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## **The role of the exchange rate in the monetary frameworks of emerging market economies**

Speech by Mr Malcolm Knight, General Manager of the BIS,  
at the Black Sea Governors' Club, St Petersburg, 27 May 2005

It is an honour to address such a distinguished gathering of central bank Governors from a region that stretches all the way from central Europe to central Asia, not to mention Russia's vast expanses in the Far East. The subject of my talk today is the role of the exchange rate in the monetary policy frameworks of emerging market economies.

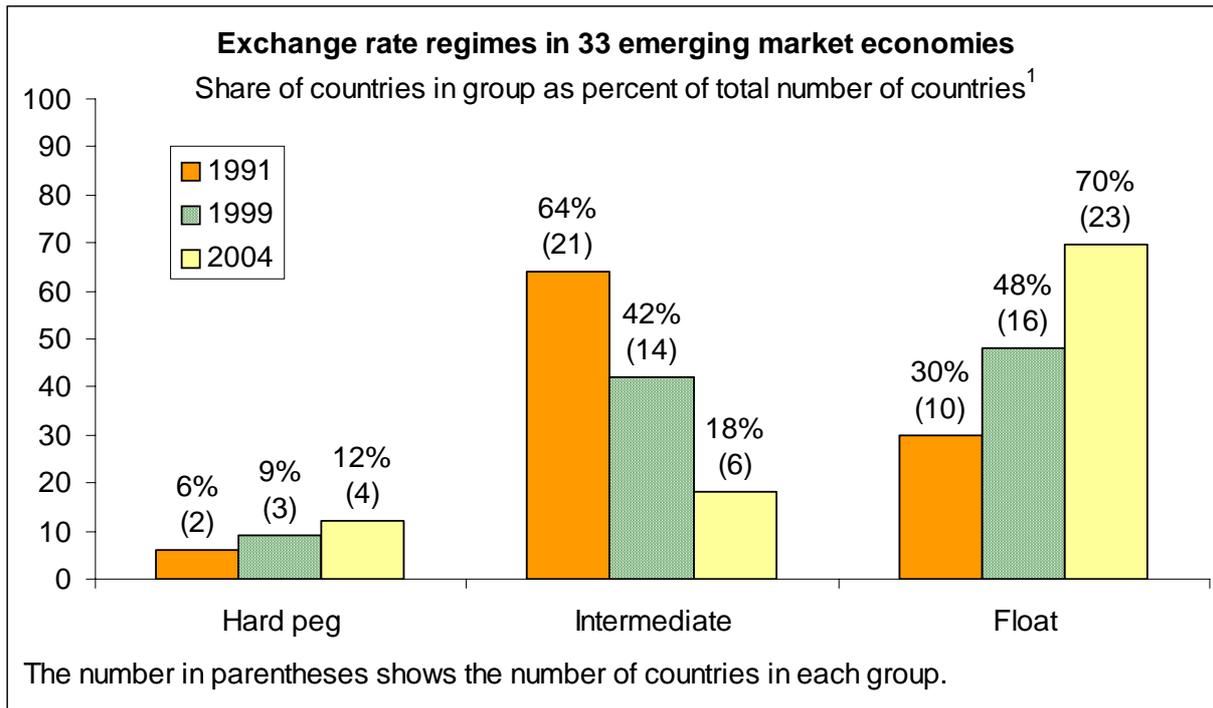
### **Recent trends in exchange rate regimes and monetary policy frameworks**

The last 10 years have seen two important developments that have implications for monetary policy frameworks in the emerging market economies.

First, as capital mobility increased during the 1990s and capital controls became less effective, a number of countries with exchange rate regimes that were somewhere between a hard peg (such as a currency board) and a free float experienced currency turbulence. This led many countries to move to either of the ends of the spectrum of exchange rate regimes - a free float or a hard peg (see Fischer (2001)). It is indicative of this development that, among 33 major emerging market economies, the share of countries with these intermediate exchange rate regimes declined from 64% in 1991 to 18% in 2004 (see Chart 1). Over the same period, the proportion of these 33 countries operating floating exchange rate regimes increased from 30% to 70%, while that of countries with hard pegs doubled to 12%. Although I note this development as a fact, it should not be taken to mean that adopting a hard peg or a floating regime is some kind of monetary panacea for emerging market countries. That it is not can be seen, on the one hand, from the case of Argentina and, on the other hand, from the problems of volatile capital flows and associated over- and undershooting of exchange rates that countries with floating exchange rates can face.



