Discussion of "The global financial cycle" (Author: Claudio Borio, Head of Monetary and Economics Department, Bank for International Settlements)

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Good afternoon everyone.

My apologies for not being there in person. I have a conflict with the Central Board meeting of the Reserve Bank of India in New Delhi today. However, I am excited to discuss via video conference Claudio Borio's excellent work on the tale of two financial cycles — the global and the domestic. Before I present my comments and offer an emerging market's perspective on Claudio's ideas, let me add the disclaimer that whatever I say in this discussion reflects my own views and not necessarily the views of the Reserve Bank of India.

Let us start by thinking about what is special about the emerging markets. In my view, emerging markets are characterised by several features that make them vulnerable to external sector stress. Two most important characteristics are a fiscal deficit and a current account deficit. These are often referred to in economic literature as the "twin deficits" that make emerging markets vulnerable to the risk of a 'sudden stop': Adverse global financial conditions interact with domestic stresses of the emerging market, resulting in an outflow of foreign capital or, at a minimum, ebbing of inflows into the emerging market.

What are the implications of these characteristics of emerging markets? One important consequence of a sizeable fiscal deficit is the crowding-out[1] of investments of the economy's private sector. Typically, in emerging markets, saving rates are not high relative to the investment needs. In fact, savings may not even be financialised. All and this makes it hard for the private sector to borrow because most of the domestic savings are consumed by borrowings of the public sector. Those corporations in the private sector that have adequately high credit ratings (or credit quality, in general) tap into foreign markets by borrowing abroad. Thus, one characteristic of the emerging market — the fiscal deficit — results in borrowing abroad by the private sector, which increases the vulnerability of the country to the global financial cycle.

[1] For more details, please refer the speech on "Why Less Can be More: On the Crowding-out Effects of Government Financing", delivered at the 16th K P Hormis Commemorative Lecture organised by the Federal Bank Hormis Memorial Foundation on November 17, 2018 at Kochi.

The *global financial cycle* means different things to different people. In my own research, I have found that some combination of the Federal Reserve's interest rate stance, measures of global stock market volatility (notably the VIX in the United States), measures of the commodity price cycle, perhaps some indicators of flows into emerging markets — or a principal component or a common factor of all these variables — is what one can consider operationally as reflecting the state of the global financial cycle. If you are a market practitioner, this is essentially something like a "risk-on" or a "risk-off" sentiment indicator.

The global financial cycle is important because it interacts with the crowding-out risks and other characteristics of emerging markets. This interaction can, however, be tricky to fathom.

To see this, consider an emerging market where the fiscal deficit is high and there is crowding-out of the private sector at work. Suppose the easing of the global financial cycle primarily allows the sovereign to borrow more from abroad, possibly in foreign-currency denominated debt. If that happens, then the global financial cycle makes the country more vulnerable in a 'sudden stop' sense in case the sovereign bonds run into a roll-over problem. This does not then have any beneficial outcome for the crowded-out private sector; if anything, because the sudden-stop risks will become amplified when the global financial cycle turns adverse, the sovereign borrowing abroad can add to the country risk-premium and crowding-out risk, in turn, forcing the private sector to invest even less.

There is another possibility though — in case of some emerging markets, sovereigns do not borrow abroad or allow foreign investors to invest in domestically issued government bonds (more generally, impose some macro-prudential caps on foreign ownership of government debt). If the private sector can borrow abroad, then this at least has the good fortune of relaxing the crowding-out problem of these corporates to the extent that they had been unable to tap adequately into domestic savings; in other words, the easing of the global financial cycle enables the private sector to get its hands on to foreign savings for making its investments. Nevertheless, there could be adverse consequences if the economy gets over-heated during the global financial cycles and imports expand faster than exports, widening the economy's current account deficit (the second characteristic I highlighted about the emerging markets). So, on the one hand, the crowding-out restrictions get relaxed when the global financial cycle eases, but the external sector vulnerability indicators can get worse and amplify sudden-stop risks when the global financial cycle turns adverse.

What causes the global financial cycle to turn adverse? There could be an increase in interest rates globally, a rise in uncertainty or VIX, a surge in commodity prices such as oil, a default on a sovereign bond, or a revision of emerging markets' growth prospects. Such shocks can lead to a generalised pull-back of foreign capital flows from emerging markets. Somewhat perversely, countries vulnerable to the twin deficits are likely to be the most affected as they are also the most likely to have increased their vulnerability during the benign phase of the global financial crisis. In turn, these are also the countries to experience a larger correction when the global financial cycle turns adverse.

The correction manifests itself most notably in terms of depreciation of the exchange rate. To borrow an analogy from Hyun Shin of the Bank for International Settlements regarding the behaviour of the exchange rate of an emerging market during the global financial cycle — in good times, the currency appreciates "up the stairs", and in bad times, it comes "down the escalator". In other words, the exchange rate of an emerging market could experience a seemingly calm episode of steady appreciation, but when the global financial cycle turns, it depreciates sharply, resulting in greater imported inflation as well as higher roll-over costs for corporations and sovereign that have issued bonds to foreign capital providers. The resulting spillovers accentuate the sudden-stop risks substantially.

Now, let us switch attention to the *domestic financial cycle* of the emerging markets. I will focus on how the domestic financial cycle could be modulated through policy interventions of regulators such as the central bank in order to dampen the impact of the global financial cycle. This is indeed one of the core themes of Claudio Borio's work.

