Commentary on India's Economy and Society Series

1

Dimensions of India's Economy

As seen through
the Economic Survey 2017-18
and the Union Budget 2018-19

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India's Economy and indeed its society has been undergoing a major change since the onset of economic reforms in 1991. Overall growth rate of the economy has increased, the economy is getting increasingly integrated with the rest of the world and public policies are now becoming very specific compared over arching framework policies of the pre-reform period. Over the past few years, a number of important policies have been enunciated, like for instance the policy on moving towards a cashless economy to evolving a common market in the country through the introduction of a Goods and Services Tax. Issues are becoming complex and the empirical basis difficult to decipher. For instance the use of payroll data to understand growth in employment, origin-destination passenger data from railways to understand internal migration, Goods and Services Tax Network data to understand interstate trade. Further, new technologies such as Artificial Intelligence, Robotics and Block Chain are likely to change how manufacturing and services are going to be organised. The series under the "Commentary on India's Economy and Society" is expected to demystify the debates that are currently taking place in the country so that it contributes to an informed conversation on these topics. The topics for discussion are chosen by individual members of the faculty, but they are all on issues that are current but continuing in nature. The pieces are well researched, engages itself sufficiently with the literature on the issue discussed and has been publicly presented in the form of a seminar at the Centre. In this way, the series complements our "Working Paper Series".

CDS welcomes comments on the papers in the series, and these may be directed to the individual authors.

COMMENTARY ON INDIA'S ECONOMY AND SOCIETY SERIES - 1

DIMENSIONS OF INDIA'S ECONOMY

As seen through the Economic Survey 2017-18 and the Union Budget 2018-19

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(Under the aegis of Govt. of Kerala & Indian Council of Social Science Research)
Thiruvananthapuram, Kerala, India

March 2018

Printing St. Joseph's Press, Trivandrum-14

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INTRODUCTION

The faculty of CDS first presented a series of commentaries on the state of the Indian economy, both the macro-economy and important sectors, basing themselves on the Economic Survey 2018 and the budget. Agarwal points out that the budget does little for the provision of public goods or to propel growth of the economy. Instead through the health scheme and the raised MSP it stresses distribution. However, the implementation of these schemes is not fully thought through. Ghosh points out that the widening trade deficit because of slow growth of exports and rapid increase in imports poses serious challenges to the health of the economy. The appreciating rupee has contributed to this. Steps taken by the US and some Middle Eastern countries may adversely affect remittances enlarging the current account deficit. The reliance on hot money to fund this poses a threat to economic stability, despite increasing foreign exchange reserves. Parmeswaran notes that the Survey recognises that the decline in investment and savings has been long in duration though relatively moderate, and that this could adversely affect growth. Public investment in the budget shows a decline and there are no measures to encourage private investment. Jain cautions against India's rise in ranking in the World Bank's that the budget highlights. She concludes that there is no plan to lessen the burden of delayed justice and tax litigation, which the Survey highlights as barriers to further improve ease of doing business and raise investment.

Seenath argues that the desire to increase farmers' incomes through raising the MSP may not be feasible given the limited budgetary allocation, fears of igniting food inflation and the need to cap subsidies under the WTO. Also, no road map is laid out to raise productivity and women's participation in agriculture. Mallick cautions against the breach of the fiscal deficit targets. This together with higher MSP may raise growth in the short run but perhaps at the expense of long run growth, particularly as public investment is squeezed. Mallick also warns against an increased interest burden as world interest rates rise and the increased protection in the budget. Abraham notes that this Survey unlike the previous year's survey, has chosen to ignore the worsening employment condition, both quantity and quality of jobs. The only succour that it and the budget provides is hope that faster growth will generate the needed jobs ignoring experience.

Mani, while welcoming the innovation of having a chapter on science and technology issues, points to the possible decrease in the contribution of productivity increase to GDP growth. The expenditure on R&D s a percent of GDP has declined as also the government's share. A major constraint is the reluctance of Ph.D. holders to pursue a career in research. The policy pointers at the end of the chapter do not emerge from any discussion in the survey. Mishra emphasises the declining expenditure on human capital formation. On education the Survey concentrates on the inputs into education at the expense of discussing the quality of education. Though longevity has increased the state of maternal health and child nutrition remain problematic. The proposed medical scheme may generate issues of moral hazard. Beena notes that the survey recognises the importance of the MSME sector for the economy. She is sceptical of capital inflow having a beneficial effect on the sector. The government seems to further privatisation of the financial sector which could adversely affect the MSME sector.

STATE OF THE ECONOMY

Manmohan Agarwal

A budget can be analysed from three perspectives –

1. Allocation
2. Redistribution
3. Stabilization

Both the allocation and redistribution aspects are for welfare purposes and do not depend on the state of the economy. The allocation aspect seeks to provide public goods, and this would depend on the existing state of the supply and demand for public goods. The redistribution aspect depends on the extent of inequality in the economy and depends to a certain extent on society's trade-off between efficiency and equity as some redistribution policies may adversely affect the incentives for work and savings. Stabilization in developed countries means ensuring that the economy is operating at full employment. If unemployment is too high, then we need an expansionary fiscal policy. If there is excess demand in the economy, then fiscal policy needs to be contractionary. So stabilisation aspect of the budget depends on the current state of the economy - too much unemployment or excess demand. For a developing country, stabilisation is not enough. Most governments seek a desired rate of growth which they think is compatible with maintaining macro stability. If the rate of growth is too low, the budget should take steps to accelerate growth. If it is too high and the economy is overheating, the budget should slow down the growth of the economy.

Allocation

What provision does the budget make for public goods? Discussion in India usually centres on education and health and ignores others public goods. However, the problem in providing more public goods might arise from either insufficient allocations or inefficient governance. Given the fact that teachers are missing from classes or doctors from hospitals, one can argue it's a problem of governance. There are also serious shortcomings in the functioning of schools and hospitals as students do not learn at the level commensurate with the class they are in. It is also imperative to reduce the incidence of errors in hospitals. Though these issues are not the task of the union budget, the economic survey fails to

suggest any steps for improvement on that front. It is a challenging task to devise incentive systems that will lead teachers to come to class or doctors and nurses to attend to their duties in hospitals.

Even as far as expenditures are concerned, the picture is not clear. While the health insurance scheme has been touted, it is not clear what changes are contemplated from that which was introduced last year. Furthermore, the insurance is only for secondary and tertiary care. The need of the hour is very often primary care, and this may suffer as the regular health budget has been cut to make provision for the insurance. What the insurance scheme does is shift resources from provision of public health care to private insurance providers. It is not clear whether there will be sufficient capacity in the private sector to provide the necessary services. Apart from getting priorities wrong the example of the US shows that private insurance funded health services are not efficient. There is provision for toilets which is a private good and not a public good.

Redistribution

The budget focuses on this, with particularly large shifts in incomes to farmers and to cover large expenses on health. The government has committed itself to the MSP being 1.5 times the cost of production. But by how much this will increase farmer's incomes is not clear as this will depend on how costs are calculated. Under some definitions of cost, this will not lead to any actual increase in farmers' incomes. Many of the details of the scheme including definition of cost and how it will be implemented, is apparently being studied by Niti Aayog. Furthermore, landless workers and marginal farmers who buy food and who are usually poorer than the distressed farmers might be worse off as price of food goes up. Similarly the parameters of how the health scheme will work are yet to be worked out. It seems to be a penchant of the government of announcing schemes without working out the details of the implementation. This might lead to disenchantment.

Stabilization

What is the state of the economy? We seem to be in a situation of stagflation - upward pressure on prices as well as slow growth and excess capacity. Economics does not have a good theory of how to deal with stagflation. Now, what is the basis for the adoption of a three percent deficit target? It appears that we are merely copying the Maastricht criteria or this is the belief as to what the ratings agencies would consider appropriate. To contain inflation the supply of money must equal the demand for money. The demand for money will increase at roughly the increase in nominal income. Thus, the supply of money should increase at the same rate, and this would depend on the base money if the money multiplier is taken to be constant. Unless the foreign exchange reserves are expected to increase considerably, credit to the government must increase appropriately to get the desired increase in base money. It is not clear whether such an exercise was undertaken. Furthermore, as we expect nominal money incomes to grow faster in India than in the euro-zone India should target a faster growth in money supply and money base.