Chart 1



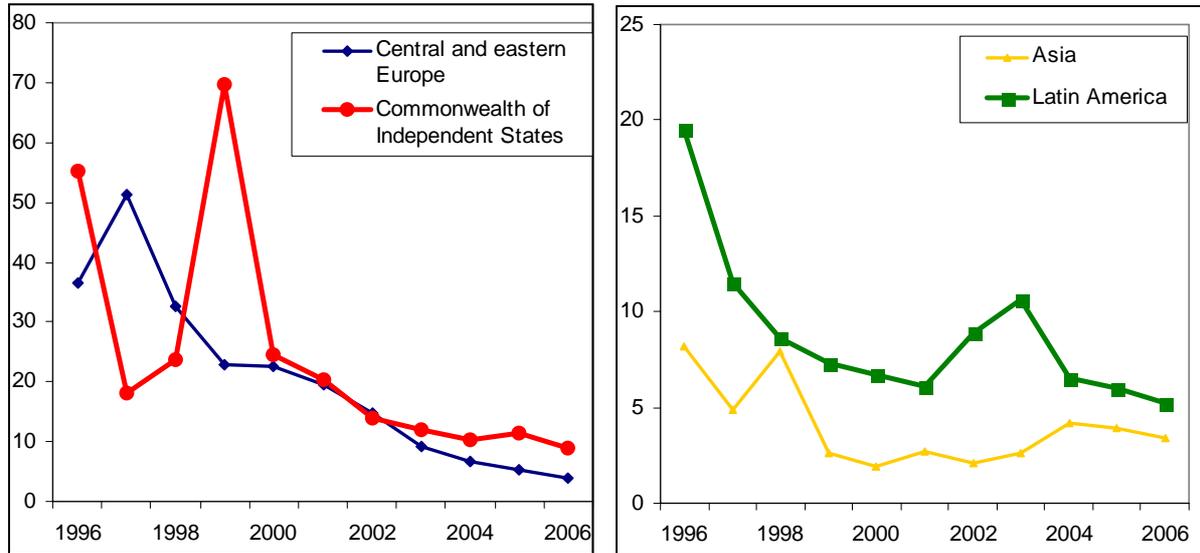
<sup>1</sup> Note: Covers 33 emerging market economies from Africa (Morocco, Nigeria and South Africa), Asia (China, India, Indonesia, Korea, Malaysia, Pakistan, the Philippines, Sri Lanka, Taiwan (China) and Thailand), Europe (Bulgaria, the Czech Republic, Greece, Hungary, Poland, Russia and Turkey), Latin America (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Panama, Peru and Venezuela) and the Middle East (Egypt, Israel, Jordan and Qatar).

Source: IMF, *Annual Report*, 1991, 1999 and 2004.

Second, inflation has recently declined markedly across all emerging market regions. Chart 2 shows that countries in the Commonwealth of Independent States and central and eastern Europe have re-established monetary control over the past three years after a period of very high and unstable double digit inflation. Disinflation in the countries of Latin America went even further, with inflation falling to single digits in the last few years after decades of high inflation.



Chart 2

Average annual inflation in emerging market economies<sup>1</sup>

<sup>1</sup> Average for country groups, weighted by shares of GDP (valued at purchasing power parities) in group GDP. Source: IMF, *World Economic Outlook*, April 2005.

These two developments have also been observed in the countries represented in the Black Sea Club. First, as Table 1 shows, roughly two thirds of the 15 economies in the Black Sea Club now operate exchange rate regimes at the two “poles” – currency boards/monetary unions or floating. But it is also true that the “middle” has not disappeared: based on the latest classification (IMF (2004)), the exchange rate regimes in six countries in the Club can be classified as intermediate. I shall return to this issue in a moment.

