Economic Outlook and Policy Challenges

01
CHAPTER

Against the backdrop of robust macro-economic stability, the year was marked by two major domestic policy developments, the passage of the Constitutional amendment, paving the way for implementing the transformational Goods and Services Tax (GST), and the action to demonetise the two highest denomination notes. The GST will create a common Indian market, improve tax compliance and governance, and boost investment and growth; it is also a bold new experiment in the governance of India's cooperative federalism. Demonetisation has had short-term costs but holds the potential for long-term benefits. Follow-up actions to minimize the costs and maximise the benefits include: fast, demand-driven, remonetisation; further tax reforms, including bringing land and real estate into the GST, reducing tax rates and stamp duties; and acting to allay anxieties about over-zealous tax administration. These actions would allow growth to return to trend in 2017-18, following a temporary decline in 2016-17. Looking further ahead, societal shifts in ideas and narratives will be needed to overcome three long-standing meta-challenges: inefficient redistribution, ambivalence about the private sector and property rights, and improving but still-challenged state capacity. In the aftermath of demonetisation, and at a time of gathering gloom about globalisation, articulating and embracing those ideational shifts will be critical to ensuring that India's sweet spot is enduring not evanescent.

I. Introduction

1.1 The Economic Survey of 2014-15 spoke about the sweet spot for the Indian economy that could launch India onto a trajectory of sustained growth of 8-10 percent. Last year's Survey assessed that "for now, but not indefinitely, that sweet spot is still beckoningly there." This year's stock-taking suggests that shifts in the underlying vision will be needed to overcome the major challenges ahead, thereby accelerating growth, expanding employment opportunities, and achieving social justice (Chapter 2 in this Survey). In the aftermath of demonetisation, and because cyclical developments will make economic management harder, articulating and embracing those shifts will be critical to ensuring that that sweet spot is enduring not evanescent.

1.2 This year has been marked by several historic economic policy developments. On the domestic side, a constitutional amendment paved the way for the long-awaited and transformational goods and services tax

(GST) while demonetisation of the large currency notes signaled a regime shift to punitively raise the costs of illicit activities. On the international front, Brexit and the US elections may herald a tectonic shift, forebodingly laden with darker possibilities for the global, and even the Indian, economy.

1.3 Start first with demonetisation. A radical governance-cum-social engineering measure was enacted on November 8, 2016. The two largest denomination notes, Rs 500 and Rs 1000—together comprising 86 percent of all the cash in circulation—were "demonetised" with immediate effect, ceasing to be legal tender except for a few specified purposes.[1] These notes were to be deposited in the banks by December 30, while restrictions were placed on cash withdrawals. In other words, restrictions were placed on the convertibility of domestic money and bank deposits.

1.4 The aim of the action was fourfold: to curb corruption, counterfeiting, the use of high denomination notes for terrorist activities, and especially the accumulation of "black money", generated by income that has not been declared to the tax authorities. The action followed a series of earlier efforts to curb such illicit activities, including the creation of the Special Investigation Team (SIT) in the 2014 budget, the Black Money Act, 2015; the Benami Transactions Act of 2016; the information exchange agreement with Switzerland, changes in the tax treaties with Mauritius and Cyprus, and the Income Disclosure Scheme.

1.5 Demonetisation was aimed at signaling a regime change, emphasizing the government's determination to penalize illicit activities and the associated wealth. In effect, the tax on illicit activities as well as on legal activities that were not disclosed to the tax authorities was sought to be permanently and punitively increased.

1.6 The public debate on demonetisation has raised three questions. First, broader aspects of management, as reflected in the design and implementation of the initiative. Second, its economic impact in the short and long run. And, third, its implications for the broader vision underlying the future conduct of economic policy. This Survey is not the forum to discuss the first question.

1.7 Chapter 3 addresses in detail the second question. The broad conclusion is that demonetisation will create short-term costs and provide the basis for long run benefits.

1.8 Short-term costs have taken the form of inconvenience and hardship, especially those in the informal and cash-intensive sectors of the economy who have lost income and employment. These costs are transitory, and may be minimised in recorded GDP because the national income accounts estimate informal activity on the basis of formal sector indicators, which have not suffered to the same extent. But the costs have nonetheless been real and significant. The benefits of lower interest rates and dampened price pressure may have cushioned the short-term macro-economic impact.

1.9 At the same time, demonetisation has the potential to generate long-term benefits in terms of reduced corruption, greater digitalization of the economy, increased flows of financial savings, and greater formalization of the economy, all of which could eventually lead to higher GDP growth, better tax compliance and greater tax revenues.

1.10 The magnitudes of short-term costs remain uncertain, as do the timing and extent

[1] Strictly speaking, these notes were deprived of their legal tender status, except for specified activities (such as paying utility bills). Nevertheless, "demonetisation" has entered the public lexicon as the term for the November 8 announcement.

of long-term benefits. (Chapter 3 identifies certain markers to assess the latter.) These magnitudes will depend importantly on how policy responds to the current situation. Needed actions include: remonetizing the economy expeditiously by supplying as much cash as necessary, especially in lower denomination notes; and complementing demonetisation with more incentive-compatible actions such as bringing land and real estate into the GST, reducing taxes and stamp duties, and ensuring that the follow-up to demonetisation does not lead to over-zealous tax administration.

1.11 The third question on the broader vision will also be critical to shaping the medium term trajectory of the economy. Here the government has taken important steps over the past year. The highlight was, of course, the transformational GST bill, which will create a common Indian market, improve tax compliance, boost investment and growth – and improve governance; the GST is also a bold new experiment in the governance of cooperative federalism. In addition, the government:

- Overhauled the bankruptcy laws so that the "exit" problem that pervades the Indian economy--with deleterious consequences highlighted in last year's Survey--can be addressed effectively and expeditiously;
- Codified the institutional arrangements on monetary policy with the Reserve Bank of India (RBI), to consolidate the gains from macroeconomic stability by ensuring that inflation control will be less susceptible to the whims of individuals and the caprice of governments; and
- Solidified the legal basis for *Aadhaar*, to realise the long-term gains from the JAM trifecta (Jan Dhan-Aadhaar-Mobile), as quantified in last year's Survey.

1.12 Had the government announced such an agenda early in 2016, its ambition would have elicited skepticism, probably deserved. Yet a year on this agenda has been achieved, and in nearly all cases through legislative action that commanded near-political unanimity.

1.13 Beyond these headline reforms were other less-heralded but nonetheless important actions. The government enacted a package of measures to assist the clothing sector that by virtue of being export-oriented and labor-intensive could provide a boost to employment, especially female employment. The National Payments Corporation of India (NPCI) successfully finalized the Unified Payments Interface (UPI) platform. By facilitating inter-operability it will unleash the power of mobile phones in achieving digitalization of payments and financial inclusion, and making the "M" an integral part of the government's flagship "JAM"-*Jan Dhan, Aadhaar, Mobile*--initiative. Further FDI reform measures were implemented, allowing India to become one of the world's largest recipients of foreign direct investment.

1.14 These measures cemented India's reputation as one of the few bright spots in an otherwise grim global economy. India is not only among the world's fastest growing major economies, underpinned by a stable macro-economy with declining inflation and improving fiscal and external balances. It was also one of the few economies enacting major structural reforms. Yet there is a gap between this reality of macro-economic stability and rapid growth, on the one hand, and the perception of the ratings agencies on the other. Why so? Box 1 elaborates on the possible reasons.

1.15 But much more needs to be done. Especially after 1991, India has progressively distanced itself from statism and made considerable strides in improving the management of the economy. Yet a broader stock-taking (discussed in Chapter 2) suggests

that India has to traverse a considerable distance to realize its ambitions on growth, employment and social justice. Broader societal shifts are required in ideas and narratives to address

Box 1. Poor Standards? The Rating Agencies, China & India

In recent years, the role of ratings agencies has increasingly come into question. In the US financial crisis, questions were raised about their role in certifying as AAA bundles of mortgage-backed securities that had toxic underlying assets (described in Michael Lewis' *The Big Short*). Similarly, their value has been questioned in light of their failure to provide warnings in advance of financial crises—often ratings downgrades have occurred post facto, a case of closing the stable doors after the horses have bolted (IMF, 2010; Krugman, September, 2015[2]).

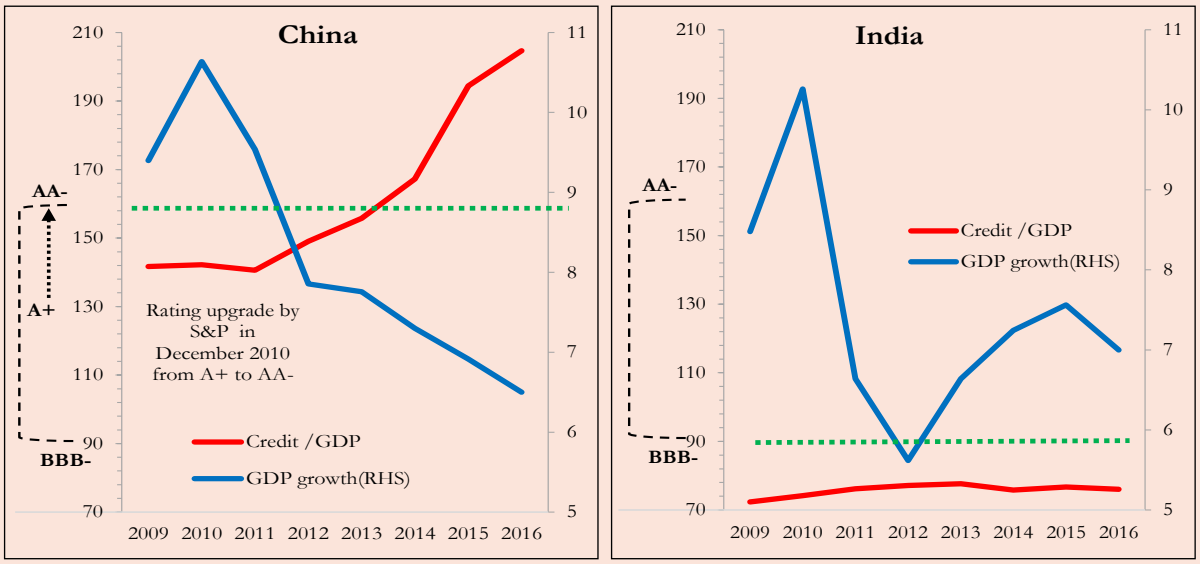
But it is also worth assessing their role in more normal situations. In the case of India, Standard & Poor's in November 2016 ruled out the scope for a ratings upgrade for some considerable period, mainly on the grounds of its low per capita GDP and relatively high fiscal deficit. The actual methodology to arrive at this rating was clearly more complex. Even so, it is worth asking: are these variables the right key for assessing India's risk of default?

Consider first per capita GDP. It is a very slow moving variable. Lower middle income countries experienced an average growth of 2.45 percent of GDP per capita (constant 2010 dollars) between 1970 and 2015. At this rate, the poorest of the lower middle income countries would take about 57 years to reach upper middle income status. So if this variable is really key to ratings, poorer countries might be provoked into saying, "Please don't bother this year, come back to assess us after half a century."

Consider next fiscal variables. The practice of ratings agencies is to combine a group of countries and then assess comparatively their fiscal outcomes. So, India is deemed an outlier because its general government fiscal deficit ratio of 6.6 percent (2014) and debt of 67.1 percent are out of line with its emerging market "peers" (See Table 1 in Chapter 5).

But India could be very different from the comparators used by the ratings agencies. After all, many emerging markets are struggling. But India has a strong growth trajectory, which coupled with its commitment to fiscal discipline exhibited over the last three years suggests that its deficit and debt ratios are likely to decline significantly over the coming years. Even if this scenario does not materialise, India might still be able to carry much more debt than other countries because it has an exceptionally high "willingness to pay", as demonstrated by its history of not defaulting on its obligations (Reinhart, Rogoff and Savastano, 2003).

Figure. Credit/GDP ratio and GDP growth for China and India and respective S&P rating



Source: **WDI and S&P; for 2016, India's credit data are from RBI and Credit Suisse; for 2016, China's credit number is obtained by adding flows of total social financing (TSF) from the Bank for International Settlements (BIS) to the 2015 stock obtained from the WDI.**

[2] http://krugman.blogs.nytimes.com/2015/09/17/fear-the-rating-agencies/

India also compares favourably to other countries on other metrics known to be closely related to the risk of default. Consider the contrast with China. In 2009, China launched an historic credit expansion, which has so far seen the credit-GDP ratio rise by an unprecedented about 63 percentage points of GDP, much larger than the stock of India's credit-GDP (Figure). At the same time, Chinese growth has slowed from over 10 percent to 6.5 percent.

How did Standard and Poor's react to this ominous scissors pattern, which has universally been acknowledged as posing serious risks to China and indeed the world? In December 2010, it increased China's rating from A+ to AA- and it has never adjusted it since, even as the credit boom has unfolded and growth has experienced a secular decline.

In contrast, India's ratings have remained stuck at the much lower level of BBB-, despite the country's dramatic improvement in growth and macro-economic stability since 2014.

These contrasting experiences raise a question: can they really be explained by an economically sound methodology?

three major challenges: reducing "inefficient redistribution," strengthening state capacity in delivering essential services and regulating markets, and dispelling the ambivalence about protecting property rights and embracing the private sector. In other words, addressing these challenges is not just about the political will to overcome vested interests.

1.16 These structural challenges have their proximate policy counterparts. Chapter 9 discusses India's extensive efforts at redistribution. The central government alone runs about 950 central sector and centrally sponsored schemes and sub-schemes which cost about 5 percent of GDP. Clearly, there are rationales for many of them. But there may be intrinsic limitations in terms of the effectiveness of targeting.

1.17 The government has made great progress in improving redistributive efficiency over the last few years, most notably by passing the Aadhaar law, a vital component toward realizing its vision of JAM. (The pilots for Direct Benefit Transfers in fertilizer represent a very important new direction in this regard.) At the same time, prices facing consumers in many sectors are yet to move closer toward market levels. Even on the GST, concerns about ensuring low tax rates for essentials, risks creating an unduly complicated structure with multiple and excessively high peak rates, thereby foregoing large services efficiency gains.

1.18 On state capacity, delivery of essential services such as health and education, which are predominantly the preserve of state governments, remains impaired. Regulatory institutions are still finding their way. The deepest puzzle here is the following: while competitive federalism has been a powerful agent of change in relation to attracting investment and talent, it has been less in evidence in relation to essential service delivery. There have, of course, been important exceptions, such as the improvement of the public distribution system (PDS) in Chhattisgarh, the incentivization of agriculture in Madhya Pradesh, reforms in the power sector in Gujarat which improved delivery and cost recovery, the efficiency of social programs in Tamil Nadu, and the recent use of technology to help make Haryana kerosene-free. But on health and education there are insufficient instances of good models that can travel widely within India and that are seen as attractive political opportunities. Competitive populism needs a counterpart in competitive service delivery.

1.19 Equally, signs of a political dynamic that would banish the ambivalence toward the private sector and property rights have not been strongly evident for decades. This ambivalence is manifested in: the difficulties in advancing strategic disinvestment; the

persistence of the twin balance sheet problem—over-indebtedness in the corporate and banking sectors—which requires difficult decisions about burden-sharing and perhaps even forgiving some burden on the private sector; the legacy issues of retroactive taxation, which remain mired in litigation even though the government has made clear its intentions for the future; agriculture, where the protection of intellectual property rights, for example in seeds, remains a challenge; reform in the civil aviation sector, which has been animated as much by an interventionist as liberalizing spirit; in the fertilizer sector, where it is proving easier to rehabilitate unviable plants in the public sector rather than facilitate the exit of egregiously inefficient ones; frequent recourse to stock limits and controls on trade in agriculture, which draws upon the antiquated Essential Commodities Act, and creates uncertainty for farmers.

1.20 In each of these examples, there may be valid reasons for the status quo but overall they indicate that the embrace of markets—even in the modest sense of avoiding intrusive intervention, protecting property rights, disposing of unviable public sector assets and exiting from areas of comparative non-advantage, and allowing economic agents to face market prices—remains a work-in-progress.