Major Challenges

Now the major challenges facing the economy are – raise the growth rate, particularly manufacturing, increase employment, manage the BOP. Inflation does not seem to be a serious problem at the moment, and is anyway to be tackled by the RBI through its inflation targeting framework.

Agriculture: The role of agriculture in India's growth strategy is not clear. Raising MSP will only raise farmers' incomes in the short run. In the long run, the need is to raise agricultural productivity. India lags substantially behind most other developing countries in improving agricultural productivity. Institutions set up for the green revolution do not seem to be working effectively any longer. We seriously need to analyse the effect of climate change on agriculture. The survey recognises it, but we need to move beyond that to implement policies to mitigate its effects. Given the ongoing slowdown in the world economy, it is not clear where the demand for manufacture will come from. Higher incomes of farmers arising from increased productivity could be one source of demand for manufactures.

Manufacturing: The performance of the manufacturing sector has been tied to exports. Share of exports of manufactures to value added in the sector had increased from the low teens to over 60 percent. Our exchange rate policy, the appreciation of the exchange rate, has militated against manufactured exports and has hurt the sector. Of course, exchange rate policy is governed by the RBI and not the government. The progressive and piecemeal liberalisation of FDI is also detrimental to manufacturing growth as domestic manufacturers are faced with an uncertain competitive environment.

Employment: Nature of employment all over the world is changing. Permanent employment contracts have been replaced by temporary ones, and our constructs are not keeping up with that. Two ways to provide more employment either increase growth or make processes more labour intensive.

Nothing is there in the budget to raise growth; increasing demand could be just inflationary. More labour intensive techniques require change in relative prices. Lowering taxes on profits reduces the cost of capital and would encourage more capital-intensive techniques. Will it spur investment? Depends what it does to normal profits which investors expect. If these rise, then investment would actually fall.

The pace of employment creation in manufactures has been decreasing all over the world. Many countries are facing deindustrialisation. This has meant that growth has become more service sector dependent. Low productivity services do not raise living standards. High productive services that would provide for good jobs require a much more skilled labour force for which there is no provision in the budget.

EXTERNAL SECTOR

Sunandan Ghosh

The external sector has remained a crucial component of the Indian economy since it opened up in 1991. This section makes a modest attempt to highlight issues of utmost importance by analysing the data presented in Chapter 6 of Volume 2 of the Economic Survey of India, 2017-18.

Increasing Trade Deficit

In 2013-14 India's merchandise exports recorded a value of US$ 314.4 bn (on customs basis). After that, India's exports declined by 1.3% in 2014-15 and 15.5% in 2015-16. This decline continued in the first half (H1) of 2016-17. However, the continuous fall in exports was arrested in the second half (H2) of 2016-17 and in 2016-17 exports registered a growth of 5.2%. India's exports registered a growth of 12.1% during the period April-December, 2017-18. This significant increase in exports was due to growth in exports of both POL (18.5%) and non-POL (11.2%) exports. Though exports increased considerably during this period of April-December, 2017-18; India's imports increased by larger proportions during the same period. The increase in imports registered a growth of 21.8% with increase in both POL (24.2%) and non-POL (21.1%) imports. As a result, India's trade deficit has widened during the period April-December, 2017-18. India's trade deficit has been increasing continuously since 2014-15 and has reached a level of US$ 114.9 bn during April-December, 2017-18 registering a whopping growth rate of 46.4%. Thus, though touching the US$ 300 bn mark in exports seems highly achievable in near future but we must be more cautious about the ballooning trade deficit.

The two major reasons cited in the Economic Survey behind this increase in trade deficit are – (1) increasing oil import bill due to rise in crude oil prices and (2) sudden surge in import of gold. Though imports of gold from Switzerland and oil from Saudi Arabia and Iraq contributed to significant trade deficits with these countries, India's trade deficit with China contributed for 43.2% of India's total trade deficit, (the share was 20.3% in 2012-13) with telephone sets including mobile, automatic data processing machines, diodes and other semi-conductor devices, electronic devices and chemical fertilizers being the major imports from China. As a result, one would find an increase in customs duty on mobile phones, LCD/LED/OLED panels, parts of TVs being hiked in the union budget 2018 in the name of "Make in India" initiative. However, India's trade deficit, particularly that with China, might have been the actual reason for such hike in customs duty.

Increasing Current Account Deficit (CAD)

India experienced a surge in CAD in H1 of 2017-18 to US$ 22.2 bn (1.8% of GDP) from US$ 3.8 bn (0.4% of GDP) in H1 2016-17. This increase in CAD has been primarily due to India's increasing trade deficit which outweighed increase in net invisible surplus. Net invisible surplus increased by 14.6% during H1 of 2017-18 primarily due to increase in net earnings from travel and telecommunications and computer and information services. Private transfer receipts (predominantly remittances) increased to US$ 33.5 bn (10%) after consecutive declines in 2015-16 (-6.1%) and 2016-17 (-6.5%). Increase in crude oil prices have been cited as the most plausible reason for increase in private transfers.

Though it's comforting to know that fall in private transfer receipts has been reverted, Donald Trump's take on immigration to the USA coupled with implementation of *Nitaqat* in Saudi Arabia may pose a threat to remittances in the future. Hence, if there is a sharp fall in private transfer receipts coupled with widening trade deficit, India might end up with higher rates of CAD in future.

Increasing Hot Money

Net foreign investments recorded a growth of 17.4%. This increase comes with a fall in FDI by 6.3% and an increase in FPI by 78.0% during H1 of 2017-18. This change in the composition of net foreign investments may pose a serious threat to the stability of the Indian economy as "hot money" is prone to sudden inflows and outflows and has been the cornerstone of the South-East Asian currency crisis. Surprisingly, this has been totally ignored in the Economic Survey 2017-18 while boasting of a "benign and comfortable" balance of payments situation where capital account surplus is more than sufficient to finance CAD.

Appreciating Indian Rupee

According to the Economic Survey 2017-18, Indian Rupee has appreciated against all major currencies during the period April-December, 2017-18. It appreciated against pound-sterling (6%), Euro (0.2%) and the Japanese Yen (9.2%) as compared to the same period of the previous financial year. It appreciates against the US Dollar by 2.5% in December 2017 (Rs 64.24 per US$) as compared to March 2017 (Rs 65.88 per US$). Such movements of exchange rates require a closer look as the two major countries with which India had trade surpluses are USA and UK. If the Indian Rupee continues to appreciate, India's trade balance might worsen further.

Bulging Foreign Exchange Reserves and Quasi Fiscal Deficits

The Economic Survey 2017-18 highlights the increase in India's foreign exchange reserve meticulously. India's foreign exchange reserves have shown an increasing trend over a long period touching US$ 413.8 bn on 12th January, 2018. Now, India has been following a Managed Float exchange rate regime with inflation targeting (Annual Report on Exchange Arrangements and Exchange

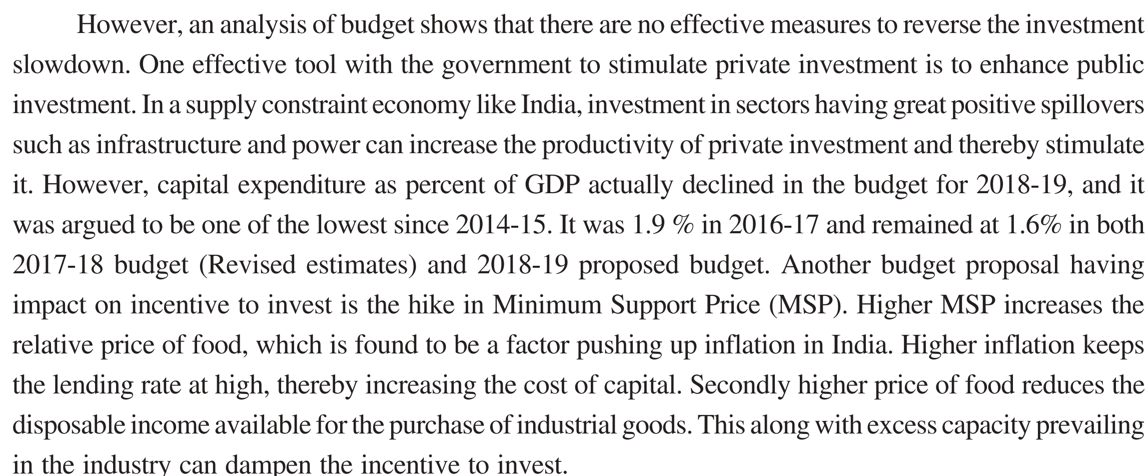
Restrictions, IMF, 2016). As net foreign investments increase, the RBI would purchase foreign exchange to ensure that the Rupee does not appreciate much so that exports get affected. Coupled with its inflation targeting agenda the RBI must resort to sterilisation measures. Hence, this burgeoning foreign exchange reserves would lead to increasing quasi-fiscal deficits as costs of sterilisation are far more than the earnings from the reserves. Interestingly, the Economic Survey 2017-18 does not shed any light on this problem.

