

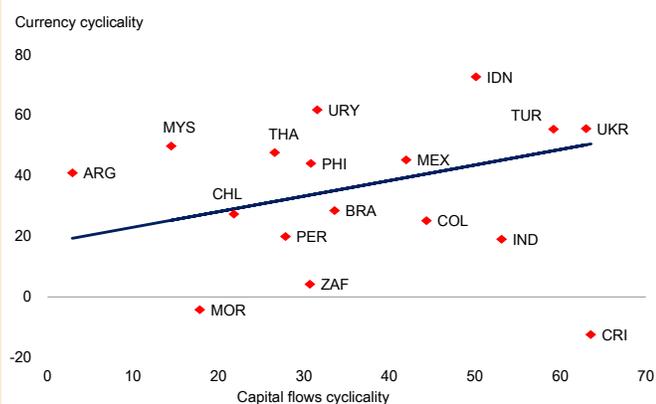
## BOX 1.2 Countercyclical monetary policy in emerging markets: Review and evidence<sup>1</sup>

*Procyclical capital flows have induced monetary policy responses in many developing countries. In the 2000s, however, monetary policy in developing countries has become less procyclical, partly as a result of stronger monetary frameworks and net foreign asset positions.*

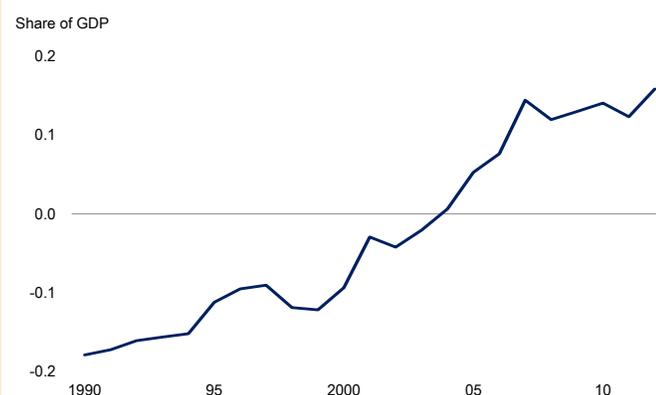
### FIGURE B1.2.1 Capital flows and exchange rate cyclicity and net foreign assets

*Procyclical capital flows have been associated with procyclical monetary policy, partly as a result of negative net foreign asset positions until the mid-2000s.*

#### A. Capital flow and currency cyclicity



#### B. Net foreign assets



Source: Cordella and Gupta (2014).

Note: Currency, monetary policy, and capital flows cyclicity are defined as the correlation coefficient between the cyclical component (deviation from Hodrick- Prescott-filtered trend) of nominal effective exchange rates, short term interest rates, and net private capital flows, respectively, and the cyclical component (deviation from Hodrick- Prescott-filtered trend) of real GDP during 1975-2013. Exchange rates are defined such that an increase is an appreciation; hence, a positive currency cyclicity indicates that an increase in cyclical GDP was associated with appreciation. In the left panel, emerging markets in the EU are excluded. For the right panel, the median for the net foreign currency position is calculated for 33 emerging markets included in Cordella and Gupta (2014), wherein more details are provided.

Monetary policy, especially in emerging markets, became increasingly countercyclical during the 2000s. This countercyclicity to developing countries' own business cycle may, however, be put to the test in the coming years: In many emerging markets, weaker growth prospects than pre-crisis are expected to coincide with rising global interest rates. Emerging markets would, thus, need to use a mix of policies to cushion the impact of higher global interest rates on capital inflows while simultaneously addressing the challenge of a weak growth outlook.

This box addresses the following three questions:

- What is the relationship between the cyclicity of capital flows, exchange rates, and monetary policies?
- How has the cyclical stance of monetary policy in emerging markets evolved?
- What are the implications of changes in the cyclical stance for monetary policy in the coming years?

#### Relationship between the cyclicity of capital flows, exchange rates, and monetary policies

Procyclicality of monetary policy can be traced back to the procyclicality of capital flows (Cordella and Gupta, 2014, and Kaminsky, Reinhart, and Végh, 2004). Capital flows to emerging markets have historically been procyclical, rising during times of high growth and falling when activity contracted. Over the past three decades, for example, the correlation between the cyclical component of net private capital inflows and the cyclical component of real GDP in developing countries has risen by up to 60 percent in some emerging markets (Costa Rica and Ukraine) and almost 40 percent on average. These procyclical swings in capital flows have generated procyclical exchange rate pressures.

