

THE ECONOMIC AND FINANCIAL CRISIS, POLICY RESPONSES AND THEIR IMPACT ON  
PUBLIC FINANCES. A GLOBAL PERSPECTIVE

## The economic and financial crisis, policy responses and their impact on public finances. A global perspective.

The authors of this article are Enrique Alberola and Fernando Gutiérrez del Arroyo, of the Associate Directorate General International Affairs.<sup>1</sup>

### Introduction

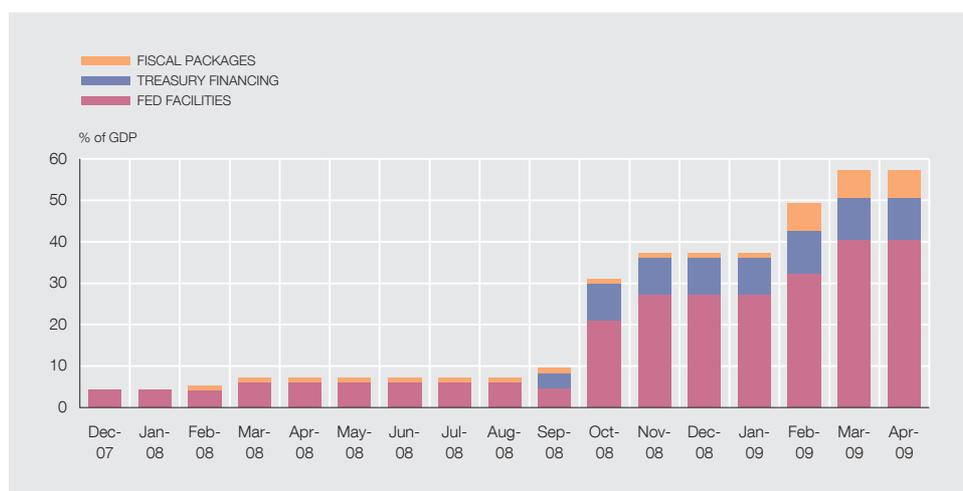
The worsening of the economic and financial situation since summer 2007 and, especially, its drastic intensification from September last year are having far-reaching consequences on the public finances of the main developed economies and, to a lesser degree, on those of developing countries.

The deterioration of public finances reflects the strong economic policy response through fiscal stimulus plans and measures to support the financial system, though it also increasingly mirrors the severe decline in economic and financial activity. The economic policy response has involved not only the tax authorities but also central banks and other public entities – such as deposit guarantee funds and public and semi-public financial institutions. Chart 1 provides a simplified representation of the quickening and growing involvement of US authorities by quantifying the support provided by the Federal Reserve and the Treasury to the financial system as well as the fiscal stimulus measures. Between summer 2007 and March 2008, the effects of the financial turmoil on activity were still relatively moderate and their scope was limited to the United States and a growing number of developed economies. In that period, financial support was based, essentially, on increasing the liquidity provided by central banks and on occasional bail-outs of specific entities. Furthermore, an initial fiscal stimulus package was implemented in the United States in February 2008. From March 2008 (with the Bear Stearns bail-out), the deepening of the financial problems led to a stepping-up of support which remained centred on providing liquidity. In mid-September, however, there was a quantitative and qualitative leap in the economic policy response in all advanced economies and, to a lesser extent and slightly later, in emerging economies. On the one hand, the spectrum of financial support measures was extended significantly (to include, in addition to practically unlimited liquidity, direct financing of financial institutions and other sectors, capital injections, asset purchases and guarantees for bank assets and liabilities); and on the other, fiscal stimulus plans were introduced in an increasing number of countries. The amounts committed in the financial and economic sphere have multiplied since last summer. For example, in the United States – excluding guarantees – they have increased sixfold and already account for half of its gross domestic product (see Chart 1).

All these measures are resulting in a sharp increase in government deficits and in public debt ratios and a strong deterioration in the long-term fiscal outlook. However, it is difficult *a priori* to assess the fiscal cost of the crisis. First, a substantial amount of committed government financial support has not yet been used or does not represent an actual upfront outlay (as in the case of guarantees) or, even if it does, it may be partially recovered *a posteriori* (as in the case of asset purchases or lending). Second, a large share of government support, undertaken by central banks or other financially independent bodies, falls, in principle, outside the scope of the budget; however, a portion of these amounts could ultimately have a potentially large budgetary impact. Third, the crisis is still ongoing, which makes it difficult not only to evaluate its fiscal impact but even to make an up-to-date calculation of the amounts invested.

---

1. This article has benefited from the collaboration of other members of the Directorates General International Affairs, Economics, Statistics and Research, and Operations, and, in particular, of Lucía Cuadro and Ana del Río, in order to make the data from various sources uniform and consistent.



SOURCES: Federal Reserve, US Treasury and Banco de España.

a. Excluding pre-crisis liquidity facilities, guarantees and swap lines.

In this context, the purpose of this article is to assess from a quantitative, qualitative and comparative standpoint the channels through which the financial and economic crisis and the economic policy response to it are affecting public finances, adopting a global and, insofar as is possible, homogenous perspective, covering both advanced and emerging economies. To this end, it is necessary to establish a framework of analysis which makes it possible to differentiate, on the one hand, between the impact related to the financial crisis and that linked to the economic recession; and, on the other, between the direct impact of the crisis connected with the adjustment of economic and financial activity, and that arising from economic policy measures. In this framework, first, the financial sector support measures adopted by various economic authorities will be analysed in some detail, drawing a distinction between the various consequences that they may have on public finances at different time horizons. Second, the fiscal stimulus plans and the direct impact of the crisis on government revenue and expenditure, fiscal balances and government debt will be studied. Similarly, the medium-term impact on public finances and, especially, on the expected debt dynamic is examined. From the whole analysis, it is concluded that public finances will be in a delicate situation over the next few years. This deterioration poses notable challenges for economic authorities, including, inter alia, those of taking steps so that the fragile situation in itself does not limit the effectiveness of the measures adopted and reaffirming the long-term commitment to fiscal discipline.

### **Framework of the analysis**

Two different strands underpin the conceptual framework for analysing the effect of the crisis on public finances. The first refers to scope, either financial or more strictly economic; the second makes it possible to distinguish between the direct impact, arising from developments in economic and financial activity, and the indirect impact, resulting from the reaction of economic policies, i.e. the discretionary support measures for the financial system and the fiscal stimulus plans. The implications for public finances differ depending on the authority implementing the measures: ministries of economic affairs and finance, central banks or other public or semi-public entities such as deposit guarantee funds or public financial institutions.

On the basis of these two strands, Table 1 summarises the various channels and their potential effect on the deficit and public debt, differentiating in the case of the latter between the short-term impact and the potential medium- and long-term impact. The direct impact of the real

		BUDGET DEFICIT	DEBT		
			CURRENT	FUTURE (b)	
ECONOMIC SPHERE	Automatic stabilisers	✓	✓		
	Fiscal stimulus packages	✓	✓		
FINANCIAL SPHERE	Capital injections	✓?/+	✓	+	
	Financial support	Asset purchases and financing by Treasury	✓?/+	✓	+
		Central bank financial support			✓
		— Of which: with Treasury backing	✓?	✓	+
		Guarantees	+		✓
	Financial crisis	Profits, dividends and revenue	✓	✓	

SOURCE: Banco de España.

a. ✓ = Unfavourable impact; + = Actual or possible favourable impact; ? = Depends on implementation and accounting criteria.

b. Indicates a future contingent (new or additional) impact on debt. A plus sign indicates a (partial or total) reversion of the future impact with respect to the immediate one.

contraction accompanying the crisis – the first row of the table – represents the loss of revenue – direct and indirect tax receipts – and increased expenditure through automatic stabilisers. Another direct and negative effect on public finances stems from the sharp adjustment of the financial sector – included in the last row of Table 1 – which may represent a sizeable reduction of tax revenue and, therefore, an increase in the deficit and debt. It is estimated that this loss would mainly be triggered by the decrease in financial institutions’ profits and dividends, and lower receipts arising from adjustments in the value of financial and real estate assets (financial losses).

