

Flexible Inflation Targeting: Performance Evaluation Overlooks Vital Issues

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Abstract

The paper analyses some vital aspects of India's flexible inflation targeting (FIT) regime, whose first-term performance was evaluated by the RBI in 2021. The absence of negative shocks, collapse of international commodity prices at the time of its introduction, and decelerating growth are pointed out in this article as notable contributors to achieving inflation target than the change of regime as claimed by the RBI. The success in anchoring inflation expectations is contestable in the light of their rigid persistence, association with fuel prices and upward drift with resurgence of inflation in recent times, indicating that the task remains unaccomplished. The post-FIT rise in output volatility is highlighted, raising the question if increased inflation focus contributed to slower growth. Macroeconomic stability ascribed to credibility gained under FIT is similarly shown without basis as indicated by oil-price spikes and exchange rate pressures. Overall, FIT's performance awaits further testing, especially over different economic cycles.

Keywords: Inflation targeting, monetary policy, emerging market economies, inflation expectations, exchange rates

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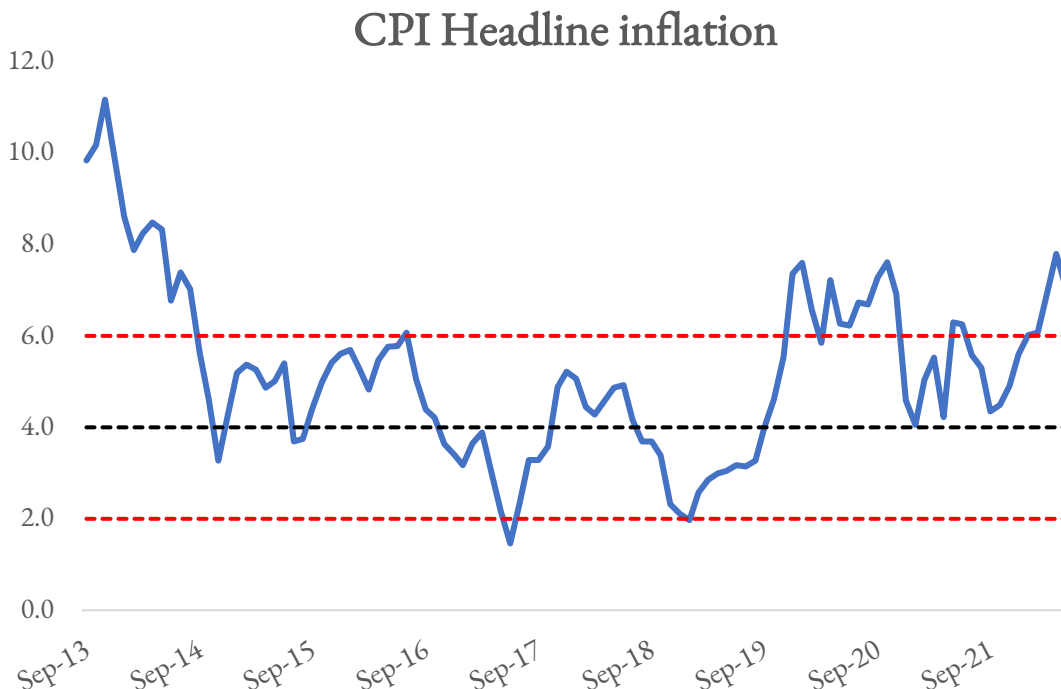
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India's flexible inflation targeting (FIT) framework for monetary policy was evaluated by the RBI ahead of its renewal in 2021 (*Report on Currency and Finance, 2020-21*, henceforth RCF). Based on the assessment, the central bank advocated FIT's continuation for another five years, especially due to the success in anchoring inflationary expectations. This commentary offers a critical perspective on some aspects of the review.

How has the FIT regime performed in a downswing?

