which they believe in the reform package from the start.

Figure 7.7 The Role of Credibility in the Benchmark Scenario
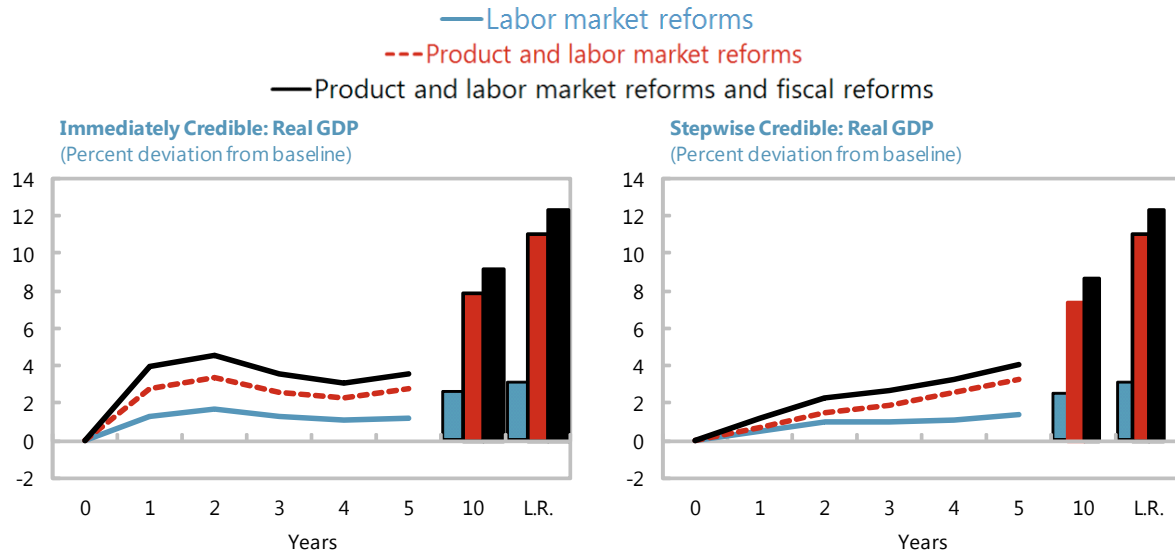
Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
Note: L.R. is the long run (2060).

The Role of Short-Term Price Stickiness

Competition-enhancing structural reforms reduce price and wage markups, but short-term costs of adjustment matter as well. Changes in markups would have short- and long-term effects on macroeconomic aggregates, but they do not directly affect the short-term dynamics of prices. In the short term, prices are driven by nominal adjustment costs present in the economy. In the benchmark scenario, changes in prices from any given shock take roughly 50 percent longer to work their way through the economy than in the most flexible major region, the United States. However, as markets become more competitive, the speed of price adjustment can be expected to increase.

An assumption of more flexible prices in the euro area does not materially affect the results. The analysis assumes that the monetary policy rule in the euro area has the same level of aggressiveness as in the United States, given that this property is related to the short-term stickiness of prices. The benchmark reform scenario is tested under this different assumption, without considering the transition path from higher to lower price stickiness. The outcomes can be read as the upper bound of the effects on the transition dynamics from their impact on product and labor market reforms (Table 7.8). The long-term results remain unchanged, while there are slightly greater gains in the short term because firms and households more rapidly adjust their prices and wages to reflect the future changes in the economy, thereby incurring lower costs from short-term inertia.

Table 7.8. The Role of Price Stickiness in the Short Term, Decomposition of Real GDP

(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long Run
Euro Area				
All reforms				
Benchmark scenario	1.2	2.3	4.1	12.3
Price stickiness similar to United States	1.8	2.8	4.0	12.3
Product market reforms				
Benchmark scenario	0.2	0.5	1.7	7.2
Price stickiness similar to United States	0.3	0.5	1.7	7.2
Labor market reforms				
Benchmark scenario	0.5	0.9	1.4	3.0
Price stickiness similar to United States	0.7	1.1	1.4	3.0
Tax reforms				
Benchmark scenario	0.4	0.7	0.8	1.2
Price stickiness similar to United States	0.5	0.8	0.8	1.2

Sources: Global Integrated Monetary and Fiscal model simulations using Organization for Economic Cooperation and Development and IMF staff estimates.

The Role of Demand Conditions

Weak demand and excess capacity conditions may limit the short-term output response to reforms. In particular, balance sheet concerns and low confidence encumber private sector decisions, thereby weakening demand and possibly hindering the effectiveness of supply-side reforms. For example, relaxing employment protection may not stimulate hiring in the short term, but increase unemployment. Similarly, reducing unemployment insurance or increasing the retirement age would lower disposable income if those induced to seek work cannot find jobs. Overall, there are considerable uncertainties about the immediate effects of implementing structural reforms during a recession.

An illustration estimates the worst-case impact of weak demand conditions by assuming that firms would not hire any additional workers. No hiring would occur despite the increase in labor supply that comes from labor market reforms such as increased child care, ALMP, and reduced unemployment insurance benefits. In reality, labor demand would most likely increase in the long term, although the negative short-term effects could occur. Demand for other factors of production would also be lower compared with the benchmark scenario. To discuss the lower bound effectively, the analysis only considers the case in which reforms are immediately and fully believed in by households and firms, and compares this to the version of the benchmark scenario implemented in the same manner (as shown in the left panel of Figure 7.7).

