CHAPTER 2

PUBLIC EXPENDITURE REFORM: MAKING DIFFICULT CHOICES

Public spending reform has come to the forefront of the policy agenda in advanced and developing economies alike, although the terms of the debate are different in each:

- In many advanced economies where the tax burden is already high, meeting the authorities' medium-term consolidation objectives, reducing public debt to safe levels, and addressing age-related expenditure pressures will necessarily require reining in public spending. Indeed, in many advanced economies, the composition of fiscal adjustment is beginning to shift toward expenditure measures.
- In emerging market and developing economies, the focus is on responding to the growing demand for public services, including education, health care, and infrastructure, which, in many countries, will require a combination of revenue mobilization and careful prioritization of spending.

Despite the different circumstances, the common denominator across these country groups is the need to balance the provision of needed public services with the goals of ensuring long-term fiscal sustainability and maintaining a tax burden that does not harm growth. Within these parameters, countries have significant leeway to choose the desirable level of public services provision and spending priorities.

Drawing from theory and experience, this chapter examines options for prioritizing and streamlining public expenditure. The analysis takes into account the redistributive and growth-enhancing dimensions of public spending and the need to maximize efficiency. It also discusses how fiscal institutions can support expenditure reform. It does not address the broader issue of the optimal size and role of the state; that issue largely reflects social preferences that extend beyond the scope of the *Fiscal Monitor*.

Past and Expected Spending Trends

Government spending has expanded in most countries around the world since the 1960s, and a number of factors may continue to fuel spending pressures, particularly in developing economies.

Government spending has been on a long-term upward trend in most countries, fueled in large part by rising social spending.[1] In advanced economies, government spending outpaced nominal GDP growth from the 1960s to the mid-1980s, but then tended to level off (Figure 2.1). Social spending, in particular on public health care and pensions, has driven up the government's share of the economy to more than 40 percent, on average, and to more than 50 percent of GDP in a quarter or more of the advanced world. Following the 2008 global financial crisis, countercyclical fiscal policies and outlays to support the financial sector[2] resulted in a massive increase in government debt. During the past few years, consolidation efforts have reversed the trend in most countries, with cuts falling mostly on wages and public investment (Chapter 1; Figure 2.2).

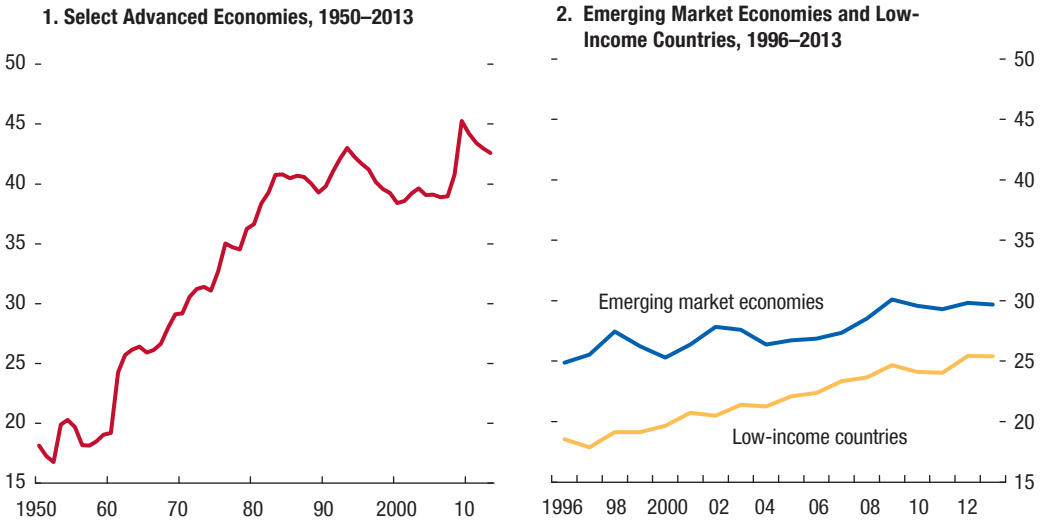
In developing economies, government spending has also risen during the past few decades, and now represents about 30 percent of GDP in emerging market economies and 25 percent in low-income countries. In many emerging market economies, the increase since the mid-1990s has been driven by expanding social spending and, to a lesser extent, public investment, and has been made possible by the space created by significant improvements in fiscal management and tax capacity. In low-income countries, public investment and the wage bill—in some cases linked to health and education spending—have increased the most. Since 2010, spending behavior has varied widely across emerging market economies, but has maintained its upward trend in most low-income countries.

At first glance, pressures to increase public spending may seem uncontrollable:

[1] Social spending includes social protection, education, and health care.

[2] For the size of the fiscal cost of financial sector support associated with the 2008 global financial crisis, see Table 1.6 of Chapter 1; Laeven and Valencia (2013); and IMF (2009a).

Figure 2.1. General Government Expenditure
(Percent of GDP)



Sources: Mauro and others (2013); and IMF staff estimates.

- *Economic theory* suggests that government expenditure in emerging market economies and low-income countries will be on the rise for some time, particularly where social spending is low and infrastructure gaps are high. Higher per capita income has been associated with a higher demand for public services (Wagner's law). Since the mid-1980s, however, this effect appears to have waned in advanced economies—partly as the result of public expenditure reforms and, perhaps, because the demand for public services stabilizes once a certain level of development is reached. Another point is that the price of government services is expected to rise faster than the price of private goods and services, thus increasing the government's share in the economy even if the government keeps its share of goods and services constant (Baumol's cost disease). Box 2.1 discusses the Wagner and Baumol effects in more detail.
- *Demographic trends* in both advanced and developing economies will put pressure on age-related expenditures (health care and pensions) and, in some cases, on education spending. In many developing countries, coverage expansion of health and pension benefits and the projected increase in school enrollment will further contribute to rising expenditures.
- *As fiscal consolidation efforts continue* in advanced economies, upward pressures on spending could reemerge even as output gaps close and deficits narrow. With stocks of public debt still large, the normalization of interest rates will increase interest payments. Sharp, continued cuts in public investment may need to be reversed to avoid a depletion of public capital stocks and potentially adverse effects on long-term growth, particularly when private sector investment is also on the decline. And rising inequality is already fueling demands for greater redistributive spending (IMF, 2014).

However, these pressures run against an inescapable fact: the fiscal space to accommodate spending increases is sharply constrained, as discussed in Chapter 1 and in the October 2013 *Fiscal Monitor*. Expenditure reform is thus necessary in both advanced and developing economies to contain, or accommodate where warranted, some of the pressures described above. In addition, greater involvement of the private sector in the provision of public services (through the outsourcing of noncore functions, public-private partnerships, concessions, and so forth) could further attenuate some of the pressure on the public accounts.

Options for Spending Reforms

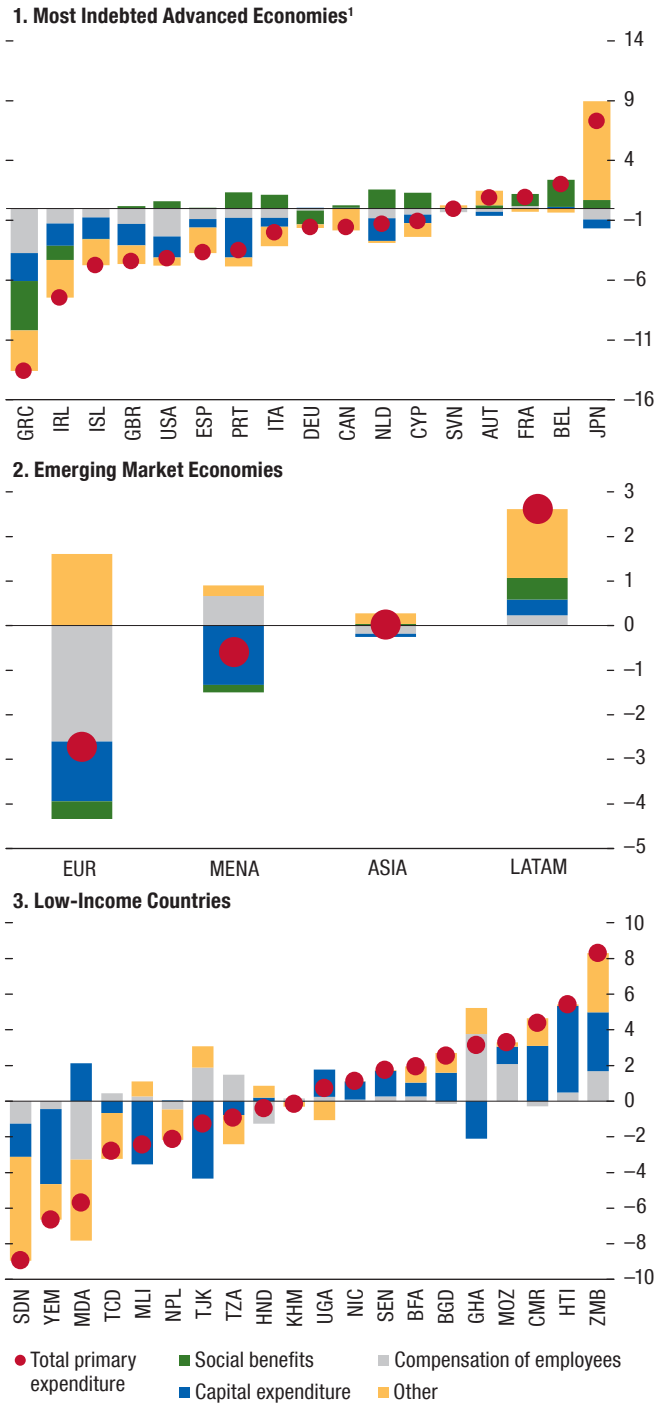
The scope and timing of spending reforms should be in tune with each country's circumstances, but generally, reform

efforts should stay clear of across-the-board cuts; tackle major spending items such as the public wage bill and social protection programs; seek gains from better targeting and efficiency-enhancing rationalization; arrest the trend decline in public capital stocks; and mobilize appropriate institutional and political support.

The precise shape of an expenditure strategy will depend on country-specific circumstances, including sociopolitical preferences about the role of the government and the ability of the government to raise taxes. Nevertheless, meaningful expenditure reform strategies essentially consist of three main elements: ensuring the sustainability of social spending and the public wage bill—the main items in most governments' budgets; achieving efficiency gains while paying due regard to equity; and establishing institutions that promote spending control and enhance its effectiveness. Past experience suggests some general guidelines for action across these three dimensions:

- In those countries where fiscal realities call for inevitable reductions in spending, *across-the-board cuts should be avoided*. This approach may seem expedient, but it is neither efficient nor welfare enhancing, and can affect the economy's long-term growth potential, in addition to hurting low-income population groups. Fiscal adjustments are more durable when attained through reforms that reflect well-thought-out strategic choices that protect programs with high marginal social benefit.
- *Reforms to public sector wages and employment can generate substantial savings and bolster long-term growth*, particularly where public sector wages are higher than those prevailing in the private sector—adjusted for differences in human capital—or the size of public employment is disproportionate to the services provided to the economy. Past episodes of successful adjustments suggest that reforms to the public wage bill have been the most long-lasting and growth friendly (Gupta and others, 2005; Hauptmeier, Heipertz, and Schuknecht, 2006; Kumar, Leigh, and Plekhanov, 2007). However, a closer look at successful reform cases suggests that design matters. Wage and employment freezes can be effective in the short term but cannot substitute for deeper reforms that address genuine staffing needs and efficiency in the civil service.
- *Scrutinizing social expenditure programs* can, in many cases, generate substantial savings and improve efficiency, while preserving equity. Both advanced

Figure 2.2. Change in Primary Expenditure Items, 2009–13
(Percent of potential GDP)



Source: European Commission; and IMF staff estimates and projections.
Note: For the United Kingdom, capital expenditure excludes capital transfers to the private sector. For low-income countries, the yellow bars refer to social benefits and others. EUR = Europe; LATAM = Latin America; MENA = Middle East and North Africa.
[1]Consists of advanced economies whose debt is greater than 70 percent of GDP.

and developing economies have scope to rationalize programs to adapt to changing demographic trends and needs of the economy. For example, in some countries where school enrollment is high, reorienting education spending toward age-related spending may be justified. In addition, replacing generalized transfers (e.g., price subsidies) with targeted income or in-kind transfers can be both cost-effective and equity-enhancing.

- *Gains from improving efficiency are potentially large*, and could prevent spending restraint from affecting the quantity or quality of the services delivered. In health and education in particular, greater competition and adoption of practices currently used by the private sector have the potential to address cost pressures and, at the same time, generate savings so that coverage can be expanded where needed.
- *A trend decline in public capital stock in advanced and emerging market economies will need to be gradually arrested* to avoid adverse effects on long-term growth and welfare. Slowing this decline would require more-productive public investment or increased private sector participation, including through public-private partnerships with appropriate safeguards and changes in the regulatory framework for private participation. In emerging market economies and low-income countries, where infrastructure gaps remain large, in addition to raising investment, improving the efficiency of public investment is crucial to help meet infrastructure demands.
- Expenditure reform is more effective when accompanied by *supportive fiscal institutions*. Two particular components are critical for spending reform: well-designed expenditure rules and effective decentralization frameworks. In addition, expenditure reforms are more likely to be successful and long-lasting if supported by extensive political consensus building and a broad communications strategy, particularly at times of political uncertainty and rising social pressures (IMF, forthcoming; Clements and others, 2013).

The sections that follow provide a more detailed analysis of these issues and a menu of reform options available to policymakers. Ultimately, the policy choices and priorities, including the pace and sequencing of the implementation of expenditure reforms, will depend on country circumstances and preferences, including starting conditions, institutional settings, and debt sustainability considerations.

Reforms to Public Employment and Compensation

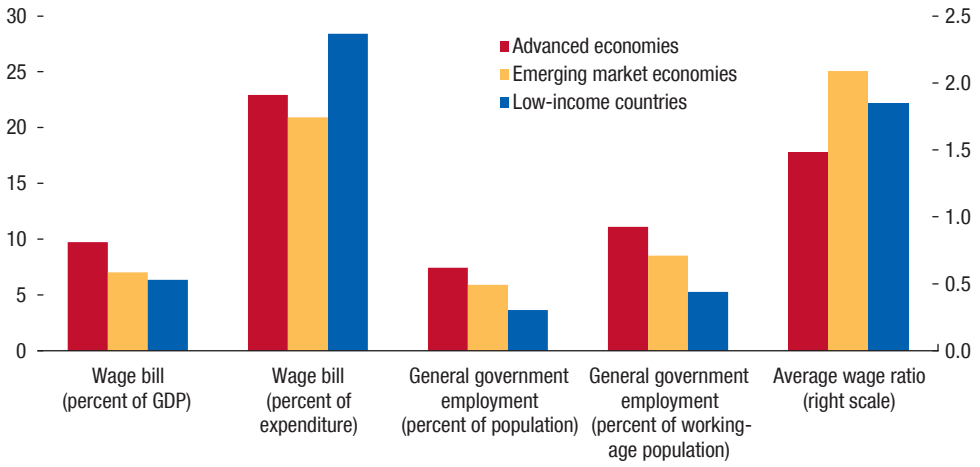
Public wage bill reforms should target structural changes that strengthen the link between pay and productivity, improve hiring processes, and ultimately raise efficiency in the provision of public services. They should also be coordinated with reforms in other areas, especially in the labor-intensive health and education sectors, to ensure objectives are aligned. In emerging market and developing economies, further increases in the wage bill should be commensurate with the provision of services and growth of the fiscal space.