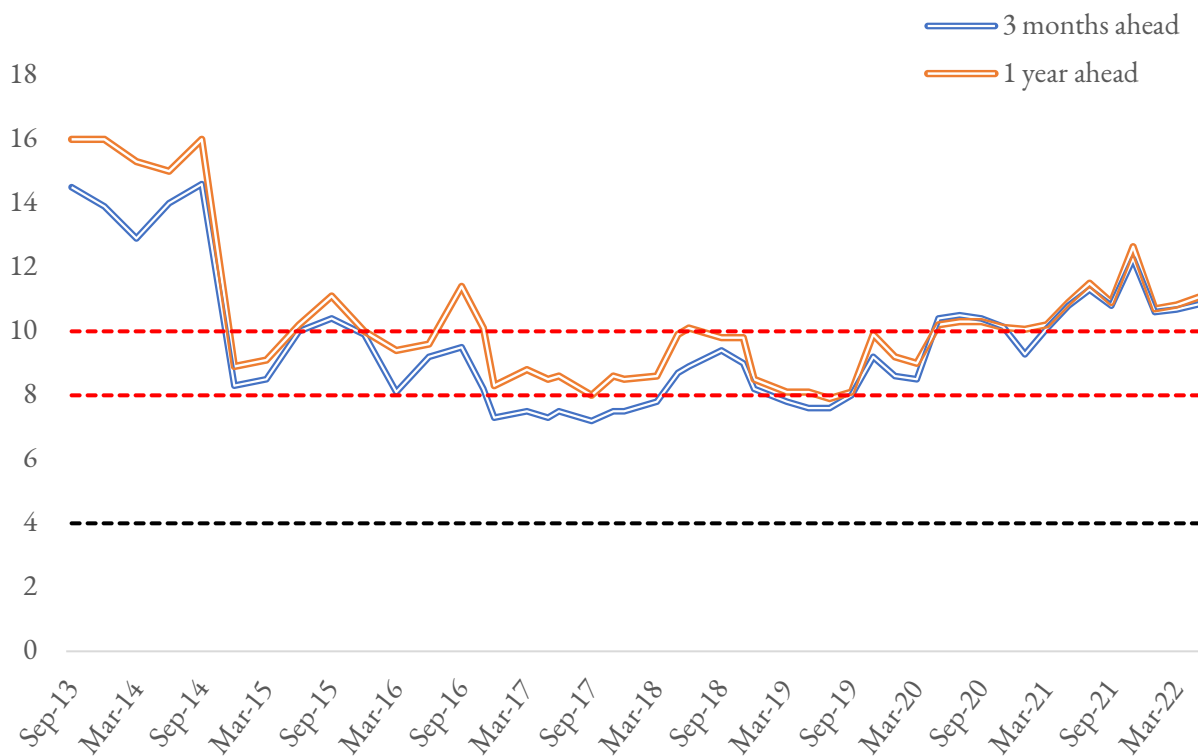
From the time of its formal adoption in August 2016, the FIT regime faced little challenge in its first term of operation except the first few months of the Covid-19 shock. This period, 2016-17 to 2019-20, was marked by a widening output gap as GDP growth plunged from 8.3% to 3.7%. Disturbances such as the oil price spike and exchange rate pressures in 2018 were short-lived. This made it somewhat easier for the monetary policy committee (MPC) to look through the rise in inflation expectations. CPI headline inflation stayed mostly within the 2% tolerance band, averaging close to 4% in the 54 months since FIT's adoption and even lower in the first 40 months (3.4% until November 2019). In the next 12 months, a period dominated by Covid-related supply disruptions, it breached the 6% mark (Figures 1 & 2).

