Fiscal positions in emerging economies: central banks' perspective

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1. Introduction

Fiscal issues have recently become more prominent in central bank discussions as a result of the widespread adoption of a stable, medium-term orientation for both monetary and fiscal policy. This development has prompted a re-examination of the respective roles of fiscal and monetary policies as stabilisation tools, and a reassessment of the role played by public sector imbalances in some recent emerging market crises. A large volume of analytical work has been devoted to these issues. However, relatively little is known about the way central banks in emerging economies assess fiscal positions in their countries, or about the practical problems that arise for monetary policy from issues such as public debt sustainability, the use of fiscal rules and intergovernmental fiscal relations. These issues are important both for central banks that set monetary policy on their own, taking fiscal policy as given, and for those that have adopted an institutional framework for coordinating monetary and fiscal policies. This paper attempts to fill this void. It is based largely on responses of central banks from emerging market economies to a BIS questionnaire, and subsequent discussions among central bank officials at a meeting held in Basel in December 2002.[2] The focus in the paper is on *levels* of fiscal balances and, hence, concerns for monetary policy that arise from fiscal sustainability issues. The accompanying paper in this volume by Mohanty and Scatigna discusses how central banks assess *changes* in fiscal positions and their effect on monetary policy.

Section 2 describes different ways of assessing fiscal positions by central banks. Section 3 looks at public debt sustainability. Sections 4 and 5 discuss the use of fiscal policy rules and intergovernmental fiscal relations that might support a more stable medium-term orientation for fiscal policy, and how they affect the conduct of monetary policy. Section 6 concludes with a brief overview of approaches to fiscal consolidation and their implications for monetary policy.

2. How central banks assess fiscal positions

Central government budget

Following the public finance literature (see Box 1), central banks in emerging economies rely on a range of budget balances in their analyses of the fiscal position of the government and the public sector. The choice depends on the aspects of fiscal policy that are of greatest interest to central banks. The most common measure of the fiscal position remains the balance of the *cash-based central government budget*. This is the simplest measure of the fiscal balance and the one linked most clearly to monetary financing of the budget deficit. Moreover, information on central budget positions is usually available on a monthly basis and quite rapidly. Policymakers in central banks therefore rely extensively on updates concerning the central government budget, making various adjustments to arrive at the measures of fiscal position that are relevant for monetary policy. Another rationale for this

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[2] The discussion refers to 23 emerging market economies from Asia (China, Hong Kong SAR (hereafter, Hong Kong), India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand); Latin America (Argentina, Brazil, Chile, Colombia, Mexico and Peru); central and eastern Europe (the Czech Republic, Hungary, Poland, Russia and Turkey); and the Middle East and Africa (Israel, Saudi Arabia and South Africa).

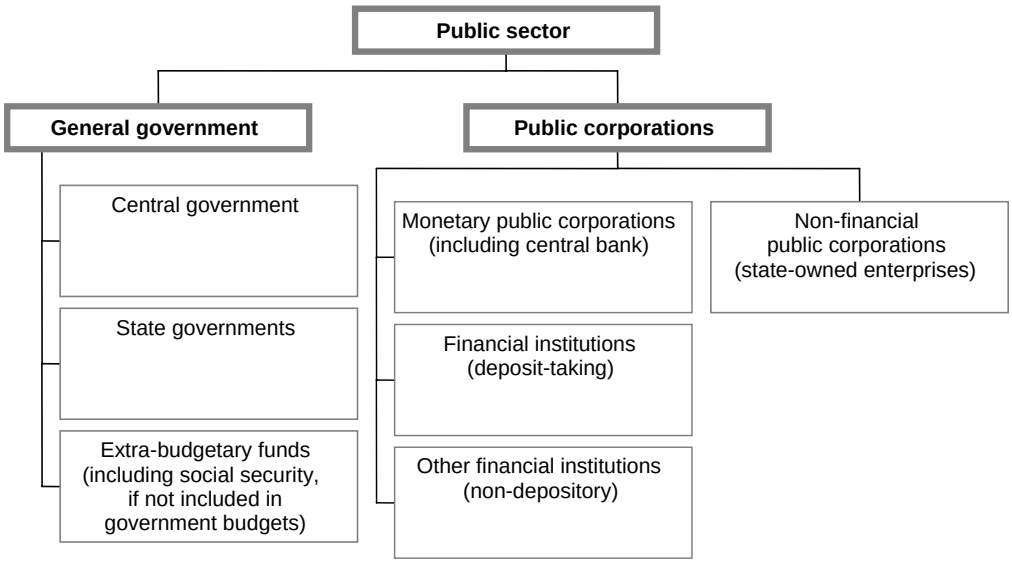
measure is that the central government typically dominates local governments in terms of both size and involvement in financial markets.

Box 1

Measures of the fiscal deficit

According to the public finance literature, there is no ideal measure of the budget balance, but rather a set of different budget balances that could be considered as more appropriate, each applicable to a specific circumstance; see Blejer and Cheasty (1993). Alternative definitions of the budget balance are unavoidable given the scope and operations of the public sector. Jacobs (2002), for instance, considers 22 alternative budget balances for South Africa.

A conceptually most appropriate way of measuring deficits would be to look at the change in the public sector's net worth (assets minus liabilities). In practice, such a measurement is quite difficult, if not impossible, in most countries. The difficulty lies in the valuation of public sector assets. As a result, fiscal deficits are usually measured by looking at the change in public sector liabilities. The conventional measure is the difference between consolidated government expenditure (including interest payments on public debt and subsidies given in the form of loans, but excluding amortisation payments) and total cash receipts (including taxes, non-tax revenue and grants, but excluding privatisation proceeds); see IMF (1986). By focusing on the financing gap that has to be closed by net borrowing, this conventional definition provides both a measure of the government's contribution to aggregate demand (and through this, to the external current account imbalance), and a measure of the crowding-out of the private sector in the financial markets.



With the development of domestic and international financial markets during the 1990s, governments have become less liquidity constrained in carrying out fiscal policy and more adept at separating the impact and accounting of a fiscal action. Cash-based accounting thus increasingly failed to capture adequately the timing of fiscal actions and their impact on the economy. In response, governments worldwide (starting with New Zealand in the late 1980s) have started to mve toward resource-based accounting, which facilitates a more comprehensive assessment of the economic impact of government activity and the sustainability of fiscal policy. In particular, the introduction of the accrual (instead of cash) basis for recording transactions and the integration of balance sheets with flows for government are consistent with the need for government behaviour to be determined in the context of its intertemporal budget constraint. Thus, government policies will not be sustainable if they reduce the net worth of government too much. In a parallel effort aimed at improving data comparability, the United Nations developed a measure of the budget balance of the general government based on the UN's system of national accounts (SNA). To a large extent this framework has also been adopted in the 2001 revision of the IMF's *Manual on Government Finance Statistics*.

Countries with a history of high inflation, such as Brazil and Turkey, have tended to concentrate on the *primary balance* (total revenue less non-interest expenditure), as the main measure of their fiscal position because this measure helps them to detect more clearly any deterioration in the fiscal position caused by an acceleration in inflation. When inflation is stable, the primary balance is generally not

affected by the level of inflation because government revenues and non-debt related expenditures tend to follow the evolution of the price level. However, when inflation accelerates, real revenue tends to fall faster than real expenditure due to delays in collection of taxes (the so-called Olivera-Tanzi effect). While this deterioration shows up in both primary and overall balances, the primary balance gives a clearer picture of the effort needed to achieve fiscal consolidation. The reason is that interest payments typically incorporate inflation expectations and therefore tend to be highly volatile in a high-inflation environment. As this volatility is generally beyond the control of the authorities, the overall deficit clouds the picture of the extent of fiscal adjustment that is needed.[3] Against this background, it is interesting to note that in the recent episode of rising inflation in Argentina and Brazil in 2002, inflation has apparently led to higher (rather than lower) primary surpluses. This issue is further discussed in the overview paper by Moreno in this volume.

General government budget

In countries with a federal structure of government or large subnational governments, it is necessary to look beyond the central government to the fiscal positions of state and local governments. National fiscal authorities have often been forced to cover the losses and obligations of subnational governments, in particular in Latin America (see Section 5). The coverage of the *general government* in fiscal accounts has improved in recent years, but data on the activities of local governments are usually only available with long delays.[4] There are also difficulties with data consolidation, which may result in double counting. This creates considerable uncertainty for monetary policy. A related issue is that, despite availability of fiscal accounts on a general government basis and significant improvements in fiscal transparency, the budgetary process and political attention in most emerging economies remain focused on central government budgets.[5] This is a major concern for central banks in larger countries, where central government frequently accounts for less than two thirds of general government spending. On the other hand, to the extent that local governments are subject to tight borrowing limits, their activities need not affect monetary policy or GDP growth in a significant way.

To verify to what extent it is important to include local governments in the assessment of fiscal positions, Graph 1 compares balances of the central government and the general government, measured in terms of GDP, during 2000-02. In Brazil, Chile, Hungary, India, Thailand and Turkey, the broader definition results in higher fiscal deficits (up to 4% of GDP in India). But in the Czech Republic, Peru, Poland and Russia, central and general government balances were of very similar size, while in Colombia, Mexico and South Africa the central government recorded somewhat larger deficits (in Korea, smaller surpluses) than the general government.

Fortunately, limited time series data available indicate that central and general government balances generally move in tandem. In Asian countries, different deficit (in Korea, surplus) measures widened during 2000-01, and are projected to narrow slightly in 2002. In Latin America and central Europe, central and general government deficits have both increased since 2000, while in Russia the different surplus measures have narrowed since 2000. A panel regression of changes in general government balances as a function of central government balances and a constant suggests that a 1 percentage point increase in the central government deficit raises the general government deficit by an almost identical amount (1.09%).[6] Thus, the central banks that focus on the position of the central government would not seem to underestimate significantly the changes in the fiscal position of the general government.

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[3] Conversely, in a process of disinflation, when expectations lag and the risk premium remains high, the real interest burden tends to rise sharply. By looking at the overall balance one would thus conclude that greater fiscal effort is needed to reduce the overall deficit than by looking at the primary deficit.

