A Monetary Policy Rule for Emerging Market Economies

The Impossible Trinity and the Taylor Rule

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The recent global debate on monetary policy has centred on whether policy should target financial stability in addition to the domestic business cycle. With relatively tightly regulated financial markets, where concerns presently are more developmental than regulatory, the counterpart debate in emerging market economies centres on reconciling two widely held economic policy formulations, namely, the Mundell-Fleming "Impossible Trinity" and the "Taylor Rule". This article argues that EMEs can get around the trilemma by adopting a separate instrument as part of a consistent policy framework to target the external financial cycle. This would free up their interest rate policies to target the domestic business cycle, without the need to deviate from the Taylor Rule from time to time to target external financial stability.

These are the author's personal views.

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The currency crisis sweeping emerging market economies (EMEs), which has compelled Brazil, Turkey and Indonesia to tighten policy rates amidst collapsing growth, merits revisiting the application of two widely held economic policy formulations, namely the Mundell-Fleming "Impossible Trinity" and the "Taylor Rule" of monetary policy.

According to the impossible trinity, a country can have only two of the following three: a fixed exchange rate, monetary independence and free capital flows. A free monetary policy means that it is free to respond to the domestic business cycle.

The Taylor Rule is a rule-bound – as opposed to discretionary – monetary policy by which the central bank adjusts its short-term policy interest rate based on a mathematical formula using differentials between a country's potential GDP and actual GDP, and between the inflation target and actual inflation. The Taylor Rule and its variants are now used by almost all advanced country central banks. The author of the rule, John B Taylor of Stanford University, is of the view that it is relevant for developing country central banks also. Many developing countries have indeed started using the Taylor Rule.

In advanced economies the Taylor Rule responds to the domestic business cycle. Monetary policy in developing countries, on the other hand, is in addition constrained to respond to the external financial cycle, which distorts the application of the Taylor Rule. Thus, if domestic growth concerns warrant low interest rates, a sudden stop in capital inflows may induce them to keep interest rates unduly high to attract foreign capital, thereby magnifying the downturn in the business cycle. In other words, they end up trying to negotiate the impossible trinity. Raising interest rates at such times rarely works because the stops are frequently not country specific, and in any case foreign investors are more concerned about capital losses than higher interest income.

The impossible trinity is no longer very relevant for advanced economies whose currencies – the dollar, pound sterling, euro and the yen – are now fully convertible against each other. There is therefore very little difference between their internal and external imbalances as these can both be backstopped by their central banks by printing currencies that are both freely convertible and tradable in liquid international financial markets. Monetary policy is therefore free to respond to the domestic business cycle. However, following the recent global financial crisis, there is now an animated debate in advanced economies as to whether their central banks need to explicitly target the financial cycle as well to ensure financial stability, and as to what policy instrument is best suited to meet this objective.

In EMEs, where currencies are not freely convertible, and where financial systems are much more tightly regulated, the counterpart of this debate has for long centred on the impossible trinity. Only domestic deficits can be backstopped by their central banks. Their external deficits are denominated in international reserve currencies, for which they are dependent on market support. They are therefore always susceptible to external payments crises in the event of market revolt if their deficits are perceived to be excessive and unsustainable. This happened on a large scale in Latin America in the early 1980s, in east Asia in the late 1990s, and across a broad swathe of EMEs currently. In the past such external payments crises pushed EMEs to seek "conditional" bailouts from the International Monetary Fund (IMF), the international lender of last resort. It is this threat of an external payments crisis that compels developing countries to frequently use monetary policy for managing external imbalances, in addition

to managing the domestic business cycle. This can result in the loss of monetary independence. They therefore need a separate instrument, as part of a consistent policy framework, to target the external financial cycle if the central bank is to retain monetary independence.

Many EMEs, including India but with the notable exception of China, have, like advanced economies, also chosen to have independent monetary policy and free capital flows. Their exchange rates float mostly freely on the current account, and to a great extent also on the capital account, with most of the capital restrictions imposed on residents rather than non-residents. This is because of the need to attract and conserve foreign capital: putting restrictions on external investors makes the latter less willing to bring in capital if it is not be allowed to be repatriated at will.

Amongst the major EMEs, China has famously chosen a combination of a fixed exchange rate, monetary independence and closed capital account. While there are few formal restrictions on capital inflows, since China runs a current account surplus this effectively means that the central bank mops up as much dollars from the market as required to maintain more or less a fixed nominal exchange rate against the dollar. Since China runs large current account surpluses against the US, it has accumulated a huge cache of dollar reserves in its attempt to keep its exchange rate pegged to the dollar in nominal terms. Its real effective exchange rate (REER) against the dollar has been depreciating continuously on account of relative productivity shifts. Under persistent criticism and pressure from the US, China has, of course, depreciated its nominal exchange rate against the dollar slightly from time to time, even as its REER continues to remain significantly undervalued.