Figure 1: Consumer Price Index Headline inflation rate



Source: MoSPI with author's calculations

Figure 2: Inflation Expectations (3 months and 1 year ahead)



FIT’s smooth-sailing can however be attributed to developments before its official, or *de jure* rollout.¹ Nearly two years before, in August 2014, CPI inflation slipped under 6%. The RCF claims that the signalling effect of FIT regime shift in September 2013, its *de facto* (informal) rollout in January 2014, and some good luck that tamed the beast (RCF, pg. 19). It also presents a counterfactual exercise with CPI-headline inflation as nominal anchor in 2009-11 to illustrate how this would have triggered monetary tightening much earlier, preventing inflation expectations from reaching double-digits (*Ibid.* pgs. 11-13). Further proof is offered in coincidence of a structural breakpoint in the inflation series in 2014:Q3 “...with the *de facto* adoption of FIT in India” (Chart II.6, RCF, pg. 49)!

This may well be true, but surely the claim that *de facto* FIT-introduction caused inflationary expectations to collapse in one quarter - from 13.5% in September 2014 to 9.3% in December 2014 (Chart 2) - is far-fetched. Consider some other developments. One, the disinflationary glide path announced to lower CPI inflation to 8% by January 2015 and 6% by January 2016 was undershot by the rapid, steep decline sixteen months ahead - to 6.8% in June 2014 and 5.6% by September 2014 - much to the RBI’s surprise! Two, much the same happened in other countries, coinciding with the fall of commodity prices in mid-2014 to early 2016 (BIS, 2019, pg. 32) and with sharp, offsetting depreciations across commodity-exporters but not in India.

Three, the FIT’s claim of success crucially overlooks the steep drop in WPI-inflation to under-5% in April 2013 and negative by November 2014. A large divergence in WPI and CPI was untenable and CPI inflation would have fallen regardless of the FIT regime. Last, the regular coincidence of other structural breaks identified, viz., 2008Q2-2014Q2 and 2000Q3-2008Q1(RCF: pp 49) with oil price swings cannot be ignored. These years were marked by progressively sharp increases in oil prices

- from \$26bbl annual average (2000-01) to peak \$112bbl (2011-12) and \$106-108bbl to 2013-14. Indeed, the recent reversal and rise of crude oil prices in the second phase of FIT buttresses their role in inflation and inflationary expectations *irrespective* of the monetary regime.

Are inflation expectations well anchored?

Under IT, committing to low inflation yields a friendlier trade-off in the short-term as inflationary expectations stay ‘anchored’; that is, the public remains “relatively insensitive to incoming data” (Bernanke, 2007). Conversely, these are poorly anchored if the public reacts to temporary spurts in inflation by raising long-run expectations considerably (*Ibid.*). In its appraisal, the RCF indicates their broad alignment by pointing to decline in median, one-year ahead inflation expectations of *urban* households (from average 12.5% before-FIT to 8.7% under FIT) and in some survey-derived measures such as consumer confidence, industrial outlook and professional forecasters. Lowered inflation persistence under FIT implies diminishing costs of future disinflation, it says, although backward-looking adjustments to current and future wage-price setting moderated throughout, not just post-FIT (RCF, pg. 60).

Here, and in the context of influencing actual inflation, it is noteworthy that although professional forecasters’ expectations may have been fairly aligned, as in many other IT economies (for Asia, see Mehrotra and Yetman, 2014), the consumer and firm surveys carry far greater relevance. This is because of the information they provide on wages and price setting and which impact actual inflation.² Indeed, with inflation returning globally, signs of rising medium-term expectations of the public in the US and other countries including advanced ones, and grave concerns about de-anchoring, the divergence in households and business expectations with those of professional forecasters and the comparative predictiveness are under fresh re-examination. Research evidence shows consumers’ beliefs do not align with targets as few people pay attention to a central bank’s messaging unlike financial markets and professional forecasters; this creates doubt if central banks could bring down expectations (see *Economist*, June 19, 2022 for a recent discussion). In this regard, the decline in inflation expectations of Indian households, following fuel levy cuts last November and in April 2022 – both government actions – is pertinent.

