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The Role of Trade in Faster Job Creation and Economic Growth in India: Some Lessons and Policy Recommendations

Devashish Mitra [*]

Abstract

India currently faces the twin problems of slow job creation and slow economic growth. Even when economic growth has been rapid, India has made slow progress in the creation of quality jobs. To address these issues, I first draw inferences from India's post-independence economic history. The main lesson is that trade reforms have been followed by high rates of growth, while restrictive trade policies have led to slow growth. For the creation of quality jobs, I emphasize the importance of the exports of labour-intensive manufactures. To dig deeper, the evidence on structural change and its determinants is presented, followed by some relevant theory. Policy recommendations presented include tariff reductions, labour law reforms, setting up Autonomous Economic Zones (AEZs) and signing preferential trade agreements.

JEL: F13, F16, F43

Keywords: Autonomous Economic Zones, Trade liberalisation, Labour Laws, Export-led Growth

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[*] Devashish Mitra is Professor of Economics and Gerald B. and Daphna Cramer Professor of Global Affairs at the Maxwell School of Citizenship and Public Affairs, Syracuse University

I. Introduction: The Twin Problems of Slow Job Creation and Slow Economic Growth

India is in the initial phase of a period called "the demographic dividend", a period during which the working-age population (age group 15-64) exceeds in size the rest of the population. Based on the experiences of East Asian countries, including China, growth accelerates during this period. When a relatively large proportion of the population works and it has to feed a relatively small proportion of the population, then output produced, for a given overall population size, is higher while average basic consumption needs are lower, so investment to raise productivity can be significant.

However, an important condition for this demographic dividend to be a blessing or indeed at least a dividend is that everyone belonging to the working-age group has a productive job. In other words, for the government, it could turn into an unnecessary burden in that as more people are added to the working-age group every year, millions of good jobs will need to be created. Otherwise, unemployment or underemployment will rise, or additions to employment then will mainly take place in the low-productivity urban informal or rural agricultural sector. For example, as reported in the 2017 Economic Survey, India was able to add a total of only 135,000 jobs in 2015 in eight labour-intensive or export-oriented sectors surveyed (namely IT/BPOs; textiles and apparel; metals; gems and jewellery; handloom/power loom; leather; automobiles and transport). At the same time, the working-age population actually working or looking for jobs grew by over 10 million.

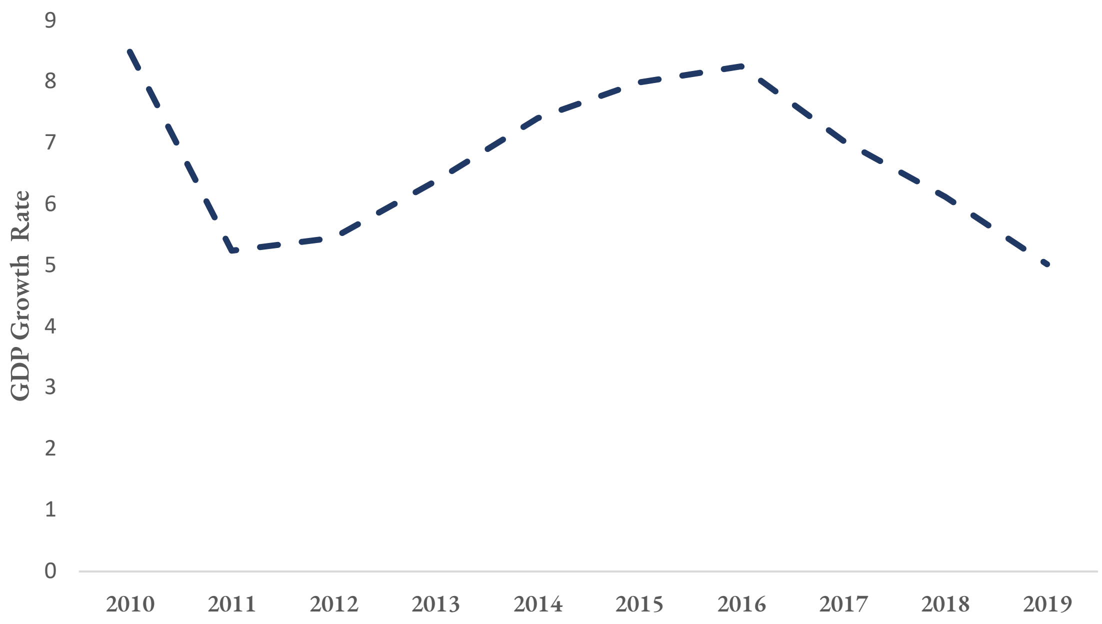
As mentioned above, the new jobs created should be of reasonable quality. The wide variation in productivity across different parts of the Indian economy is illustrated by a few important empirical facts listed in the Three-Year Action Agenda by the Niti Aayog (2017). Firstly, employing half of India's workforce, agriculture generates less than a fifth of the national income, implying that India's overall per capita income is 2.5 times the average income of a person employed in the agricultural sector. Secondly, employing 75% of all manufacturing workers, small firms (those with 20 or fewer workers) produce only a little over a tenth of the total manufacturing output. This implies that the average value added per worker in larger firms is 27 times that in small firms. Furthermore, with the largest service sector firms together producing almost 40 per cent of the service sector's output and employing only 2 per cent of its workers, their output per worker is 20 folds the average output per worker in the service sector overall. And, finally, the average wage of a formal-sector worker is six times the average wage in the informal sector, which comprises small, low-productivity, unregistered enterprises, to which most of the stringent labour regulations do not apply.

With respect to the share of the informal sector in overall non-agricultural employment, even by developing country standards, India's number seems to be very high at 83.6 per cent, but the predicted share, based on this share's estimated worldwide relationship with per capita GDP, is 60 per cent (ILO, 2012). The informal employment share for Brazil, Costa Rica and Uruguay, with approximately the same incidence of poverty as India's but higher per capita incomes, is only 40 per cent (ILO, 2012). Uganda, also with the same incidence of poverty but a lower per capita income than India's, has this share at 69.4 per cent (ILO, 2012). And, for those who like to make India-China comparisons, China's informal share sits at 32.6 per cent (ILO, 2012).

These facts together emphasize the importance of structural change in the Indian economy, through the movement of employment into formal manufacturing from agriculture and informal manufacturing, alongside an economywide efficiency growth.

Thus, the real economic problem and challenge India faces is the creation of good jobs for its fast-growing labour force. Addressing this problem is essential to make sure that the "demographic dividend" indeed remains a dividend. An obvious solution to this problem is the expansion of and specialization in labour-intensive manufacturing as an important component of a desirable structural change in which sectors with high labour productivity expand at the expense of low productivity sectors both as a share of GDP and employment. However, this solution sounds more like a desirable outcome and our solution needs to be deeper in that we need a path that will lead us to this desirable outcome (structural change). For that, we need to figure out what kind of structural change we have had during the last few decades and whether a course correction is required.

Figure1: India's GDP Growth rates during the current decade



Source: The World Bank

There is no doubt that for more good jobs to be created, a healthy rate of economic growth is essential. This allows the government to grow their tax revenues to finance infrastructure projects, that directly generate employment and that also lead to productivity enhancements, in turn indirectly leading to good jobs in the manufacturing sector. Of course, growth is only a necessary, not a sufficient condition for the creation of good jobs. Jobless growth is a possibility, that happens when the expansion in national output is capital intensive. But the first step in our investigation and analysis is to look at India's data on economic growth. For our purposes here, looking at the data for the last decade will be insightful. Starting in 2010 from a GDP growth rate of 8.5% per annum in Figure 1, we see that the economy crashes to a little above 5% in 2011 and then gradually and steadily recovers over the next five years to a little above 8% in 2016 and only slightly below the 8.5% we saw in 2011. After 2016, the trajectory of the growth rate has been downhill throughout, reaching a pre-pandemic growth rate of 5% in 2019. Things have become more difficult with growth going into the negative territory during the pandemic, with the growth rate plummeting to -23.9% in the first quarter of the current fiscal year and then rising to -7.5% in the second quarter. While bringing the pandemic under control and vaccinations will bring the growth rate to positive territory, what India needs is a sustained growth rate of above 8% per annum and to make sure that growth is accompanied by job creation.

II. Openness and Growth: Lessons from India's Experience

Table 1: GDP and Per Capita GDP Growth Rate

Year	GDP growth	Per capita GDP growth
1951-1965	4.10%	2%
1965-1981	3.20%	0.90%
1981-1988	4.60%	2.40%
1988-2003	5.90%	3.80%
2003-2012	8.30%	6.70%

Source: Panagariya (2019)

Next, drawing heavily from Panagariya (2019) and building upon it, I describe the Indian experience with openness and growth and draw inferences from it.

Right after Independence, there was strong support from various corners for India to be self-reliant. Two things may explain this push. India had been under British rule for a couple of centuries. This rule was, in some ways, initiated by a trading company, namely the British East India Company. It is, therefore, quite possible that this made the government under independent India's first Prime Minister, Pandit Jawaharlal Nehru quite suspicious of international trade, as it probably also led to some fear of future economic imperialism. In addition, mainstream economics then believed in the virtues of free trade only for the developed world but infant-industry protection for developing countries. Thus, the blame often placed on Nehru for India's closedness is unfair. As documented in Panagariya (2008, 2019), Nehru's tenure as Prime Minister started off being reasonably open to both international trade and foreign direct investment. This explains a high trade-to-GDP ratio of slightly over 15% and the import-to-GDP ratio of 10% in 1957. But the balance-of-payments crisis, resulting in a foreign-exchange shortage, in 1958 led to a system of rationing or budgeting foreign exchange, leading effectively to a restriction on imports. The trade-to-GDP ratio fell to 9% by the mid-1960s. Due to the relatively open policy regime during the first half of the period 1951-65 and its lagged impact on growth, GDP growth for the entire period 1951-65 jumped up from under 1% prior to Independence to an average annual rate of 4.1%, with the per capita GDP growth being 2%.

