

Cracks in BRICs: A sectoral financial balances analysis and implications for macroeconomic policy

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Abstract. *BRIC – Brazil, Russia, India and China – were, in the recent past, not only considered to be the largest and fastest growing economies amongst the emerging markets but also the engines of global economic growth. However, since 2012 cracks have emerged in this narrative. With negative, decelerating and insufficient GDP growth, the BRIC countries are floundering. This paper attempts to identify the causes, policy responses and challenges emanating from these policies for each of the BRIC economies using the post-Keynesian, Structural Financial Balances framework. The study draws attention to the importance of fiscal policy as a short-term macroeconomic policy option.*

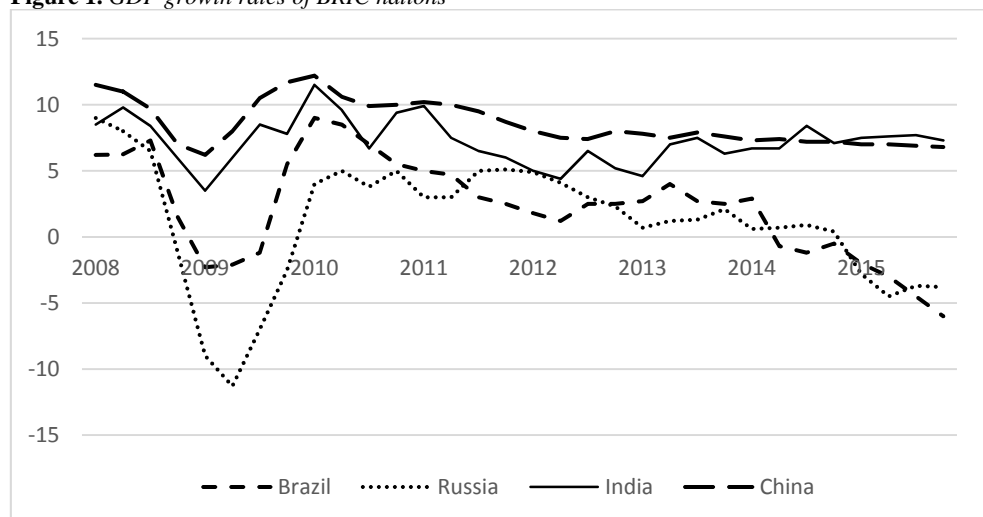
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1. Introduction

Each of the BRIC countries – Brazil, Russia, India and China⁽¹⁾ – is going through a turbulent economic phase with their own set of specific problems. While Brazil and Russia face a full-blown crisis with contraction in real GDP, China is witnessing a sharp deceleration in its current account surplus and GDP growth. At first glance, India seems to be an outlier amongst its BRIC partners with a 7 percent GDP growth rate; however, there are several developmental challenges that it faces – structural unemployment, stubborn food inflation, agrarian distress and weak manufacturing and export growth. With a brewing controversy over its actual growth rate figures⁽²⁾, India needs to move more definitively and also expeditiously onto a higher growth trajectory to overcome its problems of poverty. Figure 1 succinctly captures the key macroeconomic predicament facing BRICs – falling, decelerating or insufficient GDP growth rates.

Figure 1. GDP growth rates of BRIC nations



Source: Trading Economics, <http://www.tradingeconomics.com/>

While the contagion between these countries may not be extraordinary, their growth and development in total does have important repercussions for global economic progress. This arises from the simple fact that BRIC accounts for about 30 percent of world GDP⁽³⁾ and at one of point of time in the not-so-distant past (c. 2010) were amongst the fastest growing economies of the world contributing almost 45 percent to global growth (Banerjee and Vashisth, 2010). But by the end of 2014 this optimistic image turned gloomy with sombre questions being raised about the inflated potential of the four largest emerging economies, perhaps with a degree of critical sarcasm.

Whatever happened to the Brics economies?

Remember the Brics - Brazil, Russia, India, China and South Africa, the nations that were set to reshape the world economy?⁽⁴⁾

What are the triggers of crisis in BRICs, the macroeconomic policy options open to them and challenges posed from these responses? This is the leading question of our study. While the paper examines each country independently, it at the same time, extricates the commonalities in the causes of and resolutions to the crisis. This could have important repercussions on the future of BRICs as a collective entity, in particular, the institutional arrangements that are developing between these countries like the New Development Bank and BRICS Contingent Reserve Arrangement.

Having outlined the objective of the paper, we briefly delineate the methodology of study. Macroeconomics entails a clear understanding of the interrelationship between several parameters – GDP growth, inflation, fiscal deficits, taxation and public debt, private sector investment and savings, exchange rates and balance of payments – to draw an aggregate picture of the economy, which at the same time, sheds light on the direction of policy response. A theoretical framework that allows us to incorporate a multitude of stylized facts and figures into a comprehensive whole is the much neglected Sectoral Financial Balances (SFB) model developed by the post-Keynesian economist, Wynne Godley. Before delving into an analysis of BRIC economies, we briefly present the SFB model which has unfortunately been kept outside the scope of orthodox macroeconomics.

2. The Sectoral Financial Balances Model

The SFB model builds on the double entry accounting axiom that every debit has a corresponding credit or for every asset there must be a corresponding liability – a fundamental accounting axiom that must hold true. If an economy is divided into three sectors namely the private domestic sector, the government sector and external sector then net financial asset accumulation across these sectors must sum to zero. In other words, for net financial asset accumulation in one or at most two sectors there must be a corresponding net accumulation of liabilities in at least one of the other sectors. Therefore,

$$(T - G) + (S - I) + (M - X) = 0. \quad (1)$$

where G = government expenditure, T = tax revenues, S = private sector savings, I = private sector investment, M = imports and X = exports⁽⁵⁾. Note that a current account surplus (deficit) where $X - M > 0$ ($X - M < 0$) implies outflow (inflow) of capital from (into) the domestic economy and accumulation of liabilities (assets) by foreigners, where the latter includes both private sector and government. Rewriting equation (1) we get:

$$(S - I) = (G - T) + (X - M). \quad (2)$$

Equation (2) articulates that net asset accumulation of the domestic private sector must entail a corresponding accumulation of liabilities by at least one of these two sectors; the government and/or the foreign sector.

Post-Keynesian economics, in particular Modern Money Theory (MMT), has elaborately discussed the importance of this simple equation. Drawing from Wray (2011) I briefly explain its logic. In a one-sector economy with only a domestic private sector, financial

assets by one person must be offset by financial liabilities of another; your account in a bank (asset) is offset by the bank's liability to you (deposit). When you take a housing loan, the asset of the finance company (loan to you) is matched by your liability to the company (loan taken by you). While financial assets are always equal to financial liabilities, real assets can still be accumulated. Such real assets are not the liability of another agent in the economy. Consider buying a car; when you buy a car from a company on loan your IOU is the company's asset while it is your financial liability. But the car is now an asset in your books of accounts that it not the liability of the company. While financial assets and liabilities cancel out each other, the car remains the real asset on your books; this is also called net worth or the total assets (financial assets + real assets) minus financial liabilities. To accumulate net financial assets it is necessary for the domestic private sector as a whole to earn more than it spends (keeping aside real assets). But this is possible if and only if there is a sector "outside" the domestic private sector which accumulates financial liabilities. In an open economy with three sectors (private domestic, government and foreign sectors) this could be either the government sector (which runs fiscal deficits) and/or foreigners who in some sense "allow" the domestic economy to run a current account surplus and thereby accumulate liabilities in the domestic economy. ⁽⁶⁾

This, however, does not answer another important question; why would the domestic private sector want to accumulate financial assets outside its own sector? Private sector assets like a car, house or even plant and machinery are inherently risky; house prices could fall, stocks are subject to wild swings, corporate bonds and securities are subject to credit risks. In other words, the private sector may wish to accumulate assets that are not backed by real assets of other domestic private sector entities because of their inherent risk. There are two possibilities then – hold foreign (external) financial assets (which may belong to the private and/or government sector) or hold promises of the domestic government. Usually government liabilities *not backed by real assets*, either domestic or foreign (like US, UK, Japanese or German treasuries and bonds) are considered the most risk-free.