As for the impact of economic policy measures, a distinction should be drawn between fiscal measures to support demand or productive activity – the second block in the table – and the financial sector support measures, the following block. There are certain measures which fall within a grey area (in particular, financing for productive sectors), which in many cases are channelled through the financial system and, although they often tend to be announced as part of fiscal stimulus packages, should be considered as financial support measures.

The purely fiscal measures are confined to those affecting government spending and revenue, such as investment, tax cuts and fiscal incentives for households and firms. All these measures entail, in principle, a reduction in the fiscal balance resulting in higher debt in the short term. The financial support measures are more varied and increasingly diverse as new support strategies are created. In this article they have been grouped into four categories, based on their immediate or actual impact on public finances which, in turn, depends on the institution implementing the measure. Table 2 links the type of measure to the institution which implements it:

- 1) *Capital injections for banks and other financial institutions* through preference, ordinary or other shares, such as subordinated debt, undertaken in general by the Treasury. These are included in individual bail-outs and general plans.

	Capital injections	Asset purchases	Financing	Liquidity	Guarantees
Treasury	X	X	X (a)		X
Central bank		X	X (a)	X	X
Other public institutions		X	X		X

SOURCE: Banco de España.

a. Treasury financing for central bank measures is attributed to the latter but is broken down separately in Chart 2.

- 2) *Asset purchases and financing by the Treasury.* Asset purchases cover bonds and other financial instruments – which are illiquid and, in certain cases, troubled – and include transactions with a repurchase option. Treasury financing is targeted at the financial sector and other ailing productive sectors (automobiles, housing, exports, etc.).
- 3) *Central bank financial support.* This category includes, first, the provision of liquidity (including the facilities or windows created or extended after the turmoil began). As more and more measures were rolled out and the maturities of the operations and the collateral were extended, the boundary between the provision of liquidity and financing – which in current circumstances is somewhat arbitrary – has become blurred, especially insofar as certain central banks have acted with the explicit objective of restoring the flow of credit on various markets. Similarly, a growing number of central banks have embarked on operations to purchase assets and on providing guarantees. In certain countries, a portion of these measures was backed with Treasury financing – which we shall consider as a sub-category – although the recent trend is towards central banks and other agencies increasingly taking responsibility for implementing financial measures, to the detriment of the Treasuries, due largely to the fact that the financial position of the latter is increasingly compromised.
- 4) *Guarantees* which back financial institutions' liabilities and, more recently, their assets. The liabilities guaranteed mainly comprise new debt, in order to make it easier to issue and to cut its cost in a period in which it is difficult to tap the markets. Although guarantees for bank deposits are widespread, they have not been included because it is difficult to calculate and compare them across countries.<sup>2</sup> Guaranteeing assets is a trend which began in 2009 and affects the troubled assets of ailing entities. In fact, it is worth underlining the interplay between the guarantee system and other types of support, such as asset purchases or capital injections.

The financial impact of these measures is included in the third block of Table 1. In general, they do not necessarily have an immediate impact on fiscal balances, although a broad range of situations may arise, and there are exceptions depending on each country's accounting crite-

2. In the European Union guarantees are provided for deposits of up to €100,000, but in certain countries this figure is higher and in others there is no limit.

ria.<sup>3</sup> Capital injections and debt guarantees can even generate revenue in the short term – as shown by the plus sign – arising from the dividends committed, in the case of the capital injections or the fees required to gain access to the guarantees. Capital injections, asset purchases and Treasury financing involve upfront loading as the funds committed are used and, therefore, result in an increase in government debt in the short term. Lastly, central bank financial support and guarantees do not involve a parallel increase in government debt, although there are exceptions such as the provisions for guarantees set up in some countries or the above-mentioned Treasury backing of central banks.

Short-term effects on debt may differ from the long-term effects. In the case of asset purchases and capital injections, the outcome will depend on how the value of the asset and of the capital performs (in addition to the cumulative flow of returns). In particular, it cannot be ruled out that part of the outlay may be recovered (as indicated by the plus sign in the last column of Table 2) once the financial stress has been overcome, partly reversing the previous increase in debt, so that the outcome (when the positions are unwound) is less negative for public finances than its initial impact. The opposite might also occur, posing an additional burden. In the case of guarantees, the cost would only be incurred if the guarantees had to be called. As for central bank support measures and Treasury financing, these institutions would incur a financial loss if the lending were not repaid or, in the case of facilities with collateral, if the value of the collateral were lower than the amount of the loan.

In short, in the case of financial support measures there are three important aspects for assessing their impact on public finances: the initial outlay, the proportion recovered ex post and the possible contingent losses of other types of measures which do not involve an initial outlay.

Using this framework it is possible to describe the fiscal and financial support measures, examine how they are recorded and make cross-country and cross-regional comparisons. This exercise is subject to numerous caveats, since it is difficult to address and compare on a consistent basis the broad spectrum of measures with varying characteristics and particular features inherent to each country. There are three important considerations when assessing this exercise:

- i) Certain important measures to stabilise the system, such as the above-mentioned deposit guarantees, are not included in the calculation. Nor does it consider monetary and exchange rate policy measures (interest rate reductions, the use of reserves or recent purchases of government assets by certain central banks),<sup>4</sup> which, to a certain extent, have also served to bolster the financial sector, nor other types of measures which have been important for maintaining international financing flows, such as currency swaps and the external support packages of multilateral and regional financial bodies.
- ii) The figures presented are obtained by adding together measures of a very varied nature and with different fiscal implications, as described above. Therefore, their extrapolation to fiscal aggregates and the cross-country comparison must be undertaken with the utmost caution.

---

**3.** In the United States and the United Kingdom a large amount of the financial support is included in the deficit. **4.** Public asset purchases have been announced as part of some countries' financial support plans. However, insofar as they are aimed at affecting long-term interest rates, they fit better in the monetary policy sphere. Also, in terms of accounting, their consolidated net effect on the public sector is nil. For these reasons, unlike the IMF's analysis, they are excluded from our calculations unless otherwise indicated.

- iii) The amount committed is adopted as the criterion for recording the measures, which generally represents an intermediate point between the actual outlay and that announced. This generates certain difficulties, due to the lack of precise data or the reformulation of certain measures (as occurred with TARP, the first US financial programme), the classification difficulties in other cases (the above-mentioned distinction between liquidity and financing) and, in general, comparability problems arising from the different strategies for responding to the crisis.

The time span of the analysis is from the beginning of 2008 (which includes practically all the measures adopted) until April 2009. The main reference document is the recent IMF paper (2009), which is supplemented by contributions from the OECD (2009), the ECLAC (2009) and the European Commission (2009). The aim is to achieve the greatest possible consistency across countries and regions, based on up-to-date information. The sample covers the principal developed and emerging economies in the G20+ (which includes Spain), which represent approximately 75% of world GDP. The G20+ group of advanced economies will be considered and, unless stated otherwise, the four main emerging economies (the BRICs: Brazil, Russia, India and China), to represent the emerging countries. For each country the figures are in relation to the GDP in 2008 and, if successive years are analysed, to the GDP of each year; the data updating limit is mid-May.