A priori, the relationship between growth and exchange rates is ambiguous. The original Mundell-Fleming framework suggests a negative correlation: exchange rates should depreciate when growth is high because a positive income shock worsens the current account and adjustment occurs through (real) depreciation. In contrast, monetary models suggest a positive correlation: stronger

<sup>1</sup>The main author of this box is Poonam Gupta.

**BOX 1.2 (continued)**

growth increases the demand for money and causes appreciation.<sup>2</sup> In practice, as capital flows into economies with strong growth, exchange rates appreciate. Sustained exchange rate appreciation, in turn, encourages further capital inflows. In contrast, when activity weakens, capital flows slow or reverse and exchange rates depreciate, which in turn may sharpen capital outflow pressures. This was reflected in a positive correlation between the cyclical component of GDP and the cyclical component of exchange rates over the past three decades (Figure B1.2.1). Countries with more procyclical capital flows were also those with a positive and larger cyclical comovement of exchange rates and GDP.

The response of monetary policy to these cyclical exchange rate pressures depends on a wide range of factors, including the exchange rate regime, balance sheet vulnerabilities, and the openness of capital accounts (Calvo and Reinhart, 2002). For example, in countries with a high stock of foreign-currency denominated liabilities, policy makers may resist currency depreciation to limit balance sheet losses by tightening monetary policy. This, in turn, weakens the prospects of recovery. Végh and Vuletin (2012) attribute such reluctance of policy makers to allow depreciation to a “fear of free falling” that is less pronounced in countries with stronger institutions.

**Evolution of the cyclical stance of monetary policy**

Since about 2000, emerging economies have begun to transition from procyclical to countercyclical monetary policy.<sup>3</sup> This change in the 2000s was partly, but not solely, due to a countercyclical policy response by central banks in developing countries, and in Latin America specifically (Didier, Hevia, and Schmukler, 2012; and de la Torre, Didier, Hevia, and Schmukler, 2012), during the global financial crisis in 2008/09. However, even excluding data for 2009–13, the correlation between the cyclical component of monetary policy and real GDP increased.

Many factors have contributed to the movement towards greater countercyclicality. These included the move towards inflation targeting in many emerging markets and declining financial vulnerabilities but also, more generally, improving institutions (Végh and Vuletin, 2012) and financial market development

<sup>2</sup>This has been established for both flexible price models (Frenkel, 1976) and sticky price models (Dornbush, 1976)

<sup>3</sup>Végh and Vuletin (2012) and Cordella and Gupta (2014) find greater countercyclicality since 2000. McGettigan et al (2013) find an earlier break point in this transition around 1996-97.

(McGettigan et al., 2013).

- *Inflation targeting.* Countries that have implemented inflation targeting regimes tended to have significantly more countercyclical monetary policy. Since 2000, 13 emerging and frontier market central banks have adopted inflation targeting frameworks, bringing the number of inflation targeting emerging markets to 18 (Bank of England, 2012).
- *Shrinking financial vulnerabilities.* The net foreign currency position of emerging markets has steadily improved over the 2000s. This has been attributed to rising current account balances and foreign reserves; a shift in capital flows to equity from debt; and the financial deepening of local currency debt markets (Lane and Shambaugh, 2010). As a result, central banks may have been able to implement less procyclical monetary policy.
- *Macroprudential measures:* Macroprudential measures can constrain lending or capital flows that are deemed to undermine financial stability. In this, they can supplement monetary policy in reducing the procyclicality of credit driven by capital flows. Since the mid-1990s, the use of macroprudential measures has increased (Dell’Arriccia et al., 2012).

The most notable example of graduation from procyclical monetary policy is Chile (Frankel, Végh, and Vuletin, 2013). Following a steep recession and a banking crisis in the 1980s, Chile introduced partial inflation targeting in the 1990s which also included a loose real exchange rate band and maintained capital controls. In 1999, once inflation had been reduced through a broad-based macroeconomic stabilization program, the inflation target was narrowed to 3 percent and the exchange rate and capital account liberalized. From then on, monetary policy became significantly more countercyclical (McGettigan et al., 2013).