The period 1965-81 has been the worst for India since its independence. Some of the impacts on growth, which sank to 3.2% for aggregate GDP and 0.9% for per capita GDP, came from the policies of the second half of the previous period as well as a couple of wars and a few droughts. But a large part of the impact came from India's move towards virtual autarky and anti-market policies during the late 1960s and the 1970s under Prime Minister Indira Gandhi. Severe restrictions were imposed on the type of importer, type of good that could be imported and source country of imports. There were also very strict restrictions on foreign exchange, including the banning of any foreign exchange holdings in India by domestic residents. Import licensing was expanded. There was a virtual ban on imports of most goods that could be produced domestically, amounting to a regime of import substitution on steroids. As a result, domestic substitutes of imported goods were expensive and of low quality. The import-to-GDP ratio reached its trough in 1969-70 at roughly 4% and the trade-to-GDP ratio went south of 10%. Foreign investment in any firm was capped at 40%. The impact of a complete lack of economic openness was compounded by extremely restrictive labour laws, that virtually banned firing of workers and reassigning them from one task to another. Small scale industry reservations also severely restricted firm size in labour-intensive industries.

As it gradually became obvious how the lack of openness and the suppression of market forces were constraining India's economic growth, there were some attempts to bring about some incremental reforms, including some restricted opening up of the economy. Licensing restrictions were slowly lifted on goods not being produced in India by moving them to the Open General Licensing (OGL) list, starting in the late 1970s and expanding the list to include roughly 2000 capital and intermediate goods by the late 1980s. Tariff hikes on goods outside of the OGL list raised average tariffs considerably from 25% in 1980-81 to 67% in 1986-87 but the exemption of OGL goods from the statutory tariffs, to be imposed much lower tariffs, meant that effectively protection overall went down, as reflected in the rise of the trade-to-GDP ratio to over 17% by 1990-91. There were some other reforms in the areas of taxation, industrial licensing etc. Together with those reforms, a fall in oil prices, self-sufficiency attained in food grains, a devaluation in the late 1980s, and a somewhat irresponsible fiscal expansion (in the form of substantial government pay raises, subsidies, interest payments and defense spending, that finally led to a macroeconomic crisis in the very early 1990s) resulted in annual GDP growth of 4.6% and per capita GDP growth of 2.4% during the period 1981-88. The growth rate for the period from 1986-87 to 1990-91 was 5.6%.

The expansionary fiscal policies of the 1980s led to a bad macroeconomic situation, which soon assumed crisis-like proportions by 1990 when the external-debt-to-GDP ratio rose to 24.5% and the debt-service ratio (the proportion of export earnings required to service debt) rose to 27%. By that year, foreign exchange reserves could cover only a month's worth of imports in 1990-91. By July 1991, India was unable to borrow in external markets due to its extremely low credit rating. Upon request, the International Monetary Fund (IMF) agreed to provide India with considerable assistance but with some serious conditionalities attached, that required announcing reforms and their implementation. An important part of the reforms was on trade. The resistance to reforms was lower than expected due to several reasons: fall of the Soviet Union, the success of market-friendly economic reforms by China, and a general feeling among civil servants that India's earlier anti-market and isolationist policies might have been a mistake (Panagariya, 2019).

The policy of import licensing was lifted from most intermediate inputs and capital goods, but a similar policy for consumer goods took some time to emerge. The top import tariff rate was reduced from 355% in 1990-91 to 150% in 1991-92, then gradually to 50% by 1995-96 and 10% by 2006-07, with some exceptions in textiles and automobiles. The import-weighted average of tariff rates came down from 87% in 1990-91 to roughly 5% in 2007-08. Both bound and applied agricultural tariffs were very high, with the former averaging 115% and the latter averaging between 35% and 42% after the conclusion of the Uruguay Round of the GATT in 1993. By 1992, export controls on many products were also lifted. An 18% devaluation of the rupee relative to the US dollar also took place during the first year of the reforms initiated in 1991, moving to full convertibility of the rupee for current account transactions and partial convertibility for capital account transactions. Most restrictions on foreign investment were also eliminated.

The average annual GDP growth rose to 5.9% for the period 1988-2003, while the average annual per capita GDP growth rose to 3.8 per cent. This outcome reflects the impact of the slow and mild opening of the entire economy in the 1980s (along with heavy government spending) and some impact of the big-bang reforms of the 1990s and early 2000s. The effects of these reforms probably showed up with a lag also in the subsequent period, 2003-12. During that period, the average annual GDP growth was 8.3% and the per capita GDP growth was 6.7%. Besides the trade and foreign investment reforms started in 1991 under the Congress government led by Prime Minister P.V. Narasimha Rao (with Manmohan Singh as the Finance Minister), there were further reforms in the form of extensive privatization, telecommunication reforms, highway construction, financial sector reforms etc brought about by the Prime Minister Atal Bihari Vajpayee led National Democratic Alliance (NDA) government, that was in power from 1998 to 2004. The reforms under the Rao and Vajpayee governments had an important role to play in delivering rapid economic growth during subsequent regimes. The two United Progressive Alliance (UPA) governments that followed were prudent enough not to reverse any of the reforms, even though they were not successful in bringing about any complementary reforms. While Prime Minister Modi-led NDA government has been able to make some headway on reforms related to labour, corporate taxation, GST etc, some of the trade reforms of the previous quarter century have been reversed and at the same time opportunities for further trade reforms in the form of joining regional trade agreements have not been taken.

Based on the sequence of events outlined above, it seems obvious that openness in trade and foreign investment most likely had a role to play in delivering an average growth rate north of 8% during the 2003-12 period. Also, during the current decade, until right before the pandemic, from 2010 to 2019, 3 out of the 10 years had growth rates of 8% or higher and 7 out of the 10 years had growth rates of 6% or higher. The remaining 3 years had a growth rate between 5% and 6%. The period starting 2016 has been one of declining growth rates and somewhat rising unemployment.

III. Structural Change in India and its Determinants

I next try to take a closer and deeper look at the determinants of the growth performance since the late 1980s. I try to further investigate the role of openness and other complementary policies. Here I first draw upon some of my joint work in Ahsan and Mitra (2016), where we use sectoral national product and employment data as well as state-by-sector data for India.

Our countrywide sectoral data for India are the National Income and Employment data for the period 1960-2004 from the Groningen Growth and Development Centre Database. The economy comprises 9 broad sectors: Agriculture; Mining; Manufacturing; Public Utilities; Construction; Wholesale and Retail; Transport and Storage; Finance, Real Estate and Business Services (FIREBS); and Community and Social Services.

Firstly, labour productivity is the highest in FIREBS and lowest in Agriculture across all periods. Manufacturing is third from the bottom. Its labour productivity starts with double the productivity in agriculture and by the end of the sample period, it is 4 times the labour productivity in agriculture. These differences in productivity clearly show the scope for increase in overall economywide productivity by moving labour from less productive to more productive sectors, which is what is called growth through "structural change" in the literature. However, lack of skills and other problems with mobility can prevent that from happening. Using the Mcmilland and Rodrik (2011) decomposition method, we find that, barring the decade of the 1970s, structural change has always made a positive contribution to overall productivity growth, while "within-sector" growth (growth that takes place within each sector) also makes a positive contribution. In other words, growth takes place through the movement of workers, on average, from less to more productive sectors as well as through growth within the average sector. The contribution of structural change is a third of the overall productivity growth in 1980-89, around 45% of overall productivity growth in 1990-99 and just around 5% in 2000-04. However, overall productivity growth is the highest in the third period at 6.54% per year. Clearly, during the period 1980-2004, within-sector growth has been a bigger contributor to growth. These results are consistent with the results in Krishna and Mitra (1998) where we find a positive impact of trade liberalization on firm-level productivity growth. The limited contribution of structural change is consistent with the story that skills are limited and cannot be quickly acquired, along with the presence of barriers to mobility. Even though FIREBS employs a very small fraction of the labour force, it contributes the most to structural change, mainly by its labour productivity being 10 times the national labour productivity, so that even small movements of the share of labour force into this sector leads to a big change in average national labour productivity. The sector contributing the most "within-sector" growth is manufacturing, which is also consistent with the Krishna-Mitra study.

While the structural changes we have seen in India, even though not large enough, have been of the desirable kind (where labour moves from less productive to more productive sectors as opposed to the reverse). Then, what drive these movements of labour, despite mobility barriers and the scarcity of skills? We study this in Ahsan and Mitra by looking at the same 9 sectors during the period 1987-2004 across the 15 major Indian states: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. While the National Accounts data at the state level are from the Central Statistical Office (CSO), the employment data by sector are constructed using the NSSO Employment surveys of the four thick rounds spanning our sample period, 1987-2004.

Firstly, from our regressions, we find that the change in the employment share of a sector within a state is related positively to its productivity, in turn implying that, even at a more disaggregated level, labour moves from less productive to more productive activities, indicating once again that structural change is of the desirable kind. Further, these results show that workers are moving to better jobs. What triggers this desirable structural change or the movement to better jobs? Firstly, this positive relationship between the change in employment share and productivity is stronger after the 1991 reforms than before. In addition, the relationship is stronger in states that are more exposed to foreign competition by virtue of their employment composition (an employment-weighted average tariff rate, that is used, is an inverse measure of exposure to foreign competition). Thus, openness to trade seems to promote desirable structural change.

Our other results indicate that trade restrictions, restrictive labour regulation, the lack of basic education and low road density can come in the way of desirable structural change. There also seems to be a positive interaction effect between labour-market flexibility and trade openness in promoting desirable structural change.