The appetite of the domestic private sector for net financial asset accumulation may vary depending on the state of the economy and outlook of private sector stability. When an economy is booming, the domestic private sector may not be averse to holding other private sector financial liabilities, usually in expectation of high returns. On the other hand, in times of economic recessions and crisis, households and even private sector firms may prefer to hold their savings in government debt.

A necessity for domestic private sector to accumulate government liabilities may also arise when private sector investment plummets with savings remaining unchanged. In such situations, the government must accommodate the private sector's increased desire to net save through accumulation of financial liabilities, i.e. the government must run larger fiscal deficits. In an open economy, the foreign sector may also afford an opportunity for the domestic private sector to accumulate financial assets; this, however, would happen only when the current account surplus (deficit) increases (decreases).

To understand the sequence through which equilibrium is reached, consider disequilibrium arising from a situation in which the domestic private sector increases its desire to accumulate net financial assets (say when I falls, all else constant) but where neither the government nor the foreign sector raises its financial liabilities. In other words,

$$(S - I) > (G - T) + (X - M). \quad (3)$$

From the simple circular flow model, we can easily infer that leakages would exceed injections thereby forcing the economy to contract.⁽⁷⁾ Given that S , T and M are endogenous variables – and an increasing function of income – the fall in income would induce a fall in levels of S , T and M until the *new higher* level of $(G - T)$ and $(X - M)$ ⁽⁸⁾ for any given level of I , G and X readjusts to the *new lower* level of domestic private sector net financial asset accumulation $(S - I)$ ⁽⁹⁾. The danger, however, is when, due to contraction of GDP, the private sector raises its marginal propensity to save, triggering off another bout of contraction thereby drawing the economy into a deflationary spiral.

To complete this theoretical digression, we pose one last question; what happens if the private sector, especially during good times, accumulates net financial liabilities? Although this may be possible for a limited period of time, a linear build-up is unsustainable as the private sector would have to settle claims of a sector external to itself (government and/or foreign sector) within a finite time horizon. In other words, the private sector cannot leverage indefinitely and would sooner or later begin to deleverage to pare down its debt. This constraint does not apply to the government in a modern money economy, which as we know, can accumulate liabilities or debt indefinitely.

A limitation of the SFB equation is that it does not establish cause and effect. However, since it is an identity that must hold true, desired or exogenously induced changes in a sector's financial balances will have cyclical repercussions on the economy; the feedback to the equation working through changes in income.

3. Mapping SFB for BRICs

We first re-write equation (2) as:

$$(S - I) + (M - X) = (G - T). \quad (4)$$

This equation articulates that net financial asset accumulation by the domestic private sector and foreign sector (in the domestic economy) must equal net accumulation of financial liabilities by the domestic government. Figures 2 to 5 map SFB for Brazil, Russia, India and China respectively. For illustrative purposes we consider $(T - G)$ in the figures so that a negative $(T - G)$ value must be understood as a fiscal deficit (or $G > T$).

One major issue that has to be dealt with in mapping the SFB equation for a country is the availability of data on domestic private sector savings and investment, namely S and I . Even in advanced countries like Japan, Germany and the US where flow of funds data is maintained, there remain “so many estimation and sampling challenges” (Koo, 2015: p. 146) that it is better to compute $(S - I)$ from the government budget and balance of payments numbers. Koo justifies this approach “because the data of these two sectors are

relatively accurate ... “ (ibid: p. 147). We have therefore followed this approach even though private sector savings and investment data is available for Brazil and Russia.⁽¹⁰⁾

In terms of changes in growth rates, Brazil and Russia are clearly the worst affected, followed by China and India. The problem, however, is to look for triggers and responses to the crisis. We do this for each country, across parameters, rather than parameter-wise, across countries.

Figure 2. SFB – Brazil

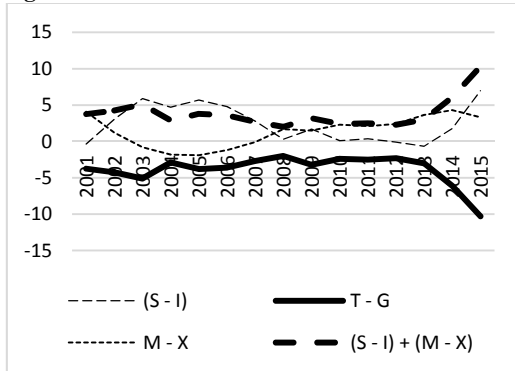


Figure 3. SFB - Russia

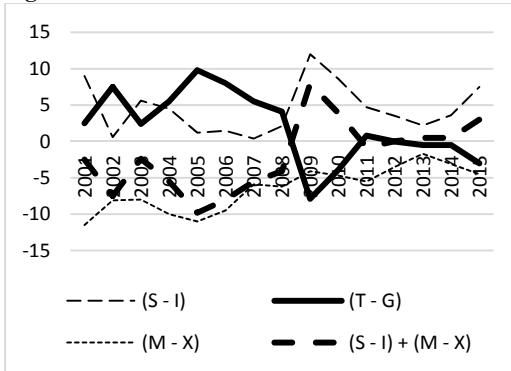


Figure 4. SFB – India

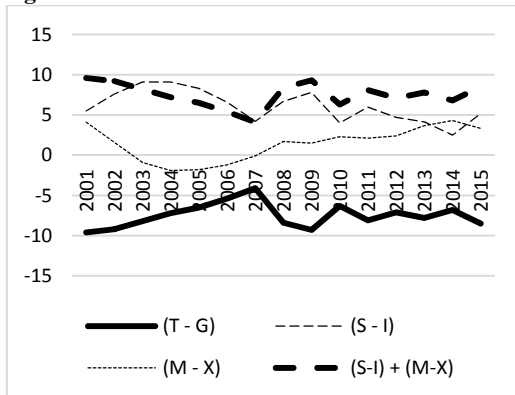
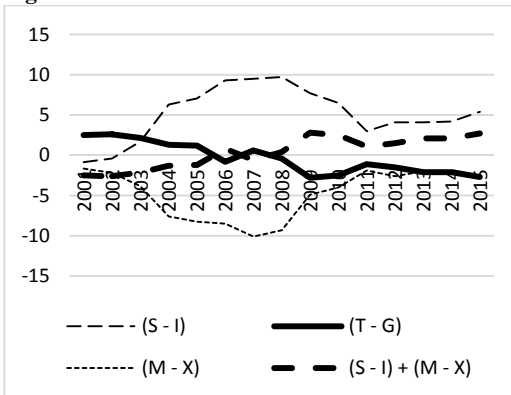


Figure 5. SFB – China



Source: Trading Economics, <http://www.tradingeconomics.com/india/indicators>

For India, figures for fiscal deficit 2015 is from Remya Nair. 2016. Raghuram Rajan sounds note of caution on growth. Livemint, 25 March, <http://www.livemint.com/Politics/SjSfJHM8DPjZyaOeUnwWNI/Raghuram-Rajan-warns-against-loosening-fiscal-deficits.html>.