Table 1

## Exchange rate regimes in the Black Sea region, 2004

Hard peg	Intermediate	Float
Bosnia and Herzegovina	Georgia	Albania
Bulgaria	Kyrgyzstan	Armenia
Greece	Macedonia	Kazakhstan
[Montenegro and Kosovo]	Russia	Moldova
	Serbia	Romania
	Ukraine	Turkey

Source: IMF, *Annual Report*, 2004.

Second, by the end of 2004, countries in the Black Sea Club had lowered their inflation rates to close to or below 10%. This is a major achievement considering that all countries in the Commonwealth of Independent States experienced hyperinflations between 1992 and 1995.



Despite these gains, inflation is still high in many countries. For 2005–06, inflation rates are projected to be about 5% in central and eastern Europe and 10% in the Commonwealth of Independent States. This means that they will remain well above rates of inflation in industrial countries, and indeed above those in many Asian and Latin American economies. Reducing inflation to low single digits therefore remains an important priority for central banks in your Club.

### **Relative roles of inflation targets and exchange rate targets in monetary frameworks**

Before I outline some of the special problems that central banks in emerging markets face when considering the relative roles of inflation targets versus exchange rate targets, I would like to stress that a key precondition for reducing inflation and keeping it at a low level on a sustainable basis is that monetary policy should not be subservient to fiscal needs. Fiscal deficits should be relatively small, there should be no direct central bank financing of government borrowing requirements, and governments should not rely on the inflation tax as a significant source of revenue. In view of the high level of public debt in many emerging market countries, satisfying this condition also requires the development of government bond markets to proceed far enough so that debt management considerations (especially the level of debt service) do not constrain the central bank's ability to change interest rates.

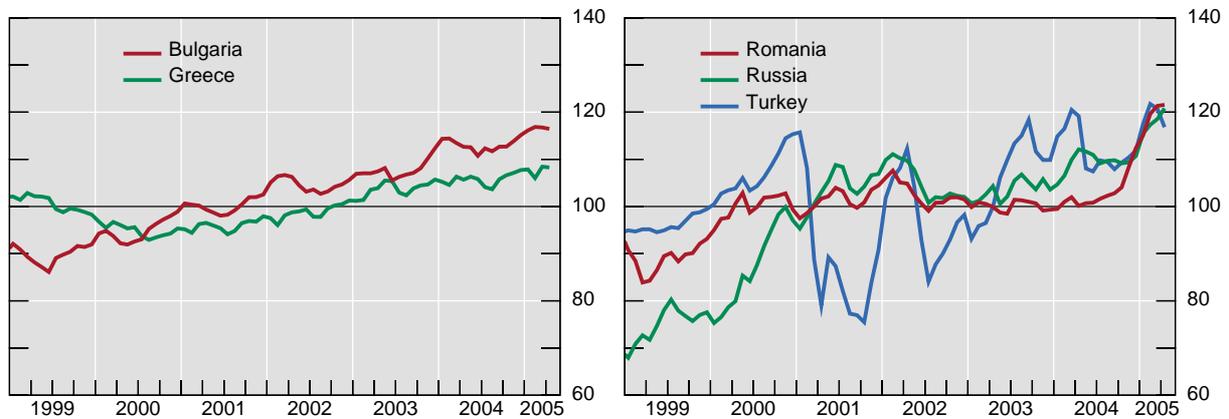
The first special problem facing emerging market economies in the choice of a monetary policy framework is that in most of them exchange rates still play a greater role in the monetary transmission mechanism than interest rates. Recent empirical research (Korhonen and Wachtel (2005), Tieman (2004)) has confirmed what many of you probably know already from your own experience – namely that movements in exchange rates affect the real sector, and particularly expectations of firms and households, to a greater extent and often much faster than changes in interest rates. For instance, in many emerging economies the proportion of a domestic currency depreciation that is reflected in higher inflation within one year is 50% or more (the “pass-through” effect). This is much higher than in industrial countries.

One policy implication of this is that many central banks in emerging markets find it advantageous to use the exchange rate not only as a nominal anchor for stabilising exchange rate expectations, but also to keep inflation low once a measure of monetary stability had been achieved. In other words, in many emerging markets a monetary policy aimed at price stability will imply a certain “fear of floating”. A central bank that wishes to control inflation will often respond actively if an externally induced depreciation poses a threat to price stability.