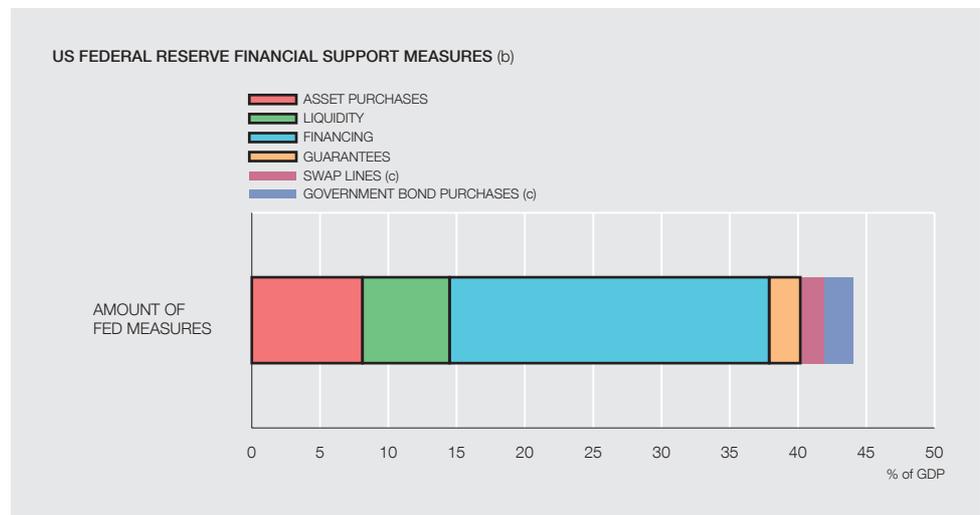
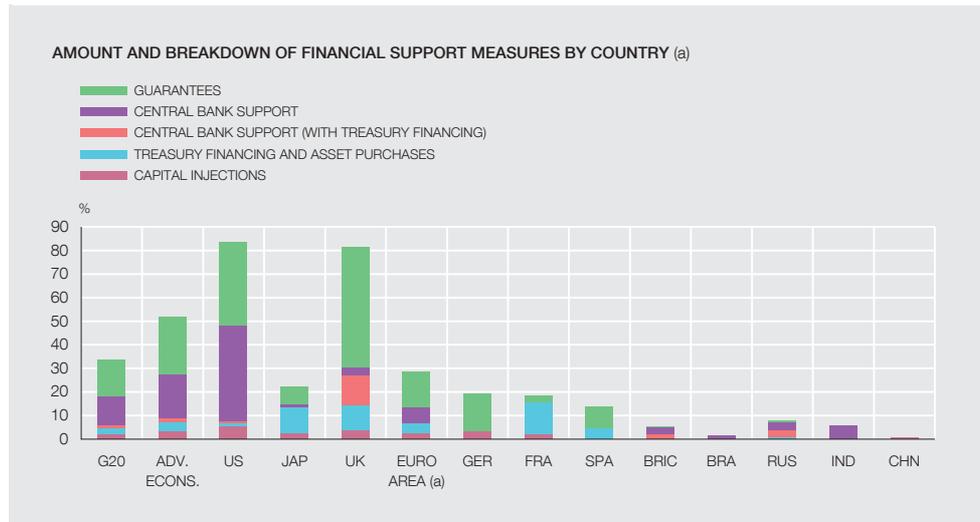
### **Financial support measures**

The upper panel of Chart 2 reflects the amount committed in the financial system support measures, according to the categorisation described in the previous section, for the principal countries and areas analysed. The funds committed amount, in aggregate, to almost one-third of their GDP (a figure equivalent to the GDP of the United States in the G20). The largest portions relate to guarantees for bank assets and liabilities (46% of the total, 15% of the GDP of the G20+) and to central bank financial support (two-fifths of the total, i.e. 13% of GDP), a small part of which is financed in turn by the Treasury. Accounting for a smaller fraction are asset purchases and direct Treasury financing, on the one hand, and capital injections, on the other: 7.4% and 6.9% of the total, equivalent to 2.5% and 2.3% of the GDP of the G20+, respectively.

Although all the countries analysed have adopted measures of some type, there are pronounced differences between regions and countries. The most striking difference is that observed between the developed and the emerging economies. Thus, committed financial support amounts to 50% of GDP in the advanced economies, where guarantees play a relatively larger role, but it only represents around 5% of GDP in the BRICs, where central bank support is dominant.

There are important differences in the scale of financial support in the advanced economies. The United States and the United Kingdom stand out from the rest because of the amount committed – 83% and 82% of their respective GDP – and because they are the countries which have taken the initiative and set the pace in this sphere.

In the United States approximately half of the amount of the measures adopted relates to the financial backing of the Federal Reserve, which has acted on numerous and diverse fronts (see the bottom panel of Chart 2). Only a small portion of the Fed's support (slightly more than 14%) stems from its more traditional activity (providing liquidity) since it is considered that the facilities which have been set up since last September constitute credit facilities. These facilities, in exchange for collateral, in particular, have been designed to prop up various segments: the commercial paper market (CPFF), the money markets (MMIFF) and other securitisation markets



SOURCES: IMF (2009a), Federal Reserve and Banco de España.

- a. In the case of the euro area, "central bank support" refers to the ECB and only appears in the euro area aggregate.
- b. The measures included under "central bank support" are outlined in black.
- c. Government bond purchases and swap lines are not included in the analysis of Chart 2.

paralysed by the crisis, through the term asset-backed securities loan facility (TALF).<sup>5</sup> The credit facilities made available amount to 24% of GDP and represent more than half of the Fed's total support. The Federal Reserve has also embarked on purchases of mortgage-backed securities (MBS) to prop up this market, for a maximum amount of nearly 10% of GDP, and has furnished guarantees for some banks' assets, amounting to 2.1% of GDP. Lastly, there

5. Only liquidity facilities arranged between summer 2007 and September 2008 are included. In order to distinguish between liquidity and financing the timing criterion is used, because since October the authorities' explicit concern was to restore the funding of troubled markets and this was the context in which new facilities were designed. Thus, the CPFF was aimed at unclogging the commercial paper market, which is essential for short-term lending in the United States, and the MMIFF was set up to overcome problems on the money markets stemming from very low interest rates. The TALF is more general and, although it has not been used much to date, is an important element in the strategy of market normalisation. The amount of these funding facilities is very high: \$1,800 bn (CPFF), \$900 bn (TALF) and \$540 bn (MMIFF), which is nearly 20% of US GDP. However, until the beginning of May, only a small portion had been used: \$245 bn. The Fed has also provided funding to support and bail out specific entities, such as the investment bank Bear Stearns (\$23 bn) and the insurance company AIG (\$90 bn).



are two measures adopted by the Federal Reserve which, as mentioned above, are not included in our calculation: the purchase of Treasury bonds (\$300 bn committed, 2.1% of GDP) and currency swap lines with a number of countries, \$250 bn of which had been utilised.