4. Brazil

Over a period of just five years, Brazil has literally fallen off a cliff. From a high of 9 percent in 2010, it witnessed a sharp plunge in annual growth rate to –6 percent in 2015, amounting to a whopping 15 percent differential. Like many other emerging markets, its

most recent boom began in the aftermath of the 2008 GFC when China's fiscal stimulus triggered increased exports of commodities particularly soya, iron ore and petroleum, generating higher levels of GDP and GDP growth in Brazil. Although Brazil was able to maintain a balance of trade surplus from the commodity export boom in spite of growing imports, its current account deficit grew steadily (as can be seen in Figure 2) due to increased remittances and foreign travel.⁽¹¹⁾ Foreign capital inflows were strong, in particular, foreign direct investment (FDI) and corporate long-term corporate borrowing through issue of commercial paper.

In the domestic economy (see Figure 2) post-2008 GFC Brazil's private sector domestic net financial asset accumulation turned negative or in other words, it began accumulating net financial liabilities. This was not only on account of increased investment by firms but also augmented consumption spending (and lower savings) through borrowing by the household sector. As one report put it, Brazil's development bank [BNDES], and other government owned banks were used to flush the economy with debt. Everybody was borrowing to support a new life-style. Money was cheap for everyone for the first time! People borrowed to buy new TVs, refrigerators, cars etc., companies borrowed to expand or play carry games in the international markets.⁽¹²⁾

It must, however, be pointed out that the overall rate of investment and savings in Brazil have consistently been below 20 percent, making it apparent that the main drivers of its growth are consumption and exports, the latter to a significant extent supported by China's investment-led growth. Internally, the pervasive effect of the minimum wage enhancements as well as social security provisions made by the Lula government and thereafter by Rousseff's also boosted higher levels of consumption.⁽¹³⁾

With the desire for net financial asset accumulation of the domestic private sector being close to zero between 2010 and 2013, government accumulation of liabilities paralleled the current account deficit⁽¹⁴⁾ – both these parameters being well-within accepted norms (about 2.5 percent of GDP). In other words, driven by strong investment demand as well as high exports and consumption (and relatively low savings desire), Brazil experienced a high level of GDP growth that allowed for buoyant tax revenues that kept its fiscal deficit in control even as government expenditure accelerated on several populist schemes. At the same, growing exports of commodities and capital inflows that marginally strengthened the Brazilian real (R\$) allowed for larger imports while keeping inflation subdued. With real GDP growth at close to 9 percent, high wage growth but moderate inflation, Brazil was considered a “star of the emerging world”.⁽¹⁵⁾

Weak Chinese growth followed by the US Fed's announcement in May 2013 that its Quantitative Easing program may be tapered destabilized Brazil's growth trajectory. The oil price crash which began in June 2014 as well as the sliding trend in most commodity prices dragged Brazil into a deep recession with its GDP contracting continuously over the next seven quarters and into 2016. But the crisis did not emanate from a crash in exports (whose growth rate did fall by 1.1 percent in 2014⁽¹⁶⁾); in fact, the current account deficit as a percentage of GDP actually declined in 2014 and 2015.

The trigger for Brazil's predicament instead lies in sharp increase in domestic private sector net asset accumulation. But can we infer that Brazil's private sector has begun "deleveraging", or the paring of its debt? One indicator of increasing pressure on the private sector to deleverage is non-performing loans (NPLs). While the share of NPLs to total bank loans in Brazil remained fairly stable through most of 2015, there are signs of growing apprehension over the last few months with *non-performing loans reaching 3.3 percent of total loans in November 2015, the highest level in more than two years.*⁽¹⁷⁾ *This is considered as just the beginning and analysts foresee a worsening situation;*

Sales of NPL portfolios are expected to reach R\$25bn (\$6.5bn) this year, a rise of about two-thirds on the R\$15bn sold into the market in 2014, according to KPMG.⁽¹⁸⁾

Anecdotal reports of companies also point towards large-scale deleveraging through asset sale; Anglo American, one of the world's largest mining companies, selling its prized niobium and phosphate operations for US \$1 billion in order to repair its balance sheet is a case-in-point. Another mining company, Vale S.A. is attempting to sell its assets for US \$10 billion to reduce debt to a more manageable US \$15 billion.⁽¹⁹⁾ In the realty sector, PDG Realty SA is doing the same; selling assets of US \$400 million to reduce debt.⁽²⁰⁾

Furthermore, in addition to asset sale, Brazil's private sector is cutting back on new investments. This is substantiated by ground-level reports; for instance, Petrobras the state-owned oil company, plans to cut investment spending in 2016 by some 30 percent to \$19 billion from \$27 billion.⁽²¹⁾ Another expressive statistic of weakening domestic investment is credit to the private non-financial sector by domestic banks. From a high of 30 percent growth in 2011, credit growth has fallen to a low of 7.5 percent growth rate in 2015.⁽²²⁾ The bottom line is unequivocal; private sector investment has fallen by more than 4 percentage points; from 17.9 percent of GDP in 2010 to 13.7 percent in 2014 (IMF 2015a, p. 31).

Foreign inward investment flows into Brazil have also been impacted severely in the last two years. Bloomberg reports:

Brazil's dwindling number of investment-grade companies is poised to shrink again in 2016. After two downgrades to junk for sovereign debt and more than 200 corporate rating cuts in 2015, Latin America's largest economy is now home to just 14 investment-grade companies. Six of those at the lowest investment grade have negative outlooks on their ratings, signalling the ranks of non-junk borrowers may soon shrivel to single digits.⁽²³⁾

Such a decline in investment spending, all else constant, has taken its toll on GDP growth rate. The IMF Consultation Report has also categorically pointed out that "there are emerging signs of balance sheet pressure." (IMF, 2015a: p. 11). If Brazil is indeed entering a phase of balance sheet recession à la Koo (2008, 2015), the government cannot afford to abrogate its responsibility of running an accommodative fiscal deficit, which is currently at more than 10 percent of GDP. Or to put it differently, with Brazil still running a current account deficit, the government must compensate for the leakages arising from an excess of private sector savings over investment. As argued in our theoretical discussion of the SFB model, if this accommodating fiscal deficit is not

forthcoming, Brazil could witness a further decline in GDP – forcing contractions in S, T and M – until equation (2) returns to equilibrium.

We illustrate this imperative for accommodative fiscal policy with a diagrammatic extension of the SFB model that maps equation (1) on to a 4-quadrant (Q-1 to Q-4) diagram as in Figure 6. The line SI_0 drawn at an angle of 45° through the origin is a set of points where $(S - I) = 0$. Consider point A on the SI line; if $(S - I) = 0$ then from equation 2, $(X - M) = -(G - T) = (T - G)$ or a fiscal surplus. If $(S - I) = 0$, a positive current account balance must be matched by an equal fiscal surplus; given that the domestic private sector is neither accumulating assets nor liabilities, if foreigners are accumulating net financial liabilities then the domestic government must be accumulating an equal amount of financial assets.

