

## RBI SUCCESSFULLY NAVIGATING POLICY QUADRILEMMA BY BUILDING RESERVES, PRESERVING POLICY AUTONOMY: SBI FINANCIAL STABILITY INDEX SHOWS A CLEAR JUMP SINCE MAY'20

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Post pandemic, central banks in emerging economies are increasingly faced with the impossible policy trilemma – monetary independence, exchange rate stability and financial openness. We, however, move a step further and state it as a policy quadrilemma, with financial stability as the fourth pillar of quadrilemma, following Aizenman (2011). In effect, an unintended consequence of financial integration is the growing exposure of developing countries to financial market turbulences associated with sudden stop of capital (India during taper tantrum and again in 2018 and in 2020). There is a significant cost associated with financial crises, adding financial stability to the three policy goals, thereby making the Policy Trilemma into the Policy Quadrilemma. Recent policy statements of RBI have repeatedly emphasized the importance of financial stability in monetary policy making. Pursuing financial openness while maintaining financial stability of emerging markets typically manifests in jump in reserves. India's international reserves/GDP ratio has thus increased substantially in current fiscal year from 17.7% of GDP to at least 19.6% on an FY20 base/ \$63.8 bn jump.

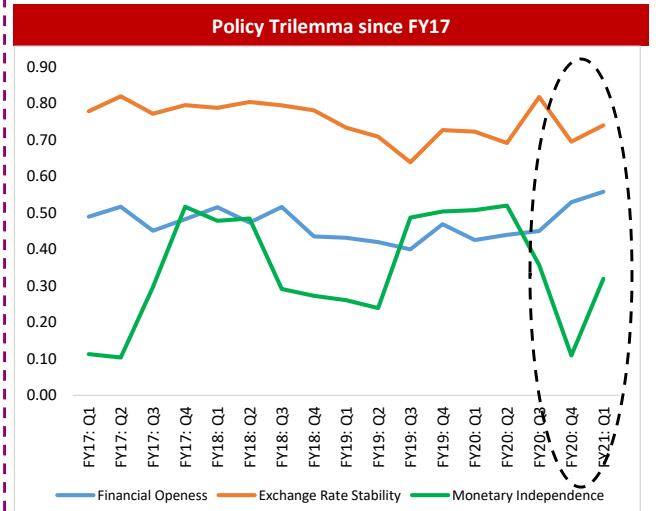
We estimated the extent of policy trilemma following Aizenman (2012) model. The results from our exercise are revealing. Monetary Independence (MI) was at significantly low level in Q4 FY20 (actually all-time low since 1997), implying significant loss of monetary autonomy, when the pandemic had just broken out and India went into a strict lockdown mode, but it significantly improved in Q1 FY21 with Exchange Rate Stability (ERS) returning to markets. Historical trends suggest that any extended loss in monetary autonomy is correlated with inflation volatility in India (CPI inflation ranged between 3.0% and 7.6% during the FY20). Additionally, both ERS and Financial Openness Index (KO) have also improved in Q1 FY21 after declining in Q4 FY20. **However, what is striking in the current pandemic is that RBI stands out by achieving comparable levels of exchange rate stability amidst growing financial openness while increasing its monetary independence and even financial stability, reminiscent of Asian economies. Our new measure of financial stability index of using market indicators also clearly shows that the RBI has been relatively successful in ensuring financial stability returning to the market since May. This indicates the policy quadrilemma is working well in Indian context with RBI building up reserves through direct purchase and swap transactions.**

Even as there has been an increase in monetary policy independence aka increase in exchange rate stability with the RBI intervening significantly in foreign exchange market to build up dollars, there is an apprehension that appreciation in exchange rate could hurt our exports. We, however, find clear evidence that RBI tends to prevent more strongly an exchange rate appreciation than an exchange rate depreciation, thus following a "leaning against the wind" exchange rate policy. We also believe inflation is unlikely to be a large concern given that there has been a collapse in money multiplier as people are preferring to hold cash, with uncertainty over the pandemic looming large. Hence the current RBI policy of liquidity overhang is working well.