Second, the 3-month and 1-year ahead household inflation expectations in India have never fallen below 8%; their 8-10% range suggests that long public memory has probably remained unchanged. It is as inconsistent to claim early ‘signalling’ success with sudden collapse in expectations as in December 2014, but shift focus to their direction and stability when expectations remained sticky above 8% thereafter! Or to draw attention to some other countries where household inflation expectations remained above-target in the early years and took long to align (RCF, pg. 61). These observations are true, but India’s urgencies in adopting FIT were different – the entire edifice of Urjit Patel Committee (UPC) was based upon anchoring households’ inflationary expectations that feed into wage negotiations, triggering second-round effects. This was also why core inflation converged to the headline, compelling the UPC to recommend targeting headline inflation, unlike in other countries.

Last, a successful anchoring should decrease persistence by guiding the public’s expectations and forecasts towards the announced inflation target. The extent of anchoring has first-order implications

for inflation performance and for the economy overall (Mishkin, 2007). That successful anchoring is yet unaccomplished is well illustrated in the inflationary resurgence towards the end of FIT's first phase as expectations drifted above 10% and into the 12% region with continued susceptibility to fuel price shocks (Box II.3, RCF, pg. 65).

The claim of a credibility payoff in the form of enhanced scope for policy manoeuvre under FIT is thus questionable. There could be several sound and alternate reasons as to why the persistently high household expectations have not triggered a wage-price spiral after 2014. *Inter alia*, a large output gap with a three-year slowdown before Covid, increased unemployment, persisting slack in manufacturing, low producer-price expectations and weak bargaining power. With a cyclical recovery, things could change.

Output sacrifice: Low, stable inflation associated with slowing growth

Low, stable inflation is understood to promote growth, efficiency and stability in the long run. This is why a large number of advanced and emerging market central banks have adopted frameworks setting low inflation as the primary goal of monetary policy, explicit or otherwise. However, India's case has been to the contrary in FIT-I.

The RCF also acknowledges that low, stable inflation in India is not associated with higher growth. It accepts the commodity prices' collapse helped minimize output losses "...that typically take their toll in these regime changes". However, the subsequent analysis is narrow and simplistic. This is confined to the decline in level of GDP growth and overlooks its increased volatility. A crude narrative recounts the FIT period's coincidence with the sequential decline in real GDP growth from 2018-19, ascribing it to various external and domestic factors. *Inter alia*, global slowdown, geopolitical developments, trade wars, financial and corporate balance sheet strains, reversal in the terms of trade, and a weakening pace of trend growth after 2008, are highlighted. It is then concluded "...the question of low stable inflation during FIT not being associated with higher growth has to be addressed by investigating the structural changes underway in the Indian economy" (RCF, pgs., 31 & 4).

Why? Unsophisticated analyses that neither account for nor control for the myriad factors impacting growth are incomplete; formal empirical methods to identify their relative roles are necessary. There's little justification for appeal to structural forces or trend output decline either.

While most assessments of inflation targeting (IT) have examined if its adoption contributed to substantial declines in average inflation, inflation volatility and imparted macroeconomic stability in general (BIS, 2019, pg. 34), implications for the level and volatility of output as well as other macroeconomic effects³ have also been studied. Changes in output volatility under different monetary regimes are important because aggregate supply shocks move output and inflation in opposite directions. The trade-off so created between output and inflation variability forces a choice upon central bankers (Cecchetti & Ehrmann, 2002). Because monetary policy can only move both in the same direction, differences due to the extent of accommodation of supply shocks lead to divergent outcomes in output and inflation variability, reflecting the relative weights on either in a central bank's preferences (*Ibid.*).

Output volatility and growth are also found negatively associated (Ramey and Ramey, 1995), the causality running from volatility (Hnatkowska and Loaza, 2004). The proximate causes can be several, e.g., discretionary fiscal policy and government size in general, effects of economic uncertainty upon investment, credit market imperfections, movements in inflation volatility, trade openness, etc. For India, the dominant role of monetary policy is highlighted by Ghosh (2012).