The second special problem with implications for the choice of monetary policy frameworks, in particular in central and eastern Europe, has been trend appreciation of exchange rates in real and often nominal terms. As shown in Chart 3, real exchange rates among several members of the Black Sea Club have indeed been on a pronounced appreciating trend since 1999.



**Chart 3**  
**Real effective exchange rates**  
1998–2004 = 100



Source: IMF.

Trend appreciation of real exchange rates usually reflects the catch-up of levels of productivity and thus of labour income towards those in industrial countries. Productivity growth in the traded goods sector has been historically faster than in the non-traded sector. The rise in productivity in the tradable goods sector will bid up wages in that sector and, to the extent that labour is mobile across sectors, wages in the entire economy will rise. Producers of non-tradables will be able to pay the higher wages only if the *relative* price of non-tradables rises. This will translate either into a rising domestic CPI level or into nominal appreciation of the domestic currency (or some combination of the two).

In most central and eastern European countries, the differential between the rate of productivity growth in the tradable sector compared to the non-tradable sector has been greater than that in the euro area. Recent empirical estimates suggest that this effect adds from 0.6 to 2.0 percentage points to CPI inflation a year in countries such as the Czech Republic, Hungary and Slovenia (see Mihaljek and Klau (2004)). Even if moderate, this effect is likely to be persistent. Inflation differentials between Spain and Ireland, on the one hand, and countries such as Germany, on the other, are a case in point.

In the long term, monetary policy cannot affect these differentials in productivity growth and the associated trend movements in real exchange rates. But monetary policy can determine whether a real appreciation takes place through nominal appreciation or through inflation. How this trade-off is addressed depends on the monetary policy framework a country puts in place, its exchange rate regime and some of the structural characteristics of its economy. I shall return to these issues in a moment.

The third special problem in deciding on the choice of a monetary policy framework is that emerging markets generally face a higher degree of uncertainty with regard to capital flows than is the case for industrial countries. This makes emerging markets more vulnerable to exchange rate under- or overshooting, with an associated risk of financial instability.

It is useful to distinguish between foreign direct investment and portfolio flows. FDI flows are usually motivated by high rates of return on fixed capital formation in the productive sector, reflecting lower initial stocks of capital and a relatively rich endowment of skilled labour. Because the incentives that motivate such inflows are real rather than monetary, there is, as I have said, little that monetary policy can do in the long term to alter the course of real exchange rate appreciation from this source. And indeed it should not try to do so.



On the other hand, portfolio flows are mainly motivated by the risk-adjusted differentials between nominal interest rates in emerging market countries and those in industrial countries. Although these differentials have generally narrowed in recent years, they remain sufficiently large to have an important impact on portfolio flows.

Heavy capital inflows (or outflows) can put considerable strain on macroeconomic policies. Under a **fixed** exchange rate regime (or a fixed but adjustable peg), capital inflows put downward pressure on domestic interest rates and increase investment relative to domestic saving. If inflation rises, external competitiveness will deteriorate. This has been the experience of Asian emerging economies such as Thailand in 1997, but also of Russia in 1998 and Turkey in 2000.

Under a **floating** exchange rate regime, capital inflows lead the exchange rate to appreciate, again resulting in a loss of competitiveness and, possibly, a deterioration of the current account balance. This was the experience of Poland in 2000 and more recently of the Czech Republic. If confidence weakens, portfolio flows could easily go into reverse, potentially leading to the negative effects of “sudden stops” of capital flows, ie tighter credit conditions, output contraction, fiscal sustainability problems, and downward pressure on the exchange rate.

The problems associated with sustained strong capital inflows can be even more pronounced in countries experiencing large privatisation-related FDI inflows and large swings in earnings from exports of oil and commodities. Many of the countries represented at this meeting have been facing these challenges. The way a country manages revenues from large privatisations and volatile earnings from exports of its key resources has major implications for its macroeconomic stability and economic development. If policymakers ensure that export proceeds are spent so as to enhance the growth potential of the economy, the country will be better placed to deal with uncertain revenues and avoid boom-bust cycles. If the export proceeds are spent unwisely, the economy may succumb to the so-called “resource curse”, where the real exchange rate appreciation resulting from strong resource exports makes many labour-intensive industries progressively less competitive internationally. Thus the authorities must decide carefully between domestic investment and increases in official foreign assets, based on considerations of relative returns and the economy’s absorptive capacity.