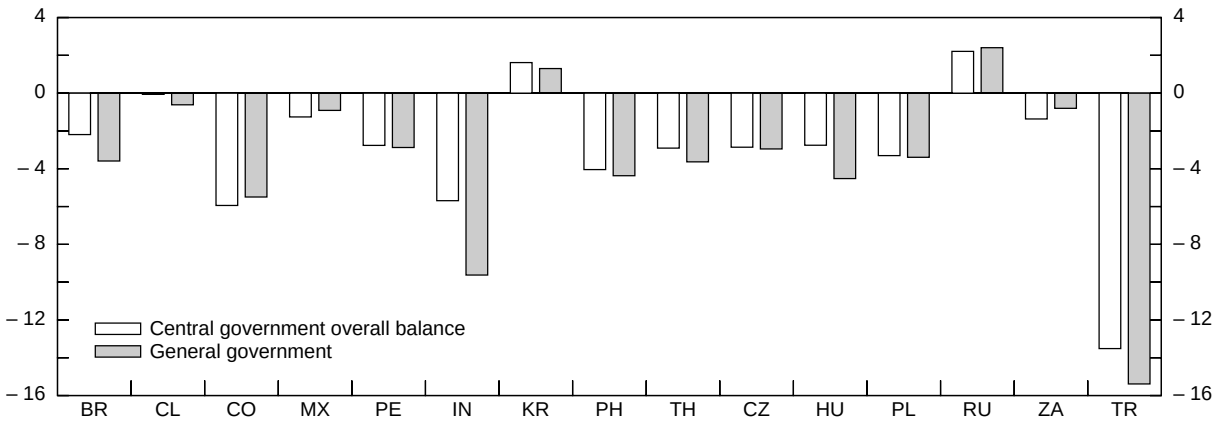
[4] In central European countries, for example, final outturns of local government budgets are only known nine months after the end of the fiscal year. In Korea, fiscal spending and receipts of local governments will only be included in the consolidated fiscal balance beginning in 2003.

[5] The same is of course true in many industrial countries (eg the United States).

[6] The regression covers 12 emerging economies for which the data were available for the period 2000-02 (Brazil, China, Colombia, the Czech Republic, Hungary, India, Korea, Peru, the Philippines, Poland, Russia and Singapore). The estimated coefficient on the central government deficit is statistically significant at the 1% test level.

Graph 1

Central government and general government balance[1]



BR = Brazil; CL = Chile; CO = Colombia; MX = Mexico; PE = Peru; IN = India; KR = Korea; PH = Philippines; TH = Thailand; CZ = Czech Republic; HU = Hungary; PL = Poland; RU = Russia; ZA = South Africa; TR = Turkey.

[1] As a percentage of GDP; average 2000-02.

Sources: IMF; central banks.

Other fiscal activities

Central banks in emerging economies are increasingly using more comprehensive *public sector accounts* in their analyses. Heightened attention to such indicators has resulted not only from greater availability of fiscal data, but also from the realisation that fiscal accounts often exclude extensive quasi-fiscal activities and contingent liabilities of government and public sector institutions (see the Appendix for a taxonomy of fiscal risks).[7] The scope of fiscal activities that remain outside government budgets is of considerable importance for central banks because it is difficult to conduct short-run monetary policy without knowing the fiscal position. However, data on such activities are generally not provided to central banks on a regular basis. As a result, for many central banks the margin of uncertainty about the government's fiscal position often amounts to several per cent of GDP. The following examples illustrate that any analysis of a country's fiscal position is far from complete if it overlooks the obligations the government has taken on outside its budgetary system:

- Measured fiscal balances in many Latin American countries during the first half of the 1990s looked better than they really were because they included privatisation receipts "above the line" but did not show liabilities such as pension arrears that were later partly recognised;
- In the Czech Republic, Mexico and Russia sizeable short-term public sector obligations were hidden in the balance sheets of weak financial institutions under government control;
- The crises in Asia, Russia and Turkey have shown that when the stability of a country's financial system is at risk, markets usually expect the government to provide financial support that far exceeds its legal obligation;
- Many emerging economies rely on guarantees, extra-budgetary funds and state development banks as a non-transparent substitute for budgetary subsidies and for bypassing budgetary ceilings on government consumption and investment expenditure. One example is Mexico's public works programme *Pidiregas* (Projects with a deferred impact on public expenditure recording), worth an estimated 4% of GDP. It is financed with funds raised internationally under the guarantee of the federal government. Spending under this

[7] The paper by Hawkins on central bank balance sheets in this volume discusses how governments may influence the major components of central bank accounts through their quasi-fiscal activities.

programme is not registered "above the line" until the project is finished and received by the public sector.

- China is another striking example of the importance of the broader public sector for the assessment of the fiscal position. The official data show that China's state budget deficit has hovered at relatively low levels (2-3% of GDP) over the last 20 years, even though fiscal activity extends well beyond the official state budget. Following the formal separation of state-owned enterprise finances from the budget, the government has used the banking system extensively to support state-owned enterprises, and a significant share of these loans has become non-performing. The loan losses of the state-owned banks, although not legally a liability of the government, would have to be covered by additional state resources in the future if deposit liabilities are to be honoured. If the government's quasi-fiscal liabilities from the banking system were included, the broader fiscal deficit would be significantly larger (estimated at about 5-6% of GDP by the IMF), as would be the level of government debt.[8]

Table 1 indicates to what extent some of these non-traditional budgetary items are being accounted for in the fiscal accounts. Off-budget expenditure by various government-supported entities remains largely unaccounted for. Hungary, India, Indonesia, Israel, Mexico, Peru, the Philippines, Poland, Russia and Thailand estimate but do not include such expenditure in public sector accounts. Similarly, contingent liabilities are estimated but not included in public sector accounts in Brazil, Chile, Colombia, India, Israel, Mexico, Peru, the Philippines, Poland and South Africa.

Table 1

Accounting for special items

Off-budget expenditure	
Estimated but not included in the accounts	Hungary, India, Indonesia, Israel, Mexico, Peru,[1] Philippines, Poland, Russia, Thailand
Not quantified	Chile, Czech Republic
Contingent liabilities	
Shown as financing or a balance sheet item	Indonesia, Russia
Estimated but not included in the accounts	Brazil,[2] Chile, Colombia, India, Israel, Mexico, Peru, Philippines, Poland, South Africa[3]
Not quantified	Argentina, Czech Republic, Hungary, Thailand
Government asset sales	
Shown as budget revenue or in government income statement	Argentina, Chile,[4] China, Hong Kong, India,[5] Malaysia, Mexico, Thailand, Turkey
Special item in budget revenue or government income statement	Brazil, Chile, Hungary, Philippines, Singapore,[6] South Africa[7]
Shown as financing or item in government balance sheet	Argentina, Colombia, Czech Republic, Indonesia, Israel, Peru, Poland, Russia, South Africa,[8] Turkey

[1] Included in budgetary accounts. [2] Included in the debt calculation and projections. [3] Actual audited data. [4] Only capital gains. [5] Proceeds from disinvestments in public sector undertakings. [6] Included under capital receipts in the budget. [7] Disposal of assets (ordinary). [8] Disposal of assets (privatisation).

Source: Central bank questionnaires.

[8] Recognising the stock of non-recoverable bank loans, estimated at between 50–75% of GDP at end-2000 (of which an amount equivalent to 15½% of GDP has been transferred to asset management companies), would raise public debt to 75-100% of GDP as of end-2000; see IMF (2002a).

Table 1 does not reveal considerable variation regarding the types of off-budget expenditure and contingent liabilities that are being accounted for. Most countries identify ex post at least some of what had previously been contingent liabilities in their fiscal accounts; examples would be costs associated with banking failures or the need to clean up liabilities of entities being privatised. But ex ante coverage rarely extends to implicit direct liabilities such as future healthcare, pension and social security obligations of the government.[9] Central European countries often exclude one-off transition-related expenditure (eg transitional costs of pension reform in Poland) in order to arrive at a measure of the budget deficit that is relevant for projecting a deficit reduction trajectory ahead of entry into European monetary union (see Section 4).

The last part of Table 1 shows how countries account for proceeds from privatisation, an asset item that has become increasingly important for the assessment of fiscal positions over the past decade. Many Asian countries still include proceeds of government asset sales in budget revenue, ie "above the line" rather than as a financing item. Most emerging economies, however, distinguish government asset sales as a special item in the budget, or account for it as a financing item (ie "below the line"). It should also be noted that covering the activities of public corporations in public sector accounts is not always straightforward. Many public corporations are run like private companies and their shares are publicly traded (eg national petroleum companies). Most countries consider only investments of such firms as government capital spending.

An issue of particular concern for central banks in highly indebted economies is how to disclose the information on contingent liabilities to the markets. There is a feeling among many central bankers that disclosure standards for emerging economies have become more stringent than for advanced market economies in recent years. Most central banks agree that appropriate accounting of contingent liabilities (such as local government borrowing, extra-budgetary funds and losses of state-owned enterprises and banks) is necessary in order to provide the right incentives to policymakers and borrowers. However, disclosure of previously unrecorded liabilities may be misinterpreted (Why is the government revealing the "skeletons in the closet" now? Is there more to come?), and sometimes gives speculators an idea of vulnerable points to attack.[10] Markets in particular view sudden jumps in the debt-to-GDP ratio as a sign of debt sustainability problems (see below). There is thus an incentive to reveal contingent liabilities slowly or not at all. One way to avoid such jumps in expenditure is to include items such as loan guarantees in the budget at the time they are approved rather than when they come due. On the other hand, central banks that have dealt extensively with different contingent liabilities feel that one should not wait for a crisis to recognise such liabilities - if markets had not paid attention to contingent liabilities before a crisis, they would certainly do so afterwards.

In summary, although central banks and fiscal authorities in emerging economies are for the most part aware of the need to look beyond the narrow central government budget, their assessments of the fiscal positions of the general government and the public sector are still far from comprehensive. An additional problem is that the budget-making process typically retains a one-year focus in most countries - in particular, line ministries' concerns rarely extend beyond the current fiscal year. Multi-year fiscal frameworks have been developed mostly in the context of IMF-supported programmes (Indonesia, Korea, Turkey) or EU accession (central Europe), or have been in place as part of narrower budgeting (Hong Kong, Singapore) or planning exercises (India), rather than as part of a comprehensive macroeconomic framework.

At the same time, one should be aware of the fact that different policy questions call for different measures of fiscal position. If, for instance, the question is how to finance the fiscal deficit, it is appropriate to exclude from public sector accounts entities such as fully funded pension schemes or the state-owned enterprises that are not likely to be bailed out by the government. If the main issue is the macroeconomic impact of changes in fiscal positions, then it is appropriate to include pension fund activities because they often affect total liquidity by depositing their receipts with the central bank or the banking system, which affects money supply. If the policy concern is resource allocation, then it is necessary to include the state enterprises as they could crowd out the private sector.

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[9] With the exception of New Zealand, most industrial countries do not account for such items, either.

[10] It has been argued, for instance, that one could not rely on market analysts to interpret the information on quasi-fiscal activities correctly. Even with the IMF's SDDS there had been misinterpretations of the data, with negative consequences for some governments. Harmonisation of information was therefore not sufficient; one also needed to educate the markets.