The government wage bill is a key input in the production of government goods and services. It represents about 30 percent and 60 percent of government spending in health and education, respectively, in advanced economies, and is always a major item in the budget (about 10 percent of GDP, on average, in advanced economies and between 5 percent and10 percent of GDP in emerging market economies and low-income countries) (Figure 2.3). Reforms to government employment and compensation are thus unavoidable elements of spending reforms.

Reforms in public employment and compensation have taken place in economies at all income levels. During the 1980s and 1990s a number of emerging market and developing economies initiated comprehensive civil service reforms with mixed success. Many of these reforms were initiated in response to fiscal imbalances, but they also sought to improve accountability and the quantity and quality of public services provided.[3] Three main lessons emerge from these early reforms. First, emergency measures, such as temporary wage and hiring freezes, tend to have only short-term effects, if any. Second, long-term reforms that might yield substantial results typically are politically difficult to implement (World Bank and IMF, 2002; Clements and others, 2010). Some successful reform efforts included targeting on the basis of skills and age along with compensation packages that assisted with the reallocation of the affected government workers. These reforms were accompanied by productivity gains in certain areas, including tax administration and public enterprises, but tended to be financially costly (Haltiwanger and Singh, 1999). Third, reforms in the wage bill should be

[3] See Nunberg and Nellis (1995) and World Bank and IMF (2002) for a discussion of civil service reform programs in many low-income countries with World Bank and IMF programs.

Figure 2.3. Key Facts About the General Government Wage Bill, Employment, and Average Wage, 2010[1]



Sources: International Labour Organization; Eurostat; and IMF staff estimates.
Note: Average wage ratio is defined as the average wage of the general government sector divided by that of the entire economy.
[1] Figures for general government employment refer to 2008 data.

coordinated with reform in other areas, especially in labor-intensive health and education. Early in the first decade of the 2000s, the use of "wage bill ceilings" in the absence of effective payroll management systems in some low-income countries may have impeded the hiring of adequate workers in these social sectors (Fedelino, Schwartz, and Verhoeven, 2006).

The government wage bill has also typically been a major target during recent fiscal consolidation efforts in advanced economies, partly because of its sheer size in the budget and rigidities in other expenditure items. Since 2009, more than 20 countries with high consolidation needs have introduced measures to curb the government wage bill. Many of them were in Europe, where the existence of a positive government wage premium relative to the private sector[4] and, in some cases, the large increase in the wage bill in the run-up to the crisis, were important contributing factors.

A comparison of these recent wage bill consolidation episodes with previous efforts in advanced economies shows that the two sets share many characteristics (Figure 2.4).[5] In both historical and recent episodes, wage measures were more common than measures to reduce public employment. All episodes included some short-term measures—such as wage or hiring freezes, or both—that would typically expire within a few years. In both the historical and recent episodes, about 40 percent of countries introduced some structural measures aimed at reforming the public wage formation or the hiring process, or both, or reorganizing the government (Box 2.2). Some of the historical episodes were part of macroeconomic stabilization plans, often in connection with disinflation, but some were primarily driven by the need to reduce fiscal deficits, as is currently the case.

Three conclusions from this analysis and the recent literature stand out:

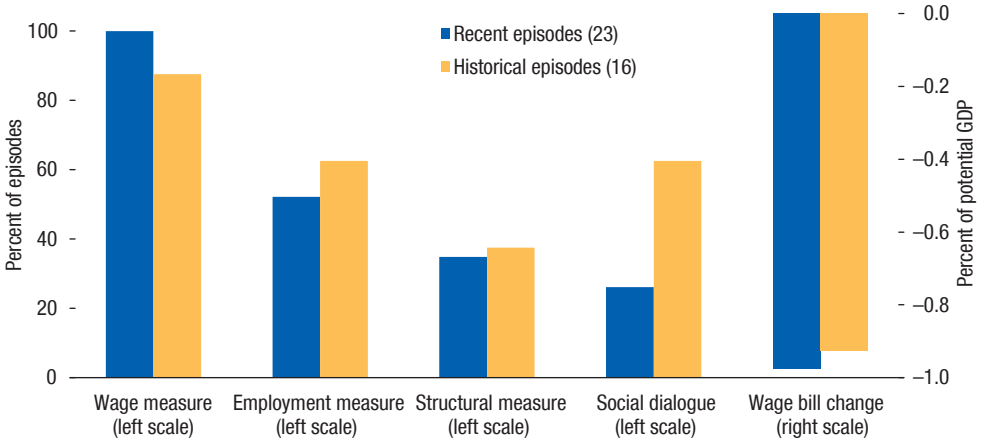
- The reduction of the government wage bill has been larger and more durable when the adjustment included structural measures, as such measures often permanently improved the efficiency of the wage formation and hiring processes or the range of services provided, or both. Social dialogue and public support for reform has also been an important factor for success, allowing policymakers to introduce more fundamental reforms or sustain temporary measures over a longer period (Figure 2.5).[6] Alternatively,

[4] For evidence on the public sector wage premium in the euro area, see Giordano and others (2011); and more broadly on European countries, see de Castro, Salto, and Steiner (2013).

[5] Historical episodes are taken from Devries and others (2011).

[6] For example, in Austria in 1996–97, the authorities consulted social partners extensively at each stage of the reform process and

Figure 2.4. Comparison of Recent (2009–13) and Historical (1979–2009) Wage Bill Consolidation Episodes[1]



Sources: For historical episodes, Devries and others (2011); IMF Staff Reports for Article IV consultations for various countries and years. For recent episodes, Organisation for Economic Co-operation and Development (Public Sector Compensation in Times of Austerity, 2012); IMF Country teams; and IMF Staff Reports for Article IV consultations.
Note: For examples of structural measures and social dialogue, see Box 2.2. Wage bill reduction is calculated over five years, following the first year of reform for the historical episodes; it is calculated as the change from 2009–2012 for the recent episodes. We use potential GDP whenever available, otherwise nominal GDP.
[1] Historical episodes are: Austria (1996–97), Belgium (1982), Belgium (1992, 1994), Canada (1991–92), Italy (1993–95), Portugal (2005–07), United Kingdom (1994), Denmark (1983–84), Germany (1983–84), Germany (1995– 2000), Ireland (1982), Ireland (1987–88), the Netherlands (1984–86), the Netherlands (2005), Portugal (2000–03), Spain (1997). Recent ones (from 2009) include: Bosnia, Bulgaria, Croatia, Cyprus, the Czech Republic, France, Greece, Hungary, Ireland, Italy, Japan, Latvia, FYR Macedonia, Netherlands, Poland, Portugal, Romania, Serbia, the Slovak Republic, Spain, the United Kingdom, and the United States.

reforms with little social dialogue may well unravel after a few years. To be sure, these results may also apply to other spending reforms.

- Downsizing that is part of a reorganization of government services and that targets specific positions and functions is likely to be more successful in achieving permanent reductions in employment than an untargeted, across-the-board cut in employment. The literature on civil service reform also suggests that voluntary departure schemes have not been very effective, as they suffer from adverse selection problems (Haltiwanger and Singh, 1999; OECD, 2011; Holzman and others, 2011).
- Reforms to public sector wages and employment can generate substantial savings and bolster long-term growth, particularly where public sector wages (adjusted for differences in human capital) are higher than those prevailing in the private sector, or the size of public employment is disproportionate to the services provided to the economy. An overblown and poorly managed public sector can result in sizable inefficiencies and crowd out private sector employment (Algan, Cahuc, and Zylberberg, 2002; Behar and Mok, 2013). Whether reforms should focus on wage levels and their dispersion or on employment depends on a country's starting point. Countries with high public wage premiums vis-à-vis the private sector might want to correct wages first, and countries with large (and maybe relatively poorly paid) staffs might consider reorganizing and streamlining the provision of services.

In many emerging market and developing economies, an increase in public employment may be necessary as the coverage of public services, particularly health care and education, expands. Nevertheless, this increase should be commensurate with the provision of services and the growth of the fiscal space, and should

secured a lasting agreement, in contrast to failed attempts in 1995. Canada, after introducing measures to explicitly contain the wage bill at the beginning of the 1990s, consolidated the effort with a comprehensive review of federal spending for a "long-lasting structural change in what the government does" and a "fundamental change in how the government delivers programs and services" (1995 Budget).

not occur at the expense of other productive spending. Eliminating "ghost workers" and reducing absenteeism can be the first step toward boosting efficiency. Using increases in public wages as a short-term stimulus, as occurred recently in some Arab Countries in Transition[7] should be avoided because such increases are difficult to reverse.

Regardless of whether the immediate goal is to contain the growth of the wage bill or to create the fiscal space to accommodate a larger one, an important challenge is to attract the necessary staff to ensure that public services are provided in an efficient manner. Increasing the link between pay increases and employee or team performance and periodically reassessing employment levels in line with the functions of the government should ensure retention of skills while improving efficiency.

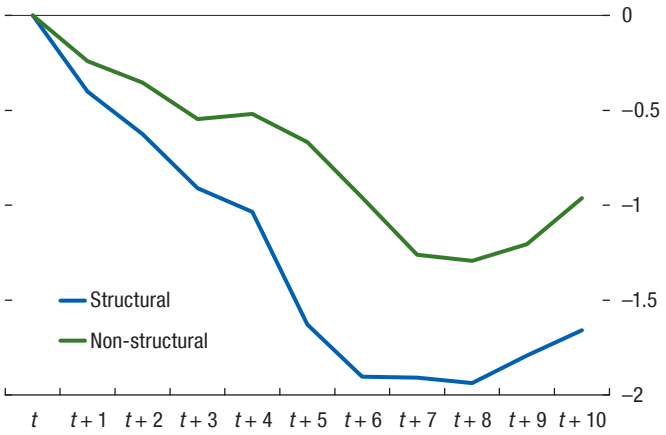
Ensure the Sustainability of Public Pension and Health Care Systems

Reforms are needed to ensure the long-term sustainability of public pension and health care systems, or to increase their coverage where appropriate. For pensions, raising the retirement age and adjusting contributions and benefits are the key options. Among these, gradually raising the retirement age, while protecting the vulnerable and expanding access when needed, seems to be the most attractive choice. For public health care systems, most countries have room to improve efficiency through greater competition and better regulation, and to contain the growth of health spending or to generate savings to expand its coverage. The government has a critical role in setting the overall policy framework for public and private health care provision and balancing service quality, coverage, efficiency, and cost-effectiveness considerations.

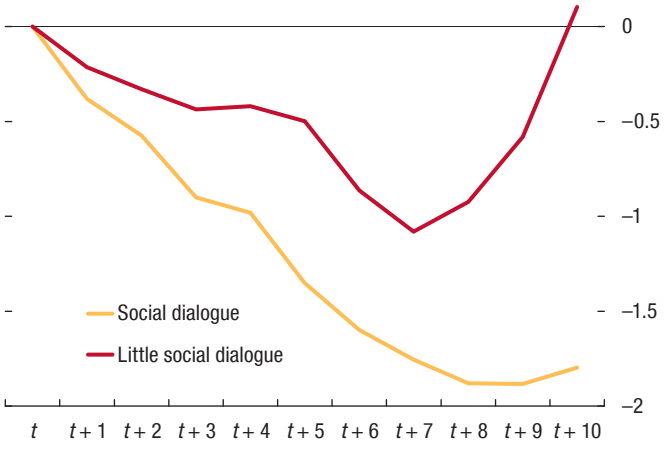
Age-related spending for public pensions and health care is often the largest item in government budgets, accounting for 40 percent of primary spending (16½ percent of GDP in 2013) in advanced economies and 30 percent (9 percent of GDP in 2013) in emerging market economies, on average. Absent further reforms, expenditure in pensions and health care is projected to increase by 3 percentage points and 2 percentage points of GDP in these two country groups, respectively, during the next two decades. Expanding cover-

Figure 2.5. Cumulative Change in the Public Wage Bill Ten Years after the First Year of Measures
(Percent of GDP)

1. Structural versus Non-Structural Measures



2. Social Dialogue versus Little Social Dialogue



Sources: Eurostat; and IMF staff estimates and calculations.
Note: *t* indicates the year of introduction of the wage bill measure. Episodes with structural measures are: Austria (1996–97), Belgium (1982), Canada (1991–92), Italy (1993), Portugal (2005–07), the United Kingdom (1994). Those without are: Belgium (1992, 1994), Denmark (1983–84), Germany (1983–84), Germany (1995, 1997, 2000), Ireland (1982), Ireland (1987–88), the Netherlands (1984–86), the Netherlands (2005), Portugal (2000, 2003), Spain (1997). Episodes with social dialogue are: Austria (1996–97), Belgium (1982), Canada (1991–92), Denmark (1983–84), Germany (1983–84), Germany (1995, 1997, 2000), Ireland (1987–88), Italy (1993), the Netherlands (1984–86), Spain (1997). Those with little social dialogue are: Belgium (1992, 1994), Ireland (1982), the Netherlands (2005), Portugal (2000, 2003), Portugal (2005–07), the United Kingdom (1994).

[7] Egypt, Jordan, Libya, Morocco, Tunisia, and Yemen.

age where needed would add to these costs.[8] Although the optimal level of age-related spending will always reflect country-specific circumstances and sociopolitical preferences, all countries can refer to some general principles to strengthen the sustainability of their public pension and health care systems.

Pensions

Pension reform has to balance three objectives: cost control, to ensure long-term sustainability; protection against old-age poverty; and redistributing contributors' lifetime savings in a fair manner. Squaring these three dimensions is particularly challenging at a time when increases in life expectancy weaken the link between the benefits collected and their actuarial equivalent. Countries will opt for different combinations along these three axes, reflecting different social and political preferences.

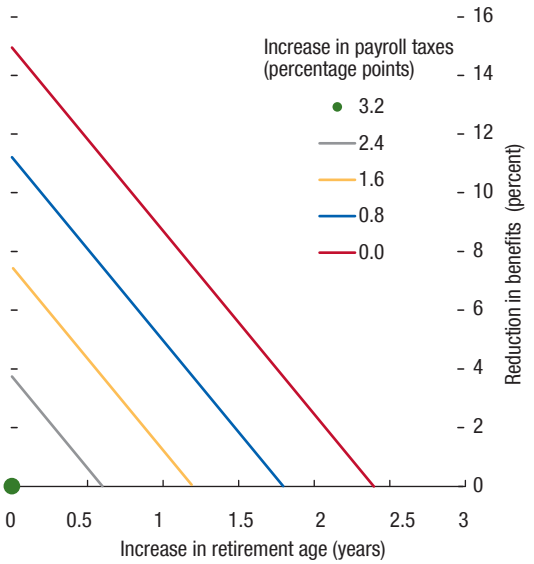
In advanced economies and in emerging Europe, where pension coverage is generally high, the main challenge is to improve the long-term sustainability of pension systems without undermining the ability of these systems to alleviate old-age poverty. Many of these economies have started to introduce reforms to that end. As a result, pension expenditure seems to have stabilized as a share of GDP, and medium-term pressures seem to have abated in a number of countries in Europe.[9] Reforms have included tightening pension eligibility rules (including by raising the contributory period required for full pension entitlement), reducing benefits for future pensioners, and raising the retirement age (more than 30 countries have increased the statutory retirement age to 65 or older in the past five years). Countries facing more severe financial pressures had to reduce benefits for existing retirees, usually by reducing supplementary payments and applying nominal cuts to high pensions.

