
Escaping High Debt: The Narrow Path Ahead

Lorenzo Forni and Marialuz Moreno Badia

17.1 Introduction

Previous chapters have highlighted the challenges faced by advanced economies with gross public debt increasing by more than 30 percent of GDP in the wake of the financial crisis. Although progress has been made since 2010 in adjusting fiscal balances, weak growth and downside risks restrict the room for maneuver of policy makers. Moreover some countries have been subject to market pressures leading to spikes in sovereign risk premia. Market confidence in these economies is indeed being currently sapped by what is perceived as an unsustainable level of public debt. In these countries the path to fully restore market confidence appears to be narrow. However, it is also a challenge for countries enjoying very easy financing conditions but still having large imbalances (e.g., the United States and Japan).

This chapter analyzes what should be the goal of fiscal adjustment and to what extent other nonconventional measures can help in restoring and maintaining market confidence in advanced economies. Section 17.2 addresses the reasons why fiscal adjustment cannot be delayed, and section 17.3 quantifies the size of the challenge. Section 17.4 focuses on the role of fiscal policy and, in particular, the speed and composition of adjustment. Section 17.5 explores whether other policies (beyond the fiscal arena) can support consolidation efforts, and section 17.6 concludes.

17.2 The Effects of Fragile Fiscal Positions

Advanced economies can be broadly divided into two groups based on the market assessment of sovereign risk. On the one hand, countries with high sovereign spreads tend to have high debt and deficit levels (figure 17.1). On the other, there is a group of countries that enjoy low borrowing costs—the two most notable examples being the United States and Japan—despite having high debt and deficits as well. In the particular case of the United States and Japan, markets have so far absorbed large

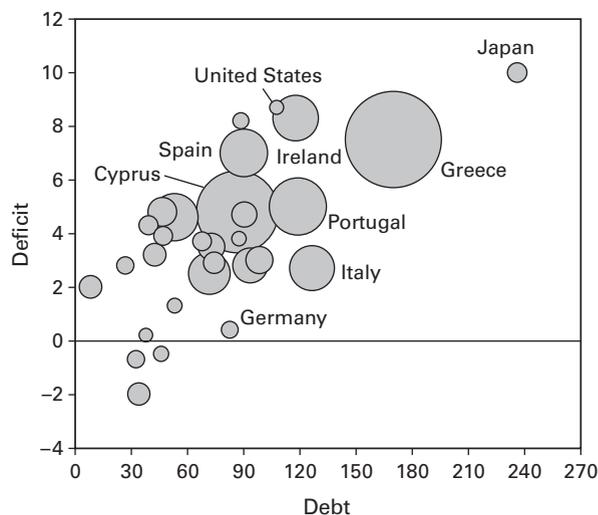


Figure 17.1

General government deficit, debt, and spreads, 2012 (percent of GDP). Bubble size represents five-year credit default swap spreads as of August 2012.

Sources: Markit; IMF staff estimates and projections

increases in public debt with ease thanks to a very accommodative monetary stance and amid expectations that fiscal adjustment will eventually take place.

Overall, the differences in yields between countries such as the United States and Japan, on one side, and the peripheral European countries on the other are related to a range of factors. First, the former have the status of reserve currency and have a monetary policy authority that intervenes heavily in the sovereign debt market. By contrast, the latter do not enjoy monetary sovereignty and therefore their bond market can suffer from runs that significantly reduce market liquidity (De Grauwe and Ji 2012). Also sovereign yields of advanced countries like the United States and Japan tend to be low if assessed against their historical relationship with fundamentals, while based on the same criteria those of peripheral euro area members seem to be too high (Di Cesare et al. 2012; Poghosyan 2012). Capital flight out of peripheral European countries into “safe havens” has indeed been the norm since the onset of the financial crisis, partly driven by uncertainties regarding the overall European governance and, despite recent improvements, the yield differentials and credit default swap (CDS) spreads between the two groups of countries remain large (figure 17.2).

A central bank can always step in and buy government bonds in order to maintain the market liquid and yields contained—thereby decreasing the likelihood of sovereign default. However, it is unclear how such a script would play out in the medium

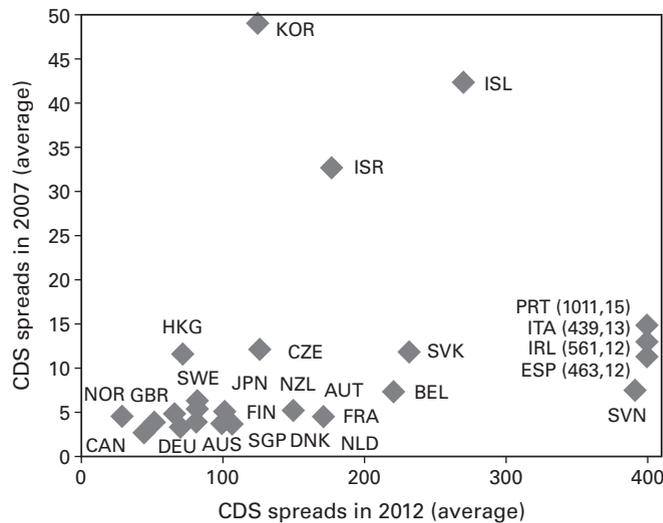


Figure 17.2

Sovereign CDS spreads, 2007 to 2012 (basis points). Data for 2012 represent the average from January until October 2012.

Source: Markit

to long run. The fiscal theory of the price level, for example, argues that when the central bank passively accommodates the development of fiscal policy, inflation expectations become guided by the fiscal authority. At that stage it might become very difficult for the central bank to steer inflation. In such a context, nominal rates can easily increase more than expected inflation, as market participants would ask for a premium due to higher inflation uncertainty and possibly exchange rate volatility. Thus monetary policy can buy some time for the fiscal authority to adjust, but cannot be the solution.

17.3 What Should Be the Goal?

The standard neoclassical theory of debt (Barro 1979) derives a very clear result about the optimal long-run level of debt: there is no such a thing. On the one hand, optimal taxation requires that tax rates should be kept as smooth as possible over time, which means debt must act as a shock absorber. When national income is unusually high, the government should run a surplus and decrease its debt, and vice versa. Under this optimal fiscal policy, the debt level drifts over time with no tendency to return to any particular long-run level. Tax rates, on the other hand, vary but just enough to pay for the change in interest payments.

Crucially, Barro's model disregards some aspects that seem to be particularly relevant at the current juncture. In particular, excessive debt levels are associated with slower growth and higher borrowing costs in the medium term. The effect on growth has been discussed in chapter 5 in this volume. Higher borrowing costs are due to the classical crowding out of private capital from government borrowing (Ardagna, Caselli, and Lane 2007; T. Laubach 2009; Baldacci and Kumar 2010; Alper and Forni 2011). If we allow for the possibility of sovereign default, high debt levels will also increase sovereign spreads and possibly bring a country to a sudden stop in foreign financing. Therefore reducing excessive indebtedness should be a priority. Box 17.1 discusses the trade-off between the costs related to the fiscal contraction necessary to bring down the debt level and the long-term benefits of permanently reducing it.

In general, the crisis has reinforced the view that the current debt levels can be dangerous and that countries should make all efforts to bring public debt to a

Box 17.1

Is reducing public debt beneficial?

An assessment of the macroeconomic effects of permanently reducing the debt level needs to take into account both the short-term cost of the fiscal adjustment and the long-term benefits of having a lower level of debt. The latter brings about smaller levels of interest payments—which frees resources that can be used for tax cuts or spending increases—as well as lower long-term interest rates reflecting the increase in domestic savings. Tax cuts coupled with a reduction in long-term interest rates can, in turn, support economic activity.

To quantify the long-term gains of reducing public debt, Leigh et al. (2010) use the global integrated monetary and fiscal model (GIMF) and assume that the decrease in interest expenditures translate into a reduction in labor income taxes. Their simulations suggest that GDP would be lower than in the baseline for three years before rising above the baseline forever. Using a similar general equilibrium model, Forni et al. (2010) show that tax distortions can be significant (especially in some European countries) and that cuts to public expenditures that are large enough to allow for reductions in both tax rates and debt ratios can have limited negative effects on GDP. In particular, reductions in tax rates boost households' disposable income and ease distortions, leading to an increase in private consumption and investment that partly offsets the drag on GDP due to the expenditure cuts.