IV. Micro-level Evidence from India on Trade, Productivity and Jobs

We next look at some more micro-level evidence. Hall (1988) and Domowitz et al (1988) extend the traditional growth accounting approach to a regression approach that includes imperfect competition and non-constant returns to scale. Using that approach, Harrison (1994) finds a strong correlation between trade reforms and firm-level productivity growth in Cote d'Ivoire. Extending that approach further to allow the returns to scale to be flexible and change over time for Indian firms, in Krishna and Mitra (1998), we find some evidence of an increase in the growth rate of firm productivity after 1991, the year the big reforms in India were announced and started. Also, we find a reduction in the price-marginal cost mark-ups after the trade reforms, signifying the destruction of firm-level monopoly power and consequent improvements in efficiency and resource allocation.

Topalova and Khandelwal (2011) also confirm an increase in firm-level productivity in the Indian manufacturing sector due to trade liberalization, using a more updated dataset and more state-of-the-art production function estimation techniques to correct for endogeneity, measurement error problems and selection issues. They find evidence for a pro-competitive effect of final goods tariff liberalization as well as a cost-reducing impact of a reduction in the tariffs on input imports. Both these effects have been responsible for the increase in firm-level productivity, with the input tariff liberalization making the bigger of the two contributions.

There is also evidence from India that trade liberalization leads to greater intergenerational occupational mobility implying that sons of workers in low-skilled occupations are more likely to move to higher-skilled occupations when the economy faces greater exposure to import competition. This evidence is provided by Ahsan and Chatterjee (2017) who, using detailed information on occupations in NSSO surveys, determine for each son whether he has a job in a higher-ranked occupation than his father, where an occupation's rank is based on the education intensity of that occupation. What the authors find is that this kind of upward mobility is more likely in an urban Indian district with a greater exposure to trade liberalization, by virtue of its employment composition skewed more towards industries that have experienced deeper tariff cuts. Clearly, tariff liberalization moves families to better jobs over subsequent generations and trade seems to have a positive impact on job quality.

V. Theoretical Channels

The two main sources of comparative advantage that form the basis for international trade are technological differences (Ricardian) and differences in factor endowments (Heckscher-Ohlin). A country is supposed to have a comparative advantage in goods and services in whose production the country's wage advantage dominates their productivity disadvantage, which is normally the goods in which a country's productivity disadvantage is the lowest (or its productivity advantage is the highest). A country also has a comparative advantage in goods and services whose production is intensive in the use of the country's abundant factors.

International trade could also arise from economies of scale in the presence of product differentiation and imperfect competition (Krugman, 1979). Producing too many varieties in the same country prevents the exploitation of scale economies in any of the varieties produced. Scale economies can be taken advantage of when each country specializes in just a few varieties, but all citizens can consume through international trade all varieties produced all over the world. Melitz (2003) incorporates firm heterogeneity in productivity into a Krugman-type model. Trade leads to competition from foreign firms that lead to the least productive firms dropping out while providing market shares abroad to the most productive domestic firms. Some firms in the middle survive but lose their market shares to the most productive domestic as well as foreign firms. Thus, industry-level productivity, that is a weighted average of firm productivities, goes up.

Welfare gains from trade arise through efficiency gains from specialization based on comparative advantage, followed by an exchange. Additionally, the availability of larger varieties of final goods improves welfare directly, while a greater variety of intermediate inputs, that increases productivity through greater division of labour and better input-output matching, increases welfare indirectly. Productivity in the Melitz model goes up through trade by the weeding out of the least productive firms and, among the remaining firms, increases in the shares of the most productive ones.

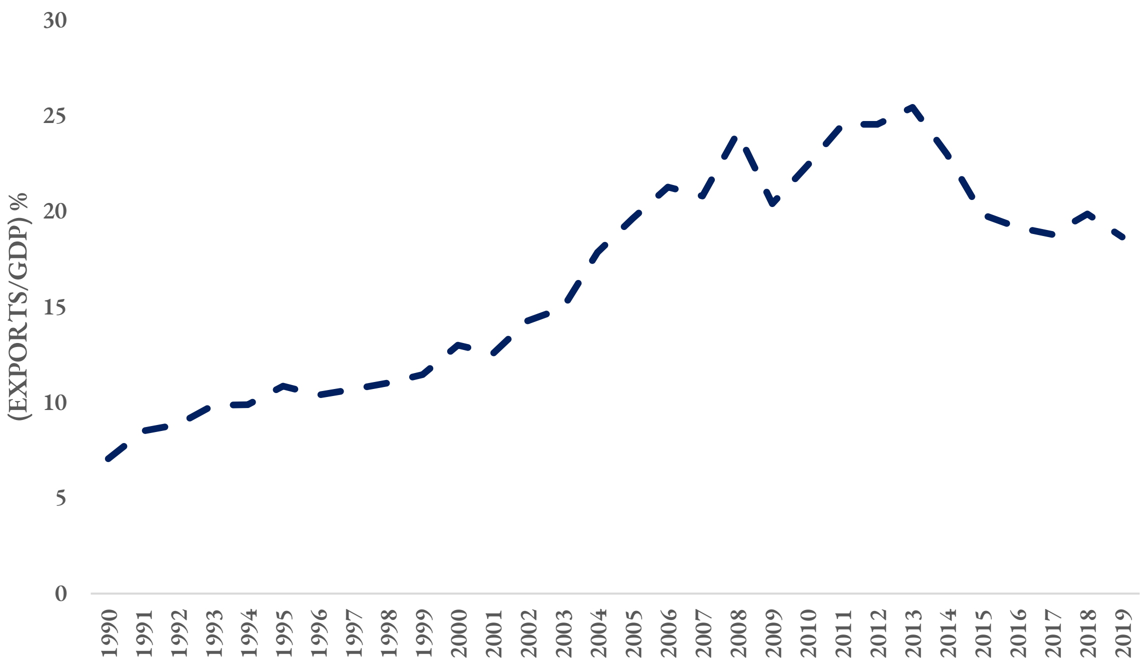
The empirical equivalent of the gains from trade result is a positive impact of international trade on real per capita income. Thus, lowering trade barriers is expected to take us to a higher real per capita income and lead to transitional growth, or, if there are other sources of growth, add to that growth during this transition.

The theoretical literature on trade and endogenous growth does not provide clear guidance on the relationship we should expect between trade and growth. Different models lead to different predictions, which means that results are extremely sensitive to model structure and assumptions. This theoretical literature, however, does identify quite a few channels through which trade might accelerate economic growth. For example, trade can stimulate innovation through industrial learning it facilitates through international exchange of technical information. International trade can also improve the efficiency of global research by eliminating the duplication of research efforts in different countries. Trade also leads to greater competition and this pro-competitive effect incentivizes domestic producers to innovate.

How might trade lead to better jobs or greater intergenerational occupational mobility? What is the theoretical channel in this case? Ahsan and Chatterjee argue that trade leads firms closer to the frontier to invest more in their productivity (through greater R&D) while it discourages firms far from the technological frontier from doing so, pushing the output and employment shares of the latter to shrink and those of the former to expand. Thus, there is job creation in relatively technologically advanced firms, leading to the next generation moving to higher-skilled occupations.

VI. Policy Implications and Recommendations

Figure 2: India's Exports of Goods and Services as a percentage of GDP



Source: The World Bank

In Figure 1, we saw that, starting in 2016, growth started declining and by 2019 fell to 5% before the start of the pandemic. The unemployment rate crossed 6% with a labour-force participation rate of 37%. But the real problem has been underemployment (Panagariya, 2020). Work that can be performed by one person is often performed together by a few people. This has always been true across all sectors, namely agriculture, industry and services, in India. Even during the first decade of this century, when growth was averaging 8% per annum, substantial underemployment existed. Unemployment rates were low, but so were labour force participation rates. The growth was considered to be "jobless" by many analysts and commentators. Job creation has failed to keep pace with the growth in the working-age population. There is also a serious problem with job quality, as mentioned earlier in this paper. A large majority of jobs within the manufacturing sector are informal, while in agriculture labour productivity is extremely low. Therefore, the twin problems of slow creation of quality jobs and slow economic growth need to be addressed.

The growth that we saw after the 1991 reforms and into the first decade and a half of this century was driven by the service sector and some manufacturing. But labour-intensive manufacturing like textiles, apparel, footwear etc had no role. In a highly populous country like India with low average levels of education and skills, service-led growth cannot last very long. In South Korea, Taiwan and then China, rapid growth for a long period was driven by labour-intensive manufacturing (Panagariya, 2019). When growth is driven by labour-intensive manufacturing activities, rapid growth and rapid creation of well-paying jobs happen simultaneously.

India's share in world population is 17 per cent, but its share in world GDP is only 3%. This obviously makes India a labour-abundant country. Adding to this India's low average education levels, one can call it a low-skilled labour abundant country. However, just a few years ago, India doubled its import duties on beauty aids, watches, toys, furniture, footwear, kites and candles. This was a clear acknowledgement of India's lack of competitiveness in these entry-level labour-intensive industries. Import duties on electronics and communications devices, such as mobile phones, televisions, and related inputs and parts were also doubled. Thus, India also seems to have failed in low-skilled labour-intensive input processing and assembly (especially in electronics), one of the engines of export expansion and growth in China. Hence, India has failed to grasp its natural comparative advantage, being outperformed not only by China but also by Bangladesh and Vietnam in labour-intensive textiles and apparel exports.

In addition, we have found evidence that even within many manufacturing industries India uses production techniques that are significantly more capital-intensive than other countries at similar stages of development (Hasan, Mitra and Sundaram, 2013). In some industries, India's production techniques are more capital intensive than China's, whose real per capita income is more than double India's.

