

INTERNATIONAL MONETARY FUND

**Fiscal Policy and Employment in Advanced and Emerging Economies**

Prepared by the Fiscal Affairs Department

Approved by Carlo Cottarelli

June 15, 2012

Contents	Page
Executive Summary .....	3
I. Introduction .....	4
II. Trends in Labor Markets, Taxation, and Social Spending .....	5
A. Key Labor Market Challenges .....	6
B. Fiscal Policies Affecting Labor Markets.....	10
III. How Fiscal Policy Affects Employment.....	13
A. Policies to Boost Labor Demand .....	16
B. Policies to Boost Labor Supply and Improve Job Matching.....	22
IV. An Agenda for Reform in Advanced and Emerging Economies .....	31
A. Reducing Unemployment .....	33
B. Increasing Labor Force Participation .....	35
Tables	
1. Key Labor Market Challenges for Different Country Groups, 2010/11.....	9
2. Effect of Fiscal Policies and Institutions on Structural Unemployment.....	15
3. Summary: Fiscal Policy Reforms to Reduce Unemployment .....	35
4. Summary: Fiscal Policy Reforms to Increase Labor Force Participation.....	37
Figures	
1. Labor Force Participation, 1990–2010 .....	6
2. Unemployment Rates, 1990–2010.....	7
3. Employment Rates, 2007 and 2010 .....	8
4. Change in Real GDP and Employment, 2007–2010 .....	8
5. Tax to GDP Ratios, 1980–2010 .....	11
6. Social Benefits, 1970–2010 .....	12
7. Welfare Spending, 2007 and 2009.....	13
8. Tax Wedges, 2010 .....	23
9. Participation Tax Rates, 2009.....	27

10. Level and Duration of Unemployment Benefits, 2007 .....	29
11. Implicit Taxes and Effective Retirement Ages .....	30

#### Boxes

1. Policy Options for Boosting Employment: Conceptual Framework .....	14
2. Recent Job Creation Measures in Advanced and Emerging Economies .....	17
3. Social Contributions Versus Taxes: Implications for Employment .....	19
4. Small Businesses, Employment, and Tax Policy .....	20
5. In-Work Tax Credits and Benefits .....	25
6. Reforming Unemployment Insurance Using Experience Rating.....	31

#### Appendices

1. List of Country Abbreviations .....	38
2. Employment Outcomes, Taxes, and Benefit Structures .....	39
3. Regulation, Labor Market Institutions, and Employment .....	55
4. Micro Estimates on Labor Supply Elasticities.....	57
5. Data Definitions .....	59

#### Appendix Tables

1. Unemployment and Labor Force Participation Rates in Advanced Economies .....	40
2. Unemployment and Labor Force Participation Rates in Emerging Economies .....	41
3. Labor Market Regulations in Advanced Economies .....	42
4. Labor Market Regulations in Emerging Economies.....	43
5. Tax Wedges and Tax Rates in Advanced Economies .....	44
6. Tax Wedges and Tax Rates in Emerging Economies .....	45
7. Unemployment Benefits in Advanced Economies .....	46
8. Unemployment Benefits in Emerging Economies.....	47
9. Active Labor Market Programs in Advanced Economies .....	48
10. Active Labor Market Programs in Emerging Economies.....	49
11. Disability Benefits: Participation and Benefit Levels in Advanced Economies.....	50
12. Pension Retirement Ages and Actuarial Adjustments in Advanced Economies.....	51
13. Pension Retirement Ages and Actuarial Adjustments in Emerging Economies .....	52
14. Family Benefits in Advanced Economies.....	53
15. Family Benefits in Emerging Economies .....	54

References.....	61
-----------------	----

## EXECUTIVE SUMMARY

**Low employment rates in many advanced and emerging economies reflect not only weak cyclical conditions since the onset of the global financial crisis but also deep-rooted labor-market weaknesses.** Unemployment has increased substantially since 2007, reflecting the weakening of economic activity. However, in many advanced economies, unemployment was already elevated before the crisis and will remain a policy challenge as the global economy recovers. In emerging economies, low employment rates also continue to reflect often dire pre-crisis labor-market situations. Against this background, this paper: (i) identifies key structural labor-market weaknesses in advanced and emerging economies; (ii) discusses the impact of tax and expenditure policies on employment; and (iii) provides a menu of tax and expenditure measures to boost employment. The focus is on incentives to increase labor demand and supply rather than on the impact of fiscal policy on employment through aggregate demand effects.

**In advanced economies, better designed tax and expenditure policies could significantly boost employment.** Limiting both fiscal cost and adverse effects on equity often requires a targeted approach, with fiscal measures geared to specific groups of workers. In the short run, unemployment could be reduced by lowering labor tax wedges, for example by reducing employer social security contributions, and expanding wage subsidies, especially for low-wage earners. In addition, expanding other active labor market programs (ALMPs), such as training and job assistance, could help to better match labor supply with labor demand, thereby reducing frictions. While measures to boost labor supply will require more time to have positive employment effects, improved labor supply incentives, especially for women and older workers, would likely be beneficial over the medium term. These could include, for example: (i) targeted tax relief for single parents and secondary earners; (ii) redesigned child benefits to encourage parents to participate in the labor force; and (iii) reformed pension and disability schemes. Conditioning the receipt of social benefits on having a job (e.g., “in-work benefits”) could also help raise employment over the medium term.

**In emerging economies, structural reforms in labor, capital, and product markets are often more important for strengthening employment outcomes than fiscal reforms.** That said, appropriately designed fiscal policies will become increasingly important in promoting employment and avoiding a shift toward informality as emerging economies expand their social benefit systems. In some emerging economies, there is scope to address distortions from high labor tax wedges and inefficient pension design. Countries could also benefit from using effective ALMPs and developing individual saving accounts for certain risks.

**Country-specific approaches will be needed to formulate appropriate strategies to boost employment.** The effectiveness of specific reforms can vary considerably across economies and will depend on labor market institutions, the nature of the employment challenges, and administrative capacity. Policies to promote employment can at times involve tradeoffs with other public policy goals and must also be judged relative to fiscal constraints.

## I. INTRODUCTION

1. **The low employment rates currently experienced by many economies reflect both cyclical conditions and deep-rooted weaknesses in labor market institutions and fiscal policies.** Substantial job losses since the onset of the global financial crisis have contributed to a decline in employment rates by 3½ percentage points in advanced Europe and 3 percentage points in emerging Europe. More than four out of every 10 persons of working age is now without a job in Greece, Italy, and Spain. In the United States, employment rates reached a 25-year low in 2010, and remain at depressed levels in early 2012. However, in many advanced economies, employment rates were low even before the crises, pointing at underlying structural problems. In many emerging economies, particularly in the Middle East, the labor-market situation continues to be dire, with economies like Egypt, Morocco, and Jordan having employment rates of less than 50 percent even without having been greatly affected by the crisis. High rate of joblessness among the young risks reducing the human capital of an entire generation of workers in a number of countries.

2. **Increasing employment is an important policy goal.** Reducing involuntary unemployment—which occurs when those who actively seek work are unable to find it—increases welfare. Involuntary unemployment creates an unambiguous loss, both in direct human terms and by reducing economic output (Dao and Loungani, 2010). Increasing labor force participation can also potentially enhance welfare if it goes hand-in-hand with higher employment. Raising formal sector employment is especially important for three working-age groups: (i) “discouraged workers” who withdrew from the labor market because of a lack of jobs; (ii) those who do not seek work because of high taxes and available social benefits; and (iii) those employed in the informal economy. In general, a shift into formal employment improves public finances through higher revenues and can also create “better” (i.e., more stable and productive) jobs. This said, country preferences, including the choice between work and leisure, also matter and various policy goals may be competing. Thus, this paper suggests tools for policy-makers that wish to achieve a higher employment rate, and is not prescriptive about the level of employment that, in general, countries should aim at.

3. **This paper discusses tax and expenditure policy reforms to raise employment.** Using data for 58 advanced and emerging economies,<sup>1</sup> the paper provides a unified assessment

---

<sup>1</sup>Advanced economies are split into advanced Europe and other advanced economies. Advanced Europe (21) comprises: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. Other advanced economies (7) include: Australia, Canada, Israel, Japan, Korea, New Zealand, and the United States. Emerging economies are also divided into emerging Europe (9): Bulgaria, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Turkey, and Ukraine; and other emerging economies (21): Argentina, Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Jordan, Kazakhstan, Kenya, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, the Philippines, Saudi Arabia, South Africa, and Thailand.

of tax and expenditure measures that have usually been addressed separately.<sup>2</sup> It focuses on policies that increase labor demand in the short run and labor supply (through higher labor force participation rates) over the medium term,<sup>3</sup> recognizing that policies that may be appropriate to promote employment in the context of depressed aggregate demand may be ineffective over the medium term. It also discusses some regulatory issues regarding labor markets, as well as policies to improve the matching of labor supply and demand (which reduces frictional unemployment). The appropriate reform strategy will differ from country to country, depending, among other things, on the functioning of the labor market, the nature of the employment challenges, existing administrative capacity, and fiscal constraints.

4. **The paper is structured as follows.** Section II reviews some labor market facts in advanced and emerging economies, and assesses trends in the level and structure of tax and social spending programs that can affect employment. Section III discusses the impact of these policies on labor-market outcomes, distinguishing between policies that aim primarily to stimulate labor demand or labor supply. The role of fiscal policies relative to other determinants of labor market outcomes (such as labor market regulations) is also assessed. Section IV formulates broad guidelines for policy reform across advanced and emerging economies. A comprehensive set of tables on fiscal policies and labor market outcomes for advanced and emerging economies, permitting cross-country comparisons to facilitate the design of reform strategies, is included in Appendix 2.

## II. TRENDS IN LABOR MARKETS, TAXATION, AND SOCIAL SPENDING

5. **Fiscal policy affects labor markets both through the design of tax systems and the structure of social benefits.** Labor market performance can be gauged in a stylized way by looking at three key indicators—who wants to work (labor force participation), has work (employment), and does not have work (unemployment)—and the policies that shape them.

---

<sup>2</sup>See, for example, various issues of the OECD *Employment Outlook* series. OECD (2011a) discusses the impact of tax policies on employment, while OECD (2011b) examines family benefit systems. The ILO's annual *World of Work Reports* cover both advanced and emerging economies and focus largely on developments in labor markets and the outlook for employment.

<sup>3</sup>The paper will not review the employment effects of fiscal stimulus, which have been discussed elsewhere (Spilimbergo and others, 2009a, 2009b; IMF, 2010, 2012; Ramey, 2011). Nor does it assess fiscal policies that can indirectly affect employment outcomes over the long term (e.g., policies aimed at increasing the level and effectiveness of public education or health spending). Also, non-fiscal policies that can affect employment by raising economic growth, such as trade liberalization or product market reform, are not discussed. The short term refers to 1–2 years ahead, the medium term to 4–5 years, and the long term to the period beyond that.

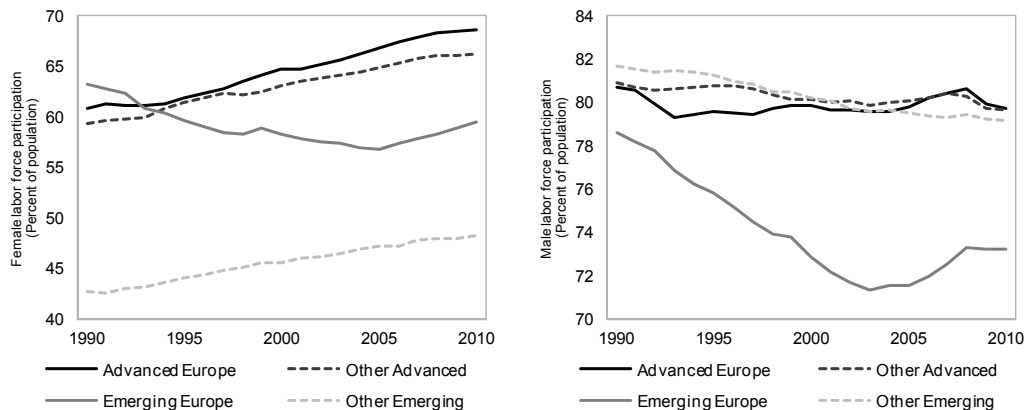
## A. Key Labor Market Challenges

### Patterns and trends in labor markets

6. **Average labor force participation rates—percentages of the population aged 15–64 that are either employed, or unemployed and actively seeking work—have risen over the past 20 years, primarily due to females entering the work force.** An exception is emerging Europe, where female participation rates actually declined (Figure 1). Still, across all countries, average female participation rates remain almost 20 percentage points lower than those for men. Increasing female participation rates thus represents a large potential source of future labor force growth in many countries, especially in emerging economies.

**Figure 1. Labor Force Participation, 1990–2010**

*While female participation (left) has generally trended upward, participation of men (right) has declined, especially in Emerging Europe.*



Sources: IMF staff estimates, based on ILO Key Indicators of the Labor Market (KILM) and the Labor Force Surveys of Eurostat and the OECD.

Note: Based on 3-year moving averages.

7. **The labor force participation of older males is substantially below that of other age groups.** Despite recent increases, participation rates of men between 55 and 64 remain fairly low at an overall average of 67 percent, compared with 92 percent for the 25–54 age group. Participation rates of older men decreased considerably during the 1970s and 1980s, largely reflecting the gradual lowering of statutory retirement ages, the introduction of early retirement schemes, and an increased take-up of disability and unemployment benefits as alternative routes to early retirement. Since the 1990s, many countries have implemented reforms designed to offset this by encouraging older workers to delay retirement, but additional reforms are warranted (IMF, 2011a).<sup>4</sup>

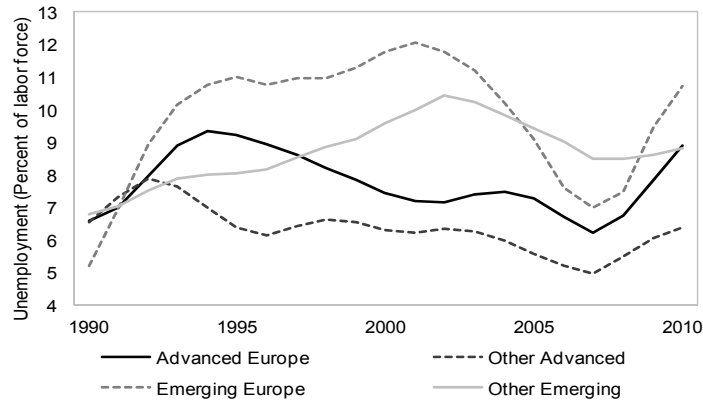
<sup>4</sup>In advanced economies, the number of years men are expected to live beyond age 60 is estimated to increase by an average of 5 years between 1990 and 2030. In contrast, the average statutory retirement age is increasing by

(continued...)

8. **Unemployment rates have risen almost everywhere since the onset of the global economic crisis** (Figure 2).<sup>5</sup> By 2011, unemployment rates had risen to 9 percent in advanced Europe, 6 percent in other advanced economies, and 10½ percent in emerging Europe. Only other emerging economies avoided a sharp uptick in unemployment, reflecting the more limited effects of the crisis on overall economic activity. Trends in youth unemployment show a similar pattern as total unemployment, although at a higher level.

**Figure 2. Unemployment Rates, 1990–2010**

*Increases in unemployment due to the crisis have largely offset declines over the last decade.*



Sources: IMF staff estimates, based on ILO-KILM, Labor Force Surveys of Eurostat, OECD, and IMF World Economic Outlook (WEO) database.

Note: Based on 3-year moving averages.

9. **Since the onset of the global economic crisis, employment rates—that is, the combined results of labor force participation and unemployment—have fallen almost everywhere.** In 2010, employment rates (the employed population as a share of the working-age population) reached a ten-year low in one of every three advanced economies, especially as many economies were hit hard by the crisis (Figure 3). Although employment losses were—not surprisingly—greatest in economies experiencing the most dramatic declines in output, there was considerable variation in how sharply employment fell in response to output declines (Figure 4).

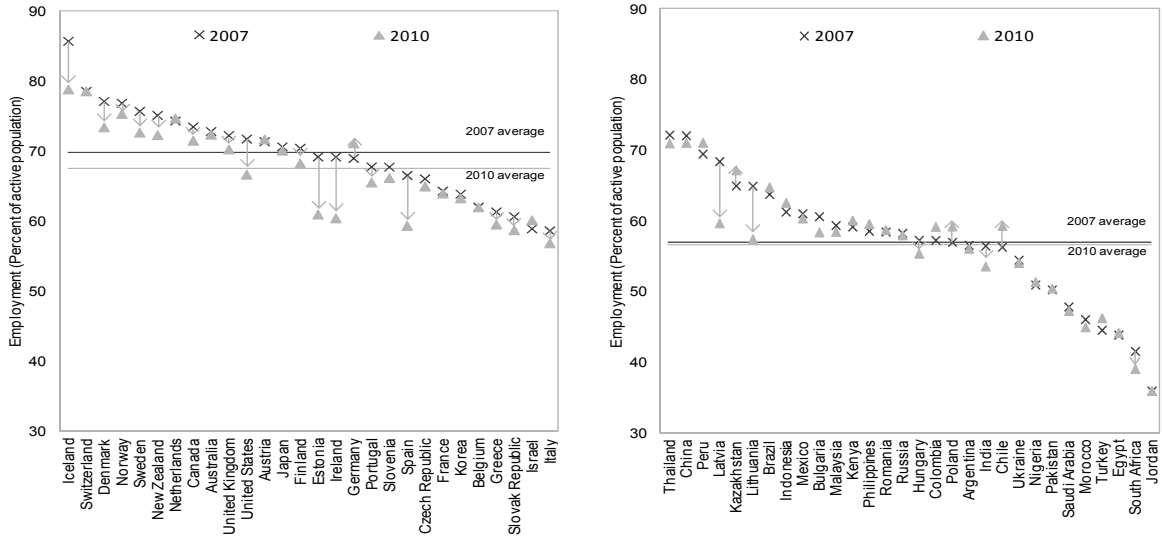
---

only 1 year over this period. Although increases may also be warranted in emerging economies, official retirement ages can be maintained below those for advanced economies to reflect lower life expectancies.

<sup>5</sup>An important trend in emerging economies that is not well reflected in aggregate labor market statistics is the reduction in “underemployment,” as workers moved from low-productivity agriculture to more productive work in manufacturing and services.

**Figure 3. Employment Rates, 2007 and 2010**

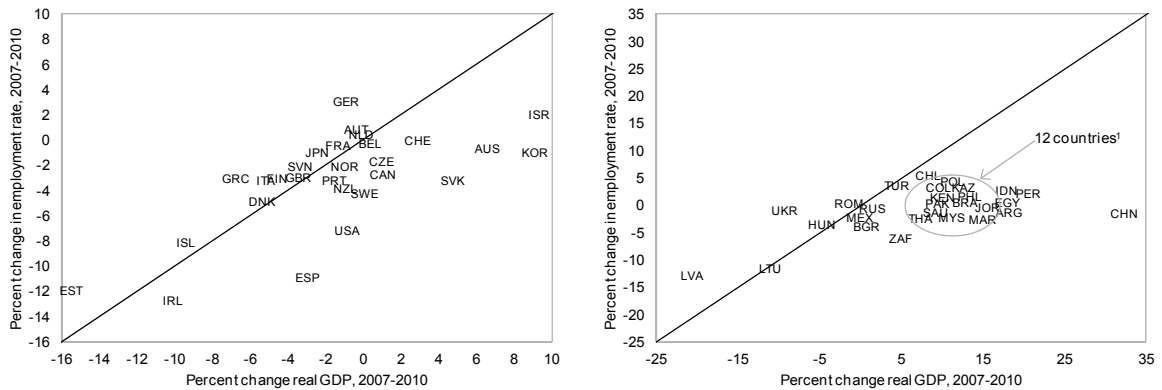
Employment rates differ significantly across advanced (left) and emerging (right) economies, and have fallen in many advanced and some emerging economies due to the crisis.



Sources: IMF staff estimates, based on ILO-KILM and Labor Force Surveys of Eurostat and the OECD.

**Figure 4. Change in Real GDP and Employment, 2007–2010**

The responsiveness of employment to output changes varies widely among advanced (left) and emerging (right) economies.



Sources: IMF staff estimates, based on ILO-KILM, Labor Force Surveys of Eurostat and the OECD and IMF-WEO.

Note: See Appendix 1 for list of country abbreviations.

<sup>1</sup>Countries in circle: Brazil, Colombia, Jordan, Kazakhstan, Kenya, Malaysia, Morocco, Pakistan, the Philippines, Poland, Saudi Arabia, and Thailand.

**Challenges by region**

10. **Employment outcomes vary markedly across regions.** Among the advanced economies, differences in employment rates between the high-employment economies of Scandinavia and Switzerland and low-employment economies of southern Europe are over 15 percentage points (Figure 3). In the emerging economies, employment rates are lowest in



the Middle East and North Africa (MENA), South Africa, and Turkey. They are relatively high in some Latin American countries (Brazil, Peru) as well as some emerging European economies (Kazakhstan, Russia).

11. **Specific labor-market problems also differ across regions.** Table 1 provides a disaggregated overview of regional performance on various indicators of unemployment (total, youth, unskilled, and long-term) and labor force participation by gender and age group. Key areas of concern are:

- **High youth unemployment, especially in Southern and Eastern Europe, and the Middle East and North Africa.** Youth unemployment is often over twice the national average, but in these country groups is especially elevated.
- **Elevated rates of long-term unemployment, especially in Southern, Central, and Eastern Europe.** This is less of an issue in Scandinavian countries and in other advanced economies—although an increasing problem in the United States. Long spells of unemployment may lead workers to drop out of the labor force and lose human capital.

**Table 1. Key Labor Market Challenges for Different Country Groups, 2010/11<sup>1</sup>**

	Advanced Europe (21)				Other Advanced (7)		Emerging Europe (9)	Other Emerging (21)			
	South (4)	East (4)	North (5)	Other (8)	US-Canada	Other (5)	Europe (9)	MENA (4)	Latin (6)	Asia (8)	Africa (3)
Unemployment Rate											
Total <sup>2</sup>	15**	10**	6*	7*	8*	5	11**	11**	7*	5	24**
-Youth <sup>3</sup>	31**	25**	17*	16*	17*	12	21**	26**	17*	11	...
-Long <sup>4</sup>	47**	44**	17	38*	20*	17	39*	...	...	...	...
-Low <sup>5</sup>	12*	23**	8	11*	14*	7	16*	...	5	...	...
Labor Force Participation Rate <sup>6</sup>											
Total	70*	70*	80	75	76	72*	67*	50**	70*	68*	59**
-M25-54	93	93	92	93	91	91	88*	93	95	97	83*
-M55-64	58**	57**	74	61*	68*	77	54**	60*	79	79	75
-F25-54	72	83	86	79	79	71*	74	27**	64*	62*	65*
-F55-64	33**	36*	66	42*	56	53*	35*	11**	41*	42*	56

Sources: ILO-KILM, Labor Force Surveys of Eurostat and OECD and IMF-WEO.

<sup>1</sup>Data for unemployment rates refer to 2011, while other data are for 2010. Green = relatively good performance with limited room for improvement (Unemployment: Total < 5; Youth < 15; Long < 20; Low < 10. Participation: Total > 75; M25–54 > 90; M55–64 > 70; F25–54 > 75; F55–64 > 55). Orange\* = intermediate performance, with some room for improvement; Red \*\* = relatively weak performance with large room for improvement (Unemployment: Total > 10; Youth > 20; Long > 40; Low > 20. Participation: Total < 55; M25–54 < 80; M55–64 < 60; F25–54 < 60; F55–64 < 40).

South-4 = Greece, Italy, Portugal, Spain; East-4 = Czech Republic, Estonia, Slovak Republic, Slovenia;

North-5 = Denmark, Finland, Iceland, Norway, Sweden; Other-8 = Austria, Belgium, France, Germany, Ireland, Netherlands, Switzerland, United Kingdom; US-CAN = United States and Canada; Other-5 = Australia, Israel, Japan, Korea, New Zealand; MENA-4 = Egypt, Jordan, Morocco, Saudi Arabia; Latin-6 = Argentina, Brazil, Chile, Colombia, Mexico, Peru; Asia-8 = China, India, Indonesia, Kazakhstan, Malaysia, Pakistan, Philippines, Thailand; Africa-3 = Kenya, Nigeria, South Africa.

<sup>2</sup>Total unemployment numbers are for 2011, based on the most recent estimates of the IMF-WEO.

<sup>3</sup>Youth = unemployed aged 15–24, emerging Europe excluding Ukraine; Asia excluding China.

<sup>4</sup>Long = share of long-term unemployment, exceeding one year, in total unemployment; emerging Europe excluding Russia and Ukraine.

<sup>5</sup>Low = low skilled, less than upper secondary education, data for 2009; other advanced excluding Japan, emerging Europe only Hungary, Poland and Turkey; Latin America only Brazil, Chile and Mexico.

<sup>6</sup>M25–54 = males between age 25 and 54; M55–64 = males between age 55 and 64, F25–54 = females between age 25 and 54; F55–64 = females between age 55 and 64.