Although, on the one hand, these models suggest that permanent reductions in public debt are beneficial in the long term, short-term costs may be underestimated given the current constraints in the conduct of monetary policy and the fact that many countries have to implement fiscal consolidation at the same time. On the other hand, these studies may not fully capture the increased resilience of the economy to shocks after a reduction in the debt level.

safe level.¹ The latter can be defined as the one that the tax authority can reasonably sustain even in the face of significant adverse shocks. Nevertheless, assessing what is a “safe” level of debt is not straightforward in practice. First of all, the safe level will depend on a variety of country-specific characteristics. One important of such characteristics is the starting level of debt. Countries with a very high level will have to trade off the cost of adjusting with the benefit of having a lower level. Second, countries are subject to different types and magnitude of shocks (see chapter 1 in this volume). Third, the size of the automatic stabilizers and preferences over how much to use discretionary fiscal policy as a countercyclical tool vary across countries. In this regard countries that, *ceteris paribus*, intend to use fiscal policy more heavily as a countercyclical tool should aim for lower levels of debt. Finally, the exposure to contingent liabilities, especially in the banking sector, will be different from country to country. It is beyond the scope of this chapter to recommend a specific debt target. However, it is clear from the above discussion that many advanced countries should aim at reducing substantially their current debt level.

Table 17.1 presents some benchmarks that can help guide our thinking on this issue. The first one is the primary balance that countries would need to reach just to stabilize the debt at the current (2013) level (column 5). This is a sort of lower bound on the adjustment effort. The second benchmark is the primary balance that would be needed to bring the debt ratio to 60 percent by 2030 (column 4). This should be considered an ambitious target. In particular, it might require an improvement in the primary balance difficult to achieve over the medium term, also considering the weak cyclical position.² A reasonable target for the cyclically adjusted primary balance (CAPB) would likely be in between these two values. In this line, there is an increasing focus in the policy debate on attaining some given fiscal balance (e.g., a budget balance) that would lead to a decline of the debt ratio over time rather than targeting a specific debt level (IMF 2013a).³

According to these benchmarks, a number of countries should adjust their primary balance by more than 2 percentage points as compared to the 2013 CAPB level in order to stabilize their debt. Among these, Japan is an outlier requiring an adjustment of over 10 percentage points of GDP. The required adjustment to reduce the debt to 60 percent is even more demanding. But what is most striking is that the level of primary balance that these countries have to attain (and maintain) exceeds the best historical performance. In particular, since the 1950s the distribution of the maximum ten-year moving average primary surpluses shows a median of 3.25 percent of GDP among advanced economies (IMF 2013b) while the required CAPB for those countries with debt above 90 percent is close to 5 percent of GDP on average. These figures give a sense of the dimension of the challenge.

Table 17.1

Advanced economies: Illustrative adjustment needs (percent of GDP)

	2013		Illustrative fiscal adjustment strategy to achieve debt target in 2030				
	Gross debt ^a	CAPB ^b	Age-related spending, 2013–2030	CAPB in 2020–2030 ^c	Required adjustment 2013–2020	Required adjustment and age-related spending, 2013–2030	Debt stabilizing CAPB ^d
	(1)	(2)	(3)	(4)	(4) - (2)	(4) + (3) - (2)	(5)
Austria	74.4	0.5	4.1	1.3	0.8	4.9	0.4
Belgium	100.9	1.1	6.4	4.0	2.8	9.3	1.7
Canada	36.5	-2.3	3.6	0.5	2.8	6.5	0.0
Denmark	47.1	2.3	1.6	0.0	-2.3	-0.8	0.1
Finland	58.0	0.2	4.2	-0.1	-0.3	3.9	-0.2
France	93.5	-0.7	1.0	3.0	3.7	4.7	0.7
Germany	80.4	2.2	2.1	1.2	-1.0	1.1	0.6
Greece	175.7	4.8	1.2	6.8	2.1	3.3	-0.9
Iceland	93.2	2.8	1.4	2.6	-0.3	1.2	1.3
Ireland	123.3	-0.3	1.5	6.0	6.3	7.7	2.8
Italy	132.3	4.7	0.0	6.8	2.1	2.2	3.3
Japan	139.9	-8.6	1.6	6.7	15.3	16.8	1.8
Netherlands	74.4	1.9	6.3	1.8	-0.1	6.2	0.4
Portugal	123.6	1.1	1.2	6.0	4.9	6.1	2.5
Spain	93.7	-1.4	1.4	4.7	6.1	7.5	1.5
Sweden	42.2	-0.2	0.9	-0.2	0.0	0.8	-0.3
Switzerland	48.2	1.2	5.8	-0.5	-1.7	4.1	0.0
United Kingdom	92.1	-1.0	2.0	4.0	5.0	7.0	1.0
United States	106.0	-1.3	6.7	3.7	5.0	11.7	0.6

Sources: IMF, April 2013 *Fiscal Monitor*, and authors' calculations.

Note: The CAPB required to reduce debt and its comparison to the 2013 CAPB is a standardized calculation, and policy recommendations for individual countries would require a case-by-case assessment.

a. Gross general government debt, except in the cases of Canada and Japan, for which net debt ratios are used.

b. Cyclically adjusted primary balance (CAPB) is reported in percent of nominal GDP (in contrast to the conventional definition in percent of potential GDP). CAPB is defined as cyclically adjusted balance (CAB) plus gross interest expenditure, except in the cases of Canada and Japan, for which CAPB is defined as CAB plus net interest payments. Structural balances are used instead of CAB for Sweden and the United States.

c. CAPB needed to bring the debt ratio down to 60 percent in 2030, or to stabilize debt at the end-2013 level by 2030, if the respective debt-to-GDP ratio is less than 60 percent. For Japan, a net debt target of 80 percent of GDP is assumed, which corresponds to a target of about 200 percent of GDP for gross debt. The CAPB is assumed to change in line with *Fiscal Monitor* projections in 2011–14 and adjust gradually from 2015 until 2020; thereafter it is maintained constant until 2030. These calculations assume that the initial country-specific interest rate–growth differentials (based on *Fiscal Monitor* projections) converge over time to model-based country-specific levels with the speed of adjustment based on empirical estimates of the effect of public debt on the interest rate (Poghosyan 2012) and growth rates obtained from *Fiscal Monitor* projections for 2018. The assumption on interest rate–growth differentials for countries with IMF/EU supported programs and without market access (Greece, Portugal) is drawn from their debt sustainability analyses. The interest rate–growth differential is assumed to follow the endogenous adjustment path determined by debt levels from 2019 in the case of Portugal.

d. The cyclically adjusted primary balance (CAPB) needed to stabilize debt at 2013 levels.

17.4 The Role of Fiscal Policy

In this section we discuss how policy makers should approach these significant fiscal challenges. Specifically, we lay down six important principles that a successful fiscal consolidation strategy should follow. The first three are focused on the short-run challenges, while the second three refer to the long run.

1. *In the current weak economic environment, fiscal policy has to walk a fine line, proceeding with gradual but steady adjustments except in the presence of market pressures.* Fiscal multipliers tend to be high in recessions and in the presence of a liquidity trap (see IMF 2012a; also box 17.2). Thus large fiscal contractions can undermine growth and lead to short-run increases in the debt-to-GDP ratio, which may raise markets' concerns. In fact, recent evidence shows that large fiscal tightening can lead to an increase in spreads (see appendix in Cottarelli and Jaramillo 2012). On the other hand, fiscal adjustments cannot be too timid as promises of future adjustment are unlikely to be sufficient to ensure fiscal credibility. Moreover countries under market pressure do not have the luxury of choice and they will need to proceed at a faster pace.