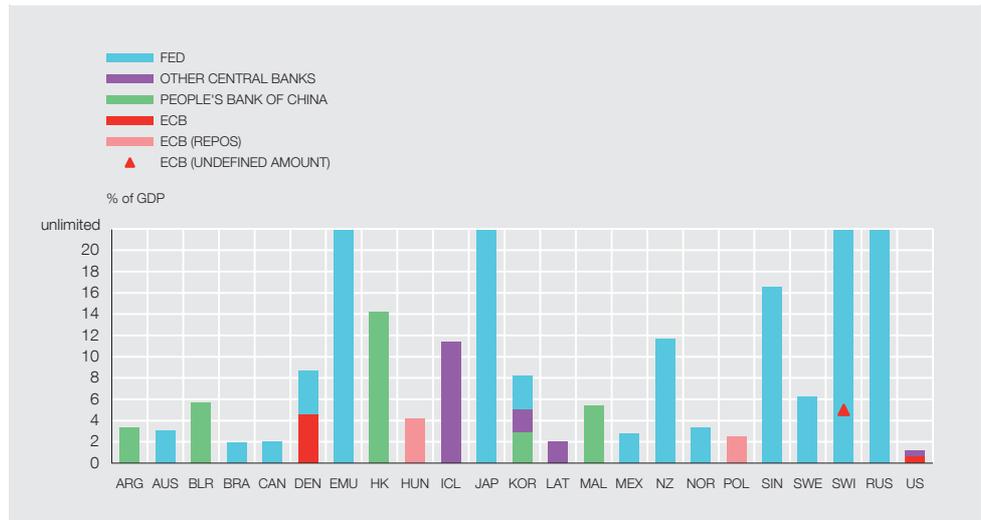
The remaining US financial support is made up of action by the Treasury and guarantees. Direct action by the Treasury has centred on injecting capital into numerous banks through the TARP (approved amount: \$700 bn), into the insurance company AIG and into the government-sponsored enterprises Fannie Mae and Freddie Mac, which account for half of the capital injections. The plan to purchase troubled assets also includes a contribution of up to \$100 bn of public capital. Overall, the total amount committed for capital injections is more than \$800 bn (5.6% of GDP). Asset purchases by the Treasury, which constituted the initial strategy for action after September (the TARP was going to be used for this purpose), have so far been restricted to the acquisition of MBS (\$50 bn, less than half a percentage point of GDP). Lastly, the funding provided has also been marginal (\$30 bn for automobile companies), although, it is necessary to consider, as mentioned above, the support financing to the Fed. Finally, the guarantees – excluding those backed by the Fed – represent 43% of the total amount committed (36 pp of GDP). Noteworthy among the guarantees is that for new bank debt, amounting to \$1,450 bn (10% of GDP), backed by the US Federal Deposit Insurance Company (FDIC); the temporary guarantee for money market funds created by the Treasury (\$3,000 bn), and the new private-public investment programme for purchase of troubled assets and loans which will be implemented over the coming months and will also be guaranteed (by the FDIC) for an undetermined amount which may exceed \$500 bn.<sup>6</sup>

Although the range of financial support measures adopted in the United Kingdom is similar to that of the United States, the breakdown is different, with guarantees clearly predominating (more than 60% of the total, 50% of GDP). These guarantees are subdivided into those for new debts and securitised assets and those for the assets of financial institutions through the Asset Protection Scheme (APS). The Bank of England's participation is channelled through one main facility (the Special Liquidity Scheme (SLS)), financed by the Treasury, as seen in Chart 2, and through purchases of up to £50 bn of financial assets in the form of commercial paper and other private assets.<sup>7</sup> In addition, capital injections have been made into banks (4% of GDP) and some have been bailed out, involving substantial financing (10% of GDP).

In other advanced economies, less support has been provided, although it has gradually been increased. In Japan it now exceeds 20% of GDP and is provided mainly through government agencies authorised to purchase assets, particularly commercial paper and shares. Support in euro area countries amounts to nearly 30% of euro area GDP. Here guarantees are the predominant type of measure, representing around two-thirds of the total. Support from the central bank<sup>8</sup> consists of long-term liquidity operations [and will include the recently approved purchase of €60 billion of covered bonds (0.7% of GDP)]. There are notable differences in financial support between the countries of the euro area. The Netherlands, Belgium and Austria, small economies where bank capital injections have been relatively large, are considerably

---

6. The plan to buy troubled assets and loans (legacy assets and loans) was announced in March and consists of a joint initiative between the public and private sector (hence the Private Public Investment Program) to help clean up banks' balance sheets. This programme combines several of the categories considered: FDIC guarantees, Treasury financing and even indirect Federal Reserve support through the use of loans acquired as collateral under the TALF. 7. Asset purchases by the Bank of England (Asset Purchase Facility) are for up to 150 billion pounds sterling, although they include the acquisition of up to 100 billion pounds sterling (7% of GDP) of government bonds which have not been included in our calculations for the reasons given in footnote 5. 8. Unlike the Federal Reserve or the Bank of England, the ECB has not set up new facilities, but has made the existing ones more flexible. For this reason, the increase in the ECB balance sheet is included under this heading. Moreover, in the euro area countries analysed in Chart 2, the category "Support from the central bank" is not included because it is centralised in the ECB.



SOURCE: IMF (April).

above the average, as is Ireland, which, moreover, opted to guarantee in full its bank assets, the committed support being more than twice its GDP. The support committed in France and Germany is around 20% of GDP. The financial support committed in Spain is about 13% of GDP (€150 billion); moreover, Spain is one of the few countries among the advanced economies that has not carried out capital injections.

The emerging economies have devoted ten times fewer resources than the advanced economies, in terms of their respective GDP, to supporting the financial sector. This notable contrast with the advanced countries may be attributed partly to the differing nature, intensity and transmission channels of the financial crisis in the two areas, which has required different responses. Having said that, it should be noted that the capacity of these economies to respond to the crisis is, with some exceptions, more limited in an environment of difficult access to international financing.

Specifically, the main response in the emerging economies has been to supply foreign currency financing to the financial system and to the corporate sector and, in many cases, to reduce exchange rate volatility through the use of international reserves, particularly in 2008 Q4. Against this background, the support of other central banks – particularly the Federal Reserve, but also the European Central Bank, the Bank of Japan and the central banks of Switzerland and China, under foreign currency swap agreements – has been a key factor in mitigating the uncertainty in numerous countries, making for smoother provision of foreign currencies to domestic financial agents and companies. These agreements, which have been utilised only partially, are set out in Chart 3, which also includes those of the Federal Reserve with other developed economies and, in the last column, reciprocal agreements of the main central banks with the United States.<sup>9</sup>

Lastly, a growing number of emerging economies have turned to international financial organisations for financing and guarantees. In the case of the new EU member countries, sup-

9. The ECB, apart from the swaps with members of the ERM II and with other developed countries, has offered repo-type loans to other EU members, such as Hungary and Poland. Notably the Federal Reserve itself also has a swap facility with major economies (blue bars), reflecting the distortions persisting in the foreign exchange markets.

Agreements approved	Type (a)	Amount (\$m)	Amount (% of GDP)	Date of approval
Ukraine	SBA	16,500	11.65	5.11.2008
Hungary	SBA	15,700	11.35	6.11.2008
Iceland	SBA	2,100	10.38	19.11.2008
Pakistan	SBA	7,600	5.29	24.11.2008
Latvia	SBA	2,350	8.65	23.12.2008
Belarus	SBA	2,500	5.58	12.1.2009
Serbia	SBA	3,968	9.96	16.1.2009
El Salvador	SBA (P)	791	3.88	16.1.2009
Mongolia	SBA	225	5.79	1.4.2009
Costa Rica	SBA (P)	724	2.76	10.4.2009
Mexico	FCL (P)	48,505	4.74	17.4.2009
Guatemala	SBA P(P)	951	2.82	22.4.2009
Romania	SBA	17,100	10.00	4.5.2009
Colombia	FCL (P)	10,397	5.00	11.5.2009
Poland	FCL (P)	21,062	4.99	Pending
TOTAL		150,573		