The Economic Survey 2017-18 does dedicate a whole chapter on the external sector of the Indian economy. However, the analyses are restricted to trends and patterns and lack in-depth analyses of the macroeconomic implications. In this section, a few critical issues have been raised for further economic analyses and debates.

SLOWDOWN IN INVESTMENT

M Parameswaran

For the last few years, Indian economy has been witnessing a slowdown in its saving and investment rate. The Economic Survey for 2017-18 devotes a chapter to discuss this issue. Between 2007-08 and 2015-16, investment as percent of GDP recorded a decline of 6.3 percentage points. Similarly, saving rate also recorded a decline of 7.7 percentage points from a peak of 38.3 percent in 2007-08. Of this private sector accounts for 5.5 percentage points, with 4.4 and 0.6 percentage points accounted respectively by private corporate sector and household sector (Economic Survey 2017-18). The Survey examines Indian experience in the context of saving, and investment slowdown episodes occurred during the past 40 years in other countries, including some similar countries. The Survey notes that "India's current investment/saving slowdown episode has been lengthy compared to other cases and it may not be over yet" (p.48). It also notes that "investment slowdown is generally associated with growth slowdown" and "between 2007-08 and 2015-16 the growth rate of real GDP per-capita has fallen by about 2.3 percentage point" (pp.53). It held the view that India's investment slowdown is unusual in that it is so far relatively moderate in magnitude, long in duration and started from a relatively high peak rate of 36 percent of GDP. It attributes the investment slowdown to the twin balance sheet problem, to which one chapter was devoted in the Economic Survey 2016-17. That is, many companies have had to curtail their investments because their finances are stressed, as the investment they undertake during the boom have not generated enough revenues to allow them to service the debt they have incurred. This also stressed the balance sheet of the banks as these loans are accumulated as non-performing assets in their balance sheet. The Survey notes that investment decline flowing from balance sheet problems are much more difficult to reverse.



However, an analysis of budget shows that there are no effective measures to reverse the investment slowdown. One effective tool with the government to stimulate private investment is to enhance public investment. In a supply constraint economy like India, investment in sectors having great positive spillovers such as infrastructure and power can increase the productivity of private investment and thereby stimulate it. However, capital expenditure as percent of GDP actually declined in the budget for 2018-19, and it was argued to be one of the lowest since 2014-15. It was 1.9 % in 2016-17 and remained at 1.6% in both 2017-18 budget (Revised estimates) and 2018-19 proposed budget. Another budget proposal having impact on incentive to invest is the hike in Minimum Support Price (MSP). Higher MSP increases the relative price of food, which is found to be a factor pushing up inflation in India. Higher inflation keeps the lending rate at high, thereby increasing the cost of capital. Secondly higher price of food reduces the disposable income available for the purchase of industrial goods. This along with excess capacity prevailing in the industry can dampen the incentive to invest.

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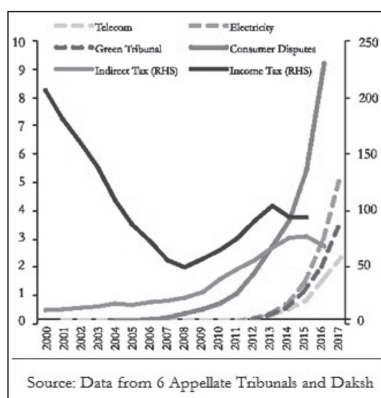
EASE OF DOING BUSINESS

Ritika Jain

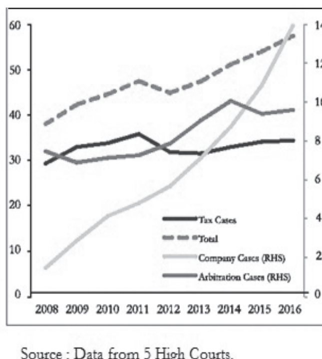
Chapter 9 of Volume 1 of the Economic Survey (henceforth the Survey) deals with Ease of Doing Business. It is a fourteen-page chapter with some descriptive statistics related to judicial outcomes with respect to businesses and a case study on the Tax department of India. The introductory lines reflect drama with the use of "Tarikh pe Tarikh" (*dates followed by dates)* influence from a famous Bollywood movie to articulate the frustrations of delayed justice. While emphasising the issue of delayed justice, the chapter analogously celebrates India's 30 point jump to a rank of 100 in the World Bank's Ease of Doing Business Report- 2018. It also cites the improvement in credit rating by Moody's Investor Services.

Alongside these reported improvements, the Survey does not shy away from highlighting the age-old problem of high pendency in Economic Tribunals and the courts. High pendency and delays lead to mired projects, inefficient contract enforcement and hindered dispute resolutions. These factors in turn amount to high legal costs and fractured investments. The report suggests the immediate need for better business and commerce environment was to addressing issues related to law enforcement and timely justice.

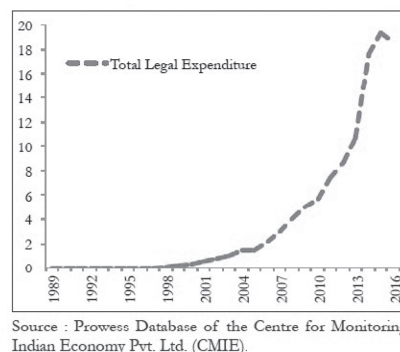
Figure 1: Panel 1(a) indicates the number of pending cases per year (in thousands) with Appellate Tribunals. Panel 1(b) indicates the number of pending cases per year (in thousands) with five high courts. Panel 1(c) indicates legal expenditure (in thousand crores) incurred by Corporate India.



Source: Data from 6 Appellate Tribunals and Daksh



Source : Data from 5 High Courts.



Source : Prowess Database of the Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE).

Source: Economic Survey, 2017-2018

Figures 1(b) and 1(c) indicate a sharp rise in pendency in Economic Tribunals and the High Courts. The possible reasons for this spiralling rise, the Survey noted, could be attributed to an overall case overload and expansion of discretionary jurisdictions without appropriate measures to balance the existing overload. As a consequence, total legal expenditure by the corporate sector has increased rapidly in the last seven years [Figure 1(c)].

The Survey uses the Tax Department as a case study because the Tax Department is the largest litigant in the country. The interesting point is that despite being the largest litigant, the success rate of the Tax Department in direct and indirect taxes is very low at all levels of appeal: Economic Tribunals and the Courts. It invariably loses 65 percent of the cases, according to the Survey (Table 1).

Table 1: Success and petition rate of Tax Department as on March 2017

	Direct Tax Cases		Indirect Tax Cases	
Court	Success Rate[19]	Petition Rate[20]	Success Rate	Petition Rate
Supreme Court	27%	87%	11%	63%
High Courts	13%	83%	46%	39%
ITAT/CESTAT	27%*	88%*	12%	20%

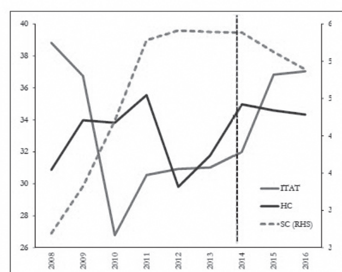
Source: Survey calculations. Source: Surevy calculations.

* Provisional estimates.

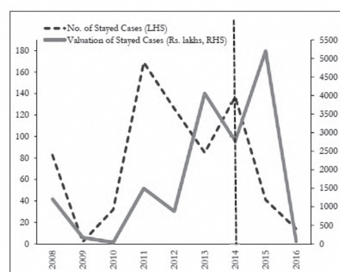
Source: Economic Survey, 2017-18

With abysmally low success rates the Tax Department is required to reduce the number of appeals. The Survey suggests the Tax Department to either formulate rules for appealing or creating a panel for reviewing before appealing. Finally, the Survey highlights the success of a recent experiment related to Supreme Court of creating a separate bench for taxation. The results of this experiment were notable (Figure 2). There was a considerable drop in pendency and stayed-cases for Supreme Court post-2014.