1.21 Even as the domestic agenda remains far from complete, the international order is changing, posing new challenges. The impact of Brexit and the US elections, though still uncertain, risk unleashing paradigmatic shifts in the direction of isolationism and nativism. The post war consensus in favour of globalisation of goods, services and labor in particular, and market-based economic organization more broadly, is under threat across the advanced economies.

1.22 For India that is a late "converger"—that is an economy whose standards of living are well below countries at the frontier—these events have immense consequences. Given that India's growth ambitions of 8-10 percent require export growth of about 15-20 percent, any serious retreat from openness on the part of India's trading partners would jeopardize those ambitions (see Box 2).

1.23 To these structural domestic and external developments must be added the proximate macro-economic challenges. Since the decline in oil prices from their peak in June 2014 there has been a lift to incomes which combined with government actions imparted dynamism by increasing private consumption and facilitating public investment, shoring up an economy buffeted by the headwinds of weak external demand and poor agricultural production. This year that important source of short-term dynamism may be taken away as international oil prices are now on the rise. Moreover, private investment remains weak because of the twin balance sheet problem that has been the economy's festering wound for several years now (Chapter 4). Re-establishing private investment and exports as the predominant and durable sources of growth is the proximate macro-economic challenge.

1.24 In sum, the steady progress on structural reforms made in the last few years needs to be rapidly built upon, and the unfinished agenda completed. Especially after demonetisation and given the ever-present late-term challenges, anxieties about the vision underlying economic policy and about the forgoing of opportunities created by the sweet spot need to be decisively dispelled.

II. Global Context

1.25 For India, three external developments are of significant consequence. In the short-run, the change in the outlook for global interest rates as a result of the US elections and the implied change in expectations of

US fiscal and monetary policy will impact on India's capital flows and exchange rates. Markets are factoring in a regime change in advanced countries, especially US macroeconomic policy, with high expectations of fiscal stimulus and unwavering exit from unconventional monetary policies. The end of the 20-year bond rally and end to the corset of deflation and deflationary expectations are within sight.

1.26 Second, the medium-term political outlook for globalisation and in particular for the world's "political carrying capacity for globalisation" may have changed in the wake of recent developments. In the short run a strong dollar and declining competitiveness might exacerbate the lure of protectionist policies. These follow on ongoing trends—documented widely—about stagnant or declining trade at the global level (figure in Box 2). This changed outlook will affect India's export and growth prospects described in Box 2.

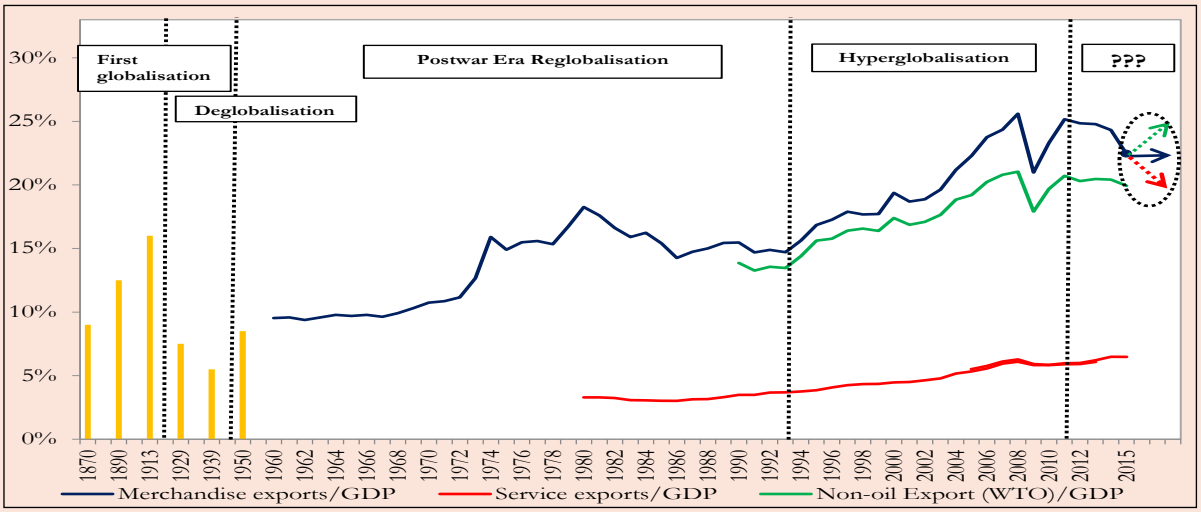
1.27 Third, developments in the US, especially the rise of the dollar, will have implications for China's currency and currency policy. If China is able to successfully re-balance its economy, the spillover effects on India and the rest of the world will be positive. On, the other hand, further declines in the yuan, even if dollar-induced, could interact with underlying vulnerabilities to create disruptions in China that could have negative spillovers for India (these are discussed in detail in Section VI.B). For China, there are at least two difficult balancing acts with respect to the currency. Domestically, a declining currency (and credit expansion) prop up the economy in the short run but delay rebalancing while also adding to the medium term challenges. Internationally, allowing the currency to weaken in response to capital flight risks creating trade frictions

Box 2. Political Carrying Capacity of the West for Openness and Impact on India

If as T.S. Eliot said that humankind cannot bear too much reality, recent events suggest that the world cannot bear too much globalisation either. What does this mean for India's exports?

The first figure plots the trade-GDP ratio for the world since 1870 and highlights four phases. There were two phases of globalisation (1870-1914, 1945-1985), one phase of hyperglobalisation (Subramanian and Kessler, 2014) between 1985-2008, and one phase of deglobalisation in the inter-war period. The question today is what is likely to happen going forward represented by the three arrows: further globalisation, deglobalisation, or stagnation? These will have potentially important consequences for Indian exports and growth.

Figure: Globalisation and the World (1870 to present)



During the boom years between 2003-2011 India's real GDP growth averaged 8.2 percent, and exports grew at an annual rate of between 20 and 25 percent (in real dollar terms, for goods and services). So, assume conservatively that India aims to grow at 8 percent for the next decade and that that requires growth in exports of goods and services of 15 percent, respectively.

Next, assume that the world will continue to grow at 3 percent growing forward. Define the political carrying capacity of the world for globalisation as the world's export-to-GDP ratio. The latest figure for that is about 21 percent; assume that it remains stable. (Note that if world trade continues to grow more slowly than overall GDP, as it has done in recent years, the equilibrium carrying capacity—the world's export-GDP ratio—would actually fall.)

Political Carrying Capacity of the World for Openness (Current and Future)

	Today			Change in 10 years			
	World	**India**	**China**	**World (Fixed)**	**India**	**China**	**RoW (Notional)**
Exports of goods/world GDP	21.10%	0.40%	2.90%	0.00%	0.80%	1.40%	-2.10%
Exports of services/world GDP	6.10%	0.30%	0.40%	0.00%	0.50%	0.20%	-0.70%
Exports of goods and services/world GDP	27.30%	0.60%	3.30%	0.00%	1.30%	1.50%	-2.80%
Assumptions on GDP growth: World (3%), India (8%), China (5%)							
Assumptions on export growth: World (3%), India (15%), China (7%)							

Source: **Survey Calculation.**

In these circumstances, the problem is the following. India's GDP and export growth alone will imply an increase in the world's export-to-GDP ratio of about 1.3 percentage points. If China's export growth continues at the pace of the last 6 years (7 percent in real terms), that will lead to a further increase in the world's export-GDP ratio of another 1.4 percentage points. In other words, India's export growth will run up against the world's carrying capacity for globalisation. The squeeze will get worse if the world's trade-GDP ratio declines, and considerably worse if China's export juggernaut continues.

From India's perspective, the political carrying capacity for globalisation is relevant not just for goods but also services. The world's service exports-GDP ratio is about 6.1 percent. If India grows rapidly on the back of dynamic services exports, the world's service exports-GDP ratio will increase by 0.5 percentage points—which would be a considerable proportion of global exports. Put differently, India's services exports growth will test the world's globalisation carrying capacity in services. Responses could take not just the form of restrictions on labor mobility but also restrictions in advanced countries on outsourcing.

It is possible that the world's carrying capacity will actually be much greater for India's services than it was for China's goods. After all, China's export expansion over the past two decades was imbalanced in several ways: the country exported far more than it imported; it exported manufactured goods to advanced countries, displacing production there, but imported goods (raw materials) from developing countries; and when it did import from advanced economies, it often imported services rather than goods.[3] As a result, China's development created relatively few export-oriented jobs in advanced countries, insufficient to compensate for the jobs lost in manufacturing – and where it did create jobs, these were in advanced services (such as finance), which were not possible for displaced manufacturing workers to obtain.

In contrast, India's expansion may well prove much more balanced. India has tended to run a current account deficit, rather than a surplus; and while its service exports might also displace workers in advanced countries, their skill set will make relocation to other service activities easier; indeed, they may well simply move on to complementary tasks, such as more advanced computer programming in the IT sector itself. On the other hand, since skilled labour in advanced economies will be exposed to Indian competition, their ability to mobilize political opinion might also be greater.

In sum, the political backlash against globalisation in advanced countries, and China's difficulties in rebalancing its economy, could have major implications for India's economic prospects .They will need to be watched in the year – and decade – ahead.

[3] Though capital goods is a major exception.

but imposing capital controls discourages FDI and undermines China's ambitions to establish the yuan as a reserve currency. China with its underlying vulnerabilities remains the country to watch for its potential to unsettle the global economy.

III. Review of Developments in 2016-17

A. GDP and Inflation

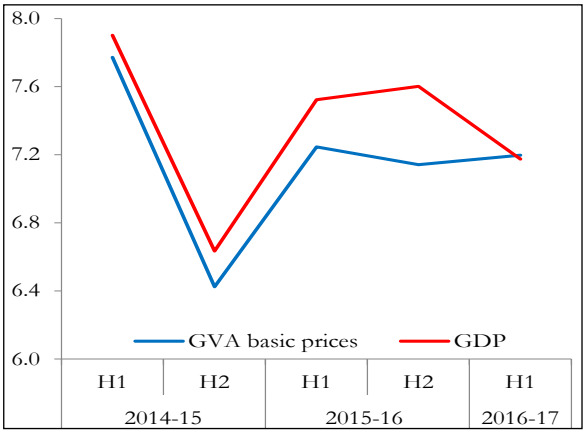
1.28 Since the Survey was presented eleven months ago, the Indian economy has continued to consolidate the gains achieved in restoring macroeconomic stability.

1.29 Real GDP growth in the first half of the year was 7.2 percent, on the weaker side of the 7.0-7.75 per cent projection in the Economic Survey 2015-16 and somewhat lower than the 7.6 percent rate recorded in the second half of 2015-16 (Figure 1a). The main problem was fixed investment, which declined sharply as stressed balance sheets in the corporate sector continued to take a toll on firms' spending plans. On the positive side, the economy was buoyed by government consumption, as the 7th Pay Commission salary recommendations were implemented, and by the long-awaited start of an export recovery as demand in advanced countries began to accelerate. Nominal GDP growth recovered to respectable levels, reversing the sharp and worrisome dip that had occurred in the first half of 2015-16 (Figure 1b).[4]

1.30 The major highlights of the sectoral growth outcome of the first half of 2016-17 were: (i) moderation in industrial and non-government service sectors; (ii) the modest pick-up in agricultural growth on the back of improved monsoon; and (iii) strong growth in public administration and defence services—dampeners on and catalysts to growth almost balancing each other and producing a real Gross Value Addition (GVA) growth (7.2 per cent), quite similar to the one (7.1 per cent) in H2 2015-16 (Figure 1a).

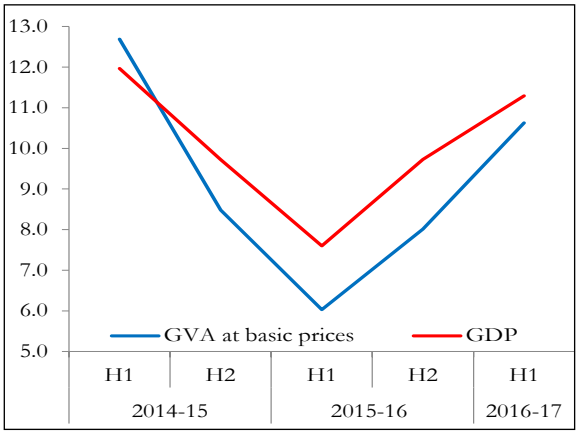
1.31 Inflation this year has been characterized by two distinctive features (Figure 2). The Consumer Price Index (CPI)-New Series inflation, which averaged 4.9 per cent during April-December 2016, has displayed a downward trend since July when it became apparent that kharif agricultural production in general, and pulses in particular would be bountiful. The decline in pulses prices has

Figure 1a. GVA and GDP Growth (Constant Prices)



Source: **CSO**

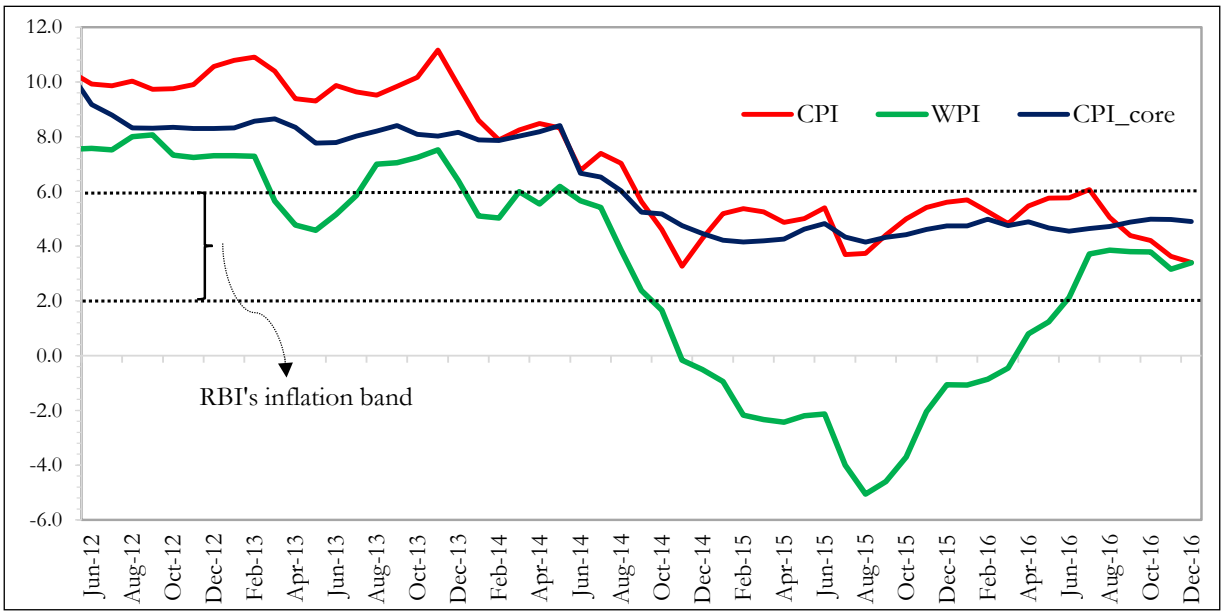
Figure 1b. GVA and GDP Growth (Current Prices)



Source: **CSO**

[4] In normal times, nominal GDP growth would not be of particular policy interest. But at a time when the GDP deflator has been subject to unusual measurement uncertainity, nominal growth conveys additional information about real activity.

Figure 2. WPI and CPI Inflation



Source: **CSO**

contributed substantially to the decline in CPI inflation which reached 3.4 percent at end-December.

1.32 The second distinctive feature has been the reversal of WPI inflation, from a trough of (-)5.1 percent in August 2015 to 3.4 percent at end-December 2016 (Figure 2), on the back of rising international oil prices. The wedge between CPI and WPI inflation, which had serious implications for the measurement of GDP discussed in MYEA (Box 3, Chapter 1, MYEA 2015-16), has narrowed considerably. Core inflation has, however, been more stable, hovering around 4.5 percent to 5 percent for the year so far.