- **High rates of unemployment among the unskilled in advanced economies** (approximately 50 percent above the average). Rates are also high in Central and Eastern European countries, where they often exceed 20 percent. High unemployment in this group contributes to higher inequality.
- **Low participation rates among women less than 55 years of age, most notably in emerging economies and Southern Europe.** Female participation rates in the 25–54 age group are approximately 60 percentage points lower than those for males in the Middle East and North Africa, 30 percentage points lower in Latin America and Asia, and 20 percentage points lower in Southern Europe.
- **Low participation rates of older segments of the population in the Middle East and North Africa and parts of Europe.** Rates for those in the 55–64 age group are generally between 30 and 40 percentage points lower than those for prime-age groups in these regions—although this partly reflects poorer health and ability to work at this age.

## **B. Fiscal Policies Affecting Labor Markets**

12. **Two key areas of fiscal policy affecting employment performance are the design of tax systems and the structure of social benefit schemes.**

- **Taxes** on labor (personal income taxes and social security contributions) directly reduce labor demand by driving up labor costs and reduce labor supply by lowering after-tax wages. Less directly, final consumption taxes, such as VAT or excises, can have much the same effect by reducing real wages. Corporate taxes can affect employment by reducing investment and production, and by reducing labor supply to the extent that firms pass on these taxes to employees in the form of lower wages.
- **Social benefits** (government spending on pensions and welfare benefits, including family, unemployment-related, and social assistance benefits) affect labor markets in much the same way as taxes do, by weakening the link between labor supply and incomes. The availability of pensions, for example, affects retirement decisions. The availability of unemployment benefits affects labor force participation, job search, and job acceptance behavior. Similarly, social assistance can reduce work incentives, especially if benefits are withdrawn as earnings rise (i.e., are means-tested).

The rest of this sub-section looks at trends in the levels of taxes and social benefits.

### **Taxes**

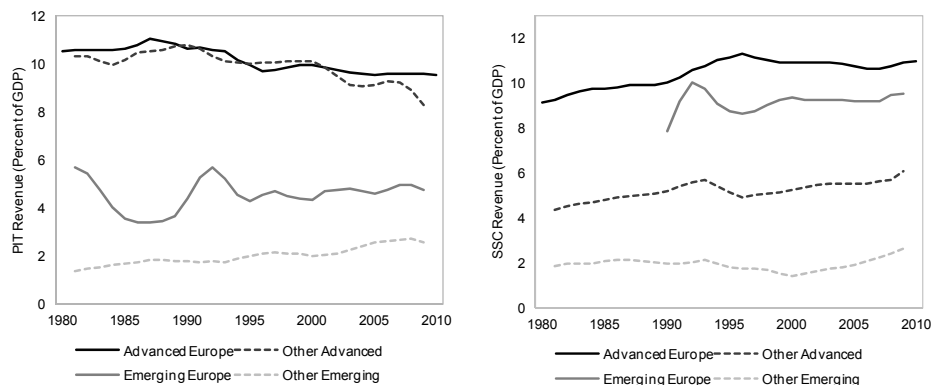
13. **There are striking differences in the tax mix across country groups.** Advanced Europe has relatively high tax-to-GDP ratios for all major taxes (Figure 5), including for direct labor taxes. Other advanced economies also have high income tax ratios, but much lower social security contributions and lower general sales taxes, with the reverse holding true

for emerging Europe. In other emerging economies, personal income taxes and social security contributions are relatively insignificant, while corporate income taxes represent a larger source of revenues. The low revenues from personal income taxes and social security contributions in these economies reflect significant labor market informality.

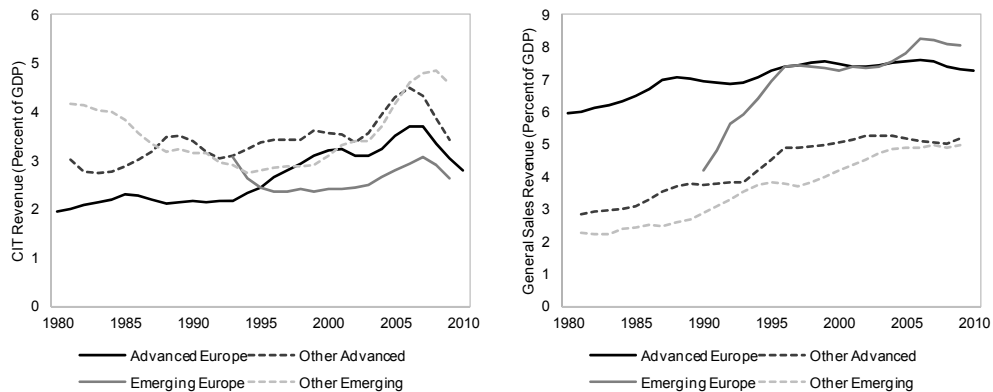
14. **Since the early 1980s, the burden of taxation has shifted away from personal income and toward consumption, except in other emerging economies.** Concerns about large labor-market distortions from high personal income tax rates have sparked considerable reform of tax systems in advanced economies. While personal income tax ratios have declined as a result, receipts from consumption taxes have risen. Between 1980 and 2010, for example, personal income tax revenue declined by about 1½ percentage points of GDP in other advanced economies, while consumption tax revenues rose by a similar amount. Despite a gradual lowering of statutory rates, corporate tax revenues have increased as a percentage of GDP owing to a gradual broadening of tax bases. In other emerging economies, tax-to-GDP ratios have been increasing across the board, with the exception of trade taxes.

**Figure 5. Tax to GDP Ratios, 1980–2010**

*Personal income tax revenue (left) has declined in advanced economies, but increased in emerging, while social security contributions (right) rose steadily in all regions.*



*Despite lowering rates, corporate income tax revenue (left) expanded due to a broadening of tax bases, and revenue from general sales taxes (right) increased significantly.*



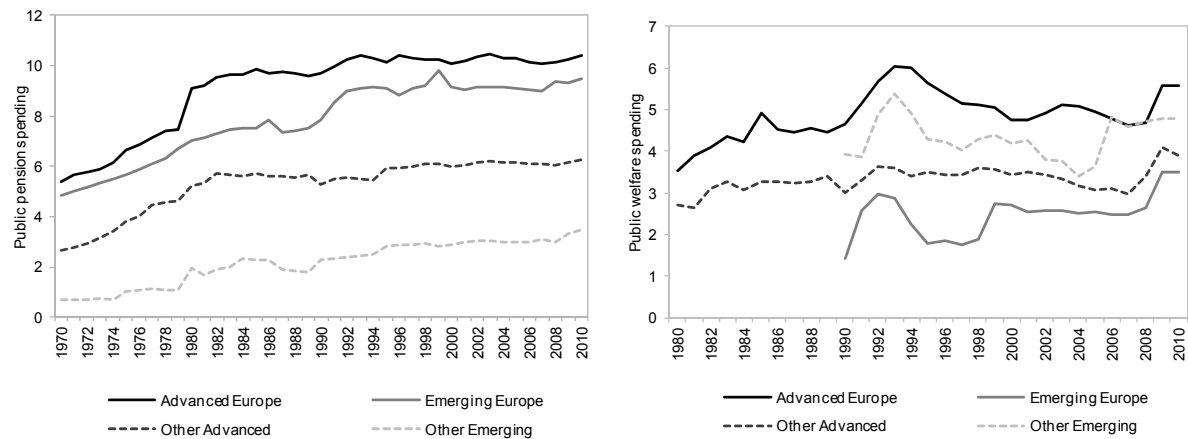
Source: IMF Tax Revenue Database.

## Social benefits

15. **The welfare state is much larger in advanced and emerging Europe than elsewhere.** In 2007, average spending on social benefits (i.e., pension benefits and other “welfare” benefits) in advanced and emerging Europe stood at around 15 and 12 percent of GDP respectively, compared with 9 percent in other advanced economies and 6 percent in other emerging economies. With the exception of other emerging economies, pension spending accounts for over two-thirds of social benefit spending. High pension spending in European economies reflects higher levels of benefits than in other advanced economies, as well as greater pension coverage than in other emerging economies (Figure 6). However, welfare spending in emerging Europe is substantially lower than in advanced economies and even below the spending levels of other emerging economies, although welfare spending in the latter often includes large spending on price subsidies (rather than, say, family or unemployment benefits), which are less important for labor supply incentives.

**Figure 6. Social Benefits, 1970–2010**  
(Percent of GDP)

*Public pension spending (left) has continued to increase, particularly in European countries, while welfare spending (right) has fluctuated with economic conditions.*



Sources: OECD, ECLAC, Eurostat, IMF, and ILO databases. See Appendix 3 for details.

Note: For welfare spending, other emerging comprises Argentina, Brazil, Chile, Egypt, and Mexico.

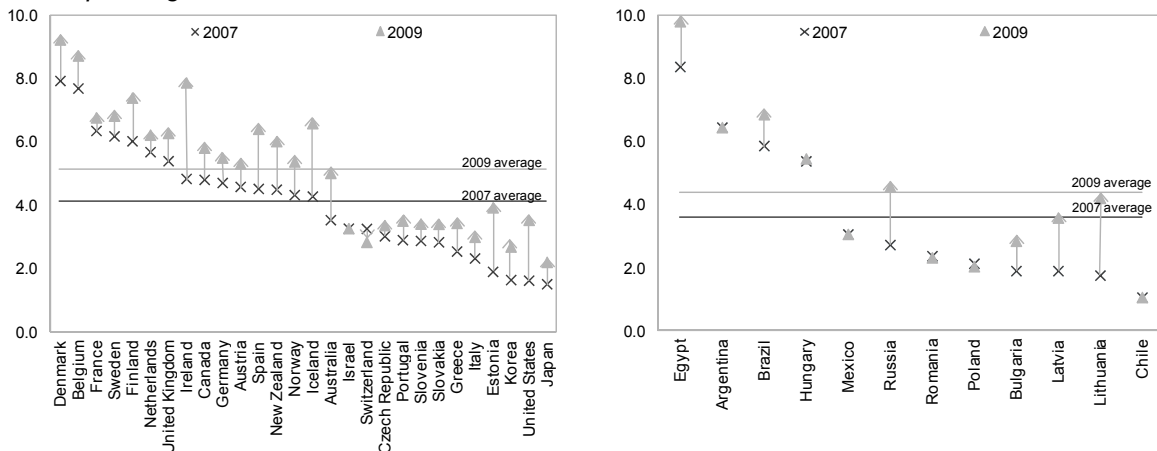
16. **The size of the welfare state has been increasing everywhere over the past four decades, but especially in European countries.** The increase in social benefit spending is predominantly due to increasing outlays for pensions (Figure 6). The sharp increase in pension spending in advanced economies and emerging Europe between 1970 and 1980 reflected increased population coverage. While pension spending stabilized thereafter at around 6 percent of GDP in other advanced economies, it continued to increase in European countries owing to increased levels of benefits and population aging. The pension reforms adopted in Europe after the mid-1990s have stabilized spending at around 9–10 percent of

GDP. The steady increase in pension spending in other emerging economies reflects a gradual increase in the coverage of pension systems from relatively low levels.

17. **Following a period of steady decline, welfare spending has recently increased sharply in many countries owing to the economic crisis.** Between the early 1990s and 2007, increased pension spending was more than offset by declines in other components of welfare spending, reflecting lower unemployment as well as reforms (especially in high-spending Nordic countries such as Denmark, Finland, and Sweden). However, between 2007 and 2009, welfare spending increased in virtually all countries, especially in those hit hard by the crisis, such as Estonia, Iceland, Ireland, and Lithuania (Figure 7), where welfare spending increases exceeded 2 percentage points of GDP. On average, over 60 percent of the increase in advanced Europe was due to higher unemployment-related benefits.

**Figure 7. Welfare Spending, 2007 and 2009**  
(Percent of GDP)

*Most advanced (left) and many emerging economies (right) responded to the crisis by increasing welfare spending.*



Sources: OECD, ECLAC, Eurostat, IMF, and ILO databases.

### III. HOW FISCAL POLICY AFFECTS EMPLOYMENT

18. **The conceptual framework used here to assess the effect of fiscal policies on employment focuses on the interaction between labor demand and supply.** It recognizes that the initial state of the labor market can be one of involuntary unemployment and that the relative effectiveness of fiscal policy measures can differ over the short and medium term. As discussed in Box 1, involuntary unemployment implies an excess of labor supply over demand, and labor demand policies are usually more effective in raising employment in the short run. Such policies might also raise employment in the medium term, although the wage increases they induce would moderate the effects. In the medium term, stimulating labor supply will be important to move employment to permanently higher equilibrium levels.

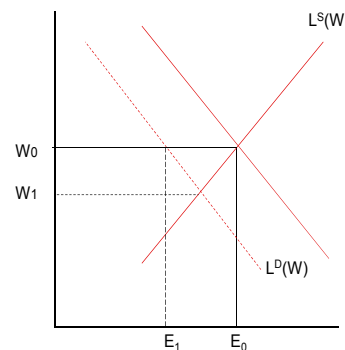
Finally, measures to improve the match between labor demand and supply can be effective both in the short and the long run by reducing frictional unemployment.

### Box 1. Policy Options for Boosting Employment: Conceptual Framework

*For countries faced with weak labor demand in the wake of a large output shock, policies that directly boost labor demand are the best option for increasing employment. Over the longer term, increases in labor supply are essential for bringing employment to a new, higher equilibrium level. ALMPs that improve the matching of labor supply and demand can also have permanent effects on employment by reducing labor market frictions.*

**In the short term, policies to increase labor demand are usually more effective in increasing employment than policies that increase supply.** To illustrate this conceptually in a stylized framework, assume that labor demand declines from an initial equilibrium level ( $W_0E_0$ ) after a large shock to output, so that the labor demand curve shifts to the left. This creates unemployment ( $E_1E_0$ ). Even assuming full wage flexibility (which is usually not the case in the short term) to restore the equilibrium between demand and supply, employment would not recover to the initial level. Policies to increase labor demand can increase employment and output (and reduce unemployment) by shifting the labor demand curve back. However, policies that increase labor supply do not raise employment as long as wages do not adjust.

**In the medium term, both demand-side and supply-side policies can increase employment and output.** Lower labor taxes or lower social benefits can improve incentives for labor force participation and hours worked and shift the labor supply curve to the right. With flexible wages, a higher labor supply will gradually moderate wages so that the additional supply gets absorbed by additional labor demand. If so, equilibrium is restored and employment is increased. As capital adjusts in response to increased employment, wages may ultimately return again to a higher level.



**Improving job matching can help reduce unemployment and help raise employment and output to permanently higher levels.** Even when there are no cyclical weaknesses in economic activity, there will be some unemployment due to frictions in the matching of workers and vacancies, accompanied by time-consuming search and screening by workers and firms. Such imperfections and frictions lead to structural unemployment (Mortensen and Pissarides, 1994). The strengthening of job-search assistance, training programs, and other such reforms can address these structural market imperfections and reduce the natural rate of unemployment.

19. **Empirical evidence supports the view that fiscal policies have a significant impact on employment and unemployment, while research on the effects of institutions is less**

**conclusive** (Table 2). Taxes and social benefits can affect participation rates, hours worked, and unemployment. Also, microeconomic studies, in particular, provide evidence that certain ALMPs, like job search assistance and training programs, can help to reduce unemployment (Card and others, 2010; Spevacek, 2009). Institutional variables, including minimum wages, also matter for employment, but the empirical results are often less robust (Appendix 3). For instance, studies often report insignificant effects of employment protection legislation on unemployment, while indicators for trade union coordination often come out with a favorable impact.<sup>6</sup> Non-economic factors, such as social preferences, also influence labor market outcomes (Blanchard, 2004).

**Table 2. Effect of Fiscal Policies and Institutions on Structural Unemployment**

	Number of studies	Raise unemployment	Not significant/ambiguous	Reduce unemployment
<b>Fiscal policy variables</b>				
Labor tax wedge	20	15	5	0
Benefit replacement rate	20	16	4	0
ALMPs	11	0	5	6
<b>Labor-market institutions</b>				
Union density/coverage	20	6	12	2
Union coordination	18	3	4	11
Employment protection	18	6	10	2

Sources: Staff analysis based on reviews in OECD (2006) and recent studies.

**20. Three caveats should be kept in mind when assessing the implications of the literature for the formulation of country-specific policy advice** (see Section IV):

- Empirical evidence on the impact of tax and expenditure policies on employment has mainly focused on advanced economies, reflecting both data availability and the relatively large size of their welfare systems. These results may not be fully applicable to emerging economies, which still need to expand the coverage of workers under the income tax and social security systems, and do so without curtailing employment or exacerbating incentives for informality.
- The evidence presented in this section reflects the results of studies on the average impact of specific policies across countries. This may hide important variations in the

<sup>6</sup>Labor-market flexibility (as measured by employment protection indicators or for hiring and firing rules) are found to have a significant effect on labor-market flows. Moreover, for non-OECD countries Bernal-Verdugo and others (2012b) report a significant negative impact of labor-market flexibility on unemployment rates.

effectiveness of reforms for a given economy because of differences in labor market institutions, initial employment conditions, and administrative capacity.<sup>7</sup>

- Some policies may face diminishing returns, i.e., programs that work well on a small scale should not necessarily be expanded. Hiring subsidies, for example, can lose effectiveness as they expand beyond target groups with high rates of long-term unemployment.

### A. Policies to Boost Labor Demand

21. **Labor demand might expand both through higher aggregate demand, including exports, and by raising the labor-intensity of production.** Advanced and emerging economies have been trying to mitigate the unemployment effects of the crisis-induced drop in aggregate demand, including by reducing (non-wage) labor costs and setting up new programs aimed at creating or maintaining jobs (Box 2). While possibly stimulating labor demand in the short run, some of these measures may not increase employment over the medium term and may need to be phased out, particularly as economic activity recovers. This sub-section evaluates different fiscal policies and discusses which ones are most effective.

#### Taxation

##### *Reducing labor taxes*

22. **Reductions in labor taxes can help stimulate labor demand.** Empirical estimates for advanced economies suggest that the price elasticity of labor demand is close to  $-1$  (Cahuc and Zylberberg, 2004). Hence, if an average OECD country would cut employer social contribution rates (which directly reduce labor costs) by 3 percentage points—implying a direct revenue loss of approximately 1 percent of GDP—this would increase domestic labor demand by 2.5 percent.<sup>8</sup> However, over time, increased labor demand would feed into higher wages and the beneficial effects on employment would be mitigated.

---

<sup>7</sup>Many studies have emphasized the importance of interactions between fiscal and labor market institutions (Bassanini and Duval, 2006; and Bernal-Verdugo and others, 2012a), as well as interactions with economic shocks (Blanchard and Wolfers, 2000).

<sup>8</sup>Social contributions generally apply to wages net of employer social contributions. At labor costs of 122 percent of the gross wage (the OECD average), lowering the contribution rate by 3 percentage points reduces labor costs by approximately 2.5 percent.

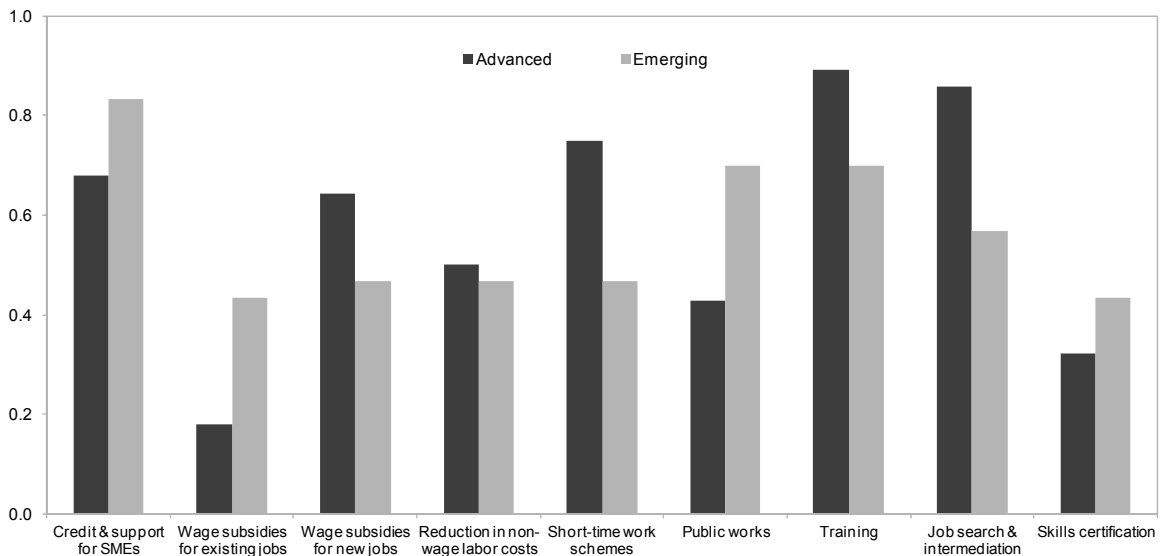


## Box 2. Recent Job Creation Measures in Advanced and Emerging Economies

Since the onset of the global economic crisis, most advanced and emerging economies have introduced or expanded programs to support labor demand. These have included credit to small and medium enterprises (SMEs), wage subsidies for existing and new jobs, reductions in non-wage labor costs (e.g., payroll or social insurance taxes), short-time work (work sharing) schemes, and public works programs. Advanced economies relied more on wage subsidies for new jobs and short-time works schemes, while emerging economies more often increased credit and support to SMEs, wage subsidies for existing jobs, and public works. For public works programs, advanced economies implemented such programs largely in the form of temporary increases in infrastructure and related spending as part of broader stimulus packages, while in emerging economies many programs were oriented towards the direct provision of jobs.

There has also been a strong expansion of ALMPs, especially in advanced economies. The share of advanced economies introducing or expanding ALMPs is nearly 80 percent, mostly oriented toward improving training and job search/intermediation. Most emerging economies (over 60 percent) have also expanded ALMPs, although the effectiveness of these programs may be limited by implementation capacity. In 2011, a number of advanced economies further expanded spending on ALMPs, including for training (Ireland, Italy, the Slovak Republic, Spain, and the United Kingdom) and job search/intermediation services (the Slovak Republic, Spain). Sweden is the only advanced economy that has rolled back temporary ALMPs introduced during the crisis.

Shares of Advanced and Emerging Economies Introducing Labor Demand and Active Labor Market Programs During 2008-2010, By Type of Program



Sources: IMF staff, based on data from Robalino and others (forthcoming); OECD (2009, 2010, 2011f, 2011g, 2011h, 2011i); World Bank (2011a, 2011b); EC (2009a, 2009b, 2009c); and EC databases.

23. **Reductions in non-wage labor costs are most effective if targeted to low-wage earners.** Empirical evidence suggests that the demand for low-skilled labor is relatively elastic (Hammermesh, 1993) and therefore reacts more strongly to policy measures. Moreover, targeted reductions can relax minimum-wage constraints in countries where high labor costs limit job openings for low-skilled workers. For example, targeted tax relief could take the form of a threshold below which no or lower social contributions are levied.

### *Tax shifts*

24. **A revenue-neutral shift from labor to consumption taxes could boost labor demand.** For instance, reductions in employer social security contributions financed by higher consumption taxes (or higher recurrent property taxes) can raise labor demand by lowering (non-wage) labor costs. The effects of such tax shifts have been subject to extensive analysis for closed economies, but recently received more attention in open economies with a fixed exchange rate where they might induce a “fiscal devaluation.” Indeed, fiscal devaluations could speed up convergence to long-run equilibrium by reducing real labor costs and improving competitiveness, thus raising employment compared to the initial situation (IMF, 2011b). Model simulations for Portugal, for example, suggest that a fiscal devaluation equivalent to 1 percent of GDP would raise employment in the short term by between 0.2 and 1 percent (ECB, 2011).

25. **The long-term employment effects of tax shifts depend on the extent to which the tax burden is shifted away from labor income and onto other incomes.** Price adjustments will eventually drive up wage costs for employers. Compared to the long-run equilibrium under full wage flexibility, the impact of a tax shift on employment is thus expected to gradually disappear across time. The adjustment, however, can take quite some time (De Mooij and Keen, 2012). Moreover, there may be more subtle effects that render the long-term effects of a tax shift positive on growth and employment. This is confirmed by model simulations (Auerbach and Kotlikoff, 1987) as well as empirical studies (Daveri and Tabellini, 2000; Arnold, 2008). For instance, consumption taxes have a broader base than social contributions, bearing on all incomes that support consumption, including income from economic rents and social transfers.

26. **A shift from social contributions to consumption taxes may increase inequality and require offsetting measures.** Unlike general taxes, social contributions may be related to the social benefits people receive (see Box 3). In addition, consumption taxes are usually slightly regressive—although less so on a lifetime basis—while labor taxes are usually progressive. A tax shift can also reduce the real value of social transfers as price levels rise in response to higher consumption taxes. This may require offsetting measures to address equity concerns.