Figure 2: Effects of creating a separate bench for tax cases in Supreme Court. Fig 2(a) denotes the pendency of cases at all levels of appeal. Fig 2(b) denotes the details of the stayed tax cases in Supreme Court.



Source: Survey Calculations.



Source: Survey Calculations.

Source: Economic Survey, 2017-18

The main findings of the Survey can be summarised as follows. First of all, the Survey suggests that India has been doing exceedingly well in the World Bank Ease of Doing Business rankings. Secondly, given the persistent problems of delays and justice, the Survey paves the way for the need of reforms in the direction of reducing legal hindrances, resolving disputes efficiently and decreasing backlogs and pendency at all levels of appeal. Further, with the Tax Department contributing a significant amount to pendency and delayed justice, there is an urgent need for a mechanism to limit the number of appeals. Finally, the success of the SC experiment of creating a separate branch requires replication across different case categories and appeal levels. Against this background, the budget speech and statement of 2018 must be analysed with these issues in mind.

Before delving into the budget speech, one point that demands attention is the validity of India's rank in the World Bank Ease of Doing Business rankings. The World Bank Ease of Doing Business is an index that captures the role of regulations for opening up a business in a particular country. For India, the rise in ranking implies that with major strides in regulation, the 2017 business environment has become so favourable that it takes only 29 days for a business to start (as opposed to 127 days in 2004). The current government is celebrating the 30 point rank improvement without mentioning some relevant and important facts about the World Bank Index. In early January 2018, Paul Romer, the then chief economist of the World Bank had stated doubts regarding the sanctity of the country rankings for the Ease of Doing Business Index.[1] The doubts that stem from politicised methodology and inclusion of new variables in the last few years require the index to be recalculated going back at least four years. With this the inter-country rankings for the recent years stand invalidated. The Survey demanded mention of this issue instead of highlighting India's improvement in the first few paragraphs. Further, even if we consider the rankings as valid, World Bank focuses only on Mumbai and Delhi for consideration while calculating the index to make it comparable across countries. However, the Survey ought to have realised the improvement in rankings cover two of the most metropolitan areas of the country. Ease of doing business for India would be the ease of doing business in different states of the country. This has been completely ignored in the Survey. The latest available state wise ranking for ease of doing business is 2015. For 2016, all we know is that Andhra Pradesh and Telangana topped the rankings followed by Haryana, Odisha and Chhattisgarh but the government is yet to publish the full ranks.

Against this background let us now analyse the proposed budget for the upcoming financial year. First of all, the Finance Minister stated that the Government is targeting to be among the top fifty countries in the World Bank rankings. The question of further improvement in ranking is irrelevant with the current rankings being incredible. Further, the Finance Minister also announced that the Ease of Doing Business will now be transformed into Ease of Living for the common masses. The Finance

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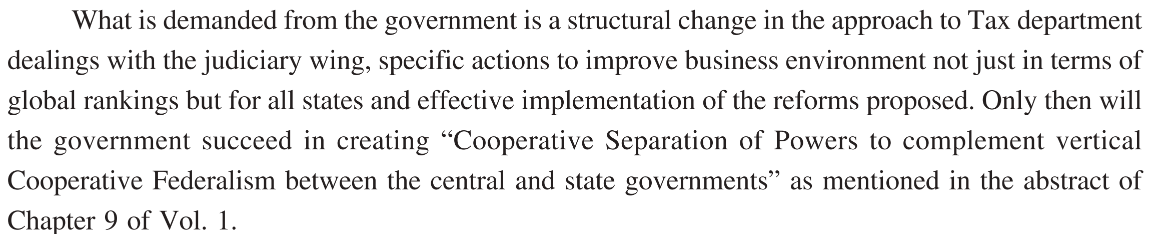
1 https://www.economist.com/news/business-and-finance/21735716-world-banks-chief-economist-questioned-integrity-banks-research-his (Last accessed- February 9, 2018).

Minister further added that the government has identified 372 action points for states to improve the business environment. The Centre would evaluate the performance of states based on feedback from industry. This is an issue of relevance, but with no importance given to state-wise ease of doing business rankings in the current survey, it seems like a mismatch between the Survey diagnosis and Budget treatment. Further, with three-year-old state wise ranking acting as the latest available data, the issue gets aggravated.

To summarise the budget's focus on ease of doing business, it can be concluded that the issue was not ignored. The existing burden of delayed justice and the need for reforms reiterates in both the Survey and the Budget. However, what lacks is a concise plan of how to achieve the objective. The lack of mention of any reforms for the Tax litigation and extension of the successful SC experiment of the "exclusive Tax bench" to other levels of appeals is a dismal attitude of the government in diagnosing a problem without offering a suitable treatment. Finally, the oblivion of government towards the validity of India rank in both the Survey and Budget speaks volumes about the attitude of the government.



What is demanded from the government is a structural change in the approach to Tax department dealings with the judiciary wing, specific actions to improve business environment not just in terms of global rankings but for all states and effective implementation of the reforms proposed. Only then will the government succeed in creating "Cooperative Separation of Powers to complement vertical Cooperative Federalism between the central and state governments" as mentioned in the abstract of Chapter 9 of Vol. 1.

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AGRICULTURE SECTOR

P Seenath

According to Economic Survey (ES - 2017-18), agriculture sector showed 4.9 per cent growth in the year 2016-17 with a record 275 million tonnes production of food grains. The estimated growth rate of the sector during 2017-18 is only 2.1 per cent. The *Kharif* food grain production during 2017-18 was 3.9 million tonnes less and the *Rabi* sown area was 0.5 per cent less than those of 2016-17. These indicate that the sector may not perform as estimated. The budget allocation for different schemes under agricultural sector is not in agreement with focus areas discussed in ES-2017-18.

Doubling farm income by 2022 is the major target set by the government to make farming a profitable venture in the country. Under this backdrop, the budget proposed to pay MSP (Minimum Support Price) for major crops at 150 per cent of Cost of production which will be extended to *Kharif* crops also. But the proposal is not feasible without sufficient budgetary allocation for it. Considering inflationary challenge due to increase in the floor price of food grains and need to cap subsidies under WTO agreement, MSP is not a feasible tool to achieve the objective of raising farm income. Alternatively, introduction of Payment to farmers for 'Ecosystem Services' rendered by them could be considered for this. Improving farm productivity through natural resource endowments and promoting investment credit for soil and water conservation are also not given much importance in the budget. The budgetary allocation of Rs. 264 Cr. is not sufficient for promotion of such activities.

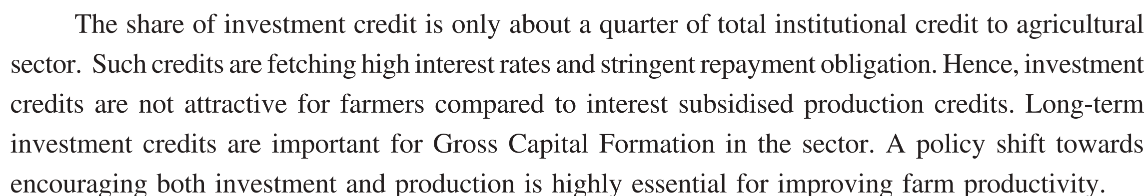
The focus areas in agriculture sector according to Economic Survey are Women in agriculture, Climate Smart Agriculture, DBT scheme extension to all districts in the country, Agricultural Credit, Farm Mechanization, Agricultural Marketing and Infrastructure development. However, some of these areas are not figured in budgetary allocation.

Though the ES talks a lot about need for improving women participation in agriculture, there is no budgetary allocation for achieving it. Only pink colour of the ES endorses it.

ES listed many practices under 'Climate Smart Agriculture'. The government has allocated Rs. 4000 Cr. under PMKSY (Pradhan Mantri Krishi Sinchai Yojana) for bringing 16 lakh hectares additional area under irrigation with the objective of 'per drop more crop'. Demand management of irrigation water is focused through PMKSY while supply management of the resource is not given required

attention. Meticulous implementation of soil and water conservation schemes is important for fighting the existing water scarcity in the country. ES has sighted crop diversification as an important measure to combat climate change. However, there is no budgetary support to encourage coarse cereal cultivation. Moreover, with a hike in MSP of paddy and wheat, coarse cereal cultivation will become less remunerative compared to former crops. Re-structured National Bamboo Mission got an allocation of Rs. 1290 Cr., the result of which has to be sceptical.