Thus, in Figure 2, the graph of the share of exports of goods and services in GDP shows us, over approximately the last decade and a half, considerable stagnation of the exports-to-GDP ratio, followed by a decline. Unless India can specialize in labour-intensive manufactures and produce them at scale to reap considerable economies of scale and then export large volumes of those products, sustaining a growth rate of 8% or higher will be impossible. China was successful in doing that for a couple of decades, but there is a void now due to rising wages in China, the US-China trade conflict and rebalancing towards less openness under President Xi Jinping. But India has failed to take advantage of that, since manufacturing activities are moving to other Asian developing countries like Vietnam, Thailand etc.

I have argued in many of my writings that restrictive labour regulations hurt India's natural comparative advantage in labour-intensive manufacturing. Hasan, Gupta and Kumar (2009), in their insightful industry-by-state study, find slower output and employment growth in labour-intensive industries in states with relatively restrictive labour regulations, the differences in labour regulations brought about by different state-level amendments to Central labour acts and different monitoring intensities. Pooling formal-sector and informal-sector manufacturing firms, Hasan and Jandoc (2013) find that while in rigid labour-regulation states 60% of labour-intensive manufacturing employment is concentrated in small firms employing 0-9 workers, this proportion is 40% for the remaining states. These proportions for large firms employing over 200 workers are 10% and 25% respectively for the rigid states and others. Thus, there is an indication of better exploitation of economies of scale and thus faster employment growth in states with relatively flexible labour markets.

Restrictive labour laws in India prevent adjustment of employment (in response to changing demand). Under the Industrial Disputes Act (IDA), firing workers is virtually impossible in formal sector firms above a threshold size of 100 workers in some states and 300 workers in others, even in the case of incompetence. The existing labour laws also place severe restrictions in formal sector firms on reassigning a worker from one task to another quite difficult. Thus, incentives are biased in favour of firms remaining small. Chinese manufacturing employment, however, is concentrated in large enterprises of over 1000 workers each, as opposed to India's in under-20 worker firms (Hasan and Jandoc, 2013). Thus, it is not surprising that India finds it difficult to compete in export markets for labour-intensive products.

Thus, reforms are urgently needed in labour regulations. There certainly have been some steps in the right direction taken in this regard over the last few years. One of them is the raising of the IDA threshold from 100 to 300 workers in Andhra Pradesh, Haryana, Madhya Pradesh, Maharashtra, Rajasthan and Uttarakhand. Additionally, Rajasthan has raised the threshold for membership of a union to 30% of a firm's employment. To minimize harassment by inspectors, a unified web portal at the central level has been instituted for the self-reporting of compliance with 16 central acts. Within the portal, there is a built-in algorithm, which looks for inconsistencies in reporting, which, if found, triggers an inspection. Fixed-term contracts and consolidation of the labour laws into four codes are some recent reforms

Further labour reforms are needed. Bhagwati and Panagariya (2013) have recommended the exclusion of non-confirmation of a worker on probation and downsizing in response to demand and technology shocks from IDA's definition of retrenchment. Also, firms should be allowed considerable flexibility in task reassignment within the Standing Orders Act. Both these changes will provide Indian producers more flexibility in response to shocks. Also, at most a single union should be allowed within any firm. The coverage of the newly installed self-reporting web portal needs to expand (in terms of the number of regulations covered). While the government has moved towards consolidating central labour laws into four labour codes, that is not enough unless and until the restrictions on hiring and firing and task reassignment are loosened. Firing with severance packages should be allowed (Panagariya, 2020). Fixed-term contracts are a welcome step. But the introduction of multiple minimum wages based on the skill level makes no sense whatsoever. The purpose of a minimum wage is to provide for at least a subsistence level of consumption, which should not vary by skill level (See Panagariya, 2020). It can certainly vary across regions depending on the cost of living. To prevent firms from remaining small the IDA threshold needs to be raised further, maybe somewhere close to 1000 workers, to allow labour-intensive firms in India to reach Chinese scales of production.

Another factor market that does not function well is the one for land. Land acquisition is a real problem, as several contiguous plots of land might need to be bought from separate owners for a firm to have an optimal scale of production. Towards this end, Panagariya (2020) has suggested a vertical expansion of firms through the relaxation of rules on floor space index (FSI). He also floats the idea of 5 or 6 Autonomous Economic Zones (AEZs), each spanning at least 500 square kilometres. In Jha and

Mitra (2002), we discuss this idea in considerable detail. We argue that India now needs a handful of AEZs, that are different from the 250 Special Economic Zones (SEZs) or so that have already been created in India under the SEZ Act of 2005 with a median size of around 0.30 square kilometres. In sharp contrast, the Shenzhen SEZ is currently at 1953 square kilometres covering a population of 13 million, which is considerably larger than Gujarat's large Mundra SEZ spanning 64 square kilometres.

In these AEZs, in Jha and Mitra, we propose greater flexibility in the retrenchment of labour and adjusting task assignments, along with mandating a living (minimum) wage and adequate social protection, in contrast to the recent announcements by some state governments to temporarily abandon labour laws that require safe working conditions and basic worker rights (collective bargaining, minimum wages, work hours etc).

A few additional features that can be proposed for these AEZs are greater floor space index, public-private partnerships to help with capital constraints and infrastructure development, and a minimum export requirement to prevent rent-seeking by firms to take advantage of the AEZ facility merely for cost reduction purposes (Jha and Mitra).

Further, as argued in Jha and Mitra, an AEZ may act as a coordination device for agglomeration or clustering of firms and economic activities. A firm that wants to downsize can fire a worker who will then quickly get hired by another neighbouring firm wanting to expand, effectively providing job security. This also ensures that firms always have access to a pool of well-trained workers, thus providing flexibility in labour adjustments in both directions. There will also be easy access to a variety of input suppliers located there, and agglomeration of firms will lead to higher productivity through spillovers of technical knowledge.

In Jha and Mitra, we also argued that instituting AEZs would create a large number of jobs right away for building infrastructure, especially in the construction of roads, bridges, airports, office buildings, parks, residence, schools, hospitals, and dormitory for workers to prevent the emergence of slums.

Often, policymakers have a mercantilist approach to promoting exports in that they believe they can do so by simultaneously restricting imports. In the Indian case, many often interpret Prime Minister Modi's call for "Make in India" to produce for exports as well as to manufacture domestically everything Indians consume. The impossibility of doing this is enunciated in the Lerner symmetry theorem, according to which an import tax (barrier) is equivalent to an export tax (barrier). Intuitively, with limited resources, when a country must produce more for domestic consumption, there are fewer resources left to produce for exports. Also, an import barrier reduces a country's demand for foreign exchange leading to an appreciation of the exchange rate of its currency, in turn making its exports more expensive in other countries and reducing demand for the country's exports in the rest of the world. Also, even producing for exports might require imported inputs. A tariff on such imports makes exports less profitable and more difficult. This is the case in many labour-intensive industries in India. High tariffs (20-25%) on artificial fibres and fabrics made from them adversely affect the exports of garments, whose production is intensive in the use of low-skilled labour.

Besides, high tariffs on final products can make domestic producers of such products inefficient due to the lack of competition. Many years of very high tariffs on automobiles, in the range of 60-125%, with much lower tariffs (around 12.5%) on auto parts and components, have made the automobile industry inefficient and uncompetitive in the world market. Thus, India's potential for automobile exports has not been realized. The lesson from all of this is that tariff hikes of the last few years need to be rolled back.

At the very least, along the lines Panagariya (2020) has argued, a uniform tariff of 7%-10% should be instituted, so that the producers of final goods are not disadvantaged and political pressure for tariffs is diluted. An alternative could be a small range of 5%-12% tariffs. However, the narrower such a range, the better.

Success in exports is about winning the competition for access to external markets. After the US had free trade agreements with Canada and Mexico, we saw the EU also signing free trade agreements with Canada and Mexico to have access to those markets. That is why preferential trade agreements (PTAs) have expanded in number very quickly, which led Professor Jagdish Bhagwati to coin the term "the spaghetti bowl of regionalism." As a result, India's reluctance to sign trade agreements has left it handicapped in international markets where it competes with other countries that have received tariff concessions through trade agreements. India's refusal to join the Regional Comprehensive Economic Partnership (RCEP) is a case in point. The complication arises from the fact that market access has to be reciprocated and there is a fear of additional import competition that might result from such agreements. On the one hand, this problem stems from the lack of adequate factor market reforms, thereby making Indian labour-intensive manufactures. international uncompetitive. On the other hand, not signing trade agreements reduces the need for such domestic policy reforms. Thus, India gets stuck in a bad policy equilibrium, possibly even in the political-economy forces leading to the various reforms. Therefore, there is a need for various policy reforms in a coordinated way.

VII. Concluding Remarks

In this paper, I have highlighted the current problems of slow job creation and slow economic growth in India. While economic growth for long stretches since the 1990s has been fast, even during those periods, India has made slow progress in the creation of quality jobs. Thus, India's demographic dividend has become a demographic burden.

To address the twin problems of slow growth and slow job creation, I first draw inferences from India's post-independence economic history. Trade reforms have been followed by high rates of growth, while restrictive trade policies have led to slow growth. Other economic restrictions in the domestic policy arena have made matters worse.

I emphasize the importance of labour-intensive manufacturing and its exports. Also, I dig deeper into the channels that explain the trade-growth-jobs nexus, presenting some applications in this regard of existing theory, as well as looking at the evidence on structural change and its determinants.

Finally, a significant part of the paper is devoted to policy implications and recommendations. These policy recommendations include tariff reduction, labour law reforms, setting up Autonomous Economic Zones (AEZs) and signing preferential trade agreements. The rationale for these policy recommendations has been fully explained.

References

Ahsan, Reshad and Devashish Mitra (2016). "Can the Whole Actually be Greater than the Sum of its Parts? Lessons from India's Growing Economy and its Evolving Structure," in McMillan, M. D. Rodrik and C. Sepulveda (eds.), *Structural Change, Fundamentals and Growth*, International Food Policy Research Institute, Washington D.C., 39-79.