### **Box 3. Social Contributions Versus Taxes: Implications for Employment**

**Financing social benefits through payroll contributions rather than taxes can potentially be better for employment—but only if workers perceive a strong link between the two.** Social benefits, such as pensions, can be financed either by general taxes or contributions paid by employers and/or employees (by payroll deduction). From a worker's perspective, mandatory payroll deductions that have no or only weak links to the benefits they finance are likely to have the same adverse effect on labor supply as a tax on wages. However, where workers perceive a strong relationship between the amount and number of years of contributions to the pension system and pension benefits, the adverse impact on labor supply will be mitigated. Empirical evidence suggests that strengthening the link between contributions and benefits improves labor market outcomes (Disney, 2004). Over the longer term, contributions paid by employers will have a similar effect on labor markets as those paid by employees.

**Where perceived links between contributions and benefits are weak, relying on broader taxes could increase employment.** Most health systems and some pension systems have no or only weak contribution-benefit links. This reflects the redistribution built into many systems, with those paying relatively low contributions receiving proportionately higher benefits. In addition, even where links are strong, myopia may lead workers to view the contribution as similar to a tax. Reflecting these factors, empirical evidence suggests that increases in social contributions reduce employment (OECD, 2007). Where the contribution-benefit link is not perceived to be strong, using taxes that bear not only on labor but on capital income, transfers, and property to finance social benefits could help reduce labor costs and increase employment. However, in reforming the tax system, other considerations also must be taken into account, including equity and administrative capacity.

#### ***Business tax incentives***

27. **Reductions in business taxes can boost labor demand, including over the longer term, but are likely to favor more skilled workers.** By lowering the cost of capital, reductions in the effective tax rate on business income have two opposing effects: substitution from labor to capital reduces labor demand, but higher investment raises output—including over the longer term—and therefore labor demand. On balance, most empirical studies suggest that labor demand expands (Chirinko, 2002). Moreover, business tax relief can ease financing constraints for firms relying on retained earnings, thus further raising investment. These effects are consistent with the finding that reductions in the cost of capital reduce unemployment (Phelps, 1994; Blanchard, 1997). Still, as substitution between capital and labor tends to be easiest for low-skilled labor (Duffy and others, 2004), reducing corporate taxes might have a relatively weaker effect on labor demand for low-skilled workers.

28. **Compared with general business tax relief, targeted measures for specific firms or sectors are often less effective in generating employment.** Many countries have favorable tax facilities for small businesses, even though the economic rationale for them is weak (Box 4). Moreover, emerging economies often use special business tax incentives (such as tax holidays, low-tax economic zones, or sectoral investment incentives) to attract foreign

investment and create jobs.<sup>9</sup> Such policies, however, are generally less effective in encouraging investment than policies that benefit all sectors of the economy equally, as they create distortions that reduce productive efficiency. They are also more vulnerable to abuse and corruption than are policies based on a level playing field for all firms.

#### **Box 4. Small Businesses, Employment, and Tax Policy**

**There is widespread belief that small firms create more jobs than large firms, but evidence is mixed.**

Many countries maintain tax schemes that support small businesses, such as reduced corporate tax rates for profits under a certain threshold, special tax allowances for investments by small firms, or tax preferences for (venture) capitalists who invest in small enterprises. While Ayyagari and others (2011) find higher job growth in small firms in a panel of 99 countries, including emerging economies, other studies do not support these findings. For the United States, for example, there is little evidence that small firms create more jobs (Davis and others, 1996; Neumark and others, 2011); this is also supported by Haltiwanger and others (2010), who find that firm age, rather than size, matters for job growth.

**A clear economic rationale for having special tax advantages for small firms does not exist**

(International Tax Dialogue, 2007). There is no evidence that targeted tax relief for small firms is more effective in increasing aggregate employment than general tax relief for businesses. In fact, special relief may hurt economic growth by creating a small-business trap, preventing small firms from growing larger to maintain their special tax treatment. Jobs created by small firms are also generally of lower quality than jobs created by large firms, with the former paying lower wages, offering more modest health insurance and pension plans, and providing poorer working conditions (Brown and others, 1990). Furthermore, jobs in small firms feature higher turnover and typically involve less on-the-job training (OECD, 2005). Also, on a macroeconomic level, smaller firm size is associated with slower innovation and lower productivity growth (Pagano and Schivardi, 2003; Ayyagari and others, 2011).

**Policies that ensure access to financing for small businesses and simplify their tax compliance procedures are more likely to be effective in leveling the playing field.** Small firms may find it more difficult to access debt and equity markets to finance investments than large firms, especially during a financial crisis. The best policy response to such financing constraints is to act directly on these market imperfections, for instance by offering subsidized loans, grants, or guarantees. Specific programs that support the unemployed in starting a new business have been found to be relatively effective in addressing start-up problems (Caliendo and Kuhn, 2011). A simplified tax regime for small taxpayers may be desirable if these firms face relatively higher costs in complying with complex tax rules.

## **Expenditures**

29. **Hiring and wage subsidies can be effective in boosting employment if appropriately targeted.** These subsidies may be helpful in getting firms to generate new jobs, rather than to extend the hours of existing employees, in an environment of substantial

<sup>9</sup>Tax holidays are found to exert a positive impact on inflows of foreign direct investment in Latin American, Caribbean, and African countries. However, their effect on total investment tends to be insignificant, suggesting that foreign capital crowds out domestic investment (see Klemm and Van Parys, 2009).

macroeconomic uncertainty (IMF, 2010). The effectiveness of these subsidies in increasing employment depends on the degree to which they reduce hiring that would have occurred also without the subsidies or lead employers to substitute one type of individual for another to take advantage of the subsidy. These subsidies are usually more effective when targeted to workers for low-wage jobs, which would not be viable without them. Such targeted subsidies are especially effective in improving youth employment (Fougère and others, 2000), and are more effective if they are targeted to workers rather than firms. For instance, hiring subsidies targeted at “new” jobs are notoriously complex to monitor and end-up in low take-up (Neumark, 2011) and small employment effects (Chirinko and Wilson, 2010).

30. **Employment support schemes can reduce lay-offs, but their scope and duration should be limited to avoid adverse long-term effects.** Employment support schemes allow employers to reduce hours worked without layoffs while the government compensates workers for the resulting loss of income. About 70 percent of advanced and 45 percent of emerging economies have such schemes, and there is evidence they have helped to preserve jobs during downturns, especially in Germany and Japan (Cahuc and Carcillo, 2010). Employment support schemes should be withdrawn as economic conditions improve to prevent locking workers into unproductive jobs or sectors and to reduce fiscal costs. These schemes are more effective if used to address large and temporary demand shocks. To help prevent these schemes from locking workers into declining sectors, consideration could also be given to introducing wage loss insurance (Kling, 2006; IMF, 2010). This would help facilitate the movement of workers to those firms where job prospects may be brighter over the longer term but which offer lower wages.

31. **Public works programs can also be effective in increasing employment in the short run, but should be phased out as economic activity recovers.** Public sector employment programs have been widely used to limit rising unemployment. The expansion of such schemes was an important component of the policy response in many emerging economies to address recent food and fuel price shocks and the global financial crisis (Box 2). The net employment impact of these programs is enhanced by offering employment at low wages, thus encouraging self-selection by the unemployed. This feature also facilitates the scaling down of activities as the economy recovers.

32. **Beyond public works, temporary public-sector employment programs are not cost-effective and risk permanent increases in the size of the public sector.** There is little rationale for using public sector employment programs as part of a long-term employment strategy, as participation in these programs does not have a favorable effect on future employment prospects (Card and others, 2010; Kluve, 2010). Indeed, skills acquired in the public sector are often not transferable to the private sector, and governments generally face strong political pressure to transform temporary jobs into permanent positions.

33. **A large public sector could hamper private sector employment.** A large public sector tends to crowd out private employment, and at the same time, generate large fiscal

costs. Public-sector jobs tend to pay more for unskilled workers than the private sector and may create a pool of job applicants waiting for permanent public sector employment. The availability of such public sector jobs may result in higher private sector wage demands, with negative indirect aggregate employment effects (Cahuc and Zylberberg, 2004). This is particularly the case in the MENA region.

## **B. Policies to Boost Labor Supply and Improve Job Matching**

34. **Policies to boost labor supply are generally desirable in the medium and long term, while policies that improve job matching are needed also in the short term.** In the medium term, increasing labor supply—in the form of both higher labor-force participation and longer working hours—can spur economic growth, contribute to fiscal consolidation by expanding the tax base and reducing social spending, and offset some of the effects of population aging. Some supply-oriented reforms can also boost employment in the short run by improving the functioning of labor markets and reducing structural unemployment. For example, training programs or strengthened job search requirements for the unemployed can help reduce mismatches between labor supply and demand.

35. **The effectiveness of policies that raise labor supply will depend on the flexibility of both factor and product markets.** Policies to boost labor supply usually have a gradual effect, as it takes time for people to adjust their working hours or participation choices. As indicated in Box 1, policies that increase labor supply require wages to adjust in order to actually raise employment. Moreover, the degree to which increases in labor supply are absorbed by higher demand also depends on the pace of economic growth. All these adjustments depend on the functioning of labor, capital, and product markets, which differs across countries. In the United States, for example, employment tends to be more responsive to increases in labor force participation rates than in Europe (Wasmer, 2009). This suggests that complementary reforms in labor, capital, and product markets may be helpful as labor supply expands, to ensure that an increased pool of workers finds its way into employment. In the remainder of this sub-section, the implications of specific tax and expenditure policies to boost labor supply and employment are discussed.

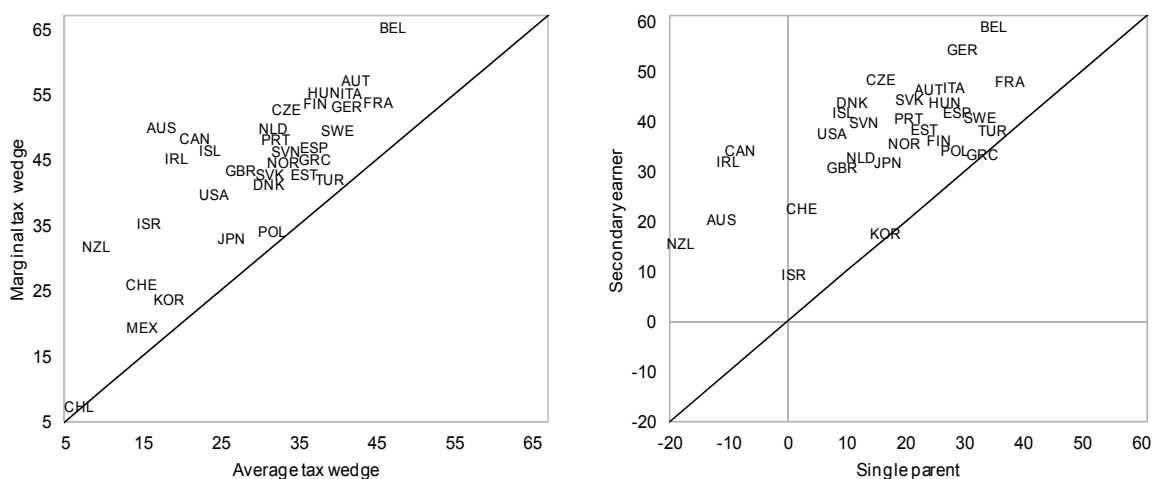
### **Taxation**

36. **A smaller labor tax wedge can significantly raise labor supply and employment over the medium and longer term.** High *marginal* tax wedges reflect taxes on additional earnings and are important for incentives to work longer hours (intensive margin); high *average* tax wedges reflect total taxes over total earnings and matter for incentives for labor market participation (extensive margin). Marginal tax wedges are generally higher than average tax wedges, reflecting the progressivity of most income tax systems (Figure 8). The overall labor supply response to the tax wedge can be measured by the wage elasticity of labor supply. On average over different income groups, micro studies suggest a typical elasticity of labor supply in the economy between 0.2 and 0.3 (Appendix 4). Macro studies generally

report larger elasticities of around 0.5. Hence, a 10 percentage point higher after-tax wage—for example due to a reduction in the personal income tax rate by 6 percentage points<sup>10</sup>—would raise total labor supply by 2 to 5 percent. Elasticities for the extensive margin are generally found to be larger than those for the intensive margin (Appendix 4). Tax wedges can also affect unemployment: Bassanini and Duval (2006) conclude that a 10 percentage point higher labor tax wedge in OECD countries would raise structural unemployment—that is, unemployment not caused by weaknesses in aggregate demand—by an average of 2.8 percentage points; social contribution rates are also found to be associated with higher unemployment in Latin America (Ball and others, 2011).

**Figure 8. Tax Wedges, 2010**

*Marginal tax wedges typically exceed average tax wedges (left), reflecting progression in the income tax schedules. Secondary earners of a working spouse face higher tax wedges than single earners with the same income (right).*



Source: Staff calculations based on OECD (2011a,d).

Note: Data refer to 2010. In the left chart, marginal and average tax rates are calculated as the unweighted average of the tax wedges for workers with different income levels (67 percent, 100 percent and 167 percent of the average wage) and different household characteristics (single, one-earner couple, two-earner couple) and the presence of children (no children or two children). In the right chart, the tax wedge for the secondary earner is calculated as the additional tax burden borne by a two-earner couple over a one-earner couple with two children. It compares this wedge with that of a single parent with two children. The calculation assumes a primary earner at the average wage and a secondary earner / single parent earning 67 percent of the average wage. See Appendix 1 for list of country abbreviations.

**37. There is often scope for revenue-neutral tax reforms that mitigate the labor supply distortions of the labor tax wedge.** This is particularly salient in countries where fiscal constraints limit the scope for tax cuts. For instance, policies of tax base broadening

<sup>10</sup>The tax applies to the before-tax wage. Assuming an initial tax rate of 40 percent, the 6 percentage point reduction in the tax corresponds to a 10 percent increase in the after-tax wage.

cum rate reduction may improve labor supply incentives with only modest distributional implications if the tax deductions eliminated or reduced primarily affect higher-income groups. Moreover, progressive income tax schedules—that is, those where the tax burden rises (in percent of income) as income rises—can reduce tax wedges for low-skilled workers where distortions are largest.<sup>11</sup> In unionized labor markets, tax progression has been found to reduce unemployment rates by making wage moderation more appealing (Sorensen, 1997). However, while high-income earners generally do not have particularly large labor supply elasticities, there are limits on what rates can be imposed on these groups without causing significant increases in evasion and underreporting.<sup>12</sup>

**38. Tax relief targeted to specific groups can stimulate labor supply, even when other tax rates increase to finance such relief.** Empirical studies point to significant differences in labor supply elasticities between groups (Appendix 4). Targeting tax relief for groups featuring the highest elasticities may reduce distortions in labor supply. For three groups this is particularly salient:

- **Women/secondary earners:** Female labor supply is more responsive to taxes than male labor supply. Hence, tax relief for women would likely elicit a positive net supply response, even when financed by higher taxes on men. For instance, India makes a gender distinction by applying a higher tax exemption for women than for men. Where legal constraints prevent a gender distinction in the tax burden, special tax relief can be targeted to single parents (single mothers have generally the highest elasticities) or to secondary earners in couples. Another way to reduce the tax burden for secondary earners is by replacing family taxation with individual taxation. Family taxation or family-related tax elements—such as mandatory joint filing, dependent spouse allowances or credits conditional on family income—are still widespread, although many OECD countries have moved toward individual taxation over the past decades. Family tax systems result in high tax wedges for secondary earners in couples (Figure 8), especially when rates rise rapidly with family income.
- **Older workers:** Older workers are indeed found to be more sensitive to financial incentives than younger workers. Lower labor tax rates for older workers can increase incentives for them to remain in the labor force—although this also raises equity issues as high-income workers generally work longer. Australia, Denmark, the Netherlands, and

---

<sup>11</sup>Marginal tax rates are particularly distortive when applied to points in the earnings distribution where there are many taxpayers and where labor supply elasticities are large (Diamond and Saez, 2011).

<sup>12</sup>Estimates of elasticities of taxable income suggest relatively large responses by higher income groups, which may largely reflect tax evasion and avoidance. The marginal top personal income tax rate that maximizes revenue (i.e., the top of the Laffer curve) is estimated somewhere between 40 and 55 percent in the United States and the United Kingdom (Brewer and others, 2010).



Sweden, for example, have introduced specific earnings tax credits for older workers, aimed at stimulating labor-market participation.

- **Low-skilled workers:** Labor supply elasticities for low-skilled men are larger than for high-skilled men, providing a rationale for targeted tax credits for low-wage earners. More than half of the advanced economies have introduced such “in-work” tax credits to stimulate low-skilled employment. Evaluation studies report some success in terms of the net employment effects of these policies (Box 5).

### Box 5. In-Work Tax Credits and Benefits

**Tax credits or benefits for low-wage earners (“in work” tax credits) are used in many advanced economies to stimulate labor force participation and provide income support.** These in-work tax credits reduce the net tax liability—or turn it negative in some cases for low-wage earners—and increase the net income gain from accepting a job relative to the alternative of being out of work. In-work tax credits are usually phased out as income rises. In countries that emphasize the income support objective, credits are generally phased out with *family* income and are often conditional on the presence of children in the household; this is the case in Canada, France, Ireland, Korea, New Zealand, the Slovak Republic, the United Kingdom, and the United States. However, the phasing out of the credit with family income causes high marginal tax rates for both partners in a family, and creates strong adverse labor supply effects because secondary earners are relatively more responsive to these rates. In countries that emphasize labor-market participation, credits are usually phased out with *individual* income; this is the case in Belgium, Finland, Germany, the Netherlands, and Sweden. Sometimes credits are combined with an hours-worked criterion to avoid providing income support for high-skilled workers in part-time jobs. Increased labor supply may reduce low-skilled wages, however, and shift the incidence of the credit to employers. Indeed, U.S. evidence suggests that the net gain of the earned income tax credit for low-skilled workers is only 30 percent per dollar spent (Rothstein, 2010).

**Empirical studies suggest positive net employment effects from in-work credits.** For existing schemes in the United Kingdom and the United States, evaluation studies find that programs have a positive net effect on employment (Immervoll and Pearson, 2009). The effect has been found to be quite small in aggregate terms, however, as these credits usually apply to a small portion of the labor force and because people with a job might be discouraged from working longer hours as the credit is phased out with more income. Indeed, there is always a dilemma between targeting the lowest labor incomes (by rapidly phasing out the credit with income) and avoiding disincentives to work longer hours or engage in on-the-job training (see, e.g., De Mooij, 2008).

**In-work credits are most appropriate for countries with a strong tax administration based on the withholding of tax obligations.** If most taxpayers are already filing tax returns, an effective withholding tax system is in place, and credits are provided on the same basis as the income tax (i.e., individual or family based), the cost of administering in-work tax credits will be small. However, costs can be substantial if low-wage earners are currently not filing tax returns, there is no effective withholding system, or if schemes are extended to the self-employed. In the United States, where the earned income tax credit is based on self assessment, non-compliance is a problem, and false claims (e.g., regarding number of qualifying children) are commonly reported.

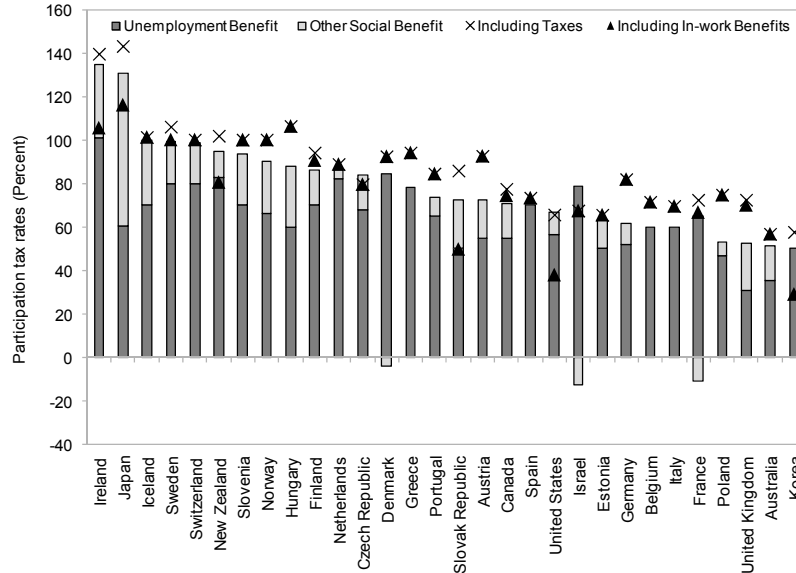
## Social benefits

39. **Greater emphasis on ALMPs can reduce unemployment by diminishing the labor supply disincentives inherent in “passive” unemployment benefits and improving job prospects for the unemployed.** Traditionally, social insurance benefits (such as unemployment and disability benefits) are automatically provided once a person becomes unemployed. However, such “passive” benefits dilute incentives to return to employment. In OECD countries, for example, a 10 percentage point higher benefit replacement rate (defined as the unemployment benefit as a share of the worker’s wage) would result in a 1 percentage point higher structural unemployment rate (Bassanini and Duval, 2006). While lowering benefit levels could mitigate such distortions, many countries have instead strengthened the “activation conditions” attached to the receipt of these benefits. For instance, conditions have been strengthened for the unemployed regarding job-search and training; benefits to partially disabled are increasingly conditioned on participation in reintegration programs; child support has shifted in some countries from unconditional transfers toward support for working mothers; and the low-skilled increasingly receive higher benefits when “in work.” Such measures aim to combine a reasonable level of social insurance benefits to those in need, while reducing the adverse labor-market effects, and can reinforce the beneficial employment impacts of other reforms to benefit design discussed below. However, the monitoring and enforcing of these conditions makes such benefit schemes more complex and administratively demanding.

40. **The large disincentive effects associated with means-tested benefits can be mitigated through greater use of in-work tax credits.** Social benefits create especially strong labor supply disincentives when they are subject to a means test. Where these benefits are high relative to potential labor market earnings they can dull incentives to take up employment or to increase labor supply, both through an income effect (by increasing the demand for leisure) and a substitution effect (by decreasing the net income gain from taking up employment or from increasing earnings). By targeting benefits to those who need them most, means-testing reduces fiscal costs compared with universal benefits. However, the withdrawal of benefits, as labor market earnings rise, operates like a tax on earned income. The interaction between benefit withdrawal and the tax systems can result in very large labor supply disincentives for low-wage earners. In some countries, in fact, the disincentives are so large that work is penalized. This can be seen by observing countries’ “participation tax rates”—defined as the proportion of gross in-work income that is lost through taxes and decreased benefits on entering the labor force. It equals or exceeds 100 percent for one-earner families in nine OECD countries, with most of this “tax” coming from the withdrawal of social benefits (Figure 9).

**Figure 9. Participation Tax Rates, 2009**

*Labor taxes and means-tested benefit systems combine to generate large work disincentives in many advanced and some emerging economies.*



Source: OECD (2011a).

Note: The bars show the participation tax rates—how much of the gross income earned from moving from short-term unemployment into a job is taxed away in the form of reduced out-of-work benefits, means-tested benefits and taxation of in-work income (income tax and social contributions). Tax rates apply to a one-earner family moving from short-term unemployment to full-time work at a wage equal to 50 percent of the average wage. “X” includes the impact of income taxes that must be paid on earnings. Where countries have “in-work” benefits that offset these effects, these are captured by triangles. In Ireland, for example, if such a person receives a gross pre-tax wage  $w$ , he will lose his social insurance benefit equivalent to  $w$  as well as losing benefit entitlements equivalent to about  $0.35w$  and paying income taxes of  $0.05w$ . However, he receives an in-work benefit of around  $0.35w$  (the distance between “X” and the triangle). On net, then, his total household income is lower after taking up employment by 5 percent.

41. **There is substantial scope to redesign social benefits rules to strengthen incentives to participate in the labor force and increase labor supply.** This can be achieved through a range of reforms including tightening eligibility criteria, reducing the duration of benefits, and decreasing benefit levels. Reforms should also be designed so as to minimize the trade-off between addressing moral hazard created by social benefits (which reduces labor supply incentives) and protecting individuals and families from adverse shocks to their incomes and consumption. For instance, equity goals can be achieved by maintaining benefit levels but attaching conditions to their receipt, such as being in work (as with in-work benefits discussed above) or participation in ALMPs. In addition, since various social programs (such as unemployment benefits, disability benefits, and early retirement benefits) provide alternative routes to exiting employment, reforms need to take a comprehensive approach to avoid unintended and adverse effects on labor supply.