### **Challenges for the conduct of monetary policy**

In view of these special circumstances, how can central banks in emerging market economies ensure that, given the exchange rate regime they have adopted, monetary and exchange rate policies are mutually consistent?

First, as regards the functioning of the monetary transmission mechanism, there are no clear-cut ways to strengthen the importance of the interest rate channel relative to the exchange rate channel. However, one general lesson from the experience of the new member states of the European Union is that central banks should not underestimate the role of interest rates in addressing the trade-off between inflation and exchange rate objectives. In Poland, for instance, the effectiveness of monetary policy in general, and the strength of interest rate and bank credit channels in particular, have significantly increased since the introduction of inflation targeting and greater exchange rate flexibility in 1999 (see Kierzenkowski (2005)). This has been due, among other developments, to stronger and more competitive domestic banking systems and the development of domestic financial markets. These have improved the transmission of changes in policy interest rates to commercial bank interest rates, and ultimately to household and business decisions on saving and investment (see Kot (2004)).



Second, with regard to the trade-off between inflation targets and exchange rate objectives, a useful way to assess whether monetary policy is consistent with an exchange rate objective from an operational perspective is to look at the level of the *real* policy rate in terms of past and forecast inflation. There may be valid reasons for being temporarily above or below the level of the real interest rate that is consistent with overall macroeconomic and monetary equilibrium. For instance, rapid disinflation after a period of high inflation might call for keeping real interest rates relatively high; while the widening of a negative output gap or stronger deflation pressures might warrant keeping real interest rates low compared with a benchmark. But central banks need to continuously monitor whether the reasons for keeping the rates at such levels remain in place, and adjust their policy rates accordingly.

To illustrate this type of assessment, Table 2 presents real policy interest rates measured first against actual inflation over the past 12 months (columns 1–4), and then against projected (or targeted) inflation for countries participating in this meeting (last two columns, respectively). One conclusion that follows from this table is that central banks have generally adjusted their policy interest rates in line with developments in past inflation, though not on a one-to-one basis. This can be seen by comparing the size of the past changes in inflation (first column) with movements in policy interest rates (fourth column): while inflation rates fell on average by 1 percentage point over the past year, central banks have on average reduced their policy interest rates by 0.7 percentage points since April 2004.

Another observation is that in many countries – including Armenia, Bulgaria, Kyrgyzstan, Macedonia, Moldova and Turkey – monetary policy appears to have been kept restrained compared with the decline in inflation over the past 12 months. To the extent that the decline in inflation is viewed as temporary and that inflation has not yet been reduced sufficiently, such a central bank reaction is, of course, appropriate. A clear case in point is Turkey, where the central bank has been keeping real interest rates fairly high in order to stabilise inflation expectations and consolidate gains in disinflation achieved after decades of very high inflation.



Table 2

## Inflation and policy rates

	Inflation		Policy interest rate (in percentage points)		Real policy rate in April 2005 in terms of ...	
	Change over past 12 months <sup>1</sup>	2005 <sup>2</sup>	April 2005	Change since April 2004	... actual inflation over past 12 months <sup>3</sup>	... forecast inflation <sup>4</sup>
Albania	-0.6	4.0	5.25	-1.25	3.0	1.3
Armenia	-5.2	3.0	3.75	-2.25	-2.6	0.8
Bosnia and Herzegovina	0.4	1.0	2.00	-0.04	2.3	1.0
Bulgaria	-1.9	4.3	1.95	-0.64	-3.7	-2.4
Georgia	1.0	4.8	11.00	0.00	5.3	6.2
Greece	0.2	3.1	2.00	0.00	-1.0	-1.1
Kazakhstan	0.6	6.3	7.50	0.50	0.7	1.2
Kyrgyzstan	-10.6	4.3	17.00	2.00	9.9	12.7
Macedonia	-2.5	2.0	6.50	0.00	7.3	4.5
Moldova	-3.3	10.0	13.00	1.00	0.5	3.0
Romania	-4.8	7.0	8.45	-12.80	-2.9	1.5
Russia	2.4	8.5	13.00	-1.00	1.8	4.5
Serbia	6.2	10.0	8.50	-0.50	-4.6	-1.4
Turkey	-0.5	9.0	15.00	-7.00	6.6	6.0
Ukraine	4.1	7.0	9.00	2.00	0.0	2.0
<i>Average</i>	<i>-1.0</i>	<i>5.6</i>	<i>8.3</i>	<i>-0.7</i>	<i>1.5</i>	<i>2.6</i>