The budget has not attempted to ease the existing debt trap in the agricultural sector which itself is hardened due to a large share of short-term credit. Instead, Animal Husbandry and Fisheries sectors are also included under KCC (Kissan Credit Card) scheme. Finance Minister has proposed to modify credit availing formalities to make lessee farmers also eligible. These suggestions are highly helpful for supporting needy farmers and enterprise diversification. However, the expenditure approved on interest subvention during 2017-18 was Rs. 20339 Cr. and allocation for 2018-19 is Rs. 15000 Cr. Considering that Animal Husbandry and Fisheries activities are also eligible for interest subvention under KCC, allocation may not be sufficient to meet the requirement.



The share of investment credit is only about a quarter of total institutional credit to agricultural sector. Such credits are fetching high interest rates and stringent repayment obligation. Hence, investment credits are not attractive for farmers compared to interest subsidised production credits. Long-term investment credits are important for Gross Capital Formation in the sector. A policy shift towards encouraging both investment and production is highly essential for improving farm productivity.

GOVERNMENT FINANCE AND MACRO ECONOMY

Hrushikesh Mallick

Union Budget 2018-2019 and its Implications on the Economy

The greater budget allocation for human capital formation (such as education and health) will help intervene the economy from both supply side as well as demand side. In the supply side, it would lead to greater human capital formation and raise farm productivity and hence that would be contributory to the long term growth trends. Human capital formation would yield greater returns over the long run, which is necessary to complement the private sector investment and achieving technological progress and other economy wide activities. The central government's focus on raising the farm sector income to be doubled up from its current level by the year 2022, would generate the domestic demand for output in other sectors of the economy and therefore would have multiplier impact on investment, employment and output. This would affect the long run growth prospects. However, without affecting the short term growth targets, this could compromise sustenance of the long term growth objective of economy. Therefore, the budget could have been more sensitive towards the realisation of the short term growth objectives through creation of jobs in all major areas other than focusing exclusively on few sectors of the economy. It is argued that higher economic growth is a pre-requisite for achieving the redistributive goal more effectively. Otherwise, the economy would be stuck up in low growth, with low welfare and material economic progress in the long run.

This budget has also breached the commitments made in the last budget on the fiscal consolidation process, which has already generated debates and curiosity among the fiscal experts in the country. Although, this year's budget in its medium term fiscal policy statement declares that the budget stays on to the course of fiscal consolidation process by targeting to limit the central government debt to 40 % of GDP by the year 2022, but it has reneged the commitments in terms of attaining the fiscal deficit (FD) target, which is the operational target, as set out by the review committee panel on FRBM bill, 2016.[2] The fiscal glide path recommended by the committee reveals that the fiscal deficit should have been 3% of GDP by the year 2017-18. This was not possible to achieve. Rather, the medium term

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2 The review committee panel on FRBMB (2016) had repealed the initial FRBM fiscal targets and recommended a debt-to-GDP ratio of 38.7% for the central government and a fiscal deficit of 2.5% of GDP (gross domestic product), both by financial year 2022-23. It advocated for a flexible fiscal deficit targeting by allowing the fiscal deficit to deviate by a maximum of 0.5% percentage points in unforeseen events such as war, calamities of national proportion, collapse of agricultural activity, far-reaching structural reforms, and sharp decline in real output growth of at least 3 percentage points.

fiscal policy statement of the budget shows that it would be possible to achieve this target only in 2020-21. The budget by postponing the fiscal deficits targets to be achieved in another two years period, the government has dishonoured the commitments and lost its credibility. The budget attributes these slippages in FD targets to low realisation of revenues in this year on account of the fact that this year is being the initial year of GST implementation, the revenue for the month of March 2018 would accrue in the next financial year. This revenue adjustment arose only for this current financial year, and this loss of revenue will not arise from the next financial year. On the other hand, by violating all the fiscal targets by a substantial margin on different heads including for the past years, the budget has dented on the credibility of the government in budget making. It has belied the expectation of the private sector. Sometimes this may invite adverse impacts on the economy in terms of private sector investment and other economic activities owing to uncertainties in the economy. Such uncertainties have its implication to push the economy's output in any direction and cause volatility which can be bumpy. The stock market already had showed negative reaction in the second day of the budget presentation day, washing away a substantial amount of wealth of the investors amounting to 46 million crores of rupees on account of imposition of long term capital gains tax without allowing for the abolition of securities transaction tax. The credible fiscal performance of government could probably have been well restored, had the budget convinced the people of the country that this fiscal deviation is an urgent need of the hour for the economy as the economy required drastic structural reforms in order to revert to its long term double digit growth rate trend.

Further, there is also no guarantee that the fiscal policy announcements made in the budget by the FM would be consistent with the monetary policy inflation targeting framework being pursued by the RBI. This is again mandated by the central government to the RBI to maintain the inflation rate at 4% during five years period from the year of its implementation, by allowing a flexibility of deviating from the inflation rate by -2 and +2 from this target. Another crucial concern is that with the review committee recommendations, the government has also abandoned the target of bringing down the revenue deficit to zero which was incorporated in the initial phases of the FRBMB act, 2003. Rather, this is increasing as a proportion to GDP comparing what was budgeted in the previous year. The elimination of revenue deficit target being withdrawn citing the reason that large components of expenditure in the revenue side of the budget also goes for human capital formation, which can be treated similar to spending on capital asset creation in the economy. Therefore, it is difficult to say all the deficits in the revenue side are unproductive like subsidy and interest payments. Therefore, the budget uses a concept called effective revenue deficit which is arrived by subtracting the grants given (for generation of assets) to the states by the centre from total revenue deficits in order to define the unproductive component of deficits. This is on the assumption that these grants generate assets in the states. However, this latter assumption is yet to be established in order to properly gauge how much of these grants given to the states by the centre are utilised for asset generation. Rather, it may make sense to restore the original conditionality of the FRBMB act with a slight modification in the definition of

effective revenue deficit that would inform on the productivity of government revenue expenditures. With modifications, the effective revenue deficit can be defined as revenue deficit minus grants extended to the states for generation of assets minus other productive expenditures in creation of human capital formation (such as expenditure on health and education) under the heading of revenue expenditure. If this would be incorporated into the revised FRBMB, this may bring a desired and sensible modification and this component can be targeted for its elimination over the years not only for the centre but also for the states as well. Otherwise, with revenue deficit each time increasing over the projected figures in the budget, it would be difficult for the central government to achieve the targeted overall deficits and ultimately the stock of debt on time. It would also be difficult for the government to eliminate the basic expenditures on health and education in a country like India, where there is a greater demand for such services from the citizens at large with expanding population and urbanisation along with widening income inequality.

Another worrisome feature of this budget is that there is a reduction of total expenditure and total expenditure is adjusted by compressing the capital expenditure without tightening the revenue expenditures. This points to a bigger compromise in the quality of expenditure adjustment by the central government. For instance, the current budget 2018-19, similar to the trend of the previous actual, has also budgeted the revenue expenditure at almost 88% of the total expenditure. Given the projected high fiscal deficits along with allocating more resources for revenue expenditures, it would add up to an inflationary situation in the economy. Given the already upward direction in the movement of international crude oil prices, and where India imports more than 80% of its petroleum products from other oil producing countries, all these factors may build up inflationary pressure on the general prices, along with proposed increase in MSP on the farm products. Given that government has also committed to supply free gas connection to the poor women, if gas consumption goes up in the country, it may induce fiscal deficits on account of increase in petroleum subsidy bill. Given that there is no change in tax slabs on incomes against the expectation of the lower middle income class that there will be a hike in basic exemption allowances on incomes, it is going to be more burdensome for those classes. It was a general expectation that budget discussion would highlight the impact of the salary hike of central government employees on account of the implementation of 7th pay commission recommendations on the budget. This would have informed the citizens and probably would have defended this higher fiscal deficits budgeted for 2018-19, but this is not done so.