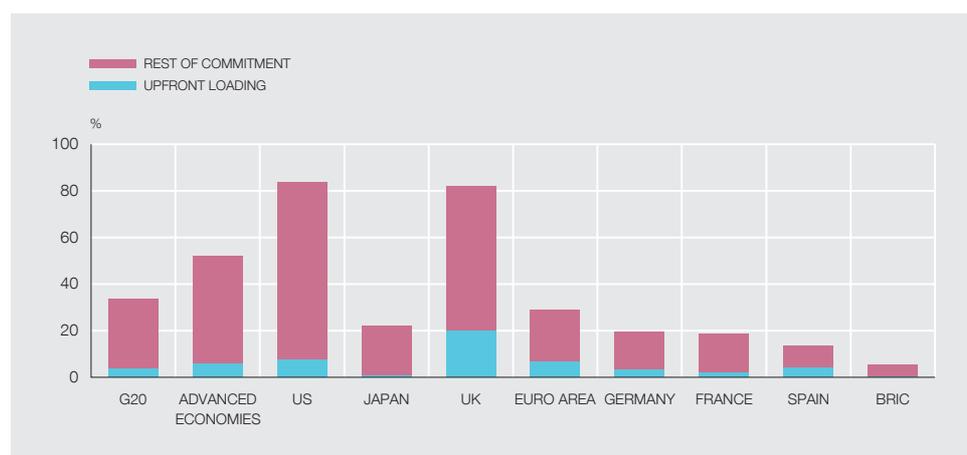
SOURCE: IMF.

a. SBA = Stand-by agreement; FCL = Flexible credit line; (P) = Preventive agreement.

port has been offered jointly by the international financial organisations, the EU itself and some European development banks. Table 3 shows that the support packages – through traditional stand-by or preventive agreements, through new facilities (such as the flexible credit line (FCL)) – have multiplied in the last six months. In this period the agreements approved have totalled more than \$150 billion and the outstanding loans have returned to the levels of early 2006. The increase in financing to the IMF, approved at the April G20 summit, for an amount of \$500 billion, thus represents a key source of financial support to the emerging economies, which are less able to mobilise domestic funds.

As regards the expected fiscal impact of all these financial support measures, it should first be pointed out that the calculations mentioned above do not reflect the impact of financial support on public finances in either the short or the long term. The high figures for support commitments (expressed as a percentage of GDP) should be qualified, since to a large extent no financial cost is involved, for three main reasons:

- First, the support committed has *only been partially utilised*. Moreover, this process is gradual and, in some cases, such as the guarantees, it is very likely that the maximum limit will not be reached. The level of utilisation also varies widely across the different categories, tending to be higher in capital injections and asset purchases than in guarantees. For the United States, it is estimated that around 30% of the total commitments have been used; however, in the United Kingdom the level of utilisation amply exceeds 60%, while in the euro area the level of utilisation is around 25%. In Spain, the percentage utilised was about 40% in mid-May.
- The second reason derives from the *distinction between the amount committed and the amounts to be disbursed* (upfront loading), and therefore having a budgetary impact, when the facilities are utilised. The relationship between these two variables is shown in Chart 4. As mentioned when the analysis framework was



SOURCES: IMF (2009b) and Banco de España.

explained, generally only capital injections, loans and asset purchases by the Treasury, which are a small part of the total support, involve an immediate effective cost with a budgetary impact. It is possible that some of the other measures may have an immediate cost (depending on how they are carried out and on their accounting treatment), but, in any event, according to these criteria and taking certain specific adjustments into account, it may be estimated that for the G20+ as a whole only 12% of the amounts committed involve actual ex ante outlay, i.e. nearly 4% of the GDP of the G20. The proportion is similar in the advanced economies, although for these it represents around 6% of GDP: among the latter, in the United States it amounts to 7.5% of GDP (although it is only 9% of the total commitment) and in the United Kingdom to 20% of GDP.<sup>10</sup> In Spain it is estimated that this figure will exceed 4% of GDP (slightly above one-third of the total, due to the relative importance of asset purchases), somewhat more than in the euro area as a whole. By contrast, the proportion in the BRICs is even lower (6%) and, therefore, the amounts to be disbursed are very small, around 0.3% of GDP.

- Finally, *some of the amounts invested will foreseeably be recovered*. It should not be overlooked that most of the measures have been taken to stabilise the financial system and smooth the way to normalisation and subsequent recovery. In this respect, all measures are intended to be temporary and it is assumed that a substantial portion of the amounts committed and disbursed will eventually be recovered. It is, however, very difficult to determine in advance the amount that will be recovered, given the depth of the crisis, its early stage of development and the uncertainty as to its duration and final impact. In any event, the empirical evidence [see Laeven and Valencia (2008)] shows that the fiscal costs of financial crises can be very high, depending on the circumstances, although there are also cases, such as that of Sweden, in which the amount of bank bailouts exceeded 4% of GDP and the final cost was very small, while in some developed economies, such as Japan, they exceeded 13% of GDP and the rate of recovery was very low [Laeven and Valencia (2008)].

<sup>10</sup> In the United Kingdom the percentage of upfront loading is higher than elsewhere (one-quarter of the total), due to the financing of the SLS by the Treasury.

These considerations drastically reduce the expected cost of financial support. However, it should be borne in mind that a portion of the committed amounts not entailing an immediate cost (mainly guarantees and central bank financing) may end up generating an effective cost; although this financing is backed by assets, the widening of eligible collateral to less secure assets entails a greater risk. Nor is it possible, in this case, to make estimates in this respect. Even the indicators which might serve as a guide – credit default swaps (CDSs) of institutions whose liabilities are backed by guarantees, which theoretically reflect the probability of non-payment assigned by the markets – show high volatility in the current circumstances and their information value is arguable.<sup>11</sup>

In any event, the depth and persistence of the crisis and the growing range of measures being taken by central banks and Treasuries unquestionably expose public finances to additional costs which may turn out to be potentially very high.

***Fiscal stimulus plans,  
business cycle and other  
factors***

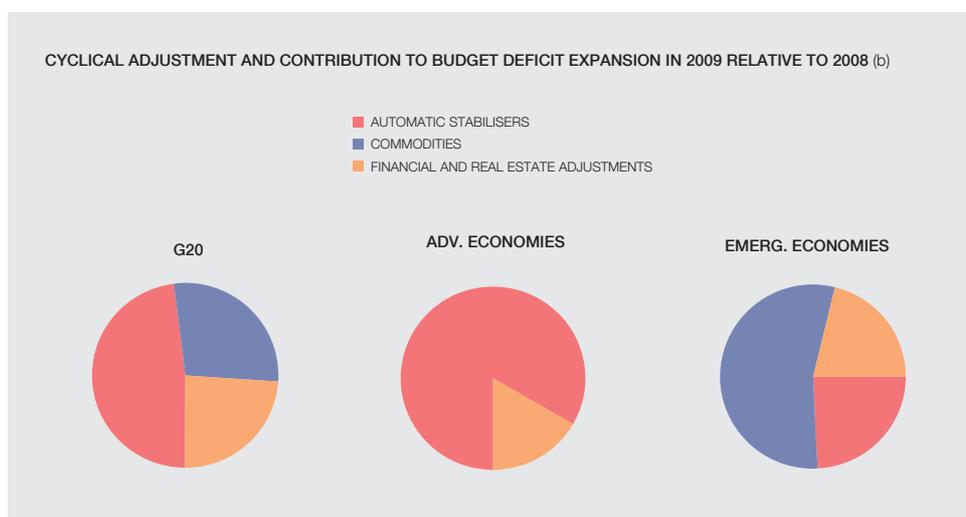
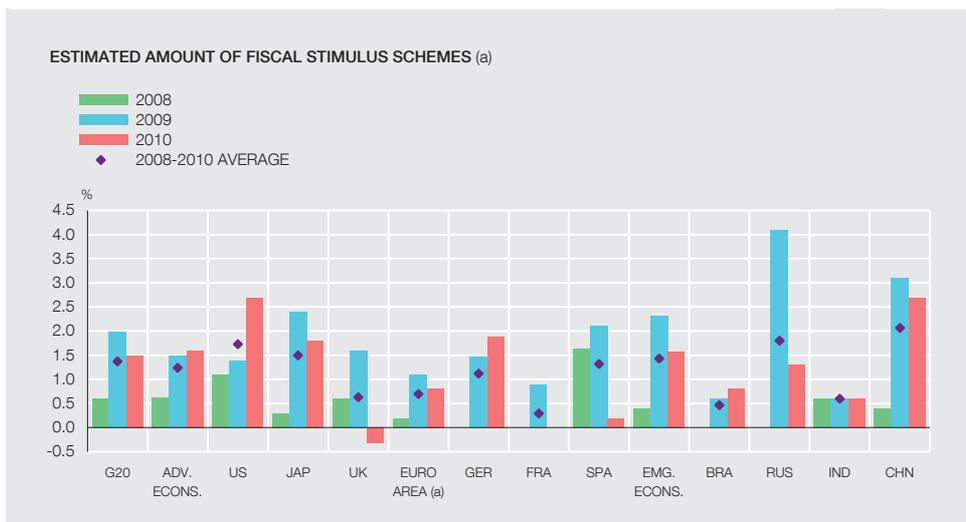
The second way in which economic policy responds to the crisis is in the form of fiscal stimulus packages aimed at sustaining aggregate demand. Apart from exceptions such as the United States or Spain, these plans were announced as from October and have been progressively implemented – and extended – in the ensuing months. Also in this case the accounting treatment is complicated by the different items contained in some announcements (particularly financing, which, as noted above, is considered to form part of financial support) and by the inter-period allocation, since some measures are annual, some are multi-year and some have no specific time horizon.