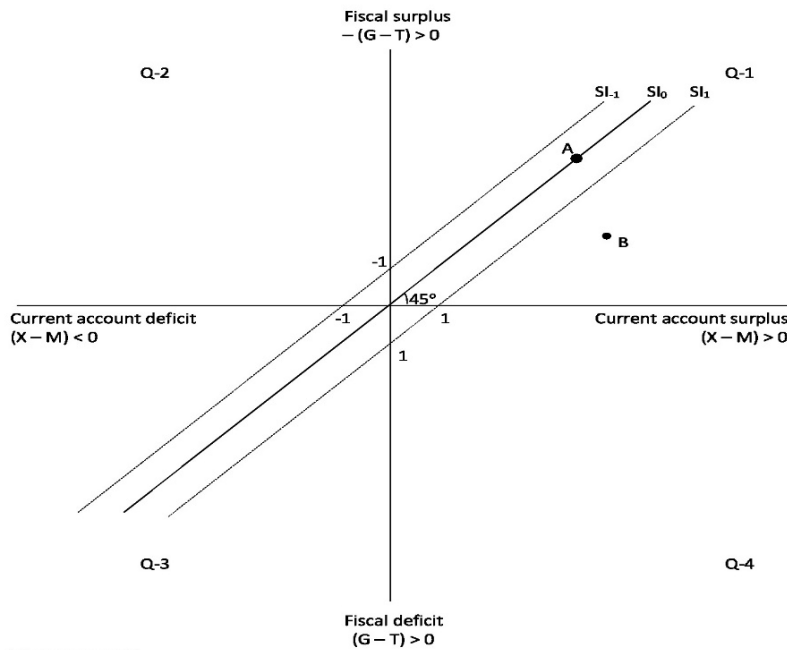
Now consider a point such as B where $(X - M) > -(G - T) = (T - G)$. Therefore,

$$(X - M) - [-(G - T)] > 0, \quad \text{or}$$

$$(X - M) + (G - T) > 0.$$

From equation (1) we therefore have $(S - I) > 0$ at point B. In general all points to the right (left) of the SI line are points where $S - I > 0$ ($S - I < 0$), i.e. the domestic private sector is accumulating a positive quantity of net financial assets (liabilities).

Figure 6. The SFB template



(Figure not to scale)

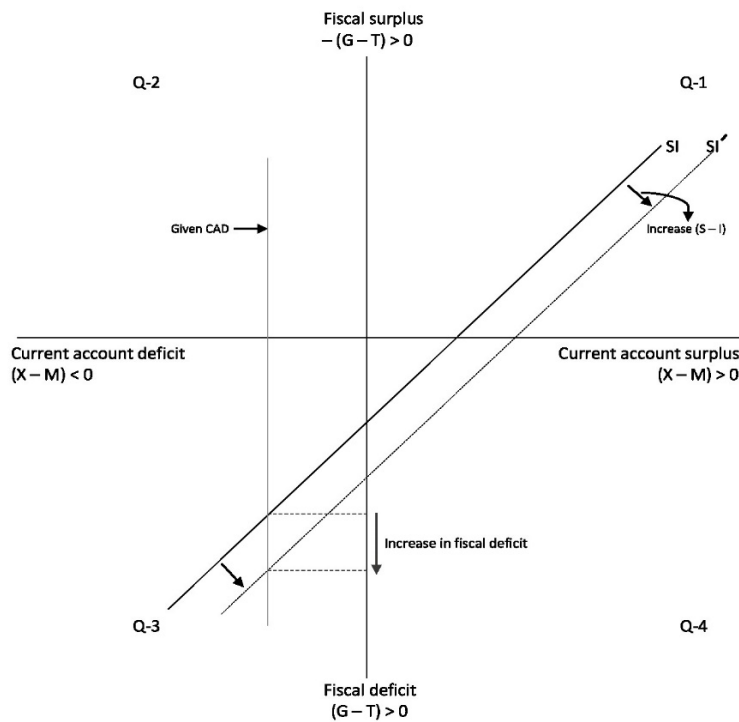
Each of the dashed lines parallel to the SI line are possible combinations of fiscal and current account balances that yield a certain level of net financial asset accumulation by the domestic private sector; for example SI_1 yields one percent net financial asset

accumulation, while points on SL_1 imply a one percent net financial accumulation of liabilities by the domestic private sector.

If the private sector is in the process of deleveraging, then to accommodate an outward movement in the SI line (as shown in Figure 7), *as long as current account balance is in deficit*, the Brazilian government must run a fiscal deficit. With $(S - I)$ increasing, i.e. the SI_n line shifting rightwards, even with an (insufficiently) lower current account deficit, the fiscal deficit must rise to accommodate the higher level of $(S - I)$. If this does not happen, as we have already argued, a contraction in GDP will force a reduction in imports (smaller current account deficits or even a surplus) – this actually happened when Brazil’s current account deficit fell 50 percent in 2015 on account of the recession which “sapped demand for imports”⁽²⁴⁾ – along with a fall in tax revenues (a higher fiscal deficit) and even a lower level of net financial asset accumulation (fall in the level of S).

If Brazil is able to decrease its current account deficit (or increase surplus) substantially – hopefully through increased exports and not a forced contraction in imports – it could restrict its fiscal deficit. However, in case this comes with a depreciation of the real, Brazil will have to bear the cost of higher inflation (from more expensive imports). Once again, this is what Brazil experienced between 2012 and 2015; while the real depreciated from 1.75 R\$/US\$ to more than 4 R\$/US\$, inflation increased from 5 percent to more than 10 percent. This prompts us to look at the monetary policy measures taken by the Central Bank of Brazil (Banco Central do Brasil – BCB) to alleviate the present crisis.

Figure 7. Brazil’s SFB situation



The Central Bank's key instrument – the overnight interest rate (SELIC) – has focused on controlling high inflation rather than on stimulating the real economy, namely, private investment, GDP growth and employment. It is no surprise then that in spite of declining private sector investment spending, the BCB has raised SELIC from 7.25 percent in October 2012 to a 14.25 percent in March 2016. The challenge for Brazil's monetary policy is further accentuated by the fact that under full capital account convertibility, the recent increase or possible increase in US interest rates poses an imminent possibility of capital flight and deterioration in the exchange rate of the Brazilian real.

While the SFB analysis strengthens the case for an expansionary fiscal policy, there are pressures on Brazil to adopt the classic neoliberal mix; “austerity” or “fiscal consolidation” along with “structural reforms”. The IMF in its Consultation Report suggests several policy measures in this direction; a move from consumption-led growth to investment-led growth (IMF, 2015a: p. 1), the need to alleviate supply-side constraints and boost productive capacity to boost investment, productivity and competitiveness (ibid: p. 1), pursuance of much-needed structural reforms (ibid: p. 1), reformation of the pension system to mitigate fiscal pressures (ibid: p. 22) and an ambitious and front-loaded fiscal consolidation to reduce public debt and restoring policy credibility (ibid: p. 25).

There is little doubt that Brazil's longer-term recovery depends on a revival of the private sector investment demand; however, the big dilemma for the government is whether it should pursue an accommodative-expansionary fiscal policy or austerity-structural reform mix in the short-run. This choice becomes even more daunting when the political context in which Brazil finds itself today is considered.

5. Russia

Close to the heels of Brazil comes Russia. Although Russia faces negative GDP growth, the rate and degree of decline has been more muted than Brazil's. Growth hovered around 5 percent post-2008 GFC but slumped towards the end of 2013. This was attributed to internal factors like slackening investment and low factor productivity.⁽²⁵⁾ The bigger onslaught came in the second half of 2014; oil and gas exports which accounts for about 50 percent of Russia's exports, began to slide. This was followed by imposition of sanctions by Western countries after the Crimean crisis that triggered massive capital flight and depreciation of the ruble. One option available to the (Central) Bank of Russia was to intervene in the forex market and sell US dollars from its reserves. Given that this was at best a short-term solution, the Bank of Russia instead chose to raise interest rates to stem the outflow of dollars. Moreover, in retaliation to sanctions by the West, Russia imposed counter-sanctions on imports, in particular, on food imports – this resulted in Russia's increasing current account surplus despite contractions in exports (see Figure 3).