Prevailing Conditions of the Global Economy and its Implications on the Indian Economy

Since major markets are turning towards recovery from the global financial crisis and they are experiencing rise in inflation and interest rates, this may put pressure on the RBI to revise up its rates in correspondence with international rates. Otherwise, this might result in reversal of capital flows affecting the foreign currency reserve of the RBI and producing financial chaos and imbalances. With higher fiscal deficit projected in the current budget, it may also put pressure on the interest rate on the

available credit from banking sector. Higher interest rates will inflate the interest payment burden that will enhance the fiscal deficit for the government. This in turn may affect the private investment along with inflation uncertainties. Ultimately, the economy will be largely conditioned by domestic financial and fiscal factors along with the prevailing conditions of the global economy as the economy is highly integrated in recent years than some years back.

Another concern of the budget relates to its positioning in the current global situation. Whereas, the world is in favour of a free trade and lifting of restrictions on investment and free movement of natural persons, except a few countries' recently resorting to protectionism while they themselves believe that other countries should practice free trade. India's budget announcement of increasing more import tariffs (custom duties) is a reversal to protectionism in the name of incentivizing the firms within the domestic economy to be more internationally competitive. It is surely a retrograde step as this would hamper the competitiveness of the domestic industries which are export oriented and at the same time they are also import intensive. It would severely constrain the firms which are doing business in the segment of product assembly line and adding up to their marginal value from international business. This will make India less competitive and would be detrimental to the success of "make in India" campaign. This also raises the apprehension that India may land up in trouble with the WTO dispute settlement mechanism of subjecting the economy to higher import duties. It remains to be seen as to how the engine of the economy remains with the steam that would depend on how smoothly the economy is steered by the authority in coming days.

EMPLOYMENT, JOB CREATION & LABOUR MARKET

Vinoj Abraham

There has been a general apprehension, reported in media and journals, that far from solving the problem of jobs stagnation that has been gripping India, the recent past has seen further aggravation of the problem. Studies consistently show a decline in employment, albeit by varying degrees, in the last three years, a slowdown of growth in the organised sector employment and absolute decline in the unorganised sector (Abraham, 2017; Himanshu, 2017; Vyas, 2017). However, in the preface to the economic survey of 2017-18, the authors have chosen to willfully avoid making any substantive statements on this decline in employment. In the economic survey of 2016-17the problem of unemployment among the youth and women were explicitly mentioned and the 2017-18 budget had focused on export-oriented and labour intensive manufacturing as a means to employment creation. In the economic survey of 2017-18, while the growth performance of export-oriented textile and garment industry is mentioned as having scaled up, there is not much about what happened on the employment front. Instead, what finds place in the 2017-18 economic survey is the lament of the lack of consistent data on employment in India. This, despite the fact that, just the year before, 2016-17 had utilised the Labour Bureau's Employment–Unemployment Surveys and the same agency's Quick Employment Surveys to comment on employment situation in India. It seems that quality of data becomes questionable only under selective conditions.

The economic survey of 2017-18 does mention that employment and job creation is one of the major challenges, with the need for providing productive employment for the young burgeoning labour force. The key response to this challenge, as identified by the survey, is through sustained growth which it ascertains can be achieved only through private investment and exports. However, in the current context of sluggish private investment rates and the slowdown in exports post-global crisis, one wonders what the exactitude of this growth discourse is. Moreover, taking cue from Indian experience, high growth rate does not necessarily promise high employment growth rate. In short, the economic survey seems not to be convinced of a worsening employment situation in India. The Economic Survey, willfully or not, seems not to see the deepening employment problem in India. This current employment problem is not a medium term issue that needs to be tackled in the long run. Rather, it is a problem looming large in the present, and the roots of this are demand side issues rather than supply side issues. However, again to think that growth would take care of the employment problem is being unimaginative.

Now, turning to the budget for the year 2018-19, the signal that we get is the same as that of the economic survey, namely, output growth is the route to employment growth as well. There are marginal explicit allocations for employment growth per se, which is discussed. Rather it is hoped that growth would enhance employment. The key sectors of expected employment growth through growth are agriculture and MSMEs. The focus on agriculture and MSMEs, through MSPs and credit support respectively are likely to have positive employment effects, owing to the labour intensive nature of production in these sectors. However, one should expect that the employment effect of MSMEs may be much subdued as much of the allocations are aimed at capital interest subsidies, which would make relative input prices in favour of capital and against labour. The direct interventions in terms of enhancing Minimum Support Prices for agricultural goods is likely to have a positive impact on self-employment in agriculture, while the impact on wage employment would depend on the pass-through of the enhanced prices as wages. Similarly, the rural infrastructure schemes would generate direct unskilled manual wage employment.

The other key budget intervention in the labour market is through the sops on Employee Provident Fund and penetration of GST. The expectations of the budget are as follows. The sops in EPF would lead to an increase in employment and along with GST penetration, the economy may witness rise in formal employment.

It can be argued that the formalisation of the economy, through these modes may not lead to formalisation of employees, in the spirit of the term, formal. When one is accounted as a formal worker the formal worker enjoys freedom from three forms of vulnerabilities, job insecurity, income insecurity and poor conditions of work. And these freedoms are guaranteed through the labour laws of the country. A firm which now provides EPF is not obligated to change any of the working conditions of the worker. The singular benefit that would accrue to the worker is the claim on social security through EPF. Inclusion of firms in the formal sector through the GST mode may now give a case for firms being in the formal sector, but that does not make the workers of the firm formal. Now if all firms newly included under GST are going to include their workers to EPF, then the workers would get this social security. However, all other vulnerabilities of the informal worker remain. Can we call such a formalisation of the workforce as formalisation in its spirit? The current scheme of government contributing 12 percent of EPF contribution of the employer would certainly act as an incentive for enhancing employment. But would employers respond to such calls when there is a cap for three years? Would not the employers make long term cost calculations rather than take recourse to a benefit that is uncertain beyond three years?

It is here that the clause for ‘fixed term employment’ that has been made open to all sectors would become handy. Fixed term employment would enable a flexible workforce, who may now be covered under the EPF, but only for the term of his contract. Thus, for the employee, now it implies that he may be covered under EPF, but he has lost his job security and along with it his income

security. In other words, the policy architecture is aimed at expanding jobs in the market, but at the cost of increasing vulnerability, though in a strange and quirky manner the worker would be part of the formal employment in the economy.

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SOCIAL INFRASTRUCTURE AND HUMAN DEVELOPMENT

Udaya S Mishra

Public investment in social infrastructure has always been contentious during the post-reform era. The expenditure on social services by the centre and the states as a proportion of GDP has always been in the vicinity of 6 per cent which is said to have gone up to 6.6 per cent in this budget. Of this, health and education receive 2.7 and 1.4 per cent respectively. The allocation for the education sector has, in fact, declined from its share of 3.1. per cent during 2013-14 and falls short of the demand by this sector given its scale of expansion. The country has 300 million students across 1.5 million schools along with 51,000 colleges and 864 universities for which the allocation falls short of expectation.

The progress in education sector has been evidenced by the survey, in terms of quantitative indicators such as enrollment and infrastructure overlooking the most talked of declining quality of outcomes. An exposition made to this effect has been in making a temporal comparison of the share of schools with student-classroom ratio greater than 30, which may not necessarily ensure quality outcomes and may well be owing to the decline in fertility levels. Further, to demonstrate the impact of educational spending on inclusion and reducing discrimination, improved gender parity is cited which if inspected critically is not encouraging as there is a greater gender stereotype for females in higher education with regard to the divide in general education vis-à-vis technical education.

The Economic Survey 2018 recognised the need for greater investment in health care which echoes the proposal made in the national health policy, 2017 and in keeping with the SDG3 (better health and well being). The national health policy proposes to raise the public health spending from the current 1.15 per cent of GDP to a level of 2.5 per cent of GDP by 2025. In fact, the government renews its commitment to invest three billion dollars by 2020 towards family planning programme in the Family Planning Summit in London. The apprehension regarding the realisation of such proposals stems from the statement that, "Being a developing economy, there is not enough fiscal space to increase the expenditure on critical social infrastructure like education and health in India."

A critical introspection into this claim of rising budget share for the health sector seems to be rather a statistical artefact. The increase in budgetary outlay for health sector has been from 48878 crores during 2017-18 to 54667 crores this year; an increase of 11.8 percent. But in reality, health sector spending always exceeds the outlay and the revised estimate for last year stood at 53198 crores. So, when one compares this year's allocation, the effective increase has been to the tune of 2.7 per cent.