Effective Exchange Rates

One of the main reasons why several EMEs floated their currencies was to prevent the build-up of external imbalances, as a currency float is expected to automatically adjust external imbalances: a current account imbalance should depreciate the currency, thereby boosting exports by making them more competitive, and compressing imports by making them more expensive. This tends to move the current account back towards balance.

Ceteris paribus, if a country runs a current account deficit (CAD), its currency should depreciate in nominal terms against those of its trading partners.

The nominal exchange rate, which is observable, is however, different from the REER, which is non-observable. The REER is the adjustment made for changes in both the nominal exchange rate and relative prices and productivity between trading partners, as the REER = (Exchange Rate* $ price)/domestic currency price.

From this simple equation it would be evident that, ceteris paribus, if the domestic currency depreciates in nominal terms, the REER would depreciate by an equivalent margin.

However, since the domestic currency price of goods also increases relative to the dollar price of the same goods, the real depreciation is countervailed to that extent. Indeed, when there is a spike in inflation it is entirely possible for the nominal exchange rate to depreciate even as the REER appreciates. On the other hand, a relative improvement in productivity puts a downward pressure on domestic currency prices, thereby depreciating the REER. Ceteris paribus, higher inflation tends to erode international competitiveness, while improved productivity enhances it.

When EMEs floated their currencies the expectation was that capital account flows would simply be the counterpart of the current account, and that the exchange rate would respond primarily to the current account balance. Inflation tended to be higher in EMEs, which appreciated the REER. However, productivity improvements were on the whole higher in EMEs on account of the structural shift in employment from the less productive agricultural sector to the more productive manufacturing and modern service sectors, and this tends to depreciate the REER. Therefore, with effective macroeconomic management that keeps inflation within reasonable limits, it should theoretically be possible for EMEs to keep their nominal and REER closely aligned.

There are, however two major circumstances, one emanating from the current account (the "Dutch Disease syndrome"), and the other from the capital account ("Southern Cone syndrome") under which this reasoning does not hold.

The Dutch Disease arises when there is a sudden spurt in a country's current account surplus, usually on account of a new resource discovery, such as oil. The consequential sharp appreciation of both the nominal and REER makes the country lose export competitiveness in all except the windfall sector. As a result huge external imbalances can arise once the windfall is depleted.

More germane to the present argument, however, is the second set of circumstances, emanating from the capital account, and increasingly a far more frequent phenomenon, namely, large and volatile capital inflows into EMEs. Cross-border flows to EMEs increased manifold since the 1970s following the oil price hikes and export-led high growth strategies adopted by several east Asian economies. The first manifestation of this syndrome in developing economies was the wave of financial liberalisation which led to a debt fuelled recycling of petrodollars by US banks in the Southern Cone in Latin America.

Misalignments, Imbalances and Stops

While large capital inflows can sustain large CADs for sometime, over the medium to long-run they tend to magnify external imbalances and lay the ground for external payments crises. If there is a surge in capital flows that exceeds the CAD, assuming that there is no central bank intervention to increase foreign currency reserves, the (nominal) currency depreciation may not be adequate to push the CAD towards balance. Indeed, it is possible for the nominal exchange rate to even appreciate despite the CAD if the capital surge is excessive, thereby magnifying the external imbalance. If simultaneously the REER were also to appreciate because of inflation differentials, the CAD could worsen even further.

Once the capital surge abates, or in the event of a sudden stop, there is a likelihood of a sudden, rapid and accelerated correction in exchange rates, with the nominal exchange rate depreciating sharply, and the REER overshooting its neutral (long-term "fundamental") rate. This can cause short-term macroeconomic instability, such as higher inflation, a loss in international confidence and a credit downgrade that could compound the reversal in capital flows and could precipitate an external payments crisis. Over the medium to long-term, however, the correction increases the likelihood of the current account moving back closer to balance.

What pushes capital into EMEs, and what triggers sudden stops? While fundamentals and the prospects of higher returns are certainly contributory factors, over the years it has become increasingly clear that the major factor driving flows in and out of EMEs has little to do with the fundamentals of recipient countries but yields in the source countries, in particular the US which has the biggest and deepest financial market in the world. The flows and outflows, seem to come in waves, and across a wide swathe of countries.