1.33 The outlook for the year as a whole is for CPI inflation to be below the RBI's target of 5 percent, a trend likely to be assisted by demonetisation.

B. External Sector

1.34 Similarly, the external position appears robust having successfully weathered the sizeable redemption of Foreign Currency Non-Resident (FCNR) deposits in late 2016, and the volatility associated with the US election and demonetisation. The current account deficit has declined to reach about 0.3 percent of GDP in the first half of FY2017. Foreign exchange reserves are at comfortable levels, having have risen from around US$350 billion at end-January 2016 to US$ 360 billion at end-December 2016 and are well above standard norms for reserve adequacy. In part, surging net FDI inflows, which grew from 1.7 percent of GDP in FY2016 to 3.2 percent of GDP in the second quarter of FY2017, helped the balance-of-payments (Figures 3a to 3d).

1.35 The trade deficit declined by 23.5 per cent in April-December 2016 over corresponding period of previous year. During the first half of the fiscal year, the main factor was the contraction in imports, which was far steeper than the fall in exports. But during October-December, both exports and imports started a long-awaited recovery, growing at an average rate of more than 5 per cent (Figure 4a). The improvement in exports appears to be linked to improvements in the world economy, led by better growth in the US and Germany. On the import side, the advantage on account of

Figure 3a. Current Account Balance (% of GDP)

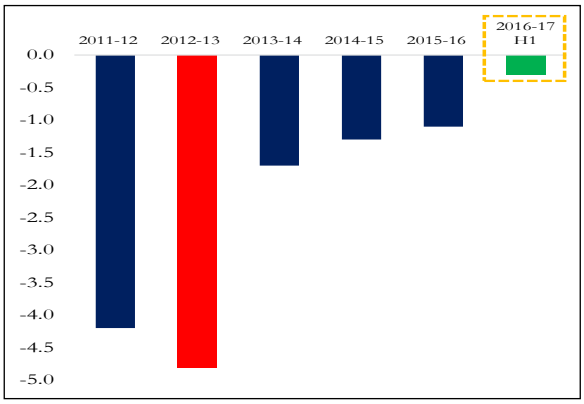


Figure 3b. Foreign Exchange Reserve (US$ billion)

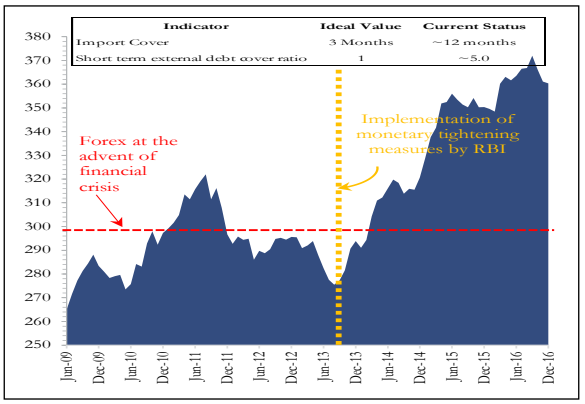


Figure 3c. Trends in Major Components of Capital Inflows (US$ billion)*

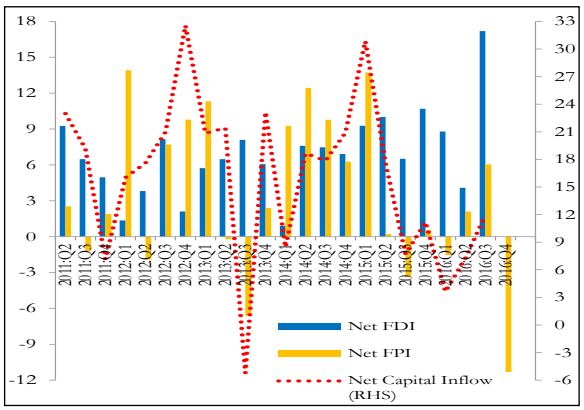
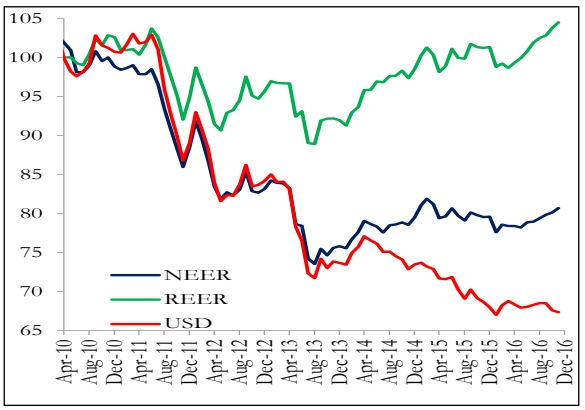


Figure 3d. Index of NEER, REER and US dollar exchange rate (2010=100)

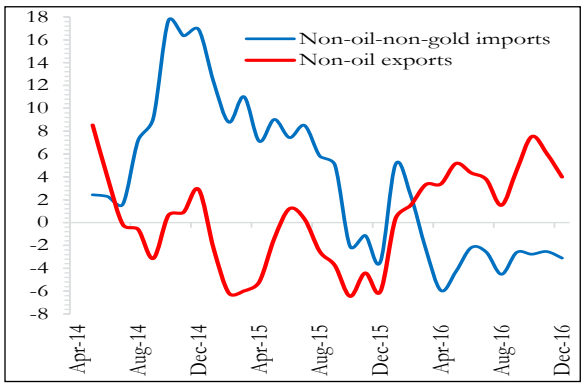


Source: **RBI; *Years in Chart 3c are calendar years**

benign international oil prices has receded and is likely to exercise upward pressure on the import bill in the short to medium term.

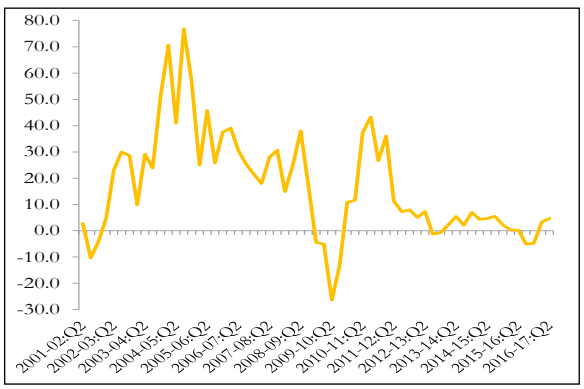
1.36 Meanwhile, the net services surplus declined in the first half, as software service exports slowed and financial service exports declined (Figure 4b). Net private remittances declined by $4.5 bn in the first half of 2016-17 compared to the same period of 2015-16, weighed down by the lagged effects of the oil price decline, which affected inflows from the Gulf region (Figure 5).

Figure 4a. Growth of imports & export volume (non-oil, non-gold) index (%) (3 months MA)



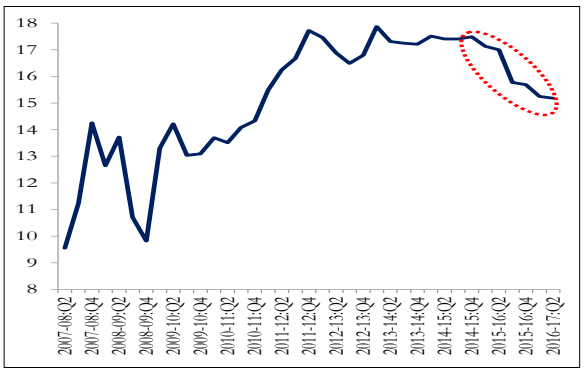
Source: **DGCIS and Survey Calculations.**

Figure 4b. Growth of Export of Non-Factor Services (%)



Source: **RBI and Survey Calculations.**

Figure 5. Private Remittances (US$ billion)



Source: **RBI.**

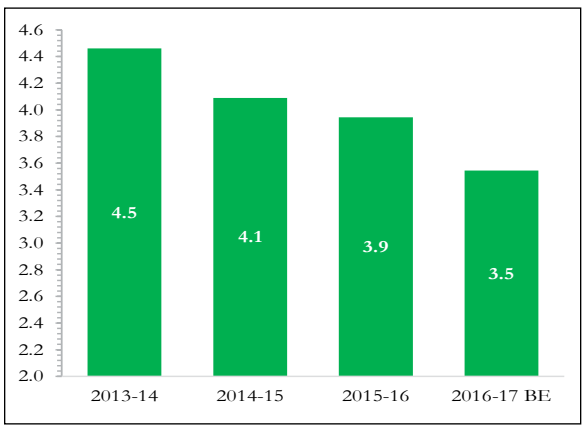
C. Fiscal

1.37 Trends in the fiscal sector in the first half have been unexceptional and the central government is committed to achieving its fiscal deficit target of 3.5 percent of GDP this year (Figure 6a). Excise duties and services taxes have benefitted from the additional revenue measures introduced last year. The most notable feature has been the over-performance (even relative to budget estimates) of excise duties in turn based on buoyant petroleum consumption: real consumption of petroleum products (petrol) increased by 11.2 percent during April-December 2016 compared to same period in the previous year. Indirect taxes, especially petroleum excises, have held up even after demonetisation in part due to the exemption of petroleum products from its scope. More broadly, tax collections have held up to a greater extent than expected possibly because of payment of dues in demonetised notes was permitted. Non-tax revenues have been challenged owing to shortfall in spectrum and disinvestment receipts but also to forecast optimism; the stress in public sector enterprises has also reduced dividend payments.

1.38 State government finances are under stress (Figure 6b). The consolidated deficit of the states has increased steadily in recent years, rising from 2.5 percent of GDP in 2014-15 to 3.6 percent of GDP in 2015-16, in part because of the UDAY scheme. The budgeted numbers suggest there will be an improvement this year. However, markets are anticipating some slippage, on account of the expected growth slowdown, reduced revenues from stamp duties, and implementation of their own Pay Commissions. For these reasons, the spread on state bonds over government securities jumped to 75 basis points in the January 2017 auction from 45 basis points in October 2016.

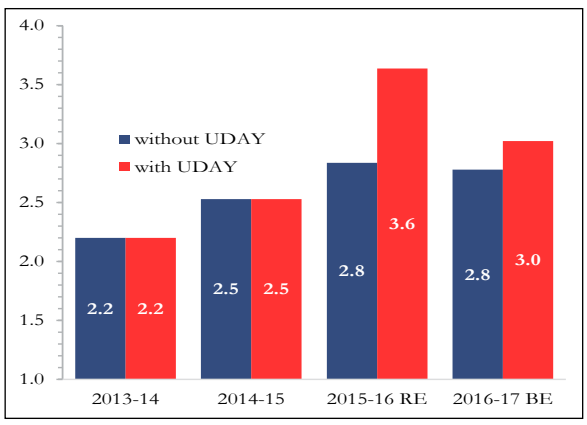
1.39 For the general government as a whole, there is an improvement in the fiscal deficit with and without UDAY scheme (Figure 6c).

Figure 6a. Fiscal Deficit of Center (% of GDP)



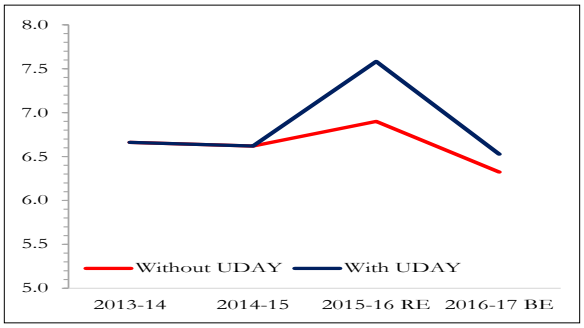
Source: **Central Government Budget documents.**

Figure 6b. Fiscal Deficit of States (% of GDP)



Source: **States' Government Budget documents.**

Figure 6c: Fiscal deficit of the General Government (% of GDP)



Source: **Budget documents.**

IV. Outlook for 2016-17

1.40 This year's outlook must be evaluated in the wake of the November 8 action to demonetize the high denomination notes. But it is first important to understand the analytics of the demonetisation shock in the short run (the long run benefits are addressed in Chapter 3).

1.41 Demonetisation affects the economy through three different channels. It is potentially:

- an aggregate *demand* shock because it reduces the supply of money and affects private wealth, especially of those holding unaccounted money;
- an aggregate *supply* shock to the extent that economic activity relies on cash as an input (for example, agricultural production might be affected since sowing requires the use of labour traditionally paid in cash); and
- an *uncertainty* shock because economic agents face imponderables related to the magnitude and duration of the cash shortage and the policy responses (perhaps causing consumers to deferor reduce discretionary consumption and firms to scale back investments).

A. Impact on supply of cash and money and interest rates

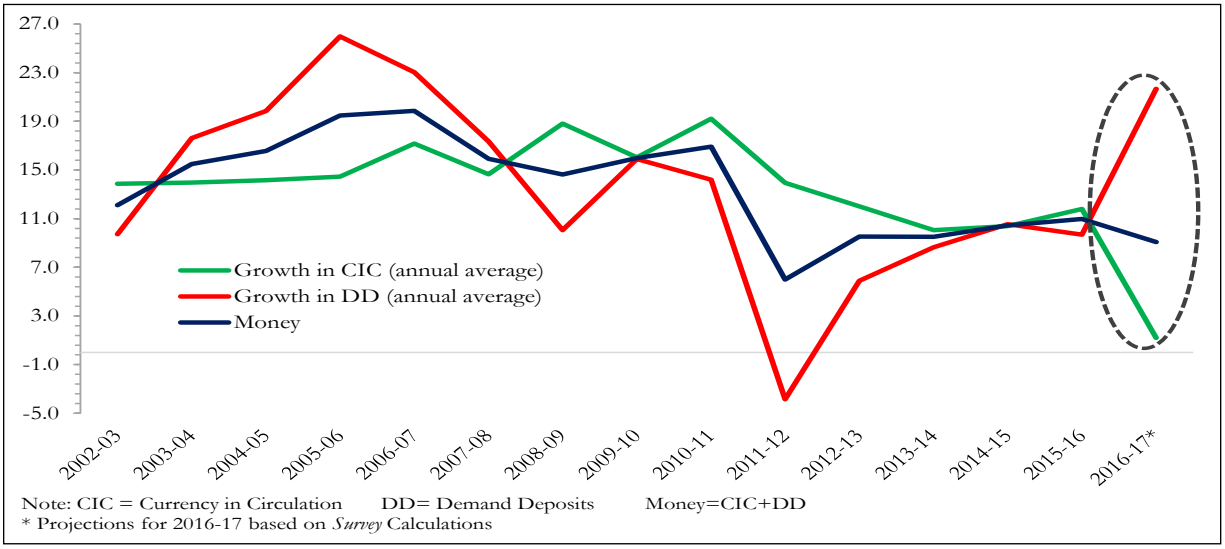
1.42 Demonetisation is also very unusual in its monetary consequences. It has reduced sharply, the supply of one type of money—cash—while increasing almost to the same extent another type of money—demand deposits. This is because the demonetized cash was required to be deposited in the banking system. The striking divergence between the red and green lines in Figure 7 captures this effect. In the third quarter of FY2017 (when demonetisation was introduced), cash declined by 9.4 percent, demand deposits increased by 43 percent, and growth in the sum of the two by 11.3 percent (the corresponding figures in Q3 of the previous year were 12.5, 10.5, and 11.7 percent).

1.43 The price counterparts of this unusual aspect of demonetisation are the surge in the price of cash (inferred largely through queues and restrictions), on the one hand; and the decline in interest rates on the lending rate (based on the marginal cost of funds) by 90 basis points since November 9; on deposits (by about 25 basis points); and on g-secs on the other (by about 32 basis points) as indicated in Figure 8.

1.44 There is yet another dimension of demonetisation that must be kept in mind. By definition, all these quantity and price impacts will self-correct by amounts that will depend on the pace at which the economy is remonetized and policy restrictions eased. As this occurs, consumers will run down their bank deposits and increase their cash holdings. Of course, it is possible, even likely that the self-correction will not be complete because in the new equilibrium, aggregate cash holdings (as a share of banking deposits and GDP) are likely to be lower than before.