3. Debt sustainability

Monetary authorities in emerging economies are specially interested in the issue of debt sustainability at the general government level. One major reason is the necessity to conduct coherent macroeconomic policies: how far can monetary policy be pursued independently over time if the government debt service requirements are mounting uncontrollably? Central bankers may thus be willing to consider the current fiscal position, as noted above, but also to assess its medium-term implications and in particular whether the public debt looks sustainable. This criterion can be theoretically defined as the ability of the government to service its liabilities in the long run. However, this concept is not an objective one since it depends in practice on market expectations, which can change suddenly and markedly. To be sure, lots of countries - including advanced economies - have been subject to much concern when risk premia quickly changed. But this issue is of particular interest in emerging economies, where debt dynamics have more often been unstable. Moreover, fiscal deterioration has been a key factor triggering financial crisis in several emerging economies, although with different intensity across countries.

Public debt sustainability and the conduct of monetary policy

Financial markets are less mature and stable in emerging than in advanced economies: real interest rates are thus considerably higher; economic developments are more volatile; and risk management technology may not be well developed. These circumstances have been the by-product of three fundamental changes: (a) the discontinuation of financing of deficits by the monetary authorities - a recent and striking example of this being India since 1998; (b) the deregulation of interest rate regimes, implying that public debt has increasingly to be served at market-determined rates; and (c) the relaxation of capital controls, which has increased the exposure of emerging markets to sudden shifts in international investors' risk aversion. Certainly, these changes have mostly been welcome, as they helped to bring down inflation and to improve the functioning of these economies. Nevertheless, these circumstances have made the issue of public debt sustainability of particular importance for the conduct of monetary policy in emerging market countries.

First, a deteriorating fiscal situation can directly affect financial conditions. This is obviously linked to the relatively limited size of the bond markets, where the government sector is by far the largest borrower - and sometimes the only significant one for external funds. In these conditions, substantial pressures on interest rates and exchange rates can result from an increase in public borrowing. Moreover, the size of these effects is uncertain, and their signs may depend on the amplitude of fiscal deterioration. For instance, recent developments in central Europe have shown that a moderate increase in the budget deficit can result in an appreciating currency due to higher domestic interest rates. In contrast, a larger fiscal deterioration could lead to an upward adjustment in risk premium, leading to both sharply higher interest rates and a marked exchange rate depreciation (see below).

Second, public debt sustainability and financial markets can interact indirectly. Even without any increase in government borrowings, concerns about the fiscal outlook could affect general confidence, for instance when investors suddenly come to believe - wrongly or not - that debt dynamics are not sustainable over the medium term. This could lead to higher risk premia and trigger unexpected movements in currencies and interest rates, raising the risk of a financial crisis.

Third, public finance fragility is often considered a warning indicator, ie a sign of other - and perhaps hidden - fragilities in the rest of the economy. Hence, markets attach specific importance to fiscal credibility when judging the soundness of macroeconomic indicators. For instance, they tend to be less tolerant of current account deficits if the country is characterised by large fiscal fragilities. Or they will scrutinise more rigorously the health of the corporate and banking sectors. Moreover, worries about public finances can jeopardise institutional commitments and make them unsustainable. For instance, fixed exchange rate arrangements will not look credible and can be attacked in case of fiscal profligacy. Such "spillover" effects played a critical role in triggering the collapse of Turkey's exchange rate regime in 2001.

The confidence channel may also play a significant role when markets perceive the fiscal position as an indicator of the "real" strength of authorities' commitments, which could be fundamentally sustainable but lack enough credibility. For example, the EU accession countries that would like to join EMU have committed themselves to fiscal discipline. For the time being, public deficits can be financed relatively easily, as financial markets anticipate convergence of long-term interest rates with

those in EMU. But a further degradation of their fiscal position, although "sustainable", could be perceived as a sign of weakening commitment, in particular in the light of the structural problems that still have to be solved as part of EU membership requirements.

More importantly perhaps, fiscal soundness is often a key element of market assessments about the ability of monetary policy to remain independent from political pressures. Thus, perceptions that a loose fiscal policy might eventually dominate a credible monetary policy can indirectly add to pressure on current interest rates. In Argentina, for instance, the difficulties faced by the central government in trying to curb spending by provincial or local authorities before the 2001-02 crisis might have affected market perceptions of the independence of monetary policy.

These aspects of fiscal sustainability not only affect financial conditions, but also have in turn an impact on output and inflation performance and thus interfere with the conduct of monetary policy. For instance, concerns about public debt sustainability in Brazil in 2002 led to a rise in interest rates and to currency depreciation, causing weaker growth but also inflationary pressures in spite of a relatively muted exchange rate pass-through. Systemic risks can also trigger an explicit response from monetary authorities, as central banks could adopt a stricter stance to counterbalance the degradation of investor sentiment. The central banks may also remain cautious with interest rates if they feel that the government has underestimated fiscal risks. They might even try to act pre-emptively to prevent a self-fulfilling deterioration in market expectations.[11]

A simple approach to assessing public debt sustainability

The basic concept of solvency is a good starting point for any debt sustainability analysis, although it may be deficient in many ways. It states that the present value of future fiscal surpluses must equal the stock of the outstanding net public debt, ie that over time there is no debt left. Public debt is thus considered as non-sustainable if solvency is not respected, assuming ex ante no change in policies. However, such an assessment is not an easy task, not least because a sufficient record of historical data as well as some stability in public finance indicators is required. Meanwhile, several technical assumptions have to be made, and studies on industrial countries have often led to ambiguous conclusions. Such difficulties are likely to be even greater for emerging economies.

In practice, the most obvious indicator to focus on is the ratio of net public debt to GDP.[12] For fiscal policies to look sustainable, the level of the debt-to-GDP ratio needs to be bounded, ie it should not grow without limit. The dynamics of debt also matter. If the "sustainable" level of debt is well above its current level, the country could theoretically experience high fiscal deficits for a long time. But such developments have often been perceived as unsustainable by investors, raising the risk of a crisis. In contrast, a high debt level could be perceived as sustainable if it is decreasing. In Russia, a shrinking debt-to-GDP ratio has recently improved markets' perceptions of sustainability, although memories of government default are still fresh.[13]

All in all, there is strong evidence that financial markets react adversely when the following two conditions exist in tandem: (a) the public debt is growing rapidly; and (b) the level of debt in relation to GDP is considered as "high". An easy way to summarise these two conditions is to calculate the government budget balance that is required to stabilise the debt-to-GDP ratio over a given horizon. This kind of assessment generally relies on the view that current policies will be maintained and that growth in the economy will converge to its steady state rate. Under some simplistic technical assumptions,[14] this leads to the following condition:

$$b^* \approx -d\,(g + \pi) \qquad (1)$$

[11] For instance, negative sentiment ex ante, despite no evidence that public debt is unsustainable, could lead to higher interest payments, larger deficits, and finally an ex post fiscal degradation.

[12] Because of the lack of data, following calculations are made using gross (and not net) public debt.

[13] Another factor suggesting that the level of the debt-to-GDP ratio is not a sufficient indicator of public debt sustainability per se is that this ratio can change dramatically following changes in the methodology of national accounts, in particular with respect to the measurement of informal activity.

[14] In particular, both g and π must be well below unity.

where b^* is the government budget balance (as a ratio to GDP) needed to stabilise the debt-to-GDP ratio,[15] d, g the real growth rate and π the inflation rate (GDP deflator). Both g and π are usually the "potential" rates expected under reasonable medium-term economic prospects. When the debt ratio is on a growing trend - ie when the actual budget deficit ($-b$) is higher than the sustainable deficit ($-b^*$) - the gap between b^* and b indicates the budgetary effort required to stabilise the debt ratio. One can also look at the implied conditions for the primary budget (b excluding interest payments or b_p), since (1) can be rewritten as:

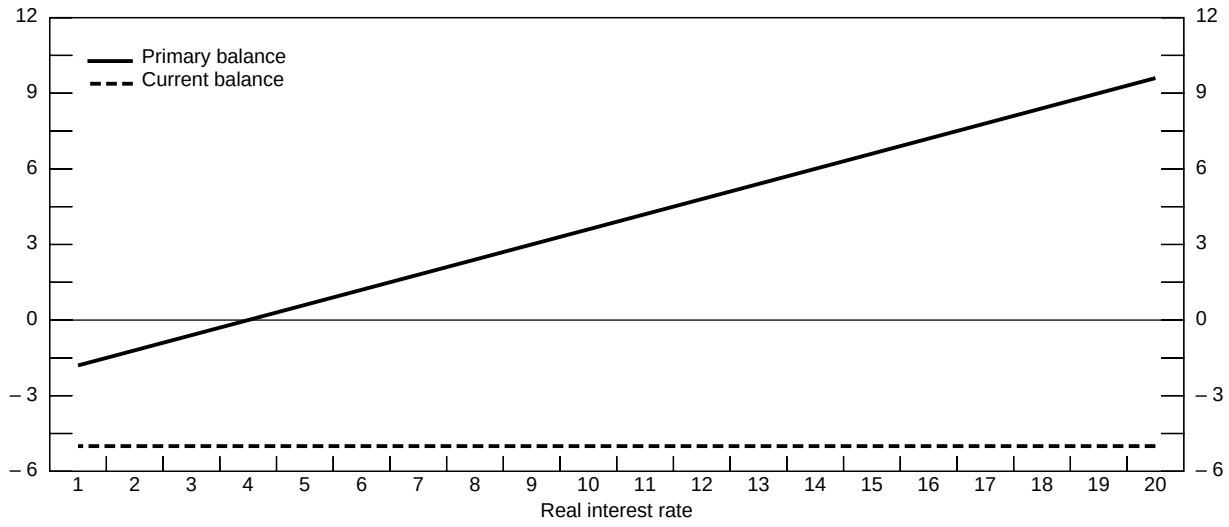
$$b_p^* \approx d\,(i - \pi - g) \approx d\,(r - g) \qquad (2)$$

where b_p^* is the government primary budget balance needed to stabilise the debt,[16] i the average nominal interest rate applied to the debt and r the corresponding real rate (i*d is thus the interest payments). A third indicator can be the rise in taxes required to stabilise the debt ratio, described as the "tax gap".

This approach underscores the key parameters influencing the dynamics of debt. For instance, Graph 2 shows how debt dynamics change when real interest rates rise. To conclude, debt sustainability is greater when debt ratios and real interest rates are low, and when the pace of economic growth and the primary budget balance are high.

Graph 2

Fiscal balance required to stabilise the debt-to-GDP ratio[1]



[1] As a percentage of GDP; calculated assuming GDP growth of 8% (nominal) and 4% (real) per year, and a public debt-to-GDP ratio of 0.6.

Source: BIS calculations (see equations 1 and 2 in the text).

Rapid changes in debt sustainability prospects

The forward-looking nature of this approach to calculating debt sustainability makes it open to a wide range of economic uncertainties. In particular, a sustainable public debt is identified as one that is consistent with a stable equilibrium path of the economy. But underlying economic policies could change, not least because of political instability and credibility problems. Moreover, output growth has proved to be relatively volatile in emerging economies, implying that developments expected to be sustainable could suddenly turn less favourable. Such changes could result from adverse supply side shocks (eg changes in the terms of trade or natural disasters). Higher risk aversion in global financial

[15] To be sure, all the values of b that are greater than b^* respect the sustainability condition.