Figure 7.8 Impact of Weaker Initial Demand Conditions
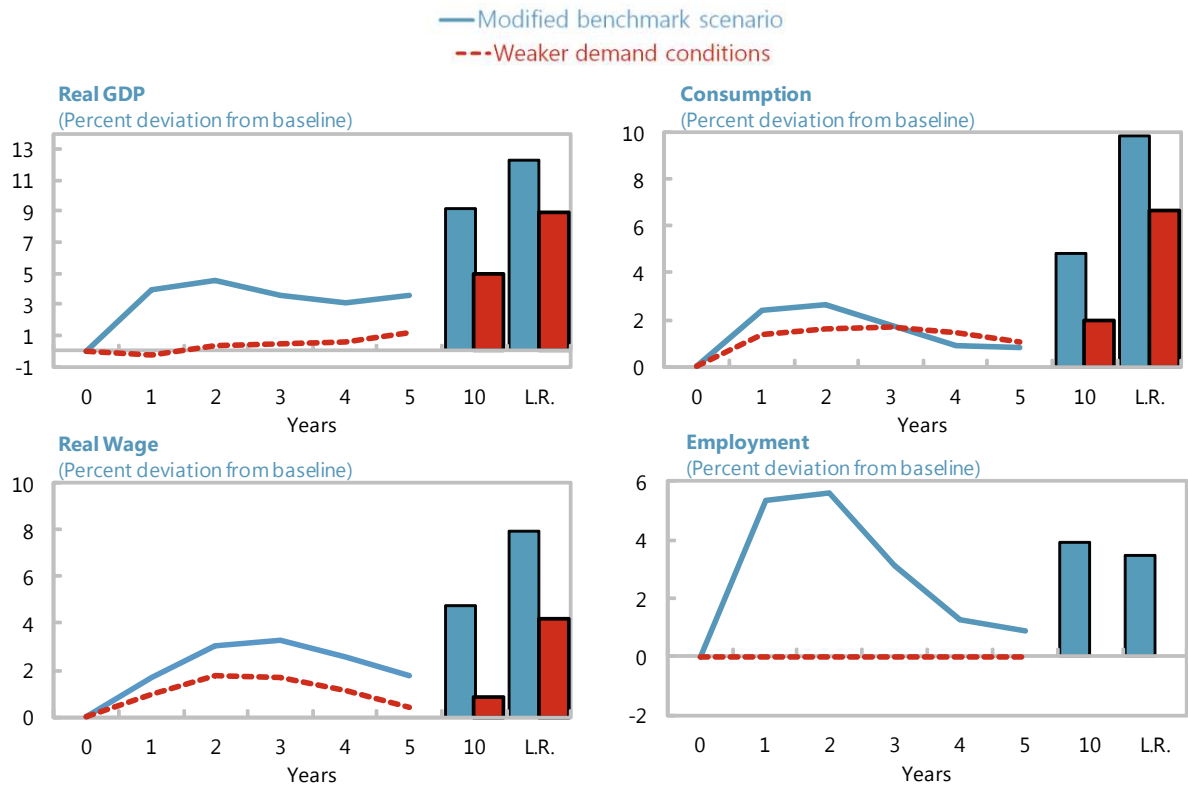
Sources: Global Integrated Monetary and Fiscal Model simulations using OECD and IMF staff estimates
Note: L.R. is the long run (2060).

The short-term impacts on real GDP would be substantial because real GDP would fall in the first year instead of increasing. The shortfall could be as high as 4 percent of real GDP (Figure 7.8), driven primarily by labor market reforms. Real wages would decline relative to the benchmark because the increase in labor supply would allow firms to slash wages, and the marginal product of labor would decline.

Product market and tax reforms would still be fairly effective in the medium term under restricted labor demand. Both sets of reforms act on both factors of production, capital and labor. So although employment may not increase in this scenario, capital will increase by almost enough to overcome the weakness in labor demand. On the demand side, labor income, on balance, would be lower than in the benchmark scenario, although households that save would experience higher wealth from the notable increase in the capital stock (which is an increase in the equity of firms). Moreover, the depreciation in the real effective exchange rate would be greater because all goods would be even cheaper, not only from the decrease in markups and increase in productivity from the reforms, but also from the long-term decline in real wages in response to rigid labor demand.

Concluding Remarks

The analysis illustrates that structural reforms in the euro area can increase its real GDP markedly, though it may take time for their full potential to be achieved. Structural reforms are critical to improving the long-term capacity of economies to grow through both more intensive use of resources and higher productivity. Weak demand conditions may dampen the already small short-term impact. The long-term gains are largest in the periphery countries, where growth is most needed. Reforms would also boost euro area competitiveness. The largest gains for euro area countries could come from product market reforms; labor market reforms could have a positive but more modest impact on real GDP. Simultaneous implementation of product and labor market reforms would generate an additional GDP payoff.

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