The top panel of Chart 5 sets out the amount of the packages announced by countries for 2008 to 2010.<sup>12</sup> The aggregate annual average of the G20+ is 1.4% of GDP and, in this case, the commitments are slightly higher in the emerging economies (1.4%) than in the advanced economies (1.25%), since in recent months the former have made an additional effort, against a backdrop in which market conditions have tended to stabilise. In any event, the available data indicate that the announced fiscal effort is more sustained in the developed economies, where the peak (1.6% of GDP) will be reached next year, whereas in the emerging economies it will be reached this year, at 2.4% of GDP, after which it will fall off.

There are, in any event, notable differences between countries. Again, the United States stands out in regard to the funds provided, particularly in the plan approved at the beginning of this year for \$787 billion, 5.5% of GDP, of which some \$200 billion (1.3% of GDP) will be utilised as from 2011. When added to the plan approved in February 2008, this amounts to nearly 1.7% of the average annual GDP of the three years in question, and next year will exceed 2.7% of GDP. Also notable is the recent Japanese tax stimulus, expanded by the extraordinary April budget, which this year will reach 2.4% of GDP (1.5% of the average total stimulus in the three years). In the United Kingdom, the budget envisages a significant expansion this year (1.6% of GDP), but a negative stimulus next year, which will leave the annual average for the three years at just 0.6% of its GDP. The euro area is also among the lower rankings, with an average stimulus of barely half-a-percentage-point of its GDP. Within the euro area, Spain's fiscal stimulus is fairly significant: 1.25% of GDP on average and concentrated in 2009 (1.9% of GDP). Lastly, two emerging economies have the highest fiscal stimuli: Russia (1.8% of GDP on average for the three years), making use of its financial reserves

---

<sup>11</sup> For example, five-year CDSs of the major US banks exceeded 500 basis points (bp) in October and then fluctuated between 200 bp and 400 bp. These fluctuations reflect relatively high probabilities of default, but these numbers are not very reliable due to the distortion of this market and the fact that the volumes are notional. <sup>12</sup> Most of the figures are IMF projections and are consistent with its *World Economic Outlook* (2009b), but some have been updated using the latest-known plans. For Spain the Banco de España projections (2009) have been used.



SOURCES: IMF (April), UK Treasury and Banco de España.

- a. The euro area aggregate comprises Germany, France, Italy and Spain.
- b. Update based on the latest IMF forecasts.

derived from oil, and China (2.1% of GDP), whose response capability does not depend on external financing.

Fiscal plans are generally biased towards measures based on public expenditure, particularly on infrastructure. On the revenue side, the tax cut focused on direct taxes and rebates, while the indirect tax cuts were merely symbolic. The higher proportion of public spending measures (around 60% of the total) may be explained by the private sector's lower marginal propensity to consume and invest, against a backdrop of economic and financial fragility and of negative outlook, thus making tax cuts less effective. However, the lag in implementing the expenditure, at a time when urgent action is needed to stimulate demand, may constrain its effectiveness in the short term.

To assess the impact of the crisis on public finances, in addition to the discretionary measures to boost demand, account must be taken of the automatic stabilisers operating through government revenue and expenditure. Given the expected contraction of activity, the impact of

these automatic stabilisers on fiscal balances may be notable, to the point of affecting the amount of the fiscal stimulus plans. In general, it is considered that the fiscal balance of continental European countries exhibits a greater elasticity with respect to the business cycle than that of the United Kingdom or the United States, while in the emerging countries, where the social protection networks are less developed and the fiscal structures are less solid, the stabilisers are less powerful. However, in some developing economies that are commodity exporters, the slowdown in global activity is having a strong impact on fiscal accounts through the fall in prices and export volumes of these products, which provide a significant portion of fiscal revenue. Lastly, as explained in Section 2, the loss of revenue derived from the financial adjustment (lower profits, dividends and asset values), which is not normally considered when making cyclical adjustments to fiscal balances, must be taken into account. This impact will depend on the taxation of these tax bases and will be more marked in those economies in which the financial sector has a greater weight, such as the United States, Switzerland or the United Kingdom.

The bottom panel of Chart 5 provides estimates of the relative impact on the deficit in 2009 of the non-discretionary factors related to the fall in activity.<sup>13</sup> Automatic stabilisers are estimated to be responsible for approximately half of the non-discretionary increase in the deficit in the G20+ as a whole, for three-quarters in the advanced economies and for barely 20%-25% in the emerging countries. In the latter, the main contribution derives from the loss of revenue associated with the adjustment of commodities (more than half the total, as compared with zero in the developed countries). The adjustment of financial asset and real estate prices contributes to a similar extent in all the groups considered, accounting for around one-quarter of the total.