[16] The values of b_p that are greater than b_p^* also respect the sustainability condition.

markets has also played a significant role, as seen in 2002. Finally, while most public debt sustainability analyses rely on several independent assumptions for fiscal balances, interest rates and output growth, there are, in reality, interactions between policies and key economic variables (inflation, national savings, accumulation of capital, etc). For instance, poor fiscal prospects could push up risk premia, thus raising real interest rates and reducing debt sustainability prospects in a cumulative way. In contrast, there might also be positive feedback effects in some circumstances. For example, some EU accession countries have argued that current government deficits are essential for launching large infrastructure projects, which should improve potential growth prospects.

Even countries with low levels of public debt can face a marked and sudden deterioration of their fiscal position during times of financial distress. Hence, debt sustainability assessments can change rapidly, with three factors having particularly large and sudden effects on the debt-to-GDP ratio:

- A protracted rise in ***interest rates***, with the maturity structure of the debt playing a critical role. For instance, a short-term debt structure implies that the authorities will have to roll over their debt rapidly, leading to a sharp increase in interest payments. This has been an important factor in Turkey, where domestic public debt has an average maturity of only 140 days, and in Brazil, where a significant part of the debt was indexed to short-term rates.
- A sharp depreciation in the ***exchange rate***, which will directly lead to a surge in the debt-to-GDP ratio if the amount of public liabilities denominated in foreign currencies is substantial, or if domestic debt has exchange rate indexed instruments. Hence, foreign currency borrowing entails substantial risks in terms of debt sustainability, not least because emerging markets can be affected by sharp and sudden shifts in exchange rates. For instance, the debt-to-GDP ratio in Argentina was lower than in several other economies (emerging as well as industrial) prior to the 2001-02 crisis, but it soared after the collapse of the peso.
- A sudden recognition of ***unrecorded public liabilities***, for instance when the government has explicitly or implicitly guaranteed the debt of other agents. Even in Southeast Asia, where countries had generally maintained a track record of fiscal discipline before the 1997-98 crisis, the issue of public debt sustainability arose as implicit state guarantees in the corporate or the banking sector emerged. And in Brazil, it is now assumed that the recognition of already existing hidden liabilities (so-called "skeletons") could lead to a rise in the debt-to-GDP ratio of around 10 percentage points in the current decade.

To be sure, such sudden increases in the debt level will not automatically signify poor sustainability prospects. For instance, Asian public debts have generally been considered sustainable despite a sharp surge after the 1997-98 crisis, which was mainly seen as a one-off event. Moreover, higher debts were in some cases a consequence of a quick recapitalisation of financial institutions, which was indeed welcome in order to clean up weak balance sheets and allow a resumption of bank lending. Abandoning an unsustainable exchange rate regime can also improve growth prospects and mitigate fiscal worries in turn. This seems to have been the case for Brazil in the immediate aftermath of the 1999 devaluation.

The need for a broader range of indicators

These comments imply that a thorough assessment of public debt sustainability in emerging economies has to take into account the possibility of sudden adverse shocks. In assessing the underlying health (and potential exposures) of the public finances, a number of indicators are often looked at by central banks:

- The ***depth and liquidity of domestic financial markets***. This is a key factor allowing stable domestic financing conditions for government borrowings, and also in reducing the need for external funds in difficult times. India has taken various measures since the early 1990s to widen and deepen the domestic market for government securities. Characteristics of the holders of the debt can also become critical, for instance whether they are domestic or foreign lenders. The former are often captive investors in terms of portfolio management, while non-residents are sensitive to swings in global liquidity conditions and in risk appetite for the entire emerging market asset class.
- The ***structure of the debt***. If markets were complete and efficient, the composition of debt would not matter in the determination of interest rates. In practice, this is not the case.

Moreover, attempts to keep debt servicing costs low could justify a preference for issuing particular assets. For instance, as the yield curve steepens, long-term borrowing becomes more expensive, and the government might be tempted to shorten maturities or to rely more on floating rate debt. If short-term rates subsequently have to be raised more than initially expected, this would raise the risk to sustainability in the longer run. On balance, it is assumed that debts of longer maturity are safer in terms of refinancing risk. For instance, public debt is quite high in Indonesia, but interest payments are relatively stable because of a rather long maturity structure. Meanwhile, the more public liabilities are denominated in foreign currencies and the lower is the ratio of exports to GDP, the higher is the risk to debt sustainability in case of a significant depreciation of the domestic currency.

- The ***quality of public revenues and expenditures***. On the expenditure side, upward pressures can result from factors such as indexation rules or significant discretionary spending power at the lower levels of the government. On the revenue side, a relatively high dependency on specific sectors (oil, tourism) can lead to volatility in tax revenues. Meanwhile, authorities may have only limited capacity to generate additional revenues if the country has a narrow tax base, a large grey economy or a weak tax administration. These characteristics might adversely affect debt sustainability prospects by impeding fiscal adjustment in case of adverse shocks.
- The ***current public deficit***. The higher the current budget deficit, the less sustainable is the public debt. Nevertheless, a more sophisticated analysis may be required to determine whether a deteriorating fiscal position is mainly the result of temporary cyclical developments or more permanent structural changes. Other elements, such as privatisation receipts or the possible use of off-budget sources of funding - such as extra-budgetary funds, state agencies and public enterprises - should also be looked at (see Section 2).
- The ***track record*** of the fiscal authorities. A long period of fiscal discipline helps to foster government credibility, so that markets can be more tolerant of a temporary increase in debt ratios. An important point in this context is whether multi-year fiscal frameworks are in place, allowing pre-announced and transparent rules to fix market expectations. For instance, Poland has a commitment to keep the national public debt under a constitutional limit of 60% of GDP (see below).
- Implicit or ***potential public liabilities***. A forward-looking approach to debt sustainability should consider potential liabilities, in particular the risk of a systemic banking crisis requiring large government assistance. Other potential or implicit liabilities may arise from off-budget fiscal operations, implicit state guarantees in the corporate sector, or future pension liabilities set to emerge in pay-as-you-go retirement schemes. Another example is the so-called “transformation institutions” in central Europe. So far, privatisation revenues have covered their losses, but they are expected to accumulate sizeable debts in the future.

To conclude, three points emerge from the experience of emerging market economies. First, the level of debt at which sustainability becomes a problem can differ over time and across countries. Moreover, the exact threshold at which a country becomes vulnerable to default seems highly dependent on market sentiment and resulting changes in interest rates or exchange rates.

Second, given the extent of these uncertainties, it is important to assess thoroughly the risks to debt sustainability, including looking at different stress-testing scenarios. For instance, the paper in this volume by Goldfajn assumes several risks to fiscal prospects before concluding that the Brazilian public debt is sustainable under “reasonable” assumptions. Even so, this approach might underestimate the likelihood of default, since “unreasonable” assumptions might still materialise.

Third, government budgetary projections have often shown a tendency to “official optimism” and assigned a small weight to the possibility of unexpected shocks. It would be desirable that fiscal authorities build in some room for manoeuvre, for instance by looking at scenarios that focus on recent developments of the debt sustainability criterion. A sharp increase in the difference between the current budget deficit and the one that is required for stabilising the debt ratio could serve as a useful warning signal, even though both the level of debt and its rate of change might look “sustainable”.

Table 2

Elements of public debt dynamics, end-2001

	Debt[1]	Debt sustainability criterion[1,2]	Currency exposure[3,4]	Interest rate exposure[3,5]	Debt dynamics[6]
China	15	1.7	0	0	1.5
India	67	–0.8	5	6	3.2
Indonesia	92	–8.6	55	88	10.3
Korea	19	–4.0	25	25	2.3
Malaysia	44	3.0	17	20	0.4
Philippines	59	–0.6	48	66	–0.7
Singapore	91	–2.8	...	76	3.4
Thailand	22	0.9	36	43	3.0
Argentina	53	0.6	97	43	3.9
Brazil	56	2.6	46	96	3.7
Chile	14	–0.4	...	...	–0.6
Colombia	44	1.8	54	83	5.0
Mexico	34	–0.8	28	72	–2.8
Peru	45	0.4	85	98	–0.7
Czech Republic	17	1.2	...	63	0.7
Hungary	49	–7.2	30	64	–6.0
Poland	40	1.5	35	66	–2.6
Russia	50	–25.0	88	89	0.4[7]
Turkey	36	–2.8	58	99	3.0
Israel	95	–1.3	27	78	–1.7
Saudi Arabia	94	–4.9	...	...	2.0[8]
South Africa	44	–3.9	15	25	–1.1

[1] Gross, as a percentage of GDP. [2] Defined as the difference between the budget balance needed to stabilise the debt and the actual budget balance, average 2000-02; a positive sign implies that the actual budget balance is too low (the deficit is too high) to stabilise the debt-to-GDP ratio. [3] As a percentage of total public debt. [4] Defined as the percentage of debt denominated in or linked to foreign currencies. [5] Defined as the percentage of floating rate debt or with maturity less than one year. [6] Average annual change in the debt-to-GDP ratio during the period 1995-2001, in percentage points. [7] Average over the period 1997-2001. [8] Average over the period 1996-2001.

Sources: National data; BIS estimates.

Outlook for debt sustainability in emerging economies

One important issue for monetary policymakers is whether they have enough reliable data to assess public debt sustainability. To this end, Table 2 and Graph 3 show some rough indicators: the current level of debt, its recent dynamics, the debt sustainability criterion, and some indicators of debt fragility in the case of interest rates and currency risks.

These indicators clearly show that ***highly indebted countries*** are in different positions with respect to debt sustainability. For instance, Argentina, Brazil and Turkey show large government liabilities in 2002 as well as a growing trend in the public debt. Some of them have already experienced problems of debt solvency and prospects for other heavily indebted countries could become more acute should adverse shocks occur. Nevertheless, there are other countries where public debt is clearly too high but where the debt sustainability criterion is relatively favourable, suggesting that sustainability problems could moderate in the near future if the current fiscal stance is maintained. One example of this

second group is Indonesia, where public debt increased sharply from a pre-crisis level of around 23% of GDP to almost 100% of GDP. Finally, some countries with a large public debt have limited currency and interest rate exposure (eg India).

Among ***low-indebted countries***, the picture is also mixed. Some countries fail to meet the sustainability criterion, suggesting that the current debt-to-GDP ratio is low but rising, and that fiscal worries could rapidly increase in case of adverse events. In particular, public debt in China is moderate but would grow in the future, should hidden liabilities in the banking and corporate sectors be recognised. In contrast, the situation of Korea and Mexico looks relatively favourable: the debt-to-GDP ratio is rather low and decreasing, while the debt sustainability criterion suggests that the authorities have significant room for manoeuvre in case of unexpected shocks.