We also believe that to keep bond yield in check, the RBI may need to further resort to unconventional policies as it has been successfully doing. An avalanche of SDLs is going to hit the market in Q4, as state governments have only completed less than 30% of overall borrowing till date. **One option of managing yields in a non disruptive manner by the RBI is to take out the demand of SDL borrowings out of the market. As an analogy, RBI had instituted a separate window for Oil Marketing Companies to borrow dollar during the global financial crisis and also later. In a similar vein RBI can think of investing in SDLs without the same hitting the market. Through this mechanism, RBI may cajole certain market players to buy securities at a specific rate in bidding that could be then subsequently bought by RBI. This will fulfill the desired objective of RBI avoiding devolvement at auctions and nullifying market expectations of a higher yield with supply of papers far outstripping demand.**

### FROM POLICY TRILEMMA TO POLICY QUADRILEMMA

- ◆ The current situation is challenging for both the Central Banks and the Governments. Central Banks around the world are facing novel challenges in policy making and specifically emerging economies are facing the problem of monetary policy independence, the familiar impossible trinity in economic parlance. The trilemma states that a country may simultaneously choose any two, but not all of the following three policy goals – monetary independence, exchange rate stability and financial integration. We however move a step further and state it as a policy quadrilemma, where financial stability is the fourth pillar of quadrilemma, following Aizenman (2011,2012). As per Aizenman, an unintended consequence of financial integration is the growing exposure of developing countries to financial market turbulences associated with sudden stop of capital (India during taper tantrum and again in 2018 and 2020). There is a significant cost associated with financial crises, that could be in double digits as a %age of GDP adding financial stability to the three policy goals framed by the original Trilemma, changing thereby the policy Trilemma into the policy Quadrilemma.
- ◆ Recent policy statements of RBI have repeatedly emphasized the importance of financial stability in monetary policy making. For example, RBI Governor in his keynote address at 7th SBI Banking & Economics Conclave clearly indicated that the broader objective of RBI is to mitigate risks to the growth outlook while preserving financial stability (with the help of conventional and unconventional monetary policy). The concerns of monetary policy in the current circumstances (i.e. during Covid-19 pandemic) revolve around the objectives of ensuring price and output stability, and also financial stability to the extent it affects the former. Increasing openness also exposes India's monetary policy to policy trilemma. As per historical evidence, the financial globalization during 1990s-2000s has significantly reduced the monetary autonomy of central banks.
- ◆ Pursuing financial integration while maintaining financial stability of emerging markets explains how India's international reserves/GDP ratio has increased substantially in current fiscal year from 17.7% of GDP to at least 19.6% on FY20 base. The link between hoarding reserves and financial integration thus adds a fourth dimension to the Trilemma as countries typically expect that hoarding and managing international reserves increase financial stability and running independent macroeconomic policies, with the caveat that sterilization is heavily used to manage the potential inflationary effects of hoarding reserves (India being prime examples of these trend now). The RBI intervention in foreign exchange market has been at least \$45 bn (till end July) in current fiscal equivalent to an Rs 3.12 lakh crore liquidity injection.