<sup>1</sup> Change from March 2004 to March 2005, in percentage points. <sup>2</sup> Central bank forecast (or inflation target), annual percentage change. <sup>3</sup> Nominal policy rate deflated by inflation over past 12 months. <sup>4</sup> Nominal policy rate deflated by inflation projected for 2005.

Source: Central banks; BIS calculations.

In Georgia, Serbia, Russia and Ukraine, interest rates were raised by less than the increase in inflation over the past 12 months. In the case of Russia, these developments doubtless reflect concerns that higher domestic interest rates might attract additional inflows of portfolio capital, which would reinforce the already strong upward pressures on the exchange rate of the rouble resulting from very large oil export revenues.

Concerns about the potentially disruptive effects of capital inflows might also explain why the Romanian central bank has cut interest rates much faster than the decline in inflation over the past 12 months, resulting in a highly negative real policy rate in terms of past inflation. In Bulgaria, Greece and Serbia, real policy interest rates would also remain negative in terms of forecast inflation. In the case of Bulgaria, which has a euro-based currency board, the central bank has a limited impact on the policy interest rate. Greece has the ECB rate as a member



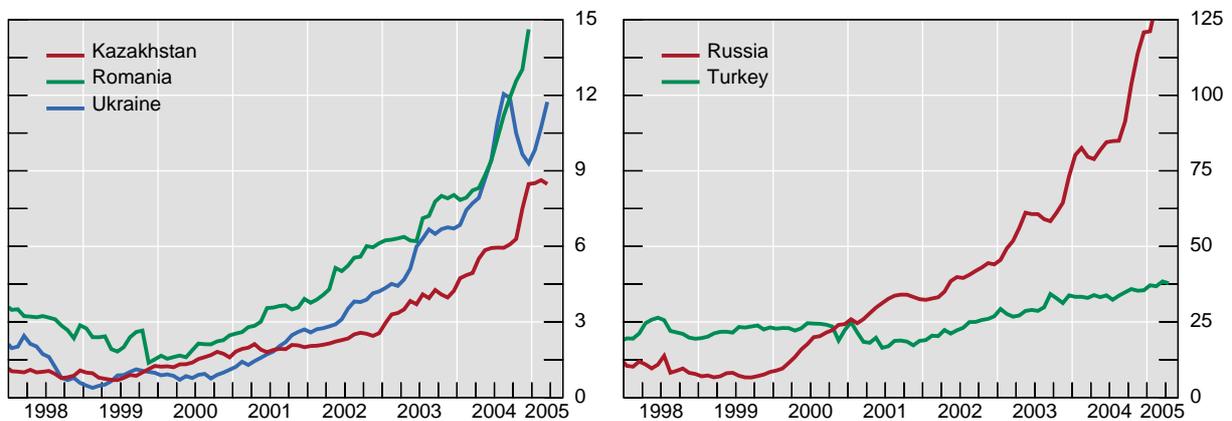
of European monetary union. These central banks might therefore need to consider tools such as prudential measures to ensure that credit expansion that is partly fuelled by negative real interest rates does not jeopardise financial stability or undermine inflation objectives.

Third, with regard to factors that mitigate rapid exchange rate appreciation, many central banks have tried to sterilise the monetary impact of such inflows, in the process accumulating large foreign exchange reserves. Building up higher levels of reserves became an important policy priority in the wake of the currency crises in Asia in 1997–98, Russia in 1998 and Argentina and Turkey in 2001. Many central banks have come to regard high foreign exchange reserves as a key buffer against external vulnerabilities and problems that adversely affect debt sustainability. Over the past few years, however, many vulnerabilities have dissipated and policy frameworks in emerging market economies have been strengthened. Nevertheless, reserves have continued to accumulate at a rapid pace, including among energy exporters from the Black Sea region (Chart 4).