4. Fiscal rules

Fiscal rules can be defined as specific, binding constraints on the government's range of policy options in areas such as the budget balance, debt, spending or taxation. Policy rules or guidelines that are not legislated are not considered to be fiscal rules in a narrow sense because they do not impose binding constraints on present or future governments, although they may still influence their decisions; see Kennedy et al (2001). This section addresses four issues that have been important from central banks' perspective: the rationale for fiscal rules, their design, experiences with their use and conditions for their effectiveness.

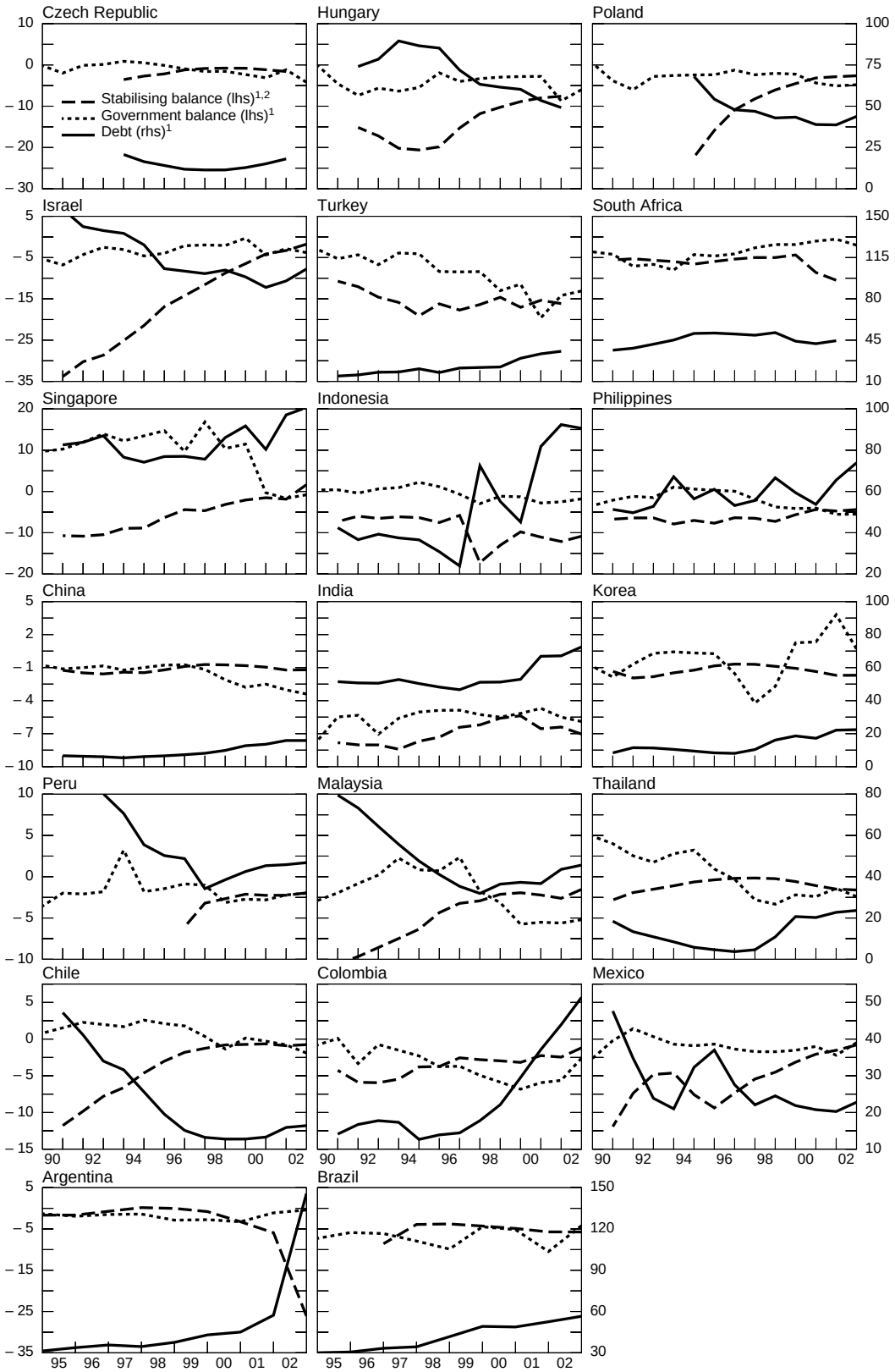
Rationale

Underlying most fiscal rules is a sense that present or future governments may not be willing or able to implement disciplined fiscal policy measures without external pressure. Indeed, the need to establish credibility and, hence, adopt fiscal rules is greatest when initial conditions are problematic. While in theory a discretionary policy can achieve the same outcomes as fiscal rules, and should in fact be superior because it allows greater flexibility, in practice electoral pressure may lead politicians to adopt a short time horizon. This could result in less disciplined and even unsustainable policies over time. Following these arguments, the primary usefulness of a well designed, appropriately implemented set of permanent fiscal rules is that they establish a depoliticised framework for fiscal policy, much like the depoliticisation of monetary policy under successful inflation targeting; see Kopits (2001). With information on macroeconomic prospects being widely available, the budget balance and the level of expenditure would be determined by rules, and only the relative spending priorities and the tax structure would become subject to legislative and public debate. This makes fiscal rules potentially highly attractive to the emerging economies, particularly those wishing to establish a reputation of fiscal rectitude, or those wishing to design a more efficient structure of intergovernmental fiscal relations.

Despite the obvious attractions, the use of fiscal rules has also raised several concerns. The main one is that rules may be overly restrictive and limit a government's ability to engage in countercyclical fiscal policy when required. The difficulties some euro area countries are currently experiencing in meeting the 3% budget deficit norm of the Stability and Growth Pact are an illustration. To be functional, legislation must therefore be written in such a way that it provides some flexibility. But at the same time, the rule should not be so flexible as to become non-binding. In order to be credible, fiscal rules should be viewed as permanent. And in order to be transparent, the rules should be defined in terms of fiscal indicators that are easy to monitor and cannot be manipulated easily. These desirable characteristics of fiscal rules are not easy to fulfil because they involve complex trade-offs. Furthermore, when a government has a margin for "creative accounting", the imposition of fiscal rules may entail an additional trade-off between window-dressing (which is costly in the long run but can help win votes in the short run) and real fiscal adjustment (which is costly in the short run but creates long-term benefits); see Milesi-Feretti (2000).

Graph 3

Public debt and government balance in emerging economies, 1990-2002



[1] As a percentage of GDP. [2] Defined as the government budget balance needed to stabilise the (gross) debt-to-GDP ratio.

Sources: IMF, Government Finance Statistics; national data; BIS estimates.

Design

The majority of emerging economies (including China, Colombia, the Czech Republic, Hungary, India, Korea, Mexico, the Philippines, South Africa, Thailand and Turkey) use no formal fiscal rules to bind the national government. However, the budget-making process implicitly involves some controls on the spending and borrowing decisions of the executive branch of the government. For instance, the size of the deficit, levels of expenditure and borrowings must be approved annually by the legislative branch in most countries. In addition, they may be part of an agreed medium-term fiscal plan (Indonesia, Thailand, central European countries). In several Asian economies, this approach reflects a history of fiscal discipline and, perhaps, caution with regard to fiscal policy innovations in general.

Formal fiscal rules that are embedded in legislation have been used in only a few emerging economies. The Basic Law of the ***Hong Kong*** SAR requires the government to "follow the principle of keeping expenditure within the limits of revenues in drawing up its budget, and strive to achieve a fiscal balance, avoid deficits and keep the budget commensurate with the growth rate of its GDP".

Argentina and ***Peru*** both adopted fiscal responsibility laws in 1999. The laws set ceilings for the deficit of the central government and the growth of expenditure, and established fiscal stabilisation funds financed through tax revenues. The intention was to ensure savings in periods of boom that could be used in times of recession. The Argentine law also prohibited the creation of off-budget items, while the Peruvian law set a limit on the increase in public debt.

Brazil's Fiscal Responsibility Law, enacted in 2000, applies to all levels of government. It prohibits financial support operations among different levels of government, sets limits on personnel expenditures, and requires that limits on the indebtedness of each level of government be set by the senate. Annual fiscal targets have to be set within a three-year framework. The law also establishes rules to control public spending in election years.

The central government in ***Poland*** is bound by two rules: the nominal deficit in the approved annual budget cannot be exceeded without going back to parliament, and the national public debt has a constitutional limit of 60% of GDP. Special prudential measures are triggered when public debt exceeds 50% of GDP. Specifically, the deficits of subnational governments must be lowered, the council of ministers must submit a fiscal consolidation plan to parliament, and issuing of new state guarantees is limited; see OECD (2002c).

Several emerging market economies follow more specialised rules. ***Singapore*** requires presidential approval if the current government wishes to use reserves accumulated by a previous government, or if the current government needs to spend more than 50% of the net investment income earned during a fiscal year. In ***Russia***, the budget law sets a limit on the deficit: the deficit should be less than the sum of fixed investment and interest payments. Many emerging economies have also passed or are considering budget or other legislation requiring the government to reduce the size of the fiscal deficit over the medium term (Indonesia, Korea, Thailand, EU accession countries). ***Chile*** is a particularly interesting case in that, from 2001, the central government has to generate a 1% surplus on its structural fiscal balance.

Experiences

Empirical research on the effectiveness of fiscal rules in industrial countries is inconclusive, as most rules at the national level have not yet passed the test of time. In a survey of empirical research on OECD countries, Kennedy et al (2001) argue that some of the euro area countries might not have achieved fiscal consolidation without the strict rules embedded in the Maastricht Treaty. There is also evidence that expenditure ceilings embodied in the Budget Enforcement Act have played a significant role in reducing spending of the US federal government; see IMF (2001b). However, in several OECD countries major improvements in structural fiscal balances were made during the 1990s without fiscal rules. Moreover, the adoption of fiscal rules in New Zealand did not prevent recent slippage relative to long-term fiscal goals.

The empirical evidence is even more limited for the emerging market economies given the recent introduction of such rules. Fatás and Mihov (2002) construct a measure of discretionary fiscal policy for a number of emerging economies. Based on this measure they provide evidence that discretionary fiscal policies amplify business cycle fluctuations and reduce the rate of growth, while rules-based fiscal policies help to lower output volatility and positively affect growth. For the countries studied in this paper, the limited evidence available to date is mixed.

Hong Kong established an exemplary record of budgetary performance during 1984-97, when it operated under informal fiscal rules very similar to those stipulated in the Basic Law. However, since 1998 the deficit avoidance rule has been breached in every year. Persistent high fiscal deficits (projected to reach 6% of GDP in fiscal year 2003) have even raised questions about the robustness of Hong Kong's linked exchange rate system, despite high fiscal reserves and the absence of public debt.