In other emerging market and developing economies, the main task is to increase pension coverage and address old-age inequities in a fiscally sustainable manner. Some countries have extended pension coverage to private sector employees, or enabled voluntary participation of groups thus far excluded from contributory arrangements; expanded noncontributory basic pensions (either means-tested or conditioned solely on age and residence criteria); or introduced new, universal noncontributory benefits to augment contributory schemes with partial coverage.

These are steps in the right direction, but further efforts are needed.

- In advanced economies, long-term pension sustainability can be ensured through increases in the statutory retirement age, reductions in benefits, or increases in contributions (or a combination of these measures). Figure 2.6 illustrates this trifecta. To offset the projected increase in the ratio of pension spending to GDP from now to 2030, advanced economies would need to either raise the average statutory retirement age by about 2½ years, cut benefits across the board by 15 percent, or increase the average payroll tax rate by 3¼ percentage points. Among these options, gradually raising retirement ages seems the most attractive option because it would both contain increases in pension spending and lift employment levels and economic growth, while avoiding even larger cuts in replacement rates

Figure 2.6. Reform Options to Stabilize Pension Spending in Advanced Economies, 2013–30



Sources: European Commission; International Labour Organization; Organisation for Economic Co-operation and Development; United Nations; and IMF staff estimates.

[8] Estimates of future spending pressures are usually less than 1.5 percent of GDP for those regions with relatively low coverage.

[9] The projected pension spending increase in Europe for 2015–30 fell from 1.5 percentage points of GDP in 2009 (European Commission, 2009) to 1 percentage point of GDP in 2012 (European Commission and Economic Policy Committee, 2012) largely because of reforms in Greece, Italy, Portugal, and Spain.

than already legislated (October 2013 *Fiscal Monitor*). Raising the retirement age might need to be combined with provisions that mitigate its potentially adverse impact on contributors with shorter life expectancy—typically the poor.

- In many emerging market and developing economies, demographic pressures will increase the cost of coverage expansion. For example, the cost of providing a universal pension in Latin America would increase from about ½ percent of GDP in 2010 to nearly 2 percent of GDP in 2050 (Bosh, Melguizo, and Pages, 2013). Given resource constraints, increasing pension coverage in emerging market and developing economies may require reforms to existing public sector schemes that cover only the formal sector. This could help free up resources for the provision of social pensions to the wider population. To contain fiscal costs, social pension schemes should target only the needy, and the retirement age should be increased in line with developments in life expectancy. In addition, benefit levels should be set at a level sufficient to alleviate poverty but low enough to minimize incentives to remain outside of the formal pension system.
- Putting existing public pension schemes on a sound financial footing is a priority. In particular, countries that have redirected contributions and assets from the mandatory privately funded pensions to public pay-as-you-go systems (e.g., Argentina and many countries in emerging Europe) would need to review the main pension parameters to contain expenditure pressures.

Pension reforms can contribute to alleviating poverty and addressing income inequalities. As mentioned, emerging market and developing economies with low pension coverage could consider expanding noncontributory pensions as a way to increase the redistributive impact of public pension spending, although the associated cost would have to be absorbed through higher revenue mobilization or expenditure reallocation. The adverse impact of increases in retirement ages on those with shorter life expectancy—typically the poor—can be mitigated by linking pension eligibility to contribution years instead of to statutory retirement ages, by enhancing labor regulations protecting older workers, and by strengthening disability and social assistance programs for those approaching retirement age. Reductions in pensions can be progressive to avoid increases in poverty among the elderly, while minimizing disincentives to contribute to formal pension systems. Where benefit cuts for lower-income groups are unavoidable, these groups should be provided access to other social benefits to prevent them from falling into poverty. On the tax side, pension income should be incorporated into the standard progressive income tax system to reduce the net fiscal cost of pensions while protecting lower-income groups and lowering inequality.[10]

Health care

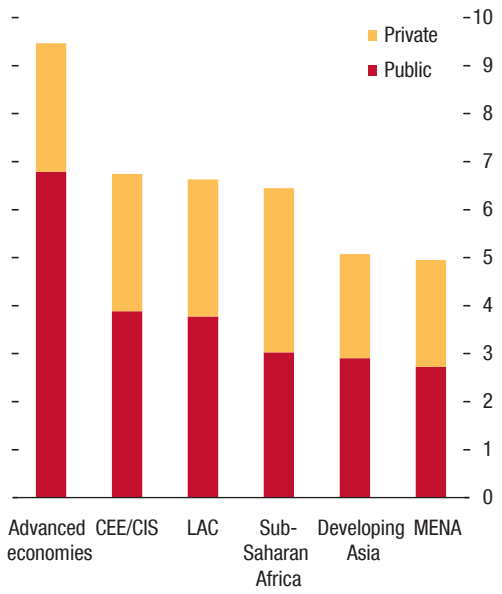
Despite the recent slowdown in its growth rate, public health expenditure will likely continue to put pressure on government budgets in many economies in the coming decades. Advanced and developing economies face different challenges, largely mirroring those encountered with pension reform. In advanced economies, public health expenditure averages about 6¾ percentage points of GDP, and the main objective is to stabilize the ratio of public health spending to GDP without adversely affecting health outcomes. Progress so far has been limited, compared with pension reform. In emerging market and developing economies, public health expenditure is much lower (Figure 2.7), and the goal is to improve health outcomes through fiscally sustainable coverage expansion. Some countries, including China, India, Indonesia, Ghana, Kenya, Mexico, and Tunisia, have taken important steps toward universal coverage in recent years.

In both advanced and developing economies, tackling health system inefficiencies holds great potential for addressing these challenges and for increasing life expectancy (WHO, 2010; Joumard, Andre, and Nicq, 2010; Grigoli and Kapsoli, 2013; see also Box 2.3). However, the potential gains from efficiency-enhancing reforms are clouded by large uncertainties about the magnitude of those potential gains, and realizing them has often been difficult in practice. Nonetheless, country experience and the literature point to a few key areas for reform:

- *Foster competition and choice.* This includes allowing competition among insurers and service providers and disclosing information on the price and quality of health services. The reform introduced in the United Kingdom in 2006 to promote competition and choice in the hospital sector has been shown to improve health outcomes without raising costs (Gaynor, Propper, and Seiler, 2012; Gaynor, Moreno-Serra, and Propper, 2013). The extent to

[10] See October 2012 *Fiscal Monitor*, Box 5.

Figure 2.7. Health Expenditure by Country Group
(Percent of GDP)



Sources: World Health Organization; and IMF staff estimates.
Note: CEE/CIS = Central and Eastern Europe and the Commonwealth of Independent States; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa.

which competition and choice are used in health systems varies considerably across economies, leaving scope for significant benefits from implementation of such reforms (Joumard, Andre, and Nicq, 2010; Gaynor, Moreno-Serra, and Propper, 2013; Clements, Coady, and Gupta, 2012). However, imperfections in the functioning of health care markets, such as asymmetric information, adverse selection, and moral hazard, do impose limits on potential gains from competition, putting an onus on the government to continue to play an important role in the provision of health care and in service regulation.

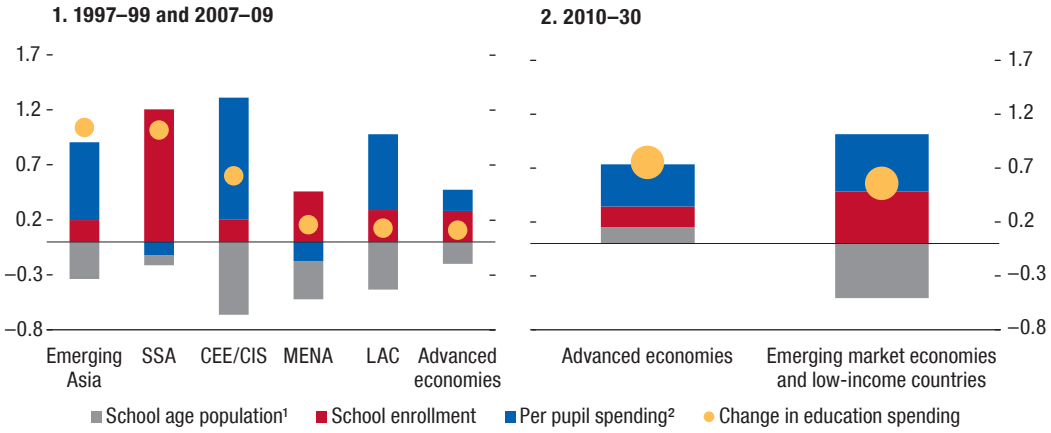
- *Emphasize primary and preventive care:* Primary and preventive care is usually most cost-effective, but it is often underprovided and underutilized. Governments, therefore, could play an important role by supporting research and development, public provision, regulation, or tax measures. For example, public health programs providing vaccinations have made remarkable strides in promoting health in many countries. Smoking bans in public places have been effective in reducing smoking. Tobacco excise taxation has also contributed to the decline of smoking in many countries and can help raise additional revenues. There is also room in many countries to raise taxes on alcohol and unhealthy foods such as sugar-sweetened beverages (U.S. CBO, 2012; Jamison and others, 2013).
- *Improve provider payment systems:* Shifting from fee-for-service payments to case-based payments can help reduce the incentives to provide unnecessary treatment. However, to prevent undertreatment by providers, strong clinical guidelines and monitoring are needed. For example, while many health systems in both advanced and developing economies have adopted or are considering case-based methods such as diagnosis-related groups, the extent of their use still varies significantly across economies (Clements, Coady, and Gupta, 2012; Busse and others, 2011; Mathauer and Wittenbecher, 2013).
- *Adopt health information technology:* Health information technology (encompassing new software and hardware systems to collect, store, and exchange patient data) has the potential to help improve health outcomes and reduce costs although the evidence on its benefits is still unfolding. Case studies of Australia, Canada, the Netherlands, Spain, Sweden, and the United States illustrate the potential benefits of its adoption (OECD, 2010).

Improving access to health care for the poor can help improve equity, although again, the additional cost would have to be absorbed through higher taxation or spending reallocation. Although public health spending in advanced economies tends to be progressive, health outcomes of the poor still lag well behind those of the rich (Paulus, Sutherland, and Tsakloglou, 2010). In many developing economies, public health spending benefits the rich more than the poor, reflecting lack of access to key health care services (Davoodi and others, 2010; IMF, forthcoming-a). Reductions in or elimination of user charges for low-income households would help enhance their access to a basket of essential health care services. In addition, steps need to be taken to address the supply-side barriers in less developed areas, such as the shortage of health care facilities and professionals in remote rural areas.

Align Education Spending to Evolving Needs

The key to accommodating increased demand for education without jeopardizing educational outcomes is to enhance the efficiency of education spending by containing the growth of per pupil spending. Adjusting class sizes to demographic trends, rationalizing the education wage bill,

Figure 2.8. Decomposition of Changes in Education Spending
(Percent of GDP)



Sources: Clements, Gupta, and Nozaki (2013); World Bank; United Nations (2013); and IMF staff estimates and calculations. Note: CEE/CIS = Central and Eastern Europe and the Commonwealth of Independent States; SSA = Sub-Saharan Africa; LAC = Latin America and the Caribbean; and MENA = Middle East and North Africa. Enrollment rates are assumed to increase up to 95 percent for primary education, and by 5 and 10 percentage points for post-primary education in advanced and developing economies respectively.
[1]School age population is measured as a percent of total working-age population and is based on United Nations (2013).
[2]Per pupil spending, measured as a percent of GDP per worker, is assumed to increase at a median rate realized from 1997–99 to 2007–09, with the median rate estimated separately between advanced and developing countries.

and increasing information on alternative educational outcomes, as well as fostering competition among providers, can help achieve this goal, although the government should maintain a key presence as provider and regulator of education services.

Countries around the world devote substantial resources to public education (about 5 percent of GDP in advanced economies and the Middle East and North Africa, and 3½–4½ percent of GDP in other regions). Spending on education has increased continuously since the late 1990s, largely reflecting increases in per pupil spending and improvements in school enrollment. Interestingly, growing spending on education in many economies has coincided with a declining share of the school-age population relative to the working-age population. Furthermore, improvements in educational outputs (e.g., standardized test scores) have not been commensurate with the increase in spending (Bruns, Filmer, and Patrinos, 2011). This result signals inefficiencies that, absent reforms, may exert budget pressures in the decades to come. In advanced economies, where the cost of education per pupil is rising quickly, these pressures are already evident. In developing economies, where school enrollment remains suboptimal, they exacerbate spending demands.

The public-education-spending-to-GDP ratio can be decomposed into three components (Figure 2.8):[11] school-age population, which reflects demographic factors and is largely exogenous; school enrollment, whose upward trend is desirable; and per pupil public spending on education (as a percentage of GDP per worker), which is driven by education policy. These components are expected to exert different future pressures on overall education spending.

- *School-age population:* Declining fertility will continue to shrink the ratio of the school-age population (to working-age population) in developing economies through 2030. In contrast, the school-age population ratio in advanced economies will increase slightly, reflecting a projected moderate increase in fertility rates in many of them, partly related to immigration.[12]
- *School enrollment:* In developing economies, the potential fiscal savings from demographics will be

[11] $$\frac{\text{Education spending}}{\text{GDP}} = \frac{\text{School-age population}}{\text{Working-age population}} \times \frac{\text{No. of students}}{\text{School-age population}} \times \frac{\frac{\text{Education spending}}{\text{No. of students}}}{\frac{\text{GDP}}{\text{Working-age population}}}$$

[12] Projections are based on United Nations (2013).

largely offset if school enrollment rates are effectively raised. In advanced economies, continued expansion of secondary and tertiary education will add to education spending.

- *Per pupil spending:* Average per pupil spending as a percentage of GDP per worker has increased since the late 1990s and contributed to increases in education spending in both advanced and developing economies.[13] Two factors underlie the increase in per pupil spending: the Baumol cost disease effect (discussed in Box 2.1)—teachers' salaries increase in line with wages in the overall economy despite lower productivity gains in the education sector; and, in many advanced economies, a falling student-to-teacher ratio given that the number of teachers has not declined in tandem with the decline in the number of school-age children.

Education reform should seek to raise the social return to education spending. Assuming school enrollment rates and spending per pupil continue to increase, and taking into account the projected school-age population, education spending would increase by 0.7 percentage point of GDP in advanced economies and 0.6 percentage point in developing economies through 2030.[14] Given these demographic factors and enrollment rate goals, education reform should focus on enhancing the efficiency of education spending, that is, contain per pupil spending without jeopardizing education outcomes. This should be feasible: the correlation between education spending and standardized test scores, after controlling for income levels, is weak (Bruns, Filmer, and Patrinos, 2011). Preventing an undue increase in the teacher-to-pupil ratio and rationalizing class sizes in advanced economies would yield potential fiscal savings. The Netherlands provides a good example, where a per student financing formula is used to budget education outlays. In addition, a rationalization of the wage bill could generate savings that could be used to enhance the quality of school infrastructure and teaching materials. For example, teachers' salaries may be well above the level required to retain high-quality teachers, or average teaching hours could be relatively short. Measures to rationalize the education wage bill have already been introduced in several advanced economies in Europe (EC and EPC, 2012).

Structural reform of the education system can also improve educational outputs by enhancing incentives for educational institutions. No "one-size-fits-all" set of policies exists, but options include (1) providing students with a wider choice of schools and promoting competition among schools; (2) further decentralizing the formulation and implementation of education policy (e.g., granting decision-making authority to local schools), although sufficient institutional capacity is needed to implement this policy effectively; and (3) increasing transparency and accountability, for instance, by making performance indicators for individual schools (e.g., results of standardized exams) available to the public. These policies have been implemented in several economies (school-based management in Australia, El Salvador, and the United Kingdom, for instance). Studies have found that these structural reforms improve students' learning outcomes if implemented appropriately (Bruns, Filmer and Patrinos, 2011; Hanushek and Woessmann, 2011).