2. *Fiscal targets should be set in cyclically adjusted terms within a clear medium-term plan.* Commitments expressed in terms of headline deficit-to-GDP risk giving way to vicious cycles where fiscal contraction reduces output and in turn calls for more retrenchment. Leaving aside short-term considerations, a budget deficit, even if due to a recession, will add up to the public debt. Therefore it is essential that the upward pressures on the debt be compensated in good times in order to avoid introducing upward biases in debt dynamics. For example, the German debt-brake rule aims exactly at avoiding this upward bias and it's a good reference of how rules can support an effective use of fiscal policy.

3. *In terms of composition, fiscal adjustment in advanced economies should rely primarily on reducing high levels of expenditures rather than on tax increases* (for a detailed discussion, see IMF 2010). In most advanced countries the level of taxation is high and the medium-term goal should be to reduce tax distortions. This can be achieved by broadening the tax bases (i.e., reducing deductions and tax expenditures) and decreasing tax rates or moving toward less distortionary taxes. A thorough revision of spending will also be necessary. In some countries, especially in Europe, this will provide an opportunity to reduce some of the spending increases approved before the crisis, especially related to public employees and pensions (see figure 17.3).

The three principles above are important elements to navigate in the short term, but it is essential to look beyond the immediate challenges. No success can be expected if policy makers do not build a medium-term course that is sound, fair, and

Box 17.2

Key features of past fiscal adjustments: Some lessons for the future

Recent episodes of large fiscal adjustments can provide some lessons on what are the factors contributing to a successful fiscal consolidation.

IMF (2012b) looked at eight large consolidation plans in European countries (Greece, Iceland, Ireland, Latvia, Lithuania, Portugal, Romania, and Spain) developed in 2009. Given the large size of the government and the collapse of revenues in the aftermath of the global financial crisis, the adjustment in these countries focused on spending. Nevertheless, the original plans experienced slippages due to three factors: first, growth proved to be lower than expected; second, in some countries large contingent liabilities materialized; and third, the initial fiscal position proved to be worse than initially estimated due to statistical revisions of past data. Mauro (2011) finds similar conclusions looking at the experiences of fiscal consolidation among G7 and European countries over the last twenty years.

Several factors explain the growth underperformance in recent adjustment plans. First, consolidation efforts have been large and concentrated on expenditure. The short-run effects of expenditure cuts tend indeed to be larger than those of equivalent revenue increases. Second, evidence suggests that short-run fiscal multipliers are larger in recessions than in expansions (Baum et al. 2012). This is because during periods of weak economic activity, monetary policy is constrained by the fact that interest rates are at the zero lower bound and therefore cannot be further reduced to accommodate the fiscal contraction; at the same time a larger number of firms and households might be liquidity constrained and be more dependent on government support and transfers; moreover some of the countries implementing the fiscal consolidation could not rely on devaluations, as they are part of a monetary union. Therefore the current state of the economy suggests caution in implementing fiscal consolidations. At the same time there is evidence that adjustments tilted toward expenditures rather than revenues have a higher likelihood of not being reversed and tend to be followed by higher economic activity in the medium term (Alesina and Ardagna 2010), and that tax increases can be very harmful to growth (Romer and Romer 2010).

This evidence suggests that given current circumstances, the speed of the adjustment should be moderate. Adjusting on the spending side seems to be the right course of action for countries with big governments, whereas part of the adjustment should come from revenues in those countries that have lower levels of taxation. In any case, fiscal adjustments should be designed and implemented with a view to minimize the negative effects on economic activity. First, reforming entitlement spending, especially pension and health, allows containing future expenditures without affecting too heavily private consumption in the short run. Similarly better targeting of social expenditures and of tax deductions in order to make sure that needy are receiving most support, it is not only the right thing to do from an ethical point of view, but it should also lead to a restraint in expenditures that has moderate effects on growth. Containing expenditures should also create space to reduce some taxes. Tax distortions can be reduced without leading to revenue losses by broadening the tax bases (i.e., reducing deductions and tax expenditures) and decreasing tax rates, or moving toward less distortionary taxes, for example, indirect and property levies.

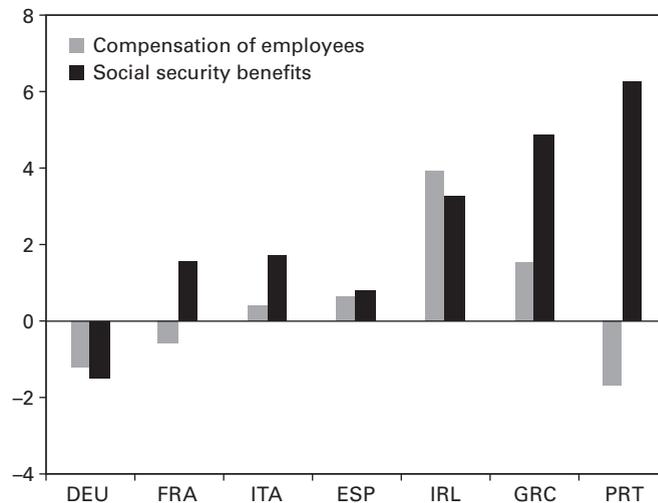


Figure 17.3

Spending increase in selected euro area countries, 2000 to 2008 (percent of GDP). Social security benefits are payable in cash and in kind to households by social security schemes, and include, for example, sickness, maternity, unemployment, retirement, and survivor's pension, death benefits. The dynamic of compensation of employees reflect also reclassifications. For example, Portugal in 2006 and 2007 has reclassified some hospitals outside the general government. This partly explains the drop in compensations shown in the figure.

Sources: IMF, *World Economic Outlook*; authors' calculations

sustainable. Here are three other important factors of a successful fiscal adjustment strategy.

4. *Reform efforts on age-related spending to make it more equitable and targeted should continue.*⁴ The adjustment needs reported in table 17.1 account for age-related spending. Although reforms have been widespread in the last few years (IMF 2012b), more has to be done. Improving targeting can be a way of containing cost while preserving the level of services. Moreover particular care should be used to protect the most vulnerable, as fiscal adjustments that are seen as unfair are unlikely to be sustainable.

5. *Reviving growth is essential and fiscal policy can contribute to improve activity and employment.* The effect of growth on fiscal sustainability is increasingly recognized as essential, by providing resources to accommodate some of the structural increases in expenditures and to reduce the burden of high debt levels. Product market and employment reforms remain the key to sustain growth and employment. There are many ways in which also fiscal policy can support economic activity and employment (Cottarelli and Keen 2012).

6. *Reforms to create credible fiscal institutions are important.* Evidence shows that fiscal prudence and fiscal institutions complement each other (see chapter 18 in this volume). Moreover good fiscal institutions can enhance the credibility of medium-term fiscal plans, creating fiscal space in the short run when it is needed. However, institutional changes take time, and therefore it is important that the reform momentum be maintained.

These six principles are surely not exhaustive and by any means they represent a challenging agenda. It will require hard work and persistence on the part of the policy makers to implement them even partially. But they are essential steps in order to set advanced economies on a sounder ground.

17.5 The Role of Other Policies

What contributions can other policies bring to the fiscal adjustments process? This section explores other tools (some more conventional than others) that have been used in the past to support fiscal adjustment.

17.5.1 Asset and Liability Management

The first standard tool to consider is the asset and liability management. The overall objective is to minimize the risk of the government being unable to service its obligations without unrealistically large adjustments in its revenues and expenditures (Rawdanowicz et al. 2011). In practice, it means choosing the size and structure of government assets and liabilities taking into account asset yields and debt servicing costs.⁵ This can support fiscal consolidation through two channels: first, asset management can help provide liquidity and reduce the stock of debt (through disposals); and second, by choosing the appropriate debt instruments, liability management can lead to lower debt service. Variations in strategy across countries can be justified given different assessment of trade-offs and market conditions. However, from the data it appears that there is scope to manage government balance sheets more actively in some countries, particularly on the asset side. Let's look at each component in turn.