Table 1: Inflation and Output Volatility

	Pre-FIT 2012/13-2015/16	Pre-FIT 2016/17-2019/20
Inflation	2.4	1.4
Real GDP	1.4	1.8
Exchange rate (REER, 36-country)	1.6	1.3
Manufacturing ¹	2.9	4.1
General industrial output ²	2.9	3.5

Source: Table 1.6, Report on Currency & Finance, 2020-21, RBI

^{1,2} CSO with author's calculations

Table 1, drawn from the RCF, presents the average level and volatility of key macroeconomic variables, with my additions. Post-FIT, inflation and real GDP growth levels declined. Inflation volatility fell 100 basis points. While output volatility rose 40 basis points. There's no further analysis of the increased volatility of output or its impact upon growth (level) in the RCF however. For better understanding, a naïve attempt is made here to examine differences in sensitivities to interest rate changes and asymmetric effects of monetary policy. The corresponding variabilities of industrial and manufacturing output presented along with show comparably larger increases than aggregate GDP growth. Notably, the variability of manufacturing output is seen increasing threefold under FIT.

What explains the relatively harsher incidence upon manufacturing? Does the exchange rate have a role to play? It is well known the exchange rate is considered too important a variable to ignore under inflation targeting given its role in the determination of domestic prices in emerging market economies (EMEs) and their higher vulnerability to external shocks. The real exchange rate is certainly more stable under FIT (Table). Chart 3 shows the exchange rate smoothing scaled-up under FIT, *de jure* and *de facto*, even though external shocks of magnitudes comparable to the previous monetary regime (e.g., the global financial crisis, 2008, 'taper shock', 2013) were absent. The complementarity of exchange rate and monetary management is also supported by the fact that monetary conditions, combining interest rate and exchange rate changes⁴, remained tighter during FIT than the pre-FIT period as stated in the RCF (pg. 179).