Meanwhile, with a 30 percent fall in exports between 2012 and 2015, a decline in Russia's GDP was inevitable. Monetary policy, however, remained constrained to check capital flight with the benchmark repo rate at 17 percent. At the same time, a more than 100 percent depreciation in the ruble between 2013 and 2014 took its toll on inflation that peaked at 17 percent in March 2015. While 2016 has seen some improvement in the value of the ruble on

account of a slight rise in oil prices, interest rates still remain high. With GDP growth still remaining in negative territory, inflation has moderated to about 8 percent.

We now turn to an SFB analysis of the Russian economy and the possible fiscal responses to the present crisis. Like Brazil, the primary drivers of Russia's growth have also been exports and domestic consumption. Private sector investment has been limited to just about 20 percent of GDP with savings rate at about the same. As one can clearly observe in Figure 3, domestic private sector leveraging which began after the 2008 GFC gave way to a phase of increased net accumulation of financial assets towards the end of 2013. But are we able to discern signs of private sector deleveraging in Russia?

While asset sales to pare debt has not been as widespread in Russia as in some other emerging markets, there are instances of it occurring. The New York Times recently reported;

A refinery went to the Chinese. A stake in a Siberian oil field went to BP. And a large regional oil company widely expected to be gobbled up by Rosneft, the Russian state oil giant, remained on the balance of a government agency instead ...⁽²⁶⁾

Another instance was the loss-making Russian coal miner and steelmaker Mechel which planned to "raise around \$1 billion from the sale of assets in 2014 which would help it to offset \$2 billion debt"⁽²⁷⁾ and Tervita Corp. which is "considering options including asset sales and debt restructuring as it struggles with high leverage amid a crude market slump."⁽²⁸⁾

But the decrease in Russian private sector investment spending is definitive; a 5.5 percent decline between 2012 and 2015 (IMF 2015b: p. 30). There is another important reason for deleveraging which arises from the fact Russia corporate leveraging was substantially through external (foreign) borrowings. A Bloomberg report in January 2015⁽²⁹⁾ reveals this pressure for deleveraging;

Russian companies are deleveraging after U.S. and European sanctions over Russia's alleged role in stoking separatist violence in Ukraine made it almost impossible for them to roll over debt abroad. Slumping crude prices have exacerbated the penalties, driving up the borrowing costs of companies ...

The possibility of increased investment spending (leveraging) by the domestic private sector seems challenging at present. This is evident from the trend in credit growth to the private non-financial sector which has declined from 27 percent Y-o-Y growth in 2012 to less than 15 percent in 2015.⁽³⁰⁾ Furthermore, capacity utilization remains at just 63 percent, below the level of 65 percent reported in June 2008.⁽³¹⁾

In the theoretical section on SFB we had raised concern that falling GDP would could cause a decline in endogenous variables like savings, taxes and imports. The IMF Consultation Report (IMF 2015b, p. 39) actually indicates that this might indeed be happening; savings of the private sector has increased by more than 4 percent of GDP from 20.5 percent in 2014 to 24.6 percent in 2015 even as investment declined. There has also been an increase in Russia's current account surplus; however, as noted in one report,

Falling imports kept Russia's current account in surplus

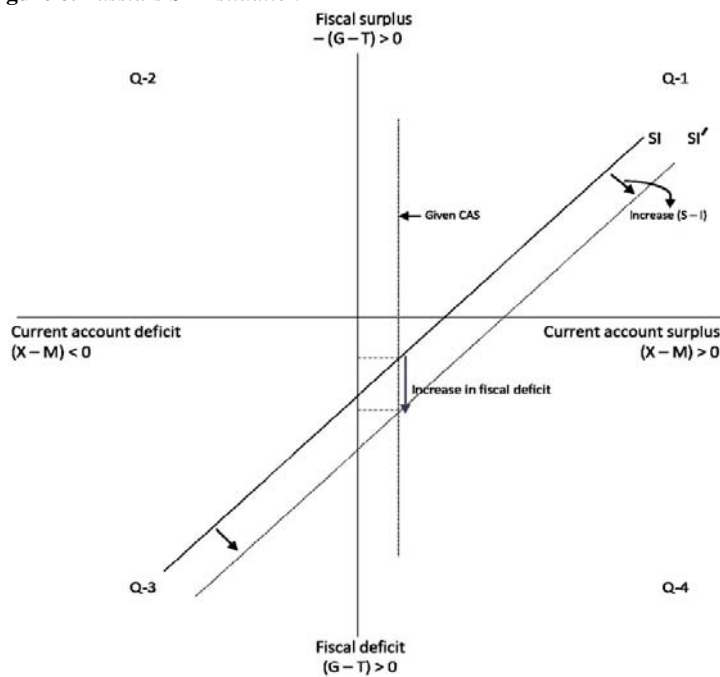
Depressed by lower oil prices, the value of goods exports shrank 30% y-o-y. The average price of Urals-grade crude was in 1Q15 only about half of what it was a year ago. The value of other goods exports also fell 13%. The value of goods imports was down 36% in dollar terms and 23% in euro terms.⁽³²⁾

It is important to reiterate that the current account surplus has been increasing *in spite* of falling exports only because Russia's imports have been declining at an even more disturbing rate. This, as we have discussed, is part of the equilibrating process of the SFB equation. To prevent further increases of the current account surplus (through contraction of GDP and import sanctions) and continued deleveraging by the private sector, Russia will need an accommodative fiscal policy to maintain GDP growth. If this does not happen, Russia could witness a contraction in GDP so that the SFB equation (4) readjusts to equilibrium.

We can discern Russia's predicament using the SFB template as in Figure 8. An increase in domestic private sector deleveraging ($S - I$) beyond its present level of 7 percent of GDP given its current account surplus would necessitate an expansionary fiscal policy. To avoid such a situation Russia's challenge is to see a reversal in the present deleveraging trend and also maintain its current account surplus, preferably through an increase in exports rather than forced increase through reduction in imports.

Russia has in fact already been accommodating a larger fiscal deficit to offset the impact of deleveraging by the private sector and contraction of exports. Russia's Central Bank has also set aside 100 billion ruble to fund industrial and agricultural projects.⁽³³⁾

Figure 8. Russia's SFB situation



The fiscal rule – a law which restricted excessive government spending from windfall oil revenues that would make Russia susceptible to the dreaded Dutch Disease – has been abrogated in 2015 in order to increase the size of deficit. This rule ensured that only a portion of oil revenues (in dollars) earned by the Russia could be converted into ruble for fiscal spending. The remaining portion was maintained in dollars in a Reserve Fund and National Wealth Fund.⁽³⁴⁾ The availability of oil revenues, however, allowed the Russian government to raise fiscal revenues without resorting to borrowings (public debt) and high taxation, which is at just 18 percent of GDP and 20 percent (corporate tax) respectively.

With the constraint of the fiscal rule lifted, the Russian government can increase its spending without at the same time worrying about rising debt and/or the need to raise tax rates. However, as oil revenues decline (if oil prices continue to do so), the Russian government would have to either draw dollars out of its reserves or raise revenues through public debt and/or taxation. For a sovereign economy the latter is *per se* not a cause for concern; however, with increasing GDP (and if sanctions were to be lifted) there could be a rise in imports without a corresponding rise in exports (if oil prices continue to remain depressed). Herein lies the challenge for Russia. Perhaps the best hope then for Russia lies in a simultaneous increase in oil prices and lifting of sanctions.

6. China

In terms of GDP growth rate, China has experienced a greater fall than India; going by this criteria rather than the sequence in the acronym BRIC we will take up an analysis of the Chinese economy before India. Although less pronounced than Brazil or Russia, China's domestic private sector is showing clear signs of an increase in net financial asset accumulation while its current account surplus has contracted over the years. Once again, if this trend in declining current account surpluses cannot be reversed, and if the domestic private sector increases its net financial asset accumulation, then the Chinese government would have to accommodate this desire through expansionary fiscal policy in order to prevent a further slowdown in GDP growth.