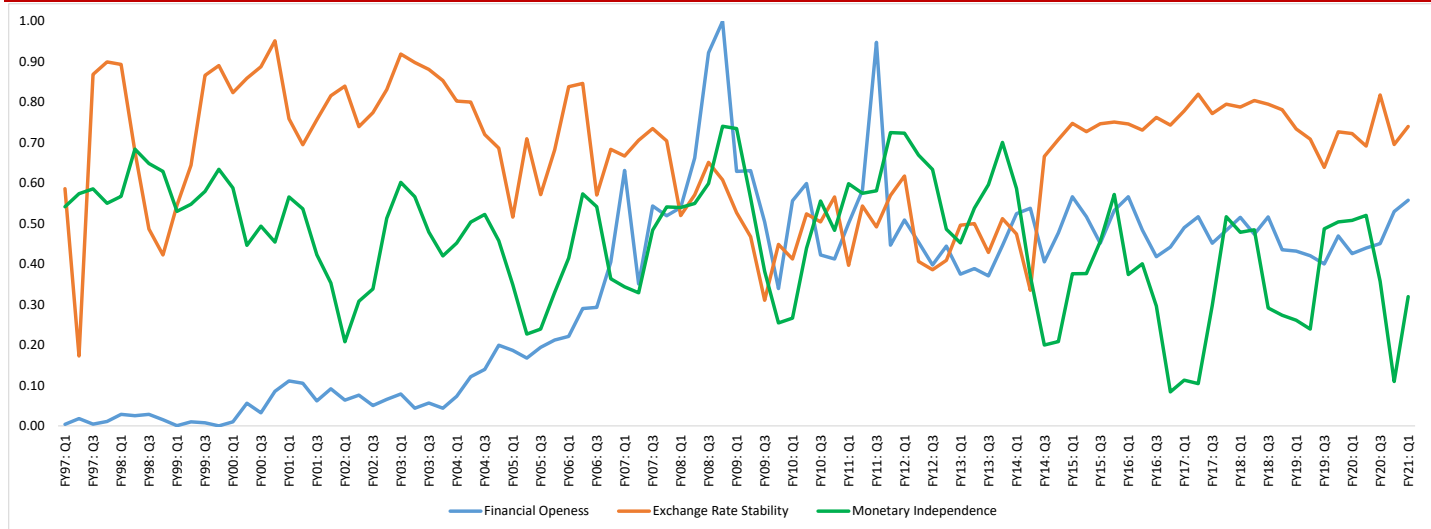


Source: SBI Research; Aizenman et al. (2012), "The impossible trinity hypothesis in an era of global imbalances: measurement and testing" Working Paper, University of California, April 2012

$$MI = 1 - \frac{\text{corr}(i_i, i_j) + 1}{2}$$

$$ERS = \frac{0.01}{0.01 + SD(\Delta(\log(\text{exch\_rate})))}$$

Policy Trilemma since 1997



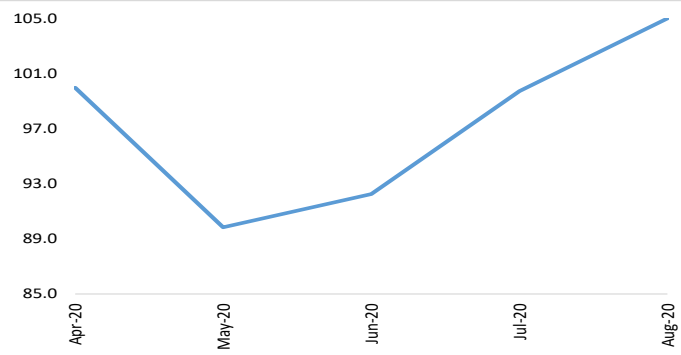
Source: SBI Research

- ◆ We follow Aizenman (2012) paper to estimate the measure of monetary policy independence /MI, exchange rate stability/ERS and financial integration/ financial openness /KO to understand the ‘policy trilemma’ India is currently facing. The first three legs of policy quadrilemma represent the classical policy trilemma. MI is measured as the reciprocal of the correlation of the weekly short-term interest rates (91-days treasury bills) between the home country (i.e. India) and the base country (the US) . ERS is calculated using quarterly standard deviations of the change in the log of the rupee-dollar exchange rate. KO is measured as the ratio of the sum of inward and outward foreign investment flows to GDP. The data ranges were from FY1997:Q1 to FY2021:Q1, covering 97 quarters.
- ◆ The results from our exercise are revealing. MI index was at significantly low levels in Q4 FY20 (actually all-time low since 1997), implying significant loss of monetary autonomy, when the pandemic had just broken out and India went into a strict lockdown mode. Interestingly, such measure of monetary policy independence was equivalent to what was during Q4FY16 when India had witnessed demonetization but it significantly improved in Q1 FY21 with exchange rate stability returning to markets.
- ◆ Historical trends suggest that any extended loss in monetary autonomy is correlated with inflation volatility in India (CPI inflation ranges between 3.0% and 7.6% during the FY20). Additionally, both ERS and KO have also improved in Q1 FY21 after declining in Q4 FY20.
- ◆ However, what is striking in the current pandemic is that India, like emerging Asian economies, stands out by achieving comparable levels of exchange rate stability amidst growing financial openness while increasing monetary independence and even financial stability. This evidence is consistent with our view that RBI efforts to “relax the Trilemma” in the short-run have involved a massive increase in foreign exchange reserves that is giving the benefits.
- ◆ We believe that post 2018 ILF&S crisis financial stability has taken the centre stage and that defines the quadrilemma. However, measuring and defining financial stability is a difficult task in Indian context. We have thus tried to measure the financial stability with the construction of an index.