Fig 3 - India: Forex intervention and Exchange rate

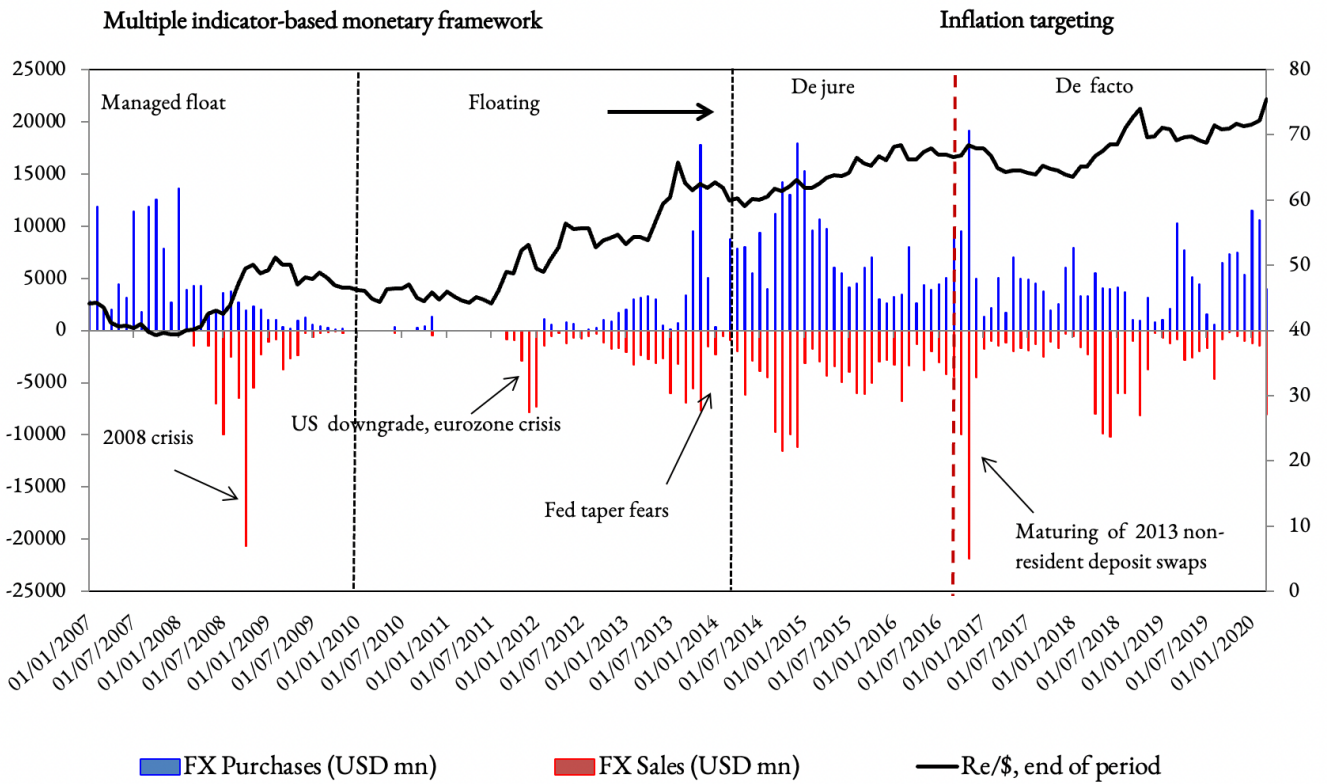
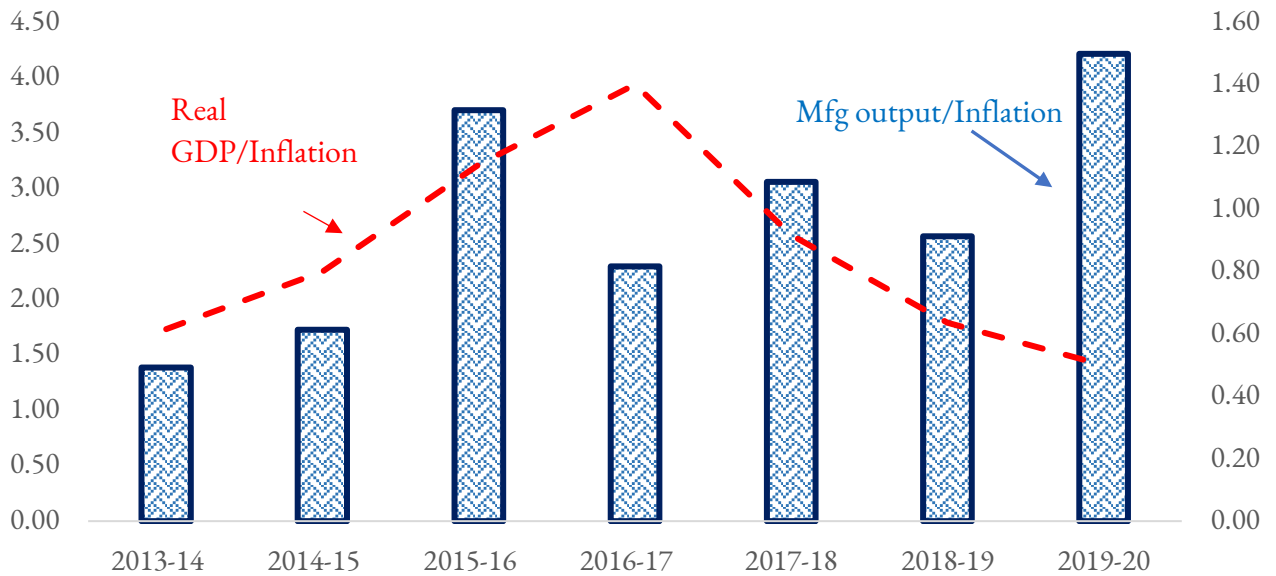