Let us begin the SFB analysis with the external sector, which has been one of the key drivers of the Chinese economy. While China consistently realized a surplus on its current account ever since the mid-1990s, a steep growth in its surpluses began from the early 2000s, peaking in 2008 at 10 percent of GDP. However, since then the surplus has shown a marked downward trend and now stands at a mere 2 percent of GDP. The devaluation of the yuan in August 2015 which triggered off a massive stock market collapse globally was considered to be a last bid effort to boost exports and rescue its current account surplus from further decline.

It is important to note that China's dwindling current account surplus arises not from a contraction in its trade account, which continues to be robust. But here too it is a sharper decline in *growth of* imports which have contributed to a rising positive balance of trade rather than a *growth of* exports. The current account balance trend for China is, however, quite different from its balance of trade; the declining current account surplus despite a

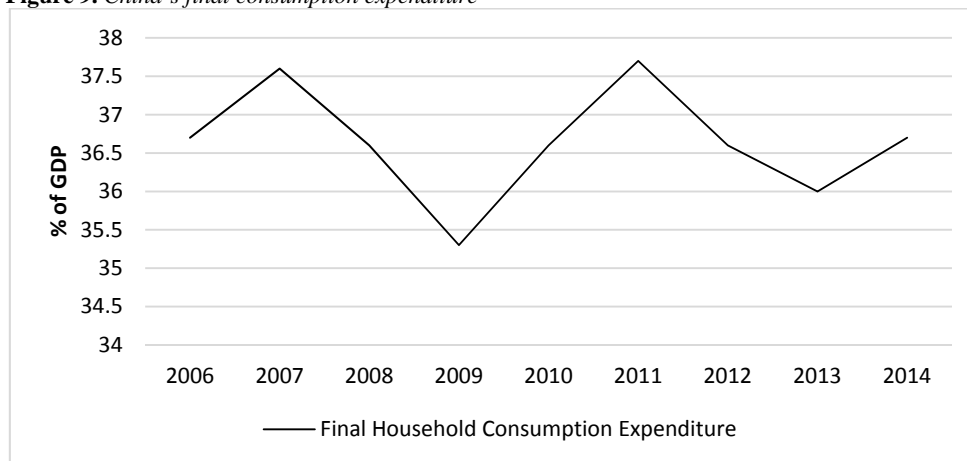
growing trade surplus is because of the growing deficit in the non-tradable component of China's current account. A negative investment income arising due to yields on China's overseas assets (of about 2.9 percent) being half that of payments accruing from external liabilities between 2004 and 2013 (Zhang and Tan, 2014: p. 8) has eaten away a significant portion of its positive trade balance, leaving it with a shrinking current account surplus. China's ability to resurrect its current account balance primarily through increased exports would be a key determinant of the size of its accommodative fiscal response.

China also faces a crucial challenge in the domestic private sector; on the investment (I) front, there are growing signs of a decline in momentum; Y-o-Y growth in fixed asset investment by the private sector declined from a high of 35 percent in 2012 to about 18 percent in 2015⁽³⁵⁾ This, however, does not provide conclusive evidence that there is an overall decline in private sector investment spending. To the contrary, the "share of total [private sector] fixed asset investment is up from 63 percent in 2013 to 64.1 percent in 2014, indicating that the private sector is becoming more active than the state-owned sector."⁽³⁶⁾ Moreover, while Y-o-Y credit growth declined from a high of 37 percent in 2009 to just 14 percent in late 2015⁽³⁷⁾, GDP growth itself has fallen substantially so that private sector debt to GDP ratio has continued its upward trend and stood at 34 percent of GDP in 2015-Q2.⁽³⁸⁾ The reason for this is clear.

Banks are continuing to pump debt into the economy, while the authorities, apparently worried about the damage a contraction in credit might do, coax them on.⁽³⁹⁾

But can this trend continue indefinitely? Are there signs of an imminent move towards deleveraging by the private sector? Large amounts of accumulated debt including foreign debt, low capacity utilization and accumulating non-performing liabilities in certain sectors are cause for concern. It has also been observed that corporate leveraging has been rising at an above-average rate in the real estate and construction sectors (Mali Chivakul and W. Raphael Lam, 2015: p.3); the possibility of an inflating bubble and burst are ominous. In addition, it is the downward trend in China's GDP growth rate that could induce severe stress on the corporate sector as it struggles to service debt in the face of a slowdown in growth of revenues and profits. The fear of "deleveraging" then by the corporate sector – selling off assets to repay debt – is a possibility although its onset and magnitude remains uncertain. At the same time, it is not possible to reject its inevitability. And when it does happen, China can face a perilous crisis.

The question is if private sector asset accumulation is not falling, why do we observe increasing net financial asset accumulation by the private sector? The answer must lie in the private sector savings, namely of households and firms.⁽⁴⁰⁾ While there has been much discussion on the need for China to raise its level of domestic consumption expenditure, it remains doubtful whether this can actually happen to the extent required. Figure 9 shows trends in Chinese household consumption data – it is evident that there has been only a marginal increase in its growth since 2013. Several studies find that the precautionary motive seems to have a major bearing on Chinese household savings propensity (Liu, 2014). A rising marginal propensity to consume could stave off a crisis that emerges when firms begin to cut back on their investment spending.

Figure 9. *China's final consumption expenditure*

Source: <http://www.indexmundi.com/facts/china/final-consumption-expenditure> and <http://data.worldbank.org/indicator/NE.CON.PETC.ZS>

This brings us to the government fiscal deficit or $(G - T)$. In China while local governments run a deficit, the Chinese central government usually runs a budget surplus, providing resources to the former. Schramm (2015, p. 247) provides a breakup of governmental finances for the year 2011; the overall budget deficit was 1 percent with a central government surplus of 7 percent of GDP and local government deficits of 8 percent. Typically China's deficits have remained between 1-2 percent of GDP. Even the need for stimulus spending in response to the global crisis of 2008 raised the Chinese deficit to just 2.8 percent in 2010. Figure 5 shows overall Chinese budget surplus/deficit over the last decade and a half.

A specific fiscal deficit cap⁽⁴¹⁾ would constrain the achievable space available to the domestic economy; the question is whether China has such a self-imposed constraint. An interesting report in the Nikkei Asian Review mentions that:

Few are aware that China has set a target of holding its ratio of fiscal deficit to gross domestic product to within 3%. Beijing had essentially kept that target under wraps before it embarked on a 4 trillion yuan (\$645 billion at the current exchange rate) economic stimulus program in response to the crisis triggered by the Lehman Brothers collapse in 2008.