Investing more in lower levels of education and increasing private financing of tertiary education could help enhance the distributional impact of education spending. In many economies, education spending benefits higher-income groups disproportionally. In developing economies, this regressivity reflects lower access by low-income groups to higher levels of education (including upper secondary and tertiary education). In advanced economies, although education spending as a whole is progressive, tertiary education spending tends to be regressive.

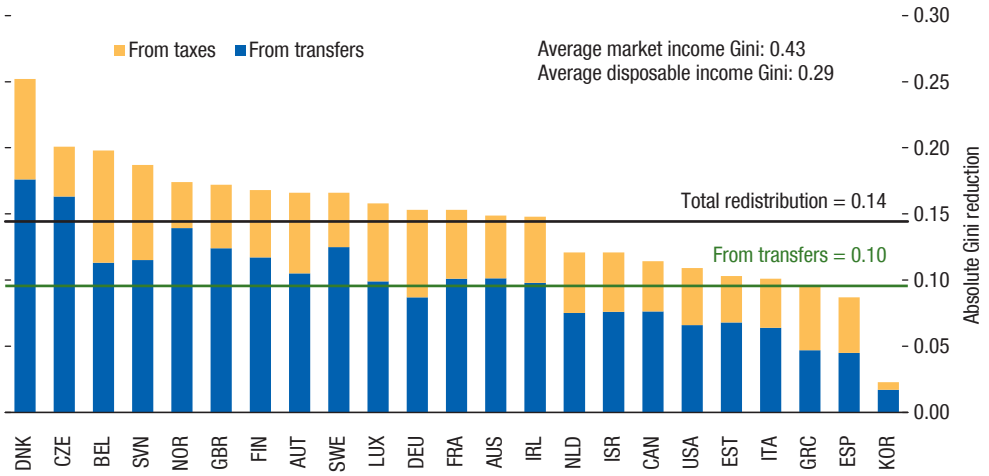
[13] There is substantial disparity across countries in the levels and the trend of per pupil spending. For example, the median and the standard deviation of the rate of increase in the ratio of per pupil spending to GDP per worker between 1997–99 and 2007–09, on an annual basis, were 0.4 percent and 1.5 percent for advanced economies, respectively, and 0.6 percent and 3.2 percent for developing economies, respectively.

[14] These projections are illustrative, and are based on the median rate of increase in per pupil spending across countries during the past decade. In addition, it is assumed that the primary enrollment rate would reach 95 percent, in line with the Millennium Development Goals, and the secondary and tertiary enrollment rate would increase by 10 percent in emerging market and developing economies and 5 percent in advanced economies.

Reform Nonpension Social Protection for Effective Fiscal Redistribution

Rationalizing social protection programs holds the potential both to generate fiscal savings and to improve equity in all country groups. Key reform options include improving targeting through greater use of means testing and poor households' characteristics, replacing generalized price subsidies with safety nets targeted to low-income households, and linking benefits to labor force participation.

Figure 2.9. Redistributive Impact of Fiscal Policy in Advanced Economies, Mid–2000s



Sources: Paulus, Figari, Hegedus, and others (2009), except for Australia, Canada, the Czech Republic, Korea, Norway, Israel, and the United States, for which data are from Caminada and others (2012).

Spending decisions should take into account the redistributive impact of fiscal policy, particularly in light of rising income inequality and growing public support for redistribution (IMF, 2014; Ostry, Berg, and Tsangarides, 2014).[15] Historically, fiscal policy has offset about one-third of the increase in market income inequality in advanced economies during the past two decades, with most of this effort being achieved on the expenditure side through transfers (Figure 2.9). In most developing economies, the level of taxes and social spending (public spending for social insurance and assistance, education, and health care) remains low compared with such spending in advanced economies (Figure 2.10), severely restricting the potential for fiscal redistribution. Although spending containment could potentially have adverse impacts on inequality, careful reform choices can mitigate this effect. Indeed, evidence from recent fiscal adjustments in Europe suggests that spending (and tax) measures have been largely progressive (Box 2.4).

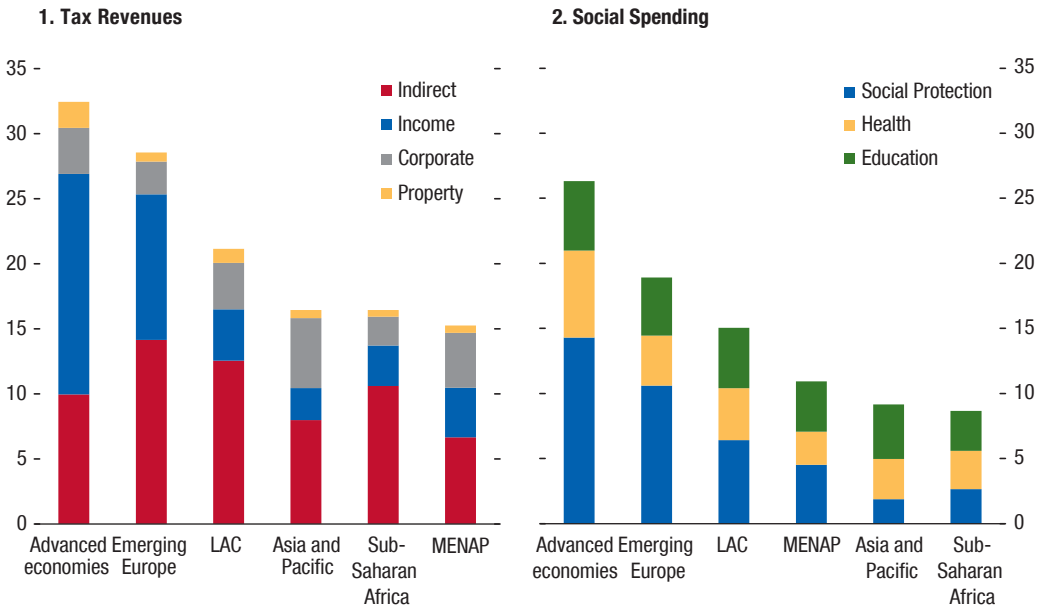
Social spending in general needs to be carefully designed to balance distributional and efficiency objectives. Redistributive aspects of public spending on pensions, education, and health care were discussed in other sections, so the focus of this section is on how to improve the effectiveness of social protection spending while mitigating disincentives to work and containing spending pressures.

- In advanced economies, social protection spending can be made more efficient by greater use of means testing and by strengthening incentives to return to work. These economies spend about 2.2 percent of GDP, on average, on family benefits (e.g., paid maternal and paternal leave, child allowances, and child-care benefits). Of this total, 1.8 percentage points (more than four-fifths) is spent without means testing (Figure 2.11). Some countries have shown a strong preference for providing universal benefits and have the capacity to raise sufficient revenues to that end. In others, means testing family benefits could potentially generate fiscal savings and reduce income inequality at the same time. In turn, work disincentives inherent in social protection schemes can be mitigated by linking benefits to labor force participation, encouraging beneficiaries to sign up for active labor market programs, and introducing in-work benefits. These policies may require higher short-term funding, but they are expected to lower unemployment and other social demands in the medium and long term.
- In developing economies, social assistance programs suffer from low coverage of lower-income population segments as well as leakages of benefits to high-income groups. On average, only half of the poorest 40 percent of the population have access to social

[15] See the October 2013 *Fiscal Monitor* for a discussion of the redistributive aspects of tax systems and reforms.

Figure 2.10. Tax Revenues and Social Spending, 2011[1]

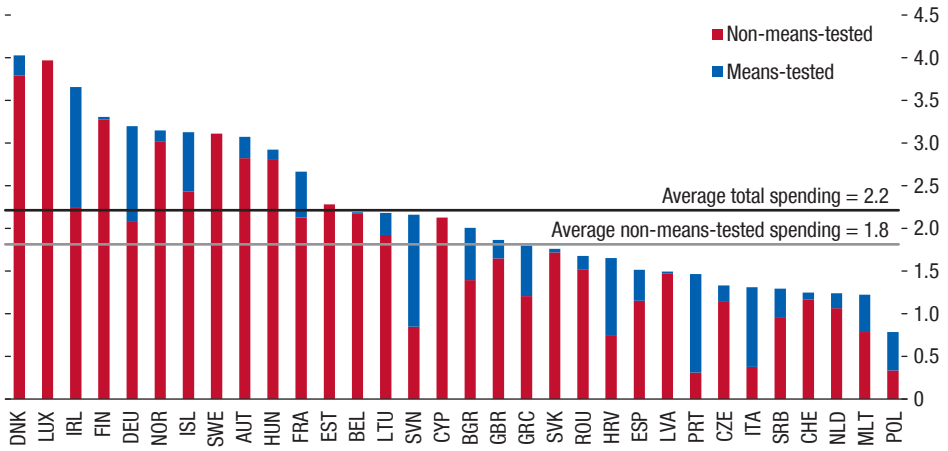
(Percent of GDP)



Sources: Asian Development Bank; CEPALSTAT; Eurostat; Organisation for Economic Co-operation and Development; United Nations; World Health Organization; World Bank; and IMF staff estimates.
Note: LAC = Latin America and the Caribbean; MENAP = Middle East and North Africa and Pakistan.
[1] Or most recent year.

Figure 2.11. Means-Tested and Non-Means-Tested Family Benefits, 2010

(Percent of GDP)



Sources: Eurostat; and IMF staff estimates.

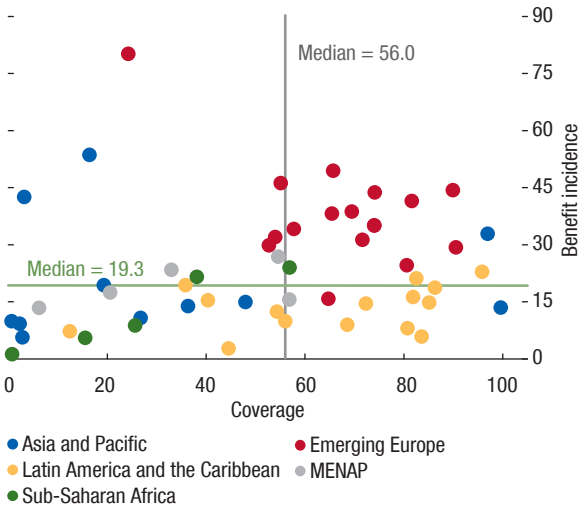
assistance programs, and they capture less than 20 percent of the benefits provided (Figure 2.12). Consolidating fragmented and overlapping benefits into a smaller number of programs with clearly established objectives would improve efficiency and lower costs. Replacing weak targeting approaches—based on criteria that are not well correlated with poverty—with better targeted transfers would enhance the poverty-reducing impact of social assistance. Savings from these reforms could be used to expand coverage and increase benefits per recipient. However, effective means testing requires costly administrative capabilities and can invite rent seeking in countries with poor governance. As administrative capacity improves, countries can consider introducing means-tested conditional cash transfer programs, which link family benefits to the number of children and condition continued eligibility on attendance of children at health clinics and schools.[16]

- Reforming consumer price subsidies could generate fiscal savings in many developing economies. In sub-Saharan Africa, for example, spending on energy subsidies in 2011, on a posttax basis, equaled 3½ percent of GDP, and in the Middle East and North Africa region, 14½ percent of GDP (Clements and others, 2013).[17] The largest share of the subsidy benefits is captured by upper-income groups, which means that reforming them while appropriately compensating the poor could generate fiscal savings without worsening income inequality.

Safeguard Growth by Protecting Public Investment

Fiscal consolidation in some cases and pressures to increase current spending in others (e.g., Arab Countries in Transition) have exacerbated a trend decline in the stock of public capital. Countering this trend and closing infrastructure gaps will require a combination of higher public investment spending and higher participation by the private sector. At the same time, improving the efficiency of public investment spending is a paramount priority, especially—though by no means only—in emerging market and developing economies.

Figure 2.12. Social Assistance Coverage and Targeting in Developing Economies, Mid–2000s
(Percent)



Sources: World Bank; and IMF staff estimates.
Note: Coverage indicates the share of the poorest 40 percent of households that receive a social protection transfer. Benefit incidence indicates the share of total social protection transfers received by the poorest 40 percent of households. MENAP = Middle East and North Africa and Pakistan.

The global financial crisis prompted cuts in government investment in many advanced economies and some developing economies. With private investment also falling in many economies, cutbacks in government investment may hinder medium- and long-term growth.

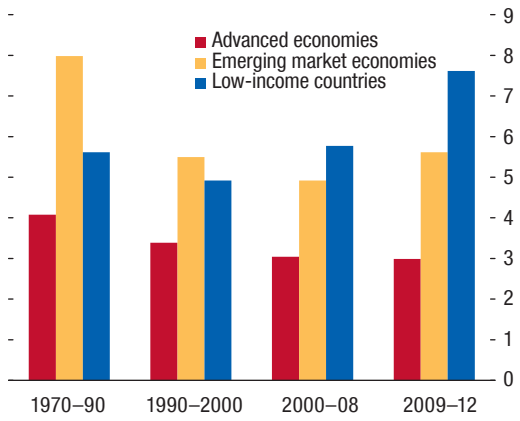
A large body of theoretical and empirical literature has found a positive relationship between public capital and growth, although the estimated productivity of public capital varies widely across studies, depending on methodological frameworks, country samples, the nature of financing, and other constraints.[18] Gupta and others (2014) argue that in countries with weak public investment management processes, public investment spending is unlikely to translate fully into productive

[16] The largest conditional cash transfer programs are in Brazil (Bolsa Familia) and Mexico (Oportunidades), which in 2012 cost 0.5 percent of GDP and 0.8 percent of GDP and covered one-quarter and one-fifth of the population, respectively. These programs have had substantial impacts on poverty and inequality, as well as on education and health outcomes (Fiszbein and Schady, 2009). For instance, it is estimated that the direct impact of such transfers accounts for one-fifth of the decrease registered in the Gini index between 1995 and 2004 in Brazil and Mexico (Soares and others, 2007).

[17] Posttax subsidies are also substantial in advanced economies. Of the global total of US$2.0 trillion in 2011, advanced economies account for about a third (Clements and others, 2013).

[18] See, for example, Aschauer (1989, 1998); Munnell (1990a, 1990b, 1992); Lynde and Richmond (1993); Sturm, Kuper, and de Haan (1998); Romp and de Haan (2007); Bom and Ligthart (2010); Gupta and others (2011).

Figure 2.13. General Government Investment
(Percent of GDP)



Sources: Center for International Comparisons (2013); Organisation for Economic Co-operation and Development; and IMF staff estimates.

capital assets. Using "efficiency-adjusted" public capital stocks, they find that the level of public capital in developing economies has been grossly overestimated and its productivity underestimated in previous studies. This result highlights the importance of focusing not only on the quantity of public investment, but also on its quality.

What has been the experience of advanced and developing economies since 2008 with regard to government investment and capital?