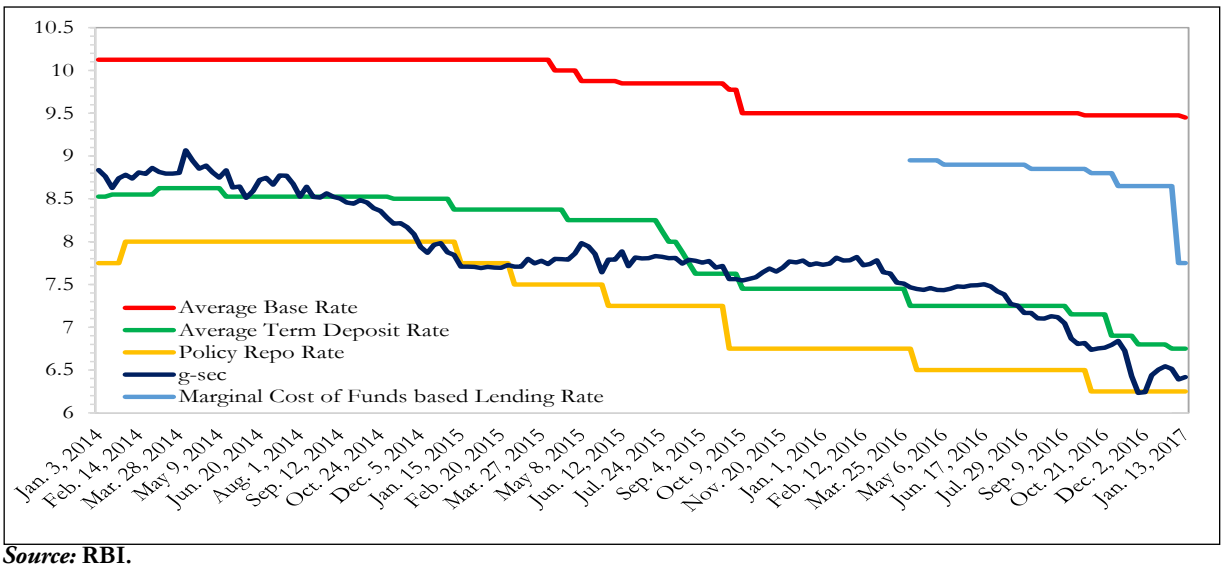
1.45 It is too early and difficult to quantify all the demand, supply and uncertainty effects but it is possible to quantify the impact on liquidity/cash. Figures 9a and 9b plot, respectively, the headline numbers of cash in circulation and our estimates of

Figure 7. Cash and demand deposit growth (%)



Source: **RBI and Survey Calculations.**

Figure 8. Movement of Repo Rate, Base Rate & Term Deposit Rate



Source: **RBI.**

the effective cash in circulation measured in absolute terms and as a share of transactions demand.[5]

1.46 Three important findings flow from the Figures. First, the liquidity crunch (measured by the effective cash in circulation) was smaller than the headline numbers indicate. The headline numbers suggest that the currency decline after November 8 amounted to 62 percent by end-November, narrowing to 41 percent by end-December. Our comparable numbers are 25 percent and 35 percent, respectively. In other words, the true extent of the cash reduction was much smaller than commonly perceived.

1.47 Second, the true peak of the currency – as opposed to the psychological – shock occurred in December, rather than November. In the first few weeks following the announcement, effective currency was sustained because most of the demonetized

[5] The headline numbers are based on taking out all the demonetised notes and adding the new notes. The *Survey's* estimates take account of other factors (detailed in Chapter 3).

Figure 9a. Effective Currency in Circulation (Market Perception)

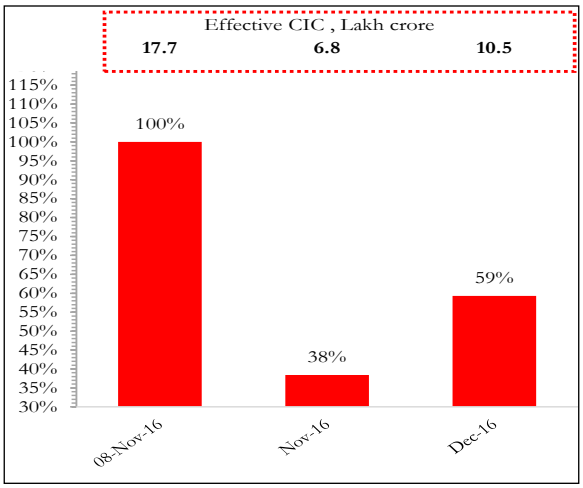
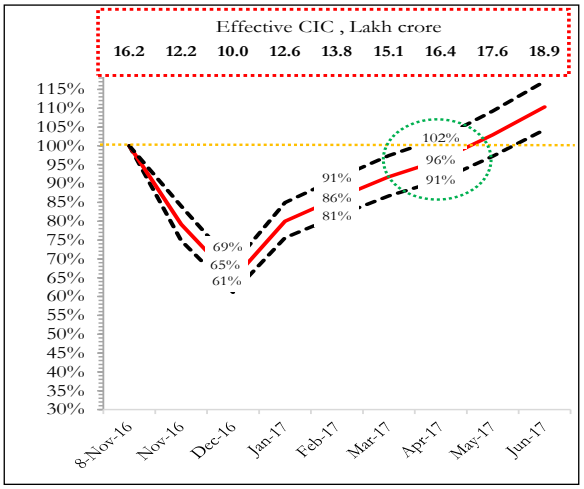


Figure 9b. Effective Currency in Circulation as a proportion of Estimated Transactions Demand



Source: **Survey calculations**

notes still served de facto and de jure as tender (for some purposes). But in December most of these notes were deposited in the banks, while the new Rs. 2000 notes that replaced them were not as liquid as the demonetized currency.

1.48 Finally, the numbers also show that the shortfall is now narrowing rapidly. At end-December 2016, effective currency was about 65 percent of estimated demand, but this is likely to rise to around 86 percent of demand by end-February.

1.49 With these basic facts in mind, we turn next to the macro-economic consequences of demonetisation thus far.

1.50 Figures 10 – 12, plot the interest rate, exchange rate, and stock market effects post demonetisation. Demonetisation coincided with the announcement of the US election results which also heralded a regime economic shift in the US. Hence, the impacts on India are compared with comparable emerging market countries to isolate, albeit imperfectly, the demonetisation effect.

1.51 The most dramatic effect relates to interest rates (Figure 10). In almost all major countries, bond yields rose sharply after November 8, in the US by as much as 58 basis points as of January 19. In India, they had moved in the opposite direction by 32 basis points, a comparative swing of 90 basis points. Similarly, India's stock market had declined by 0.93 percent (Figure 11).

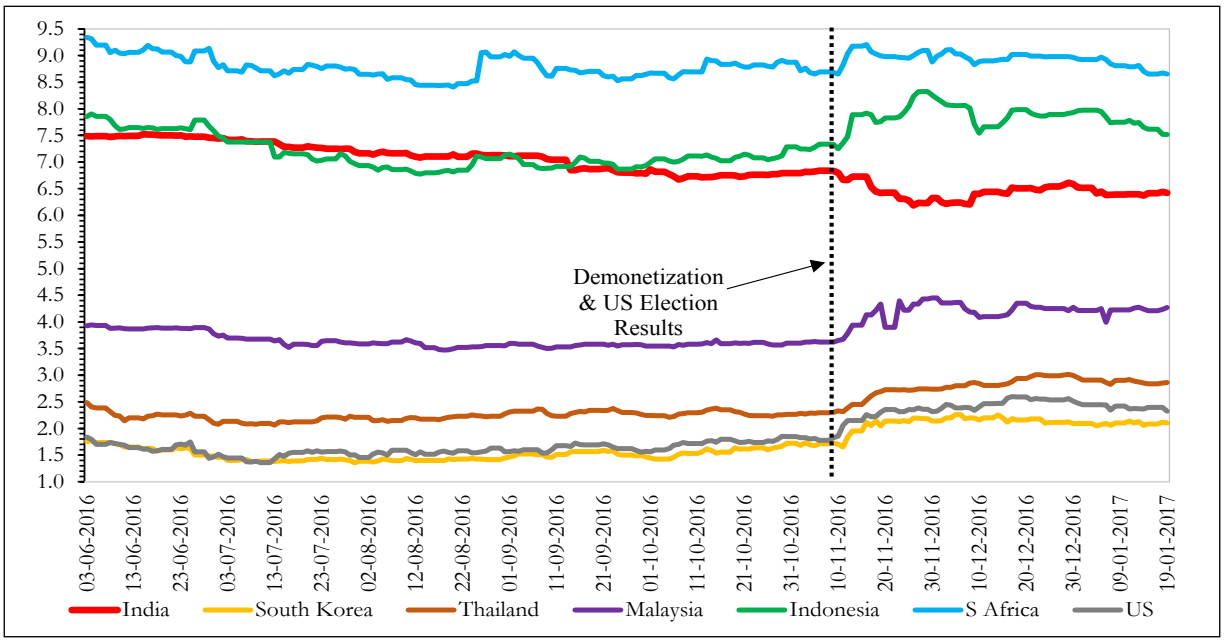
1.52 The decline in interest rates and the outlook triggered a large outflow of foreign portfolio investment, amounting to US$9.8 billion in November and December, with 60 percent of the decline accounted for by debt outflows (Figure 3c). Curiously, though, the impact on the exchange rate has been relatively modest (Figure 12), perhaps because of intervention by the RBI to stabilize the rupee.

B. Impact on GDP

1.53 Anecdotal and other survey data abound on the impact of demonetisation. But we are interested in a macro-assessment and hence focus on five broad indicators:

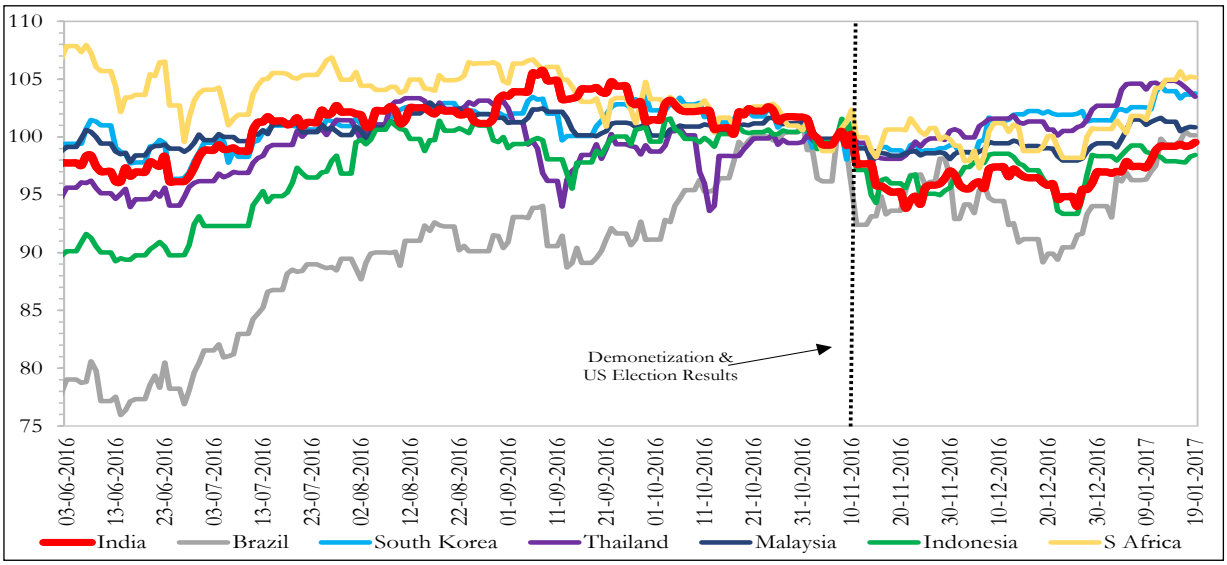
- Agricultural (rabi) sowing;
- Indirect tax revenue, as a broad gauge of production and sales;
- Auto sales, as a measure of discretionary

Figure 10. Yields on Government Bonds (%)



Source: **Bloomberg**

Figure 11. Equity Prices (November 7th = 100)



Source: **Bloomberg**

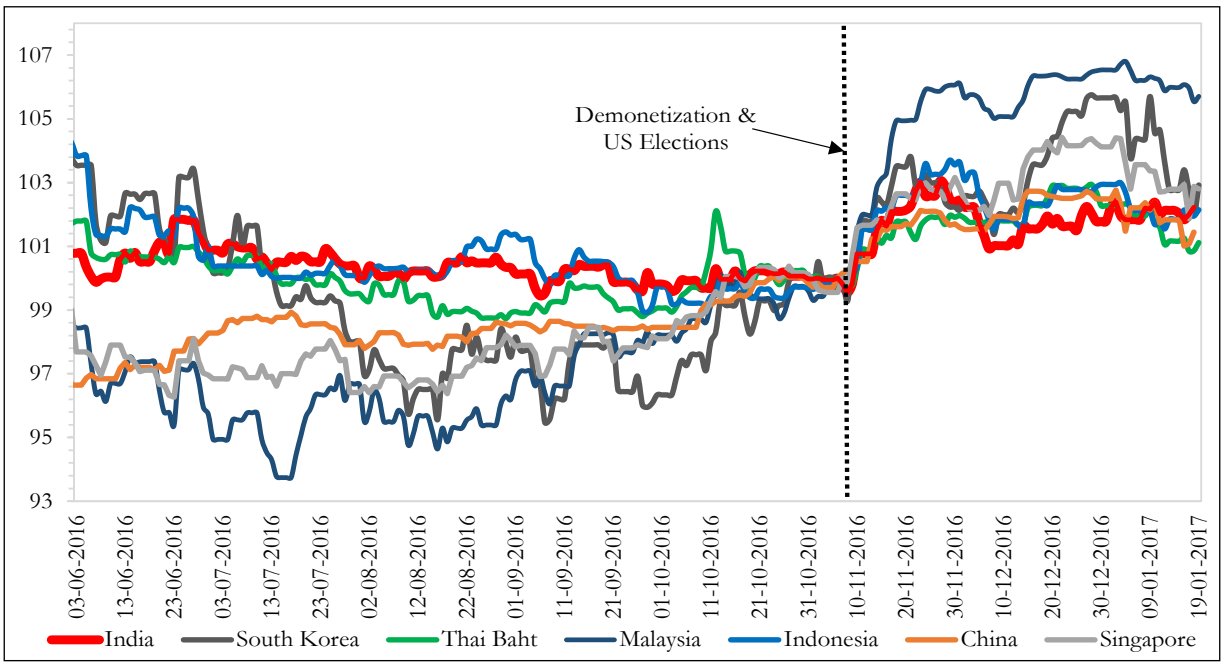
consumer spending and two-wheelers, as the best indicator of both rural and less affluent demand;

- Real credit growth; and
- Real estate prices

1.54 Contrary to early fears, as of January 15, 2017 aggregate sowing of the two major rabi crops—wheat and pulses (gram)--exceeded last year's planting by 7.1 percent and 10.7 percent, respectively (Figure 13). Favourable weather and moisture conditions presage an increase in production. To what extent these favourable factors will be attenuated will depend on whether farmers' access to inputs—fertilizer, credit, and labour—was affected by the cash shortage.