Ahsan, Reshad N. and Arpita Chatterjee (2017). "Trade Liberalization and Intergenerational Occupational Mobility in Urban India," *Journal of International Economics* 109, 138-152.
Bhagwati, Jagdish and Arvind Panagariya (2013). *Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries,* Public Affairs, New York, USA.

Domowitz, Ian, R. Glenn Hubbard, and Bruce C. Peterson (1988), Market Structure and Cyclical Fluctuations in U.S. Manufacturing, Review of Economics and Statistics 70: 55-66.

Gupta, Poonam, Rana Hasan and Utsav Kumar (2008). "Big Reforms but Small Payoffs: Explaining the Weak Record of Growth in Indian Manufacturing," *India Policy Forum* 5(1), 59-123.

Hall, Robert E. (1988). "The Relation between Price and Marginal Cost in U.S. Industry," *Journal of Political Economy* 96 (5), 921–947.

Harrison, Ann E. (1994). "Productivity, imperfect competition and trade reform: Theory and evidence," Journal of International Economics 36(1-2), 53-73.

Hasan, Rana and Karl Jandoc (2013). "Labour Regulations and Firm-Size Distribution in Indian Manufacturing," in Jagdish Bhagwati and Arvind Panagariya (eds.) *Reforms and Economic Transformation in India*, Oxford University Press, New York, NY, 15-48.

Hasan, Rana, Devashish Mitra and Asha Sundaram (2013). "What Explains the High Capital Intensity of Indian Manufacturing?," *Indian Growth and Development Review* 6(2), 212-241.

ILO (2012). *Statistical update on employment in the informal economy*, ILO - Department of Statistics June 2012, Geneva, Switzerland. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/presentation/wcms_182504.pdf

Jha, Priyaranjan and Devashish Mitra (2020). "How a successful 'AEZ Model' can remove India's structural bottlenecks," *The Economic Times*, May 19. https://economictimes.indiatimes.com/news/economy/policy/view-how-a-successful-aez-model-can-remove-indias-structural-bottlenecks/articleshow/75834685.cms

Krishna, Pravin and Devashish Mitra (1998). "Trade liberalization, market discipline and productivity growth: new evidence from India," *Journal of Development Economics* 56 (2), 447-462.

Krugman, Paul R. (1979). "Increasing Returns, Monopolistic Competition, and International Trade," *Journal of International Economics* 9, 469-479.

McMillan, Margaret and Dani Rodrik (2011). Globalization, Structural Change and Productivity Growth," in Bachetta, M. and Jansen, M. (eds.) *Making Globalization Socially Sustainable*, International Labour Organization and World Trade Organization, Geneva.

Meltiz, Marc J. (2003). The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity," *Econometrica* 71(6), 1695-1725.

Ministry of Finance (2017). *The Economic Survey*, Ministry of Finance, Government of India.

Niti Aayog (2017). *Three-Year Action Agenda* (2017-2020), Niti Aayog, New Delhi.

Panagariya, Arvind (2008). *India: The Emerging Giant*, Oxford University Press, New York.

Panagariya, Arvind (2019). *Free Trade & Prosperity,* Oxford University Press, New York.

Panagariya, Arvind (2020). *New India: Reclaiming the Lost Glory,* Oxford University Press, New York.

Topalova, Petia and Amit Khandelwal (2011). "Trade Liberalization and Firm Productivity: The Case of India," *Review of Economics and Statistics* 93(3), 995-1009.

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Agricultural Reforms in India

S Mahendra Dev*

Abstract

This paper explores the recent farm laws passed by parliament and their impact on farmers' income. The laws collectively offer greater freedom to cultivators to sell their produce at better prices and allow farmers to enter into contracts with processors, aggregators, wholesalers, large retailers and exporters at mutually agreed crop prices. The laws also encourage private investment into storage and warehousing by removing stockholding limits. To make these reforms work, some conditions may have to be fulfilled and imperfections and concerns have to be addressed, which are elaborated in the paper. Finally, the paper focuses on other agricultural reforms to improve the supply-side factors, such as rationalization of subsidies, land reforms, use of technology, strengthening institutions and governance, and improving rural infrastructure.

JEL: Q11, Q13, Q15, Q18

Keywords: Agricultural Reforms, APMC, Essential Commodities Act, Agricultural Markets, Agricultural Policy

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* S Mahendra Dev is Director and Vice Chancellor of IGIDR, Mumbai

I. INTRODUCTION

The performance of Agriculture in India is important as the sector not only contributes to the overall growth of the economy but also provides employment and food security to the majority of the population in the country. The structural reforms and stabilization policies introduced in India in 1991 initially focused on industry, tax reforms, foreign trade and investment, banking and capital markets. The economic reforms did not include any specific package specifically designed for agriculture. It is viewed that protection to the industry in the form of import substitution policies like tight import controls and high import duties have hurt the agriculture till 1991. Disprotection to industry since 1991 is supposed to correct this bias and increase terms of trade for agriculture. "This would create a potentially more profitable agriculture, which would be able to bear the economic costs of technological modernization and expansion" (Manmohan Singh, 1995, p.2). The reforms have improved terms of trade for agriculture and opened new opportunities such as benefits from trade and specialization, widening choices in new technology including biotechnology.

Trade reforms are expected to have a positive impact on agriculture. There has been a significant increase in agricultural exports after economic reforms were initiated. Increase in exports initially was due to a significant reduction in the import duties and devaluation of the Indian rupee. The economy-wide reforms seem to have benefited agriculture because of increasing business transactions between agriculture and the rest of the economy over time (Mishra and Rao, 2003).

It may be true that liberalisation of non-agriculture has had a positive impact on agriculture indirectly. But agriculture has not undergone direct reforms since independence. Agricultural markets witnessed only limited reforms. Since the early 2000s, there have been some attempts to amend the APMC (Agriculture Produce Marketing Committee) Act. Recently, the Central Government has brought out three farm laws as part of the agriculture market reforms. The objective of this paper is to examine (a) the recent three farm laws and their impact on farmers' incomes and supply chains; (b) other agriculture reforms needed for higher growth and incomes.

II. AGRICULTURAL MARKETING REFORMS

India has not been able to provide remunerative prices for farmers in the last 70 years since independence. Farmers have been getting low prices in normal, drought and good years because of distortions in price and market policies. It may be noted that despite MSP and subsidies, Indian farmer is net taxed as compared to farmers of other countries. A study conducted by OECD and ICRIER shows that PSE (producer support estimates) was negative to the tune of 14% on average during the period 2000-01 to 2016-17 (Gulati and Cahill, 2018). In other words, distorted policies are hurting the Indian farmers.

Variation in agricultural prices across regions is quite high in India. Chatterjee and Kapur (2017) examine spatial price variation using high-frequency price and quantity data from the AgMarket portal of Government of India. The study shows that the average standard deviation of log (real) prices across *mandis* in a given month is 0.17. This spatial variation is higher than those of some other developing countries. The price variation persists over time despite substantial investments in rural roads and improvement in information and communication technologies (e.g. mobile phones). District-fixed effects could explain part of the variation but 39% of it is unexplained which could be attributed to the time and location varying factors (Chatterjee and Kapur, 2017). It shows that we have a distorted price and market policies.

Agriculture and markets are in the 'State List' and states regulate these two subjects. APMCs were created in the early 1960s to ensure price discovery, farmers' access to markets and fair transactions. It was a mandate to purchase some 'notified' commodities through these APMC systems (*mandis*) by paying commissions and market fee. The traders and middlemen (commission agents) have to get licences from the APMC. Many of the APMCs used the funds for creating a market infrastructure which is useful for farmers and other stakeholders. It started with good intentions of a democratic system with auctions for providing better prices for farmers. Over time, however, the vested interests took over and the system deteriorated. As the states get revenue, the governments have their nominees in the boards of *mandis.* It was difficult to break the nexus between politicians and traders/middlemen. APMC system was inefficient as it was dominated by the traders and middlemen. They keep out the competition by forming cartels and farmers had little bargaining power on prices.

The domestic reforms in the agricultural sector started only in the early 2000s. There have been moves to liberalize agricultural markets since 2002. The Government has been gradually moving towards a more deregulated regime and encouraging investment. Budget 2002-03 recognised the importance of agricultural diversification and food processing. The Tenth Plan has identified The Essential Commodities Act, 1955 (ECA) as another problem area which did not encourage investment in storage and warehousing. An Inter-Ministerial Task Force on agricultural marketing reforms had enumerated more than 200 control orders by various states. Although many agricultural commodities have been taken off the ECA, the rigid rules framed under the Act continue, for the most part.

The APMC Acts have not allowed the setting up of parallel competitive markets. The markets set up under the Acts also do not provide direct and free marketing, organized retailing, smooth raw material supplies to agro-processing industries, competitive trading, information exchange etc. The Department of Agriculture and Cooperation (DAC) has drafted a model Agricultural Produce Marketing Act 2003 and circulated it among the states. The Model Act provides for legal persons, growers and local authorities to establish new markets, growers to sell their produce in markets other than the regulated markets, establishment of direct purchase centres, consumers'/farmers' markets for direct sale, promotion of public-private partnership in the management and development of agricultural markets, regulation and promotion of contract farming, etc.

Basically, domestic market reforms involve removing all controls in the domestic market. Prevailing restrictions on domestic trade and processing of agricultural commodities were inherited from the post-war, pre-green revolution era of shortages. With the achievements of self-sufficiency in food grains, increasing trend towards diversification of agriculture, globalisation of trade, such restrictions on movement, storage and processing have outlived their utility and have become counter-productive. The restrictions also deny fair prices to producers as well as to consumers and inhibiting much needed investments in the technological upgradation and modernization of storage, marketing and processing.