It is not entirely coincidental that the capital stop in the Southern Cone in the early 1980s, in east Asia in the late 1990s, and across a broad sweep of EMEs since May 2013, followed a tightening of monetary policy by the United States Federal Reserve. With the integration of financial markets and globalisation the spillovers of US Fed monetary policies are only increasing because of the overarching dominance of the dollar in the international monetary system. Its policies therefore hugely determine the direction and velocity of cross-border capital flows. No other central bank comes even close to exercising this influence across its own borders.

Over the years the dollar has effectively become the global reserve currency. As a result, US monetary policy has a determining influence on the direction of global capital flows. This in effect gives the issuer of the global reserve currency the flexibility to soak up capital when it needs it most, and to export it out when it suffers from excessive domestic liquidity. Through this mechanism the US can fund literally unlimited amounts of external and internal deficits without being penalised by markets as happens in the case of other countries. Open capital accounts, espoused by the IMF, only facilitate this funding and magnify the "exorbitant privilege" of the dollar.

It has long been argued, from the days of John Maynard Keynes, that the extant international monetary system has a structural flaw in that it lacks a mechanism, market-based or otherwise, to induce surplus countries to adjust. This can lead to the persistence of large imbalances. Recent history however indicates that this is not entirely correct, as there is also little pressure on countries with reserve currencies, and especially the global reserve currency, to adjust even when they run current account deficits, on account of the large external demand for their currencies. The latter is also consistent with the "Triffin Paradox", by which the reserve currency issuer is expected to run larger and larger current account deficits to meet the growing needs of global liquidity. This is manifestly not true in the cases of currencies like the Japanese yen and the Swiss franc. Both countries have run current account surpluses over the last decade and a half. Similarly, even while its currency was becoming important in the composition of the global portfolio of reserve currencies, the euro was running a roughly balanced current account position with the rest of the world. This is because it is really the dollar that is accepted as the de facto global reserve currency by markets, even though the IMF may have classified other currencies also as reserves.

In effect, the US Federal Reserve acts as the global central bank. In the not too distant past, easy monetary policy by the US Federal Reserve, both prior to and following the global financial crisis, led to a surge in capital inflows into emerging markets, appreciating their currencies. There were intervening periods of sudden stops, as US monetary policy changed course, resulting in sharp currency depreciation, sudden stops and external payments crises. This again happened in the 1980s in Latin America, in the 1990s in east Asia, and is now affecting EMEs globally. International financial markets in EMEs appear to respond more to US Fed actions than to economic fundamentals in these economies.

External Payment Crises

The Southern Cone and east Asian economies were constrained to turn to the international lender of the last resort to bail them out of their external payment crises. This time around, however, EMEs have not turned to the IMF. Apart from providing immediate relief, these bail-outs rarely had a happy ending, with some notable exceptions such as the Indian programme of the early 1990s. Stiff conditionalities led to a protracted period of low growth, and protracted loss of access to international markets because of the "stigma" attached to approaching the IMF.

Over the long run the IMF solution has not made EMEs less susceptible to external payment crises. Following the east Asian crisis, for whatever reason, conscious or fortuitous, EMEs self-insured themselves against sudden stops by accumulating large foreign exchange reserves. This has not prevented sudden stops, and sharp depreciation, but has nevertheless – so far – prevented external payments crises that in the past pushed them to turn to the IMF.

During a sudden stop markets tend to overshoot far out of proportion to economic fundamentals. Following sharp and rapid depreciation a number of EMEs felt constrained to put in place precautionary liquidity facilities to reassure markets. It is pertinent that the bigger EMEs turned to the US Fed, rather than to the IMF, for currency swaps. It was the former, rather than the latter, that was regarded as the lender of last resort, or the ultimate bazooka. Even central banks that issued reserve currencies, such as Bank of England and the European Commercial Bank turned to the US Fed for dollar denominated facilities. This underscores the increasing systemic irrelevance of the IMF: despite the large replenishment of its resources it is now seen as the lender of last resort only for small developing countries. If, at the end of the day, there is only one global reserve currency, the dollar, the US Federal Reserve has a bottomless supply, whereas the IMF's resources are finite. This arguably makes the US Fed some

kind of a global central bank, setting monetary policy and providing liquidity.

The US Fed swaps notwithstanding, it is quite clear that EMEs that had good self-insurance mechanisms in place weathered the sudden stops of the global financial crisis better. There is also no good reason why EMEs would find dependence on the US more palatable than on the IMF in the event of sudden stops. They therefore need an effective policy instrument to manage sudden stops.