1.55 The other high frequency indicators present a somewhat mixed picture (Figures

Figure 12. Exchange Rates (Change vis a vis November 7th)



Source: **Bloomberg**

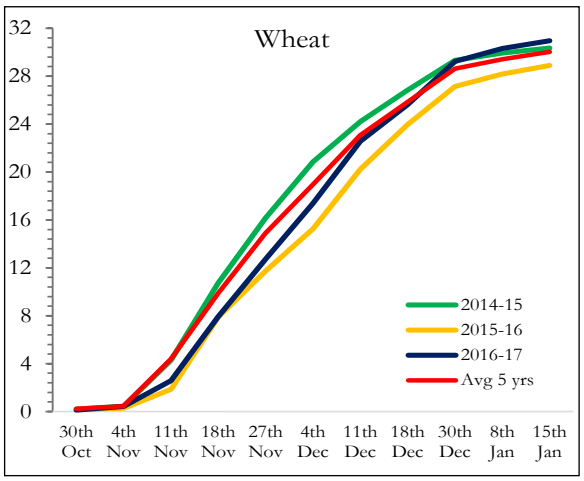
14-17). Passenger car sales and excise taxes bear little imprint of demonetisation; property markets in the major cities and sales of two-wheelers show a marked decline; credit was already looking weak before demonetisation, and that pre-existing trend was reinforced[6]. Indirect tax performance stripped of the effects of additional policy changes in 2016-17 look less robust than the headline number. Their growth has also been slowing but not markedly so after November 8. The balance of evidence leads to a conclusion that real GDP and economic activity has been affected adversely, but temporarily by demonetisation. The question is: how much?

1.56 To estimate a demonetisation effect, one needs to start with the counterfactual. Our best estimate of growth in the absence of demonetisation is 11¼ percent in nominal terms (slightly higher than last year's Survey forecast because of the faster rebound in WPI inflation, but lower than the CSO's advance estimate of 11.9 percent) and 7 percent in real terms (in line with both projections).

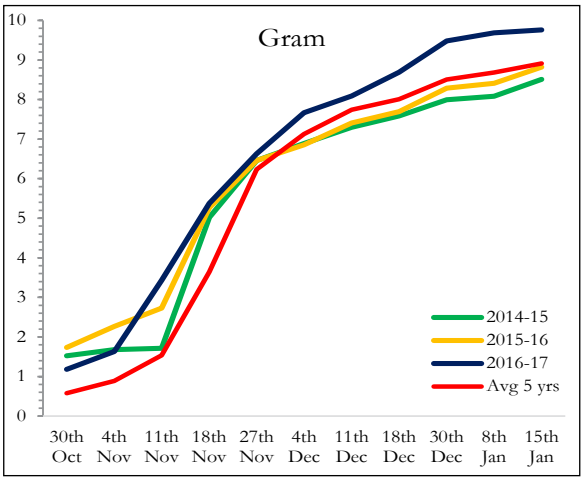
1.57 To assess growth after demonetisation, a simply model relating money to GDP is employed. Then, making assumptions about the use of cash in the economy and the magnitude of the shift toward digital payments methods, we compute the impact on nominal and real GDP growth for FY2017. Given the uncertainty, we provide a range: a ¼ percentage point to 1 percentage point reduction in nominal GDP growth relative to the baseline of 11¼ percent; and a ¼ percentage point to ½ percentage point reduction in real GDP growth relative to the baseline of estimate of about 7 percent. Over the medium run, the implementation of the GST, follow-up to demonetisation, and enacting other structural reforms should take the economy towards its potential real GDP growth of 8 percent to 10 percent. For reasons -- good and self-serving -- the

[6] Weak credit growth was offset to a small extent by increase in other forms of private sector borrowing such as bonds, External Commercial Borrowings (ECBs), and commercial paper.

Figures 13. Rabi Sowing for Wheat and Gram (in million hectares)

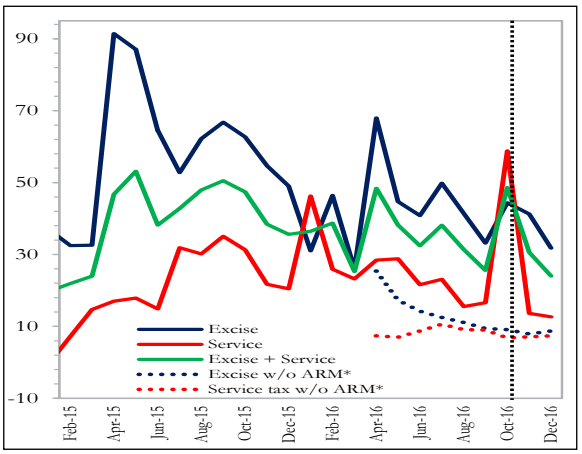


Source: **Ministry of Agriculture & Farmers Welfare**



Source: **Ministry of Agriculture & Farmers Welfare**

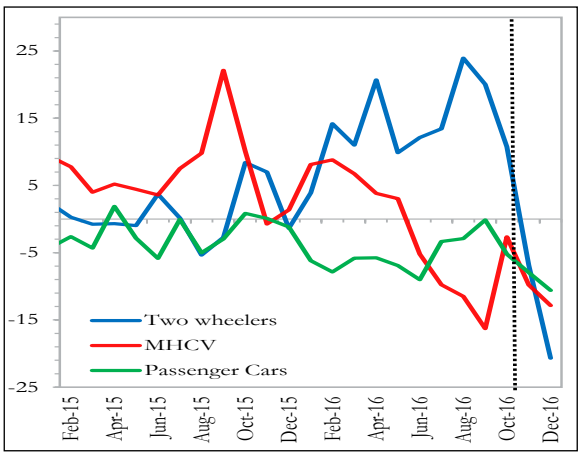
Figure 14. Growth in Indirect Taxes (seasonally adjusted, per cent)



Source: **Department of Revenue and survey calculations**

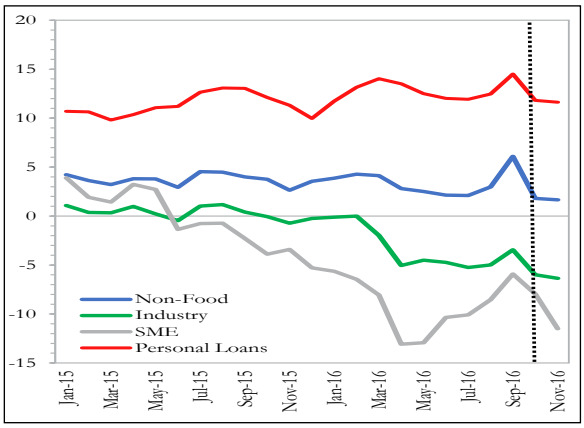
*** Cumulative growth**

Figure 15. Growth in Automobile Sales (seasonally adjusted, per cent)



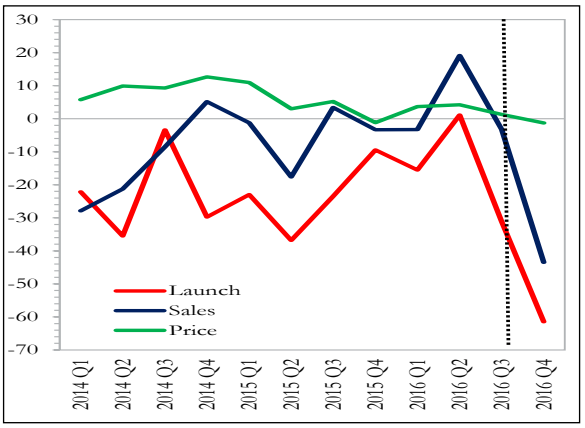
Source: **SIAM and survey calculations**

Figure 16. Real Credit Growth (seasonally adjusted, per cent)



Source: **RBI and survey calculations**

Figure 17. Real Estate Prices (seasonally adjusted, per cent)[7]



Source: **Knight Frank data and survey calculations**

[7] The quarterly data on real estate prices is on a calendar year basis.

projections for 2016-17 will be compared to those of others. The appropriate and not-so-appropriate ways of making these comparisons are discussed in Box 3.

1.58 Recorded GDP growth in the second half of FY2017 will understate the overall impact because the most affected parts of the economy—informal and cash-based—are either not captured in the national income accounts or to the extent they are, their measurement is based on formal sector indicators. For example, informal manufacturing is proxied by the Index of Industrial Production, which includes mostly large establishments. So, on the production or supply side, the effect on economic activity will be underestimated. The impact on the informal sector will, however, be captured insofar as lower incomes affect demand for formal sector output, for example, two-wheelers (Box 3).

1.59 These estimates are based almost entirely on the liquidity impact of demonetisation rather than on the wealth, aggregate supply and uncertainty effects. These effects are difficult to assess, even in qualitative terms. It is likely, for example, that uncertainty caused consumers to postpone purchases and firms to put off investments in the third quarter. But as the economy is remonetised and conditions normalise, the uncertainty should dissipate and spending might well rebound toward the end of the fiscal year. Similarly, there was likely a wealth shock in the initial months, as cash assets were turned into the banks (from where they were difficult to withdraw), but as restrictions are lifted this effect should disappear as well. Indeed, to the extent that some of this wealth has been transferred to those with higher propensity to spend, including the government, demand could eventually increase.

1.60 But this relatively benign outcome would materialise if, and only if, remonetisation is

Box 3. Clarifying in Advance Possible Misinterpretations in GDP-Demonetisation Effects

The GDP growth estimates of the CSO and the Survey, and especially the demonetisation impact, could potentially give rise to a number of misinterpretations which must be anticipated and clarified.

For example, many commentators will be tempted to compare this year's real GDP growth estimate with last year's outturn of 7.6 percent. But this would be inappropriate, because many other factors have influenced this year's performance, quite apart from demonetisation. For example, international oil prices have stopped falling, providing less of an updraft to the economy. So growth would have inevitably differed, even without demonetisation.

Consequently, the appropriate benchmark would be an estimate of what real GDP growth would have been in the absence of demonetisation. A reasonable counterfactual to use would be the CSO's advance estimate of real GDP growth of 7.1 percent, which is close to the Survey's counterfactual, as well.

An even better counterfactual for comparison would be the level of nominal rather than real GDP growth. After all, demonetisation is mostly a nominal demand shock, so its effect in the first instance will be on nominal magnitudes. Moreover, as noted in the Mid-Year Economic Analysis (2015), the large wedge between CPI and WPI inflation has created difficulties in measuring the GDP deflator, which is used to converted nominal magnitudes into real GDP. While the wedge has converged to zero this year as per December 2016 data, nominal magnitudes remain a better basis for identifying the demonetisation effect until the wedge closes durably.

Therefore, the most appropriate gauge of demonetisation would be to compare actual nominal GDP growth -- or the Survey's estimate of it -- with the counterfactual nominal GDP growth without demonetisation. According to the CSO this counterfactual is 11.9 percent, while the Survey's estimate is around 11¼ percent.

Finally, commentators will be tempted to compare the *Survey's* real GDP growth estimates with those of other institutions such as the World Bank and International Monetary Fund. But their baseline growth for 2016-17 (pre-demonetisation) was much higher than CSO's Advance Estimates and the *Survey's*. Therefore the more appropriate comparision would be based on the *change* in the forecast, rather than its level.

effected expeditiously (Figure 9b shows that nearly 90 percent of transactions demand can be met before the end of the year), and decisive policy actions taken to clear away the uncertainty and dispel fears of over-zealous tax administration. Only then could the effects of demonetisation prove non-permanent in nature.

1.61 Finally, demonetisation will afford an interesting natural experiment on the substitutability between cash and other forms of money. Demonetisation has driven a sharp and dramatic wedge in the supply of these two: if cash and other forms are substitutable, the impact will be relatively muted; if, on the other hand, cash is not substitutable the impact will be greater.

V. Outlook for 2017-18

A. Real GDP

1.62 Turning to the outlook for 2017-18, we need to examine each of the components of aggregate demand: exports, consumption, private investment and government.

1.63 As discussed earlier, India's exports appear to be recovering, based on an uptick in global economic activity. This is expected to continue in the aftermath of the US elections and expectations of a fiscal stimulus. The IMF's January update of its World Economic Outlook forecast is projecting an increase in global growth from 3.1 percent in 2016 to 3.4 percent in 2017, with a corresponding increase in growth for advanced economies from 1.6 percent to 1.9 percent. Given the high elasticity of Indian real export growth to global GDP, exports could contribute to higher growth next year, by as much as 1 percentage point.

1.64 The outlook for private consumption is less clear. International oil prices are expected to be about 10-15 percent higher in 2017 compared to 2016, which would create a drag of about 0.5 percentage points. On the other hand, consumption is expected to receive a boost from two sources: catch-up after the demonetisation-induced reduction in the last two quarters of 2016-17; and cheaper borrowing costs, which are likely to be lower in 2017 than 2016 by as much as 75 to 100 basis points. As a result, spending on housing and consumer durables and semi-durables could rise smartly. It is too early to predict prospects for the monsoon in 2017 and hence agricultural production. But the higher is agricultural growth this year, the less likely that there would be an extra boost to GDP growth next year.

1.65 Since no clear progress is yet visible in tackling the twin balance sheet problem, private investment is unlikely to recover significantly from the levels of FY2017. Some of this weakness could be offset through higher public investment, but that would depend on the stance of fiscal policy next year, which has to balance the short-term requirements of an economy recovering from demonetisation against the medium-term necessity of adhering to fiscal discipline—and the need to be seen as doing so.

1.66 Putting these factors together, we expect real GDP growth to be in the 6¾ to 7½ percent range in FY2018. Even under this forecast, India would remain the fastest growing major economy in the world.

1.67 There are three main downside risks to the forecast. First, the extent to which the effects of demonetisation could linger into next year, especially if uncertainty remains on the policy response. Currency shortages also affect supplies of certain agricultural products, especially milk (where procurement has been low), sugar (where cane availability and drought in the southern states will restrict production), and potatoes and onions (where sowings have been low). Vigilance is essential to prevent other agricultural

products becoming in 2017-18 what pulses was in 2015-16.

1.68 Second, geopolitics could take oil prices up further than forecast. The ability of shale oil production to respond quickly should contain the risks of a sharp increase, but even if prices rose merely to $60-65/barrel the Indian economy would nonetheless be affected by way of reduced consumption; less room for public investment; and lower corporate margins, further denting private investment. The scope for monetary easing might also narrow, if higher oil prices stoked inflationary pressure.

1.69 Third, there are risks from the possible eruption of trade tensions amongst the major countries, triggered by geo-politics or currency movements. This could reduce global growth and trigger capital flight from emerging markets.

1.70 The one significant upside possibility is a strong rebound in global demand and hence in India's exports. There are some nascent signs of that in the last two quarters. A strong export recovery would have broader spillover effects to investment.

B. Fiscal outlook

1.71 The fiscal outlook for the central government for next year will be marked by three factors. First, the increase in the tax to GDP ratio of about 0.5 percentage points in each of the last two years, owing to the oil windfall will disappear. In fact, excise-related taxes will decline by about 0.1 percentage point of GDP, a swing of about 0.6 percentage points relative to FY2017.

1.72 Second, there will be a fiscal windfall both from the high denomination notes that are not returned to the RBI and from higher tax collections as a result of increased disclosure under the Pradhan Mantra Garib Kalyan Yojana (PMGKY). Both of these are likely to be one-off in nature, and in both cases the magnitudes are uncertain.

1.73 A third factor will be the implementation of the GST. It appears that the GST will probably be implemented later in the fiscal year. The transition to the GST is so complicated from an administrative and technology perspective that revenue collection will take some time to reach full potential. Combined with the government's commitment to compensating the states for any shortfall in their own GST collections (relative to a baseline of 14 percent increase), the outlook must be cautious with respect to revenue collections. The fiscal gains from implementing the GST and demonetisation, while almost certain to occur, will probably take time to be fully realized.

1.74 In addition, muted non-tax revenues and allowances granted under the 7th Pay Commission could add to pressures on the deficit.

C. The macroeconomic policy stance for 2017-18

1.75 An economy recovering from demonetisation will need policy support. On the assumption that the equilibrium cash-GDP ratio will be lower than before November 8, the banking system will benefit from a higher level of deposits. Thus, market interest rates—deposits, lending, and yields on g-secs—should be lower in 2017-18 than 2016-17. This will provide a boost to the economy (provided, of course, liquidity is no longer a binding constraint). A corollary is that policy rates can be lower not necessarily to lead and nudge market rates but to validate them. Of course, any sharp uptick in oil prices and those of agricultural products, would limit the scope for monetary easing.