The response of the state governments to the model APMC Act 2003 has been both tardy and varied, with some adopting it partially and others not adopting at all. Again in 2013 and 2017 two more model Acts were proposed respectively by the UPA and NDA governments. The model act, namely, the Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017 (APLMA, 2017), is supposedly more in tune with the changing times (Singh, 2018). It has also decided to take contract farming out of the APMC domain. Again, the state governments did not show enthusiasm.

In 2008, the central government announced a new Umbrella Scheme called '*Pradhan Mantri Annandata Aay Sanrakshan Abhiyan*' (PM-AASHA). The scheme is aimed at ensuring remunerative prices to the farmers for their produce as announced in the Union Budget for 2018. It has three components: (1) Price support scheme (PSS) (2) Price Deficiency Payment Scheme (PDPS). (3) Pilot of Private Procurement & Stockist Scheme (PPPS). But these price support schemes made little headway and have remained on paper in many parts of the country.

1. Recent Farms Laws and Market Reforms

Agricultural growth has been around 3.3% per annum during the period 2014-15 to 2019-20 and was 6.1% in FY 19 and 4% in FY 20. The impact of Covid-19 on agriculture is much less than in urban areas. The only saving grace for the Indian economy this year is indeed the performance of the agricultural sector. In FY21, agricultural gross domestic product (GDP) is expected to grow at 2.5 to 3 per cent, although GDP for the overall economy may contract by more than 10 per cent. India is likely to have a bumper crop in both Kharif and Rabi seasons due to normal monsoon. However, bumper crops can lead to a fall in farm prices. Farmers may not be able to get remunerative prices as there are still supply chain problems.

Covid-19 lockdown triggered the need to maintain supply chains with central legislation. As part of the Covid-19 response, the Central government announced *Atmanirbhar Bharat* (Self-Reliant India) with a package of around Rs. 20 trillion (10% of GDP). This package consists of direct transfers, credit and liquidity measures and reforms. The government used the coronavirus crisis to push through the long-awaited agriculture reforms. Earlier the Centre shared the model laws with the state governments. While some states have amended the APMC act, others are yet to do the reforms. Though agriculture is a state subject, the new laws also deal with inter-state trade which is a central subject.

The central government promulgated three ordinances on farm bills relating to agricultural marketing in June 2020 and became law after Parliament approval in September 2020. These three laws are: (1) The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 (FPTCA); (2) the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020 (FAPAFSA) and; (3) the Essential Commodities (Amendment) Act, 2020.

Benefits to the farmers including smallholders

The agricultural economists and other stakeholders have been advocating agricultural market reforms in the last few decades particularly since the introduction of economic reforms in 1991.

The first farm law on trade and commerce seeks to offer greater choice to cultivators to sell their produce to whoever and wherever they can realize a better price. Freedom for buyers also improves private investment in agriculture infrastructure and marketing. The monopsony of the markets run by the APMC in the notified commodities has been dismantled by permitting out of *mandi* (market) transactions of farm goods. These *mandis* also have commissions and taxes and state governments also impose cess to get revenue. Thus, APMC is considered as an exploitative system and do not help farmers get remunerative prices.

The new FPTCA law limits APMC jurisdiction to market yard. Outside of the market yard, farmers are free to sell directly to any trader, processor, retailer and exporter. The outside of the APMC market yard is referred to as the 'trade area'. According to the law, 'any farmer or trader or electronic trading and transaction platform shall have the freedom to carry on the inter-State or intra-State trade and commerce in farmer's produce in a trade area'. In this 'trade area,' there is a no obligation to pay a market fee or cess or levy under any State APMC Act or any other State law. Therefore, the buyers can transfer the benefits of trading to farmers in non-APMC area.

The second law FAPAFSA relates to contract farming which has been legalized. Farmers can sign contracts with processors, aggregators, wholesalers, large retailers and exporters at mutually agreed crop prices. Farmers can withdraw from the contract at any stage without penalty but a corporate buyer will have to pay agreed price and penalty for breaching the contract. They will be paid within three days of signing the contract. Dispute mechanism is also included and will be resolved within a fixed time frame.

What about the smallholders? The small and marginal farmers (86 per cent of the total) can't compete with the big corporates in bargaining. The real hope is in the farmer producer organisations (FPOs). The FPOs can help the small farmers in both input and output markets and the government is planning to set up 10,000 FPOs across the country to enable the smallholders to deal with corporates.

The third law is amending the outmoded Essential Commodities Act, 1955 which was hurting the farmers by discouraging private investment in storage. The new law removes stockholding limits on several commodities except under 'extraordinary circumstances' such as war and natural calamities. The amended law is supposed to attract corporate and foreign investment in food supply chains like cold storage and warehouses by addressing fears of excessive regulatory interference. Both farmers and buyers will gain as supply chain improvements will bring price stability. Better storage will also reduce food wastage.

Is it the 1991 moment?

There have been extreme reactions to the three farm laws. Some say that these agriculture market reforms are similar to the 1991 moment while some others completely condemn the new laws. In our view, the farm laws are important and they are supposed to address the longstanding problems of the farmers. But, the truth in terms of the impact on farmers may lie somewhere in between the extreme views. There is a wrong impression that earlier farmers had to sell only to APMCs. It may be noted that only 25 per cent of the transactions were done in APMC *mandis.* Thus, even before these bills were introduced 75 per cent of the trade was done by private traders outside these *mandis*. Some state governments have already done some of these reforms and allowed direct purchase from processors and bulk buyers. States like Kerala and Bihar do not have APMCs. Thus, it is part of a continuous process initiated by several states and may not be a 1991 moment for the first two laws. The only difference is that now it is done at the all India level. But, the amendment of the Essential Commodities Act is somewhat closer to the 1991 moment. Another point is that the current reforms are done by the Central government and more freedom is given to farmers and traders outside the APMC system.

Issues, Concerns and uncertainties

There are uncertainties and concerns about the potential impact of agriculture market reforms. Some of them are given below.

Some sections of the farmers particularly in Punjab and Haryana have started protests on the farm laws. The first concern is that the existing system of minimum support price (MSP) and procurement will be done away with although it is clarified that the MSP system would not be removed. Distortions in minimum support price (MSP) policy are well known. Criticism of the MSP policy is that it is limited to a few crops (mainly rice and wheat) and few states. Even for commodities covered, not all farmers can sell their produce at the MSP in other regions. Focusing mainly on rice and wheat is creating problems for diversification. A few years back, the government has announced MSP at 1.5 times the A2+FL cost (paid out cost plus cost of family labour) for all Kharif crops. It may be noted, however, that less than 10 per cent of the farmers in India benefit from the MSP system.

A second concern is that these laws particularly on contract farming will lead to the corporatization of farming and farmers will be at the mercy of corporations and retailers. The APMC system will be weakened and thereafter the buyers outside APMC will reduce the prices for cultivators. It is difficult to predict whether big corporates will come and start business immediately. If they enter, it is possible that cartels may be formed by crowding out the competition. Some state regulation or regulatory oversight may be needed without hurting the freedom to operate by the buyers and sellers.

Note that middlemen, traders and commission agents may not be eliminated even in the new environment as corporates prefer middlemen for aggregation from the farmers rather than directly purchasing from the farmers.

Another imperfection is that farmers sell to input dealers and traders because of interlocked credit markets in several parts of the country. Moneylenders or input dealers provide credit or inputs on the condition that the produce is sold to them. In these conditions, farmers may get a lower price even with the new farm laws because of the dependence on the interlocked system.

Bihar state has abolished APMCs in 2006. A study by NCAER (2019) showed an increase in price volatility. It was expected that private investment would take place in creating new markets and strengthening facilities in the existing markets after the abolition of APMC. On the contrary, according to the study, the situation at the ground level has not improved. As the government procurement is low, farmers are left to the mercy of traders who fix a lower price because of lack of competition. The study also indicates that inadequate market infrastructure and institutional arrangements are responsible for low price realisation and instability in prices. Thus, policy change alone may not reform agriculture market system.

The private traders in the non-APMC areas have been using the price at APMCs as a reference price for purchasing produce. Under the new law, it is not clear what price these traders will use as it does not make sense to use the APMC price now.

The APMCs will coexist with the private trade in the trade area. There is a need to strengthen the APMCs for promoting competition. Infrastructure has to be modernised. The boards must include more professionals rather than people with political affiliations. These markets can have some links with farmer producer organisations.

Another view is that the reforms may not work unless we develop private markets and infrastructure outside the APMC. In other words, infrastructure is a pre-condition for success. Public investment in agriculture marketing is needed to attract private investment in agro-processing and retail sector (Rawal et al, 2020).

The main consideration is whether the smallholders benefit from the farm law. It also depends on several other agricultural policies like institutional credit, other inputs and success of FPOs. The reforms are beneficial only when information access is high and transaction costs are low. Without internet connectivity and market intelligence, the transaction cost associated with selling in places outside the local market is higher than the value of the produce.

Recently, the government of India imposed an export ban on onions, and this is inconsistent with the reform of amendment to the Essential Commodities Act. Banning exports is another distorted policy. The National Export policy is formulated in line to double the farmers' income and increase agriculture exports from present $30 billion to over $60 billion by 2022. We do not see consistent policies regarding domestic and international trade. There is no long-term policy on exports. Export bans are imposed frequently, and they hurt the farmers most. It is known that governments ban exports of crops like onion, pulses etc. when the consumer prices rise. The exports are controlled through minimum export price and export bans. There is a need for predictability and stable export policies.

III. OTHER NEEDED AGRICULTURAL REFORMS

Apart from marketing reforms, Indian agriculture needs some other reforms to improve the supply side factors which are discussed below.

1. Subsidies in agriculture

The question of subsidies in agriculture has emerged as an important issue in policy debates. Agricultural subsidies are fiscally unsustainable and encourage misuse of resources, leading to environmentally malignant developments. These subsidies result in crowding out public investment resources and adversely affect the overall agricultural growth in India. Allocation of public resources and investment management is a politically sensitive and economically complex problem for most governments. This larger debate encompasses many crucial public decisions regarding shifting available resources from concessions to productive investment channels with a constructive and futuristic focus.