Asset Management

On the asset side, one should distinguish between financial and nonfinancial assets:

- *Financial assets* (FAs) include currency and deposits, loans granted by the government, securities other than shares, shares and other equity, insurance and technical reserves, and other accounts receivable. In some cases there has been a substantial increase in FAs since 2008 as a result of the recapitalization or takeover of financial institutions during the crisis—for example, in Germany and the Netherlands (Hartwig Lojsch et al. 2011, sec. 3.3).⁶ In any case, the level of

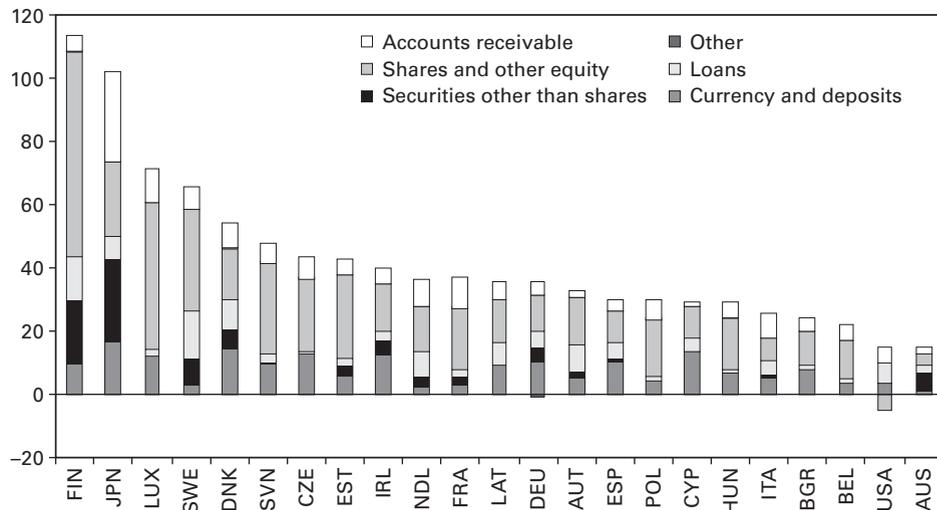


Figure 17.4

General government financial assets in 2012 (percent of GDP). For Japan, data as of 2010; France and Germany, data as of 2011. For all other countries, stock as of end of third quarter of 2012 (percent of GDP). “Other” includes monetary gold and Special Drawing Rights, financial derivatives, and insurance technical reserves.

Source: IMF, Government Finance Statistics

FAs differs considerably among advanced countries. The asset ratios are high in Finland, Japan, and Luxembourg (above 70 percent of GDP) while in most of the other countries they are below 40 percent of GDP (figure 17.4). In terms of composition, total securities are the largest category for most advanced countries, accounting for nearly half of financial assets on average.

- *Nonfinancial assets* (NFAs), in contrast, are stores of value that are used in the production of goods and services or that provide property income (System of National Accounts 2008). They are generally divided into produced assets (mostly inventories, valuables, and fixed assets; e.g., buildings) and nonproduced tangible (e.g., land and subsoil resources) and nontangible (e.g., leases and licenses) assets. Notwithstanding data shortcomings,⁷ it appears that produced assets—mostly buildings and structures—account for more than 65 percent of NFAs, and nonproduced assets consist almost entirely of land (Bova et al. 2013). Where data are available, it shows that NFAs are large and have grown over time. Moreover, in most countries, NFAs are larger than FAs on average by a ratio of 1.2 to 1.3 (figure 17.5).

If assets are held together with debt, it means that they are effectively debt financed. With the exception of Sweden and Norway, gross debt exceeds financial

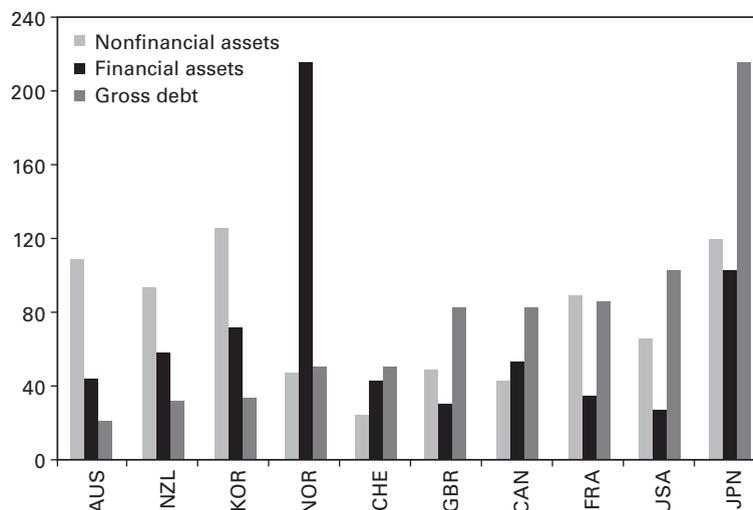


Figure 17.5

Key indicators of the general government balance sheet, 2010 (percent of GDP). Data for Switzerland are for 2009; data for France, the United Kingdom, and the United States are for 2011.

Sources: Eurostat; Organisation for Economic Co-operation and Development; IMF, Government Finance Statistics; IMF staff estimates and projections

assets by a relatively high margin. This bears the question of whether it makes sense for governments to have a higher gearing in order to finance those assets. A key parameter to look at in order to answer that question is the implicit rate of return on financial assets, but given data constraints, we focus on the general government interest revenue instead.⁸ On average, interest receipts in advanced economies amounted to about 1 percent of GDP in 2012 or an implicit interest rate of about 2 percent. This compares to an implicit rate above 3 percent on government debt, suggesting that, in some cases, the cost of debt could be higher than the returns from financial assets. Thus, from a purely financial point of view, there might be a case for divestment or at least for increasing the risk-adjusted return of those assets.⁹ Three options should be considered for that purpose:

- *Privatization.* The sale of government assets can be used more actively than currently is the case to help reduce gross debt. This would also boost economic growth provided that the regulatory framework addresses potential market failures. The argument is that public firms may distort relative prices and competition. Indeed empirical evidence points to divested firms being more efficient than public ones particularly in competitive industries (e.g., see Megginson and Netter 2001). Nevertheless, under current market conditions it may not be feasible to unwind equity participations in the short term. First, given its own deleverag-

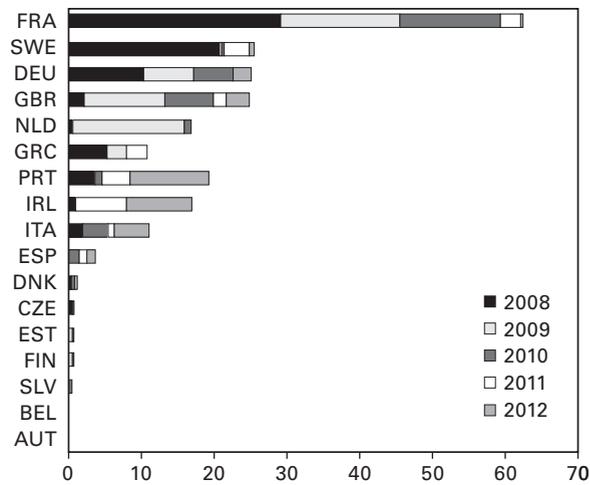


Figure 17.6

Privatization revenues (US\$ billion)

Sources: Megginson and Bortolotti (2011); Megginson (2013); Privatization Barometer

ing needs, the private sector may not be in a position to absorb large privatizations without significant discounts. Second, disposing of stakes in banks can only happen after the restructuring of the financial sector is well underway and this may take some time. Finally, liquidating assets may be politically challenging given that subnational governments and social security funds own a large share of assets in some countries (e.g., Canada, Germany, and the United States). Even with these constraints, privatization may ultimately be the best course of action as it could reduce transfers to unprofitable enterprises and eliminate quasi-fiscal operations that end up increasing public debt (see Davis et al. 2000). This is in fact an important pillar in some recent IMF-supported programs. For example, Ireland was the leader among EU countries in privatization during 2011 (figure 17.6).