- In advanced economies, the global crisis reinforced a declining trend of government investment, to somewhat less than 3 percent of GDP during 2009–12. This reduction was more pronounced in the countries hit hard by the crisis, such as Greece, Iceland, Ireland, and Portugal. In contrast, investment continued to increase in many emerging market economies and low-income countries, reaching almost 6 percent of GDP and 7.6 percent of GDP, respectively, during 2009–12 (Figure 2.13).[19]
- As a result, government capital stock has declined in advanced economies (Figure 2.14). The use of PPPs only marginally offset the decline in public capital stock.[20] Despite higher investment ratios, capital stock has also been on a declining trend in emerging market economies and low-income countries, reflecting inefficiencies. Very rough estimates suggest that, on average, only half of the increase in government investment in those countries translated into productive capital during 1980–2012. Inefficiencies reflect the poor quality of the projects selected and the weakness of public investment management processes such as procurement and auditing. Unlike in emerging market economies and low-income countries, inefficiencies in advanced economies are estimated to be relatively more contained.[21]

Reducing inefficiencies would help close the infrastructure gap in developing economies.[22] More specifically, reducing all inefficiencies by 2030 would provide the same boost to capital stock as increasing government investment by 5 percentage points of GDP in emerging economies and by 14 percentage points of GDP in low-income countries. In advanced economies, gains from reducing inefficiencies are limited, and reversing the declining trend in government capital would require an increase in investment spending. A rough estimate is that government investment would have to increase by almost 2 percentage points of GDP through 2030 just to stabilize the stock of government capital in advanced economies (Figure 2.15).

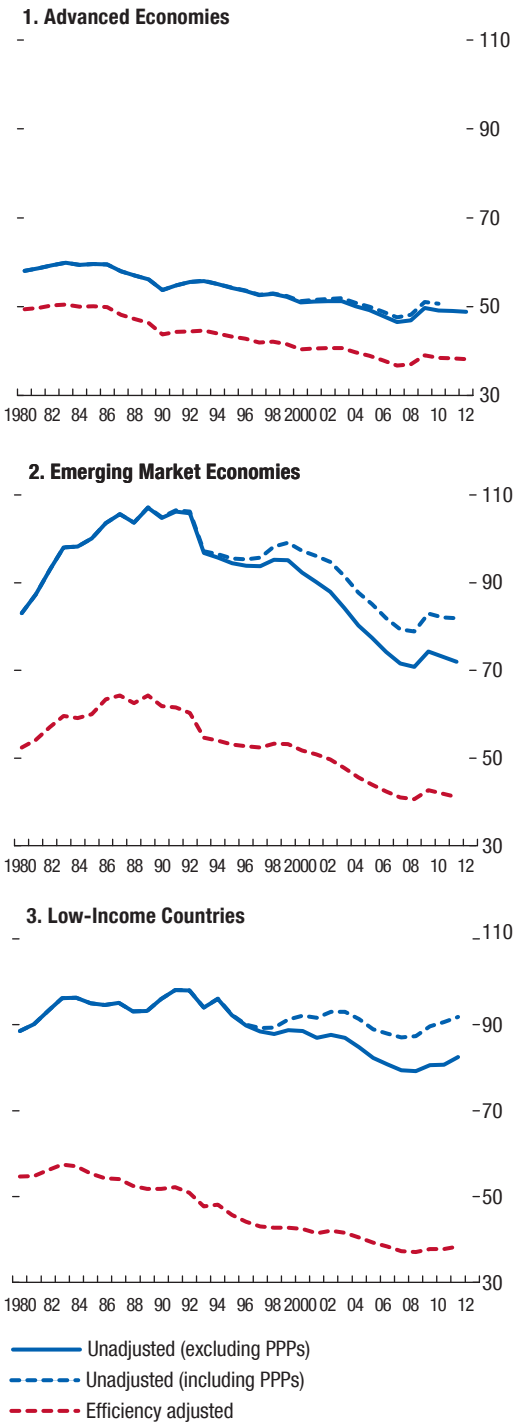
[19] The data refer to the general government and excludes state-owned enterprises; they thus do not capture the effects of privatization in a number of countries since the 1980s. The sample of countries corresponds to the *Fiscal Monitor* country groups and is the same across periods.

[20] The capital stock in PPPs represents less than 1 percent of GDP in most advanced economies, except in Greece, Ireland, Portugal, Spain, and the United Kingdom, where it ranges from 1.5 to 7.6 percent of GDP.

[21] Public capital stock series were constructed using the perpetual inventory method (Collier, Hoeffler, and Pattillo, 2001; Kamps, 2006; Arslanalp and others, 2010). These series were then adjusted for the efficiency of public investment processes in each country, using the World Economic Forum's *Global Competitiveness Report's* "quality of roads" index as a proxy for efficiency. This analysis uses two different proxies for robustness checks, following Gupta and others (2014), the Public Investment Management Index (Dabla-Norris and others, 2012), and the International Country Risk Guide investment profile scores. They all yield similar estimates. The estimates of capital stock in this analysis are in line with those in the literature, including Gupta and others (2014); Kamps (2005, 2006) and Barbiero and Darvas (2014).

[22] Infrastructure needs in emerging market economies and low-income countries, particularly for roads and railroads, are significant. According to the Infrastructure Consortium for Africa (2008) and Briceno-Garmendia and others (2008), the continent faces an infrastructure gap of $35 billion per year. The United Nations Commission for Latin America and the Caribbean (2011) estimates that investment equivalent to 7.9 percent of GDP per year is necessary to raise infrastructure in the region to the standard of developed East Asian countries. Commission on Growth and Development (2008) also concluded that enduring growth requires high levels of public investment.

Figure 2.14. General Government Capital Stock Ratio
(Percent of GDP)



Sources: Center for International Comparisons (2013); Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: The efficiency-adjusted series is estimated following Gupta and others (2011) using the quality of roads as a proxy for efficiency. PPP = public-private partnerships.

In practice, three considerations can guide public investment decisions:

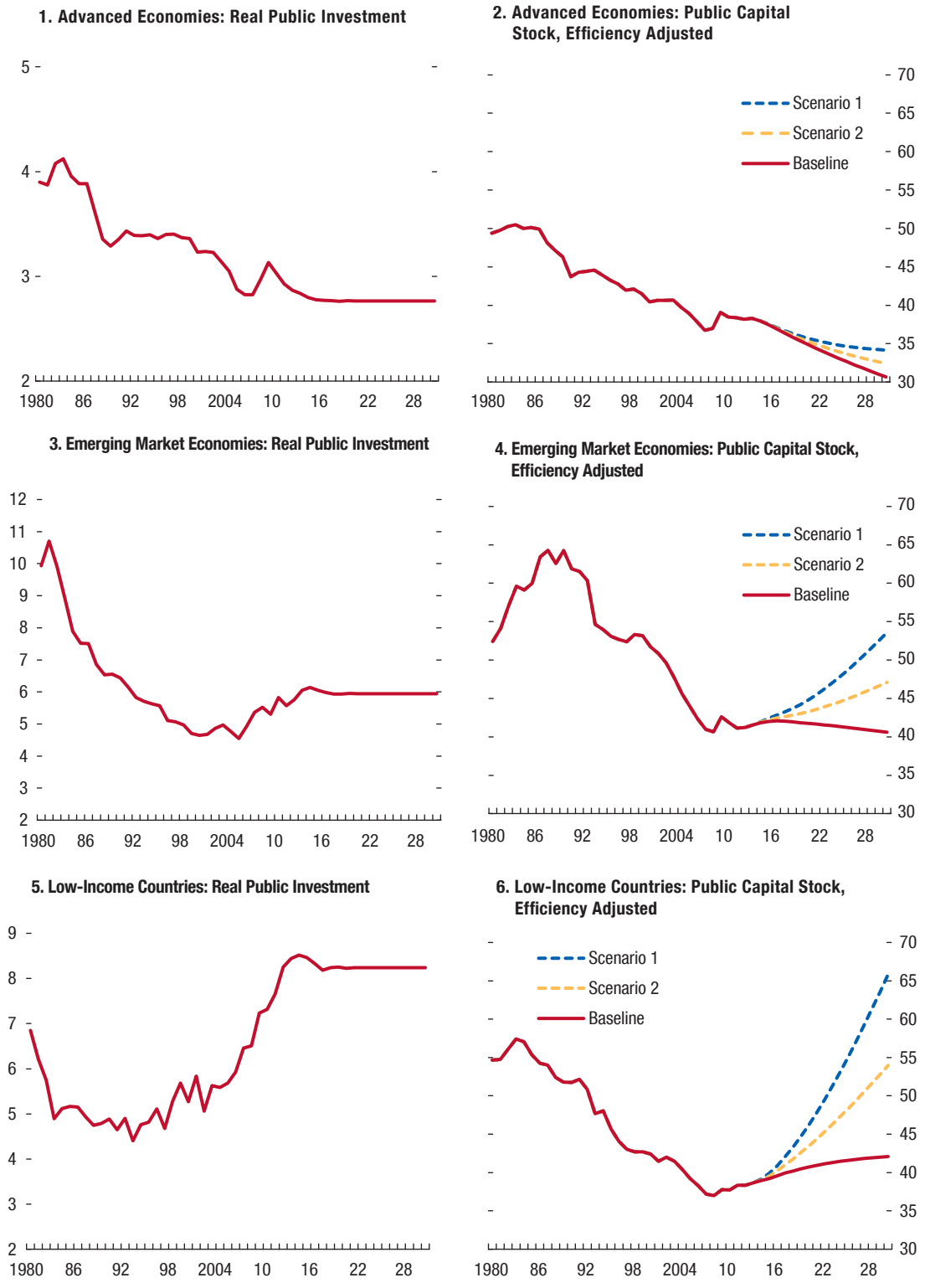
- Increases in public capital stock can come from either higher public spending or stepped up involvement of the private sector in the provision of infrastructure services, including through PPPs, or a combination of the two. The decision will often be influenced by a country's public finances, but it is first and foremost a matter of public choice. The impact of higher public investment on debt sustainability will depend on the rate of return of the selected projects, which underscores the need for careful selection and implementation processes.
- When public investment projects are executed in cooperation with the private sector, countries should maintain maximum standards of fiscal transparency and performance accountability. Although PPPs may, for example, be sometimes more efficient than traditional public procurement, they also entail fiscal risks. Four actions can help mitigate these fiscal risks: strengthening the legal provisions affecting PPPs, strengthening the management and oversight frameworks, achieving full and transparent disclosure of all fiscal risks, and fully integrating the accounting for and reporting of PPPs in the medium-term budget process.
- Fiscal space to address investment needs can also be created by investing in the investment process, particularly in emerging market economies and low-income countries. Project appraisal and project evaluation are important stages at which the efficiency of public investment can be improved in emerging market economies. For low-income countries, project selection and project implementation are more important. To improve project appraisal, the formulation of sector strategies, transparent standards, and independent reviews are key factors. For better project selection, the existence of a medium-term planning framework and the integration of recurrent investment expenditures into the budget are the most important elements (Gupta and others, 2014; Dabla-Norris and others, 2012). Increased prioritization and scrutiny will be needed in most advanced economies given scarce resources.

Supportive Institutional Arrangements

The design, pace, and ultimately the success of expenditure reform relies in large part on the institutional

Figure 2.15. General Government Investment and Capital Stock–Three Quality Scenarios[1]

(Percent of GDP)



Sources: Center for International Comparisons (2013); Organisation for Economic Co-operation and Development; Global Competitiveness Report; and IMF staff estimates and projections.

Note: The efficiency-adjusted series is estimated following Gupta and others (2011) using the quality of roads as a proxy for efficiency.

[1] All three scenarios assume that public investment-to-GDP grows at the WEO rate during 2013–18, and at the average of the last 3 years during 2019–30. Under the baseline scenario, each country's efficiency normalized rank stays fixed. Under Scenario 1, all countries' inefficiencies are gradually eliminated by 2030, while under Scenario 2, half the existing inefficiencies are gradually eliminated by 2030.

framework within which the reform will be implemented. Although the quality of the entire framework is important, two elements have a direct bearing on spending reforms: expenditure rules, as binding commitments and constraints on the path of public spending; and the degree and methods of expenditure decentralization, given that a significant share of public spending takes place at subnational levels.

Are Expenditure Rules Good or Bad for Reforms?

Expenditure rules can catalyze expenditure reforms, as they have direct spillovers on reform incentives. The presence of expenditure rules, often in combination with other fiscal rules, seems consistent with durable expenditure containment.

A good institutional framework for budgeting rests in the first instance on sound public financial management (PFM).[23] PFM systems ensure that the annual budget properly reflects long-term social objectives, effectively guides policy actions in the medium term, and fits into financing constraints. Key components of effective PFM systems include solid forecasting capacity to avoid an optimistic bias in estimating available resources; a framework that helps assess the costs and impacts of policies over several years (leading to better planning and prioritization); strict procedures to mitigate the common pool problem; and good budget execution procedures, especially commitment controls, arrears monitoring, and cash management. In addition, fostering fiscal transparency is essential to ensure accountability (IMF, 2012), indicating a need for comprehensive, reliable, and timely reporting; effective audit procedures; and external monitoring, possibly by a nonpartisan public body, such as a fiscal council (IMF, 2013).

Although well-designed budget procedures reduce incentives to overspend and misallocate public funds, many countries have also tried to promote sound fiscal policies through fiscal rules (Kopits and Symansky, 1998; IMF, 2009b).[24] A fiscal rule puts a durable constraint on fiscal policy by combining numerical limits on key indicators—most often the deficit, the public debt, or both—with provisions making deviations from the limits costly for policymakers.

Rules constraining total spending levels or its growth have received considerable recent attention.[25] These expenditure rules exhibit a number of attractive features. First, they are directly aimed at mitigating the pressures at the origin of excessive deficits. In combination with budget balance or debt rules, they can ensure that annual budgets remain consistent with sustainable medium-term trajectories for public debt. Second, expenditure rules can be made simple and easy to monitor;[26] for example, a cap can be set on total nominal expenditure growth. Caps are the most common type of rule. Third, expenditure rules fully accommodate cyclical revenue fluctuations, making them growth friendly in the short term (Ayuso i Casals, 2012). This countercyclical property also makes expenditure rules particularly attractive for countries where structural budget balances are challenging to estimate, including most developing economies. Fourth, an expenditure rule maps directly into the formulation of the annual budget, thus contributing to its enforceability. Last, a well-designed expenditure rule,[27] like other fiscal rules, can usefully anchor medium-term budget frameworks.

Although expenditure rules, often combined with other rules, are not aimed primarily at catalyzing expenditure reforms, they can directly spill over onto reform incentives by promoting containment, efficiency, and prioritization.

- Durable, binding caps on broad spending aggregates can encourage policymakers to adopt measures

[23] See Cangiano, Curristine, and Lazare (2013) for a comprehensive analysis of modern PFM models and practices.

[24] Fiscal rules primarily aim to constrain policymakers' discretion in a way that mitigates short-term pressures to spend beyond available resources and sustainable financing levels. These pressures typically emanate from competing interest groups' claiming government resources for themselves—the "common pool" problem—or inefficiencies in collective decision making, such as policymakers' myopia or career concerns. Absent constraints on discretion, the result is excessive deficits; procyclicality (spending revenue windfalls in good times instead of saving them for rainy days); and inadequate prioritization of programs with a longer-term orientation, such as education or investment.

[25] Including in the European Union, where national expenditure rules have been reinforced through the inclusion in the "Six-Pack" of an expenditure benchmark to reinforce the preventive arm of the Stability and Growth Pact. Under the expenditure benchmark rule, public spending is not allowed to increase faster than medium-term potential GDP growth, unless it is matched by adequate revenues.

[26] This is not always the case. Some expenditure rules place multiple ceilings on a variety of categories. In addition to being more complex, such rules constrain policymakers' ability to prioritize over the medium term or to respond to short-term shocks.