Input subsidies are leading to degradation of land and water. These subsidies caused severe deterioration of the systems due to the neglect of their maintenance in addition to becoming fiscally unsustainable. Further, they have led to the highly wasteful use of canal water, ecological degradation from waterlogging, salinity, pollution, excessive consumption of electricity, and over drawl of groundwater resulting in the shortage of drinking water in several parts of the country. Similarly, the prevailing heavy subsidy on nitrogenous fertilizers perpetuates inefficiencies in the domestic fertilizer industry. Irrigation and use of power seem to be as high under small farm as compared to large farms. However, these are cornered by the farmers in irrigated areas and those in unirrigated areas do not get these subsidies. Most of the fertilizer subsidy also goes to the farmers under the irrigated area. The benefit flowing to the farmers and consumers of food is illusory, as it is leading to the degradation of soil on account of excessive chemicals and adverse NPK (Nitrogen, Phosphorus and Potassium) ratio.

During the initial stages of the adoption of new technology in agriculture, some of these subsidies may be justified as 'front-up costs'. Over time it was found that the richer states and well-irrigated areas, certain crops, and rich farmers captured a disproportionately high share of the major input subsidy programmes of fertilizer, power, irrigation and credit.

Therefore, one major reform needed in agriculture sector relates to a reduction in subsidies and an increase in investments. There is a trade-off between subsidies and investments. Public investment declined while subsidies increased. A rise in public and private investment is crucial for enhancing agricultural growth

2. Land issues

There is some consensus among a majority of agricultural economists that land tenure should be legalised. Smallholders will have access to land due to this measure. An expert committee chaired by T.Haque prepared a Model Leasing Act at a national level. It recommends legalizing land tenancy to provide complete security of land ownership rights for landowners and security of tenure for tenants for the lease period1. It also recommends facilitating all tenants to access bank credit and insurance facilities. Another related reform on land policy relates to land records and ownership titles. National Land Records Modernisation Programme (NLRMP) was launched by the government of India in 2008. It was revamped in 2014 as the Digital India – Land Records Modernisation Programme (DILRMP). Narayanan et al (2018) present findings of an impact assessment of the programme in Himachal Pradesh and Maharashtra. There are significant differences between land records and the ground situation in villages. Based on the findings, the study provides suggestions for better land records management.

Another major issue relates to the shrinking size of farms which is also responsible for low incomes and farmers' distress. The average size of farm holdings declined from 2.3 ha. in 1970-71 to 1.08 ha. in 2015-16. The share of small and marginal farmers increased from 70% in 1980-81 to 86% in 2015-16. The average size of the marginal holdings is only 0.38 ha. (less than one acre) in 2015-16. The monthly income of small and marginal farmers from all sources is only around Rs. 4000 to Rs. 5000 as compared to Rs. 41000 for large farmers in 2003. Thus, the viability of marginal and small farmers is a major challenge for Indian agriculture.

Many of the small farmers cannot leave agriculture because of lack of opportunities in the non-farm sector. In this context, consolidation of land holdings becomes important for raising the incomes of farmers (Rangarajan and Dev, 20119). There was a lot of discussion on this topic in the 1960s and 1970s. In the context of rural poverty, B.S. Minhas had argued in the 1970s itself that compulsory consolidation of land holdings along land development activities could enhance the incomes of livelihoods of the poor in rural areas. Unfortunately, there is little discussion now on land fragmentation and consolidation of farm holdings. We need to have policies for land consolidation along with land development activities to tackle the challenge of the low average size of holdings. Farmers can voluntarily come together and pool the land to gain the benefits of size. Through consolidation, farmers can reap economies of scale both in input procurement and output marketing.

3. Technology and Extension

Technology (including IT) is crucial for a rise in total factor productivity. The new agricultural technologies on the horizon are largely biotechnologies. There has been a revolution in cotton production due to the success of BT cotton. India allowed BT cotton but not food crops so far. Some of the concerns of GMOs relate to food and health safety, control of corporates on agriculture, pricing of seeds etc. However, many countries adopted GM crops. India did not approve of BT Brinjal, Mustard and Chickpea. Recently, gene editing is becoming popular and this can be encouraged in India. Technology adoption should be based on science and not on ideologies.

A study by Mathur (2016) shows economic inefficiency in Indian agriculture. According to him, the implied cost of economic inefficiency is quite high as farmers are losing on average over two-thirds of their potential income through sub-optimal crop and input choices. It means that farmers' incomes could be increased over three times with the same resources. This can be achieved through extension services. Public sector investment for agriculture research and development and education in India is less than 1% of the agricultural GDP and needs to be increased. The returns to investment in research and extension will be much higher on agricultural growth as compared to other investments (Rao, 2005).

4. Institutional reforms

Strengthening institutions and governance is crucial for achieving higher growth, equality and sustainability of agriculture. Rigid institutions and inefficient governance are the primary cause of the poor implementation of various government programs. These institutions and old ways of governance thus need to be changed if agricultural performance is to be improved. Institutions throughout the agricultural value chains are important for better governance and effective implementation. Institutional reforms are important particularly in the domain of public systems for transforming agriculture. We need institutional reforms for input and output markets, land and water management and sustainable agriculture.

Collectives or farmer producer organisations (FPOs) can help in having economies of scale in input and output marketing by organising the small farmers. They can participate throughout the value chain. Some of them are doing well. However, many FPO's are only on paper. There is a need to support them financially and strengthen the capacity of farmer producer organisations.

Vaidyanathan (2010) who was critical of government policies says that "there was hardly any change in the strategy for agriculture. It was hardly affected by the reforms. Policies continued as before to focus on large investments in irrigation and other infrastructure, and special programmes to increase rural employment" (p.32). He says that the efficiency of investments must be improved with institutional reforms rather than keep on increasing investments and subsidies.

Institutional factors are the key to improving efficiency in canal irrigation. A mere increase in water pricing may not result in financial sustainability unless institutions are in place to recover water charges (Reddy and Dev, 2006). Maintenance and management of canal systems through the participation of user societies is expected to contribute to an efficient and equitable distribution of water resources.

Earlier studies have also shown that several institutions have been working on natural resources management. Some examples are: (a) Common pool land resources: Tree Growers' Cooperatives, Joint Forest Management, Van Panchayats; (b) Watershed development: Ralegaon Siddhi village in Maharashtra under Anna Hazare; (c) Canal water: Water user associations; (d) Groundwater: Pani Panchayats. We have to scale up some of these successful institutions for improving sustainability2.

The importance of collective action in climate change adaptation and mitigation is recognized. Research and practice have shown that collective action institutions are very important for technology transfer in agriculture and natural resource management among smallholders and resource-dependent communities.

Reforms should involve a more efficient delivery system of public services. Social mobilization, community participation and decentralised approach are needed for better governance and implementation. It is recognized that decentralization in terms of transferring power to local councils is important for agricultural development. The experience of decentralisation in terms of greater devolution of functions, finances and powers to panchayati raj institutions (PRI) and urban local bodies in many states has not been satisfactory.

5. Rural infrastructure and linkages with rural non-farm and urban areas.

Investing in rural infrastructure is essential for raising farm income, employment and rural wages. We have to go beyond farming and invest in warehousing, logistics, processing and retailing. Similarly, rural construction is important for employment creation and enhancing rural wages. During 2004-05 and

2011-12, construction played an important role in raising the wages of rural workers. This will also raise farmers' incomes.

The All-India Rural Financial Inclusion Survey of NABARD provides information on the income of agricultural households and non-agricultural households for the year 2015-16. This survey shows that 35% income of agricultural households is from cultivation, 34% from wage labour, 16% from salaries and 8% from livestock (Table 1). The share of cultivation and livestock together was 43% in NABARD survey as compared to 60% in NSS Survey of 2013.

Another finding of the survey is that only 23% of rural income is from agriculture (cultivation plus livestock) if we consider all rural households (Table 1). Around 44% of income is from wage labour, 24% from government/private service and 8% from other enterprises. It shows that income from the non-farm sector is the major source in rural areas.

Table 1. Average Monthly Income of Agricultural Households in current prices: NABARD survey 2015-16

Source of Income	Agricultural Households		All (agri + non-agri) households	
	Income (in Rs.)	Share in income %	Income (In Rs.)	Share in Income %
Cultivation	3140	35.2	1494	18.5
Livestock	711	8.0	338	4.2
Other enterprises	489	5.5	679	8.4
Wage Labour	3025	33.9	3504	43.5
Govt/Pvt.service	1444	16.2	1906	23.7
Other sources	122	1.4	138	1.7
Total	8931	100.0	8059	100.0

Source: NABARD (2018)

NABARD survey provides interesting data on the number of sources of income. Only 13% of agricultural households have one single source of income. Around 50% of these households have two sources, 29% three sources and 9% four sources. It shows that agricultural households do not depend only on farm-income but they depend on multiple sources for their livelihoods. Thus, both agriculture and non-agriculture are important for raising the income of agricultural households.

Around 51 per cent of micro, small and medium enterprises (MSMEs) are in rural areas and they have to be revived. Covid-19 is a big shock for these MSMEs, which were already reeling in the aftermath of the non-banking financial company crisis. There are also opportunities in the space vacated by China. India can't become self-reliant without dynamic MSMEs.

The government has been promoting start-ups by giving incentives. It announced 'Start-up India' as a flagship programme in 2016. There have been new generation start-ups coming up in agriculture. Rao et al (2017) document the evolution of recent start-ups in agriculture. Broadly, they render either input services or output services in marketing and related jobs. BigHaat.com, Flybird, AgroStar, Stellaps, Kedut, EcoZen, MITRA, EM3, Skymet, YCook, IFFCOKisan, Aarav Unmanned Systems, and CropIn are some of the start-ups involved in input services. For output services, there are several start-ups like Ninjacart, TheAgrihub, SVAgri, Sabziwala, Flipkart, and Big Basket.