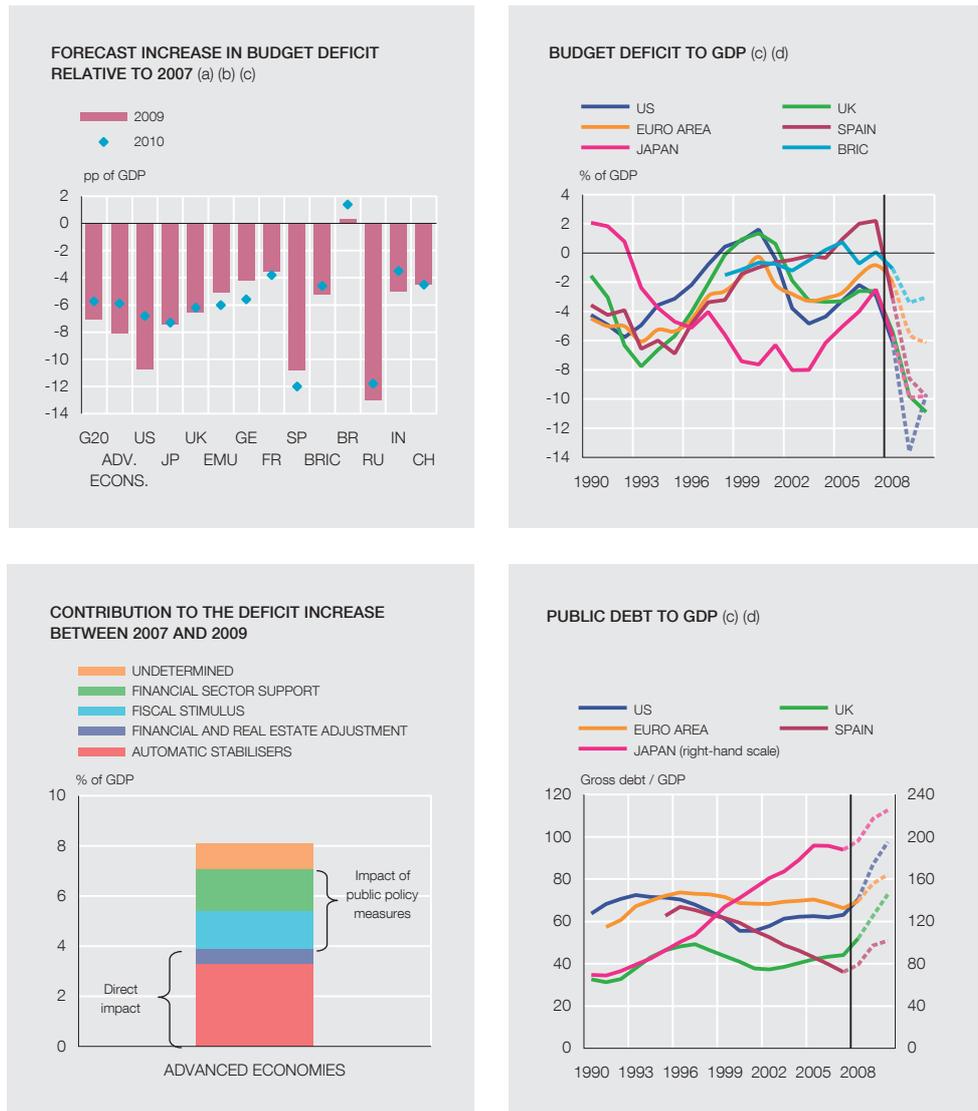
***Fiscal balances,  
government debt and debt  
dynamics in the medium  
term***

Now that the various channels through which the crisis and the economic policy response affect fiscal balances and government debt have been assessed, their overall impact on public finances may be analysed. The top panels of Chart 6 show the projected increases in the deficit for 2009 and 2010 with respect to 2007, which resulted in all cases in the drastic widening of budget deficits. Numerous countries may reach double-digit deficits in terms of GDP, thereby dissipating the gradual recovery of fiscal balances which had been under way in most countries in the last 15 years. Some countries, such as the United States, will record deficits not seen since the end of the Second World War.

Thus, with respect to the year before the crisis (2007), the projections indicate that the deficit will increase by 7.6 percentage points (pp) of GDP in 2009, from 1% to 8%, and will fall only to 6.9% in 2010 in the G20+ as a whole. In the advanced economies the increase is even larger, from 2% to 10% in 2009, falling to 7.7% of GDP in 2010. In the four major emerging economies (BRICs), the deterioration is somewhat less, since an aggregate balanced budget in 2007 gives way to a deficit of 4.5% of GDP in 2010. By country, the deficits as a proportion of GDP are higher in the United States (13.6% in 2009, down to 9.7% in 2010), Japan, the United Kingdom (near to 10% and 9%, respectively, in the coming years), India (above 10% in 2009) and Spain (8.3% in 2009 and 8.7% in 2010). In fact Spain, along with Russia, is the economy in the sample recording the largest increase in deficit since 2007, exceeding 10 pp of GDP, having started out from an ample surplus (2.2% in 2007). At the opposite extreme is Brazil, where the projected deficit is lower by 2% of GDP.

---

<sup>13</sup>. See IMF (2009b). It should be borne in mind that the initial calculations took into account the projections made in 2009 Q1. The worsening of these projections since then and the possible change in behaviour of commodity and financial asset prices have modified slightly the calculations, which should be regarded with caution.



SOURCES: IMF, ECB, European Commission, CEIC, INE and Banco de España.

- a. The euro area aggregate comprises Germany, France, Italy and Spain.
- b. The advanced economies aggregate comprises the US, the UK, Japan, Korea, Australia, Canada, Germany, France, Italy and Spain.
- c. The 2006-2010 data come from the IMF (2009b), except for Spain (Banco de España).
- d. The vertical line marks the beginning of forecast estimates.

To approximate the weight with which each factor analysed in the above sections contributes to the increase in the deficit, the left-hand panel of Chart 6 sets out a (necessarily approximate) breakdown of that contribution in the advanced economies for the current year (8 pp of GDP, as stated above), distinguishing between discretionary measures (fiscal and financial support) and the impact derived from the fall in economic and financial activity.<sup>14</sup> First, the impact of financial support measures on the deficit is relatively small (1.7 pp of GDP, i.e. barely 20% of the total), although the estimate depends on the accounting criteria adopted, since a large part of

<sup>14</sup> The breakdown is carried out by taking the deficit and structural balance projections of the IMF World Economic Outlook. The difference between them gives the impact of the automatic stabilisers. The fiscal impulse is derived from the figures in Chart 7 and the financial support from the country figures and the estimate published by the IMF in March [IMF (2009b)]. This estimate is the one used to derive the impact of financial and real estate adjustments, which is presented in terms of contribution in Chart 8.



the actual outlay affects debt rather than the deficit. Second, the fiscal stimulus packages amount to 1.5 pp of GDP, contributing 18% of the increase in the deficit. The fall in financial activity adds at least 0.6 pp of GDP, which leaves the automatic stabilisers as the main factor determining the increase in the deficit (3.3 pp, or 41% of the total). Accordingly, it is estimated that the direct impact of the crisis contributes half (4 pp of GDP) of the increase in the deficit, while the contribution of the policy response is somewhat smaller (3 pp). One percentage point of the increase in the deficit could not be assigned to any category.

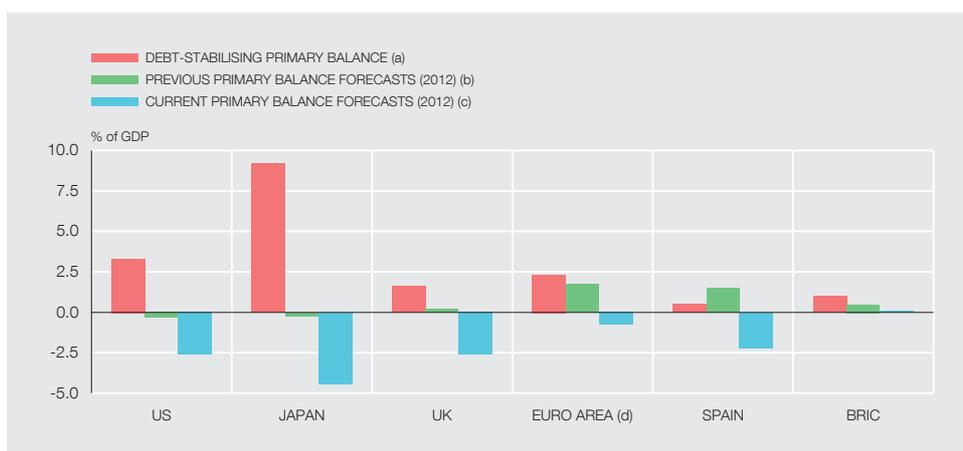
Debt shows similar behaviour (Chart 6, bottom right panel) to that of the deficit, since the net borrowing associated with the fiscal and financial support plans is producing a substantial increase in government debt issuance and in the ratios with respect to GDP in practically all the advanced economies. According to the uniform criterion used by the IMF, the debt of the United States will approach 100% of GDP in 2010, while that of Japan – where the ratio was already very high – will amply exceed 200% of GDP. The increases in Europe are also substantial. British government debt will approach 80% of GDP and that of the euro area as a whole will exceed this level. Spain, with a lower initial debt ratio, will approach 60%, after falling below 40% in 2007. In many cases these figures represent increases in government debt equal to or higher than 50% of GDP. In Japan and the United States these debt ratios represent a return to post-war levels, while in Europe they signify a reversal of the progress made in the last few decades and a fresh departure from the reference limit of 60% of GDP in nearly all countries. By contrast, the IMF projections for the major emerging countries are that in 2009 the debt ratio will stabilise at around 35% of GDP, although this projection is somewhat difficult to reconcile with the economic and financial projections.