[27] Design includes, among other elements, the relevant expenditure aggregate to be covered by the rule. It is beyond the scope of the *Fiscal Monitor* to provide a discussion of the pros and cons of alternative expenditure aggregates. Key issues can be found in Ayuso i Casals (2012). IMF (2009b) discusses issues in choosing between expenditure rules and other types of fiscal rule.

aimed at taming the main sources of pressure and at seeking lasting efficiency gains where possible.
- To the extent that expenditure rules are envisaged as a mechanism to limit deficits while preserving short- to medium-term flexibility, they also shelter policymakers from the need to enact the emergency, and often low-quality, spending cuts dictated by simple headline budget balance caps.
- More generally, by insulating spending from such short-term shocks, expenditure rules can facilitate the implementation of a genuine medium-term budget framework. Their introduction could also foster complementary PFM reforms that have a direct bearing on the quality of planning and execution of programs with a longer-term orientation, such as infrastructure investment or education. A stronger medium-term orientation to budgeting, in turn, allows for better prioritization of scarce public resources.

However, the potential complementarity between expenditure rules and expenditure reforms hinges on one fundamental precondition: the genuine commitment of policymakers to sound and high-quality public finances. Absent such commitment, expenditure rules can have adverse side effects. For instance, when faced with a spending limit, policymakers could preserve some low-quality pet projects at the expense of higher-quality programs with long-term benefits, or shift the adjustment burden to lower levels of government—if the coverage of the rule is narrow—or simply develop extra-budgetary and quasi-fiscal activities.

IMF staff analysis reported in Appendix 2.1 suggests that expenditure rules can foster expenditure reforms. As these rules are generally used in conjunction with budget balance or debt rules, it may be difficult to disentangle their specific impact. Keeping that caveat in mind, the empirical evidence reveals a number of stylized facts and conditional correlations:
- The presence of expenditure rules seems consistent with durable expenditure containment. In particular, the primary balance—after taking into account conventional determinants—is higher in countries operating under spending rules, on average.
- The likelihood of compliance with an expenditure rule is greater than with budget balance rules, particularly if the rule includes features enhancing its binding nature (a medium-term expenditure framework) or raising the cost of deviations (monitoring by an independent agency).
- There are indications that expenditure containment could be due, in part, to relative efficiency gains in capital expenditure—related to better planning and prioritization—after introducing the expenditure rule.
- Finally, fiscal policy appears to be more countercyclical when a spending rule is in place, which reduces the likelihood of forced low-quality cuts in bad times.

However, there is also some evidence of undesirable side effects, possibly associated with imperfect commitment and more pervasive institutional gaps. In particular, the presence of expenditure rules often coincides with lower levels of public investment. This effect is most striking in emerging economies, where weaker PFM systems may be less effective in preventing policymakers from deferring high-quality discretionary spending for the sake of formally complying with the rule.

Decentralization Can Support Spending Rationalization under Certain Conditions

Given a country's decentralization level choices, key elements of its decentralization framework could support the effective implementation of spending reforms, including, in particular, the distribution of taxing and spending responsibilities, rules governing transfers to subnational governments, and the quality of local public financial management.

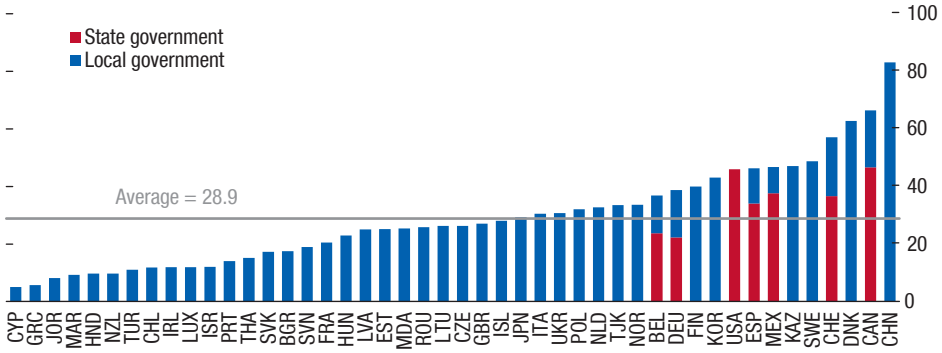
Fiscal decentralization is relevant for expenditure rationalization for at least four reasons.[28] First, a large part of public expenditure is incurred by regions and municipalities. Currently, about one-third of public expenditure programs are carried out at the subnational level, on average (Figure 2.16). This share has trended upward in all country groups, although since the onset of the Great Recession it has leveled off in many advanced economies, mostly as a result of the large increases in countercyclical expenditure carried out by central governments.

Second, the involvement of subnational entities is essential to rationalizing and improving the quality of public services. Darby, Muscatelli, and Roy (2005) show that since the 1970s most consolidation episodes

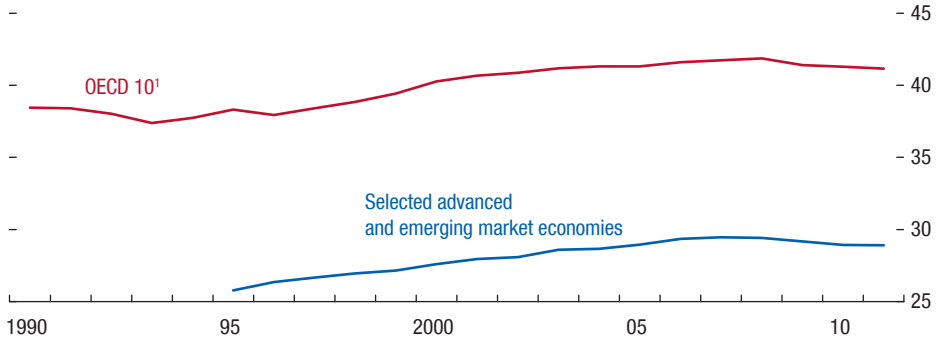
[28] This section examines the benefits and costs of spending decentralization within a country. The assignment of expenditure functions within a federation or a group of countries such as the European Union is driven by other considerations (see, for instance, Allard and others, 2013).

Figure 2.16. Indicators of Expenditure Decentralization

1. Decentralization Ratios
(percent; 2011 or latest available data)



2. Average Decentralization Ratios, 1990–2011
(percent; unweighted average)



Sources: Goerl and Seiferling (forthcoming); Organisation for Economic Co-operation and Development (OECD); and IMF staff estimates.
Note: Expenditure decentralization is defined as local and state government spending as a percent of total spending.
[1] Includes Belgium, Canada, Denmark, Finland, Italy, Luxembourg, the Netherlands, Switzerland, the United Kingdom, and the United States.

in advanced economies have included shared efforts across tiers of government, and the involvement of subnational entities has been crucial in achieving lasting cuts in public expenditure, particularly the wage bill. In emerging market economies and low-income countries, subnational governments are on the front line in meeting growing demand for public services.

Third, decentralization itself, if properly designed, can help contain public sector growth and improve spending efficiency. Decentralization creates closer proximity between taxpayers and policymakers, thereby enhancing the information available to both parties: taxpayers are in a better position to identify decision makers and sanction their performance, making them more accountable, while local politicians can better tailor policies to the preferences of their constituents. Furthermore, the competition among jurisdictions may encourage cost-efficient delivery of public goods: if the taxpayers are not satisfied with the tax-benefit mix proposed by the local authorities, they can move to another jurisdiction or use the electoral system to pressure local officials.

Finally, reforms that seek to reduce waste generated by duplication and overlap of functions are particularly warranted and beneficial in decentralized settings, where the division of responsibilities among government levels are not always well defined, and where some of the responsibilities transferred to the subnational government may continue to be carried out by the central government. Eyraud and Moreno Badia

(2013) find that in advanced European economies, half of the increase in subnational spending is additional to, and not a substitute for, national spending, on average. Therefore, expenditure assignments across government levels are a prime candidate for expenditure rationalization reforms.

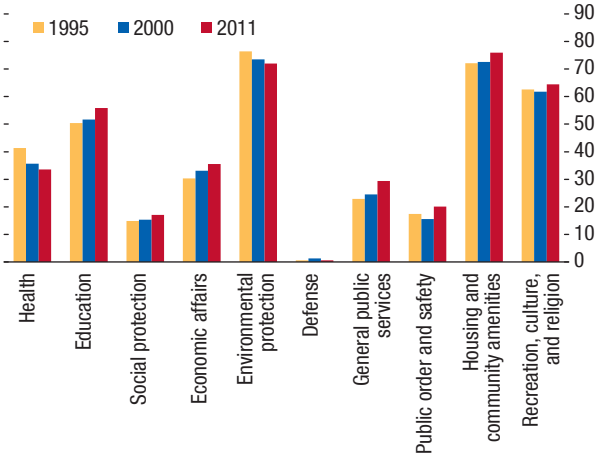
A decentralized setting may, however, increase risks to the success of spending reforms, or for that matter to stronger public finances (Oates, 2006). For instance, when local governments finance expenditure from a common pool of intergovernmental transfers, they may fail to internalize the cost of expenditure and thus overspend. And the central government may find it difficult to press spending containment on local governments when—as often is the case—the local level delivers politically sensitive public services such as education, social housing, and waste management (Figure 2.17).

Empirical evidence suggests that certain key aspects of decentralized arrangements matter for spending control (IMF, 2009c). Although each framework is country specific, four main elements stand out:

- *First, the distribution of spending responsibilities across government levels should be assigned to maximize service delivery efficiency*. The challenge is to find the right balance between delegating responsibilities to subnational entities to benefit from the efficiency gains of decentralization while avoiding duplicating functions and dissipating limited resources. Specific programs may need to be recentralized when agency problems, negative externalities, coordination difficulties, and loss of economies of scale are too pronounced. In this regard, it is interesting to note the trend toward recentralization of health spending in several European countries (Saltman, 2008). Alternatively, countries have attempted to address these issues through a gradual increase in the average size of municipalities (either by reducing their number, or by encouraging mergers) and the creation of intermunicipal associations to jointly provide certain services.
- *Second, the degree of revenue autonomy of subnational governments should be optimized.* Empirical evidence shows that giving sufficient revenue autonomy to subnational governments is a critical condition for the success of expenditure containment efforts. The reason is simple: subnational governments are encouraged to spend and reform efficiently when they have to tax their citizens and be accountable to them. Local tax powers generate tax competition between jurisdictions, which may foster expenditure control. Eyraud and Lusinyan (2013) show that in OECD members, the general government fiscal balance improves, on average, by 1 percent of GDP for each 10 percentage point reduction in vertical fiscal imbalance (VFI)[29]—that is, when financing equivalent to one-tenth of subnational expenditure shifts from transfers or subnational borrowing to subnational taxes (Figure 2.18).[30] This result is confirmed by Aldasoro and Seiferling (forthcoming) in a broader sample including emerging market economies and low-income countries. In practice, reducing VFIs may be challenging, as it requires identifying tax bases well suited for local management—some have suggested raising property taxes or introducing personal income tax surcharges (Norregaard, 1997,

Figure 2.17. Subnational Government Expenditure by Function

(Percent of general government total spending)

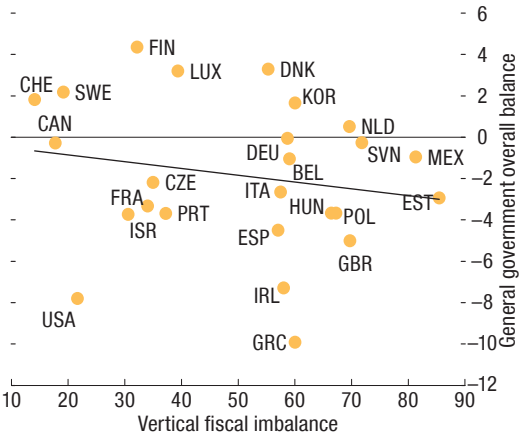


Sources: Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Simple average includes the data for Belgium, the Czech Republic, Denmark, Finland, France, Greece, Hungary, Iceland, Ireland, Israel, Italy, Korea, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, and Switzerland.

[29] The VFI indicator is defined as the share of subnational spending not financed through taxes and fees. It measures the reliance of subnational governments on transfers from the center. Admittedly, it is an imperfect indicator of the fiscal autonomy granted to subnational governments when they are given only restricted discretion over their tax rates and bases.

[30] The negative effect of the VFI on general government spending and its interaction with spending decentralization are found in several empirical papers, including Jin and Zou (2002); Rodden (2003); and Fornasari, Webb, and Zou (2000).

Figure 2.18. Vertical Fiscal Imbalance and Fiscal Performance, 2008
(Percent)



Sources: Organisation for Economic Co-operation and Development (OECD); and IMF staff estimates.
Note: The vertical fiscal imbalance is defined as the share of subnational own spending not financed through taxes and fees under the control of subnational governments (that is, financed through transfers, net borrowing, and shared taxes). 2008 is the latest data available from the OECD on shared taxes.

2013)—and addressing many practical difficulties, including tax base mobility, higher administrative costs at the local level, and horizontal disparities in revenue-raising capacity.

- *Third, improving the design of the transfer system also matters for successful spending reforms.* Well-designed transfers are generally based on objective criteria, such as geographic or demographic indicators, that are out of the control of governments as far as possible. This minimizes the risk of manipulation provided that allocation formulas are simple and transparent. Output-based transfers, linking grant finance to service delivery performance, may help improve program monitoring, reporting, and management, thereby enhancing accountability for results (Boadway and Shah, 2007).
- *Finally, sound budget management and well-designed fiscal governance frameworks at the subnational level are necessary* (IMF, 2009c). In many countries, subnational PFM frameworks do not meet minimum adequacy standards, hindering the drive for reform. There is significant room for improvement in this area, including preparing realistic budgets, introducing effective means for audit and control, better disclosing fiscal risks, and improving transparency and reporting.

Appendix 2.1. Expenditure Rules: Effective Tools for Sound Fiscal Policy

This appendix provides new evidence about the effectiveness of expenditure rules.[31] Whereas existing studies focus on European countries (Debrun and others, 2008; Wierts, 2008; Holm-Hadulla, Hauptmeier, and Rother, 2010), this analysis covers a more representative sample of advanced, emerging market, and developing economies. It is based on a unique data set covering all countries with national and supranational fiscal rules, including more than 30 expenditure rules, between 1985 and 2013.[32] It provides a novel assessment of compliance with fiscal rules and of the potential role of expenditure rules, in particular regarding long-term sustainability. It also analyzes whether expenditure rules are associated with changes in public investment and its efficiency.

Expenditure rules as defined in this appendix include both specific numerical targets fixed in legislation and expenditure ceilings that are binding for a minimum of three years. The rules typically take the form of a cap on nominal or real spending growth in the medium term and are present in 26 countries (equally split between advanced and emerging market economies and between member states of the European Union and others).

Establishing causation between expenditure rules and policy outcomes is challenging. For instance, it could be that expenditure rules are primarily adopted by countries with intrinsically strong commitments to fiscal discipline, good public expenditure management practices, or good institutions. In addition, the relatively small sample suggests that results could be affected by outliers. Therefore, the results reported here need to be interpreted with caution.