1.76 Fiscal policy is another potential source of policy support. This year the arguments may be slightly different from those of last

year in two respects. Unlike last year, there is more cyclical weakness on account of demonetisation. Moreover, the government has acquired more credibility because of posting steady and consistent improvements in the fiscal situation for three consecutive years, the central government fiscal deficit declining from 4.5 percent of GDP in 2013-14 to 4.1 percent, 3.9 percent, and 3.5 percent in the following three years. But fiscal policy needs to balance the cyclical imperatives with medium term issues relating to prudence and credibility.

1.77 One key question will be the use of the fiscal windfall (comprising the unreturned cash and additional receipts under the PMGKY) which is still uncertain. Since the windfall to the public sector is both one-off and a wealth gain not an income gain, it should be deployed to strengthening the government's balance sheet rather than being used for government consumption, especially in the form of programs that create permanent entitlements. In this light, the best use of the windfall would be to create a public sector asset reconstruction company (discussed in Chapter 4) so that the twin balance sheet problem can be addressed, facilitating credit and investment revival; or toward the compensation fund for the GST that would allow the rates to be lowered and simplified; or toward debt reduction. The windfall should not influence decisions about the conduct of fiscal policy going forward.

1.78 Perhaps the most important reforms to boost growth will be structural. In addition to those spelt out in Section 1--strategic disinvestment, tax reform, subsidy rationalization—it is imperative to address directly the twin balance sheet problem. As Chapter 4 makes clear, the problem is large, persistent and difficult, will not correct itself even if growth picks up and interest rates decline, and current attempts have proved grossly inadequate. It may be time to consider something like a public sector asset reconstruction company.

1.79 Another area of reform relates to labour. Given the difficulty of reforming labor laws per se, the thrust could be to move towards affording greater choice to workers which would foster competition amongst service providers. Choices would relate to: whether they want to make their own contribution to the Employees' Provident Fund Organisation (EPFO); whether the employers' contribution should go to the EPFO or the National Pension Scheme; and whether to contribute to the Employee State Insurance (ESI) or an alternative medical insurance program. At the same time, there could be a gradual move to ensure that at least compliance with the central labour laws is made paperless, presenceless, and cashless.

1.80 On the expenditure side, the results in Chapter 9 make clear that existing government programs suffer from poor targeting. One radical idea to consider is the provision of a universal basic income discussed later. But another more modest proposal worth embracing is procedural: a standstill on new government programs, a commitment to assess every new program only if it can be shown to demonstrably address the limitations of an existing one that is similar to the proposed one; and a commitment to evaluate and phase down existing programs that are not serving their purpose.

VI. Other Issues

A. Redistribution: Universal Basic Income (UBI) as a radical new vision

1.81 Chapter 9 discusses India's extensive efforts at redistribution. The central government alone runs about 950 central sector and centrally sponsored sub-schemes which cost about 5 percent of GDP. Clearly,

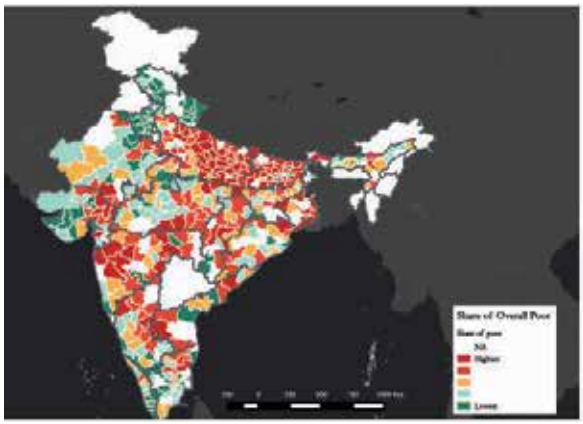
there are rationales for many of them. But there may be intrinsic limitations in terms of the effectiveness of targeting. Figure 18 below provides evidence of misallocation: for six of the largest programmes, it contrasts the share of poor in India's districts (Figure 18a) with the shortfall in allocation of funds to them. (Figure 18b shows this shortfall defined as the difference in the share of fund allocation and the share of the poor.) What the two charts starkly convey is that often the very districts that house the most number of poor are the ones facing the greatest shortfall in the allocation of funds (these districts are consistently red across both charts). This misallocation has consequences: it results in exclusion of the deserving poor from access to government welfare benefits, leakages to non-poor and benefits to corrupt local actors. One of the key problems with many programs is that the take-up and effectiveness of targeting will be correlated with a state's institutional and implementation capacity. States such as Tamil Nadu and Andhra Pradesh, which do not necessarily have the largest number or proportion of poor avail themselves of the program to a greater extent than say Bihar which has many more poor people and a higher poverty rate. This is not an unusual phenomenon but almost intrinsic to anti-poverty and social programs. In such cases, the risks of making "exclusion errors" -- that is leaving out the really deserving and needy -- are high.

1.82 For this and other reasons, the Survey (in Chapter 9) argues that serious consideration be given to the new idea of a universal basic income as a more effective way of achieving Mahatma Gandhi's objectives of "wiping every tear from every eye." A UBI has the merit that it will not necessarily be driven by take-up capability from below but given from above to all the deserving. In that sense, it is less likely to be prone to exclusion errors. And by directly transferring money to bank accounts, and circumventing multiple layers of bureaucracy, the scope for out-of-system leakages (a feature of PDS schemes) is low. Of course, there are considerable implementation challenges which will have to be debated and addressed. Chapter 9 lays out a number of possible ways forward, each with its own challenges. But the support for this idea from all ends of the ideological spectrum suggests that this idea should enter the realm of active policy discourse.

B. Exchange rate policy: Vigilance and new ways of monitoring

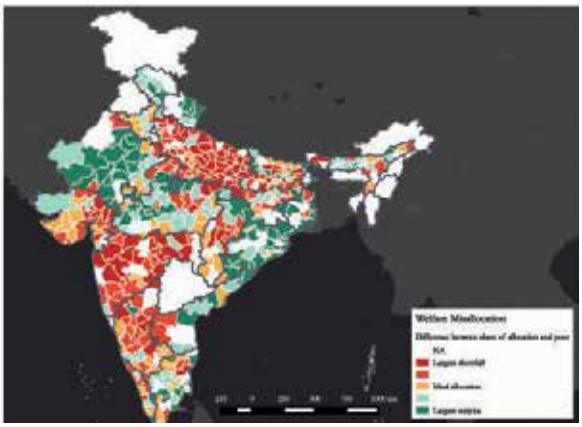
1.83 In the aftermath of the Global Financial Crisis, the eurozone crisis, and the China scare of 2015, international

Figure 18a. Share of Overall Poor



Source: **NSS 2011-12.**

Figure 18b. Shortfall in Allocation to Poor



Source: **GOI and NSS 2011-12.**

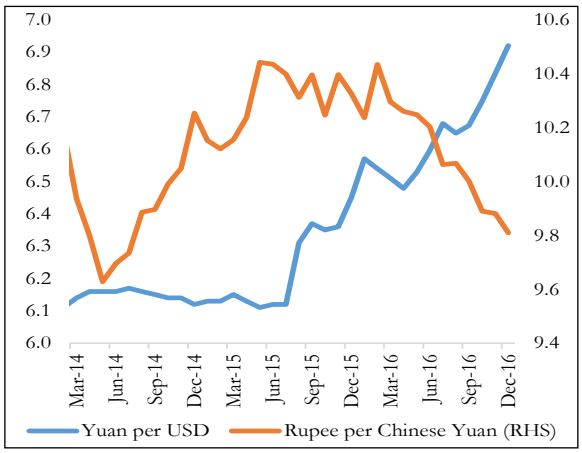
trading opportunities are becoming scarcer. As discussed in Box 2, the world export-GDP ratio has declined since 2011, and going forward a sharp rise in the dollar is expected with a corresponding decline in the currencies of India's competitors, notably China and Vietnam. Already, since July 2015, the yuan has depreciated about 11.6 percent (December 2016 over July 2015) against the dollar and as a consequence the rupee has appreciated by 6 percent against the yuan (Figure 19); the compulsions of delaying its rebalancing strategy might lead to a weak currency policy going forward, especially if there are continuous pressures for capital outflows (see Economic Survey, 2016, Box 1).

1.84 Given India's need for exports to sustain a healthy growth rate, it is important to track India's competitiveness.

1.85 A second reason to review India's competitiveness is the rise of countries such as Vietnam, Bangladesh, and the Philippines that compete with India across a range of manufacturing and services.

1.86 Has India maintained exchange rate competitiveness and what should it do going forward?

Figure 19. Yuan-Dollar and Rupee-Yuan Bilateral Exchange Rates

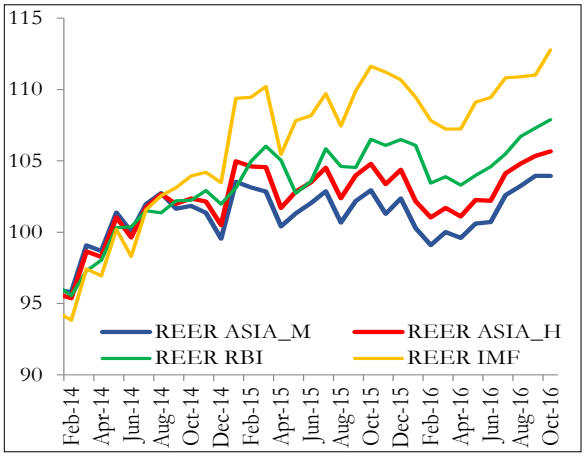


Source: **RBI.**

1.87 A simple look at the indices of real effective exchange rates suggests that since the crisis of 2013, India's rupee has appreciated by 19.4 percent (October 2016 over Jan 2014) according to the IMF's measure, and 12.0 percent according to the RBI's measure. Both these indices could be potentially misleading. The RBI's measure for example assigns an unusually high weight to the United Arab Emirates as it is a major source of India's oil imports, and a transshipment point for India's exports. But little of this trade has to do with competitiveness. More generally, both the RBI and the IMF look at overall trade rather than just trade in manufactures, or even more appropriately for some policy purposes, labor-intensive manufacturing. As a result, heavy weight is given to the euro, even though it is really Asian countries, not Europe, that are India's main competitors.

1.88 Accordingly, we construct a new real exchange rate index that focusses on India's manufacturing competitors. Essentially, we give a higher weight to those countries that have become highly competitive in manufacturing since the Global Financial Crisis, measured by their change in global export market share. The details of the index construction are provided in Appendix 1 but here we highlight the findings. Figure 20 shows the IMF and

Figure 20. Real Effective Exchange Rate Comparsions (2014=100)



Source: **RBI.**

RBI (36-currency) indices against two others that we have constructed. In one (REER-ASIA-M) we given moderately high weight, and in a second (REER-ASIA-H) significantly greater weight, to India's competitors (China, Vietnam, the Philippines) that have gained market share since 2010.

1.89 The surprising finding is that the IMF and RBI indices overstate the rupee's appreciation since 2014, largely because they give such a large weight to the euro, which has been exceptionally weak. When the rupee is compared mainly to the comparatively stronger Asian currencies both REER-ASIA-M and REER-ASIA-H show the loss of competitiveness has been much less, 8.3 percent and 10.4 percent respectively (October 2016 over January 2014).

1.90 In other words, India has managed to maintain export competitiveness despite capital inflows and inflation that has been greater than in trading partners. Reflecting this, India's global market share in manufacturing exports has risen between 2010 and 2015.

1.91 Going forward, however, the headline IMF measure could provide a misleading picture but in the opposite direction. For example, if the yuan (and the currencies of other Asian countries) depreciates against the dollar, while other rates, especially the euro-dollar rate do not move significantly (possible given the euro is close to all-time lows), then the IMF index which under-weights the Asian currencies will suggest that the rupee is maintaining competitiveness whereas in fact it may be losing it. The policy implication is that if India is concerned about competitiveness and the rise of exporters in Asia, it should monitor an exchange rate index that gives more weight to the currencies of these countries.

C. Trade Policy

1.92 The environment for global trade policy has probably undergone a paradigm shift in the aftermath of Brexit and the US elections. These are likely to be exacerbated by macro-economic developments in the United States, and in particular the sharp rise in the dollar that is already under way: since November 8, 2016 the dollar has appreciated by 5.3 percent by end December before recovering to 3.1 percent in January 2017 in nominal terms against an index of partner countries. The history of US trade policy is clear that the most protectionist phase (mid to late 1980s) coincided with the sharp rise in the dollar in the wake of the tightening of monetary and relaxation of fiscal policy in that period.

1.93 At a time of a possible resurgence of protectionist pressures and India's need for open markets abroad to underpin rapid economic growth domestically, it is increasingly clear that India and other emerging market economies must play a more proactive role in ensuring open global markets. A vacuum in international trade leadership is being created which must be filled with voices and influences such as India's that favor open markets. This will, of course, require that India also be more willing to liberalize its own markets, a greater "openness to its own openness."

1.94 Two specific opportunities arise. First, given the discussion in Chapter 7 on the need to promote labor-intensive exports, India could more proactively seek to negotiate free trade agreements with the UK and Europe. The potential gains for export and employment growth are substantial. Based on work initiated in last year's Survey, we calculate additional $3 billion in the apparel and leather and footwear sectors and additional employment of 1.5 lakhs (Table 1).

Table 1. Potential additional exports and jobs of FTAs with EU and UK FTA

	Apparels		Leather Goods		Footwear	
	Incremental Exports ($Mn)	Gain in Employment (number)	Incremental Exports ($Mn)	Gain in Employment (number)	Incremental Exports ($Mn)	Gain in Employment (number)
EU	1483.6	76853	416.9	18542	216.9	9966
UK	603.3	31176	103.8	4615	95.3	4381
Total	**2086.9**	**108029**	**520.7**	**23156**	**312.2**	**14347**

***Source: Survey* Calculations.**

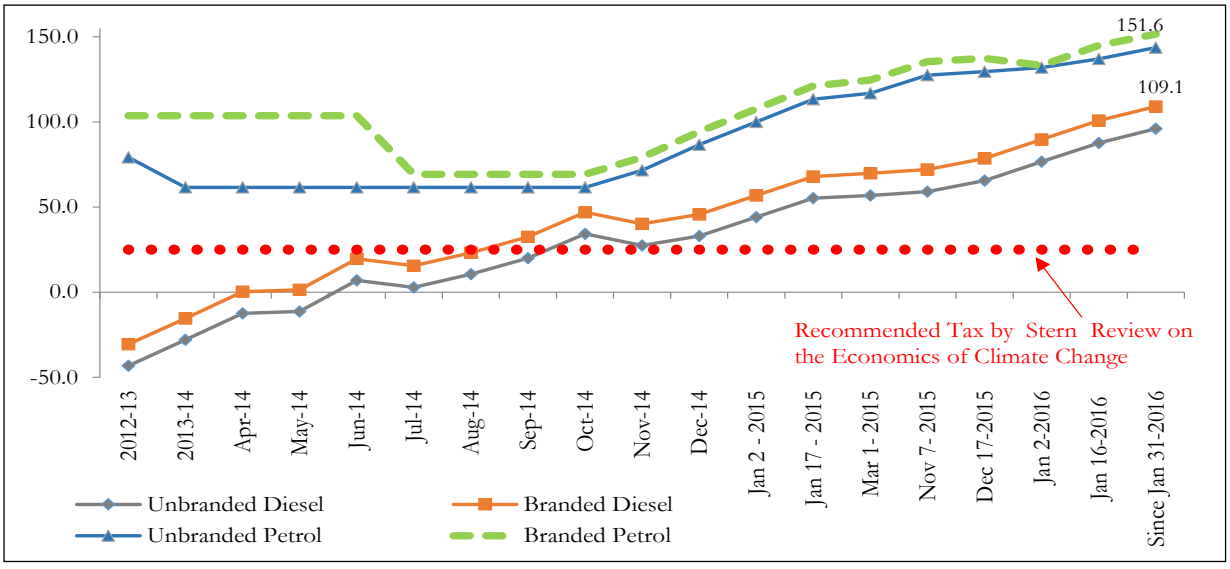
1.95 At the same time, with the likely US retreat from regional initiatives such as the Trans-Pacific Partnership (TPP) in Asia and the Trans-Atlantic Trade and Investment Partnership (TTIP) with the EU, it is possible that the relevance of the World Trade Organization might increase. As a major stateholder and given the geo-political shifts under way, reviving the WTO and multilateralism more broadly could be pro-actively pursued by India.