- *Securitization.* This avenue does not involve the disposal of a government asset but allows to immediately cash in a stream of revenue pledges (e.g., securitization of lottery receipts or future payments of employers' social security contributions). This option has been used in the past by countries facing financing difficulties or unable to access the market. However, securitization could give rise to an increase in the cost of funding as it implies a future revenue loss, and thus higher deficits down the road. Nevertheless, some argue that it can improve the governance and efficiency of the asset used to back the issue as the new creditor may be more aggressive to recoup costs (see UBS Investment Research 2011).

Also securitization puts a price on the government asset, which can be used as a benchmark to decide on whether it is worthwhile to sale that asset in the future. But, for the full benefits of securitization to be realized, the accounting of the transaction should be transparent so that there is not a perception that deficits/debt have been artificially reduced without an underlying improvement.

- *Leaseback.* In most countries public administrations occupy state-owned buildings for which the rents are far from market rates if set at all. There are several alternatives to exploit these real estate assets. The simpler option is to sell the asset but the government can also lease the property itself. The idea is to rent buildings in prime locations and relocate government offices to less expensive areas. Another option is to securitize the rents from a real estate portfolio either through a bond (with coupons paid by rents) or a private company (holding and managing real estate assets) issuing debt. This approach is a way of revealing asset prices, forcing the government to undertake better valuations. However, as with securitization, the accounting of these operations should appropriately capture the transfer of value and other nontransactional economic flows.

Liability Management

It is now generally accepted the objective of debt management should be to contribute to reduce fiscal vulnerability by providing insurance against budget shocks so as to support optimal taxation or to stabilize the debt-to-GDP ratio.¹⁰ However, the fiscal insurance approach does not give precise guidelines on the type of bonds to be issued or their maturity and, in practice, debt managers focus on minimizing costs subject to an acceptable level of liquidity risks. The risk-cost profile of debt is largely determined by (1) its maturity distribution, (2) the use of indexed debt instruments, and (3) the investor base. Under current conditions, however, the scope to reduce debt servicing costs by managing the debt profile may be limited.

- *Term structure of debt.* At the onset of the financial crisis, many advanced economies shortened their public debt in an attempt to raise additional funds quickly at the lowest possible cost.¹¹ Since then, the average maturity has increased somewhat (figure 17.7). As gross financing needs are quite large and the yield curve has steepened for some countries in the last years, it may be tempting to exploit the short end of the yield curve by reducing the maturity structure. A counterargument is that heightened debt rollover risks (figure 17.8) could lead to a sudden significant deterioration in the fiscal position. In addition, assets may not provide much buffer in the short term (as discussed above). Thus it may be desirable to extend maturities to the extent possible. This would also help lock in long-term interest rates, which are at historical lows in some countries and would likely rise in the medium term as monetary policy moves to a neutral stance.

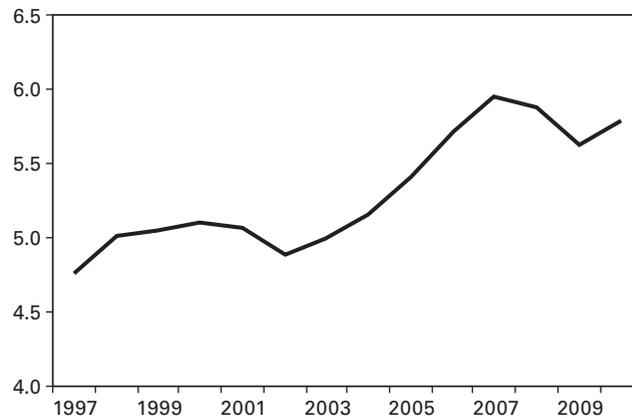


Figure 17.7

Advanced economies: Average term-to-maturity (years). Data refer to central government debt. Countries included in the sample are Australia, Belgium, Canada, Denmark, Czech Republic, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden, and United States.

Source: Organisation for Economic Co-operation Development

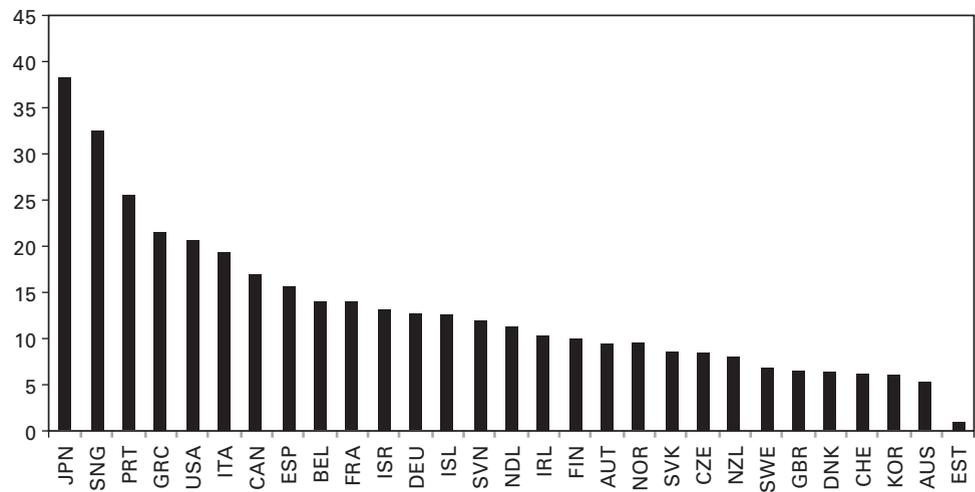


Figure 17.8

Debt to maturity, 2013 (percent of GDP). Gross debt to average maturity is an indicator of the rollover risk.

Sources: Bloomberg; authors' calculations

- *Indexed-debt instruments.* In principle, indexed instruments could provide a hedge against macroeconomic shocks that could be valuable for governments in the current economic environment. For example, a debt instrument indexed to the rate of growth of GDP would help insure against economic slowdowns and allow countries to avoid procyclical fiscal policies (Borensztein and Mauro 2004). However, how well these instruments perform depends on the type of shocks. On the one hand, inflation-indexed bonds (or GDP indexed) provide a good insurance in the case of negative demand shocks (Missale 2012). On the other hand, if the economy is prone to supply shocks, with inflation and growth moving in opposite directions, nominal debt would be better than GDP indexing for hedging purposes. In any event, the use of this type of instruments is hampered by (1) thin or nonexistent markets and (2) lagged data releases and revisions. Given these obstacles, it is unlikely this type of instruments would be beneficial in the short term unless several countries develop a market of a significant scale.
- *Investor base.* Since the onset of the crisis, the trend toward nonresident investors has stalled and, in some cases, the investor base has shifted back toward domestic holders. First, central banks have become important players as a result of quantitative easing programs. Also domestic commercial banks have increased their holding of government bonds, partly to obtain collateral. These swings may not be entirely optimal as the link between domestic banks and the sovereign may create adverse feedback loops. Also a more diversified base can reduce vulnerabilities by pooling investors with different degrees of risk aversion. At the same time there is increasing evidence that the entry of foreign investors may lead to lower yields (see Peiris 2010; Andritzky 2012). By the same token, countries with too high concentration of foreign investors are more susceptible to financial crises given that they are less committed to these assets (Das et al. 2010). Overall, debt managers should strive to issue instruments that attract a large and stable investor base (to the extent possible) as this would provide for lower yields and reduced rollover risks.

17.5.2 Central Banks

What role, if any, should monetary policy—and more broadly central banks—play in the face of fiscal consolidation? Theoretical analyses have not yet provided a clear answer. At the heart of the discussion is the game of chicken described in Sargent and Wallace (1981), whereby the first mover constrains the actions of the follower. In this world, if the fiscal authority moves first (fiscal dominance), it can ultimately force the central bank to generate inflation in order to satisfy the government's intertemporal budget constraint. But, assuming that the fiscal authorities were tempted by this route, exactly how much inflation would be needed to wipe out the debt problem?