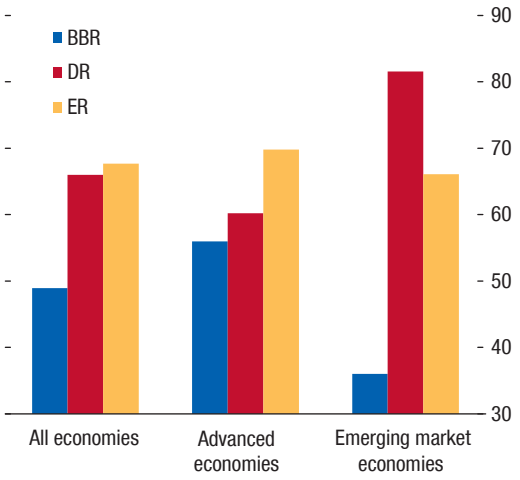
Expenditure Rules, Compliance, and Long-Term Sustainability

Overall, expenditure rules seem to have a better record of compliance than do budget balance and debt rules (Figure 2.19). The results are consistent with the fact that expenditure rules are easy to monitor and are most directly connected to instruments within the control of policymakers. In emerging market economies, however, compliance with debt rules is the highest. This result

[31] Based on Cordes and others (forthcoming).

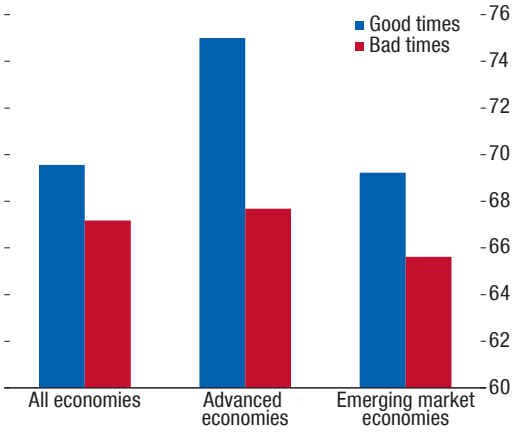
[32] See Schaechter and others (2012). The data set and a companion background paper can be accessed at http://www.imf.org/external/datamapper/FiscalRules/map/map.htm.

Figure 2.19. Compliance with Fiscal Rules, 1985–2012
(Percent compliance)



Sources: IMF, Fiscal Rules Database; and IMF staff estimates.
Note: The y axis measures the average compliance rate with Balance Budget Rules (BBR), Expenditure Rules (ER), and Debt Rules (DR) in all years in which an assessment could be made. BBRs and DRs include both national and supranational rules.

Figure 2.20. Compliance with Expenditure Rules and the Macroeconomic Environment
(Percent compliance)



Sources: IMF, Fiscal Rules Database; and IMF staff estimates.
Note: Bad times are defined as years in which the change in the output gap is negative.

could be attributed to the favorable impact of financial repression on debt dynamics (Escolano, Shabunina, and Woo, 2011) and the nonbinding nature of debt rules in some of these countries.

Compliance is generally better in "good economic times," defined as a year of above-potential GDP growth, suggesting that expenditure rules may help alleviate spending pressures that arise during times of strong revenue performance (Figure 2.20). Two caveats are in order. First, the short lifetime of expenditure rules (on average 10 years) could mean that their resilience to difficult macroeconomic environments or tail events may not have been fully tested yet. Second, in many instances of "bad times," countries relax the constraints imposed by their expenditure rules (for example, in Japan after the 2011 earthquake).[33]

Countries that use expenditure rules as a complement to other rules exhibit higher primary balances, on average (Figure 2.21).[34] In addition, event studies, which normalize the implementation date of each country's expenditure rule to year *t*, show that fiscal policy was countercyclical following the introduction of an expenditure rule.[35] In emerging markets, this countercyclicality sharply contrasts with the years preceding the introduction of a rule, when fiscal policy was procyclical, on average (Figure 2.22).

Expenditure Rules and Public Investment

Policymakers may seek to achieve compliance with expenditure rules by compressing high-quality discretionary items, such as public investment (Blanchard and Giavazzi, 2004). Although this may be an argument for excluding public investment from the rule's coverage, there are potential drawbacks to doing so because it weakens the link with debt sustainability and opens the door to reclassification of spending items.

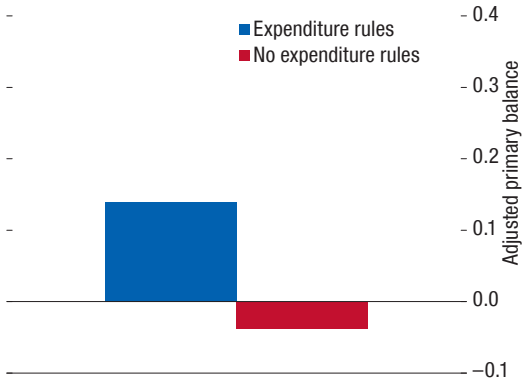
Investment spending fell across countries following the implementation of expenditure rules (Figure 2.23, panel 1). However, the result only passes the test of a panel regression for emerging economies (Figure 2.23, panel 2). The presence of well-designed medium-term

[33] Assessments of compliance include instances in which a rule is satisfied because the constraint is temporarily relaxed. However, such instances are few for the sample period under consideration and do not distort the conclusions about compliance with expenditure rules.

[34] Figure 2.21 shows "adjusted primary balances," that is, the predicted value of the primary balance after controlling for its standard determinants, such as lagged primary balances, the output gap, debt, and the presence of other fiscal rules. The difference between the adjusted primary balances of countries with expenditure rules and those without are found to be statistically significant.

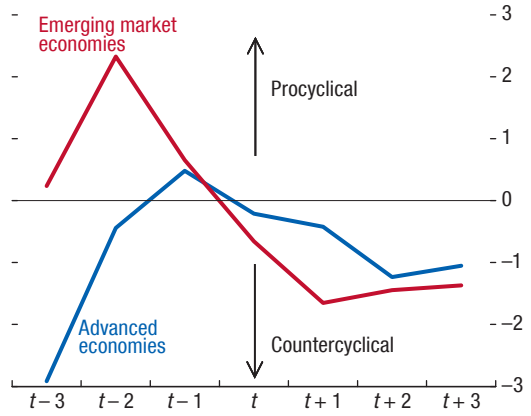
[35] Procyclical impulses are measured by the improvement in the primary balance during bad times (when growth is below potential) and the deterioration in the primary balance during good times (when growth is above potential).

Figure 2.21. Presence of Expenditure Rules and Adjusted Primary Balance
(Percent of GDP)



Sources: IMF, Fiscal Rules Database; and IMF staff calculations.
Note: The adjusted primary balance controls for other determinants of the primary balance, such as the lagged primary balance, the output gap, the debt level, and the presence of other fiscal rules.

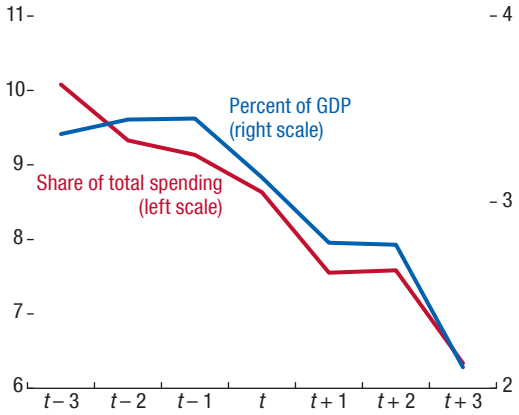
Figure 2.22. Fiscal Impulse
(Percent of GDP)



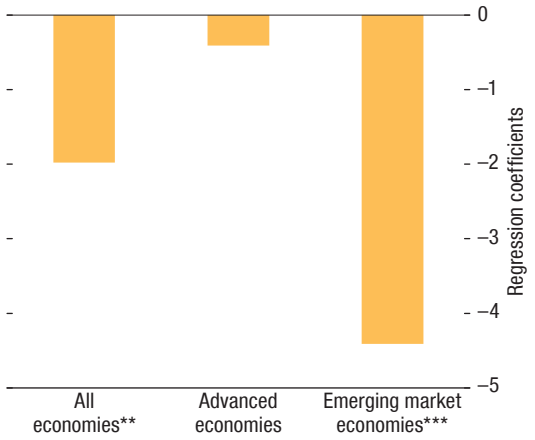
Sources: IMF, Fiscal Rules Database; and IMF staff calculations.
Note: *t* indicates the year the rule was introduced.

Figure 2.23. Expenditure Rules and Spending Composition

1. Investment Spending[1]



2. Panel Regression with Investment Spending as Dependent Variable[2]



Sources: IMF, Fiscal Rules Database; and IMF staff calculations.
[1] *t* is for the first year of implementation of rule. Figure shows an average across countries with expenditure rules in place.
[2] ** and *** denote significance at the 5 and 1 percent levels, respectively. The chart shows coefficients from panel regressions of the investment share of spending on an expenditure rule dummy and other control variables, which include political variables from the World Bank database.

budgetary frameworks, which may be more common in advanced countries, could be a mitigating factor that ensures that capital spending is not cut merely to comply with expenditure ceilings.

Implications for Government Size and Efficiency

Event studies indicate that the size of government becomes smaller with the introduction of expenditure rules both in advanced and emerging market economies (Figure 2.24, panel 1). The volatility of government spending is also found to decrease after the introduction of an expenditure rule.[36] Lower volatility

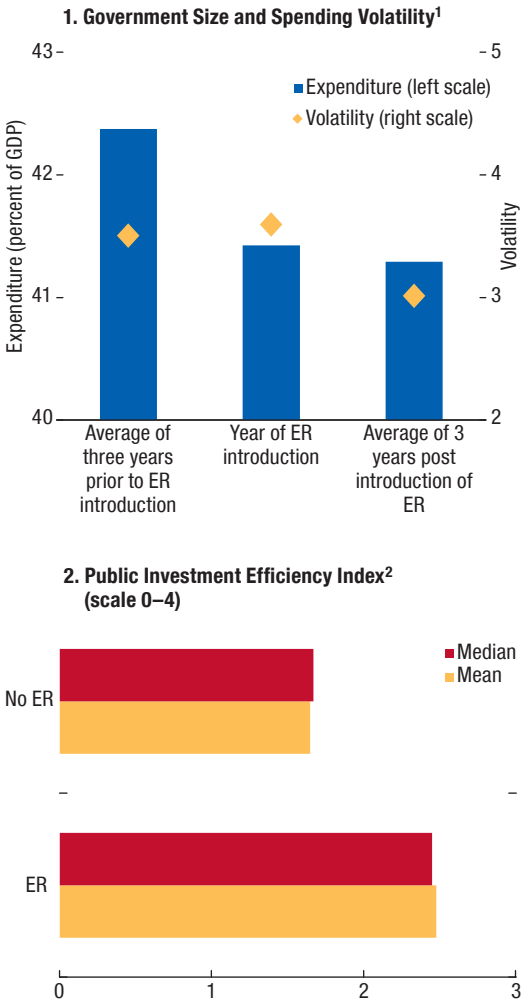
[36] Following Grigoli and others (2012), spending volatility is calculated as the absolute value of the percentage change in the deviation of expenditure from its trend as calculated by the Hodrick-Prescott filter.

improves the predictability of policy and directly contributes to macroeconomic stability.

Investigating the effect of expenditure rules on spending efficiency is constrained by data availability. The only evidence is Dabla-Norris and others' (2012) public investment efficiency index,[37] which is higher in countries that do have expenditure rules compared with those that do not (Figure 2.24, panel 2). This result could be due to investment projects being prioritized more carefully relative to the case with no binding constraint on spending, but this conclusion is tentative at best.

[37] This is a composite index, covering 71 countries, that measures the efficiency of public investment using a quantitative assessment of the investment process across four consecutive stages: project appraisal, selection, implementation, and evaluation.

Figure 2.24. Expenditure Rules, Efficiency, and Government Size



Sources: Dabla-Norris and others (2012); IMF, Fiscal Rules Database; and IMF staff calculations.
Note: ER=expenditure rule.
[1]Volatility is calculated as the absolute value of the percentage change in the deviation of expenditure from its trend as calculated by the Hodrick-Prescott filter.
[2]The public investment efficiency index covers 71 emerging and low-income countries and captures the institutional environment underpinning public investment management across four different stages: project appraisal, selection, implementation, and evaluation. Scores range from 0 to 4, and higher scores indicate better public investment management performance.

Box 2.1. The Future of the State: Testing the Wagner and Baumol Hypotheses

The substantial upward trend in public spending in advanced economies during the past century, coupled with the observation that many emerging market economies are now reaching per capita income levels similar to those of advanced economies after World War II, begs the questions: will the size of government continue to increase in the coming decades? What are the key factors driving it?

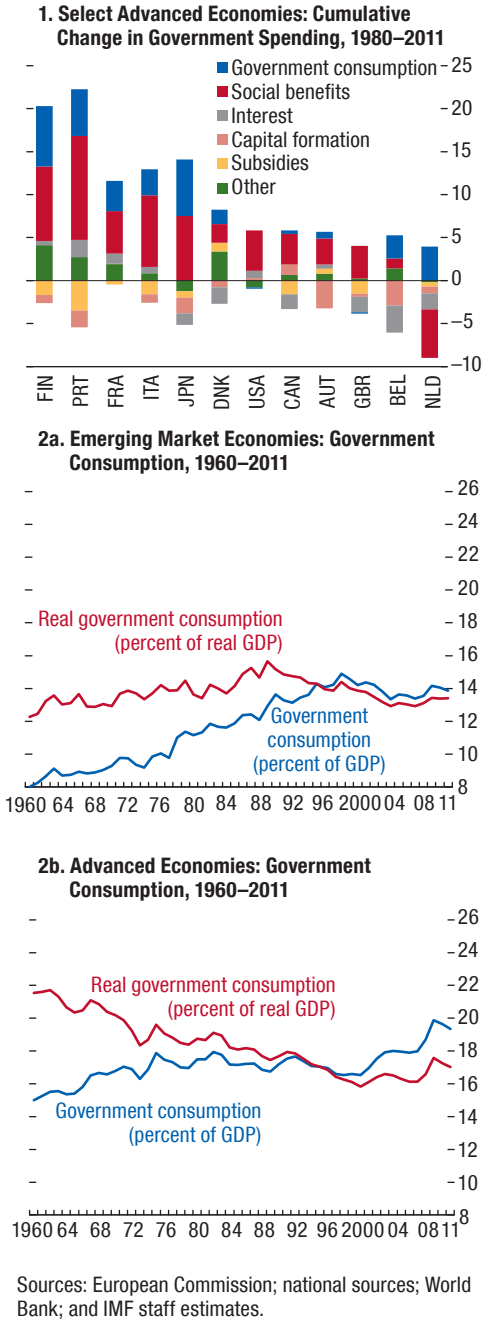
According to the nineteenth century German economist Adolph Wagner, increasing government spending is a natural and inevitable consequence of economic growth, at least in the early and middle stages of development.[1] Richer urban populations demand more social, regulatory, and redistributive services from the state. This is, however, only part of the story. The cost of provision of government services has increased significantly since the 1960s. The economic phenomenon known as Baumol's cost disease could explain this rise. Baumol (1967) observed that musicians' salaries increased with wages in the overall economy even though productivity in that sector did not increase. Accordingly, Summers (2012) argued that government spending as a share of the economy will increase merely to maintain the same level of public services, because the prices of government services grow faster than the average price level in the economy.[2]

There is evidence that in most advanced economies the higher share of government consumption in the economy largely reflects faster growth in the price of services provided by the government compared with the private sector. In contrast, in most emerging market economies, the increase in the government consumption share of GDP has been predominantly driven by growth in the volume of goods and services provided (Figures 2.1.1 and 2.1.2). Disentangling the impact of volume growth from that of price increases is only feasible for government consumption—the second largest contributor to rising government spending—and investment for which deflators are available. The exercise, therefore, excludes social benefit transfers.