D. Climate Change and India

1.96 The Paris Agreement on climate change in December 2015 has been one of the shining recent examples of successful international cooperation. The focus will now shift to implementing the agreements. There is universal agreement (Stern, 2006, Weitzman, 2007 and Nordhaus) that a key component to tackling climate change will be to price carbon. How has India fared on this score? This is an important question given the major setback to the cause of climate change created by the large decline in petroleum prices since June 2014.

1.97 Table 2 and Figure 21 provide some answers. Since June 2014, when international oil prices started declining, India has increased its excise duties from Rs 15.5 per litre to Rs 22.7 per litre as of December 2016 for branded petrol and from Rs 5.8 per litre to Rs. 19.7

Figure 21. Implicit Carbon Tax (US$/tCO2)



***Source:* Own calculations**

Table 2. Domestic petroleum tax in major countries (dollars per litre)

S.No	Country	Diesel				Petrol			
		Jun-14	Jan-16	Nov-16	*% change (Nov 2016 over June 2014)*	Jun-14	Jan-16	Nov-16	*% change (Nov 2016 over June 2014)*
1	India	0.00	0.38	0.38	large no	0.21	0.54	0.53	152.3
2	USA	0.13	0.14	0.14	5.4	0.11	0.12	0.12	6.3
3	China*	0.30	0.28	0.28	-6.7	0.32	0.34	0.34	6.3
4	Japan	0.39	0.34	0.35	-9.7	0.63	0.55	0.57	-8.9
5	Canada	0.29	0.21	0.23	-21.2	0.37	0.27	0.29	-21.2
6	France	0.60	0.74	0.75	25.1	1.18	0.93	0.92	-22.0
7	Germany	0.64	0.68	0.69	8.0	1.24	0.93	0.92	-25.5
8	Italy	0.84	0.91	0.91	8.0	1.42	1.07	1.05	-26.2
9	Spain	0.50	0.58	0.59	17.0	0.97	0.71	0.71	-26.9
10	UK	0.98	1.08	0.97	-1.1	1.35	1.08	0.96	-28.8

Source: **For G7 countries International Energy Agency (http://www.iea.org/statistics/topics/pricesandtaxes/) otherwise, Ministry of Finance estimates**

per litre for branded diesel. Table 2 quantifies the climate change effort undertaken by the major G-20 countries and India. The results are striking.

1.98 The increase in petrol tax has been over 150 percent in India. In contrast, the governments of most advanced countries have simply passed on the benefits to consumers, setting back the cause of curbing climate change. As a result, India now outperforms all the countries except those in Europe in terms of tax on petroleum and diesel.

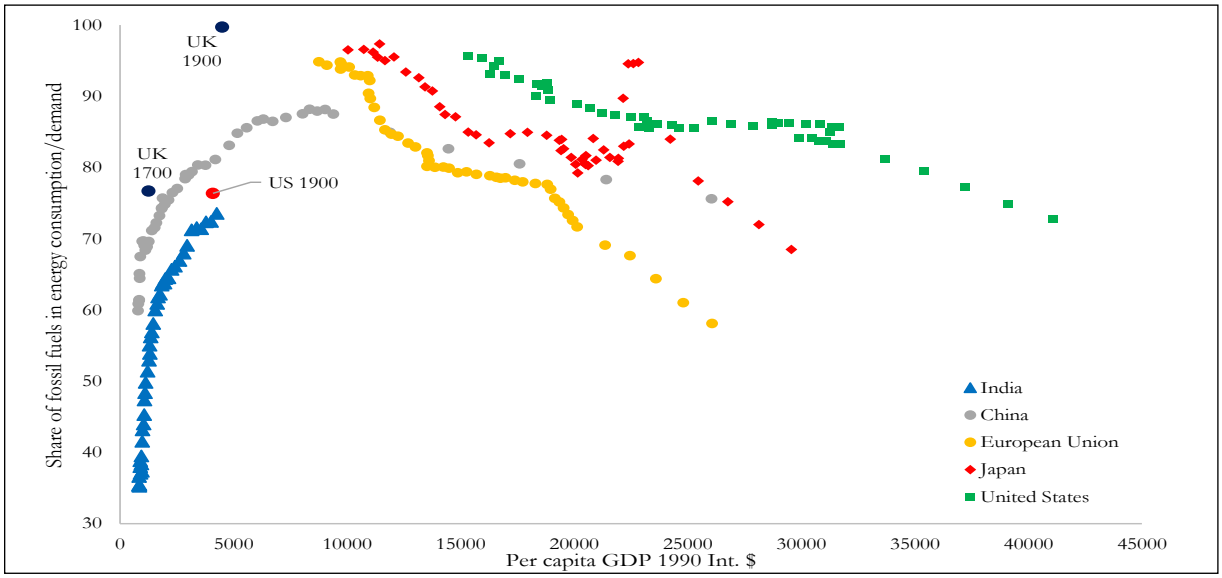
1.99 Figure 22 shows the implied carbon tax resulting from India's actions. Having decisively moved from a regime of carbon subsidies, it is now de facto imposing a carbon tax on petroleum products at about US$150 per ton, which is about 6 times greater than the level recommended by the Stern Review on Climate Change.

1.100 Finally, it is worth seeing India's fossil fuel use from longer term perspective. How is India faring relative to other countries at comparable stages of economic development in terms of the share of fossil fuel use in overall energy consumption? Figure 25 plots this share against a country's per capita GDP in purchasing power terms. So far, and for the conceivable future, India's reliance on fossil fuels remains well below China (the most relevant comparator) but also below the US, UK and Europe at comparable stages of development (this echoes the commitment made by India at Heiliengdamm that it would never exceed the per capita emission of advanced countries). Going forward, of course, India needs to bend the curve to ensure that its reliance on fossil fuels declines and keeping it below the level of other countries so that its good global citizenship on climate change can continue.

E. Ensuring Women's Privacy

1.101 In each of the last two years, the Economic Survey has focused on a dimension of concern to women. In FY2015, it highlighted the violence against women related to coercive family planning methods. In FY2016, the Survey featured a chapter on "Mother and Child," emphasizing the importance of government interventions to

Figure 22. Fossil Fuel as a share of Energy Consumption/Demand and GDP per capita (1971 - 2040)



Data *Source:* Projections of Shares of fossil fuel is from share of fossil fuels in TPED for 2020, 2025, 2030, 2035and 2040 computed from World Energy Outlook 2016 data and projections (New Policies Scenario) for Coal, Oil and Gas

GDP per capita taken from The Maddison-Project, http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version. Per capita GDP for EU calculated from the above source does not include Malta, Cyprus and Luxembourg

Share of fossil fuels in energy consumption, 1971 onwards till most recent available from World Bank Data

Share of fossil fuels for US for the year 1900 from US Energy Information Administration/ Annual Energy Review 2011

Share of fossil fuels for UK from Warde (2007)[8]. Shares pertain to those of England and Wales

ensure long term well-being of women and children.

1.102 While the relationship between sanitation practices and health outcomes has been well documented in the literature (Spears and Cummings (2013)), this section illustrates the disproportionate burden that falls on women and girls due to deficiencies in sanitation facilities.

1.103 This burden on women can take several forms: threat to life and safety while going out for open defecation, reduction in food and water intake practices to minimize the need to exit the home to use toilets, polluted water leading to women and children dying from childbirth-related infections, and a host of other impacts.

1.104 Women's personal hygiene is therefore important not just for better health outcomes but also for the intrinsic value in conferring freedom that comes from having control over their bodies, a kind of basic right to physical privacy. Put differently, impeded access may well be creating "gender-based sanitation insecurity."

1.105 Lack of access to sanitation is widespread and well-documented. In 2011, the Census reported that more than half of the country's population defecated in the open. More recent data shows that about 60 percent of rural households (Ministry of Drinking Water and Sanitation- 2017[9];

[8] Paul Warde (2007), *Energy Consumption in England and Wales:* 1500-2000 published by Consiglio Nazionale delle Ricerche (CNR), Istituto di Studi sulle Società del Mediterraneo (ISSM)

[9] Source: Swachh Bharat Mission website: http://www.sbm.gov.in (accessed on January 21, 2016)

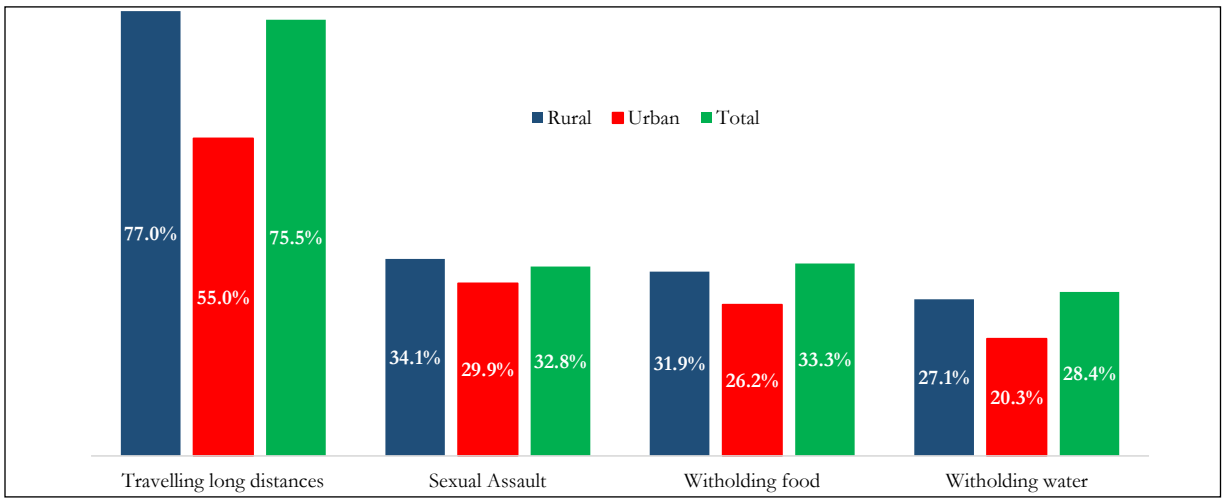
up from 45% NSS 2015) and 89 per cent of urban households (NSSO 2016)[10] have access to toilets - a considerably greater coverage than reported by the Census 2011[11].

1.106 Given this general lack of access, what additional challenges do women face? A rapid study conducted in 2016 by WASH Institute and Sambodhi[12] for this Economic Survey provides some insight. The details of the survey design are in Appendix 2. Note that the facts listed here do not imply a causal relationship – this will be separately addressed in research studies currently underway[13].

The Disproportionate Burden on Women

- *Households without toilets*: For the majority of households without toilets, the Rapid Survey suggests some worrisome trends (Figure 23): 76 percent of women had to travel a considerable distance[14] to use these facilities. 33 percent of the women have reported facing privacy concerns and assault while going out in the open. In the face of these considerable risks, the number of women who have reduced consumption of food and water are 33 percent and 28 percent respectively of the sample. Apart from illnesses, disruptions and deficiencies in the short -term, reduced food and water intake also causes severe long-term debilitating impacts on health, and impedes in cognitive development of girls and infants. Many studies (Singh et. al 2008; Curtis and Minjas 1985) have similarly emphasized that women and men going out into the open have to cope also with exposure to natural elements, snake-bites, etc.
- *Household with toilets*: In households with

Figure 23. Potential Consequences of Not Having Toilets for Women



Source: **Rapid Survey (2016).**

[10] Swachhata Status Report, National Sample Survey Organisation, 2016

[11] The differences between Census-2011 and more recent data sources are in large part due to the rapid acceleration of toilet provision under the Swachh Bharat Mission

[12] The Rapid Survey on Gender Norms and Sanitation and Hygiene, and Implications by life-stage (adolescent girls, pregnant women, and mothers of children under 5), covered 10 states with different levels of sanitation coverage across 5 geographical zones.

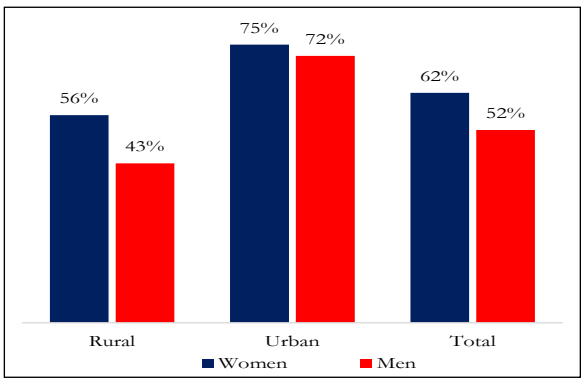
[13] All proportions cited in this section are conditional means after controlling for other confounding factors including caste, religion, Above Poverty Level or Below Poverty Level status, rural/urban, gender, and Individual Household Latrine (IHHL) availability. All numbers cited are statistically significant at 95% confidence interval.

[14] The rapid survey captured long distances as the respondent's self-reported variable.

toilets, women report far greater use of these in-home facilities than men, suggesting that there may be a greater demand amongst women. Coffey et al (2016) found a revealed preference for households to defecate in the open because of a variety of factors (caste and soak pit latrines, especially). But it appears from the Rapid Survey that for households that do have a toilet, patterns of toilet usage are better for women than men. This fact is also independently confirmed in the NSSO Survey (2016). Figure 24 shows that, of the women in households with toilets, 62 percent reported use of the toilet "always" (only 52 percent men reported exclusive usage in such households). In rural households, the proportion of regular use by women was 56 percent (men, 43 percent); and in urban households, 75 percent of women reported exclusive usage (men, 72 percent). What this pattern of usage suggests is that women and girl-children could take a key leadership role to play in Swachh Bharat's objective of creating defecation free communities, by nudging men and boys of the household to change their own defecation behaviors.

1.107 The first step to tackling this issue is to acknowledge the problem. This means generating more information on a topic that is socially considered taboo or ignored. Second, recognizing the positive behavioral patterns that women demonstrate upon obtaining access to sanitation services is critical. Equally, when these services are denied, they face considerable insecurity and nutritional risks. For this reason, ensuring safe and adequate sanitation, water security and hygiene—the objectives of Swachh Bharat—as part of a broader fundamental right to privacy is becoming a serious policy issue.

Figure 24. Usage of Toilets by Women



Source: **Rapid Survey (2016).**

F. India's Soon-to-Recede Demographic Dividend

1.108 2016 was a turning point in global demographic trends. It was the first time since 1950 that the combined working age (WA) population (15-59) of the advanced countries declined (Ip(2015)). Over the next three decades, the United Nations (UN) projects that China and Russia will each see their WA populations fall by over 20 percent. India, however, seems to be in a demographic sweet spot with its working-age population projected to grow by a third over the same period; always remembering that demography provides potential and is not destiny.

1.109 Economic research in the last two decades has suggested that the growth surges in East Asia may have been driven by demographic changes (Bloom et al. (2003)). In particular, countries with large working age populations relative to the overall population appear to benefit from greater economic dynamism. Younger populations are more entrepreneurial (adding to productivity growth); tend to save more, which may also lead to favourable competitiveness effects (Prasad, Rajan and Subramanian (2007), Wei and Zhang (2011)); and have a larger fiscal base because of economic growth and because there are fewer dependents (children and elderly) for the economy and government to support (Bloom et al. (2010)).

1.110 Theory suggests that the specific variable driving the demographic dividend is the ratio of the working age to non-working age (NWA) population-- an intuitive number, because a magnitude of 1 essentially means that there are as many potential workers as dependents. Both the level and the growth of the WA/NWA ratio have a positive impact on economic activity (Bloom and Canning (2004)).