(I) First, I will discuss the monetary policy decisions of the domestic emerging market economy. Whether monetary policy is countercyclical or procyclical to the global financial cycle depends strongly on whether the monetary authority, typically the central bank, adopts a financial stability perspective against the global financial cycle, or it views the global financial cycle as a form of relaxation of the emerging market's crowding-out problems.

Let me elaborate. Suppose the domestic monetary policy leans against the wind of the global financial cycle. That is, during the benign phase of the global financial cycle when foreign capital chases emerging markets, domestic interest rates are either raised or maintained steady. In this case, foreign flows into sovereign or corporate borrowing could amplify some domestic growth, but not overly so as the domestic financial cycle is acting in a manner countercyclical to the global financial cycle. When the reversal of the global financial cycle occurs, the domestic monetary policy would benefit from having preserved policy buffer space to accommodate and deal with the risk that the economy may have a hard landing from the withdrawal of foreign flows.

However, the converse is possible if crowding-out effects in the emerging market are strong, the global financial cycle substantially relaxes the private sector's financial constraints, and the domestic monetary authorities emphasise growth instead of financial stability, accommodating at a time when the global financial cycle is in the benign phase. This can potentially cause the economy to overheat and widen the current account deficit. This procyclical strategy may work out okay if inflationary pressures in the economy are not too strong; nevertheless, it renders the economy more vulnerable to a reversal of the global financial cycle and could end up being a myopic strategy if no policy buffer has been left to accommodate in such a reversal scenario.

There is an important message herein regarding how the domestic and the global financial cycles interact in emerging markets. My view is that emerging markets with large twin deficits should factor in financial stability considerations and adopt a counter-cyclical approach in their domestic cycle relative to the global financial cycle.

(II) The second important part of the domestic financial cycle is what I am going to call as external sector management, typically undertaken by the central bank. This includes the building up of foreign exchange reserves to stem sharp currency depreciation and the use of macro-prudential restrictions on the extent of foreign capital flows into sovereign and corporate debt markets. In joint work with Arvind Krishnamurthy of the Graduate School of Business at Stanford University, Arvind and I argue that while a number of central banks in emerging markets accumulate reserves when the global financial cycle is benign, hoping to deploy these reserves to stabilise the currency when the global financial cycle reverses, this strategy doesn't quite work well unless there are macro-prudential quantity restrictions on the inflows of foreign capital. Put simply, reserves and macro-prudential restrictions on foreign capital flows act as complementary tools for external sector management.

Our simple idea is that the reserves accumulated by the central bank, by being deployed to stem sharp currency depreciation, are essentially an insurance for all those who would have been hit adversely by the depreciation of the exchange rate (for example, the importers or corporates and the sovereign that have borrowed abroad). Knowing that the central bank has provided an implicit put option to stabilise the currency, they will rationally anticipate that the currency won't depreciate as much as it would have if the reserves were lower. Therefore, the reserves engender a moral hazard in the form of a build-up of large unhedged positions by importers or excessive foreign borrowing by corporates and the sovereign in terms of the resulting exposure to the risk of sudden-stop or currency depreciation.

In turn, unless the central bank employs macro-prudential limits on the extent of capital inflows via foreign borrowing or requires hedging by the importers (or imposes restrictions on the size of unhedged positions of the importers), benefits of the reserves can get "undone". When the global financial cycle turns adverse, the central bank will have more reserves but also a greater demand for the reserves relative to the domestic currency. Recognising this, optimal external sector management by the central bank requires *both* reserves accumulation and macro-prudential constraints on sudden-stop vulnerability that builds up during the benign phase of the global financial cycle.

Conversely, if the central bank engages in reserves accumulation *without* macro-prudential controls on foreign capital flows, then the outcome can be destabilising, especially if it is not recognised that the vulnerabilities are increasing precisely because the reserves are being accumulated.

To summarise, countercyclical monetary policy — which Claudio Borio stresses as being quite crucial — and reserves management along with macro-prudential controls on capital flows could both be effective in leaning against the wind of the global financial cycle.[2]

Overall, I would like for this literature to explore more the micro-foundations of financial constraints faced by the emerging markets:

(1) As I have stressed emerging markets are characterised by fiscal deficits and current account deficits. The fiscal deficit leads to a crowding-out problem that induces the private sector to borrow abroad. Furthermore, the fiscal deficit may be funded via the issuance of sovereign debt to foreign capital providers. These are two key problems of external sector vulnerability worth providing micro-foundations for. These problems interact with the

[2] Other researchers such as Hyun Shin and Helene Rey (of London Business School) have taken some of these insights to make sense of asset prices, volatility in financial markets, and "risk-on/off" effects of dollar appreciation, all stemming from the movement in global financial cycle.

global financial cycle and understanding this interaction in both theoretical and empirical settings would be a fruitful exercise.

(2) In the same vein, my second recommendation would be to model the micro-economics of how the amplification of the global financial cycle by the domestic cycle (through procyclical monetary policy and/or external sector management) can lead to a widening of the current account deficit, resulting in greater external sector vulnerability and necessitating a stronger policy response when the global financial cycle reverses.

(3) Finally, I would like to suggest that researchers investigate further how the level of central bank reserves and its macro-prudential toolkit for capital controls interact with the monetary policy decisions in diffusing or amplifying the global financial cycle. Are external sector management tools and monetary policy complements or substitutes?

Let me conclude, I am a big fan of this research track that Claudio Borio is pursuing. I believe it is extremely pertinent to the emerging markets. I learn much from it every time I think about it, read it or see it presented. I look forward to seeing more micro-foundations being built into the interaction of the global and the domestic financial cycles.

Thank you.

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