Figure 4: Relative Output Volatility



To reinforce the same point, Chart 4 plots the relative volatility ratios for real GDP and manufacturing against inflation. The relative variability of real GDP is seen declining after 2016-17

as growth slowed but that of manufacturing output remained relatively higher and even increased. Actual volatility magnitudes indicate the positive terms-of-trade environment in 2014-16 lowered both output and inflation volatility, but the latter far more. With their subsequent reversal, the cumulative increase in inflation volatility to 2017-18 and entire duration of FIT-1 was respectively half and one-fourth the increase in manufacturing volatility in these two intervals.

Whether the relative variabilities characterize a change in the monetary regime in which the focus on inflation increased is subject to important shortcomings such as the short tenure, 'good luck' and cumulative 11.1% appreciation in the currency. What the simple exercise underscores is that on average, monetary policy under FIT may have been conducted in a way that lowered inflation volatility at the expense of output, with possibly adverse effects upon investment and growth. A combined effect of exchange rate and interest rate changes could be a reason.

Several studies find an increased volatility of output growth under IT. Most formal assessments employ control groups or countries with different or non-IT regimes. For example, Cecchetti & Ehrmann's (2002) cross-section study of 23 countries (9 explicit inflation targeters) found a uniform increase in aversion to inflation variability in the 1990s (compared to 1985-89, pre-IT period) but more for inflation targeters who likely faced the most increases in output volatility as result. Banerjee et al's (2016) performance comparison of IT vs non-IT EMEs shows larger increases in output volatility for the IT group (more than doubled in 2007-12 over 2000-06); inflation volatility rose much less despite the later period being of high inflation. Meta-regression analysis (Balima et al, 2017) finds significant effects of IT upon growth volatility but not on the level of GDP growth; effects on the level of inflation are significant but no robust effect found for inflation volatility. The evidence varies due to differences in sample period, empirical methodology, treatment of country-specific factors and the control group used (BIS, 2019, pg. 37).

The RCF's analysis skips over the relevant cross-country evidence, moving to a discussion on the temporary and permanent output effects of monetary policy. However, the post-FIT increase in output variability is too fundamental to be excluded from a performance evaluation, which is incomplete especially because of the claim that monetary policy was neither overtight nor more hawkish (RCF, pg., 42) despite hints to the contrary in fine-tuning the balance. At least one reason to suspect negative growth effects of increased volatility is that it implies riskier returns to investments, similar to the well-known effects of raised uncertainty or fluctuations of output in macroeconomics.

Last but not the least, choices made under the trade-offs posed by supply shocks are important for FIT's appraisal because of their domination in India. Recall it is the frequency of food price shocks, their role in formation of inflation expectations, resulting feedback to wages and price-setting, and the spill overs to general inflation that were identified as the transmission mechanism by the Urjit Patel Committee (UPC, 2014) and led to choosing of headline retail inflation as the nominal anchor.

Has macroeconomic stability been secured?

A large stock of foreign exchange reserves, smaller current account and fiscal deficits, lower inflation and credibility from the FIT regime have all contributed to the perception that India's external sector is fundamentally stronger than in 2013. It stands to reason this claim requires further

testing. In addition to the role of munificent terms of trade discussed earlier, external shocks of past severity have been absent in FIT-I which too is underlined before. This especially applies to the capital account, where the peak shares in GDP are 42.3% and 2.5% in gross and net terms under FIT. These compare with a respective 67.4% and 9.3% of GDP in 2007-08, and 52.5% and 2.6% of GDP in 2013-14 (gross and net).