Distinctive Indian Demography

1.111 Figure 25 compares the evolution of the WA/NWA ratio between 1970 and 2050 (based on the medium variant population projections by the UN) for India, Brazil, Korea, and China. It illustrates three distinct features about the Indian demographic profile that have key implications for the growth outlook of India and the Indian states.

1.112 First, India's demographic cycle is about 10-30 years behind that of the other countries, indicating that the next few decades present an opportunity for India to catch up to their per capita income levels.

1.113 In addition, India's WA to NWA ratio is likely to peak at 1.7, a much lower level than Brazil and China, both of which sustained a ratio greater than 1.7 for at least 25 years. Finally, India will remain close to its peak for a much longer period than other countries.

1.114 This distinctive pattern has a cause and consequence. The cause is shown in Figure 26A, which plots the total fertility rate (TFR) for comparable countries and groups of countries. The figure illustrates that all these countries started the post-World War II era with roughly the same very high TFR rates. In China and Korea, TFR then declined rapidly to below-replacement levels (less than 2 children per female), causing the share of working age population to rise until the early 2000s, then to fall as ageing began to set in. In India, however, the decline in TFR has been much more gradual.

1.115 The growth consequence is the following. Unlike the East Asian successes, India should not expect to see growth surges or growth decelerations of the magnitudes experienced by the East Asian countries, at least not on account of the demographic dividend. This does not rule out accelerations for other reasons, related to reforms and strength of domestic institutions. At the same time, India might be able to sustain high levels of growth (on account of the demographic dividend) for a longer time.

1.116 A final distinctive feature in India is the large heterogeneity among the states in their demographic profile and evolution. Figure 25B shows the evolution in the working age population for ten Indian states, which should be viewed against the comparable evolution for the other emerging market countries (shown in Figure 25A).[15]

1.117 There is a clear divide between peninsular India (West Bengal, Kerala, Karnataka, Tamil Nadu and Andhra Pradesh) and the hinterland states (Madhya Pradesh, Rajasthan, Uttar Pradesh, and Bihar). The peninsular states exhibit a pattern that is closer to China and Korea, with sharp rises and declines in the working age population. The difference, of course, is that the working age ratio of most of the peninsular states will peak at levels lower than seen in East Asia (West Bengal comes closest to Korea's peak because of its very low TFR). In contrast, the hinterland states will remain relatively young and dynamic, characterized by a rising working age population for some time,

[15] New demographic projections for the states from 2011-2051, based on the latest fertility and mortality indicators, have been done by Professor S Irudaya Rajan and Dr S Sunitha at the Center for Development Studies, Kerala.

Figure 25. Ratio of Working Age to Non-Working Age Population

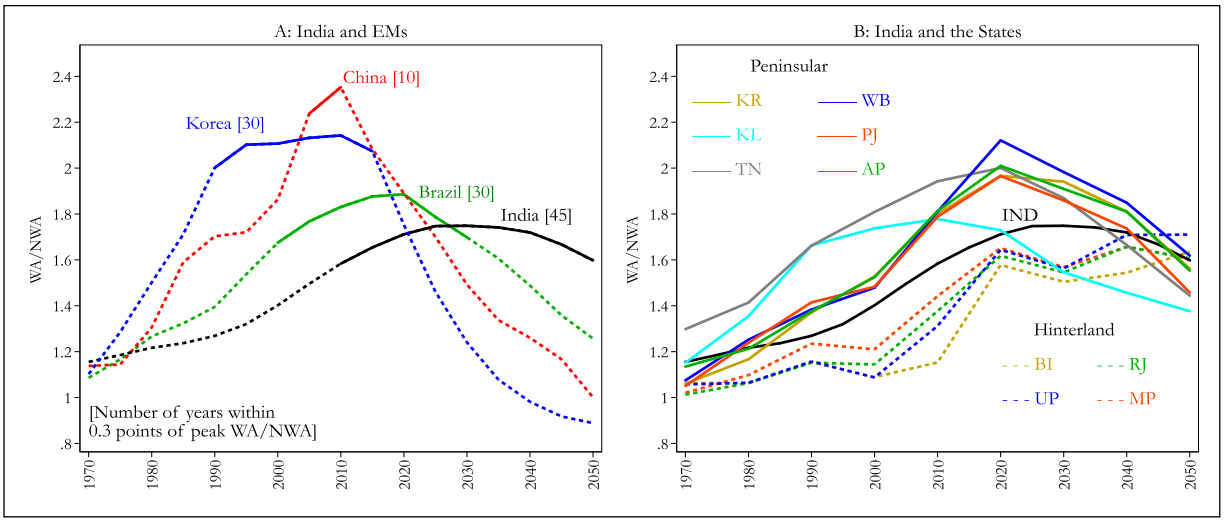
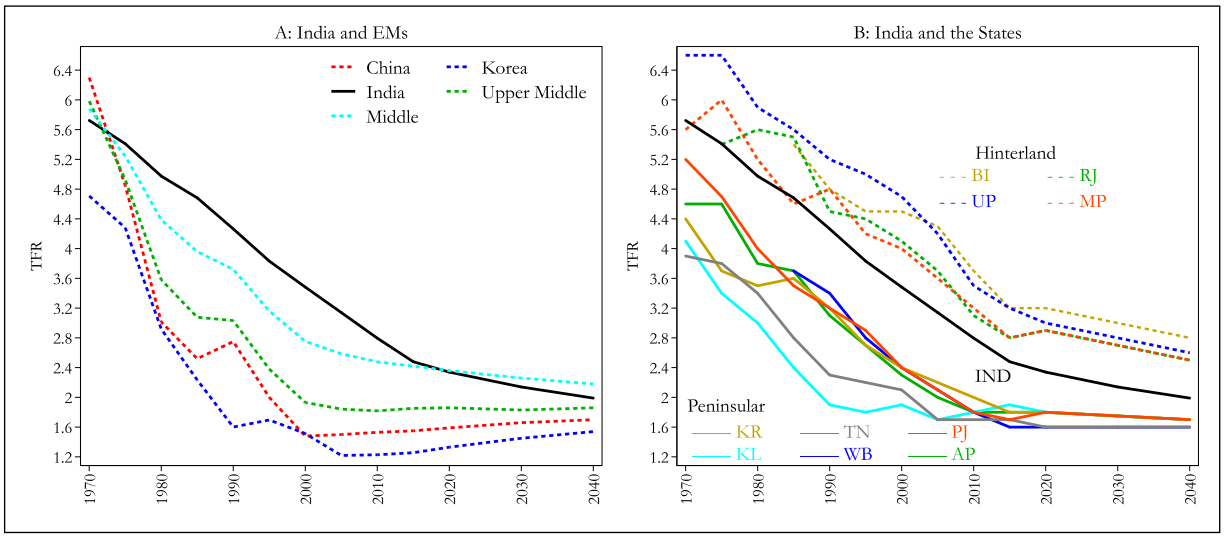


Figure 26. India's Gradual TFR Decline: A Double-Edged Sword



Source: **Panel A: UN World Population Prospects (2015). Panel B: Census of India and projections by Prof. Irudaya Rajan, CDS, Kerala (for Fig. 28 & 29).**

plateauing out towards the middle of the century.

1.118 This divide in the WA/NWA ratio of the peninsular and the hinterland states can be traced to the difference in their levels of TFR (see Fig. 26B, which is the fertility counterpart of Fig. 25B). Demographically speaking, therefore, there are two Indias, with different policy concerns: a soon-to-begin-ageing India where the elderly and their needs will require greater attention; and a young India where providing education, skills, and employment opportunities must be the focus. Of course, heterogeneity within India offers the advantage of addressing some of these concerns via greater labour mobility, which would in effect reduce this demographic imbalance.

Growth Consequences

1.119 This demographic pattern will have two important growth consequences. First, it seems that the peak of the demographic dividend is approaching fast for India. Figure

28A shows that this peak will be reached in the early 2020s for India as a whole; Figure 28B shows that peninsular India will peak around 2020 while hinterland India will peak later (around 2040).

1.120 Table 3, based on the methodology in Mody and Aiyar (2011), calculates the estimated demographic dividend for India (the *additional* growth due to demographic factors alone) for the previous decade and for the next four. The magnitudes peak in 2011-20 at 2.6 percentage points and start declining thereafter. The incremental growth boost in the 2020s, for example, is estimated to be about 1.8 percentage points. In other words, India will approach, within four years, the peak of its demographic dividend. (Note: this does not mean that the demographic dividend will turn negative; rather, the positive impact will slow down.)

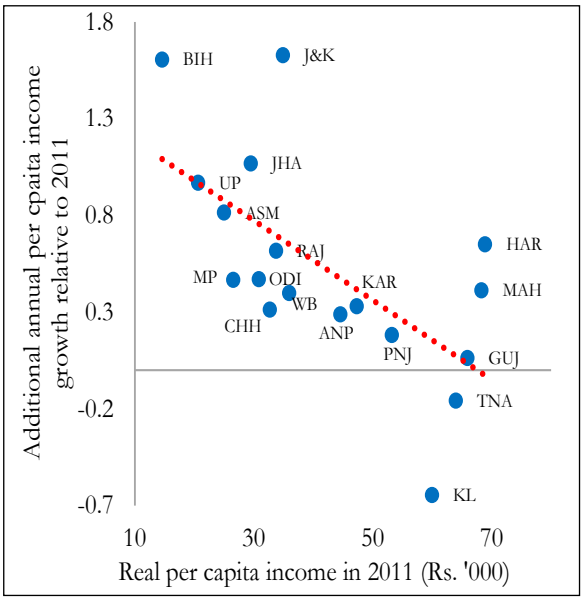
Table 3. Projected Demographic Dividend for India

Decade	Additional average annual PCI growth due to the demographic dividend (DD)	WA/NWA (WA/Total Population) at the start of decade
2001-10	1.44	1.33 (57.1)
2011-20	2.62	1.53 (60.5)
2021-30	1.81	1.81 (64.4)
2031-40	1.92	1.72 (63.2)
2041-50	1.37	1.72 (63.3)

Source: **Survey Calculations.**

1.121 The second growth consequence relates to the distributional impacts across India. One way of assessing this is to compare the demographic dividend for the different states in terms of extra growth against their current level of per capita GDP.

Figure 27. Per Capita Income in 2011 and the Demographic Dividend (2011-31)[16]



Source: **Survey Calculations.**

Figure 27 plots these two variables. The good news is that there is a negative relationship, which means that on average the poorer states today have more of a growth dividend ahead of them. This means the demographic dividend could help income levels across states converge.

1.122 The encouraging overall pattern masks some interesting outliers. Bihar, Jammu and Kashmir, Haryana, and Maharashtra are positive outliers in that they can expect a greater demographic dividend over the coming years than would be suggested by their current level of income. This extra dividend will help Bihar converge, while already rich Haryana and Maharashtra will pull further away from the average level of income per capita in India. On the other hand, Kerala, Madhya Pradesh, Chhatisgarh, and West Bengal are negative outliers: their future dividend is relatively low for their level of income. This will make the poorer states

[16] It is assumed that every state earns the same growth dividend from an increase in the WA/NWA ratio as the all-India average. This is a critical assumption, and one that may not be true, since the actual dividend will depend on the governance, the policy framework in place at the state level, and also on internal migration between states.

fall back, unless offset by robust reforms and growth, while the relatively rich Kerala will probably converge to the average as its growth momentum declines rapidly.

1.123 The growth boost from the demographic dividend is likely to peak within the next five years, as India's share of working age population plateaus. However, India may not see the sharp growth decelerations experienced by the East Asian countries because its working age ratio will fall much more gradually than those in other countries. In addition, the sharp demographic differences between peninsular India and hinterland India will generate wide differences in the timing of the peak, as well as opportunities to attenuate demographic imbalances via greater labour mobility (see Chapter 12). Even so, the urgency of reforms to maximise this soon-to-recede dividend cannot be overstated.

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Appendix 1. Currency Weights for Alternative Exchange Rate Indexes

		IMF	RBI	Asia-H	Asia-M
		25 countries	36 currencies	30 countries	30 countries
1	United States	**17.82**	**8.80**	**7.86**	**11.44**
2	China	**12.47**	**10.84**	**43.51**	**31.12**
3	Germany	9.08		3.36	5.04
4	Japan	6.13	2.72	2.10	3.15
5	United Kingdom	5.58	2.36	2.60	3.52
6	France	4.63		1.61	1.96
7	Belgium	4.53		2.64	3.95
8	Italy	4.33		1.39	2.09
9	Korea,	4.26	2.65	2.26	3.39
10	Singapore	3.53	3.37	2.30	3.45
11	United Arab Emirates	2.84	11.44		
12	Australia	2.47	2.36		
13	Netherlands	2.39		0.94	1.41
14	Canada	2.20	0.69		
15	Spain	2.12			
16	Taiwan	1.96	1.18	0.83	1.24
17	Malaysia	1.90	2.07	1.12	1.68
18	Russian Federation	1.85	0.97	1.12	1.46
19	Thailand	1.70	1.28	1.18	1.77
20	Indonesia	1.51	3.02	0.71	1.06
21	Switzerland	1.42	4.80	0.70	0.94
22	Brazil	1.41	1.51		
23	Sweden	1.34	0.40		
24	Israel	1.28	0.95	0.77	1.16
25	Turkey	1.26	0.69	0.96	1.01
26	Saudi Arabia		5.51	1.93	1.94
27	Hong Kong		3.41	4.01	5.63
28	Kuwait		2.52		
29	Nigeria		2.49		
30	Iran		2.38	0.55	0.82
31	South Africa		2.08	0.57	0.86
32	Qatar		1.89		
33	Vietnam		0.81	5.80	3.36
34	Egypt		0.75		
35	Sri Lanka		0.74	0.56	0.85
36	Bangladesh		0.73	1.21	1.09
37	Mexico		0.58	4.45	2.57
38	Kenya		0.45		
39	Pakistan		0.36		

40	Argentina		0.25		
41	Philippines		0.24	1.36	0.88
42	Poland			0.90	0.64
43	Czech Republic			0.71	0.51
	Euro Area	**27.08**	**12.69**	**11.56**	**15.62**
	Total weight	100.01	99.98	100.00	100.00
	Top 20 currencies	93.30	88.91	92.76	91.33

ASIA-H (ASIA-M) refers to the notional basket where Asian countries are given considerably (moderately) more weight than the other 2 indices. The top 3 currencies under each of the weighting schemes are shown in bold.

How are these weights determined? For each trading partner, we take two weights: the first is based on its actual share in India's manufacturing imports (say W1); the second is computed by focusing on those countries that have increased their global manufacturing export sharebetween 2010 and 2015 based on UNCTAD data. For each such country, we calculate the ratio of its increase to the sum of the increase of all countries (W2). So, for example, if ten countries increased their collective share by say 10 percentage points, including a 4 percentage point increase by China, China's share will be 0.4, and similarly for other countries. In ASIA-H, we assign equal weights to W1 and W2. In ASIA-M, we assign weights of 0.75 and 0.25, respectively for W1 and W2.

Appendix 2: Details of Survey on Sanitation

Sample Size: The sample used for the rapid study consisted of respondent categories spread across lifecycle:

- adolescent girls (10-19 years of age);
- pregnant women;
- women with children of age 0-60 (completed) months.

Men from a sub-sample of households were also covered under the study for a comparative insight.

For this purpose, the country was divided into 5 geographic zones- Highest IHHL coverage, High IHHL coverage, Medium IHHL coverage, Low IHHL coverage and Lowest IHHL coverage and 2 states were selected from each zone (1 low performing and 1 high performing state with respect to IHHL construction). Two districts each from the states, 12 PSUs from each district and 18 households from each PSUs resulted in a sample frame of 4320 households, with 5705 individuals (4255 women and 1450 men).

State and districts were selected based on IHHL coverage. One High performing and one low performing state was selected from each zone Similarly one high performing and one low performing district was selected from each state. Also, sample of 18 respondents was randomly selected from the sampling frame, equally divided among the three respondent categories. A limitation of this study is that it is not a nationally representative sample.