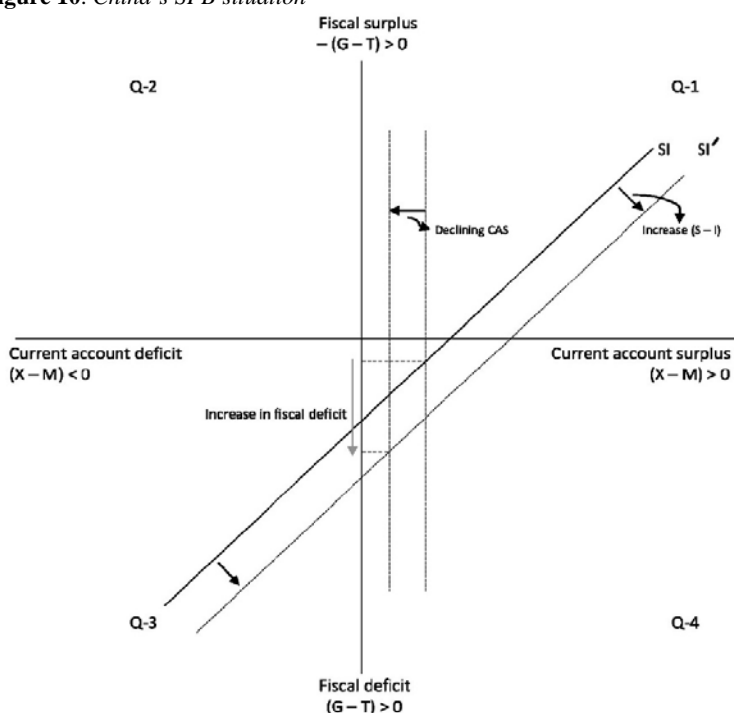
Under President Xi Jinping, who took office in autumn 2012, the government has maintained the target by avoiding massive outlays in the face of a slowing economy.⁽⁴²⁾

The cap on fiscal deficits has been set on account of the fear of inflation; one of the triggers for the Tiananmen Square pro-democracy protests of 1989 was high inflation rates of nearly 20 percent.

If irresponsible spending were to trigger a price surge that fuelled social instability, it would shake the foundations of the Xi administration. Officials in the Chinese Communist Party have insisted that even the tiniest signs of inflation must be removed.⁽⁴³⁾

If the Chinese government’s efforts to increase exports through devaluation of its currency is not successful, then it would have to rely on fiscal deficits to accommodate the desired level of net financial asset accumulation by the private sector. There is also the fear that the current account could slide into negative territory – this could happen due to fall in exports and/or an increase in imports. The former would, however, have a severe impact on China’s GDP growth while the latter would run contradictory to depreciation of the yuan. If so, the need for government to increase its fiscal deficits becomes all the more imperative. This is illustrated in the SFB template for China in Figure 10.

Figure 10. China’s SFB situation



Increased accumulation of governmental liabilities could not only raise GDP growth but also allow the private sector to reach their desired net financial asset accumulation targets. Moreover, with Chinese public debt at less than 60 percent of GDP, the government has sufficient space to increase the fiscal deficit. There are already reports that 2015 deficits would be in higher at 2.7 percent of GDP. But the big question remains; will the Chinese government renege on its self-imposed constraint of ensuring that the fiscal deficit does not exceed 3 percent of GDP?

What about the role of monetary policy in China? Monetary policy in China is constrained by the trilemma – the impossibility to pursue an independent monetary policy under a fixed exchange rate with full capital account convertibility. Although capital convertibility is not perfect, it is becoming more permeable. Capital flight is now considered a major challenge to the Chinese authorities. Although the main nominal anchor of Chinese monetary policy is the fixed exchange rate of the yuan to the dollar, the

People's Bank of China may also target GDP growth rate; here it faces a dilemma because lower interest rates to stimulate growth could lead to capital flight and pressure on the yuan to depreciate. At the same time, there is also the fear of inflation, which as mentioned above, is a matter of serious concern to the Chinese government. While lower interest rates would be used by China to prop up growth rates, it is fiscal policy which will play a lead role in China's macroeconomic policy space.

7. India

The (economically) poorest in BRICs, India has, however, been able to sustain GDP growth at more than 7 percent. This is exemplary for a large economy and in a world that is facing chronic stagnation. On a recent visit to India, Christine Lagarde, Managing Director of the IMF remarked;

“India's star shines bright” amid global economic challenges and can deliver nearly two-thirds of the worldwide growth over the next four years despite a slowing momentum.⁽⁴⁴⁾

Keeping aside recent doubts raised over computation of India's growth rate, there are several indications that the Indian economy is facing enormous challenges on the economic front as mentioned in the Introduction. However, the immediate or short-run problem seems to get the economy back on a robust and elevated growth trajectory.

Perhaps the most important windfall that benefited India in the recent past has been the oil price crash that began in June 2014. With oil imports accounting for more than 30 percent of India's total imports, this led to a fall in its import bill by more than 5 percent of GDP between 2011 and 2014. However, depressed commodity prices and slowdown in commodity-exporting countries also dampened exports although this decline is by a much smaller percentage, more precisely, by less than one percent between 2011 and 2014. This allowed India's current account deficit to contract significantly from 4.7 percent of GDP in 2012 to 1.3 percent in 2014. A further decline was expected in 2015. While exports have not fallen in comparison to imports there has concern that India's exports have not shown higher growth. This concern is apparent when we look at India's share in global exports (as opposed to the dollar value of exports and/or the current account deficit as percentage of GDP), which has remained at just 1.5 percent between 2010 and 2014 while countries like China and Vietnam have managed to increase their share. The main reason for India's poor export performance has been attributed amongst others to an overvalued exchange rate that keeps FII investment flows stable but at the cost of rendering exports uncompetitive.⁽⁴⁵⁾

The next crucial component of the SFB equation which is more unequivocally not in India's favour, and here the situation is akin to that of its BRIC partners; net financial asset accumulation has shown an increasing trend. We find positive leveraging by the domestic private sector until 2012 after which it seems that Indian private sector entered a phase of net financial asset accumulation. However, the steep decline in the current account deficit has at the same time allowed the government to achieve greater fiscal

discipline. While a further decline in oil and gas prices could give the government greater room to achieve its 3 percent of GDP target, it is difficult to predict the longer term trend in oil prices. Even as I was writing this paper, oil has shown a sharp upward trend in the last few weeks prompting the Finance Minister to comment; “if they are exceedingly high, then it creates problem for us. I am conscious of that.”⁽⁴⁶⁾

But the crucial question to once again pose is whether the trend in India’s private sector asset accumulation actually implies that it has indeed entered a phase of “deleveraging”? Investment (gross fixed capital formation) as a percentage of GDP has declined consistently by more than 5 percent, from 33.6 percent in 2011-12 to 28.3 percent in 2015-16.⁽⁴⁷⁾ While this consists of both, private and public sector investment spending there is little doubt that investment spending by India’s private corporate sector has slowed down. In a study by the Reserve Bank of India (2015), it was found that:

In the year 2014-15, altogether 830 companies intended to invest in projects with aggregate cost of Rs.1,459 billion in comparison with an investment intention of Rs.2,148 billion by 1,065 companies in 2013-14 ... (p. 61)

The study included capital expenditures financed from all sources (except retained profits, FDI and private placements), and therefore signals a major contraction in investment. In another survey by a leading research firm, it was found that planned capital investments by the private sector have fallen continuously over the last four years, from a high of Rs.1.4 trillion in 2012 to Rs.800 billion in 2016.⁽⁴⁸⁾ Total credit growth to the private non-financial sector has also shown a consistent decline from a high of 28 percent in 2010 to just about 8.7 percent in 2015.⁽⁴⁹⁾ There are several other indicators which strengthen the claim of a “crisis” in private sector investment demand. Growth in manufacturing which was at 12 percent in 2006 is now less than one percent. Capacity utilization stubbornly remains at about 70 percent.⁽⁵⁰⁾ The Index of Industrial Production shows an erratic trend; fluctuating between 3.57 in December 2014 and –3.43 in November 2015.⁽⁵¹⁾

The recent leveraging phase began in India like in other emerging markets around 2004. The statistics are alarming; between 2003-04 and the present, private corporate debt has grown at a CAGR of more than 28 percent, while public debt has grown by just about 11 percent.⁽⁵²⁾ India’s debt-to-equity ratio at 80 stands at the top amongst emerging markets followed by Brazil at about 78.⁽⁵³⁾ Corporate debt to GDP stood at above 40 percent for India; although this is relatively less than China’s ratio of 120 percent, it still remains higher than other emerging markets including Brazil, Russia and Mexico.⁽⁵⁴⁾