To illustrate that fragility and susceptibility to shocks endures, we need look no further back than 2018. Crude oil prices rose from \$51bbl in the September 2017 quarter to \$60, \$73 and \$75bbl in the next three quarters and to \$80bbl in October 2018. In correspondence, the current account rapidly doubled to -2.8% of GDP in December 2017, and -3% and -3.6% of GDP in the following two quarters. To offset the \$8.5 billion of net capital outflow in April-June 2018, the RBI expended nearly \$25 billion of reserves in combination with additional measures⁵ and yet, the rupee depreciated 5%! In fact, the peak-to-trough decline in reserves in mid-April-July 2018 equalled that in April-August 2013 when the rupee depreciated threefold or 15% with the net capital account at -\$4.7 billion July-Sept 2013 (in April-June 2018, this was \$4.8 billion).

That vulnerability to oil price shocks persists can also be well seen in the present instance of oil prices surges and notwithstanding robust growth of exports. Vulnerability may have even risen with progressive increase in financial openness and structural weakening of the current account (Kohli, 2018). With the commodity prices' resurgence rekindling cost-push elements and the return of fiscal dominance to revive post-pandemic growth, a more considered assessment may be possible ahead.

Conclusion

The assessment of FIT's performance as a success in its first and initial phase lacks sufficient foundation. Overall, the framework's performance awaits testing against stiffer challenges than faced in the benign configuration in its first tenure, and which deserves fuller recognition than the RCF accords. It is argued here the evidence on anchoring inflationary expectations is unconvincing and needs further test of withstanding different cycles. In dimensions such as the growth impact in relation to an increased focus on inflation, both evidence and reasoning need firmer, more sophisticated footing.

Recent developments or a turnaround in inflation portend testing times ahead. Headline inflation, which averaged 4.8% in 2019-20, before the Covid-19 shock and with growth slowing to 3.7%, has climbed up since due to a combination of factors. Significant features here are a series of domestic and external supply shocks that include pandemic-related ones with inflation persistence, a reversal of producer price deflation after 2017 with rapid acceleration of WPI inflation that swung to 14% year-on-year growth in 2021-22 from 1.3% the previous year, elevated core-CPI inflation averaging 5.1% in long-term and 6% recently, an enlarged producer-consumer price gap including respective rates of core inflation (Kohli, 2022), the rise in inflation expectations of households into double-digits from a sticky, 8% perch before, upswing in the international commodities cycle, reversal of the low inflation and ultra-loose monetary and financial conditions with US monetary tightening and many other countries, and precariously high stock of public debt and enlarged fiscal deficit.

If oil and commodity prices continue to rise in conjunction with tighter financial conditions, India could face extreme uncertainty and capital outflows that may not augur well as the increased fiscal dominance could ripen the situation for testing the FIT regime (Kohli, 2021). Undoubtedly, the central bank is seized of these implications.

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Notes

¹ The *de jure* and *de facto* classification refers to formal adoption against the informal or pre-conditions fulfilment period from January 2014 (RCF, pgs. 7 & 28).

² For example, managers' surveys for New Zealand show little anchoring of inflation expectations despite 25 years of IT (Afrouzi et al, 2015)

³ Other appraisals include the degree of exchange rate pass-through, nominal and real exchange rate volatility, size of fiscal imbalances and fiscal discipline (BIS, 2019, pg. 34).

⁴ Weighted average call rate (0.65) and real effective exchange rate (0.35) in MCI correspond to 1.83 ratio, i.e., equivalent effects of 1 percentage point change in real interest rate and 1.83 percentage point change in real effective exchange rate upon real aggregate demand over time (RCF, Box V.5, pg 179).

⁵ *Inter alia*, expanded eligibility for external corporate borrowings (viz. Housing Finance Companies, Port Trusts and maintenance-repair-overhaul-freight firms), removal of end-use restrictions for all but real estate, capital market and equity investments, rationalizing cost structures and changing permitted ECB liability-equity ratio provisions, withdrawal of minimum three-year residual maturity restrictions imposed in July 2014 upon FPI's g-sec investments with 10 basis points increase in aggregate investment caps to 30% of outstanding stock.