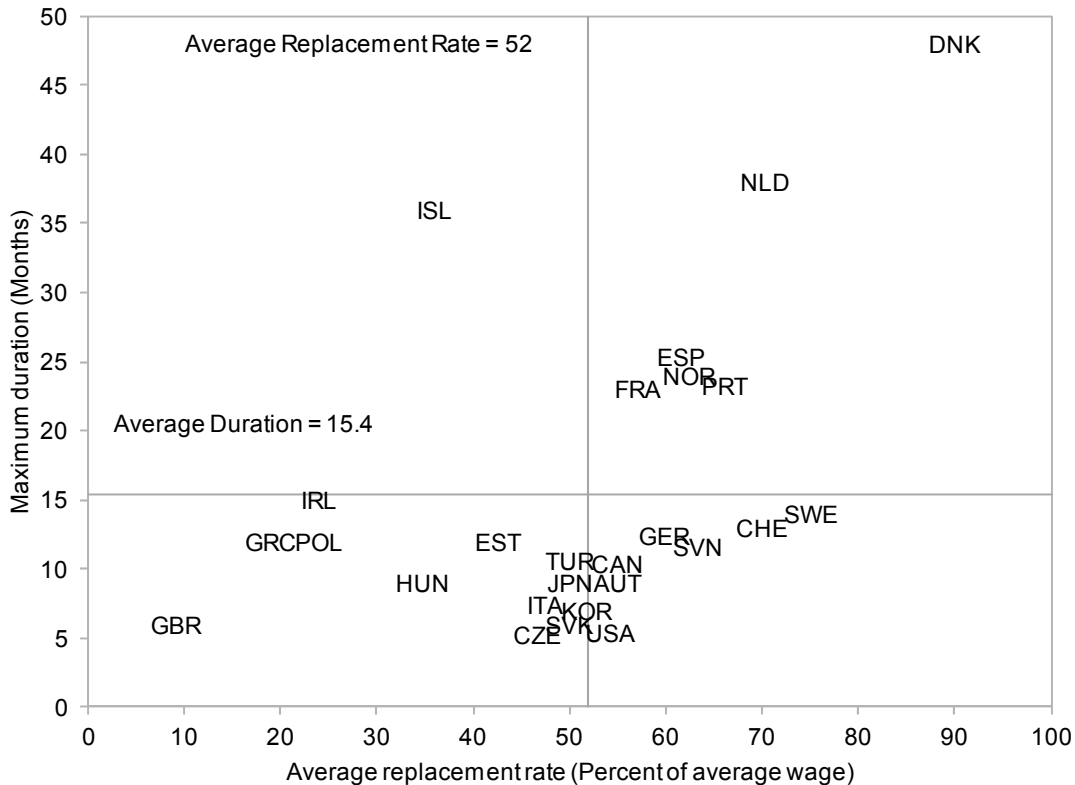
42. **Strict eligibility criteria are important to provide incentives to remain in the labor force.** Eligibility for unemployment insurance benefits should be limited to those with a sufficiently long period of contributions and employment. Continued eligibility should also be conditioned on participation in ALMPs. Eligibility for disability benefits should be conditional on stringent medical and work capacity evaluations by independent evaluators rather than family doctors. Furthermore, those with partial capacity should be integrated into unemployment benefit systems and related job-search and training activities, as in Australia and the Netherlands. Stricter enforcement of existing eligibility criteria can often substantially decrease the number of beneficiaries and increase incentives to enter the labor force. In addition, increasing the age at which older workers can qualify for full pension benefits can delay their exit from the labor force.

43. **Reducing the duration and level of social benefits—where these are high—can increase work incentives.** The level of these benefits varies substantially across countries (Figure 10). However, replacement rates for low-income households should be set sufficiently high to avoid pushing households into poverty.

- **Unemployment benefits.** Summarizing a large number of studies, Krueger and Meyer (2002) conclude that a 10 percent increase in unemployment benefits raises the average duration of unemployment by around 5 percent—although this impact is likely to be much higher in countries with relatively weak eligibility conditions. Based on this estimate, reducing replacement rates could help shorten unemployment spells. For example, for those economies in Figure 10 with replacement rates above 50 percent, a reduction to the average of 42 percent would decrease the duration of unemployment by 8 percent.
- **Family benefits.** Reforms of family benefit systems can increase female labor force participation rates. Publicly financed maternal/parental leave schemes, with a guarantee for young mothers to return to their previous job, can help keep them connected to the labor market and increase female employment rates. Still, very long paid leave provides incentives for mothers to take lengthy spells out of the labor market, which can result in a deterioration of their work skills and damage their future employment opportunities. High child allowances also reduce incentives for women to enter the labor market, especially those with low earnings capacity. Reducing benefit levels for older school-aged children, and linking benefits to labor force participation, can increase incentives to rejoin the labor market. Since childcare generally needs to be available to support labor force participation of families, child care subsidies may also be effective. Indeed, Gong and others (2010) and Kalb (2009) review in total 31 studies in 10 different countries and find that the elasticity of female labor supply with respect to the price of childcare is usually between  $-0.13$  and  $-0.2$ . Hence, if subsidies reduce the price of childcare by 50 percent, labor supply of young mothers will rise by between 6.5 and 10 percent.

**Figure 10. Level and Duration of Unemployment Benefits, 2007**

*Some advanced economies have high unemployment benefits and provide them for long time periods.*



Source: OECD database.

Note: See Appendix 1 for list of country abbreviations.

**44. Reforms to the structure of benefits can help offset labor market disincentives.**

This can be achieved in different ways in the different social benefit schemes.

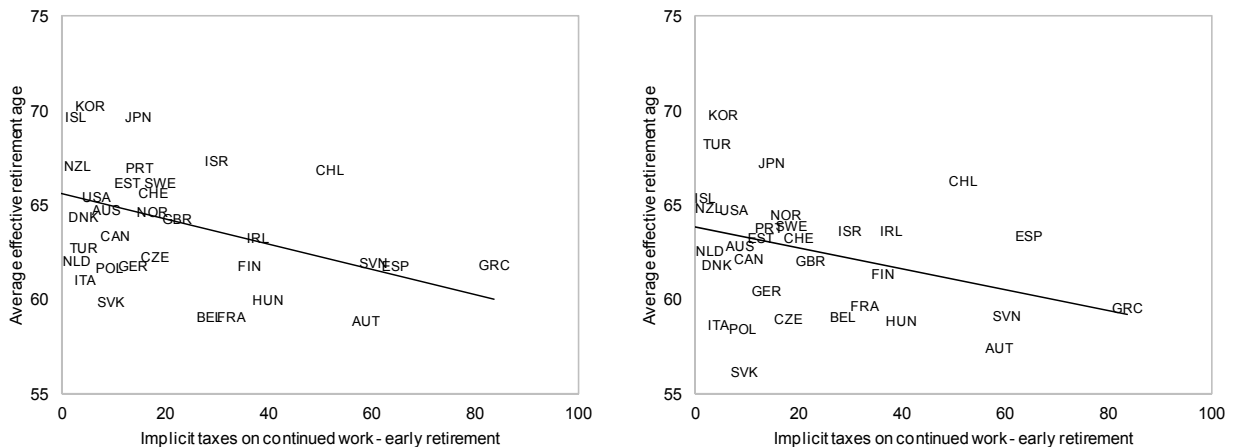
- Unemployment benefits.** Structuring unemployment benefits so that they decline over time motivates workers to undertake more intensive job search. Initial replacement rates should be set below full replacement to reduce incentives to enter unemployment, but high enough to facilitate an initial period of intensive job search aimed at improving job match quality and thus worker productivity. Increased use of individual unemployment savings accounts could help to reduce the incidence and duration of unemployment (Bovenberg and others, 2008). Under this system, part of the unemployment insurance contribution is credited to an individual account on which a person receives interest. During a period of unemployment, individuals can draw money from their account. Once the account is exhausted, individuals can borrow from the government at the same interest rate. Individual accounts are used in a number of emerging economies, including Brazil and Chile (Hijzen and Venn, 2011). These could be combined with the use of layoff taxes or “experience rating,” whereby firms with higher layoffs in a previous year face higher unemployment contribution rates (Box 6). Countries could be encouraged to use

experience rating instead of employment protection legislation to reduce incentives for layoffs (Blanchard and Tirole, 2004).

- Pension benefits.** In many countries, insufficient adjustment of pension benefits, both in terms of reductions for those who retire early and increases for those who delay retirement, means that it is financially beneficial to retire as early as possible. As a result, the effective retirement age is well below the official retirement age in many countries. In addition, individuals can often only draw a pension once they stop working (or have to pass an earnings test to draw a pension) while additional years of pension contributions beyond the official retirement age do not result in higher benefits. This implicit tax on continued work is a strong determinant of the average effective retirement age (Figure 11). Therefore, adjusting pension benefits for early and late retirement to make them actuarially neutral can reduce distortions and result in a significant increase in employment rates among older age groups. Blöndal and Scarpetta (1997) estimate that moving to an age-neutral pension scheme in a group of 15 OECD countries would increase participation rates of older male workers by roughly 5 percentage points. The labor supply disincentive effects of pension systems can also be reduced through increased reliance on defined contributions schemes with a strong link between contributions and benefits (see Box 3).

**Figure 11. Implicit Taxes and Effective Retirement Ages**

*Public pension systems provide strong incentives for the elderly males (left) and females (right) to retire as early as possible.*



Source: OECD (2011c, e).

Note: The implicit tax rate is calculated as one minus the ratio of the increase in the net present value of pension benefits from working another year to the additional contributions made in that year. Thus, if in net present value terms a person contributes an extra \$10,000 over the extra year and pension benefits increase by \$8,000, the implicit tax rate is 20 percent. See Appendix 1 for list of country abbreviations.

### **Box 6. Reforming Unemployment Insurance Using Experience Rating**

**Unemployment insurance (UI) with uniform payroll taxes can result in excess layoffs and contribute to instability in employment.** Uniform tax rates entail a cross-subsidy from low to high layoff firms and sectors since the latter firms do not take account of the negative external impact of their individual layoff decision on the insurance premiums or tax levels that other firms pay. Furthermore, firms may have an incentive to lay off workers temporarily so they can then receive UI. As a result, UI subsidizes firms engaged in seasonal activities and those responding to the business cycle by adjusting their workforce, which can make employment less stable.

**Experience rating (ER) can help address these inefficiencies.** Experience rating implies that the unemployment insurance premium that an individual firm pays is linked to its historical layoffs. In a fully experience-rated system, the firm bears the entire additional insurance cost of increasing its layoffs. However, in the United States, lower and upper bounds apply to these insurance premiums, which make ER only partial. This may be optimal if layoffs are initially excessive because firms are risk-averse or credit constrained (Blanchard and Tirole, 2008). The empirical literature on ER finds support of a favorable impact of ER on employment. Studies for the United States find that temporary layoffs are inversely correlated with the degree of experience rating (Topel, 1983; Baicker, Goldin, and Katz, 1997), and that ER dampens labor turnover, stabilizes employment, and reduces UI claims (Anderson and Meyer, 1994, 2000).

**The use of experience rating varies widely across countries.** The U.S. unemployment insurance system has a significant component of firm-specific ER. In addition to firm-specific ER, sector-specific ER also exists in European countries, but to a very limited extent. For instance, firm-specific ER includes penalties in the case of permanent collective dismissals (Italy) or layoffs of older workers (France and Germany). In sector-specific schemes, such as in Finland and the Netherlands, unemployment benefits are partly financed through sector-specific funds (Fath and Fuest, 2005).

## **IV. AN AGENDA FOR REFORM IN ADVANCED AND EMERGING ECONOMIES**

45. **This section identifies strategies to boost employment in advanced and emerging economies.** The discussion focuses on how the various policy instruments from Section III can be used to address the employment challenges outlined in Section II. A benchmarking exercise is used to identify more detailed potential areas for reform for each country. To that end, Appendix 2 indicates where countries stand relative to their peers on policies affecting employment performance, such as tax wedges, the level of unemployment benefits, and spending on ALMPs. The most important messages from this benchmarking exercise are summarized in Tables 3 and 4, respectively, for both advanced and emerging economies. Of course, this identification of areas for reform is only a starting point for formulating country-specific strategies.

46. **When designing fiscal policies to strengthen employment, individual countries should take into account several criteria and constraints.** Particularly relevant are:

- **Short- and medium-term objectives.** An immediate priority for countries where unemployment has risen sharply in the wake of the crisis is to restore labor demand. Countries with high cyclical unemployment should limit policy measures that depress demand. Measures to tackle high natural rates of unemployment, for example through ALMPs that help to match labor supply and demand, are also an immediate priority. Measures to foster higher labor force participation will have a lower impact on employment in the short run and may just result in higher measured unemployment. This does not mean, however, that they should necessarily be delayed, as their effect may take time to materialize.
- **Fiscal constraints.** Countries with tight fiscal constraints should prioritize reform options that are budget neutral or can provide budget savings. These would include revenue-neutral reforms that mitigate the labor market distortions created by the labor tax wedge or expenditure reforms that reduce the disincentives to work by limiting benefits. Targeted programs also tend to have lower fiscal costs and be more cost effective. These countries may also need to seek financial support from external sources, such as the Structural Funds of the European Union or multilateral development banks.
- **Cost effectiveness of different policy measures.** This will vary across countries in light of the differing nature of employment problems, labor market institutions, and the scale of reforms. For example, some programs (such as hiring subsidies) can lose effectiveness as they expand beyond target groups with high rates of long-term unemployment. Moreover, the effectiveness of policy measures, including ALMPs, might be more limited in countries with lower levels of social benefits or where benefits can only be received for a short duration of time. Where minimum wage constraints are absent, wage subsidies to support the creation of low-skilled jobs might also be less effective.
- **Scope for complementary labor market reforms.** Labor supply measures will lead to more employment only when the extra supply gets absorbed by rising labor demand. The effectiveness of fiscal policies can therefore be enhanced by labor market reforms that increase wage flexibility and by product and capital markets reforms that encourage job growth. Similarly, reforms in program design and labor market institutions can help offset the disincentive effects of high unemployment benefits and high tax wedges. Scandinavian countries, for example, have achieved high employment ratios in spite of high social benefits by imposing strict eligibility and job search requirements, and actuarially fair pension schemes. However, the implementation of such a combination of policies requires strong administrative capacities and broad social dialogue.
- **Equity goals.** Reforms should attempt to utilize approaches that help mitigate trade-offs between employment and equity, including greater use of in-work tax credits and benefits



and ALMPs. The impact of policy reforms on equity is complex, reflecting their offsetting effects on benefits, wages, and employment. Many reforms that strengthen incentives to work—such as reducing the level of unemployment benefits—will tend to increase wage dispersion because of their greater effects on the wages of the low-skilled. At the same time, if these reforms are successful, they can lead to employment gains for low-income workers, offsetting the effects of greater wage dispersion on equity at the household level.

### A. Reducing Unemployment

47. **A variety of policies could help to reduce unemployment in the short term and help bring down high rates of natural unemployment over the medium term.** Reforms should focus on:

- **Reducing non-wage labor costs.** Tax shifts are particularly attractive in Eurozone countries such as Greece, Portugal, and Spain, which suffer from high unemployment combined with large trade deficits and little room for fiscal maneuver (Table 3).
- **Expanding ALMPs.** Where unemployment spells are long and rising, an expansion of ALMPs could be considered, especially where this spending is currently relatively low, such as in the Baltic States, Greece, and the Slovak Republic. Some countries could benefit from redirecting their active labor-market spending away from public sector jobs and toward more effective programs (job-search assistance, wage subsidies, and training), such as in Belgium, Denmark, and Poland. Countries with high unemployment (such as Estonia, Greece, Ireland, Portugal, the Slovak Republic, and Spain) should consider scaling up training, apprenticeship, and job search assistance programs. This would: (i) improve the labor market prospects of the unemployed; (ii) ensure they stay attached to the labor market and maintain or improve work skills; and (iii) avoid current high cyclical unemployment turning into higher structural unemployment.
- **Redesigning unemployment benefits.** A shorter duration of unemployment benefits could be considered in Belgium and Iceland. Eligibility criteria could be tightened in the Czech Republic and Denmark, while Italy and Sweden might benefit from strengthening job-search requirements. Better use of sanctions on non-compliant recipients and compulsory participation in activation programs could also reduce unemployment levels and duration in several countries. Replacement rates are also relatively high in Denmark and the Netherlands.

48. **Reducing youth unemployment calls for comprehensive policy packages that improve both training and job matching.** The approach should include non-fiscal measures addressing skill mismatches, facilitating access to on-the-job training, and tackling stringent hiring and firing regulations and high minimum wages for youth. Fiscal policies can complement this approach through effective job-search assistance, targeted study-and-work programs and well-tailored wage subsidies, e.g., for apprenticeship contracts targeted at those

who have difficulty entering or staying attached to the labor market. Benefits for unemployed youth should be conditional on participation in these programs.

49. **Lowering the tax wedges facing low-skilled workers will be essential to boost employment rates.** Steep implicit tax rates due to benefit withdrawal and high social contributions create high participation tax wedges in all countries, but particularly in Ireland, Iceland, and Hungary. Remedies include:

- **Targeted tax relief to employers.** Reductions in employer social security contributions are particularly effective if targeted to low-wage earners and where the link with benefits is weak (e.g., for health expenditures).
- **Greater use of in-work tax credits.** Currently, at least 14 advanced economies apply in-work tax credits, and experience has shown that low-skilled employment is relatively responsive to such financial incentives.
- **Lowering marginal tax rates for low-wage earners.** Countries that combine flat income taxes and social contributions with low basic tax allowances—for example, some Central and Eastern European countries—could reduce marginal tax rates for low-wage earners, thus making the income tax more progressive.

50. **In other emerging economies, the nature of reforms to address high unemployment, especially youth unemployment, differs from that of the advanced economies.** High unemployment in these countries typically reflects the poor functioning of labor, product, and capital markets, resulting in weak job creation (although these weaknesses also apply to some advanced economies). The first-best response is to address these market imperfections directly, e.g., by regulatory reform, rather than the use of fiscal policies. Indeed, given the limited scope of social benefit programs in these countries, the role of fiscal reforms in promoting employment is modest. Nonetheless, improved ALMPs and reduced tax wedges can be part of the solution. A key issue in many emerging economies, for instance, is the need to transform short-term workfare programs, which are typically expanded during crises—such as the Employment Guarantee Schemes in India—into effective active labor-market programs aimed at increasing skills and job placement in the private sector.

51. **Many emerging economies face capacity issues in administering ALMPs.** The track record in implementing ALMPs in emerging economies is mixed, partly reflecting the administrative demands of these programs. Where public administrative capacity is weak, using private sector companies can help to scale up ALMPs. Peru and some Eastern European countries use a network of labor information centers operated through the private sector, including NGOs and religious institutions. In Argentina, Colombia, and Mexico, ALMPs focusing on young workers have found success by using a competitive bidding process in choosing training providers and appropriate financial incentives to both employers and employees (Almeida and others, 2012). Effective training programs have also been developed

in Thailand. In many emerging economies in the Middle East and Latin America, ALMPs could be improved by integrating them with unemployment insurance programs. These countries can benefit from the experiences of past and ongoing reforms in countries with more established and integrated social protection systems, such as those in Brazil, Chile, and Romania.

**Table 3. Summary: Fiscal Policy Reforms to Reduce Unemployment<sup>1</sup>**

	Advanced Economies	Emerging Economies
Reduce tax wedges	Belgium, Finland, Estonia, France, Germany, Greece, Italy, Portugal, Spain, and Sweden	Colombia, Egypt, Hungary, Latvia, Lithuania, and Romania
Greater use of in-work tax credits and benefits for low-skilled	Greece, Iceland, Ireland, Slovenia, and Sweden	Hungary
Active labor market programs (ALMPs)	Expanding ALMPs	Romania and Turkey
	Redirect ALMPs toward job search assistance, wage subsidies and training	Bulgaria, Hungary, and Poland
	Improve capacity to administer ALMPs	Many emerging economies
	Improve training and job matching programs for the youth <sup>2</sup>	Argentina, Bulgaria, Colombia, Egypt, Hungary, Indonesia, Jordan, Morocco, Poland, Romania, Saudi Arabia, South Africa, and Turkey
Unemployment benefits	Shorten the duration of unemployment benefits	Argentina, Poland, Romania, Russia, and Ukraine
	Tighten entitlement conditions	Argentina, Brazil, Egypt, Kazakhstan, Russia, South Africa, Thailand, and Turkey
	Strengthen job search requirements	Turkey and Poland
	Better use of sanctions and compulsory participation in activation programs	Hungary

<sup>1</sup>For countries with an unemployment rate of 5 percent or higher.

<sup>2</sup>For countries with a youth unemployment rate of 20 percent or higher.

Note: Based on information from Appendix 2. In many cases, data are not available for the full set of emerging economies.

## B. Increasing Labor Force Participation

52. **Policies to spur labor force participation could include more general reforms, but those targeted to women and older workers will be particularly important.** Among the more general reforms, two stand out:

- **Reducing the labor tax wedge.** These are highest in Europe, such as Austria, Belgium, France, Germany, Italy and Hungary, where they exceed 45 percent.
- **Strengthening actuarial links in social insurance.** This link is especially relevant for pensions, where it can be strengthened with defined contribution or notional contribution schemes. Unemployment insurance could be strengthened with the use of individual savings accounts.

53. **The scope for increasing female labor force participation is significant.** The factors behind low female participation rates differ across countries, ranging from fiscal incentives and labor market regulations to cultural factors. The scope for fiscal policies to address these low participation rates will therefore differ as well. Higher labor supply of secondary earners (in most cases women) raises issues regarding childcare and family life, as increased labor force participation will imply a smaller at-home presence of parents. Promising directions for fiscal policy reform include:

- **Reducing the secondary earner tax wedge**—that is, the tax wedge applying to the spouse with the lowest income in two-earner couples—which can be reduced significantly in countries that currently apply family taxation, such as in France, Portugal, and the United States. Elsewhere, lower marginal tax rates or targeted in-work tax credits for secondary earners may help to reduce distortions.
- **Reforming child support.** Unconditional income support to families with children is especially high in European countries. This could be replaced with programs that give higher benefits to those in work, such as childcare subsidies for working mothers (which are relatively low in Austria, Ireland, Japan, Korea, and Portugal). The duration of paid parental leave benefits should also be curtailed to avoid adverse labor-market effects. Currently, it exceeds 100 weeks in Austria, the Czech Republic, Finland, France, Norway, Poland, and the Slovak Republic.

54. **Policy reforms could raise labor force participation among those 55 and older.** Policies to expand elderly participation include reforms in old-age and disability pensions.

- **Increasing effective retirement ages.** This could be achieved by: (i) increasing statutory retirement ages, which are especially low in some Eastern European countries (particularly for women) as well as in France, Greece, and Korea; and (ii) fully adjusting pension benefits in several countries to a level that is “actuarially fair”—the neutral benchmark under which no participation distortion occurs.
- **Tougher rules for disability benefits and greater allowance for partial disability.** Participation in disability benefit programs exceeds 10 percent of the labor force in Hungary, Norway, and Sweden. Linking disability benefits to work capacity and integrating those with greater capacity into the labor market can also increase labor force participation. There is room for strengthening medical assessment rules in Denmark, Norway, and the United States, e.g., by requiring certification from independent medical staff. Greater emphasis on linking benefits to the work capacity of claimants could increase elderly labor force participation in Austria, Belgium, and Portugal. Strengthening the attachment of disability claimants to the labor force through integration into ALMPs could help in Greece, Ireland, and Portugal.

55. **One of the most important challenges in emerging Europe and Latin America in boosting labor force participation is to reduce tax wedges, especially as social insurance is expanded to a larger share of the work force.** The expansion of social insurance should be based on programs that involve lower tax wedges and fewer labor market distortions than those prevalent in many economies. Broader coverage of unemployment benefits, for example, could be in the form of individual accounts, which have been undertaken in Brazil and Chile. These schemes provide a safety net for workers with minimal adverse labor-market incentives.

56. **In emerging economies, reforms to pension systems could also boost the labor supply of older workers.** Reforms should focus on increasing normal pension ages to at least 65 years for both men and women. This would entail an increase in retirement ages in many emerging economies but still maintain them below that of advanced economies with longer life expectancies. Given high levels of labor market informality and low rates of coverage, countries could also consider the expansion of social pensions for low-income workers, financed from general revenues.

**Table 4. Summary: Fiscal Policy Reforms to Increase Labor Force Participation<sup>1</sup>**

		Advanced Economies	Emerging Economies
	Reduce the labor tax wedge	Austria, Belgium, Estonia, Finland, France, Germany, Greece, Italy, and Sweden	Colombia, Egypt, Hungary, Latvia, Lithuania, and Romania
	Expand the use of individual accounts for social insurance benefits		Most emerging economies
	Reduce the secondary earner tax wedge <sup>2</sup>	Austria, Belgium, Czech Republic, France, Germany, Italy, and Slovak Republic	Hungary and Turkey
	Increase child care subsidies	Austria, Ireland, Japan, Korea, Portugal, Slovak Republic, and United States	
Reform child support	Condition child support on labor force participation	Many advanced economies	Most emerging economies
	Reduce the duration of paid parental leave	Austria, Czech Republic, Estonia, Finland, France, Germany, Norway, Slovak Republic, and Sweden	Bulgaria, Hungary, Kazakhstan, and Poland
	Increase effective retirement ages	Many advanced economies	Most emerging economies
Reform pension systems	Adjust pension benefits to the actuarially fair levels	Belgium, Germany, Norway, and Slovenia	India and Mexico
	Expand social pensions for low-income workers, financed through general revenues rather than increasing the tax wedge		India, Indonesia, and Thailand
	Strengthen medical assessment rules	Australia, Denmark, Finland, Germany, Ireland, New Zealand, Norway, Sweden, United Kingdom, and United States	
Tougher rules for disability pensions and greater allowance for partial disability	Greater emphasis on linking benefits to work capacity of claimants	Austria, Belgium, Czech Republic, Finland, Germany, Netherlands, Portugal, Slovak Republic, Spain, and Sweden	Mexico and Poland
	Strengthen work incentives and support	Czech Republic, Greece, Ireland, Italy, Korea, New Zealand, Portugal, Slovak Republic, and United States	Mexico

<sup>1</sup>For countries with male labor force participation rate lower than 85 percent.