[1] For empirical investigations of Wagner's law, see Akitoby and others (2006) for emerging market economies, and Lamartina and Zaghini (2011) for OECD countries. Kuckuck (2014) finds evidence that the demand for government services stabilizes after a certain level of income. Results in this box are consistent with this literature.

[2] Nordhaus (2008) estimates the impact of Baumol's cost disease for the U.S. economy; Hartwig (2008) for the health sector in OECD countries; and Medeiros and Schwierz (2013) for the health sector in the European Union.

Figure 2.1.1. Government Spending Trends



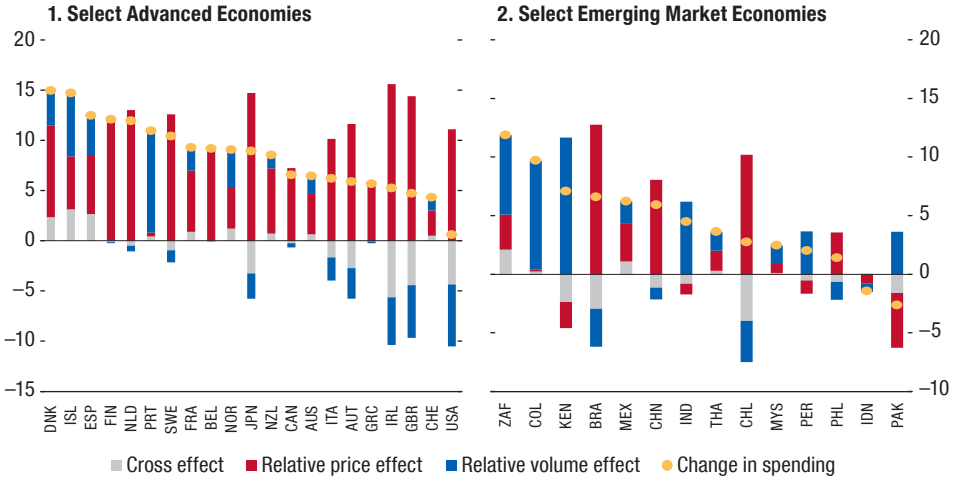
Sources: European Commission; national sources; World Bank; and IMF staff estimates.

Econometric analysis provides evidence supporting both Wagner's law and Baumol's cost disease for government consumption, but not for public investment (Table 2.1.1). An estimation of government consumption in real per capita terms (as a function

Box 2.1 *(continued)*

Figure 2.1.2. Government Consumption Growth, 1960–2011

(Percent of GDP)



Sources: European Commission; national sources; World Bank; and IMF staff estimates.
Note: A standard decomposition formula was used:

$$\Delta\frac{C}{Y}=\left[\frac{P_T^G}{P_T^Y}-\frac{P_0^G}{P_0^Y}\right]\frac{c_0}{y_0}+\left[\frac{c_T}{y_T}-\frac{c_0}{y_0}\right]*\frac{P_0^G}{P_0^Y}+\left[\frac{c_T}{y_T}-\frac{c_0}{y_0}\right]\left[\frac{P_T^G}{P_T^Y}-\frac{P_0^G}{P_0^Y}\right]$$

where C = nominal government consumption; Y = nominal GDP; P^G = government consumption deflator; P^Y = GDP deflator; c = real government consumption; y = real GDP; T = time; and 0 = initial time.

Table 2.1.1 Long-Run Elasticities for Government Consumption and Gross Fixed Capital Formation

	Government Consumption			Gross Fixed Capital Formation		
	All	Advanced Economies	Emerging Market Economies	All	Advanced Economies	Emerging Market Economies
Demand Side						
Spending to Income	1.067***	1.273***	1.037***	0.892***	0.876***	0.958***
Elasticity	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.009)
Spending to Relative Price	–0.384***	–0.939***	–0.154***	0.093***	0.036***	0.136***
Elasticity	(0.004)	(0.005)	(0.014)	(0.007)	(0.008)	(0.024)
Supply Side						
Relative Prices	0.390***	0.462***	0.310***	–0.220***	–0.250***	0.079
	(0.038)	(0.039)	(0.033)	(0.047)	(0.048)	(0.072)

Source: Alt, Shabunina, and Tapsoba (forthcoming).
Note: *** indicates that the parameter is significant at the 1 percent level.

of real income per capita and the price of government services relative to the overall price level) suggests that the demand for government services increases as countries become richer. Unlike consumption, government investment is a normal good and increases at a slower pace than income.

The fact that the relative price of government consumption is positively associated with productiv-

Box 2.1 *(concluded)*

ity growth of the overall economy validates Baumol's hypothesis—even with an unchanged volume of services, government consumption as a percentage of GDP would increase because its costs exceed productivity gains. To be sure, the impact could be mitigated by measures raising the efficiency of government spending—arguably a factor behind the stabilization of the share of government spending in GDP in advanced economies since the mid-1980s. In contrast, the Baumol effect is absent for government investment.

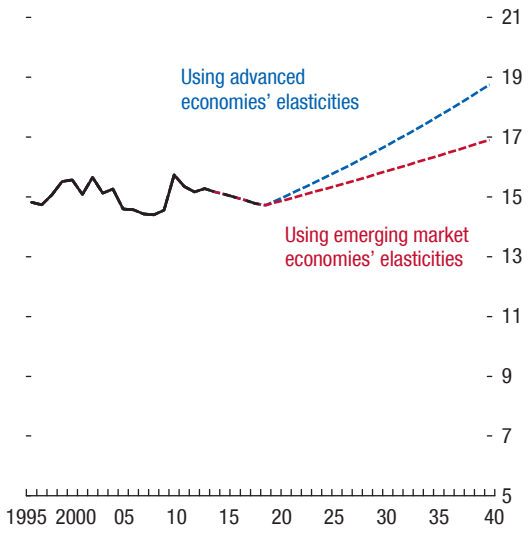
These findings imply that upward pressure on government consumption will continue, though possibly at a slower pace as income and productivity growth level off.

Based on these results, in the absence of spending reforms, government consumption in emerging market economies can be projected to increase through 2050 by 3 percentage points of GDP (based on the elasticity found for emerging economies) or 6 percentage points of GDP (based on the elasticity for advanced economies).[3] By far the largest share of the increase in the ratio of government consumption to GDP is explained by the increase in relative prices in the government sector resulting from Baumol's cost disease (Figure 2.1.3). Since wages of public employees are the core of Baumol's cost disease, the above projections imply continuous growth in the wage bill as a share of GDP, even if public employment growth is contained.

In contrast, investment in emerging market economies is projected to remain broadly stable as a percentage of GDP or even to decrease (depending on the elasticity used). However, based on past trends, the relative price of investment in emerging market economies is likely to decline, which should allow them to expand their public capital stock even while maintaining a constant share of investment spending.

Nevertheless, these projections need to be treated with caution. As indicated, they are passive simulations that assume that cost pressures are accommodated. In addition, this exercise does not allow for nonlinear effects. The trends of the past decades in advanced economies suggest that public spending levels off once per capita GDP reaches a certain threshold (Kuckuck, 2014, finds evidence in this direction).

Figure 2.1.3. Emerging Market Economies: Government Consumption, 1995–2040
(Percent of GDP)



Source: Alt, Shabunina, and Tapsoba (forthcoming).

[3] Based on long-term population forecasts by the United Nations and *World Economic Outlook* growth projections (assuming that output gaps close within five years). Productivity growth is assumed to slow (from 5 percent to about 2 percent per year) in emerging market economies but increase (to 5 percent annually) in low-income countries in line with the historical experience of advanced economies.

Box 2.2. Structural Measures and Social Dialogue

Examples of structural measures on public wage formation and hiring include the following:

- *Reassessing employment level adequacy* might require increasing working hours (Portugal, 2009–13; Spain, 2011) or reducing overtime, depending on needs (Greece, Ireland, 2009–12); closing certain government agencies (Greece, 2009–12); or reallocating positions across departments.
- *Outsourcing noncore functions* may be investigated as these functions in certain areas can be provided more efficiently by the private sector (United Kingdom, 1994). Noncore functions such as transport, mail, cleaning, and maintenance are potential candidates for outsourcing.
- *Tightening the link between pay and performance* can help connect wage increases to individual and organizational performance and create incentives to improve efficiency and productivity (Ireland, 2011).[1] Linking pay to performance might also require simplifying and decompressing the salary structure (Latvia, 2008–10).
- *Spending reviews* are organizational audits of the functions of government agencies that attempt to determine the optimal organizational arrangement for government tasks. They provide the basis for defining specific measures to be implemented and can identify areas of duplication and overlap. Such reviews have been used in Canada in 1991, the United Kingdom in 1994, 2010, and 2013, and Portugal in 2013, among others.

Different vehicles have been used to foster social dialogue:

- *Public information campaigns* are a useful tool for informing employees early on of the detailed administrative and financial aspects of the reform. The public should also be made aware of the objectives of reforms to defuse opposition while securing the support of opinion leaders (Canada, 1991–92).
- *Consultation within the public administration* should allow staff from different parts of the administration to be involved in the reform effort (Portugal, 2013).
- *Negotiations with unions* can help the government and social partners reach agreement on comprehensive reforms (Austria, 1996–97; Italy, 1993–95; the Netherlands, 1984–86; Ireland, 2010).[2]

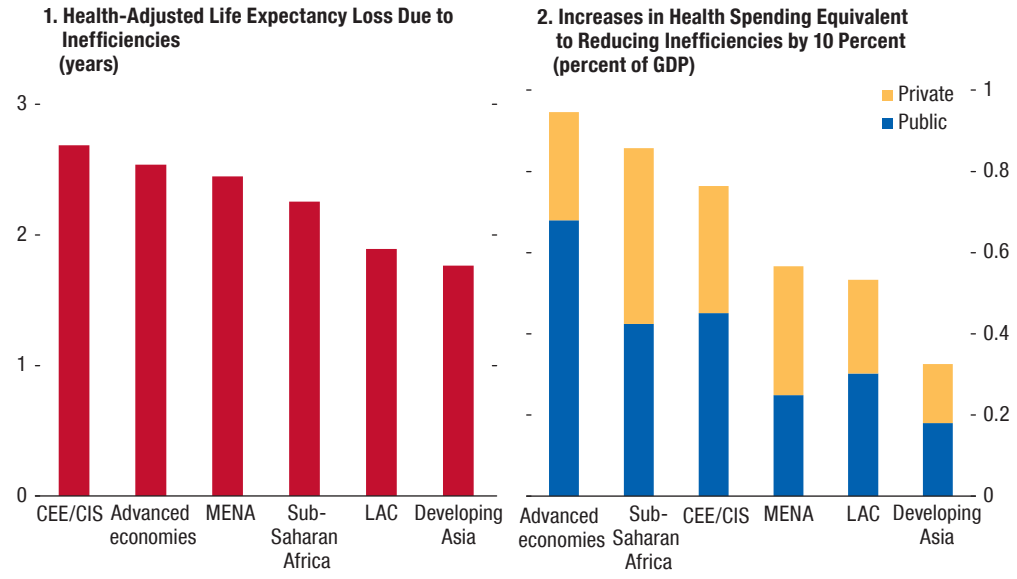
[1] For a discussion of strengths and weaknesses of performance related to pay in the public sector, see OECD (2005).

[2] See Blanchard, Jaumotte, and Loungani (2013) for a discussion of the critical role of trust between the unions and the government in recent labor market reforms, and how it has affected the success of these reforms.

Box 2.3. Health System Inefficiencies

A stochastic frontier analysis of health system inefficiencies indicates that the average loss in health-adjusted life expectancy (HALE) from inefficiencies is, on average, more than two years (panel 1 of Figure 2.3.1), which is similar to the findings of Joumard, Andre, and Nicq (2010) and Grigoli and Kapsoli (2013). This loss is substantial, given that increasing health spending by 50 percent would extend life expectancy by only about one year, on average. The HALE loss ranges from 1¾ years in Developing Asia to 2¾ years in Central and Eastern Europe/Commonwealth of Independent States (CEE/CIS), suggesting there is scope for improvements in all country groups. The potential gains from reducing health system inefficiencies are large; for example, reducing health system inefficiencies by 10 percent (holding all inputs constant) could, on average, result in the same gains in HALE as increasing total health spending (holding other inputs constant) by about 0.7 percent of GDP (or public health spending by 0.4 percent of GDP, assuming its share in total health spending stays the same) (panel 2 of Figure 2.3.1).

Figure 2.3.1 Estimates of Health System Inefficiencies



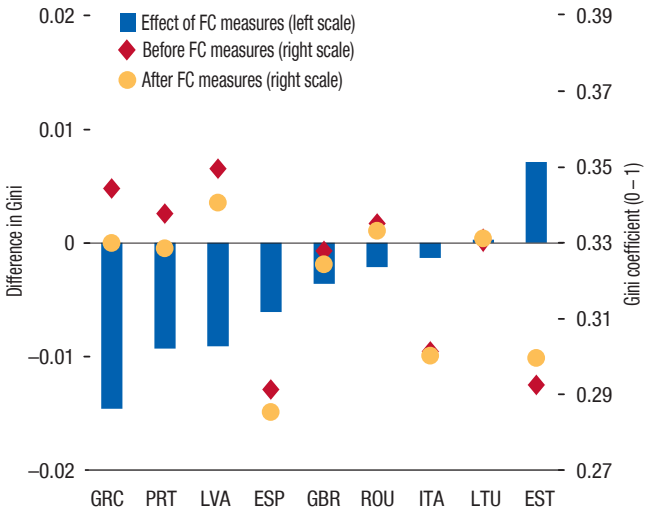
Source: IMF staff estimates.
Note: The analysis uses a similar approach to Grigoli and Kapsoli (2013); please refer to it for a detailed discussion of methodology and model specification. It should be noted that the efficiency estimates from this methodology only capture the extent to which health inputs contribute to health outcomes as measured by health-adjusted life expectancy (HALE) data. The population may also benefit from health inputs in dimensions that are valued by patients and their families, but are not captured by HALE. CEE/CIS = Central and Eastern Europe and the Commonwealth of Independent States; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa.

Box 2.4. Fiscal Consolidations with Progressive Measures

The large fiscal consolidations under way in a number of economies have raised concerns about the potential impact on inequality. Evidence from recent fiscal consolidation episodes in Europe suggests that both revenue and spending measures can be designed in ways that reduce their relative burden on lower-income groups (Avram and others, 2013), although they may still lead to reduced income in the short term. Simulating the effects of fiscal consolidation measures on the Gini index for disposable income suggests that in seven out of nine economies, progressive adjustment measures helped offset the adverse effects of consolidation on inequality (Figure 2.4.1).

- Public sector wage reductions were progressive, as public sector employees were mostly skilled and educated workers, largely belonging to the middle- to upper-income groups, and because the cuts were generally structured to have a greater impact on higher-income workers.
- Cuts in untargeted benefits were largely progressive, whereas cuts to means-tested benefits were regressive.
- Proportional reductions in pensions across all beneficiaries proved to be strongly regressive as pensioners in the lower- to middle-income groups lost a greater share of their total income. In economies in which pension freezes or cuts were targeted to high pensions, the overall effect of these measures was progressive.
- Increases in income tax and social contributions proved to be mostly progressive, while increases in value-added tax rates were generally regressive.

Figure 2.4.1. Simulated Impact of Fiscal Consolidation Measures on Gini Coefficient, 2012



Source: Avram and others (2013).
Note: The effect of fiscal consolidation measures equals the difference between Gini coefficients before and after the fiscal consolidation measures. FC = Fiscal consolidation.

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