**Chart 4**

**Foreign exchange reserves**

In billions of US dollars



Source: IMF.

There is evidence that reserve accumulation has positive effects on credit ratings and external sustainability (see BIS (2005a)). But it can also create risks for an economy. One is the risk of a weakening of monetary control. At first, increases in reserves can be fully sterilised, so that they do not increase the domestic money supply. But as reserves grow, it becomes harder to sterilise successive increases. The resulting monetary expansion can set off a credit boom. Banks with excess liquidity may be tempted to take on riskier and riskier assets. At the same time, extremely low interest rates and easy access to credit may prompt households and firms to borrow and accumulate debt. A second risk is that sterilisation can result in considerable balance sheet problems for central banks, which buy low-yielding foreign assets while issuing higher-yielding domestic liabilities.

How to judge at what point reserve accumulation could begin to cause such problems is a major challenge for policymakers. Clearly, central banks have to monitor closely trends in domestic credit and broad monetary aggregates, and take appropriate action if there is evidence of a generalised increase in domestic price pressures.

Fourth, in dealing with volatile export earnings and large FDI-related privatisation inflows, several emerging market economies have resorted to policy tools such as special privatisation accounts (the Czech Republic, Slovakia) and export earnings stabilisation funds (Chile, Kazakhstan, Mexico, Russia) in order to avoid the problems associated with large and volatile foreign exchange inflows.



Experience with the use of special privatisation accounts, in which the foreign exchange proceeds from the large sales of state property are deposited, is generally positive (see BIS (2005b)). Because any conversion of the funds withdrawn from these accounts into domestic currency is not intermediated in the domestic markets (the central bank purchases the foreign exchange from the government at the market exchange rate and transfers the proceeds to its foreign reserves), such transactions do not affect the exchange rate or the interest rate. However, success of this policy requires the understanding and cooperation of the fiscal and monetary authorities and the main political constituencies, which is difficult to maintain over extended periods of time.

Country experience with export earnings stabilisation funds is also positive (BIS (2005b)). Chile's copper stabilisation fund, with accumulation and withdrawal rules based on a reference price for copper that is determined annually by the authorities, has helped the government resist expenditure pressures during upswings in copper prices. Similarly, oil price stabilisation funds established in Kazakhstan and Russia have helped to maintain fiscal discipline and alleviate pressures on exchange rate appreciation over the past few years. In the case of Russia, revenues accumulated in the fund may be spent only to finance the federal deficit (provided the deficit arises as a result of oil prices below a baseline price for Urals crude), or to repay foreign debt early and finance spending on structural reforms, provided the fund exceeds 500 billion roubles and subject to the agreement of the Federal Assembly.

## **Conclusion**

In closing, let me summarise what I consider to be the key messages. I have argued that several considerations suggest that, in the emerging market countries undergoing rapid disinflation and structural transformation, it is not easy to determine which exchange rate regime is the most appropriate one. Key considerations include the greater role of exchange rates than interest rates in the monetary transmission mechanisms of emerging economies; the pronounced trend appreciation of real exchange rates; the high degree of uncertainty with regard to capital flows; and the importance of volatile foreign exchange flows associated with large-scale privatisations and exports of oil and commodities.

It is an important lesson that, once the choice of an exchange rate regime is made, the authorities need to continuously ensure that their monetary and exchange rate policies remain mutually consistent, ie they should support the goal of stabilising inflation at a low level, and at the same time ensure that movements of the nominal and real exchange rate in the short term are not too disruptive for the real economy and financial markets.

At the operational level, balancing these objectives involves pursuing structural reforms in order to strengthen interest rate and credit channels of monetary transmission relative to the exchange rate channel; keeping real policy rates at levels consistent with overall macroeconomic equilibrium; and addressing advantages as well as risks associated with accumulation of foreign exchange reserves. Finally, special privatisation accounts and oil stabilisation funds have the potential to provide support to monetary policy in an environment of large privatisation-related inflows and volatile earnings from energy exports.

Thank you.



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