Two Instruments for Two Targets

On the one hand, EME monetary policies have got caught up in the "impossible trinity", with the central bank being constrained to set short-term policy rates that are inconsistent with the domestic business cycle, leading to loss of monetary independence. On the other hand, they have conceded policy independence by committing themselves in the G-20 to "market determined exchange rates" even though volatile capital flows distort market exchange rates, aggravating external imbalances and macroeconomic instability. Instead, they have negotiated policy space to impose temporary capital controls in the face of a surge in capital inflows. Their experience with imposing capital controls has not been very happy: capital controls are notoriously leaky, at best they throw some sand into the wheels while leading to long-term damage by discouraging capital inflows when they are most needed. They are particularly counterproductive in the event of capital outflows as they aggravate the problem they seek to address, as foreign investors are likely to see discretionary controls as capricious, making them even more risk averse. Therefore some countries like India have relied more on interventions in the foreign exchange market to manage volatile capital flows. This has two advantages. First, by keeping the nominal exchange rate aligned to fundamentals, it keeps external imbalances in check which in turn could minimise the overshooting during episodes of capital stops. Second, by sequestering excessive inflows during episodes of excessive inflows, it enhances the war chest for combating disorderly adjustment which can boost market confidence relative to EME peers.

According to the well accepted "Tinbergen Rule" a policy instrument can be effective only if it has a single objective. Despite this, EME central banks have been using a single policy instrument, namely, the interest rate, to sometimes target domestic imbalances (the inflation-growth matrix) and sometimes external imbalances (the exchange rate-current account balance matrix), supplemented occasionally by market intervention, depending on which balance appears more pressing at the moment. This risks making the instrument ineffective, the policy inconsistent and magnifying rather than attenuating both domestic and external imbalances.

Since there are two targets, a second policy instrument is required to achieve both objectives. The interest rate is clearly better suited to target domestic imbalances. Targeting a neutral REER through market intervention, on the other hand, is clearly better suited to targeting external imbalances. This would ensure that the exchange rate remains close to fundamentals, i e, that it responds primarily to the current account and is not distorted by volatile capital flows that can be destabilising from time to time, even though they might at times make it easier to finance current account deficits over the short term. Such a policy/instrument is also entirely consistent with Article i(iii) of the IMF's Articles of Agreement that purports to promote "exchange rate stability".

Although a number of EME central banks monitor movements in the REER, they neither target it consistently, nor are they consistent in the use of instruments to achieve their target. A consistent, well-articulated and effectively communicated exchange rate and/or reserve management policy which protects monetary independence has still to be worked out by EME central banks.

The use of separate instruments to target domestic and external balances by the central bank must be done within an overall framework of policy consistency that attenuates conflicting outcomes. There would, for instance, be no conflicting outcomes when there is a need to tighten monetary policy and sell foreign exchange reserves, or inversely when there is a need to loosen monetary policy and buy foreign exchange reserves. There could, however, be some conflict when there is a need to loosen monetary policy and sell reserves, and inversely when there is a need to tighten monetary policy and buy reserves. In the case of such conflict the central bank would need to conduct sterilisation/liquidity provision operations alongside market intervention so that the monetary policy stance is not compromised.

Whether or not the exchange rate target is clearly communicated to markets, it would be only a matter of time before markets figure out that the central bank is targeting a neutral REER. There is therefore a danger that they could try and game the system by placing one way bets. This could be avoided by being less predictable in intervention – such as adopting a "random walk" approach – and being tolerant of fluctuations within a band rather than targeting a specific rate as such. During a capital stop episode it is important that the central bank's response is a measured one, fully appreciating that markets have a tendency to overshoot at such times, otherwise it risks rapidly running out of reserves and damaging market confidence.

Conclusions

The recent global debate on monetary policy has centred on whether it should target financial stability in addition to the domestic business cycle. With relatively tightly regulated financial markets, where concerns presently are more developmental than regulatory, the counterpart debate in EMEs centres on reconciling the impossible trinity with the Taylor Rule. The problem has become all the more compelling in a rapidly globalising world where large, volatile capital flows lead to misaligned and volatile exchange rates that threaten macroeconomic stability. The argument is that EMEs can get around the trilemma by adopting a separate instrument as part of a consistent policy framework to target the external financial cycle, instead of using a single instrument, namely, the interest rate, to target both cycles. This would free up their interest rate policies to target the domestic business cycle, without the need to deviate from the Taylor Rule from time to time to target external financial stability.