The sharp rise in debt ratios poses questions as to the sustainability of public finances in many countries and as to how to put them on a sounder basis. Although this lies outside the scope of this article, a basic idea may be obtained by examining the foreseeable dynamics of public debt, described by the following equation, where the fiscal variables are expressed in terms of GDP:

$$\begin{aligned} \text{Increase in debt} &= [\text{Real cost of debt} - \text{GDP growth}] \times \\ &\times \text{Debt at start of period} - \text{Primary balance} \end{aligned}$$

This expression indicates that the debt dynamics have worsened generally, in various ways: first, there has been a jump in initial debt, derived from the financial support measures and from the increase in deficits; second, the increase in budget deficits is also reflected in a sharp deterioration of primary balances (i.e. net of interest payments), as shown in Chart 7, which will be long-lasting. Lastly, it is to be expected that debt dynamics will exert a negative influence, after a long period in which they behaved very favourably. First, because projected GDP growth is negative for this year and very low for next year and there is a likelihood that growth will not return on a sustained basis to the rates seen before the crisis; and second, because the real cost of financing the debt in the medium term may tend to rise as the financial and economic situation normalises and the factors responsible for the current downward pressure on government debt yields cease to operate or do so less strongly.

Based on the equation set out, it is possible to derive a relatively simple indicator to assess to what extent the debt dynamics have worsened. This indicator, shown in Chart 7, compares the primary balance that would be needed to stabilise the debt ratio at a certain sustainable level (see the footnote to Chart 7), in the long term, with the expected primary balance. Both the debt-stabilising balance and the primary deficit projections have increased markedly in all countries, meaning that the gap that has opened between the two variables is very wide (more



SOURCE: IMF.

- a. The outcome of the exercise depends on the initial debt ratio. If the ratio falls below 60% (as in Spain and, among the BRICs, in China and Russia), it would be the balance that stabilises debt in 2027. If the ratio is above 60% (as in the US, the UK and the three main European economies), the estimates refer to the balance required to return the debt level to that ratio. In the case of Japan, it would be the balance required to halve the current debt level.
- b. IMF, October 2008.
- c. IMF, March 2009.
- d. The euro area aggregate comprises Germany, France, Italy and Spain.

than 5 pp of GDP in the United States and the United Kingdom, and 13 pp in Japan).<sup>15</sup> The size of the gap in the euro area economies is also notable, albeit smaller (around 3 pp), while in Spain it scarcely exceeds 2 pp, although this is because it starts out from a ratio below 60%. By way of comparison with the previous situation, the chart also shows the primary balance projected for 2012 before the crisis (October 2007), which was close to zero in all the countries.<sup>16</sup>

In sum, government debt has entered into a negative dynamic and the debt ratio will tend to move on a rising trend in the coming years which, given the inertia inherent to this dynamic and the expectations about its determinants, will be difficult to reverse.

**Outlook and conclusions**

The economic and financial crisis is requiring a strong economic policy response which, combined with the very gravity of the situation, has placed public finances in a delicate situation, especially in some developed economies. The improvement in fiscal positions attained in recent decades, by virtue of perseverance and fiscal discipline, has allowed for greater leeway in the current conjuncture. But this progress has been eroded in just a few short months: fiscal deficits have risen rapidly and government debt is projected to reach ratios relative to GDP unprecedented in recent decades. This deterioration, moreover, will be persistent, since debt has entered into an unfavourable dynamic that will be difficult to reverse. The increases in debt and in primary deficits will foreseeably combine with less favourable developments than in the past in long-term interest rates and in the pace of growth, even after this acute phase of economic recession and financial crisis.

<sup>15</sup> The exercise (see IMF (2009b)) also imposes that the difference between the cost of financing and GDP growth (the term in brackets in the debt dynamics equation) is equal to 1 for the long-term projection period. <sup>16</sup> This comparison is partial, since the other component of the gap would also have to be considered, i.e. the primary balance that was stabilising the debt in October 2007 and that has also grown since, owing to the increase in debt and to the deterioration in its determinants.

Other risks may be added to this negative outlook, such as the potential actual outlay of the funds committed which have not yet been used (and which, therefore, do not appear in the deficit or debt figures) and the possibility that more fiscal or financial support will be needed to overcome the crisis, putting further pressure on public finances. Conversely, it is also possible that a relatively rapid reversal of the economic and financial situation may allow some of the amounts invested or committed to be recovered, partly alleviating the public finances position. In addition to these risks, there are structural factors that were already weighing on public finances in the long run, such as population ageing in many developed countries, which may further complicate the future management of countries' fiscal and financial policies.

All these considerations frame what is a difficult outlook for public finances in most developed countries in the coming years. This will feed through to the emerging countries, not only because of the direct effect of the crisis on their fiscal balances, but also because greater competition among sovereign issuers may make it more difficult and more costly for them to access financing for their debt.

Turning to the private sector, the persistent increase in public sector net borrowing poses two significant risks which, in the current conjuncture, are only latent. The first is the crowding-out effect, through upward pressure on long-term interest rates and financial costs. This effect might be partly mitigated in the short and medium term by the expected increase in global private saving, as agents rebuild their financial positions. The second is that agents may anticipate the need for higher taxes in the future to redress the fiscal situation, and may adapt their current behaviour accordingly, reducing the marginal propensity to consume. This reaction would offset the effects of the fiscal stimuli, adversely affecting the outlook for recovery of private demand.

All these considerations point to major challenges for the economic authorities in the coming years and to some economic policy conclusions. The first is that, given the delicate current position, the fiscal room for manoeuvre is very limited and, should further stimuli or support prove necessary, these should be designed with the utmost care, to optimise their efficiency and minimise their cost and duration. Second, the prospect of public finances deteriorating should be countered as far as possible by a credible commitment to fiscal discipline in the medium term. This should be made effective through countercyclical policies, once the situation of economic emergency has passed, and sufficiently ambitious structural policies. However, this commitment should be reconciled with the sustaining of private demand in the short term and the restructuring of the financial sector. In particular, the premature withdrawal of the fiscal stimulus or insufficient bank restructuring measures might lead to a false exit from the crisis, as has occurred in some cases (in Japan in particular).

22.5.2009.

## REFERENCES

- EUROPEAN COMMISSION (2009). *Economic forecast*, spring 2009, May. [http://ec.europa.eu/economy\\_finance/publications/publication15048\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication15048_en.pdf).
- INTERNATIONAL MONETARY FUND (2009a). *World Economic Outlook*, April. <http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>.
- (2009b). *The State of Public Finances - Outlook and Medium-Term Policies After the 2008 Crisis*, March. <http://www.imf.org/external/np/pp/eng/2009/030609.pdf>.
- LA EVEN, L., and F. VALENCIA (2008). *Systemic Banking Crises: A New Database*, IMF - WP 08/224.
- OECD (2009). "The Effectiveness and Scope of Fiscal Stimulus", Chap. 3, *OECD Interim Economic Outlook*, March. (Endnotes)