Higher inflation could help reduce public debt through three main channels. First, governments can capture real resources by base money creation (*seigniorage*). Second, inflation can erode the real value of the debt. Finally, inflation can affect the primary balance, including if brackets are not indexed under a progressive income tax. Akitoby et al. (2013) simulate the effect of the first two channels for the Group of Seven (G7) countries if inflation were to average 6 percent annually over 2012 to 2017—compared to an average inflation of 1.6 percent over the same period in the baseline *World Economic Outlook* projections. Given the relatively low levels of base money in most advanced economies, the cumulative seigniorage over five years under that scenario would be about 2.5 percentage points of GDP. The debt erosion channel would have a stronger impact. In particular, the same increase in inflation under assumptions of a constant debt maturity structure, no impact of inflation on economic growth, and a one-for-one adjustment to inflation of nominal interest rates on newly issued debt (full Fisher effect) would reduce the average net debt-to-GDP ratio by less than 10 percentage points by the end of the period for most countries (other than Japan and Italy, where the effect would be larger) (figure 17.9).¹² The erosion effect would drop rapidly after five years, because an increasingly large share of securities would have been issued at higher interest rates, including to replace maturing debt that had been issued at lower rates.

Thus, although inflation could help lower public debt, it could hardly solve the debt problem on its own and would raise significant challenges and risks. First, it might be difficult to create higher inflation in the current economic environment, as

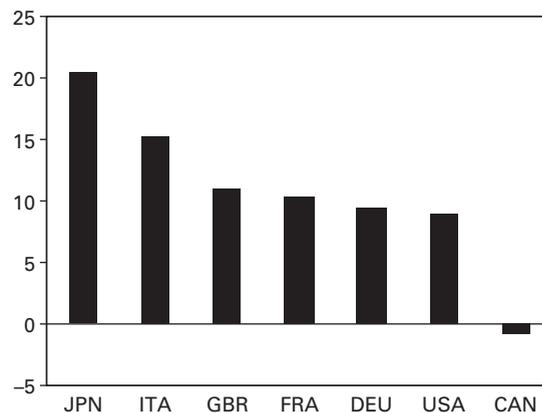


Figure 17.9

Impact of inflation on net debt reduction, 2017 (percent of GDP). The scenario depicted in the figure implies an increase in inflation by 4.4 percentage points over the projected average inflation of 1.6 percent.

Source: Akitoby et al. (2013)

evidenced by Japan's experience in the last decades. But, more important, for inflation to erode debt, the monetary authorities would have to overshoot their goal persistently, and thus expectations would not be anchored around the inflation target. This would undermine the credibility of the framework built over the past three decades to control inflation. Introducing some form of financial repression would keep interest rates low and enhance the effectiveness of this policy on debt reduction, but cause additional collateral damage to the economy (see the discussion below).

In view of these findings, it is difficult to see how "fiscal dominance" could be a dominant strategy, particularly in the absence of financial repression that prevented nominal rates to adjust to higher inflation. But this does not mean that monetary policy should pursue price stability without reference to fiscal policy (monetary dominance). As we discussed earlier in this chapter, fiscal consolidation is likely to have short-run contractionary effects on output and inflation, though multipliers and lags will vary. Thus, to the extent that fiscal policy is credibly expected to tighten with an impact over the central bank's time horizon for policy making, interest rates should be cut and/or remain low taking into account the lags of monetary and fiscal policy implementation. This argument is further strengthened considering that many countries are undertaking consolidation simultaneously with negative spillover effects (Leigh et al. 2010).

The empirical evidence actually shows that reductions in interest rates support output during episodes of fiscal consolidation, increasing the likelihood of success. For example, Hellebrandt et al. (2012) look at a sample of 17 advanced countries for the period 1978 to 2009 and find that successful consolidations tend to be preceded or accompanied by greater monetary loosening than unsuccessful consolidations, particularly as the size of consolidation increases. Simon et al. (2012) review the historical experience of six advanced countries and find similar conclusions.¹³

But beyond implementing an accommodative monetary policy, is there anything else central banks can do to facilitate fiscal consolidation? After all, policy rates are already at historical lows in many advanced economies and the scope for further cuts is small. Still, in some cases, it would appear the monetary transmission mechanism remains impaired and further measures would be justified. With that view, several central banks have announced/implemented unconventional policy measures. On the one hand, in the United States there have been three rounds of quantitative easing (QE). While QE1 was undertaken to intervene in dislocated segments of the market (credit easing), QE2, Operation Twist, and more recently QE3 targeted the long end of the yield curve.¹⁴ The Bank of Japan, on the other hand, has recently adopted a new quantitative and qualitative easing (QQE) in an effort to achieve 2 percent inflation within two years. Meanwhile the Bank of England has launched the Funding for Lending Scheme to ease bank credit conditions for households and businesses. Finally, the European Central Bank (ECB) introduced the Security Market

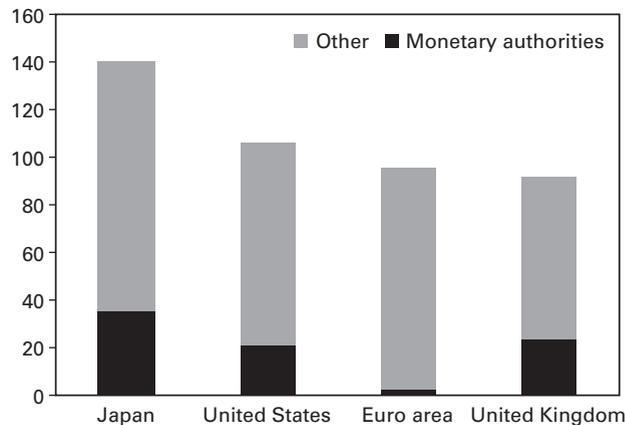


Figure 17.10

General government debt by holders (percent of GDP). Gross government debt except for Japan, which is net. Data as of 2013 Q3. US debt includes holdings of agency debt and mortgage-backed securities. Sources: Bank of England; Bank of Japan; European Central Bank; Federal Reserve; IMF, *World Economic Outlook*

Purchases (SMP) and, more recently, the Outright Monetary Transactions (OMT), with the aim of addressing distortions in the government bond market. Although the design and rationale of unconventional policies varies across countries, all major central banks have intervened in the sovereign debt market to a greater or lesser extent (figure 17.10).

Purchases of sovereign debt in the secondary market are, however, not without controversy and some see them as a form of fiscal dominance that could jeopardize price stability.¹⁵ Nevertheless, the increased interlinkages between the government and financial sector balance sheets may justify this policy as a last resort. This is particularly the case in the euro area where monetary financial institutions hold a large share of domestic government paper—25 percent of GDP on average (figure 17.11).¹⁶ As a result declines in government bond prices have contaminated the financial sector creating a vicious feedback loop between the pressure to deleverage and lower asset prices, hindering the necessary balance sheet repair. These dynamics have ultimately led to financial sector fragmentation within the euro area (as capital flowed from the periphery to the core and outside the euro area), and threatens financial stability and growth prospects.

The analysis above suggests that an active role of central banks in stabilizing the demand for sovereign bonds can avoid adverse tail scenarios of self-defeating deleveraging. In the absence of intervention in government bond markets, the central bank may be forced into providing exceptional support to banks that may not

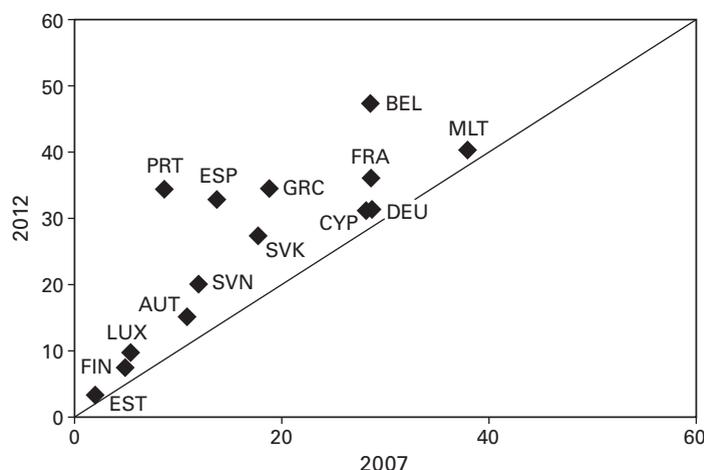


Figure 17.11

Sovereign debt held by domestic financial institutions (percent of GDP). Data for Greece refer to 2011. Sources: European Central Bank; IMF, *World Economic Outlook*; authors' calculations

otherwise have been necessary. That option is likely to require more resources than a bond market intervention, and it does not directly address the balance sheet damage done by valuation losses stemming from the sovereign.