MEASUREMENT OF FINANCIAL STABILITY INDEX IN INDIA

- ◆ We have used primarily 10 indicators, namely AUM of Debt Mutual Fund, investment by Mutual Funds, number of trades in CP market, amount issued in CP market, monetary transmission, G-sec 10-year and reverse repo spread normalized with 2008 spread, AAA corporate bond spread, mutual fund redemption, share of mutual fund investment in sovereign and amount issued by players in CP market above the average rate with respect to April as the base. We have also incorporated the latest data for the spreads to get a complete picture.

Financial Stability Index



Source: SBI Research

Financial Stability Index	
Indicator	Association with financial stability
Debt MF AUM	Positive
MF redemption	Negative
MF over all investment	Positive
% of MF Investment in Sovereign	Negative
AAA Corporate Bond spread	Negative
Amount issued by players who borrowed above average rate in CP market	Negative
Total Number of Trades in CP market	Positive
Total amount issued in CP Market	Positive
Monetary transmission	Positive
Govt G-sec & reverse repo spread gap from 2008 level	Positive

Source: The list is not exhaustive. SBI Research

- ◆ The index clearly shows that the RBI has been relatively successful in ensuring financial stability returning to market since May. This indicates the policy quadrilemma is working well in Indian context.

LEANING AGAINST THE WIND: MONETARY POLICY RESPONSE VS FINANCIAL STABILITY

- ◆ Even as there has been an increase in monetary policy independence aka increase in exchange rate stability with the RBI intervening significantly in foreign exchange market to build up dollars, there is an apprehension that appreciation in exchange rate could hurt our exports. However, we as well as RBI research studies (Bhattacharya etc ) find that RBI follows a policy of “leaning against the wind” in the foreign exchange market.

- ◆ The term 'Leaning against the wind' was possibly coined in 1981 by M. Mussa in the sense of foreign exchange market intervention (buying or selling dollars) indicating central banks across countries tend to prevent more strongly against exchange rate appreciation than exchange rate depreciation.
- ◆ For example, during FY08, when India's foreign exchange reserves jumped by \$110 bn, rupee appreciated by close to 10%, but in FY09, when foreign exchange reserves declined by \$58 bn the rupee depreciated by around 27%. Similarly, in the current year rupee is appreciating but we expect RBI will not allow the rupee to appreciate beyond a certain level even as it continues to provide liquidity support to the market in preserving financial market stability. We believe inflation is unlikely to be a concern given that there has been a collapse in money multiplier as people are preferring to hold cash as uncertainty over the pandemic looms large.
- ◆ It may be noted that to fight against the ongoing COVID-19 crisis, RBI has been taking several actions to supply durable liquidity that also had a perceptible influence on yield movements even with record Government borrowings.