Notwithstanding the broader trend towards countercyclicality since 2000, there were sporadic episodes of policy tightening in response to capital flow pressures. These included the financial market turmoil of May–June 2013, which triggered capital outflows and asset price corrections in several emerging markets. For example, Brazil, India, and Indonesia tightened monetary policy to stem market volatility in 2013. Policy tightening was accompanied by other measures such as removing remaining capital controls and targeted liquidity injections (Sahay et al., 2014).

**Looking forward: Implications for monetary policy**

Since 2000, monetary policy in emerging markets has become increasingly countercyclical. This trend has been supported by

**BOX 1.2 (continued)**

strengthening institutions, especially monetary policy frameworks, more active use of macroprudential policies, and shrinking vulnerabilities, including net foreign currency positions.

Looking ahead, monetary policy frameworks in developing countries may be tested when global financial conditions tighten amidst modest growth prospects. Past episodes of monetary policy tightening in the United States were associated with declines or reversals in capital flows to emerging markets. At the time, many emerging markets maintained fixed exchange rate regimes so in most countries real depreciations occurred gradually (IMF, 2013). Some countries with large underlying vulnerabilities, however, were forced to abandon their currency pegs under capital outflow pressures, triggering the “tequila crisis.”

balance sheets with foreign-currency exposures. This may especially be the case in some oil-exporting countries which have come under strong depreciation pressures as oil prices declined.

Strengthened monetary policy frameworks, improved foreign currency positions, as well as other policy buffers such as capital flow management measures, should facilitate the use of exchange rates as shock absorbers and enable a countercyclical monetary policy response.

*Fiscal Policies*

Especially if monetary policy is constrained by inflation or financial stability concerns, a cyclical growth slowdown could require the use of countercyclical fiscal policy to support activity. A structural growth slowdown, however, weakens fiscal space and constrains a country’s ability to engage in countercyclical fiscal policy (Chapter 3).

During the early 2000s, fiscal policy in developing countries, especially in large developing countries and frontier markets with international market access, became increasingly countercyclical (Figure 1.22). On the eve of the crisis, developing countries had built fiscal space by lowering debt-to-GDP ratios to below 2001 levels, and by closing deficits. During the crisis, many of them used this space to support growth with countercyclical stimulus measures or to allow automatic stabilizers to operate. Nevertheless, in most developing countries, debt levels at

Going forward, the adjustment in developing countries to financial tightening is expected to proceed more smoothly, as a result of stronger institutions, larger buffers, as well as mitigating global developments. In particular, declining commodity prices are expected to reduce inflation pressures in many developing countries (unless offset by depreciating currencies or large subsidies for food and fuel consumption). This may provide monetary policy additional room to support growth. In addition, monetary policy frameworks have strengthened as an increasing number of developing countries have put in place inflation targeting regimes. This allows exchange rates to bear a greater burden of adjustment; some of this adjustment has already occurred with the depreciations following the turmoil of May/June 2013. In addition, monetary policy buffers such as reserves and net foreign currency positions have grown significantly over the 2000s, thus easing constraints on monetary policy.

end-2013 remain below those in the early 2000s—with the notable exception of some large frontier markets.

Fiscal deficits, however, have yet to return to pre-crisis levels and, if allowed to persist, could accumulate into unsustainable stocks of debt. In about three-quarters of developing countries with international capital market access, primary balances are below levels that would stabilize debt at benchmark levels (Chapter 3). In addition, current conditions flatter the sustainability of primary balances: real interest rates are at historic lows and some recent entrants into international capital markets have growth rates substantially above their historical averages.

Developing countries facing benign cyclical environments need to build fiscal buffers and to restore fiscal sustainability. This would allow them to have access to the countercyclical fiscal policy that has served them well since 2000. The desirable speed of rebuilding buffers depends on a host of country-specific factors, including cyclical positions and the degree to which countercyclical monetary policy may be encumbered by high or rising private sector indebtedness. The manner in which buffers are rebuilt should take into account long-term structural reform needs. Many developing countries provide generous energy subsidies that distort activity and are poorly targeted. Especially in countries with limited economic slack, the fall in oil prices that is expected to persist provides an opportunity to rebuild fiscal space while removing the economic distortions associated with subsidies.