While leveraging *per se* is not undesirable, the concern arises from growing non-performing liabilities of borrowers (or growing non-performing assets of lenders). Based on the IMF Stability Report of 2014 there is growing consensus that;

Asset quality of Indian banks in terms of gross non-performing loans (NPLs) is the worst among all Asian economies. Among [14] emerging markets, Poland and Russia rank lower than India. Gross NPLs in India are at 4%. Stressed assets (which include restructured assets) are much higher at close to 10%.⁽⁵⁵⁾

The total non-performing assets of 39 listed banks is estimated to be Rs.4.38 trillion (US\$ 15 billion).⁽⁵⁶⁾ Private sector external debt has increased from about 13 percent of GDP to 19 percent.⁽⁵⁷⁾ External commercial borrowings (ECB) as a share of external borrowing has increased from 20 percent to 33 percent while ECB as a share of long-term debt has increased from 21 percent to 43 percent.⁽⁵⁸⁾ This is another major source of concern for the private sector. The danger of the rupee depreciating on account of a hike in interest rates by the Fed is a looming possibility with disastrous consequences for the private sector.

Reducing investment spending is only one way of deleveraging, the other being asset sales. At the ground-level, India is also witnessing an unprecedented sale of assets by large corporates;

In the first decade of the existence of ARCs [Asset Reconstruction Companies, banks sold all of Rs.87,049 crore⁽⁵⁹⁾ of bad loans for Rs.19,308 crore. But in the past two years alone [2013-14], ARCs have bought bad assets worth Rs.102,068 crore for Rs.43,243 crore.⁽⁶⁰⁾

With a definitive slowdown in private sector investment (I) spending, we must also look at savings (S) to ascertain the direction of the net financial asset accumulation by the domestic private sector. While private corporate sector savings have shown a steady upward trend between 2010 and 2015, household sector savings have declined from about 25 percent of GDP to about 19.1 percent of GDP “resulting from elevated inflation and inflation expectations, and higher gold purchases” (IMF, 2015c: p. 30). Overall private sector savings has increased marginally by about 1.5 percent of GDP between 2010 and 2015. Putting S and I together, we have in Figure 4 a clear situation of an upward movement in $(S - I)$ is being partially held back by the declining current account deficit.

But is the government deficit actually supporting the desired level of net financial asset accumulation of the private sector? Or is the constrained fiscal deficit not allowing the private sector to deleverage adequately? A significant drop in growth of investment and/or increased savings rate would have to be supported by higher deficits given that current account deficit remains at the present level. If the fiscal deficit does not accommodate this increase in $(S - I)$, then there is a likelihood that India’s growth rate could decline sharply.

The Indian government has emphasized the need for structural/supply-side reforms to bring the economy out of the present slowdown in growth. But whether this will provide the necessary impetus to output remains to be seen. Meanwhile, given the signs of deleveraging by the corporate sector, sluggish world growth and stagnant capacity utilization, the dire need for the government to step up is palpable. At the same time, the priority accorded to fiscal deficit target numbers is holding back the government from increasing spending. But for how long? Just as in the case of Brazil, Figure 7 illustrates the SFB predicament facing the Indian economy. Given the present current account

deficit, further deleveraging by the domestic private sector warrants fiscal accommodation. If not the economy will inevitably be drawn into a lower growth trajectory.

While there are opposing views on whether strict adherence to the fiscal deficit target numbers are really necessary, the government in its latest budget has indicated that a need to bring in more flexibility by having a target *range* rather than a single number. Whatever may be the case, the size of the deficit will depend on whether the private corporate sector investment demand picks up or whether it enters a phase of deleveraging.

While fiscal policy plays an important role, monetary policy in India is also seen as active and significant in managing inflation as well as influencing the real economy. In spite of (repo) rate cuts amounting to a percent since January 2015, the Reserve Bank of India in its bi-monthly review meeting in February 2016 stated that:

In the first two months of Q3 of 2015-16, industrial activity slowed in relation to the preceding quarter. This mainly reflects weak investment demand with some deceleration of capital goods production. Stalled projects continue to remain high, and there is a decline in new investment intentions, perhaps on the back of low capacity utilisation.⁽⁶¹⁾

At the same time India has been battling stubborn inflation over the last several years, which has now been tentatively contained at less than 6 percent. With greater emphasis of the Reserve Bank of India on inflation, rate cuts to boost investment will remain cautious. Moreover, with increasing capital account convertibility of the rupee, the impact of rate cuts on the exchange rate will also be an important factor limiting the Reserve Bank of India.

8. Summary and conclusion

Table 1 summarizes our SFB analysis and the policy implications drawn for BRIC countries.

Table 1. A summary of macroeconomic parameters for BRIC

	GDP Growth rate	GDP Growth rate trajectory	GDP Growth drivers	Current account deficit (CAD)/surplus (CAS)	Signs of private corporate deleveraging	(S - I)	Inflation	Monetary policy response to GDP growth	Fiscal policy response to GDP growth
Brazil	Negative	Negative	X, C	CAD declining	Strong	Increasing	High	Limited	Required
Russia	Negative	Negative	X, C	CAS increasing	Compelling	Increasing	High	Limited	Required
China	Positive	Negative	X, I	CAS declining	Tentative	Increasing	Low	Limited	Required
India	Positive	Flat	I, G	CAD declining	Compelling	Increasing	Moderate	Moderate	Required

It is apparent that the primary issue facing BRIC nations is excessive stress on the primary drivers of growth, in particular exports and private sector investment demand. From leveraging to deleveraging, the cycle is playing out. With limited scope for monetary policy (except perhaps in India), an accommodative fiscal policy will be key

in ensuring that these countries do not slip into a “balance sheet recession”. This runs contrary to recommendations that accord priority to fiscal consolidation and structural reforms.

Notes

- (1) Although South Africa was appended to the original four countries making it BRICS, this paper restricts itself to the original four BRIC nations.
- (2) Rajeswari Sengupta. Real GDP is growing at 5%, not 7.1%. Livemint. March 15, 2016. <http://www.livemint.com/Opinion/58qihTaOIRd3rPyf1eK09L/Real-GDP-is-growing-at-5-not-71.html> and Krishna Merchant and Pallavi Pengonda. India’s Keqiang index and the prolonged economic slowdown. Livemint. January 18, 2016. <http://www.livemint.com/Money/BWFUzq8retHZHPqZckI36N/Indias-Keqiang-index-and-the-prolonged-economic-slowdown.html>.
- (3) BRICS News. July 7, 2015. <http://en.brics2015.ru/news/20150707/277026.html>. The number was actually 32.5% but it included South Africa, which we have kept out of this study.
- (4) Andrew Walker. Whatever happened to the Brics economies? BBC News. November 27, 2014. <http://www.bbc.com/news/business-29960335>. Italics added for emphasis.
- (5) Though we usually speak of imports and exports, these include goods, services as well as non-tradable items on the current account.
- (6) $(X - M) > 0$ implies capital inflows from abroad into the domestic economy.
- (7) In the standard Keynesian model, this is denoted as Y or real GDP.
- (8) If $(X - M)$ is negative to begin with, higher $(X - M)$ could also mean lower $(M - X)$.
- (9) To reiterate, I falls exogenously while S falls endogenously when Y falls.
- (10) For example, see IMF 2015a and 2015b for Brazil and Russia respectively.
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- (13) This must not *per se* be viewed negatively. Brazilians witnessed great improvements in their standard of living during this phase.
- (14) From equation (4), we must have $(M - X) = (G - T)$
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