#### MANAGING GOVERNMENT BORROWING: GOING FORWARD IN H2

- ◆ In the current COVID-19 outbreak, RBI has taken a slew of liquidity measures to support business and economy. With various liquidity measures, the system liquidity position has turned to huge surplus of Rs 5 lakh crore in May, compared to Rs 3 lakh crore in March. The liquidity surplus now stands at Rs 2.7 lakh crore till 17 Sep'20. The Gross Borrowings of the Centre and States is Rs 21.6 lakh crore, with net borrowings at Rs 17.9 lakh crore.
- ◆ In H2FY21, it is estimated that the remaining borrowing amount could be around Rs 4.64 lakh crore. The Government has recently taken a parliament approval for Rs 2.36 lakh crore towards Covid-related expenses. Overall market borrowing in H2 FY21 could be thus higher than expected.
- ◆ RBI is doing an excellent job in containing the yield at ~6.0% but in order to keep bond yield in check in the long-run RBI needs to think/act innovatively, as an avalanche of SDLs are going to hit the market in Q4, as state governments have only completed less than 30% of overall borrowing. One option of managing yields in a non disruptive manner by the RBI is to take out the demand of SDL borrowings out of the market. As an analogy, RBI had instituted a separate window for Oil Marketing Companies to borrow dollar during the global financial crisis and also later, in a similar vein RBI can think of investing in SDLs without the same hitting the market. Through this mechanism, RBI may cajole certain market players to buy securities at a specific rate in bidding that could be then subsequently bought by RBI. This will fulfill the desired objective of RBI avoiding devolvement at auctions.
- ◆ Ideally market could be looking at 5.90%-6.20% range of 10-year G-sec, that will curtail interest payments outflows for Government on a huge borrowing, keep banks' MTMs and benchmark lending rates in check.

#### REVISED FISCAL DEFICIT ESTIMATES

- ◆ Meanwhile, taking into account increase in excise duty gains for the Centre along with the revenue shortages, the net revenue slippage of the Centre now comes to around Rs 6.8 lakh crore .

#### Market Borrowings (Rs lakh crore)

Centre	FY16	FY17	FY18	FY19	FY20(RE)	FY21(RE)
Gross Borrowing	5.9	5.8	5.9	5.7	7.1	12.0
Repayments	1.4	1.7	1.4	1.5	2.4	2.3
Net Borrowing	4.4	4.1	4.5	4.2	4.7	9.7
State						
Gross Borrowing	2.9	3.8	4.2	4.8	6.3	9.6
Repayments	0.3	0.4	0.8	1.3	1.5	1.4
Net Borrowing	2.6	3.4	3.4	3.5	4.9	8.1

Source: SBI Research (Repayment as on 17.08.2020. State government additional borrowing has been taken as 0.75% of GDP, which has been conditionally hiked to

- ◆ At the same time the Government's expenditure has increased this year owing to relief package announced for pandemic. After the Atmanirbhar package, the Government recently announced request for additional demand for grants for Rs 2.35 lakh crore of which the net cash outgo was given by the Government as Rs 1.66 lakh crore, with the rest being funded from savings of the Ministries/ Departments.
- ◆ We further analysed that out of Rs 1.66 lakh crore only around Rs 60,000 crore is the additional amount and the rest has already been covered under the Atmanirbhar package. Thus taking this additional expenditure into account, fiscal deficit of the Centre comes to around Rs 17.4 lakh crore compared to Rs 7.9 lakh crore as per the Budget estimate for FY21. As % of GDP it is estimated at 9.3% of GDP (assuming -10.9% real GDP growth). Furthermore, the States' fiscal deficit is also likely to increase to around Rs 9.1 lakh crore, or 4.8% of GDP.

#### Revised Fiscal Deficit projections FY21 (Rs lakh crore)

Shortfall in Net tax Revenue	5.5
Shortfall in Non tax Revenue	1.8
Shortfall in Disinvestment receipts	1.6
Total Revenue shortfall to Centre	8.9
Gains from Excise duty hike & DA freeze	2.1
<b>Net Revenue slippage</b>	<b>6.8</b>
<b>Additional spending due to stimulus package</b>	<b>2.0</b>
<b>Net Impact of supplemental demand announcement</b>	<b>0.6</b>
Fiscal Deficit BE	7.9
<b>New Fiscal Deficit</b>	<b>17.4</b>
New Fiscal Deficit (% of GDP)	9.3%
States	
Shortfall of tax revenue transfer from Centre	2.0
Shortfall in own tax revenue of States	3.0
Fiscal Deficit of States BE	4.1
New FD of States	9.1
New FD of States % of GDP	4.8%

Source: SBI Research

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