<sup>2</sup>For countries with female labor force participation rate lower than 70 percent.

Note: Based on information from Appendix 2. In many cases, data are not available for the full set of emerging economies.

### Appendix 1. List of Country Abbreviations

Advanced Economies		Emerging Economies	
Australia	AUS	Argentina	ARG
Austria	AUT	Brazil	BRA
Belgium	BEL	Bulgaria	BGR
Canada	CAN	Chile	CHL
Czech Republic	CZE	China	CHN
Denmark	DNK	Colombia	COL
Estonia	EST	Egypt	EGY
Finland	FIN	Hungary	HUN
France	FRA	India	IND
Germany	GER	Indonesia	IDN
Greece	GRC	Jordan	JOR
Iceland	ISL	Kazakhstan	KAZ
Ireland	IRL	Kenya	KEN
Israel	ISR	Latvia	LVA
Italy	ITA	Lithuania	LTU
Japan	JPN	Malaysia	MYS
Korea	KOR	Mexico	MEX
Netherlands	NLD	Morocco	MAR
New Zealand	NZL	Nigeria	NGA
Norway	NOR	Pakistan	PAK
Portugal	PRT	Peru	PER
Slovak Republic	SVK	Philippines	PHL
Slovenia	SVN	Poland	POL
Spain	ESP	Romania	ROM
Sweden	SWE	Russia	RUS
Switzerland	CHE	Saudi Arabia	SAU
United Kingdom	GBR	South Africa	ZAF
United States	USA	Thailand	THA
		Turkey	TUR
		Ukraine	UKR

## **Appendix 2. Employment Outcomes, Taxes, and Benefit Structures**

Each of the variables presented in the following appendix tables is considered an important indicator of either employment outcomes, or the characteristics of tax and benefit systems that can affect employment outcomes. For each variable, countries are shaded if they rank in the bottom-third of countries in terms of good employment outcomes or in terms of tax and benefit characteristics that are likely to promote good employment outcomes. This ranking is done separately for advanced and emerging economies, and the ranking is simply intended to provide some guidance in terms of potential reforms that would be conducive to improving employment outcomes.

**Appendix Table 1. Unemployment and Labor Force Participation Rates in Advanced Economies**  
(Percent)

Country	Unemployment Rate (2010)	Unemployment Rate (2011)	Natural Rate of Unemployment (2010)	Natural Rate of Unemployment (2011)	Share of Long-term Unemployment in Total Unemployment (2010)	Youth Unemployment (2010 or Latest Year Available)	Unemployment Rate of Low-Skilled (2010)	Labor Force Participation Rate (2010)					Share of Part-Time Workers (2010)	Average Annual Hours Worked (2010)
								Male	Female	15-24	25-54	55-64		
Australia	5.2	5.1	4.9	4.9	18.5	11.5	6.6	82.9	70.0	68.6	82.8	62.7	14.2	1686.0
Austria	4.4	4.0	3.8	3.8	25.2	8.8	8.4	80.9	69.3	58.8	87.7	43.4	8.2	1587.0
Belgium	8.4	7.2	8.0	8.0	48.7	22.4	11.9	73.4	61.8	32.5	86.3	39.2	8.0	1551.0
Canada	8.0	7.5	6.1	6.5	11.5	14.8	12.6	81.5	74.2	64.5	86.4	62.5	10.0	1702.0
Czech Republic	7.3	6.7	4.7	4.5	43.3	18.3	21.8	78.6	61.5	30.9	87.8	49.7	1.5	1947.0
Denmark	4.2	6.1	3.7	3.7	19.1	13.8	7.3	82.7	76.1	67.4	89.0	61.1	12.7	...
Estonia	16.9	12.5	...	...	45.4	33.0	24.1	76.7	70.9	38.8	88.1	64.2	2.4	1879.0
Finland	8.4	7.8	7.7	7.6	23.4	20.3	10.1	76.7	72.5	50.8	87.6	60.2	6.4	1697.0
France	9.8	9.7	7.1	7.0	39.7	22.5	11.9	75.0	66.3	39.7	88.9	42.5	5.3	...
Germany	7.1	6.0	6.9	6.7	46.9	9.7	17.0	82.4	70.8	51.8	87.3	62.5	12.1	1419.0
Greece	12.5	17.3	10.1	10.9	45.0	32.9	8.8	78.9	57.6	30.3	83.3	45.1	2.7	2109.0
Iceland	8.1	7.4	3.0	3.0	19.3	16.2	7.4	88.2	82.7	74.0	89.4	84.2	8.9	1697.0
Ireland	13.6	14.4	8.1	10.0	48.8	27.5	15.4	77.9	62.6	43.1	81.0	55.3	9.8	1664.0
Israel	6.7	5.7	6.5	6.5	20.8	13.7	10.8	68.2	60.9	31.3	78.7	62.9	6.3	...
Italy	8.4	8.4	8.2	8.2	48.0	27.8	8.4	73.3	51.1	28.4	76.9	38.0	5.3	1778.0
Japan	5.1	4.5	4.0	4.0	37.6	9.2	...	84.8	63.2	43.1	84.0	68.7	6.1	1733.0
Korea	3.7	3.3	3.0	3.0	0.3	9.8	3.0	77.1	54.5	25.5	76.4	62.7	5.2	2193.0
Luxembourg	6.2	5.7	4.6	4.6	0.0	14.2	...	73.9	58.1	29.2	83.4	34.9	...	...
Netherlands	4.5	4.5	4.0	4.0	27.1	8.7	4.3	83.8	72.6	69.0	87.8	56.3	20.7	1377.0
New Zealand	6.5	6.4	4.5	4.5	8.2	17.1	5.9	83.6	71.8	60.4	84.1	75.9	12.8	1758.0
Norway	3.6	3.3	4.5	5.5	9.1	9.3	4.3	80.8	75.6	57.4	87.4	69.6	12.6	1414.0
Portugal	12.0	12.7	12.2	15.5	52.0	22.3	10.1	78.2	69.9	36.7	88.7	54.0	4.2	1714.0
Slovak Republic	14.4	13.4	...	...	64.0	33.6	38.3	76.0	61.3	31.0	86.9	45.2	0.9	1786.0
Slovenia	7.3	8.1	5.6	6.4	43.3	14.7	7.8	75.4	67.4	39.9	90.0	36.5	4.0	1664.0
Spain	20.1	21.6	17.6	18.6	42.5	41.6	22.0	81.9	66.8	46.9	85.5	50.8	4.7	1663.0
Sweden	8.4	7.4	7.0	7.0	15.5	25.2	10.3	82.2	76.7	51.5	90.6	74.6	6.2	1624.0
Switzerland	3.6	3.1	3.2	3.1	34.1	7.2	7.5	88.2	76.1	66.5	89.6	70.7	15.0	...
United Kingdom	7.9	8.0	5.6	5.5	32.6	19.1	9.9	82.5	70.2	68.2	83.7	53.9	13.2	1647.0
United States	9.6	9.0	6.7	6.7	29.0	18.4	15.8	79.6	68.4	64.5	83.7	60.4	5.4	1778.0
<b>Average</b>	<b>8.3</b>	<b>8.2</b>	<b>6.3</b>	<b>6.7</b>	<b>31.0</b>	<b>18.7</b>	<b>11.9</b>	<b>79.5</b>	<b>67.6</b>	<b>48.3</b>	<b>85.6</b>	<b>56.8</b>	<b>8.0</b>	<b>1711.1</b>
<i>Advanced Europe</i>	9.1	9.0	6.9	7.3	36.8	20.7	12.7	79.7	68.6	48.3	86.8	55.1	7.8	1678.7
<i>Other Advanced</i>	6.4	5.9	5.1	5.2	18.0	13.5	9.1	79.6	66.1	51.1	82.3	65.1	8.6	1808.3

Sources: OECD, Eurostat, ILO, ILO KILM, WEO, and staff estimates.

Note: Shading identifies countries that are in the top-third of the advanced country group in terms of unemployment levels or in the bottom-third in terms of labor-force participation or employment outcomes.



**Appendix Table 2. Unemployment and Labor Force Participation Rates in Emerging Economies**  
(Percent)

Country	Unemployment Rate (2010)	Unemployment Rate (2011)	Natural Rate of Unemployment (2010)	Natural Rate of Unemployment (2011)	Share of Long-term Unemployment in Total Unemployment (2010)	Youth Unemployment (2010 or Latest Year Available)	Unemployment Rate of Low-Skilled (2010)	Labor Force Participation Rate (2010)					Share of Part-Time Workers (2010)	Average Annual Hours Worked (2010)
								Male	Female	15-24	25-54	55-64		
Argentina	7.8	7.2	...	...	...	21.2	...	81.5	54.4	41.5	80.2	62.7	...	...
Brazil	6.7	6.0	...	...	...	17.8	5.7	85.4	64.6	63.3	82.8	56.2	...	...
Bulgaria	10.3	12.5	...	...	46.4	23.2	...	71.5	62.6	31.5	82.7	49.1	...	...
Chile	8.2	7.1	...	...	...	18.6	5.9	77.8	51.8	37.5	77.6	60.6	11.6	2068.0
China	4.1	4.0	...	...	...	...	...	85.3	75.2	61.9	92.4	57.3	11.6	...
Colombia	11.8	11.5	...	...	...	23.0	...	82.1	58.8	45.5	82.9	61.6	...	...
Egypt	9.0	10.4	...	...	...	24.8	...	78.1	25.3	34.0	63.4	39.5	...	...
Hungary	11.2	11.0	...	...	50.6	26.6	21.0	68.3	56.7	24.9	80.9	37.3	0.8	1961.0
India	...	...	...	...	...	10.5	...	83.1	30.3	37.7	67.7	56.5	...	...
Indonesia	7.1	6.6	...	...	...	22.2	...	86.3	53.2	51.2	77.7	68.1	...	...
Jordan	12.5	12.9	...	...	...	27.0	...	68.9	16.3	27.1	56.5	23.9	...	...
Kazakhstan	5.8	5.4	...	...	...	6.7	...	81.0	74.0	47.0	93.0	65.7	...	...
Kenya	...	...	...	...	...	...	...	71.9	61.8	39.9	83.7	80.4	...	...
Latvia	19.0	15.6	...	...	45.1	13.5	...	76.3	71.2	41.7	88.5	57.9	...	...
Lithuania	17.8	15.5	...	...	41.4	15.7	...	72.6	68.9	30.2	88.5	56.7	...	...
Malaysia	3.3	3.2	...	...	...	10.9	...	78.9	46.3	39.5	76.6	43.9	...	...
Mexico	5.4	5.2	...	...	2.2	9.5	4.0	82.9	46.6	47.2	73.3	56.2	10.1	1866.0
Morocco	9.1	9.0	...	...	...	21.9	...	78.3	26.4	36.0	60.5	43.2	10.1	1866.0
Nigeria	21.1	23.9	...	...	...	...	...	62.9	48.0	37.4	65.2	70.8	...	...
Pakistan	6.2	6.0	...	...	...	7.5	...	85.9	23.0	44.5	61.4	55.3	...	...
Peru	7.9	7.5	...	...	...	14.0	...	86.6	70.1	61.3	86.8	78.6	...	...
Philippines	7.2	7.0	...	...	...	17.4	...	80.9	50.9	46.4	76.6	67.8	...	...
Poland	9.6	9.6	...	...	25.5	23.7	13.9	72.4	59.0	34.5	84.1	36.7	3.1	1939.0
Romania	7.6	7.2	...	...	34.9	22.1	...	71.7	56.0	31.4	79.5	42.4	...	...
Russia	7.5	6.5	...	...	...	17.2	...	77.9	68.2	43.5	89.0	46.6	...	...
Saudi Arabia	10.0	...	...	...	...	28.2	...	76.1	18.3	16.2	67.3	39.1	...	...
South Africa	24.9	24.5	...	...	...	48.2	...	63.2	47.2	26.5	72.5	40.6	...	...
Thailand	1.0	1.2	...	...	...	4.3	...	84.7	69.8	47.8	88.3	69.8	...	...
Turkey	11.9	9.9	11.0	11.0	28.6	21.7	11.8	75.4	30.2	38.3	61.8	31.4	4.6	1877.0
Ukraine	8.1	7.4	7.6	7.6	...	...	...	72.6	62.1	40.5	82.5	41.4	...	...
<b>Average</b>	<b>9.7</b>	<b>9.4</b>	<b>9.3</b>	<b>9.3</b>	<b>34.3</b>	<b>19.1</b>	<b>10.4</b>	<b>77.4</b>	<b>51.6</b>	<b>40.2</b>	<b>77.5</b>	<b>53.2</b>	<b>6.1</b>	<b>1942.2</b>
<i>Emerging Europe</i>	11.4	10.6	9.3	9.3	38.9	20.5	15.6	73.2	59.4	35.2	81.9	44.4	2.9	1925.7
<i>Other Emerging</i>	8.9	8.8	...	...	2.2	18.5	5.2	79.1	48.2	42.4	75.5	57.0	10.9	1967.0

Sources: OECD, Eurostat, ILO, ILO KILM, WEO, and staff estimates.

Note: Shading identifies countries that are in the top-third of the emerging country group in terms of unemployment levels or in the bottom-third in terms of labor-force participation or employment outcomes.

**Appendix Table 3. Labor Market Regulations in Advanced Economies**

Country	Minimum/ Median Wage	Minimum/ Average Wage	Strictness of Employment Protection <sup>1</sup>			
			Overall	Collective Dismissal	Regular Employment	Temporary Employment
Australia	0.5	0.5	1.2	2.9	1.4	0.9
Austria	...	...	1.9	3.3	2.4	1.5
Belgium	0.5	0.4	2.2	4.1	1.7	2.6
Canada	0.4	0.4	0.8	2.6	1.3	0.3
Czech Republic	0.4	0.3	2.0	2.1	3.1	0.9
Denmark	...	...	1.5	3.1	1.6	1.4
Estonia	0.3	0.3	2.1	3.3	2.5	1.8
Finland	...	...	2.0	2.6	2.2	1.9
France	0.6	0.5	3.1	2.1	2.5	3.6
Germany	...	...	2.1	3.8	3.0	1.3
Greece	0.5	0.3	2.7	3.3	2.3	3.1
Iceland	...	...	1.2	3.5	1.7	0.6
Ireland	0.5	0.4	1.1	2.4	1.6	0.6
Israel	...	0.5	1.4	1.9	1.9	0.9
Italy	...	...	1.8	4.9	1.8	1.9
Japan	0.3	0.3	1.4	1.5	1.9	1.0
Korea	0.4	0.3	2.0	1.9	2.4	1.7
Luxembourg	0.4	0.3	3.3	3.9	2.8	3.8
Netherlands	0.5	0.4	2.0	3.0	2.9	1.2
New Zealand	0.6	0.5	1.5	0.4	1.7	1.3
Norway	...	...	2.7	2.9	2.3	3.1
Portugal	0.5	0.4	3.5	2.9	4.2	2.8
Slovak Republic	0.4	0.3	1.3	3.8	2.3	0.4
Slovenia	0.5	0.4	2.5	2.9	3.2	1.9
Spain	0.5	0.4	3.0	3.1	2.5	3.5
Sweden	...	...	2.2	3.8	2.9	1.6
Switzerland	...	...	1.1	3.9	1.2	1.1
United Kingdom	0.5	0.4	0.8	2.9	1.1	0.4
United States	0.3	0.2	0.2	2.9	0.2	0.3
<b>Average</b>	<b>0.5</b>	<b>0.4</b>	<b>1.9</b>	<b>2.9</b>	<b>2.1</b>	<b>1.6</b>
<i>Advanced Europe</i>	<i>0.5</i>	<i>0.4</i>	<i>2.0</i>	<i>3.2</i>	<i>2.3</i>	<i>1.8</i>
<i>Other Advanced</i>	<i>0.4</i>	<i>0.4</i>	<i>1.2</i>	<i>2.0</i>	<i>1.5</i>	<i>0.9</i>

Sources: OECD, Babecký and others (2009).

<http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1105.pdf>.

<http://www.imf.org/external/pubs/ft/wp/2011/wp11154.pdf>.

Notes :Shading identifies countries that are in the bottom-third of the advanced country group in terms of stringency of labor market regulations.

<sup>1</sup>Each item has a score on a scale of 0–6, with higher scores representing stricter regulation.

For full methodology, see: <http://www.oecd.org/dataoecd/24/40/42740190.pdf>.

**Appendix Table 4. Labor Market Regulations in Emerging Economies**

Country	Minimum/ Median Wage	Minimum/ Average Wage	Strictness of Employment Protection <sup>1</sup>			
			Overall	Collective Dismissal	Regular Employment	Temporary Employment
Argentina	...	0.3	...	...	...	...
Brazil	...	0.3	2.8	0.0	1.4	4.1
Bulgaria	...	0.5	...	...	...	...
Chile	0.5	0.5	2.7	0.0	2.7	2.6
China	...	0.5	2.7	3.0	3.3	2.0
Colombia	...	0.7	...	...	...	...
Egypt	...	0.2	...	...	...	...
Hungary	0.5	0.4	1.7	2.9	1.9	1.4
India	...	0.8	2.8	0.0	3.5	2.0
Indonesia	...	0.5	3.7	0.0	4.2	3.1
Jordan	...	0.6	...	...	...	...
Kazakhstan	...	0.2	...	...	...	...
Kenya	...	0.2	...	...	...	...
Latvia	0.4	0.3	...	...	...	...
Lithuania	0.4	0.3	...	...	...	...
Malaysia	...	0.0	...	...	...	...
Mexico	0.2	0.2	3.1	3.8	2.3	4.0
Morocco	...	0.6	...	...	...	...
Nigeria	...	0.1	...	...	...	...
Pakistan	...	0.6	...	...	...	...
Peru	...	0.5	...	...	...	...
Philippines	...	0.8	...	...	...	...
Poland	0.4	0.3	1.9	3.6	2.1	1.8
Romania	0.4	0.3	...	...	...	...
Russia	...	0.1	1.9	1.9	3.0	0.9
Saudi Arabia	...	...	...	...	...	...
South Africa	...	...	1.3	1.9	2.0	0.5
Thailand	...	0.5	...	...	...	...
Turkey	0.7	0.4	3.7	2.4	2.6	4.9
Ukraine	...	0.3	...	...	...	...
<b>Average</b>	<b>0.4</b>	<b>0.4</b>	<b>2.6</b>	<b>1.8</b>	<b>2.6</b>	<b>2.5</b>
<i>Emerging Europe</i>	0.5	0.3	2.3	2.7	2.4	2.2
<i>Other Emerging</i>	0.3	0.4	2.7	1.2	2.8	2.6

Sources: OECD, Babecký and others (2009).

<http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1105.pdf>.

<http://www.imf.org/external/pubs/ft/wp/2011/wp11154.pdf>.

Notes :Shading identifies countries that are in the bottom-third of the emerging country group in terms of stringency of labor market regulations.

<sup>1</sup>Each item has a score on a scale of 0–6, with higher scores representing stricter regulation.

For full methodology, see: <http://www.oecd.org/dataoecd/24/40/42740190.pdf>.

### Appendix Table 5. Tax Wedges and Tax Rates in Advanced Economies

Country	Government Revenue as a Percentage of GDP (2009)				Tax Rates (2010/11)			Tax Wedge (2010/11)			
	Income Tax	Social Security Contributions	Corporate Income Tax	General Sales Tax	Top Personal Income Tax	Social Security Contributions		Marginal Tax Wedge	Average Tax Wedge	Partner Tax Wedge	Participation Tax Rate
						Employer	Employee				
Australia	9.7	0.7	4.8	3.7	46.5	9.0	1.5	50.1	17.3	19.7	56.7
Austria	9.5	14.8	1.7	8.1	50.0	21.7	17.6	56.7	40.7	45.2	92.5
Belgium	12.1	14.4	2.5	7.0	53.7	24.8	13.1	66.7	47.0	60.4	71.4
Canada	11.4	5.0	3.4	4.3	46.4	5.0	5.0	48.1	21.7	34.0	74.4
Czech Republic	3.6	15.3	3.7	7.1	15.0	34.0	11.0	51.5	33.4	48.6	79.5
Denmark	26.4	1.0	2.4	10.1	52.2	21.4	8.0	43.7	32.5	43.6	92.3
Estonia	5.7	13.1	1.9	9.1	21.0	33.0	0.0	42.9	40.0	38.6	65.4
Finland	13.3	12.7	2.0	8.6	49.0	24.3	7.3	54.1	37.2	36.3	90.5
France	7.3	16.7	1.5	7.1	45.8	20.6	9.9	54.3	44.6	47.7	66.7
Germany	9.4	14.5	1.3	7.5	47.5	19.7	20.6	54.3	41.5	54.6	81.8
Greece	5.1	10.3	2.4	6.7	45.0	28.1	16.5	45.9	36.5	34.4	94.1
Iceland	12.8	3.1	1.8	8.0	46.1	8.7	4.0	46.6	23.6	42.0	101.2
Ireland	7.7	5.6	2.4	6.4	47.0	10.8	4.0	45.4	19.2	32.7	105.5
Israel	6.3	5.4	2.8	9.4	45.0	5.4	12.0	35.4	15.8	9.6	67.4
Italy	11.7	13.7	3.2	5.7	45.2	32.0	8.0	55.0	41.5	46.2	69.5
Japan	5.4	11.0	2.6	2.6	50.0	14.2	13.5	33.2	26.4	30.6	116.0
Korea	3.6	5.8	3.7	4.4	38.5	8.5	7.6	23.9	18.4	17.8	29.0
Luxembourg	11.8	0.3	4.0	6.4	39.0	15.1	12.5	43.2	22.1	...	100.8
Netherlands	8.7	13.8	2.0	7.0	52.0	27.9	31.2	49.7	31.7	33.5	88.8
New Zealand	12.9	...	3.5	8.7	35.5	0.0	0.0	32.0	9.0	15.8	80.4
Norway	10.4	10.1	9.3	8.0	40.0	14.1	7.8	44.4	32.7	37.1	100.0
Portugal	5.7	9.0	2.9	7.1	45.9	23.8	11.0	47.6	32.2	40.0	84.4
Slovak Republic	2.4	12.6	2.5	6.7	19.0	35.2	13.4	42.6	31.0	44.1	49.7
Slovenia	5.9	14.9	1.8	8.4	41.0	16.1	22.1	46.2	33.3	41.3	100.0
Spain	6.6	12.1	2.2	4.0	43.0	29.9	6.4	46.5	36.2	40.7	73.3
Sweden	13.5	11.4	3.0	9.8	56.6	31.4	29.0	49.7	39.9	40.6	100.0
Switzerland	9.5	7.1	3.2	3.7	41.7	6.3	6.3	26.1	14.8	23.2	100.0
United Kingdom	10.5	6.8	2.8	5.7	50.0	12.8	11.0	44.3	27.6	31.7	69.9
United States	8.1	6.6	1.7	2.0	41.9	6.2	6.2	39.9	24.0	37.7	37.9
<b>Average</b>	<b>9.2</b>	<b>9.6</b>	<b>2.9</b>	<b>6.7</b>	<b>43.1</b>	<b>18.6</b>	<b>10.9</b>	<b>45.5</b>	<b>30.1</b>	<b>36.7</b>	<b>80.7</b>
<i>Advanced Europe</i>	9.4	11.1	2.7	7.2	43.2	22.7	12.3	48.3	34.1	41.1	84.6
<i>Other Advanced</i>	8.2	5.8	3.2	5.0	43.4	6.9	6.5	37.5	18.9	23.6	66.0

Sources: OECD, IBFD, IMF-FAD Tax Database and IMF staff estimates.

Notes: Tax Wedge = the difference between labor cost and after-tax wages, in percent of labor costs.

For Marginal and Average Tax Wedge and Partner Tax Wedge, see note to Figure 8 in the main text. Participation tax wedge, see note to Figure 9 in the main text.

Shading identifies top third of countries by highest tax rates in the advanced country group.

<http://www.oecd->

[library.org/docserver/download/fulltext/2311481e.pdf?expires=1332526340&id=id&acname=ocid195787&checksum=51CB7516BAEDF8F28F9730265051D918](http://www.oecd-library.org/docserver/download/fulltext/2311481e.pdf?expires=1332526340&id=id&acname=ocid195787&checksum=51CB7516BAEDF8F28F9730265051D918).

[http://siteresources.worldbank.org/INTLAC/Resources/Achieving\\_Social\\_Protection.pdf](http://siteresources.worldbank.org/INTLAC/Resources/Achieving_Social_Protection.pdf).