In ***Argentina***, the deficit ceilings were exceeded in 1999 and 2000; in 2001 they were relaxed and the date at which a balanced budget should be achieved was shifted to 2005 (Table 3). However, the rule was effectively abandoned in 2002, when the economy plunged into deep crisis. Limits on the fiscal deficit set in ***Peru***'s fiscal responsibility law have also been breached in every year since the law was adopted (formally, congress suspended the limits for 2001 and 2002).[17]

Brazil's fiscal responsibility law seems to have been more successful so far. The primary surplus increased from 3½% of GDP in 2000 to 3.9% in 2002, even as the economic situation worsened (Table 4). Most of this improvement was achieved by reducing the deficit of the federal government and central bank, whereas the deficit of states and municipalities increased by almost 2% of GDP in 2002. At the national level, the personnel expenditures were kept well below the legislated limit of 38% of current revenue in 2001. Moreover, the vast majority of municipalities complied with an equivalent limit (60% of current revenue) at their level. However, the primary surpluses have been achieved mainly on the basis of revenue increases rather than expenditure cuts; see Samuels (2002). In addition, most of these increases were temporary (such as the tax on financial transactions), requiring difficult renegotiation in congress before each extension of the tax.

Table 3

Argentina: compliance with the Fiscal Responsibility Law

	Deficit limits[1]		**Observed**
	1999 Law	**2001 Modification**	
1999	–1.9		–3.0
2000	–1.1		–3.4
2001	–0.5	–2.5	–5.5
2002	0	–2.0	–2.2
2003	0	–1.3	
2004	0	–0.9	
2005	0	0	

[1] As a percentage of GDP. Limits refer to the central government. Values are estimated as the law established nominal ceilings for the deficit, not for the deficit/GDP ratio.

Source: Braun and Tommasi (2002), p 7.

In ***Poland***, the nominal deficit rule has led to overly conservative revenue projections, the inclusion of spending reserves in the budget, and occasional payment arrears. It has also provided incentives to circumvent the limits through creative accounting, and to push expenditure off the central budget into extra-budgetary funds and various special purpose agencies.[18] On the other hand, the constitutional limit on public sector debt has been observed at all times.

[17] The limits were set at 2% of GDP in 2000, 1½% in 2001, and 1% in 2002. In the event of actual or projected recession, the law allowed the deficit limit to be increased by up to 2% of GDP.

[18] The state budget represents only 40% of general government expenditure, while some 3,000 national and local government extra-budgetary funds represent a further 40%. The remainder is accounted for by the budgets of subnational governments.

Poland's experience has been echoed in some countries that do not use fiscal rules in the narrow sense, but rely instead on deficit, spending and borrowing limits in annual budgets. In ***Korea***, governments in the past preferred to establish off-budget funds rather than issue bonds, as the latter would have been subject to the scrutiny of the national assembly. However, this was possible only because the general account exhibited surpluses sufficient to cover chronic deficits of special accounts and extra-budgetary funds. In ***Hungary***, frustrations with the rigidity of budget procedures and legitimate concerns about the state of public infrastructure have led the authorities to finance an extensive road development programme through a state-owned development bank specially reactivated for this purpose.[19]

Table 4

Brazil: public sector developments

Percent of GDP

	1999	2000	2001	2002
Overall balance	–9.2	–4.6	–3.6	–4.6
Federal government and central bank	–6.9	–3.2	–2.1	–0.8
States and municipalities	–2.4	–2.1	–2.0	–3.9
State enterprises	0.1	0.8	0.6	0.0
Primary balance	3.2	3.5	3.6	3.9
Federal government and central bank	2.4	1.9	1.8	2.4
States and municipalities	0.2	0.6	0.9	0.8
State enterprises	0.7	1.1	0.9	0.7
Interest payments due	12.4	8.1	7.2	8.5
Federal government and central bank	9.3	5.1	3.9	3.1
States and municipalities	2.6	2.7	2.9	4.6
State enterprises	0.6	0.3	0.4	0.7

Sources: Central Bank of Brazil; Institute of International Finance.

Another country with mixed experience has been ***South Africa***. On the positive side, a constitutional provision allowing the parliament to adjust the budget proposed by the government proved effective because the parliamentary budget committee had adequate knowledge of fiscal issues. The government's medium-term horizon for fiscal policy, which gave fiscal policy some discipline without making it rules-based, also proved useful because markets could easily detect any deviation from medium-term targets. And the central government's power to take over a province that is not managing its finances properly has been effective in reducing provincial overspending, given that a takeover would have been extremely embarrassing for provincial leadership. However, the provision on criminal sanctions for mismanagement of public institutions, although a priori desirable, had some unintended consequences. Many qualified individuals have became reluctant to accept positions as board members in state-owned enterprises, and government departments have become extremely cautious with spending, which has resulted in significant underspending.

Conditions for effectiveness of fiscal rules

These limited experiences do not clearly suggest conditions under which fiscal rules are likely to fail or succeed. In ***Hong Kong***, one possible weakness has been the lack of sanctions for breaching the

[19] The bank issued its own bonds and provided guarantees to commercial banks lending to contractors, while the scope of its activities was estimated at 8-9% of GDP; see OECD (2002a). Beginning in 2003, the bank is no longer involved in the financing of the road development programme.

rules. In ***Brazil***, for instance, penalties and sanctions for non-compliance were applied not only at institutional level but also to public officials under the so-called Fiscal Crimes Law, thus significantly strengthening the enforcement of the Fiscal Responsibility Law. But in ***South Africa***, as noted above, sanctions for mismanagement of public institutions have led to avoidance of decisions on spending.

In ***Argentina*** and ***Peru***, the rules probably failed because of inherited fiscal fragilities, weak budgetary institutions, and ill-fated timing of the introduction of the rules (during the recession in 1999). More importantly, the experience of Argentina and Peru indicates that fiscal rules need to work over the entire business cycle in order to be effective. If there is a negative shock or a downturn in economic activity, deficit reduction targets can become excessively tight and attempts to satisfy them may exacerbate the downturn. Conversely, if there is a positive shock (eg an increase in the price of commodities that are exported) or a boom in economic activity, fiscal rules that set a limit on the size of the deficit would become relatively easy to comply with. The underlying fiscal position - eg large outstanding public debt - would thus not improve and the procyclical fiscal stance would accentuate the boom. Gavin et al (1996) argue that excessive spending during the booms and, hence, the incapacity to maintain surpluses in good times often sow the seeds of a fiscal crisis, although the crisis becomes evident only when the boom subsides.[20] Partly reflecting this concern, the Peruvian authorities revised the fiscal responsibility law in mid-2002, allowing for a transitional period to reach the medium-term deficit target following a recession, but requiring corrective measures when the fiscal programme goes off track in periods of positive growth. An alternative rule for countries with low debt levels could be to limit public debt rather than the budget deficit, so as to leave more room for countercyclical fiscal policy.

In view of the procyclical bias of fiscal policies in many Latin American countries, ***Chile***'s structural surplus rule deserves particular attention. The structural balance is estimated by removing the effects of variations in copper prices (by using a panel of experts to estimate the long-term price trend) and the economic cycle on revenues (by using revenue elasticity estimates and a measure of potential GDP). This rule is expected to force the government to run high surpluses during domestic booms and periods of high copper prices. Conversely, the rule allows moderate deficits during downturns and periods of low copper prices. The estimated budget deficits for 2001 and 2002 have in fact been consistent with the structural surplus rule.[21]

A further consideration is whether fiscal rules can be used to discipline fiscal policy at different levels of government. The failure of the fiscal responsibility law in ***Argentina*** has been attributed to the fact that the provincial governments were exempt from the law, ie they were only *invited* to adopt similar fiscal rules. While some provinces followed the rules, others did not. In contrast, ***Brazil*** introduced its Fiscal Responsibility Law as part of a comprehensive fiscal stabilisation plan, under which the government committed itself to generating a consolidated primary budget surplus for three years. The fiscal positions of subnational governments were made consistent with this overall goal. The federal and most state governments agreed to a debt restructuring plan, while extensive privatisation and closure of commercial banks owned by the states helped create an environment more conductive to fiscal discipline.

A common reason for the failure of fiscal rules has been the lack of commitment to implement the rules. As pointed out in the political economy literature, in contrast to the private market, where shareholders can dismiss managers at any time and thus protect a firm's reputational capital, in politics an election victory provides a multi-year franchise; see Schuknecht (2001). Since the electorate can do very little until the next election even if it feels cheated, some governments may choose to break the rules if they find it would not hurt them politically. Even governments that have established a reputation for tight fiscal policies may take the risk of losing that reputation if they think that short-term fiscal expansion is essential to win the next election.

The potential failure of reputation as a disciplining device is an important reason why fiscal rules should be hard to amend or circumvent, ie designed so as to impose very high exit costs. ***Poland***'s positive experience with the constitutional limit on public debt illustrates this point. Another example is

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[20] Financial market failures may contribute to such procyclicality: there is evidence that spreads are procyclical, which means that deficits are financed relatively easily in periods of boom, while exacerbating negative debt dynamics in periods of recession; see Perry (2002).

[21] See the paper by Marshall in this volume; Ministry of Finance, Chile (2002); and Fiess (2002).

the Maastricht criteria for entry into European monetary union (EMU). These criteria are not part of EU membership requirements and new EU members are not expected to meet them until around 2007 at the earliest. Nevertheless, fiscal policy in accession countries is being increasingly oriented towards satisfying a 3% norm for the deficit of the general government and a limit on total public debt of 60% of GDP. The reason is that fiscal deficits are currently very high in several accession countries (6-9% of GDP). Entering the exchange rate mechanism of the European Monetary System (so-called ERM II) with such a high deficit, with a view to reducing it below 3% in two years, could put pressure on central banks to keep short-term interest rates higher than in the euro area.[22]

As illustrated by the ***Hungarian*** experience in January 2003, this differential would attract short-term capital inflows and could well increase exchange rate volatility.[23] A particular concern would arise if the ambitious deficit reduction strategies were to go off track. Since non-residents are expected to become major buyers of newly issued public debt, given the promise of medium-term sustainability, such an event could lead to a sudden reversal of portfolio capital flows, causing the currency to depreciate sharply. The Hungarian experience in June 2003 partly illustrates this course of events. The accession countries have limited capacity to respond to large movements in capital flows and may therefore find it necessary to satisfy the Maastricht criteria from the moment their currencies enter ERM II. This will require substantial fiscal adjustment in the next few years. Mobilising support for such adjustment will be difficult, however, given the large public expenditure needs and the fact that the deficits can be financed relatively easily at the moment.

5. Intergovernmental fiscal relations

The emerging market economies on average devolve a smaller proportion of public expenditure to subnational governments than do industrial countries (Graph 4). Nevertheless, as most major taxes are typically assigned to the central government, sizeable vertical imbalances (pre-transfer fiscal deficits) frequently emerge at the subnational level. There are also horizontal imbalances, since the revenue-raising capacity of subnational governments varies and different regions may face different cost and demand pressures as they attempt to meet their assigned expenditure responsibilities. As in industrial countries, the gap between revenue and spending in local jurisdictions in the emerging economies is met through intergovernmental transfers (grants and revenue sharing), borrowing by governments in deficit, or a combination of the two.