A supporting argument is that central bank intervention should not necessarily lead to higher inflation when the financial sector is deleveraging, its demand for liquidity is high, and fiscal adjustment is proceeding. Indeed, international experience also shows that large-scale balance sheet increases are a viable monetary policy tool provided the public believes the increases will be appropriately reversed (Anderson et al. 2010). This makes a credible fiscal adjustment path a critical component of the strategy. Finally, to avoid time inconsistency, last resort lending could arguably be conducted at penalty rates but below levels that would suggest a self-fulfilling default. In practice, the cost of central bank borrowing should not be higher than the level consistent with debt sustainability under conservative growth projections and full implementation of planned consolidation.

17.5.3 Financial Repression

With public debt at historical highs, financial repression has been suggested (or seen as inevitable) by some as an alternative way to lower public debt. In simple terms, financial repression occurs when governments interfere with free-market activity to channel funds to themselves. Financial repression can take many forms, including directed lending, caps on interest rates, controls of cross-border capital flows, and public ownership of banks or moral suasion. But regardless of the form it takes, its

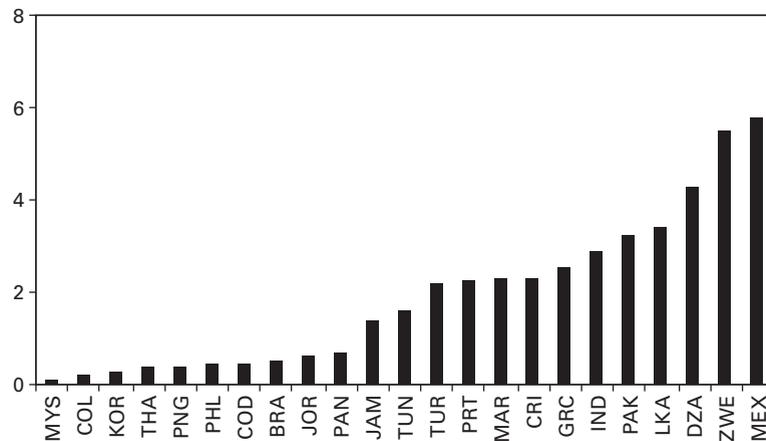


Figure 17.12

Revenue from financial repression 1972 to 1987 (percent of GDP). Annual revenue from financial repression estimated as the difference between the foreign and domestic cost of funds times the domestic stock of government debt.

Source: Giovannini and De Melo (1993)

primary goal is to keep real yields below market-clearing levels. From that perspective, financial repression is most effective in liquidating debt when it is accompanied by inflation.

Some argue that financial repression is indeed making a come-back: Reinhart et al. (2011) talk about financial repression emerging under the guise of prudential regulation, while Magud et al. (2011) note an increasing trend to introduce capital controls. But, what is the evidence regarding its effectiveness? The empirical literature initially focused on the use of financial repression in emerging markets prior to the financial liberalization of the 1980s. For example, Giovannini and De Melo (1993) estimated that the average annual government revenue from financial repression for a sample of 22 countries over the period 1972 to 1987 was 2 percent of GDP—but with substantial variation across countries (figure 17.12). More recently Reinhart and Sbrancia (2011) have looked at the post–World War II experience in advanced economies. During this period tight capital controls and interest rate ceilings resulted in low nominal rates, which delivered consistently negative real rates with the aid of inflation. The amount of debt reduction brought by financial repression was quite substantial with estimates of the annual liquidation effect ranging from about 1 percent of GDP in Sweden to more than 5 percent of GDP in Italy (figure 17.13).

Given these experiences, it is natural to ask whether financial repression could help this time around. Several factors suggest that this might not be the case. First,

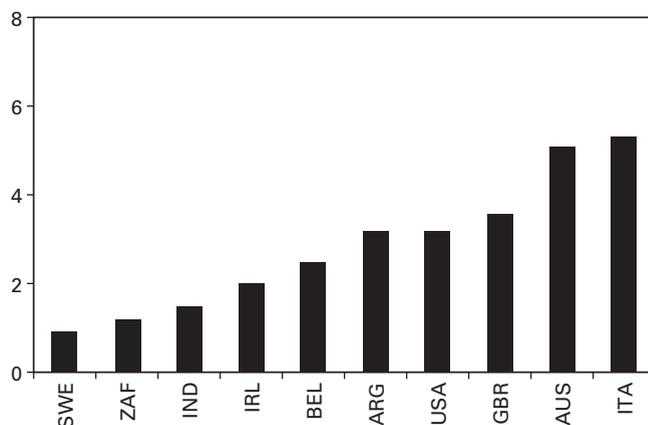


Figure 17.13

Liquidation effect of financial repression, post-World War II (percent of GDP). Average annual liquidation effect reflects the savings to the government from having a negative real interest rate on government debt.

Source: Reinhart and Sbrancia (2011)

global capital mobility was limited at the time, making it easier to capture and retain capital through repressive policies. However, in the current economic and financial environment it would be much more difficult to introduce a set of controls and regulation to effectively stop leakages.¹⁷ This would probably require an almost universal policy (with attendant coordination problems), leading to a much less financially integrated world. One difficulty is that the public debt challenge is not equally strong in all advanced economies, let alone emerging economies. So the incentives for a coordinated action will not be high. Second, persistent inflation surprises were tolerated relatively well by the markets in the postwar era, which is unlikely to be the case this time around. Finally, financial repression becomes more challenging as the scale and the scope of repression required increases.

Even if one was to successfully introduce some form of financial repression, there are costs and risks associated with it. First and foremost, financial repression can inhibit growth over the medium to longer term because it tends to promote inefficient capital allocation crowding out productive investment.¹⁸ While growth prospects were bright in advanced economies after World War II (because of global rebuilding and favorable demographics), partly offsetting the distortions and loss of output associated with financial repression, at present advanced economies can no longer afford the reduction of an already meager potential growth.¹⁹ More important, financial repression can lead to market distortions like asset booms/busts, sudden stops, and capital flight, setting the stage for the next big crisis.

17.5.4 Debt Restructuring

The final measure in the toolkit is default and/or debt restructuring.²⁰ From the outset, it is important to point out that there is a wide range of possible default/restructuring modalities and that the actual outcomes will largely depend on their characteristics (the size of the creditor losses, whether the default/restructuring is negotiated with creditors or not, the investor base of government bonds, and so on). In any case, some economists maintain that, given the scale of the adjustments in advanced economies, it is only a matter of time before some countries are forced into this option (e.g., see Buitier 2010; Buitier and Rahbari 2010). The main argument is that debt may not be sustainable; that is, the outstanding stock of debt exceeds the present discounted value of current and future expected primary surpluses.²¹ Moreover, even if governments were able to generate sufficiently large surpluses, there is still the potential for self-fulfilling debt crises if markets do not believe the governments are able to generate those surpluses.

In order to assess how successful this strategy can be to reduce debt burdens, one has to look at past experiences. However, debt restructuring has not been a common event among advanced economies in the last six decades. Furthermore, one should be careful to assess the viability of this option by focusing on the experiences in emerging economies. The main reason is that domestic residents hold a large share of government debt in advanced economies (Andritzky 2012), while in many instances of default among emerging markets, foreign holdings were prevalent. This matters because default (or restructuring) is essentially a *one-off wealth tax*. Therefore, if the tax is imposed on foreign residents it leads to an increase in the net wealth of the country, while if it is imposed on domestic agents is equivalent to a large and sudden fiscal adjustment.

A restructuring also affects the reputation of the country as a reliable borrower, and it is generally accepted that it weights on the country's *borrowing costs* and access to international financial markets. Recent empirical evidence suggests that market access can be severely restricted upon default depending on the size of creditor losses (Cruces and Trebesch 2013). In particular, a 20 percentage point increase in haircuts is associated with about 120 bps higher borrowing costs even in years four to seven after the restructuring.