### Appendix Table 6. Tax Wedges and Tax Rates in Emerging Economies

Country	Government Revenue as a Percentage of GDP (2009)				Tax Rates (2010/11)			Tax Wedge (2010/11)			
	Income Tax	Social Security Contributions	Corporate Income Tax	General Sales Tax	Top Personal Income Tax	Social Security Contributions		Marginal Tax Wedge	Average Tax Wedge	Partner Tax Wedge	Participation Tax Rate
						Employer	Employee				
Argentina	...	6.6	...	...	35.0	27.0	17.0	...	37.3	...	...
Brazil	2.5	5.7	4.5	6.0	27.5	21.0	8.0	...	31.6	...	...
Bulgaria	3.0	6.3	2.6	9.4	10.0	17.4	12.9	...	39.0	...	...
Chile	...	1.5	...	7.8	40.0	4.9	18.5	7.5	7.0	7.0	...
China	1.2	...	3.4	...	45.0	36.5	16.0	...	...	...	...
Colombia	4.5	4.3	...	5.8	33.0	20.5	9.0	...	55.7	...	...
Egypt	1.4	2.2	6.4	3.5	20.0	26.0	14.0	...	59.5	...	...
Hungary	7.5	12.5	2.3	11.2	32.0	27.0	17.5	54.1	46.4	43.6	106.2
India	1.6	0.0	3.9	0.0	30.0	12.0	1.8	...	...	...	...
Indonesia	...	...	...	3.8	30.0	7.2	2.0	...	...	...	...
Jordan	0.5	0.1	3.8	10.1	25.0	11.0	5.5	...	23.9	...	...
Kazakhstan	1.6	...	4.0	3.1	10.0	5.0	10.0	...	28.2	...	...
Kenya	4.7	...	3.6	5.4	30.0	5.0	5.0	...	...	...	...
Latvia	5.5	8.9	1.5	6.1	25.0	24.0	11.0	...	42.5	...	...
Lithuania	4.1	12.8	1.8	7.3	15.0	30.8	9.0	...	43.7	...	...
Malaysia	2.3	...	8.4	1.3	26.0	12.0	11.0	...	...	...	...
Mexico	...	2.9	...	3.4	30.0	46.2	2.8	19.6	15.5	12.3	...
Morocco	3.5	4.0	6.0	7.7	38.0	18.5	6.3	...	35.7	...	...
Nigeria	...	...	...	...	25.0	7.5	7.5	...	...	...	...
Pakistan	3.5	...	...	3.6	25.0	7.0	0.0	...	...	...	...
Peru	1.6	1.7	3.7	5.8	30.0	9.0	13.0	...	35.8	...	...
Philippines	1.8	...	3.3	2.1	32.0	32.0	0.0	...	...	...	...
Poland	4.6	11.3	2.3	7.3	32.0	14.9	13.7	34.2	34.3	34.4	74.7
Romania	3.7	9.6	2.7	...	16.0	31.3	10.5	...	44.1	...	...
Russia	4.3	5.9	3.3	5.4	13.0	34.0	0.0	...	31.0	...	...
Saudi Arabia	...	...	...	...	0.0	9.0	9.0	...	...	...	...
South Africa	8.6	0.6	6.4	6.2	40.0	21.0	1.0	...	...	...	...
Thailand	2.0	0.9	5.1	3.5	37.0	5.0	5.0	...	...	...	...
Turkey	4.0	6.0	1.9	4.9	35.7	19.5	14.0	42.8	37.4	40.2	...
Ukraine	4.9	12.1	3.6	9.3	15.0	36.8	3.6	...	39.2	...	...
<b>Average</b>	<b>3.5</b>	<b>5.5</b>	<b>3.8</b>	<b>5.6</b>	<b>26.7</b>	<b>19.3</b>	<b>8.5</b>	<b>31.6</b>	<b>36.2</b>	<b>27.5</b>	<b>90.4</b>
<i>Emerging Europe</i>	4.6	9.5	2.4	7.6	21.5	26.2	10.2	43.7	39.7	39.4	90.4
<i>Other Emerging</i>	2.8	2.5	4.8	4.7	29.0	16.3	7.7	13.6	33.0	9.7	...

Sources: OECD, IBFD, IMF-FAD Tax Database and IMF staff estimates.

Notes: Tax Wedge = the difference between labor cost and after-tax wages, in percent of labor costs.

For Marginal and Average Tax Wedge and Partner Tax Wedge, see note to Figure 8 in the main text. Participation tax wedge, see note to Figure 9 in the main text.

Shading identifies top third of countries by highest tax rates in the advanced country group.

<http://www.oecd-ilibrary.org/docserver/download/fulltext/2311481e.pdf?expires=1332526340&id=id&acname=ocid195787&checksum=51CB7516BAEDF8F28F9730265051D918>.

[http://siteresources.worldbank.org/INTLAC/Resources/Achieving\\_Social\\_Protection.pdf](http://siteresources.worldbank.org/INTLAC/Resources/Achieving_Social_Protection.pdf).

### Appendix Table 7. Unemployment Benefits in Advanced Economies

Country	Spending 2007 (Percent of GDP)	Spending 2009 (Percent of GDP)	Contribution Requirement (Months)	Maximum Duration (Months)	Average Replacement Rate	Full Rate Equivalent (Months) <sup>1</sup>	OECD Score on Eligibility Criteria <sup>2</sup>				
							Total	Entitlement Conditions	Job search and Availability	Job search Monitoring	Sanctions
Australia	0.4	...	0.0	No limit	19.0	0.0	3.1	1.5	4.0	5.0	1.8
Austria	0.9	1.8	12.0	9.0	55.0	5.0	2.6	2.0	2.5	4.0	2.0
Belgium	3.1	3.8	15.6	No limit	52.5	...	3.0	3.0	2.0	3.0	4.0
Canada	0.6	...	4.1	11.0	55.0	4.4	2.5	3.5	2.5	2.0	2.0
Czech Republic	0.6	1.1	12.0	5.0	47.5	2.9	3.3	2.0	4.0	3.0	4.0
Denmark	1.9	2.1	12.1	24.0	90.0	43.2	2.8	2.0	4.1	2.0	3.0
Estonia	0.1	1.2	12.1	12.0	42.5	5.1	3.6	4.0	3.5	4.0	3.0
Finland	1.5	2.4	10.0	23.1	47.0	10.8	2.6	2.5	2.5	2.0	3.5
France	1.4	1.9	6.0	24.0	57.0	13.1	2.8	3.0	2.9	4.0	1.5
Germany	1.4	1.9	12.0	12.0	60.0	7.2	2.8	3.0	4.5	2.0	1.8
Greece	0.5	1.6	4.2	12.0	19.0	2.3	2.9	3.5	2.0	1.0	5.0
Iceland	0.2	1.7	2.3	36.0	36.0	13.0	...	...	...	...	...
Ireland	1.0	3.1	2.0	12.0	24.0	2.9	3.3	3.0	3.3	2.0	5.0
Israel	1.3	...	14.4	6.0	65.0	3.9	...	...	...	...	...
Italy	0.4	0.8	12.0	8.0	48.6	3.4	3.6	4.5	4.0	1.0	5.0
Japan	0.3	...	6.0	8.9	50.0	4.5	2.8	2.5	3.5	4.0	1.0
Korea	0.2	...	6.0	7.0	50.0	3.5	2.9	3.5	1.5	4.0	2.5
Luxembourg	0.9	1.3	6.0	12.0	80.0	9.6	3.4	3.5	3.3	2.0	5.0
Netherlands	1.1	1.4	1.7	38.0	70.3	26.7	3.0	3.5	3.6	4.0	1.0
New Zealand	0.2	...	0.0	No limit	25.0	...	2.9	2.0	3.8	4.0	2.0
Norway	0.2	0.7	12.0	24.0	62.4	15.0	2.9	2.0	4.8	2.0	3.0
Portugal	1.0	1.4	9.0	24.0	65.0	15.6	4.4	4.5	3.3	5.0	5.0
Slovak Republic	0.4	1.0	36.0	6.0	50.0	3.0	4.3	3.0	4.0	5.0	5.0
Slovenia	0.4	0.6	12.0	9.0	62.5	7.5	4.0	3.5	3.5	4.0	5.0
Spain	2.1	3.7	12.0	24.0	62.5	15.0	3.6	4.0	3.5	3.0	3.8
Sweden	0.7	1.3	12.0	35.0	75.0	10.5	2.4	3.0	3.8	1.0	2.0
Switzerland	0.6	...	12.0	18.5	70.0	12.9	3.4	2.8	3.8	4.0	3.3
United Kingdom	0.2	0.8	12.0	6.1	9.0	0.5	3.2	2.5	2.9	5.0	2.5
United States	0.3	...	4.7	22.8	53.3	3.2	3.1	3.5	2.0	2.0	5.0
<b>Average</b>	<b>0.8</b>	<b>1.7</b>	<b>9.4</b>	<b>16.5</b>	<b>51.8</b>	<b>9.1</b>	<b>3.2</b>	<b>3.0</b>	<b>3.3</b>	<b>3.1</b>	<b>3.2</b>
<i>Advanced Europe</i>	<i>0.9</i>	<i>1.7</i>	<i>11.0</i>	<i>18.1</i>	<i>52.7</i>	<i>10.8</i>	<i>3.2</i>	<i>3.1</i>	<i>3.4</i>	<i>3.1</i>	<i>3.4</i>
<i>Other Advanced</i>	<i>0.5</i>	<i>...</i>	<i>5.0</i>	<i>11.2</i>	<i>45.3</i>	<i>3.2</i>	<i>2.9</i>	<i>2.8</i>	<i>2.9</i>	<i>3.5</i>	<i>2.4</i>

Sources: OECD, Eurostat, SSA and staff estimates based on Social Security Programs Throughout the World.

<sup>1</sup>Full-rate equivalent (FRE) is defined as: FRE = Duration of leave in weeks \* average payment (as per cent of average wage earnings) received by the claimant.

<sup>2</sup>Each component is given a score of between 1 (least strict) and 5 (most strict) and the overall indicator is the weighted average of the individual components.

These indicators were constructed in "Eligibility Criteria for Unemployment Benefits" OECD Social, Employment and Migration Working Papers No. 131.

Shading identifies countries that are in the top-third of the advanced country group in terms of spending and benefit generosity, and the bottom-third in terms of strictness of eligibility criteria.

<http://www.oecd->

[library.org/docserver/download/fulltext/5k9h43kgkvr4.pdf?expires=1335996130&id=id&accname=guest&checksum=40C3A34A32D84EDA4F8FD33032CCE0.](http://www.oecd-)

### Appendix Table 8. Unemployment Benefits in Emerging Economies

Country	Spending 2007 (Percent of GDP)	Spending 2009 (Percent of GDP)	Contribution Requirement (Months)	Maximum Duration (Months)	Average Replacement Rate	Full Rate Equivalent (Months) <sup>1</sup>	OECD Score on Eligibility Criteria <sup>2</sup>				
							Total	Entitlement Conditions	Job search and Availability	Job search Monitoring	Sanctions
Argentina	0.6	...	6.0	12.0	50.0	6.0	...	...	...	...	...
Brazil	0.6	...	6.0	5.0	72.5	3.6	...	...	...	...	...
Bulgaria	0.3	0.5	9.0	12.0	60.0	7.2	...	...	...	...	...
Chile	...	...	12.0	5.0	40.0	2.0	...	...	...	...	...
China	0.1	...	12.0	24.0	...	...	...	...	...	...	...
Colombia	...	...	...	...	...	...	...	...	...	...	...
Egypt	...	...	6.0	6.5	60.0	3.9	...	...	...	...	...
Hungary	0.7	1.0	12.0	9.0	34.7	3.1	2.9	3.0	3.5	3.0	2.0
India	0.1	...	60.0	6.0	50.0	3.0	...	...	...	...	...
Indonesia	...	...	...	...	...	...	...	...	...	...	...
Jordan	0.0	...	...	...	...	...	...	...	...	...	...
Kazakhstan	0.3	...	6.0	...	30.0	...	...	...	...	...	...
Kenya	...	...	...	...	...	...	...	...	...	...	...
Latvia	0.4	1.6	9.0	9.0	41.3	3.7	...	...	...	...	...
Lithuania	0.4	0.9	18.0	9.0	37.9	3.4	...	...	...	...	...
Malaysia	0.2	...	...	...	...	...	...	...	...	...	...
Mexico	1.0	...	...	...	...	...	...	...	...	...	...
Morocco	...	...	...	...	...	...	...	...	...	...	...
Nigeria	...	...	...	...	...	...	...	...	...	...	...
Pakistan	0.0	...	...	...	...	...	...	...	...	...	...
Peru	...	...	...	...	...	...	...	...	...	...	...
Philippines	0.0	...	...	...	...	...	...	...	...	...	...
Poland	0.3	0.4	12.0	12.0	24.0	2.9	3.2	3.5	4.3	1.0	4.0
Romania	0.3	0.4	12.0	12.0	30.6	3.7	...	...	...	...	...
Russia	...	...	6.0	12.0	57.5	6.9	...	...	...	...	...
Saudi Arabia	...	...	...	...	...	...	...	...	...	...	...
South Africa	1.3	...	3.0	7.8	44.7	3.5	...	...	...	...	...
Thailand	0.2	...	6.0	6.0	50.0	3.0	...	...	...	...	...
Turkey	0.0	...	4.0	10.0	50.0	5.0	3.8	4.5	2.5	3.0	5.0
Ukraine	1.1	...	24.0	12.0	56.0	6.7	...	...	...	...	...
<b>Average</b>	<b>0.4</b>	<b>0.8</b>	<b>12.4</b>	<b>10.0</b>	<b>46.4</b>	<b>4.2</b>	<b>3.3</b>	<b>3.7</b>	<b>3.4</b>	<b>2.3</b>	<b>3.7</b>
<i>Emerging Europe</i>	<i>0.4</i>	<i>0.8</i>	<i>11.8</i>	<i>10.8</i>	<i>43.6</i>	<i>4.7</i>	<i>3.3</i>	<i>3.7</i>	<i>3.4</i>	<i>2.3</i>	<i>3.7</i>
<i>Other Emerging</i>	<i>0.4</i>	<i>...</i>	<i>13.0</i>	<i>9.0</i>	<i>49.7</i>	<i>3.6</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>

Sources: OECD, Eurostat, SSA and staff estimates based on Social Security Programs Throughout the World.

<sup>1</sup>Full-rate equivalent (FRE) is defined as: FRE = Duration of leave in weeks \* average payment (as per cent of average wage earnings) received by the claimant.

<sup>2</sup>Each component is given a score of between 1 (least strict) and 5 (most strict) and the overall indicator is the weighted average of the individual components.

These indicators were constructed in "Eligibility Criteria for Unemployment Benefits" OECD Social, Employment and Migration Working Papers No. 131.

Shading identifies countries that are in the top-third of the emerging country group in terms of spending and benefit generosity, and the bottom-third in terms of strictness of eligibility criteria.

<http://www.oecd->

[ilibrary.org/docserver/download/fulltext/5k9h43kgkvr4.pdf?expires=1335996130&id=id&accname=quest&checksum=40C3A34A32D84EDA4EF4F8FD33032CCE0](http://www.oecd-ilibrary.org/docserver/download/fulltext/5k9h43kgkvr4.pdf?expires=1335996130&id=id&accname=quest&checksum=40C3A34A32D84EDA4EF4F8FD33032CCE0).

**Appendix Table 9. Active Labor Market Programs in Advanced Economies**

Country	Spending on Active Labor Market Programs 2007					Spending on Active Labor Market Programs 2009				
	Total (Percent of GDP)	PES and Administration (Percent of Total)	Training (Percent of Total)	Hiring Subsidy (Percent of Total)	Sum (Percent of Total)	Total (Percent of GDP)	PES and Administration (Percent of Total)	Training (Percent of Total)	Hiring Subsidy (Percent of Total)	Sum (Percent of Total)
Australia	0.3	54.5	3.8	3.4	61.7	...	...	...	...	...
Austria	0.7	24.2	55.0	8.6	87.7	0.9	21.7	60.5	6.3	88.5
Belgium	1.2	16.3	15.3	30.1	61.7	1.4	15.5	11.4	36.8	63.7
Canada	0.3	48.4	35.3	2.0	85.7	...	...	...	...	...
Czech Republic	0.3	52.6	3.0	8.7	64.3	0.3	43.3	9.3	9.7	62.3
Denmark	1.3	21.7	25.6	10.1	57.4	1.5	20.9	20.1	12.9	53.9
Estonia	0.1	46.5	49.4	1.5	97.4	0.2	37.1	55.7	0.4	93.2
Finland	0.9	18.5	43.6	9.5	71.7	0.9	14.4	49.2	8.7	72.3
France	0.9	24.8	30.3	12.3	67.4	1.0	26.2	36.6	9.8	72.6
Germany	0.7	37.3	33.4	8.7	79.4	1.0	37.7	35.0	10.7	83.4
Greece	0.2	9.7	34.3	34.8	78.8	0.2	4.5	7.6	46.2	58.3
Iceland	0.0	79.8	20.2	0.0	100.0	...	...	...	...	...
Ireland	0.6	19.0	40.8	6.0	65.8	0.9	23.4	39.3	5.8	68.4
Israel	...	...	...	...	...	...	...	...	...	...
Italy	0.5	18.2	39.8	32.8	90.8	0.4	8.6	45.3	38.7	92.7
Japan	0.2	71.2	20.5	6.8	98.5	...	...	...	...	...
Korea	0.1	19.9	40.3	24.4	84.6	...	...	...	...	...
Luxembourg	0.5	9.4	21.4	46.1	76.9	0.4	11.2	7.6	66.0	84.8
Netherlands	1.1	33.6	8.5	0.2	42.3	1.2	32.9	10.8	13.8	57.5
New Zealand	0.3	30.5	47.1	3.7	81.3	...	...	...	...	...
Norway	0.6	19.8	40.8	4.5	65.1	0.5	...	46.7	9.4	...
Portugal	0.5	27.3	37.4	23.4	88.1	0.7	15.9	57.3	16.0	89.2
Slovak Republic	0.2	47.7	2.2	7.4	57.3	0.2	33.3	5.3	13.3	52.0
Slovenia	0.2	43.9	17.2	9.6	70.7	0.3	30.3	19.7	14.2	64.2
Spain	0.7	17.2	20.9	33.8	71.9	0.8	16.9	22.4	33.2	72.5
Sweden	1.1	20.7	16.2	43.5	80.3	1.1	38.1	5.7	34.3	78.2
Switzerland	0.6	19.6	31.9	10.6	62.1	...	...	...	...	...
United Kingdom	0.3	85.0	5.0	4.0	94.0	0.3	86.8	4.8	4.2	95.8
United States	0.1	23.8	40.3	3.6	67.8	...	...	...	...	...
<b>Average</b>	<b>0.5</b>	<b>33.6</b>	<b>27.8</b>	<b>13.9</b>	<b>75.4</b>	<b>0.7</b>	<b>27.3</b>	<b>27.5</b>	<b>19.5</b>	<b>73.9</b>
<i>Advanced Europe</i>	0.6	32.5	27.2	14.3	74.0	0.7	28.2	28.6	17.1	73.3
<i>Other Advanced</i>	0.2	41.4	31.2	7.3	79.9	...	...	...	...	...

Sources: OECD, Eurostat.

Note: Shading identifies countries that are in the bottom-third of the advanced country group in terms of spending.



**Appendix Table 10. Active Labor Market Programs in Emerging Economies**

Country	Spending on Active Labor Market Programs 2007					Spending on Active Labor Market Programs 2009				
	Total (Percent of GDP)	PES and Administration (Percent of Total)	Training (Percent of Total)	Hiring Subsidy (Percent of Total)	Sum (Percent of Total)	Total (Percent of GDP)	PES and Administration (Percent of Total)	Training (Percent of Total)	Hiring Subsidy (Percent of Total)	Sum (Percent of Total)
Argentina	...	...	...	...	...	...	...	...	...	...
Brazil	...	...	...	...	...	...	...	...	...	...
Bulgaria	0.3	15.1	11.5	12.1	38.8	0.3	16.4	5.2	13.4	35.1
Chile	...	...	...	...	...	...	...	...	...	...
China	...	...	...	...	...	...	...	...	...	...
Colombia	...	...	...	...	...	...	...	...	...	...
Egypt	...	...	...	...	...	...	...	...	...	...
Hungary	0.3	26.8	18.7	38.9	84.4	0.4	19.7	11.0	15.5	46.2
India	...	...	...	...	...	...	...	...	...	...
Indonesia	...	...	...	...	...	...	...	...	...	...
Jordan	...	...	...	...	...	...	...	...	...	...
Kazakhstan	...	...	...	...	...	...	...	...	...	...
Kenya	...	...	...	...	...	...	...	...	...	...
Latvia	0.2	37.0	27.7	23.1	87.9	0.3	13.9	46.8	11.1	71.8
Lithuania	0.3	27.6	30.8	32.4	90.8	0.3	33.4	28.1	28.4	90.0
Malaysia	...	...	...	...	...	...	...	...	...	...
Mexico	...	...	...	...	...	...	...	...	...	...
Morocco	...	...	...	...	...	...	...	...	...	...
Nigeria	...	...	...	...	...	...	...	...	...	...
Pakistan	...	...	...	...	...	...	...	...	...	...
Peru	...	...	...	...	...	...	...	...	...	...
Philippines	...	...	...	...	...	...	...	...	...	...
Poland	0.5	19.1	20.2	14.1	53.4	0.6	15.7	6.3	26.0	48.0
Romania	0.1	32.7	8.8	37.2	78.8	0.1	43.8	5.5	41.1	90.4
Russia	...	...	...	...	...	...	...	...	...	...
Saudi Arabia	...	...	...	...	...	...	...	...	...	...
South Africa	...	...	...	...	...	...	...	...	...	...
Thailand	...	...	...	...	...	...	...	...	...	...
Turkey	0.0	0.0	56.1	0.0	56.1	...	...	...	...	...
Ukraine	...	...	...	...	...	...	...	...	...	...
<b>Average</b>	<b>0.3</b>	<b>22.6</b>	<b>24.8</b>	<b>22.6</b>	<b>70.0</b>	<b>0.3</b>	<b>23.8</b>	<b>17.1</b>	<b>22.6</b>	<b>63.6</b>
<i>Emerging Europe</i>	0.3	22.6	24.8	22.6	70.0	0.3	23.8	17.1	22.6	63.6
<i>Other Emerging</i>	...	...	...	...	...	...	...	...	...	...

Sources: OECD, Eurostat.

Note: Note: Shading identifies countries that are in the bottom-third of the emerging country group in terms of spending.

**Appendix Table 11. Disability Benefits: Participation and Benefit Levels in Advanced Economies**

Country	Spending 2009 <sup>1</sup> (Percent of GDP)	Participation Rate (Percent)	OECD Indicators (0-5)							Employment Measures <sup>3</sup>
			Generosity <sup>2</sup>	Permanence <sup>2</sup>	Benefit System Coverage <sup>2</sup>	Minimum Disability for Benefit <sup>2</sup>	Disability Level for Full Benefit <sup>2</sup>	Medical Assessment Rules <sup>2</sup>	Vocational Assessment Rules <sup>2</sup>	
Australia	2.4	5.4	1.0	2.0	4.0	1.0	2.0	3.0	1.0	28.0
Austria	2.3	4.6	2.0	1.0	2.0	3.0	4.0	1.0	4.0	30.0
Belgium	2.0	6.0	1.0	4.0	3.0	2.0	3.0	2.0	4.0	24.0
Canada	0.5	4.3	1.0	4.0	3.0	1.0	1.0	1.0	0.0	24.0
Czech Republic	1.5	7.1	3.0	0.0	1.0	4.0	3.0	2.0	1.0	21.0
Denmark	4.9	7.2	3.0	4.0	5.0	2.0	1.0	4.0	2.0	37.0
Estonia	1.9	...	...	...	...	...	...	...	...	...
Finland	3.6	8.5	3.0	2.0	5.0	4.0	4.0	3.0	2.0	32.0
France	1.9	4.9	3.0	1.0	3.0	2.0	1.0	2.0	4.0	26.0
Germany	2.4	4.4	2.0	1.0	3.0	5.0	3.0	3.0	2.0	35.0
Greece	1.3	4.6	5.0	2.0	3.0	3.0	2.0	1.0	3.0	16.0
Iceland	3.5	...	...	...	...	...	...	...	...	...
Ireland	1.3	6.3	1.0	4.0	3.0	1.0	2.0	3.0	2.0	17.0
Israel	...	...	...	...	...	...	...	...	...	...
Italy	1.7	3.3	3.0	1.0	3.0	2.0	0.0	1.0	3.0	18.0
Japan	0.5	2.0	1.0	2.0	4.0	1.0	0.0	2.0	0.0	27.0
Korea	0.3	1.5	1.0	2.0	3.0	3.0	0.0	1.0	0.0	16.0
Luxembourg	1.3	4.9	5.0	3.0	2.0	1.0	2.0	2.0	2.0	24.0
Netherlands	2.5	8.3	3.0	2.0	4.0	4.0	2.0	1.0	0.0	35.0
New Zealand	1.2	3.8	1.0	2.0	5.0	1.0	2.0	3.0	1.0	21.0
Norway	4.4	10.3	4.0	2.0	5.0	3.0	2.0	4.0	2.0	37.0
Portugal	2.2	4.7	5.0	4.0	3.0	2.0	3.0	1.0	4.0	16.0
Slovak Republic	1.7	6.3	2.0	4.0	1.0	4.0	3.0	2.0	1.0	21.0
Slovenia	1.7	...	...	...	...	...	...	...	...	...
Spain	1.7	3.8	4.0	5.0	3.0	4.0	1.0	0.0	3.0	22.0
Sweden	4.5	10.8	5.0	4.0	5.0	5.0	1.0	3.0	1.0	32.0
Switzerland	2.9	5.4	3.0	4.0	5.0	4.0	3.0	3.0	2.0	27.0
United Kingdom	3.0	7.0	1.0	2.0	3.0	1.0	2.0	3.0	1.0	32.0
United States	1.7	5.9	3.0	2.0	3.0	0.0	1.0	4.0	0.0	21.0
<b>Average</b>	<b>2.2</b>	<b>5.6</b>	<b>2.6</b>	<b>2.6</b>	<b>3.4</b>	<b>2.5</b>	<b>1.9</b>	<b>2.2</b>	<b>1.8</b>	<b>25.6</b>
<i>Advanced Europe</i>	2.5	6.3	2.9	2.6	3.3	3.1	2.2	2.2	2.3	26.6
<i>Other Advanced</i>	1.1	3.8	1.3	2.3	3.7	1.2	1.0	2.3	0.3	22.8

Sources: OECD, Eurostat, ILO and, staff estimates based on Social Security Programs Throughout the World.