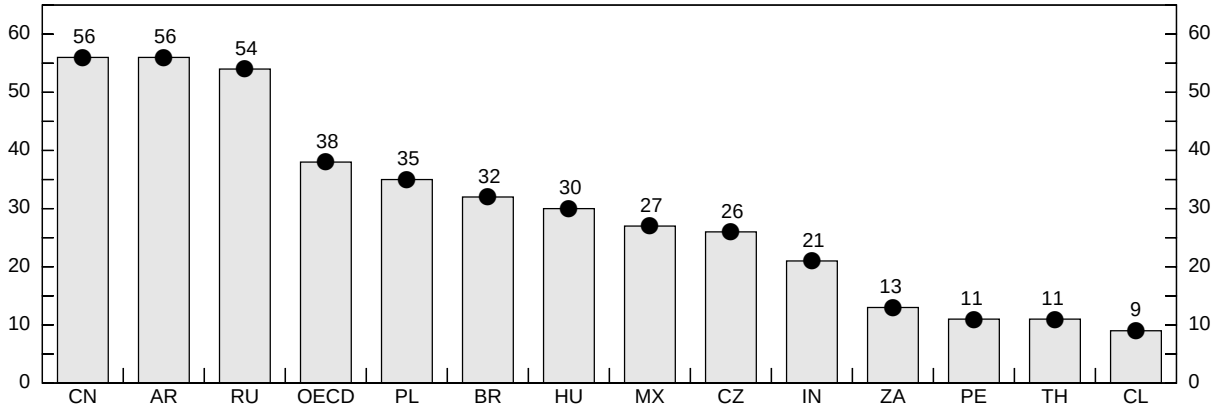
Inappropriate design of intergovernmental fiscal relations has often led to macroeconomic imbalances and created major problems for monetary policy. Argentina, Colombia, Mexico and Russia have bailed out subnational governments when their deficits or arrears became unsustainable: see Ter-Minassian (1997). Brazil's federal government set up debt restructuring operations three times between 1989 and 1997 to support highly indebted state governments. In 1989, the federal government assumed BRL 11 billion of states' external debt. In 1993, BRL 39 billion of states' debt with financial intermediaries owned by the federal government was refinanced. In 1997, a programme was launched to restructure states' bond debt; by 1999, BRL 87 billion had been refinanced; see OECD (2001a). The experiences of Argentina (Box 2) and China (Box 3) further illustrate the need to restrain and monitor closely subnational governments' borrowing because of widespread expectations of central government bailouts.

[22] Participation in ERM II without severe tension for at least two years is part of the exchange rate stability criterion for EMU membership. The remaining criteria pertain to inflation and interest rates.

[23] Short-term capital inflows of approximately EUR 4-5 billion (6-7% of GDP) entered Hungary within a few hours on 15 and 16 January 2003. The inflows were fuelled by speculation that the 15% limit for appreciation of the forint above its central parity against the euro would be lifted. To quell the attack, the central bank cut policy rates by 200 basis points within two days, introduced temporary capital controls and intervened heavily in the foreign exchange market.

Graph 4

Share of subnational in general government expenditure[1]



AR = Argentina; BR = Brazil; CL = Chile; CN = China; CZ = Czech Republic; HU = Hungary; IN = India; MX = Mexico; PE = Peru; PL = Poland; RU = Russia; TH = Thailand; ZA = South Africa.

[1] Average for 2000-01, in percentages.

Sources: National data.

Box 2

Monetary implications of provincial government deficits in Argentina

Until 2001, central government in Argentina was responsible for 44% of total expenditure but collected 82% of total revenue. Provincial governments were responsible for 46% of total expenditure and municipalities for 10%, but together they collected only 18% of total revenue. Debt issuance was more or less proportionate to revenue shares at different levels of government. Since mid-1998, adverse debt dynamics and deflation had led to rising nominal and real interest rates. This raised the cost of refinancing central government debt and led to rising unemployment. Many local governments at first tried to protect public sector employment by borrowing from the commercial banks they owned. This was especially the case in the Province of Buenos Aires, which borrowed heavily from a major commercial bank it owned. As private demand for credit declined with worsening recession, banks were initially willing to lend to provincial governments or invest in their bonds. However, they did so without appropriate risk weighting, keeping government loans and bonds on books at face value rather than market value. The banks thus accumulated large contingent liabilities and had to be recapitalised.

When the state-owned banks could no longer lend to provincial governments, provinces started issuing quasi-money, which was in essence equivalent to bonds and was used to pay provincial government workers. In the Province of Buenos Aires, even the central government accepted local quasi-money, *patacones*, for payment of national taxes. The central bank could in principle have replaced quasi-monies in circulation with its own bills. However, this would have created a severe balance sheet problem since the central bank would have ended up holding quasi-monies as an asset.

Box 3

China's experience with intergovernmental fiscal relations

During the 1980s, China's central government controlled all tax legislative powers, but tax assignment and revenue sharing arrangements were to a large extent negotiated with the provinces. Revenue from certain taxes was designated as "central fixed revenue" and a portion of revenue from other taxes as "local fixed revenue", with the remainder going into a pool of shared revenue. Most shared revenue was split according to formulae stipulated in fiscal contracts between the central government and provinces. The contracts typically fixed revenue transfers with respect to a base year, with annual increments agreed upon ex ante. The central government devolved considerable expenditure responsibilities as well as tax administration to local governments.

Given these arrangements, local authorities had an incentive to concentrate on the local tax bases and, to the extent possible, shift the tax bases from those that had to be shared with the central government to those over which they had greater control. This involved promoting the growth of locally owned enterprises and granting generous tax reductions and exemptions in respect of indirect taxes (which had to be shared with the central government). The resources thus "saved" could be retained for local projects. These policies exerted a strong expansionary bias. When the local economy expanded, local tax revenue was boosted. As only a relatively small portion of additional revenue had to be shared with the central government, local spending tended to increase in periods of economic expansion, thus increasing the risk of overheating. The threat of macroeconomic instability could not restrain local spending plans because local governments did not have macroeconomic management responsibilities. Also, local governments that accumulated surpluses could worsen their bargaining position with the central government in negotiations for subsequent contracts.

Intergovernmental fiscal relations also served to weaken the implementation of monetary policy. The influence of The People's Bank of China (PBC) as the central bank was circumscribed at the local levels by the dependency on local governments for housing, education and other benefits for PBC branch workers. The large number of PBC branches, which paralleled the administrative structure of the government, also tended to leave them vulnerable to local political intervention and to weaken headquarters' control. For instance, pressures from local governments to permit local banks to extend credit beyond the planned ceilings had to be accommodated by base money creation, which triggered high inflation in the early 1990s.

In response to these developments, relations between the central and local governments were thoroughly reformed in 1994. On the fiscal side, the central government began introducing a more transparent delineation of revenue sources for the central and local governments and established a national tax administration to collect all central and shared taxes. On the central banking side, the PBC shifted to a system of regional rather than provincial branches in an effort to dilute the influence of provincial authorities. On both fronts, reforms continue to evolve.

Sources: Mihaljek (1998); Tseng et al (1994).

These negative experiences have led governments and central banks in many countries to devise special rules on fiscal positions and borrowing of subnational governments (Table 5). Larger countries in particular limit the maximum size of deficits of subnational governments. And with the exception of India, none of the emerging economies in the sample allow local governments to borrow from central banks. Borrowing of subnational governments from commercial banks is subject to either quantitative limits or prudential regulations. Furthermore, the use of borrowed funds is typically restricted to capital expenditures (the so-called golden rule). In practice, however, it is often difficult to prevent governments from evading the golden rule by labelling certain current expenditures as investments. Moreover, there is evidence that governments often borrow to finance investments that do not have adequate rates of return. In Hungary, for instance, local governments have been freed from borrowing caps for housing development purposes. In an environment of increased bank competition, this has led commercial banks to become very active in the municipal credit market.

Table 5

Specification of rules on fiscal positions of subnational governments

Rule on maximum size of deficit of subnational governments	
Existence of a rule	Brazil, China,[1] Czech Republic,[2] India, Indonesia, Russia, Turkey
No explicit limit	Chile, Hungary, Korea, Peru, Poland, South Africa, Thailand
Borrowing from central bank	
Not allowed	Brazil, Chile, China, Czech Republic, Hungary, Indonesia, Korea, Peru, Poland, Russia, South Africa, Thailand, Turkey
Allowed	India[3]
Limit on borrowing from commercial banks	
Existence of a rule	Brazil,[4] China, Colombia,[3] Czech Republic, India, Indonesia, Israel,[5] Mexico,[4] Peru, Philippines, Turkey
No explicit limit	Chile, Hungary, Korea, Poland, Russia, South Africa, Thailand
Rules on use of borrowed funds	
Only for capital expenditure	Brazil, China, Indonesia, Malaysia, Philippines, Poland, South Africa,[6] Thailand
No explicit rules	Hungary, India, Korea, Peru, Russia, Turkey
Limit on the annual issuance of debt	
Existence of a rule	Brazil,[7] China,[8] Colombia,[7] Czech Republic,[9] Hungary,[7] India,[9] Indonesia,[7] Korea,[9] Malaysia,[9] Philippines,[9] Poland,[9] Russia, Thailand[9]
No explicit limit	Chile, South Africa
Limit on outstanding stock of debt	
Existence of a rule	Brazil, India, Peru, Philippines, Poland, Russia, Thailand, Turkey
No explicit limit	Czech Republic, Hungary, Korea, South Africa

[1] The rule refers to no deficit on current fiscal account. [2] Local government guarantees or collateral must cover the planned deficit. [3] Limited facility in order to meet temporary cash flow mismatch. [4] Based on limits on net worth of banks. [5] Subject to approval by the Ministry of the Interior. [5] Short-term debt can be used for bridging finance. [7] Based on payment capacity. [8] Only for special purposes. [9] Based on approval by central government.

Source: Central bank questionnaires.

Virtually all the emerging economies set limits on the annual debt issuance or outstanding stock of debt of subnational governments. The limits are usually tied to the debt servicing capacity of local governments or macroeconomic (especially monetary and balance of payments) considerations. The restrictions may take a variety of forms, including setting annual (or more frequent) limits on the overall debt of individual jurisdictions; limits on external borrowing; reviewing and authorising individual borrowing operations (including their terms and conditions); and centralising all government borrowing, with onlending to subnational governments for approved purposes only (generally investment projects). In India, for instance, federal government approval is required for borrowing by the states if they have outstanding debt to the federal government, as is currently the case for virtually all the states. Only the Czech Republic, Hungary, Korea and South Africa set no explicit limits on the outstanding stock of local government debt.