Besides highlighting the emerging challenge of the burden of maternal and child nutrition on the one hand and chronic diseases like hypertension and diabetes on the other, the survey celebrates the

approximate gain of about ten years in life expectancy between 1990 and 2015. This longevity gain evaluated against the evolving epidemiological changes perhaps calls for a rethinking on strengthening the public health system response. On this count a contrast between DALY and life expectancy is made to find an inverse relationship to conclude on the improved health status. However, the composition of the DALY conveys the contrary with increasing contribution to it by the chronic diseases. Another limitation of DALY is that it adjusts for disability and not chronic disease morbidity that apparently remains masked.

On recognition of the rising out of pocket expenditure on health and its adverse impact on the poor, there is a proposal for a new health scheme that will offer insurance cover to the tune of 5 lakhs per family on account of hospitalisation and tertiary health care. This is a scheme repackaged from the one announced in 2016 with a sum assured of Rs. 30000 to that of 5 lakhs now. Unfortunately, this scheme is yet to be operationalised with less than 50 per cent of money being spent under this scheme during the past year. This is mostly due to many large states having better designed schemes of their own. Again, insurance programmes of the government that is claimed to be covering 40 crore people fails to provide financial protection as evidenced by the NSSO survey based information. They do not seem to make any alteration in the extent of catastrophic health expenditures. One is not sure as to what extent insurance schemes increase access to hospitalised care.

Proposition of insurance schemes in place of strengthening public health system does sound like getting sold to the medical insurance industry that involves 'moral hazard'. Such an approach in the given scenario of absence of regulation and weak governance of the health sector with a disproportionate presence of private sector, will make matters worse. Ultimately, such schemes will generate profits for the private healthcare industry which perhaps is the underlying motivation. This will generally weaken the public sector and help consolidate corporate healthcare providers.

On the whole, this is a convenient exposition towards masking the inconvenient truth. The education sector is proposed to be reformed with digitalisation and the health sector by insurance protection both of which sounds far from realistic in the current milieu of institutional architecture.

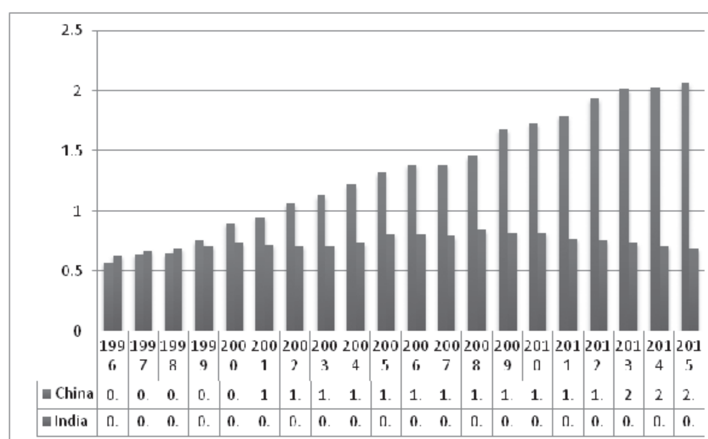
SCIENCE AND TECHNOLOGY

Sunil Mani

Science and Technology issues have been brought to the mainstream of discussions on performance of India's economy for the first time with a chapter devoting to it in Volume 1 of the Economic Survey. This is certainly a welcome attempt. Chapter 8 of the Economic Survey analyses the health or performance of India's innovation system in terms of certain standard innovation indicators such as investments in R&D, number and quality of scientific publications and the number of patents granted to Indian inventors by the Indian Patent Office. It then identifies the main constraint to India's innovation in terms of lack of having adequate number of science and engineering human resource. The discussion ends with a set of eight policy prescriptions. The analysis is conducted in a comparative way with India compared to the situation in other countries and especially with that of China. Based on the data and analysis presented in the chapter, the following propositions emerge.

Proposition 1: India's overall research intensity as measured by the GERD to GDP ratio has decreased from 0.82 in 2009-10 to 0.69 in 2014-15. The target according to the Science and Technology Policy, 2013 was to reach 2 per cent to be reached by 2006-07. Recent release of the latest R&D survey by the Department of Science and Technology confirmed this fall in India's GERD to GDP ratio. At 0.69 India has the lowest research intensity among BRICS grouping and especially when compared to China which during the same period has managed to raise her research intensity to over 2 per cent of her GDP. See Figure 1. However, the Economic Survey is very silent about this, although the fall, in overall research intensity, is merely statistical as the growth rate in GDP is significantly higher than the growth rate in GERD. Nevertheless, it is a matter of concern that India has one of the lowest research intensities among the BRICS countries.

Figure 1: GERD to GDP ratio, India vs China: 1996-2015

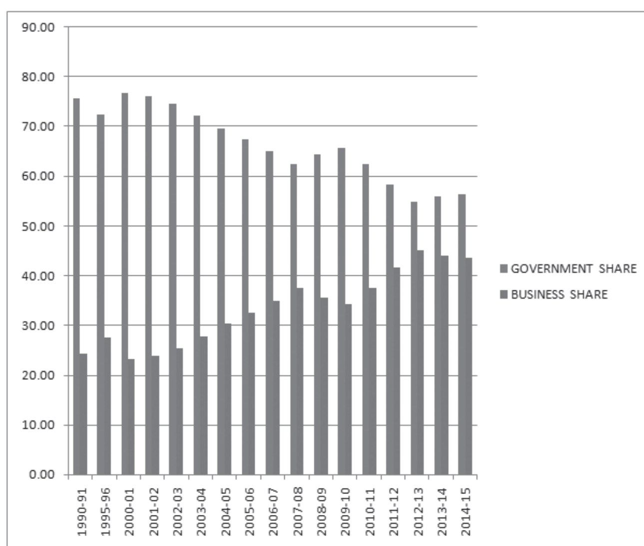


Source: Department of Science and Technology (2017) and UNESCO Institute of Statistics. http://data.uis.unesco.org/

Proposition 2: India's innovation system has evolved considerably over time with business enterprises increasing its share in total GERD to almost 44 per cent in 2014-15 compared to just 23 per cent in 1990-91. On the contrary, the share of government in performance of R&D has declined sharply to about 54 per cent. This structural change in the performance is a very ideal model, because almost all countries which are innovative, have a similar structure in the performance of GERD with business enterprises accounting for the largest share: in Japan it is 78 per cent, Korea also 78 per cent, in China it is 77 per cent, and in the USA it is 72 per cent. It is considered to be an ideal model because if the locus of generation of innovation and its conversion to commercialised products and processes are in the same sector, more innovations are likely to reach the market faster. On the contrary, if innovations are performed by government research institutes and universities and manufacturing by private sector enterprises then building a bridge between the government research institutes/universities and business enterprises is always a problem or challenge. In this way, the situation that one observes in India, theoretically speaking, is a desirable one.

Proposition 3: In terms of output of R&D, one might consider two separate indicators, namely the number of scientific publications and the number of patents granted to resident Indian inventors in India and also abroad. In terms of number of scientific publications, whether on uses the "Scopus" or the "Web of Science" bibliometric databases the number of publications from India has been growing at a respectable rate not only compared to her on historical record but also compared to other major scientific nations. In 2016, her rank in the Scopus database was 3, while China had the first rank. Further, when we consider the quality of these articles, as measured by her rank in the *Nature Index*, India's rank plummets to 13 while China is ranked number 2 after the USA.

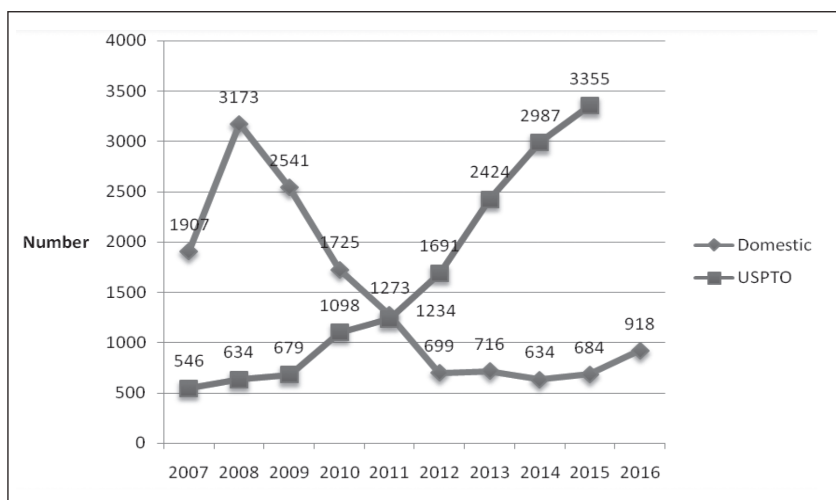
Figure 2: Relative shares of Government and Business Enterprises in the performance of GERD



Source: Department of Science and Technology, Government of India.