Notes: Shading identifies countries that are in the top-third of the advanced country group in terms of spending, participation, and generosity of benefits.

<sup>1</sup>2007 Spending values for the following list of countries: Australia, Canada, Japan, Korea, New Zealand, Switzerland, and the United States, Pakistan, Peru, Turkey, and Ukraine.

<sup>2</sup>A higher score means greater system generosity, with 5 being the score for maximum generosity.

<sup>3</sup>Employment measures refer to the sum of the 10 indicators on integration policy dimension in Table 3.A2.1 of the OECD publication, "Sickness, Disability and Work: Breaking the Barriers, Chapter 3: The Direction of Recent Disability Policy Reforms" [http://www.oecd-ilibrary.org/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers\\_9789264088856-en](http://www.oecd-ilibrary.org/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers_9789264088856-en).

The scale goes from 0 to 50, with 50 indicating the most employment-friendly system.

**Appendix Table 12. Pension Retirement Ages and Actuarial Adjustments in Advanced Economies**

Country	Scheme	Early Age	Reduction (Percent)	Normal Age	Increase (Percent)	Pensionable Age 2010		Pensionable Age 2030		Pensionable Age 2050	
						Male	Female	Male	Female	Male	Female
Australia	T	n.a.		67	0.6-3.6	65	62	66	66	67	67
Austria	DB	62M/60F	4.2	65	4.2	65	60	65	63	65	65
Belgium	DB	60	0.0	65	0.0	60	60	60	60	60	60
Canada	DB	60	7.2	65	8.4	65	65	65	65	65	65
Czech Republic	DB	60M/59-60F	5.3/8.9	65M/62-65F	8.9	61	59	64	63	65	65
Denmark	Basic/T	n.a.		67	5.6	65	65	67	67	67	67
Estonia	Points	60	4.8	63	10.8	63	61	65	65	65	65
Finland	T	62	4.8	65	7.2	65	65	65	65	65	65
	DB	62	7.2/0.0	65	0.0/4.8	65	65	65	65	65	65
France	DB	56-60	0.0/5.0	65	5.0	61	61	62	62	62	62
	DB (Occ)	55	4.0-7.0	60	0.0	61	61	62	62	62	62
Germany	P	63	3.6/0.0	67	6.0	65	65	65	65	65	65
Greece	DB	Any age/55/60	0.0/6.0	65	0.0	57	57	60	60	60	60
Iceland	DB (Occ)	62	7.0	67	6.0	67	67	67	67	67	67
Ireland	Basic/T	n.a.		66/65	n.a.	65	65	68	68	68	68
Israel						67	62	67	64	67	64
Italy	NDC	Any age/61	2.3-2.9	65M/60F	0.0/2.6-2.9	59	59	66	66	68	68
Japan	Basic/DB	60	6.0	65	8.4	64	62	65	65	65	65
Korea	DB	60	6.0	65	6.0	60	60	62	62	65	65
Luxembourg	DB	57/60	0.0	65	n.a.	60	60	60	60	60	60
Netherlands	Basic	n.a.		65	n.a.	65	65	65	65	65	65
New Zealand	Basic	n.a.		65	n.a.	65	65	65	65	65	65
Norway	DB	62	3.8-4.7	67	4.9-5.4	67	67	67	67	67	67
Portugal	DB	55	4.0-6.0	65	4.0-12.0	65	65	65	65	65	65
Slovakia	P	60	6.5	62	6.5	62	57	62	62	62	62
Slovenia	DB	58	1.2-3.6	63	0.0	63	61	63	61	63	61
Spain	DB	61	6.0-7.5	65	2.0-3.0	65	65	67	67	67	67
Sweden	NDC	61	4.1-4.7	65	4.9-6.1	65	65	65	65	65	65
Switzerland	DB	63M/62F	4.5	65M/64F	5.2-6.5	65	63	65	64	65	64
	DB (Occ)	60M/59F	2.9	65/64	2.9	65	63	65	64	65	64
United Kingdom	Basic/DB	n.a.		68	10.4	65	60	66	66	68	68
United States	DB	62	5.0-6.7	67	8.0	66	66	67	67	67	67

Sources: OECD and SSA.

Note: DB=defined benefit, NDC=notional defined contribution, DC=defined contribution, T=tax, Occ=occupational, M=male, and F=female. Shading identifies the one third of advanced countries with lowest retirement ages.

**Appendix Table 13. Pension Retirement Ages and Actuarial Adjustments in Emerging Economies**

Country	Scheme	Early Age	Reduction (Percent)	Normal Age	Increase (Percent)	Pensionable Age		Pensionable Age		Pensionable Age	
						2010		2030		2050	
						Male	Female	Male	Female	Male	Female
Argentina	DB	n.a.		65M/60F	n.a.	65	60	65	60	65	60
Brazil	DB	53M/48F		65M/60F	0.0	65	60	65	60	65	60
Bulgaria	Points	n.a.		63M/60F	1.1	63	60	63	60	63	60
Chile	Basic/T	n.a.		65		65	60	65	60	65	60
China	NDC/DC	55M/50F		60M/50-55F	0.0	60	60	60	60	60	60
Colombia						60	55	62	57	62	57
Egypt						60	60	60	60	60	60
Hungary	DB	63	3.6/4.8	65	6.0	60	59	65	65	65	65
India	DB+DC	50	3.0	58/55	-	55	55	55	55	55	55
Indonesia	DC	Any age		55	-	55	55	55	55	55	55
Jordan						60	55	60	55	60	55
Kazakhstan						63	58	63	58	63	58
Kenya						60	60	60	60	60	60
Latvia	NDC	60		62		62	62	62	62	62	62
Lithuania	DB	57.5M/55F	4.8	62.5M/60F	8.0	63	60	63	60	63	60
Malaysia	DC	55	-	55	-	55	55	55	55	55	55
Mexico	Min	Any age/60	0.0	65	0.0	65	65	65	65	65	65
Morocco						60	60	60	60	60	60
Nigeria						50	50	50	50	50	50
Pakistan	DB	55M/50F	6.0	60M/66F	-	60	55	60	55	60	55
Peru						60	60	65	65	65	65
Philippines	DB	n.a.		60	-	60	60	60	60	60	60
Poland	NDC	n.a.		65M/60F	.3-4.8M/3.7-4.2	65	60	65	60	65	60
Romania	Points	58.8M/53.8F		63.8M/58.8F		64	59	65	60	65	60
Russia	NDC	n.a.		60M/55F		60	55	60	55	60	55
Saudi Arabia	DB	Any age		60M/55F	-	60	55	60	55	60	55
South Africa	Basic	n.a.		60	-	61	60	60	60	60	60
Thailand	DB	n.a.		55	1.5	55	55	55	55	55	55
Turkey	DB	n.a.		65	0.0	60	58	60	58	60	58
Ukraine	DB	n.a.		60M/55F	3.0	60	55	60	60	60	60

Sources: OECD and SSA.

Note: DB=defined benefit, NDC=notional defined contribution, DC=defined contribution, T=tax, Occ=occupational, M=male, and F=female.

Shading identifies the one third of advanced countries with lowest retirement ages.

### Appendix Table 14. Family Benefits in Advanced Economies

Country	Total Family Benefits Spending in 2009 <sup>1</sup> (Percent of GDP)	Parental Benefits 2007/08					Parental Benefits 2010/11			Child Benefits 2007/08				Child Benefits 2010/11		Total Childcare Benefits Spending in 2007 (Percent of GDP)
		Total Spending in 2007 (Percent of GDP)	Minimum Contribution Maternity (Weeks)	Total Duration (Weeks)	Paid Leave (Weeks)	Full-Rate Equivalent (Weeks)	Minimum Contribution Maternity (Weeks)	Paid Leave (Weeks)	Duration if Student (Years)	Duration Non Student (Years)	Means Tested (=1)	Average Benefit (Percent Average Wage)	Total Spending in 2007 (Percent GDP)	Duration of Student (Years)	Duration Non Student (Years)	
Australia	2.9	0.1	0.0	58.0	18.0	8.0	0.0	18.0	24.0	21.0	1.0	0.1	2.8	24.0	21.0	0.4
Austria	3.1	0.1	0.0	120.0	120.0	35.3	0.0	120.0	26.0	18.0	0.0	0.0	2.6	26.0	18.0	0.3
Belgium	2.2	0.2	26.0	28.0	28.0	14.4	26.0	28.0	25.0	18.0	0.0	0.0	3.1	25.0	18.0	0.8
Canada	1.6	0.2	15.0	52.0	50.0	27.5	15.0	50.0	18.0	18.0	1.0	0.1	1.4	18.0	18.0	0.2
Czech Republic	1.4	1.0	39.0	162.0	162.0	63.4	39.0	162.0	26.0	26.0	1.0	0.0	2.5	26.0	26.0	0.4
Denmark	4.2	0.5	2.0	64.0	54.0	32.3	2.0	54.0	18.0	18.0	0.0	0.0	3.3	18.0	18.0	1.3
Estonia	2.3	0.8	0.0	156.0	156.0	85.4	0.0	156.0	19.0	16.0	0.0	0.0	1.7	19.0	16.0	0.3
Finland	3.3	0.6	0.0	162.0	161.5	35.7	0.0	161.5	17.0	17.0	0.0	0.0	2.8	17.0	17.0	0.9
France	2.6	0.3	43.0	162.0	162.0	43.8	43.0	162.0	20.0	20.0	1.0	0.0	3.7	20.0	20.0	1.0
Germany	3.2	0.2	0.0	162.0	74.0	54.6	0.0	74.0	25.0	18.0	0.0	0.1	2.7	25.0	18.0	0.4
Greece	1.8	0.1	30.0	73.0	43.0	25.4	29.0	43.0	22.0	18.0	0.0	0.0	1.1	22.0	18.0	0.1
Iceland	3.2	0.6	26.0	39.0	31.0	20.8	26.0	31.0	18.0	18.0	1.0	0.6	2.9	18.0	18.0	0.9
Ireland	3.7	0.1	39.0	56.0	26.0	6.6	39.0	26.0	18.0	16.0	0.0	0.0	2.7	18.0	16.0	0.3
Israel	2.2	0.2	43.0	26.0	26.0	14.0	43.0	26.0	18.0	18.0	0.0	0.0	2.0	18.0	18.0	0.7
Italy	1.4	0.2	0.0	46.0	46.0	23.8	0.0	46.0	21.0	18.0	1.0	0.1	1.4	21.0	18.0	0.6
Japan	1.4	0.1	0.0	58.0	58.0	39.6	0.0	58.0	12.0	12.0	0.0	0.0	1.3	12.0	12.0	0.3
Korea	0.7	0.0	0.0	59.0	59.0	22.5	0.0	59.0	...	...	...	...	0.7	...	...	0.3
Luxembourg	4.0	0.4	26.0	42.0	42.0	28.1	26.0	42.0	27.0	18.0	0.0	0.1	3.1	27.0	18.0	0.4
Netherlands	1.3	0.0	0.0	42.0	42.0	21.3	0.0	42.0	17.0	16.0	0.0	0.1	2.8	17.0	16.0	0.7
New Zealand	3.1	0.1	104.0	52.0	14.0	10.0	104.0	14.0	18.0	17.0	1.0	0.2	3.1	18.0	17.0	0.8
Norway	3.2	0.6	26.0	100.0	100.0	38.8	26.0	100.0	18.0	18.0	0.0	...	2.9	18.0	18.0	1.0
Portugal	1.5	0.2	26.0	30.0	30.0	17.0	26.0	30.0	24.0	16.0	1.0	0.0	1.3	24.0	16.0	0.4
Slovak Republic	1.7	0.5	39.0	164.0	164.0	46.1	39.0	164.0	25.0	16.0	0.0	0.0	2.2	25.0	16.0	0.4
Slovenia	2.1	0.5	0.0	52.0	52.0	52.0	0.0	52.0	26.0	18.0	1.0	0.1	1.8	26.0	18.0	0.5
Spain	1.5	0.2	26.0	160.0	16.0	16.0	26.0	16.0	18.0	18.0	1.0	0.0	1.5	18.0	18.0	0.5
Sweden	3.2	0.7	35.0	60.0	60.0	37.7	34.0	60.0	20.0	16.0	0.0	0.0	3.4	20.0	16.0	1.1
Switzerland	1.4	0.0	39.0	14.0	14.0	11.2	39.0	14.0	20.0	16.0	0.0	0.0	1.4	20.0	16.0	0.2
United Kingdom	1.8	0.4	26.0	65.0	39.0	12.8	26.0	39.0	19.0	16.0	0.0	0.0	3.6	19.0	16.0	1.1
United States	1.2	0.0	0.0	12.0	0.0	0.0	0.0	0.0	...	...	1.0	...	1.2	...	...	0.4
<b>Average</b>	<b>2.3</b>	<b>0.3</b>	<b>21.0</b>	<b>78.5</b>	<b>63.7</b>	<b>29.1</b>	<b>21.0</b>	<b>63.7</b>	<b>20.7</b>	<b>17.6</b>	<b>0.4</b>	<b>0.1</b>	<b>2.3</b>	<b>20.7</b>	<b>17.6</b>	<b>0.6</b>
<i>Advanced Europe</i>	2.4	0.4	20.1	91.3	75.3	33.1	20.0	75.3	21.0	17.7	0.3	0.1	2.4	21.0	17.7	0.6
<i>Other Advanced</i>	1.9	0.1	23.1	45.3	32.1	17.4	23.1	32.1	18.0	17.2	0.7	0.1	1.8	18.0	17.2	0.4

Sources: OECD, Eurostat, ILO, and staff estimates based on Social Security Programs throughout the World.

<sup>1</sup>2007 Spending values for the following list of countries: Australia, Canada, Israel, Japan, Korea, New Zealand, Switzerland, the United States, Thailand, Turkey, and Ukraine. Full-rate equivalent (FRE) is defined as: FRE = Duration of leave in weeks \* average payment (as per cent of average wage earnings) received by the claimant.

Shading indicates countries in the top-third of the advanced country group in terms of benefit generosity, except for child-care benefits where it identifies those with the lowest spending.

### Appendix Table 15. Family Benefits in Emerging Economies

Country	Total Family Benefits Spending in 2009 <sup>1</sup> (Percent of GDP)	Parental Benefits 2007/08					Parental Benefits 2010/11			Child Benefits 2007/08			Child Benefits 2010/11		Total Childcare Benefits Spending in 2007 (Percent of GDP)	
		Total Spending in 2007 (Percent of GDP)	Minimum Contribution Maternity (Weeks)	Total Duration (Weeks)	Paid Leave (Weeks)	Full-Rate Equivalent (Weeks)	Minimum Contribution Maternity (Weeks)	Paid Leave (Weeks)	Duration if Student (Years)	Duration Non Student (Years)	Means Tested (=1)	Average Benefit (Percent Average Wage)	Total Spending in 2007 (Percent GDP)	Duration of Student (Years)		Duration Non Student (Years)
Argentina	0.6	...	13.0	...	13.0	...	13.0	13.0	18.0	18.0	1.0	...	...	18.0	18.0	...
Brazil	0.6	...	0.0	...	17.0	...	0.0	17.0	14.0	14.0	1.0	...	...	14.0	14.0	...
Bulgaria	2.0	...	27.0	...	19.0	...	52.0	59.0	20.0	n.a.	1.0	...	...	20.0	n.a.	0.8
Chile	1.0	0.2	26.0	18.0	18.0	18.0	26.0	18.0	24.0	18.0	1.0	0.0	0.8	24.0	18.0	0.4
China	0.1	...	0.0	...	13.0	...	0.0	13.0	...	...	1.0	...	...	...	...	...
Colombia	...	...	39.0	...	12.0	...	39.0	12.0	23.0	18.0	1.0	...	...	23.0	18.0	...
Egypt	...	...	43.0	...	13.0	...	43.0	13.0	...	...	...	...	...	...	...	...
Hungary	3.0	0.7	26.0	160.0	160.0	76.1	26.0	160.0	23.0	16.0	0.0	0.1	3.3	23.0	16.0	0.6
India	0.1	...	10.0	...	12.0	...	10.0	12.0	...	...	...	...	...	...	...	...
Indonesia	...	...	n.a.	...	n.a.	...	n.a.	n.a.	...	...	...	...	...	...	...	...
Jordan	0.0	...	n.a.	...	n.a.	...	39.0	10.0	...	...	...	...	...	...	...	...
Kazakhstan	0.3	...	0.0	...	52.0	...	0.0	52.0	...	...	1.0	...	...	...	...	...
Kenya	...	...	n.a.	...	n.a.	...	n.a.	n.a.	...	...	...	...	...	...	...	...
Latvia	1.7	...	0.0	...	16.0	...	0.0	16.0	20.0	15.0	0.0	...	...	19.0	15.0	0.6
Lithuania	2.8	...	13.0	...	18.0	...	13.0	18.0	24.0	18.0	1.0	...	...	24.0	18.0	0.6
Malaysia	0.2	...	n.a.	...	n.a.	...	n.a.	n.a.	...	...	...	...	...	...	...	...
Mexico	1.0	0.0	30.0	12.0	12.0	12.0	30.0	12.0	...	...	1.0	...	1.0	...	...	0.6
Morocco	...	...	8.0	...	14.0	...	8.0	14.0	18.0	12.0	0.0	...	...	21.0	12.0	...
Nigeria	...	...	n.a.	...	n.a.	...	n.a.	n.a.	...	...	...	...	...	...	...	...
Pakistan	0.0	...	26.0	...	12.0	...	26.0	12.0	...	...	...	...	...	...	...	...
Peru	...	...	0.0	...	13.0	...	13.0	13.0	...	...	...	...	...	...	...	...
Philippines	0.0	...	13.0	...	9.0	...	13.0	9.0	...	...	...	...	...	...	...	...
Poland	0.8	0.3	4.0	174.0	174.0	39.1	4.0	174.0	21.0	18.0	1.0	0.1	1.6	21.0	18.0	0.3
Romania	1.7	...	4.0	...	17.0	...	4.0	18.0	no limit	18.0	0.0	...	...	no limit	18.0	0.8
Russia	...	...	0.0	...	20.0	...	0.0	20.0	18.0	16.0	1.0	...	...	18.0	16.0	...
Saudi Arabia	...	...	n.a.	...	n.a.	...	n.a.	n.a.	...	...	...	...	...	...	...	...
South Africa	1.3	...	13.0	...	17.0	...	13.0	17.0	15.0	15.0	1.0	...	...	15.0	15.0	...
Thailand	0.2	...	30.0	...	13.0	...	30.0	13.0	6.0	6.0	0.0	...	...	6.0	6.0	...
Turkey	0.0	0.0	17.0	42.0	16.0	11.2	17.0	16.0	...	...	...	...	...	...	...	...
Ukraine	1.1	...	0.0	...	18.0	...	0.0	18.0	18.0	16.0	1.0	...	...	23.0	18.0	...
<b>Average</b>	<b>0.9</b>	<b>0.2</b>	<b>14.3</b>	<b>81.2</b>	<b>29.1</b>	<b>31.3</b>	<b>16.8</b>	<b>30.0</b>	<b>18.7</b>	<b>15.6</b>	<b>0.7</b>	<b>0.0</b>	<b>1.7</b>	<b>19.2</b>	<b>15.7</b>	<b>0.6</b>
<i>Emerging Europe</i>	1.6	0.3	10.1	125.3	50.9	42.1	12.9	55.4	20.6	16.7	0.6	0.1	2.5	21.1	17.0	0.6
<i>Other Emerging</i>	0.4	0.1	16.7	15.0	16.0	15.0	18.9	15.6	16.9	14.4	0.8	0.0	0.9	17.3	14.4	0.5

Sources: OECD, Eurostat, ILO, and staff estimates based on Social Security Programs throughout the World.

<sup>1</sup>2007 Spending values for the following list of countries: Australia, Canada, Israel, Japan, Korea, New Zealand, Switzerland, the United States, Thailand, Turkey, and Ukraine.

Full-rate equivalent (FRE) is defined as: FRE = Duration of leave in weeks \* average payment (as per cent of average wage earnings) received by the claimant.

Shading indicates countries in the top-third of the emerging country group in terms of benefit generosity, except for child-care benefits where it identifies those with the lowest spending.

### **Appendix 3. Regulation, Labor Market Institutions, and Employment**

This appendix provides a brief review of evidence on the impact of labor-market regulations and labor-market institutions on employment. There is a wealth of literature on each of these effects, much with ambiguous results.

#### **Minimum wage legislation**

An official minimum wage exists in 21 OECD countries. Levels vary from around 25 percent of the average wage in Korea and Mexico to almost 50 percent of the average wage in Australia, France and New Zealand. By rationing labor demand for low-paid workers, minimum wages are expected to reduce employment, although this result has been challenged by some imperfect labor market models. Empirical studies generally support the negative elasticity of employment to the minimum wage, although there is little consensus regarding the size of the effect (Neumark and Wascher, 2011). As expected, studies report mostly significant effects for low-paid employment, increasing as the minimum wage increases.

#### **Employment protection legislation**

This refers to procedural rules related to dismissal, severance pay, the length of notice periods, and contract rights for temporary workers. In theory, employment protection increases the cost of firing, leading to lower unemployment inflows. At the same time, it makes hiring more costly, thus reducing job creation. The net impact on employment and unemployment is therefore ambiguous. Cross-country panel regressions based on the OECD indicator for the stringency of employment protection reveal this ambiguity and report widely varying results. A more robust finding is that flows in and out of employment fall with the strictness of employment protection so that it leads to longer unemployment duration (Young, 2003; OECD, 2004). Moreover, employment protection reduces the job-finding rates and employment levels of youth, immigrants and women (Martin and Scarpetta, 2011) and typically favors insiders in the labor market, such as prime-aged and older males.

#### **Flexible contracts**

Temporary work contracts can be used to circumvent strict employment protection rules. Jaumotte (2011) reports evidence that employment protection raises the share of temporary work contracts in OECD countries. Temporary contracts make the labor market more flexible, yet tend to be positively correlated with unemployment (Blanchard and Landire, 2002). A dual labor market with strictly protected jobs and flexible temporary contracts might thus be inefficient from the perspective of aggregate labor-market performance. Garibaldi and Mauro (2002) find that flexible contracts do not affect the overall level of employment, but rather change the mix of temporary and permanent contracts.

### **Product-market regulation**

Entry barriers can reduce competition and the level of economic activity, thus also reducing labor demand. The OECD has constructed an indicator that measures anti-competitive regulations in product markets, applying to seven non-manufacturing industries, mostly utilities and transportation. This indicator is typically positively correlated with unemployment in cross-country panel regressions (OECD, 2006).

### **Labor unions**

Labor unions may raise wages by exploiting the monopsony power of workers in negotiations with employers. Thus, strong unions are expected to raise unemployment. However, this relationship may depend on the degree of centralization (or coordination) of wage bargaining. Calmfors and Driffill (1988) argue, for instance, that full decentralization and full centralization lead to lower unemployment rates, compared with an intermediate level of coordination. Under decentralization the bargaining power of unions is weak, making imperfections associated with monopsony power unimportant. Under full centralization, unions internalize external effects of their choices (e.g., when bidding for high wages and thus creating unemployment), which is not the case with decentralized bargaining. Empirical evidence is, however, inconclusive (Flanagan, 1999). In fact, indicators of trade union coordination are generally associated with lower unemployment, implying that more centralized systems of wage bargaining yield better unemployment outcomes. Cross-country studies generally report only weak evidence on the impact of trade union density or coverage on structural unemployment.