Table 6

Status of debt of subnational governments

Guaranteed by central government	
Explicit guarantee	Brazil,[1] Colombia, Indonesia, Malaysia, Poland,[2] Turkey[3]
Implicit or de facto guarantee	China, Israel, Philippines[2]
No guarantee	Argentina, Czech Republic, Hungary, Mexico,[4] Peru
Debt to central government has been written off in the past 10 years	
Yes	Brazil, Colombia, Israel, Mexico, Russia, South Africa
No	Argentina, Czech Republic, Hungary, Indonesia, Malaysia, Peru, Philippines, Poland, Thailand
Provisions to compensate central government for the assumption of subnational debt	
Provisions exist	Brazil,[4] Colombia, Mexico,[5] Turkey[6]
No provisions	Czech Republic, Hungary, Indonesia, Israel, Malaysia, Peru, Philippines, Poland, South Africa, Thailand

[1] For external debt. [2] Limited guarantees by state treasury or other government agency. [3] For limited amount of external debt. [4] Except for the Federal District. [5] Local debt guaranteed by the local shares of federal revenue must be registered. [6] The central government can appropriate subnational shares of revenue or transfers.

Sources: Central bank questionnaires; IMF, *Reports on the observance of standards and codes*; OECD, *Economic surveys*.

Although appealing in principle, sole reliance on market discipline for government borrowing is unlikely to work in most circumstances. This is because one of the key conditions for its effectiveness - orderly and effective insolvency procedures for local government units - is rarely realised. Indeed, most national governments in emerging economies offer either explicit or implicit guarantees for debt of subnational governments (Table 6). Brazil, Colombia, Israel, Mexico, Russia and South Africa have written off portions of local government debt in the past. In most other emerging economies, central governments have restructured subnational government debt, often by assuming much of the debt on terms that were very favourable to local governments, ie without compensating central government for the assumption of subnational debt. Such bailouts are, of course, not unknown to industrial countries: in 1975 New York City went bankrupt and received USD 1.7 billion in federal loan guarantees before re-establishing solvency. The Czech Republic and Hungary seem to be the only countries in the sample where the national government let small local government units default on their debt without coming to their rescue; see OECD (2001b, 2002a).

The importance of bank lending as a source of financing for subnational governments points to prudential regulation as an alternative way to control local government borrowing. However, there is no empirical evidence as yet on the effectiveness of this approach.

- ***Colombia*** passed the so-called Traffic Light Law in 1997 as a way to increase control over subnational debt by the central government; see Braun and Tommasi (2002). This law brought into effect a rating system for territorial governments based on the ratios of interest payments to operational savings and of debt to current revenues. Highly indebted local governments (red light) were prohibited from borrowing, and intermediate cases (yellow light) were required to obtain permission from the Ministry of Finance. The law was initially not fully effective, as some local governments with a red light rating presented misleading financial information to banks and so obtained new financing. This has led supervisory authorities to rule that debt of any territory with a red rating must be fully provisioned, increasing the cost of such loans for banks. The ruling was strengthened in 2000 with the Sub-national Fiscal Responsibility Law.
- In 2000, ***Mexico*** established a rule linking banks' capital risk weighting of loans to state governments to the international rating of the governments. The pricing of bank loans thus became a function of the underlying risk of the state government.

- In ***India***, banks' investment in state government securities issued outside the regular borrowing programme (which is approved by the National Planning Commission) attracts a risk weight of 20% for the purpose of provisioning. In case of default, such investments are to be treated as non-performing assets, and a 100% risk weight is to be attached with adequate provisioning.

6. Approaches to fiscal adjustment

Most emerging economies recognise the need to reduce fiscal deficits, but as yet few have addressed the problem comprehensively. Most have engaged in piecemeal policymaking to mitigate the most pressing deficit and debt problems. A key issue that arises in this context is how the choice between expenditure reductions and tax increases affects the ability of central banks to maintain price stability. Similar issues arise in the timing and size of changes in government charges, prices charged by state-owned enterprises, subsidies and pension contributions.

Central banks generally have a strong preference for reducing the size of the fiscal deficit by cutting public spending. The bulk of budget expenditure in non-Asian emerging economies studied in this paper (up to 80% in central European countries) is mandated by legislation on social security, pensions and public administration, over which the fiscal and monetary authorities have little or no influence. Nonetheless, it is widely recognised that spending on pensions and social transfers should be limited and better targeted. Any cuts in these expenditures are bound to have a large impact on aggregate demand and, hence, inflation, facilitating the achievement of price stability. In theory, spending cuts can be strategically aimed at unpopular programmes or be spread across diverse constituencies to impose minimal hardship on voters. But in practice such cuts are difficult to implement. Social transfers are widely regarded as acquired rights. In Hong Kong, which does not have a history of the welfare state, immigration pressures have led to a large expansion in social spending in recent years. In central Europe, early retirement schemes have been a costly solution to structural unemployment resulting from the collapse of central planning and enterprise reforms.

Against this background, one approach has been to introduce expenditure ceilings in budgets. However, such ceilings are rarely effective and inevitably lead to requests for their lifting and, subsequently, domestic demand pressures. In Hungary, for example, public sector wages increased at double digit rates in real terms in 2001 and 2002 after being more or less frozen in real terms for two years, thus complicating monetary policy in an environment of slowing growth. Another approach has been to aim the cuts at areas that may have sufficient, if not enthusiastic, support to make them feasible; see IMF (1996). Examples would be unemployment insurance payments, the defence budget, and government bureaucracies, or contracting with private companies for services previously performed by the government. But as the experience of industrial countries shows, implementing such programmes is by no means simple and may create problems - and additional expenditures - of their own.

The second basic approach to fiscal adjustment - raising taxes and other government revenue - is generally less welcomed by central banks because of its direct impact on inflation. Usually it is argued that tax and regulated price increases have only temporary effects on inflation. Higher charges for public services and goods produced by state-owned enterprises also help reduce subsidies by improving cost recovery ratios, and are therefore regarded as essential for medium-term fiscal adjustment. But tax and regulated price increases that would be sufficient to cut the large fiscal deficits in many emerging economies are often politically unacceptable. Moreover, by raising input costs they may create strong disincentives for investment and the growth of private firms. Argentina's ill fortune with tax increases during the 1999-2001 recession clearly illustrates this point. Moreover, in countries such as Brazil and Hungary there has been a series of large increases in public charges in the recent past due to the need for relative prices to "catch up" in an inflationary environment. An additional argument is that the tax burden is too narrowly based in many emerging economies, resulting in very high tax rates for a relatively small number of large taxpayers. From the tax efficiency perspective, such tax rates should rather decline over the medium term, with additional revenue being generated by broadening the tax bases and improving tax administration.

In view of these difficulties, the authorities are often forced to resort to steady increases in tax rates and regulated prices, thereby producing sustained rather than one-off pressure on inflation. If there is good coordination between the fiscal and monetary authorities, such increases need not affect the

ability of central banks to maintain price stability. Many central banks have in practice managed to limit the effects of recent tax and regulated price increases on inflation. Nevertheless, experiences across countries vary.

In India, Indonesia and the Philippines, administered price increases - in particular of petroleum products and electricity tariffs - have in the past often had a strong impact on the overall price level, given the weight of such items in price indices and their linkages to other sectors.[24] Tax increases may also have noticeable effects.[25] Most central banks in Asia are not consulted explicitly by their governments on the decisions to adjust taxes and regulated prices. However, in Korea, the Philippines and Singapore, there is frequent reporting to relevant ministries and the government of central banks' assessments of the impact of such increases on the CPI. Such consultations help ensure that taxes and regulated prices are not increased by an overly large margin when they would have a significant impact on inflation.[26] Central banks in the region monitor actively a range of inflation measures, including measures of core inflation that exclude various one-off changes in taxes and prices. In the Philippines, the central bank uses headline inflation as its target rate, but the impact of administered price changes is considered part of its escape clauses.

Central banks in Latin America have very limited influence on the timing and size of changes in taxes and regulated prices, which are usually decided by municipalities, public enterprises and regulatory agencies. In Brazil, the central bank nonetheless has a voice in the economic policy council, which oversees overall economic policy; see Minella et al (2002). Increases in regulated prices and taxes are not excluded from the targeted (ie headline) rate of inflation in Brazil and Peru; they are excluded for analytical purposes from measures of core inflation in Chile and Peru.

In central and eastern Europe, regulated prices have been rising faster on average than prices of unregulated goods and services since the mid-1990s, thus affecting inflation relatively strongly. Indirect tax increases have on occasion also had a large inflationary impact: in 2002, the Hungarian finance ministry decided to postpone the increase in the tobacco tax - which would have sharply pushed up inflation - at the request of the central bank. In Poland, administered prices are changed at regular intervals, which lends some predictability to their impact on inflation. The Czech, Hungarian and Polish central banks include the impact of tax increases or regulated price changes in their targeted (ie headline) measures of inflation. However, they control for the impact of these increases in their analytical procedures. Monetary policy in these countries will continue to cope with increases in regulated prices, as adjustments in such prices are part of EU accession procedures.

[24] For example, prices of petroleum products in India were raised three times between June and September 2002, with an estimated total impact on headline CPI of 0.8 percentage points.

[25] The goods and services tax in Singapore was raised from 3% to 4% in January 2003. It is estimated that this increase will lead to half a percentage point increase in CPI inflation in 2003 (inflation in 2002 was –0.4%).

[26] In many industrial countries (eg Canada, Switzerland), central banks do not react to the level effects of increases in taxes and regulated prices on the CPI, but lean against the second-round effects (eg those coming from wage increases) of such increases.

Appendix

The fiscal risk matrix

Liabilities	Direct (obligation in any event)	Contingent (obligation if a particular event occurs)
Explicit Government liability as recognised by a law or contract	• Foreign and domestic sovereign borrowing (loans contracted and securities issued by central government) • Budgetary expenditures • Budgetary expenditures legally binding in the long term (civil servants' salaries and pensions)	• State guarantees for non-sovereign borrowing and obligations issued to subnational governments and public and private sector entities (development banks) • Umbrella state guarantees for various types of loans (mortgage loans, student loans, agriculture loans, small business loans) • Trade and exchange rate guarantees on private investments • State guarantees on private investments • State insurance schemes (deposit insurance, income from private pension funds, crop insurance, flood insurance, war-risk insurance)
Implicit A moral obligation of government that reflects public and interest-group pressures	• Future public pensions (as opposed to government civil service pensions), if not required by law • Social security schemes, if not required by law • Future health care financing, if not required by law • Future recurrent costs of public investments	• Defaults of subnational government or public or private entities on non-guaranteed debt and other obligations • Cleanup of liabilities of entities being privatised • Banking failure (support beyond state insurance) • Failure of a non-guaranteed pension fund, employment fund, or social security fund (protection of small investors) • Default of central bank on its obligations (foreign exchange contracts, currency defence, balance of payments stability) • Bailouts following a reversal in private capital flows • Environmental recovery, disaster relief, military financing

Source: Polackova (1999).

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