In addition, sovereign default can result in substantial *output losses*. Indeed, the empirical literature finds a drop in output between 2 and 5 percent of GDP in the face of a debt restructuring (Das et al. 2012b). Forni and Pisani (2013) find even higher losses in a dynamic equilibrium model where a small economy belonging to a monetary union restructures its debt.²² Their results suggest that the sovereign restructuring implies a persistent and large output, consumption, and investment drop, in particular if the share of domestically held debt is high.

In the specific case of the euro area, where there are large cross-border holdings of government debt, large *spillovers* from a restructuring can also occur. The reason is that, to the extent to which the wealth tax is imposed on residents in other countries of the union, this has negative effects that can reverberate easily into the domestic economy. Furthermore sovereign debt restructuring can affect the financial sector via two channels: (1) on the asset side, banks will take a hit from the loss of restructured assets; and (2) on the liability, banks can experience deposit withdrawals and the disruption of credit lines. The empirical evidence suggests there is indeed a correlation between sovereign default and banking crises (Borensztein and Panizza 2009). There is also evidence that private sector access to credit can be reduced up to 40 percent in the face of a debt restructuring (Das et al. 2012b).

Finally, the empirical evidence is not clear on whether debt restructuring can ultimately help restore sustainability and regain market confidence. On the one hand, Das et al. (2012a) look at 18 restructuring episodes during the period 1998 to 2010 and find the public debt-to-GDP ratios declined from a median of over 50 percent of GDP to about 35 percent of GDP. On the other hand, Benjamin and Wright (2009) look at 90 default episodes during the period 1989 to 2006 and find that the creditor losses average roughly 40 percent but the average debtor exited default with a debt-to-GDP ratio 25 percent higher than before default.

Despite the arguments above, there are some circumstances when debt restructuring may be unavoidable. If the primary surplus needed to make the fiscal path sustainable is too large (in terms either of adjustment or of the level that would have to be maintained over time) to be sustained by a country without unbearable economic costs, debt restructuring may become inevitable. Still, two considerations should be taken into account. First, restructuring is not a substitute for fiscal consolidation. As defaults are usually partial, a defaulting country needs to run a primary surplus in order to finance the payment on the interest bill of the restructured debt in any case (Cottarelli et al. 2010), while primary deficits are still large among advanced economies (around 4 percent of GDP on average). Thus, even with a large haircut, fiscal adjustment would be required. Second, a restructuring with large haircuts may become a source of systemic instability in the financial sector. Thus it is important to take appropriate remedial actions in advance.

17.6 Concluding Remarks

This chapter has documented the fiscal challenges facing the advanced economies over the next years. Although considerable adjustment has already occurred, many countries still have a long way to go as deficit reductions have not yet made a dent on debt ratios. Given the unprecedented size of adjustment, however, it would be naive to expect a quick turnaround. Thus it is essential to calibrate the pace of ad-

justment for the long haul, taking into account the state of the economy and funding pressures.

While fiscal consolidation should proceed in a sustained and gradual manner, central banks also have a role to play. Not only should they provide a supportive monetary policy environment (as long as inflation expectations are well anchored and fiscal adjustment is proceeding), but in some cases there is a scope for a more active role to repair the monetary transmission mechanism as access to funding at reasonable costs is essential to allow economies to adjust successfully.

Even financial repression (with or without inflation) is unlikely to have large payoffs as a captive domestic investor base may be difficult to achieve in a globalized world. The privatization of nonfinancial assets, by contrast, have a larger potential to reduce the debt burden although it may be difficult to materialize in the short term given volatile market conditions and some assets may not be “salable” altogether.

Finally, there might be cases where debt levels are such that debt restructuring cannot be avoided. Still it should be recognized that this option is not a panacea as orthodox fiscal adjustment is likely to be needed after default, and the ensuing cost of restructuring could be very large, particularly if public debt is domestically held. Moreover spillover effects (within and outside the country) from debt restructuring can be large, thereby reducing its potential benefits.

Notes

1. The Great Recession has brought debt to historically unprecedented levels, indeed putting into question the repayment capacity of some sovereigns.
2. These illustrative scenarios are based on the assumption that the cyclically adjusted primary balance improves smoothly from the level in 2013 until 2020 and remains constant thereafter until 2030.
3. Focusing on the overall fiscal balance rather than a specific debt objective has political and economic appeal. First, it can usefully focus the attention of policymakers. But also, once a certain fiscal balance has been achieved, the debt decline will be determined by the nominal GDP growth rate, allowing for a certain element of cyclicity (i.e. debt will decline faster in periods of faster growth).
4. See chapter 20 in this volume for a discussion on the fiscal challenges related to population aging.
5. Government balance sheet management is usually fragmented among the public debt management office, public sector entities, and the central bank, and this raises the risks of coordination failures. Thus there is a potential for efficiency gains on that front. However, this topic will not be discussed here as it is beyond the scope of this chapter.
6. These transactions are thought to be temporary as governments plan to divest the acquired assets once market conditions allow it.

7. Data on nonfinancial assets are limited (partly because they are difficult to value) and are not fully comparable across countries.
8. To make a proper comparison, one would need to calculate the rate of return on financial assets using property income (which includes not only interest but also dividends and rents) and valuation changes and compare that to the yield on debt.
9. However, to the extent that holding financial assets serves other purposes (e.g., providing a buffer against refinancing risks, particularly when assets are liquid), it is not necessarily optimal to divest all government assets—even if their returns are lower than the cost of debt.
10. Nevertheless, Faraglia et al. (2008) look at a sample of OECD countries and find limited evidence that debt management has actually helped to insulate policy against unexpected fiscal shocks. They argue that achieving better fiscal insurance will require either holding more extreme portfolio positions than is actually the case, issuing new forms of contingent securities, or magnifying existing positions through the use of derivatives.
11. This was possible because many of these countries entered the crisis with relatively long maturities.
12. If maturity were to shorten in response to the inflation shock, the debt erosion effect would be somewhat smaller.
13. For example, in Belgium, Canada, and Italy, on the one hand, the monetary environment during the 1980s was tight because of disinflationary efforts by the central banks. As a result debt continued to increase despite tight fiscal policy and only when real rates fell (after disinflation) they were able to reduce debt. In the United States, on the other hand, monetary policy was exceptionally supportive after World War II and this, coupled with tight fiscal policy and a financial repression, resulted in a significant reduction of debt.
14. Many studies have found that the Fed's first two purchase programs lowered yields below what would otherwise have prevailed (e.g., see D'Amico and King 2010; Hamilton and Wu 2011; Gagnon et al. 2011).
15. See Bogenberg Declaration (2011), De Grauwe (2011), Stark (2011), and Weidman (2011) for discussions on this point.
16. Interestingly, countries with high public debt also have larger holdings of domestic government bonds as percentage of bank capital (Committee on the Global Financial System 2011).
17. Prudential regulations may catalyze credit flows into safe assets but they mainly serve the purpose of financial stability, and it is unlikely they can alone expand the boundaries of public debt sustainability in the long run.
18. For example, Fry (1980) estimated that for each percentage point by which the real deposit rate is below the market equilibrium rate in a sample of developing countries, half a percentage of growth is forgone.
19. Lower growth prospects stem not only from the simultaneous deleveraging in the private sector but also from an aging population.
20. Default is the failure of a government to make a principal or interest payment on time. In most cases restructurings occur after default, and they involve a debt rescheduling (lengthening maturities, possibly lowering interest rates) and/or debt reduction (reduction in the face of nominal value of old instruments).

21. According to the IMF (2002), debt sustainability is defined as a situation where a borrower is expected to be able to continue servicing its debts without unrealistically large future correction to the balance of income and expenditure. Underpinning this argument is the idea that there is a maximum level of primary surplus that a country could attain given social, political, and economic constraints.
22. In their model, sovereign debt is held by domestic agents and by agents in the rest of the monetary union, and after the restructuring, the sovereign borrowing rate increases.

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