### **Housing**

Lack of mobility may cause persistent regional disparities in unemployment and a larger mismatch between labor supply and demand, leading to higher aggregate unemployment (Blanchard and Katz, 1992). Oswald (1999) states that one important factor for the lack of regional mobility is homeownership and that housing tenure leads to inferior labor market outcomes and higher unemployment. Empirical evidence, however, does not generally support this (see, e.g., Battu and others, 2008). Still, transaction costs in the housing market, including those due to property transfer taxes, reduce acceptance rate of job offers by the unemployed and increase unemployment duration. Hence, lowering property transaction taxes may help to reduce structural unemployment (Van Ewijk and Van Leuvensteijn, 2009).



#### Appendix 4. Micro Estimates on Labor Supply Elasticities

Three elasticities of labor supply measure different effects of a change in the wage rate:<sup>13</sup>

- The income elasticity is negative and measures the reduction in labor supply as income increases. Econometric studies find small values, between  $-0.1$  and  $-0.3$ .
- The compensated (or Hicksian) elasticity measures the pure substitution effect, keeping income constant as wages increase. The elasticity is unambiguously positive since a higher wage increases the price of leisure relative to consumption.
- The uncompensated (or Marshallian) elasticity measures the change in labor supply in response to a change in the after-tax wage. It is the net impact of income and substitution effects and thus theoretically ambiguous. This elasticity is the prime interest in this appendix. Unless otherwise indicated, reference is to this elasticity.

The empirical literature on labor supply elasticities is large. Recent reviews are provided by Evers and others (2008), Meghir and Phillips (2010), Bargain and others (2011), Slemrod and others (2011), Chetty and others (2011) and Keane (2011). Studies generally find larger responses at the extensive margin of labor supply (the choice between participation and non-participation), than at the intensive margin (the choice in the number of hours worked). This has important implications for the responsiveness of different groups in the labor market:

- **Married men** are generally found to be unresponsive to tax. Most estimates in the literature find labor supply elasticities between 0 and 0.1. Hence, a 10 percent higher net wage increases male labor supply by a maximum of 1 percent.
- **Low-skilled men** typically exhibit relatively low employment rates so that the extensive (participation) margin is important. Empirical studies usually find larger elasticities for the low skilled.
- **Older workers** often have the option of (early) retirement, so the participation margin is also important for this group. Recent evidence indicates that older workers are more responsive to after-tax wage rates than younger workers (French and Jones 2011).
- **Married women** have a more elastic labor supply than men. Studies generally suggest an elasticity of labor supply between 0.5 and 1.0. The variation in estimates is large, however, and more recent studies report smaller elasticities. Participation elasticities for females are generally larger than hours elasticities.

---

<sup>13</sup>Another is the intertemporal (or Frish) elasticity, which measures the intertemporal substitution of labor supply due to wage fluctuations.

- **Single persons** generally have labor supply elasticities that are between those for married men and married women. The results are often not very different between men and women, suggesting that what matters is family circumstance rather than gender.
- **Single mothers.** The use of targeted tax credits in the United States and the United Kingdom has been used to estimate the labor supply response of single mothers. There is a strong consensus that the participation elasticity for this group is among the highest, often exceeding 1.

## Appendix 5. Data Definitions

***Labor force participation rate*** is defined as the percentage of working age population, aged 15 to 64, either employed or unemployed, actively seeking work, and able to start work. Data are compiled using OECD data for OECD countries. For non-OECD countries, ILO Key Indicators of the Labor Market and the Eurostat Labor Force Survey are used.

***Unemployment rate*** is defined as the percentage of the labor force not employed and actively seeking new work for a country-specific period. Data are compiled using OECD data for OECD countries. For non-OECD countries, ILO Key Indicators of the Labor Market and Eurostat Labor Force Survey are used. In international comparisons in 2010 and 2011, data are obtained from the IMF World Economic Outlook.

***Employment rate*** is defined as the percentage of working age population registered as employed. These data are drawn from the OECD Labor Force Statistics for OECD countries. Eurostat Labor Force Survey data are supplemented for those countries in the European Union. Employment data for all other countries are drawn from the ILO.

***Long-term unemployment*** is defined as the percentage of unemployment that persists for at least one year prior to when the data are collected. These data are drawn from the OECD for OECD countries. For European Union countries not member of the OECD, data are obtained from Eurostat.

***Average annual hours*** worked are the hours worked per worker, including part-time and full time employees for an entire work year. These data are gathered by OECD Labor Force Statistics.

***Part-time employment*** is the percentage of those employed who work less than 20 hours per week on average. Data are from the OECD Labor Force Statistics.

***Labor tax wedge*** is the sum of personal income tax and employee plus employer social security contributions together with any payroll tax less cash transfers, expressed as a percentage of total labor costs. These data are from the OECD Taxing Wages Database. For non-OECD countries, they are obtained from the World Bank.

***Income taxes as share of GDP*** are taxes on income, profits, and capital gains generally levied on: (i) compensation for labor services; (ii) interest, dividends, rent, and royalty incomes; (iii) capital gains and losses; (iv) profits of corporations and partnerships; (v) taxable portions of social security, retirement account distributions, and life insurance; and (vi) miscellaneous other income items.

***Individual income taxes as a share of GDP*** are income taxes paid by individuals, not including social security contributions. These data are from the IMF Tax Revenue Database.

***Corporate income taxes as a share of GDP*** are income taxes paid by corporations, not including employer social security contributions. These data are from the IMF Tax Revenue Database.

***Value added taxes as a share of GDP*** are tax revenues ultimately paid by a consumer for the value added to a product or service at each stage of its manufacture or distribution. These data are from the IMF Tax Revenue Database.

***Social contributions as a share of GDP*** include social security contributions from employers, employees, self-employed, and all unallocable sources. These data are from the IMF Tax Revenue Database.

***Personal income tax rate*** is the top rate charged by the federal government on a person's total income. These rates are taken from International Bureau of Fiscal Documentation (IBFD).

***Social security contribution rates*** are rates at which amounts are gathered by governments from income to cover social expenses like public health insurance and retirement. These rates are taken from IBFD.

## References

- Alesina, A., E. Glaeser and B. Sacerdote, 2006, “Work and Leisure in the U.S. and Europe: Why So Different,” *NBER Macroeconomic Annual 2005*, Vol. 20, pp. 1–64.
- Almeida, R., J. Arbelaez, M. Honorati, A. Kuddo, T. Lohmann, M. Ovadiya, L. Pop, M.L.S. Puerta, and M. Weber, 2012, “Improving Access to Jobs and Earnings Opportunities: The Role of Activation and Graduation Policies in Developing Countries,” Social Protection Discussion Paper No. 1204 (Washington: World Bank).
- Andersen, T. M., and M. Svarer, 2007, “Flexicurity—Labour Market Performance in Denmark,” *CESifo Economic Studies*, Vol. 53, No. 3, pp. 389–429.
- Anderson, P. M., and B. D. Meyer, 1994, “The Effects of Unemployment Insurance Taxes and Benefits on Layoffs Using Firm and Individual Data,” NBER Working Paper No. 4960 (Cambridge: National Bureau of Economic Research).
- , 2000, “The Effects of the Unemployment Insurance Payroll Tax on Wages, Employment, Claims, and Denials,” *Journal of Public Economics*, Vol. 78, No. 1–2, pp. 81–106.
- Arnold, J., 2008, “Do Tax Structures Affect Aggregate Economic Growth? Empirical Evidence from a Panel of OECD Countries,” OECD Economics Department Working Paper No. 643 (Paris: Organization for Economic Cooperation and Development).
- Auerbach A. J., and L. J. Kotlikoff, 1987, *Dynamic Fiscal Policy* (Cambridge: Cambridge University Press).
- Ayyagari, M., A. Demirguc-Kunt, and V. Maksimovic, 2011, “Small vs. Young Firms Across the World: Contribution to Employment, Job Creation, and Growth, Policy Research,” Working Paper No. 5631. (Washington: World Bank).
- Baicker, K., C. Goldin, and L. F. Katz, 1997, “A Distinctive System: Origins and Impact of U.S. Unemployment Compensation,” NBER Working Paper No. 5889 (Cambridge: National Bureau of Economic Research).
- Ball, L., N. De Roux, and M. Hofstetter, 2011, “Unemployment in Latin America and the Caribbean,” IMF Working Paper 11/252 (Washington: International Monetary Fund).
- Bargain, O., K. Orsini, and A. Peichl, 2011, “Labor Supply Elasticities in Europe and the US,” IZA Discussion Paper Series No. 5820 (Bonn: Institute for the Study of Labor).

- Bassanini, A., and R. Duval, 2006, "Employment Patterns In OECD Countries: Reassessing the Role of Policies and Institutions," OECD Social, Employment and Migration Working Papers No. 35 (Paris: Organization for Economic Cooperation and Development).
- Battu, H., A. Ma, and E. Phimister 2008, "Housing Tenure, Job Mobility, and Unemployment in the UK," *Economic Journal*, 118, pp. 311–28.
- Bernal-Verdugo, E., D. Furceri, and D. Guillaume, 2012, "Crises, Labor Market Policy, and Unemployment," IMF Working Paper 12/65 (Washington: International Monetary Fund).
- , 2012b, "Labor Market Flexibility and Unemployment: New Empirical Evidence of Static and Dynamic Effects," IMF Working Paper 12/64 (Washington: International Monetary Fund).
- Blanchard, O. J., 1997, "The Medium Run," *Brookings Papers on Economic Activity*, Vol. 2, pp. 89–158.
- , 2004, "The Economic Future of Europe," *Journal of Economic Perspectives*, Vol. 18., No. 4, pp. 3–26.
- , and L. F. Katz, 1992, "Regional Evolutions," *Brookings Papers on Economic Activity*, Vol. 23, No. 1, pp. 1–76.
- Blanchard, O. J., and A. Landier, 2002, "The Perverse Effects of Partial Labor Market Reform: Fixed Duration Contracts in France," *Economic Journal*, Vol. 112, pp. 214–44.
- Blanchard, O. J., and J. Tirole, 2004, "Redesigning the Employment Protection System," *The Economist*, Vol. 152, No. 1, pp 1–20.
- , 2008. "The Joint Design of Unemployment Insurance and Employment Protection: A First Pass," *Journal of the European Economic Association*, Vol. 6, No. 1, pp. 45–77 (Cambridge, Massachusetts: MIT Press).
- Blanchard, O.J., and J. Wolfers, 2000, "The Role Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence," *Economic Journal*, Royal Economic Society, Vol. 110, No. 462, pp.1–33.

- Blöndal, S., and S. Scarpetta, 1997, “Early Retirement in OECD Countries: The Role of Social Security Systems,” *OECD Economic Studies*, No. 29, (Paris: Organization for Economic Cooperation and Development).
- Bovenberg, A. L., M. Hansen, and P. B. Sorensen, 2008, “Individual Savings Accounts for Social Insurance: Rationale and Alternative Designs,” *International Tax and Public Finance*, Vol. 15, No. 1, pp. 67–86.
- Brewer, M., E. Saez, and A. Shephard, 2010, “Means-Testing and Tax Rates on Earnings,” *Dimensions of Tax Design* ed. by J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Miles and J. Poterba (London: The Mirrlees Review, Institute for Fiscal Studies).
- Brown, C., J. Hamilton, and J. Medoff, 1990, *Employers Large and Small* (Cambridge: Harvard University Press).
- Cahuc, P., and S. Carcillo, 2010, “Is Short-Time Work a Good Method to Keep Unemployment Down?” *Nordic Economic Policy Review*, pp.133–69.
- Cahuc, P., and A. Zylberberg, 2004, *Labor Economics* (Cambridge: MIT Press).
- Caliendo, M., and S. Kuhn, 2011, “Start-up Subsidies for the Unemployed: Long-term Evidence and Effect Heterogeneity,” *Journal of Public Economics*, Vol. 95, No. 3, pp. 311–31.
- Calmfors L., and J. Driffill, 1988, “Bargaining Structure, Corporatism, and Macroeconomic Performance,” *Economic Policy* Vol. 3, No. 6, pp. 13–61.
- Card, D, J. Kluve, and A. Weber, 2010, “Active Labour Market Policy Evaluations: A Meta-Analysis,” *The Economic Journal*, Vol. 120 (November), pp. 452–77.
- Chetty R., A. Guren, D. Manoli, and A. Weber, 2011, “Are Micro and Macro Labor Supply Elasticities Consistent? A Review of Evidence on the Intensive and Extensive Margins,” *AER Papers and Proceedings*, pp. 1–6.
- Chirinko, R., 2002, “Corporate Taxation, Capital Formation, and the Substitution Elasticity between Labor and Capital,” *CESifo Working Paper No. 707* (Munich: CESifo).
- , and D. J. Wilson, 2010, “Job Creation Tax Credits and Job Growth: Whether, When, and Where?” *Federal Reserve Bank of San Francisco Working Paper 2010–25*.

- Dao, M. and P. Loungani, 2010, “The Human Cost of Recessions: Assessing It, Reducing It,” Staff Position Note No. 2010/17 (Washington: International Monetary Fund).
- Daveri, F., and G. Tabellini, 2000, “Unemployment, Growth and Taxation in Industrial Countries,” *Economic Policy*, No 30, pp. 49–104.
- Davis, S. J., J. Haltiwanger, and S. Schuh, 1996, *Job Creation and Destruction* (Cambridge: MIT Press).
- De Mooij, R. A., 2008, “Reinventing the Dutch Tax-Benefit System: Exploring the Frontier of the Equity-Efficiency Trade-off,” *International Tax and Public Finance*, Vol. 15, No. 1, pp. 87–103.
- , and M. Keen, 2012, “‘Fiscal Devaluation’ and Fiscal Consolidation: The VAT in Troubled Times,” IMF Working Paper No. 12/85. (Washington: International Monetary Fund).
- Diamond, P., and E. Saez, 2011, “The Case for a Progressive Tax: From Basic Research to Policy Recommendations,” CES IFO Working Paper No. 3548 (Munich: CESifo).
- Disney, R., 2004, “Are Contributions to Public Pension Programmes a Tax on Employment?” *Economic Policy*, Vol. 19, No. 39, pp. 267–311.
- Duffy, J., C. Papageorgiou, and F. Perez-Sebastian, 2004, “Capital-Skill Complementarity? Evidence from a Panel of Countries,” *Review of Economics and Statistics*, Vol. 86, pp. 327–44.
- European Central Bank, 2011, Fiscal Devaluation in Portugal: Results from Model-Based Simulations and Institutional Aspects, Unpublished manuscript (Frankfurt am Main).
- European Commission, Directorate General for Economic and Financial Affairs and Economic Policy Committee LABREF database  
[http://ec.europa.eu/economy\\_finance/db\\_indicators/labref/index\\_en.htm](http://ec.europa.eu/economy_finance/db_indicators/labref/index_en.htm).
- , 2009a *The EU’s Response to Support the Real Economy During the Crisis*, European Economy Occasional Papers 51 (Brussels).
- , 2009b, *Tackling the Recession: Employment-Related Public Initiatives in the EU Member States and Norway*, European Restructuring Monitor Report, European Foundation for the Improvement of Living and Working Conditions.



- , 2009c, *Europe in Recession: Employment Initiatives at Company and Member State Level*, Background Paper, European Foundation for the Improvement of Living and Working Conditions.
- Evers, M., R. A. de Mooij, and D. J. van Vuuren, 2008, “What Explains the Variation in Estimates of Labour Supply Elasticities?” *De Economist*, Vol. 156, No. 1, pp. 25–43.
- Fath J., and C. Fuest, 2005, “Experience Rating of Unemployment Insurances in the US: A Model for Europe?” CESifo Dice Report 2/2005 (Munich: CESifo).
- Flanagan, R. J., 1999, “Macroeconomic Performance and Collective Bargaining: An International Perspective,” *Journal of Economic Literature*, 37, No. 3, pp. 1150–75.
- Fougère, D., F. Kramarz, and T. Magnac, 2000, “Youth Employment Policies in France,” *European Economic Review* No. 44, pp. 928–42.
- French, E., and J. Jones, 2011, “Public Pensions and Labor Supply Over the Life Cycle,” *International Tax and Public Finance*, pp. 1–20.
- Garibaldi, P., and P. Mauro, 2002, “Anatomy of Employment Growth,” *Employment Growth*, pp. 69–113.
- Goldin, C., and L. F. Katz. 1998, “The Origins of Technology-Skill Complementarity,” *Quarterly Journal of Economics*, Vol. 113 (June), pp. 693–732.
- Gong, X., R. Breunig, and A. King, 2010, “How Responsive is Female Labour Supply to Child Care Costs: New Australian Estimates,” IZA Discussion Paper No. 5119 (Bonn: Institute for the Study of Labor).
- Gordon, R. J., 2011, “Controversies about Work, Leisure, and Welfare in Europe and the United States,” ed. by Edmund S. Phelps and Hans-Werner Sinn, *Perspectives on the Performance of the Continental Economies*, pp. 343–86.
- Haltiwanger, J., R.S. Jarmin, and J. Miranda, 2010, “Who Creates Jobs? Small vs. Large vs. Young,” NBER Working Paper No. 16300 (Cambridge: National Bureau of Economic Research).
- Hamermesh, D.S., 1993, *Labor Demand* (Princeton: Princeton University Press).
- Hijzen, A., and D. Venn, 2011, “The Role of Short-Time Work Schemes During the 2008–09 Recession,” OECD Social, Employment and Migration Working Papers No. 115 (Paris: Organization for Economic Cooperation and Development).

- International Monetary Fund, 2010, *World Economic Outlook*, April.
- , 2011a, The Challenge of Public Pension Reform in Advanced and Emerging Countries.
- , 2011b, Fiscal Monitor, September.
- , 2012, Fiscal Monitor, April.
- Immervoll, H., and M. Pearson, 2009, “A Good Time for Making Work Pay? Taking Stock of In-Work Benefits and Related Measures across the OECD,” IZA Policy Paper No. 3 (Bonn: Institute for the Study of Labor).
- International Tax Dialogue, 2007, “Taxation of Small and Medium Enterprises,” Buenos Aires, October.
- Jaumotte, F., 2011, “The Spanish Labor Market in a Cross-Country Perspective,” IMF Working Paper No. 11/11 (Washington: International Monetary Fund).
- Jongen, E.L.W., 2010, Child Care Subsidies Revisited, CPB Document No. 200, (The Hague: Central Planning Bureau).
- Kalb, G., 2009, “Children, Labour Supply, and Childcare: Challenges for Empirical Analysis.” *The Australian Economic Review*, Vol. 42, No. 3, pp. 276–99.
- Keane, M. P., 2011, “Labor Supply and Taxes: A Survey,” *Journal of Economic Literature*, Vol. 49, No. 4, pp. 961–1075.
- Klemm A., and S. Van Parys, 2009, “Empirical Evidence on the Effects of Tax Incentives,” IMF Working Paper No. 09/136, (Washington: International Monetary Fund).
- Kling, J.R., 2006, “Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts,” Hamilton Project Discussion Paper No. 2006–05 (Washington: Brookings Institution).
- Kluve, J., 2010, “The Effectiveness of European Active Labor Market Programs,” *Labour Economics* Vol. 17 pp. 904–18.
- Krueger, A.B., and B.D. Meyer, 2002, “Labor Supply Effects of Social Insurance,” NBER Working Paper No. 9014, (Cambridge: National Bureau of Economic Research).

- Ljungqvist L., and T. J. Sargent, 2006, “Indivisible Labor, Human Capital, Lotteries, and Personal Savings: Do Taxes Explain European Employment?” Paper presented at the NBER Macroannual conference April 7–8 2006.
- Martin, J., and S. Scarpetta, 2011, “Setting it Right: Employment Protection, Labour Reallocation, and Productivity,” IZA Policy Paper No. 27, (Bonn: Institute for the Study of Labor).
- Meghir C., and D. Phillips, 2010, Labour Supply and Taxes,” *Dimensions of Tax Design*, ed. by J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Miles ,and J. Poterba (London: The Mirrlees Review, Institute for Fiscal Studies).
- Mortensen, D. T., and C. A. Pissarides, 1994, “Job Creation and Job Destruction in the Theory of Unemployment,” *Review of Economic Studies*, Wiley Blackwell, Vol. 61, No. 3, pp. 397–415.
- Neumark, D., 2011, “Direct Job Creation Policies in the Aftermath of the Great Recession and Beyond,” mimeo, University of California, Irvine.
- Neumark, D., and W.L. Wascher, 2011, *Minimum Wages* (Cambridge: MIT Press).
- Neumark, D., B. Wall, and J. Zhang, 2011, “Do Small Businesses Create More Jobs? New Evidence from the National Establishment Time Series,” *The Review of Economics and Statistics*, Vol. 93, No. 1, pp. 16–29 (Cambridge: MIT Press).
- Organization for Economic Cooperation and Development, 2004, “Employment Outlook 2004,” (Paris).
- , 2005, *Small Businesses, Job Creation and Growth: Facts, Obstacles and Best Practices*, Centre for Entrepreneurship, SMEs and Local Development.
- , 2006, “Employment Outlook 2006” (Paris).
- , 2007, “Employment Outlook 2007” (Paris).
- , 2009, “Employment Outlook 2009” (Paris).
- , 2010, “Employment Outlook 2010” (Paris).
- , 2011a, “Taxation and Employment,” *OECD Tax Policy Studies*, No.21 (Paris).

- , 2011b, “Doing Better for Families” (Paris).
- , 2011c, “Economic Policy Reforms” (Paris).
- , 2011d, “Taxing Wages” (Paris).
- , 2011e, *Ageing and Employment Policies—Statistics on Average Effective Age of Retirement* (Paris).
- , 2011f, “Employment Outlook 2011” (Paris).
- , 2011g, “OECD Economic Surveys: Iceland 2011” (Paris).
- , 2011h, “OECD Economic Surveys: Israel 2011” (Paris).
- , 2011i, “OECD Economic Surveys: Slovenia 2011” (Paris).
- Oswald, A. J., 1999, “The Housing Market and Europe’s Unemployment: A Non-Technical Paper” (Warwick: University of Warwick).
- Pagano, P., and F. Schivardi, 2003 “Firm Size Distribution and Growth,” *Scandinavian Journal of Economics*, Vol. 105, Issue 2, pp. 255.
- Phelps, E. S., 1994, *Structural Slumps* (Cambridge: Harvard University Press).
- Prescot, E.C., 2004, “Why Do Americans Work So Much More than Europeans, NBER Working Paper No. 10316 (Cambridge: National Bureau of Economic Research).
- Ramey, V.A., 2011, “Can Government Purchases Stimulate the Economy?” *Journal of Economic Literature*, Vol. 49, No. 3, pp. 673–85.
- Robalino, D., D. Newhouse, and F. Rother, forthcoming, “Labor and Social Protection Policies During the Crisis and Recovery,” *Labor Markets in Developing Countries during the Great Recession: Impacts and Policy Responses*, ed. by A. Banerji, D. Newhouse, D. Robalino, and P. Paci.
- Rothstein, J., 2010, “Is the EITC as good as an NIT? Conditional Cash Transfers and Tax Incidence,” *American Economic Journal: Economic Policy*, Vol. 2, No. 1, pp. 177–208.

- Slemrod, J., E. Saez, and S. H. Giertz, 2011, “The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review,” *Journal of Economic Literature*, Vol. 50, No. 1, pp. 3–50.
- Sørensen, P.B., 1997, “Public Finance Solutions to the European Unemployment Problem?” *Economic Policy*, Vol. 12, pp. 221–64.
- Spilimbergo, A., S. A. Symansky, O. J. Blanchard, and C. Cottarelli, 2009a, Fiscal Policy for the Crisis, IMF Staff Position Note No. 2009/01 (Washington: International Monetary Fund).
- Spilimbergo A., S. A. Symansky, and M. Schindler, 2009b. Fiscal Multipliers, IMF Staff Position Note No. 2009/11(Washington: International Monetary Fund).
- Steiner, V., and K. Wrohlich, 2006, “Introducing Family Tax Splitting in Germany: How Would It Affect the Income Distribution and Work Incentives?” Discussion Paper No. 612, (Berlin: German Institute for Economic Research).
- Topel, R. H., 1983, “On Layoffs and Unemployment Insurance,” *American Economic Review*, Vol. 73, No. 4, pp. 541–59.
- Van Ewijk, C., and M. Van Leuvensteijn, 2009, *Homeownership and the Labor Market in Europe* (Oxford: Oxford University Press).
- Wasmer, E. 2009, “Links between Labor Supply and Unemployment: Theory and Empirics,” Cirpee Working Paper, pp. 06–15.
- World Bank, 2011a, *EU10 Regular Economic Report: Recovery and Beyond, April* (Washington).
- , 2011b, *The Jobs Crises: The Household and Government Responses to the Great Recession in Eastern Europe and Central Asia* (Washington).
- Young, D., 2003, “Employment Protection Legislation: Its Economic Impact and the Case for Reform, European Economy,” European Commission Economic Paper 186 (Brussels: European Commission).