On the contrary, when we consider patents as an output indicator, we need to take into account both patents that are issued to resident Indian inventors in India and also abroad. Regarding patenting in India, the total number of patents granted to residents Indian has been stagnating and has been declining since 2011-12 although the patents abroad have been increasing. But the most important aspect that Indian enterprises, individuals and institutions account for only about 18 per cent of domestic patents and about 20 per cent of foreign patents. In other words, the output of innovative activity in terms of patents have not been increasing despite a number of institutional measures that have been put in place to increase a patenting culture among Indian inventors. An important aspect, which the *Economic Survey* commentary has noted, is the time taken between a patent application and a patent grant by the Indian patent office or a very high pendency rate. This is reckoned to be about five years at least as against three years in some of the best patent jurisdictions like at the USPTO. The high pendency rate is attributed to the small number of patent examiners: as against the sanctioned strength of 450, the number of working examiners is only 130 imply that the number of examiners is only about 28 per cent of the sanctioned strength. The recent changes in patent rules, introduced in 2016, have in fact, introduced a fast-track process for the grant of patents.

Figure 3: Trends in patents granted to Indian inventors both in India and abroad

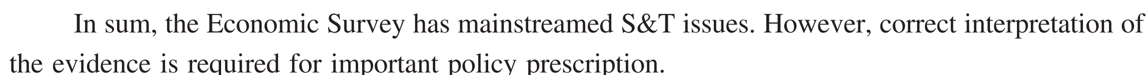


Source: Controller General of Patents, Designs, Trade Marks and Geographical Indication (2017), and USPTO, https://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utl.htm

Proposition 4: One of the most important barriers to India not being able to increase her GERD to GDP ratio is the shortage of scientists and engineers engaged in R&D. According to the latest *R&D Survey* from the Department of Science and Technology, the total number of Scientists and Engineers engaged in R&D on a Full-Time Equivalent basis has increased from 4.41 lakhs in 2010 to just 5.28 lakhs in 2015. On a density basis, at this stock, it transliterates to just 10 per 10000 labour force- the lowest among the BRICS nations. Economic Survey has discussed only the supply constraints to the

country having sufficient number of R&D personnel, and this is in terms of, and this is identified only in terms of, the number of PhD scholars in Science, Technology, Engineering and Maths (STEM) subjects. Although 62 per cent of PhD enrolments are in STEM related subjects, according to the latest All India Survey of Higher Education (AISHE, 2015-16), most of these PhD students find themselves as R&D scientists and engineers. There are possibly two important reasons for this state of affairs. The first one is in terms of the quality of these PhD holders which vary considerably across the spectrum of universities and institutes of higher education in the country which reduces their employability. Second is in terms of the demand for R&D scientist as a career among PhD holders in terms of the financial incentives that are available and also the possibility of career progression etc. These are crucial issues which require a fair amount of fine tuning before R&D can become a career option among Ph.D holders in STEM subjects. Another aspect is the cross-border migration among STEM degree holders which may also contribute to so few being available as R&D scientists and engineers. The Economic survey does not seem to be discussing these important issues.

The chapter concludes with a number of policy pointers which requires to be factored into any future Science, Technology and Innovation Policy. Most of these have not emerged from any discussion within the survey. Of the eight policy pointers, the following three requires careful consideration: (i) improve math and cognitive skills at the school level. This is an important issue as surveys on educational outcomes done by a civil society organisation (namely the Annual Status of Education Report) done across the states in the country point to very poor maths, science and reading skills among school children. A poor quality school education is to a great extent an explanation for the poor quality tertiary education. (ii) leverage scientific diaspora: A large number of Indian scientists abroad are doing very well in cutting edge areas S&T. Although there are some specific efforts in the area of biotechnology and life sciences, schemes for leveraging the capability of diaspora are not widespread. (iii) public understanding of S&T. A better understanding of S&T issues by the public will enable government to leverage new and emerging technogies for improving production and productivity.



In sum, the Economic Survey has mainstreamed S&T issues. However, correct interpretation of the evidence is required for important policy prescription.

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CONCERNS ON MSMEs, FDI AND SERVICE SECTOR

P L Beena

I would like to highlight the scope and limitations of the policy package prescribed by Economic Survey and budget analysis with respect to Medium and Small Manufacturing Enterprises (MSMEs), Foreign Direct Investment (FDI) and Service sector.

MSMEs-related Concerns

Many announcements have been made for MSMEs as this sector accounts for 32 per cent of the total Gross Value Added. According to the latest National Sample Survey (NSS) 73rd round, 6.34 crore non-incorporated, non-agriculture MSMEs generated 11.1 crore employments. Thus as of 2015-16, these MSMEs have been able to generate only an average number of 2 employments per unit although they account for one-third of India's total Gross Value Added. Given the liquidity structure of leading public sector banks, demanding them to sanction more loans to MSMEs is only an eye wash. Moreover, MSME sector is already under debt trap as the *Survey* correctly pointed out that the total amount lent to this sector by banks is almost 4,531 billion rupees (17.4% of total outstanding credit). Moreover, the growth of credit to Micro and Small enterprises grew at the rate of 4.6 per cent while the credit to Medium enterprises decreased by 8.3 per cent (*Economic Survey*, p.127). As of 2016-17, the total number of borrowers under Pradhan Mantri Mudra Yojana was 10.1 crore of which 7.6 crore were women. 1.8 lakh crore has already been spent on these enterprises under this scheme. So we could argue that any program that incentivises private banking institutions to lend money to this sector can accentuate the vulnerability of the owners and employees of those enterprises.

FDI-related Concerns

Secondly, given the available literature and statistics, it is hard to believe that the further financial liberalisation and removal of Foreign Investment Promotion Board (FIPB) would guarantee quality investment which could bridge the investment and technology gap. The *Economic Survey* does not discuss anything about the quality of FDI that has so far flowed to India and its role in capital formation. It is quite evident in the *Survey* that the scenario of growth in investment is quite gloomy and the major sources of finance to the industry have been corporate bonds and commercial paper which has led to the accumulation of external borrowings (Beena 2011 and p.123, *Economic Survey*, 2017-18). Major chunk of FDI, which has come to India through CBM&As is nothing but the replacement of the existing assets and that do not create any additional employment (Beena 2014).

Further, it is argued that financial liberalisation has only helped Non- financial corporate sector in holding relatively large share of financial assets as compared to physical assets. And such investment decision made by the non-financial corporate sector failed to contribute aggregate assets and profitability in the economy (Sen & Dasgupta 2018).

Service sector-related Concerns

Thirdly, India is known as a service-led economy and the service sector especially computer software services contribute to the major share (45.2%) of our export basket. The export earnings from computer software helped in offsetting negative trade deficit created by other service sectors such as business, financial services, travel and transportation. Although the new policy packages initiated by Government of India including 'Make in India', removal of entry barriers of foreign investment in order to tap more foreign savings and better technology is expected to transform Indian economy as a manufacturing hub, the most successful firms are trying to invest abroad through CBM&As for various reasons. Beena (2017) observed that Indian firms that are investing abroad are accumulating trade deficit which have larger implications as far as India's balances of payments are concerned. Interestingly, the study noticed that the foreign exchange spending of the Indian overseas acquiring firms that actively engaged in sectors such as business & banking services, petroleum & oil and trading is much higher than Foreign exchange earnings (Beena 2018). And therefore while acknowledging the positive aspect of the growth of the economy which was led by the service sector, it is quite important to understand the quantum and quality of employment that was generated by those service sectors in the domestic economy.

Given the nature of financialisation of corporate sector, stagnation in the real economy especially agriculture and industrial structure in terms of value addition and employment, the kind of growth that can be expected from MSMEs that could bring positive spill-over effect on employment is not very clear. Given the government's attitude towards big corporate defaulters and the progress so far made on the recapitalisation of public banks seems to give us an impression that the government is only active in pushing the agenda for privatisation in the financial market. Though there were many announcements in the budget, no concrete steps were taken to address the economic crisis faced by India. Policy makers need to correct the nature of industrialisation strategies that are being followed today so as to develop forward-backward linkages in the economy and more balanced development with growth.

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