The start-ups brought several innovations in product, process, marketing and organisation. These start-ups relied mainly on online and mobile platforms and rendered input and output services (Rao et al, 2017). They have been altering the value chain and roles of different actors by cutting down the length of the value chain. Experience in other countries also shows evidence of market failures in entrepreneurial activity in agriculture and the need for the state to intervene. A certain amount of start-up fund may be earmarked for spurring innovative start-ups in food and agriculture (Rao et al, 2017). Other suggestions of this study include channelling entrepreneurial activity in food and agriculture include remodelling technology business incubators under Indian Council of Agricultural Research (ICAR) on business principles and ensuing representation of ministry of agriculture in the inter-ministerial board for start-up promotion.

Lastly, agriculture and non-agriculture linkages, rural-urban connections are important for raising farmers' incomes. Professor T N Srinivasan argued that the solution for agriculture lies in labour absorption by non-agriculture (Srinivasan, 2008). Similarly, urban fiscal stimulus, solving the twin balance sheet problems of the corporate sector and banks would help agriculture and rural India because of rural-urban linkages.

IV. CONCLUDING REMARKS

To conclude, whether it is 1991 moment or not, the farm laws passed by the Parliament are in the right direction. The farmers have more choice and potentially get better price discovery. But, there are lots of uncertainties to realize the potential. To make them work, some conditions may have to be fulfilled and imperfections and concerns have to be addressed. More marketing infrastructure has to be developed outside the APMC system. The agriculture infrastructure fund of Rs. 1 lakh crore announced by the government can be used for this purpose. Agriculture and markets are 'State' subject in the constitution. Inter-state trade is 'Central' subject. Central and State governments have to work closely in a federal set-up for the success of these reforms. More transparency, communication and explanation to the farmers, particularly smallholders on the benefits of reforms are needed. Other reforms needed in agriculture relate to subsidies, land issues, technology, institutions, rural infrastructure and linkages with non-agriculture. These reforms can complement the agriculture market reforms.

Basically, we have to change the narrative on agriculture towards more diversified high-value production, better remunerative prices and farm incomes, marketing and trade reforms, high productivity with less input, focus on post-harvest value chains including storage, warehousing, processing and retailing, cost-effective and sustainable agriculture. The government policies have been biased towards cereals particularly rice and wheat. There is a need to shift from rice, wheat-centric policies to non-cereal focused policies like millets, pulses, fruits and vegetables, livestock and fisheries to promote diversified agriculture. The agriculture reforms will help in achieving the goals of higher agricultural growth and faster increase in farmers' income.

NOTES

[1] See Haque, Tajmul (2015)

[2] The Report of the Commission on 'Inclusive and Sustainable Development of Andhra Pradesh (CESS, 2016) provides some examples of the following best institutional practices in agriculture in India : (a)Building Alternative Markets: Rythu Bazars, SAFAL (Bangalore); (b)Contract farming: Broiler Poultry and Sam Agritech on grapes in Andhra Pradesh; (c) Farmer Federations: Timbaktu Collective in Anantapur district of A.P, Vegetable and Fruit Promotion Council Keralam (VFPCK); (d)Land lease for livelihood creation: Kudumbashree intervention in leasing and group farming; (e) Use of technology for price discovery: ITC e-Chaupal; (f) Building market infrastructure: Rural godowns by SHGs of small farmers in Germalam village, Erode district, Tamil Nadu; (g) Strengthening Panchayati Raj Institutions: An experiment in grassroots democracy and self-rule in village Menda-lekha Gadchiroli district of Maharashtra.

References

CESS (2016), "Report of the Commission on 'Inclusive and Sustainable Development of Andhra Pradesh", Chaired by Prof. R. Radhakrishna, Centre for Economic and Social Studies, Hyderabad

Dev, S. Mahendra (2018), "Transformation of Indian Agriculture", Presidential Address, 78th Annual Conference of the Indian Society of Agricultural Economics, 1-3 November 2018, Delhi.

Gulati, A. and C. Cahill (2018), "Resolving farmer-consumer binary", *Indian Express*, July 9.

Haque, Tajmul. (2015). "Impact of Land Leasing Restrictions on Agricultural Efficiency and Equity in India," at http://www.landandpoverty.com/agenda/pdfs/paper/haque_full_paper.pdf

Madhur, Gautam (2016), " Making Indian Agriculture More Resilient: Some Policy Priorities", *Economic and Political Weekly*, Vol. 51 No.8

Mishra, V.N. and Govinda Rao (2003), Trade Policy, Agricultural Growth and Rural Poor: Indian Experience, 1978-79 to 1999-00, *Economic and Political Weekly,* October 25, 2003

NABARD (2018), "All India Rural Financial Inclusion Survey 2016-17", National Bank for Agriculture and Rural Development, Mumbai

NCAER (2019), "Study on Agriculture Diagnostics", Report no. 20191101, November 2019, National Council of Applied Economic Research, New Delhi

Narayanan, Sudha (2020), "The Three Farm Bills", *India Forum*, October 2, 2020

Narayanan, Sudha, P. Prabhakar, G. Shaik and D. Uday, (2018) "Digital land records modernisation programme: Assessing impact in Himachal Pradesh and Maharashtra", *Ideas For India* http://www.ideasforindia.in/topics/macroeconomics/digital-india-land-records-modernisation-programme-assessing-impact-in-himachal-pradesh-and-maharashtra.html

Rangarajan, C. and S. Mahendra Dev (2019), " Removing the Roots of Farmers' Distress", The Hindu, January 28, 2019

Rao, CHH (2005), "Agriculture, Food Security, Poverty and Environment", *Oxford University Press, New Delhi.*

Rao, N. Chandrasekhara, R. Sutradhar and T. Reardon (2017) "Disruptive Innovations in Food Value Chains and Small Farmers in India", *Indian Journal of Agricultural Economics*, Vol. 72, No.1.

Rawal, V, S. Patel and J. Pais (2020), The Political Economy of Agriculture Market Reforms", Monograph 20/4, Society for Social and Economic Research, Delhi

Reddy, V. Ratna and S.Mahendra Dev (2006), "Managing Water Resources, Policies, Institutions and Technologies", Oxford University Press, New Delhi

Singh, Manmohan (1995), "Inaugural Address", *Indian Journal of Agricultural Economics*, Vol.50, No.1.

Singh, Sukhpal (2018), "Reforming Agricultural Markets in India: A Tale of Two Acts", *Economic and Political Weekly*,

Srinivasan, T.N. (2008), "*Development Strategy: The State and Agriculture since Independence*", Valedictory Address at the 10th Annual Money and Finance Conference, Indira Gandhi Institute of Development Research, Mumbai, January 18-19, 2008

Vaidynathan, A (2010), "Agricultural Growth in India: Role of Technology, Incentives and Institutions", *Oxford University Press*, Delhi

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India's Theatre Expansion: Use of Sea Power to Balance China's Rise

Suyash Desai[*#]

Abstract

There are geopolitical, strategic and historical reasons for a competitive and adversarial relationship between China and India. The border dispute is both a symptom and a trigger of this adversarial relationship. While border defences and the use of land and air power along the Himalayan frontiers is essential given the nature of the dispute, they are insufficient to deter China from using military provocations to unsettle India's foreign policy and limit it to a sub-continental power. This paper argues that sea power affords India the best way of managing China in the Indo-Pacific region. The development and demonstration of maritime power, particularly in the Indian Ocean and to the east of the Malacca Straits allow India a range of options in explicit and implicit strategic negotiations with Beijing.

Keywords: Sino-Indian Border Dispute; Indian Ocean; Indo-Pacific; People's Liberation Army (Navy); Line of Actual Control.

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* Suyash Desai is a research analyst working in China Studies Programme at The Takshashila Institution where he researches on China's defence and foreign policies

I. Introduction

In the past few years, the Sino-Indian relationship has wavered considerably, especially under the Chinese Communist Party (CCP) General Secretary, Xi Jinping, and India's Prime Minister, Narendra Modi's leadership. The volatility exists despite multiple attempts by both sides to use bilateral, regional, mini-lateral and multilateral forums to improve the relations (Ghosh, et al. 2018). The ongoing stand-off between the Chinese People's Liberation Army (PLA) and the Indian Army at multiple locations along the Line of Actual Control (LAC) in Eastern Ladakh witnessed first-ever fatalities on the border in over 45 years (Singh 2020). The current stand-off, which has extended over six months, exposed the superficial nature of the bilateral relationship, which is camouflaged with cultural, educational and human to human bonhomie (Kulkarni 2018). However, there are geopolitical, strategic and historical factors leading to a competitive and adversarial relationship between the two countries. The border dispute is both a symptom and trigger of this adversarial relationship.

These frequent stand-offs and conflicts on the Himalayan border are not in India's broader interest as the risk of escalation is high and it drains India's limited resources, confines India to the sub-continent and has a psychological effect on India's Border States. India needs to explore various options which would enable it to enlarge the conflict to its maritime domain. This paper argues that India should develop and demonstrate capabilities in the Indo-Pacific theatre for creating a bargaining space for the future contingencies. The objective of theatre enlargement is not war, but a desirable equilibrium for altering the existing power balance, which is currently tilted in China's favour.

The paper is divided into three parts. The first section focuses on the geopolitical, strategic and historical factors resulting in competition and contestation between the two countries. The second section emphasises on limitations to India's continentalist approach in confronting the Chinese aggression. The final section reiterates the importance of sea power and provides multiple policy choices that India could adopt in the maritime domain to counterbalance Chinese aggression and create space for a political solution.

II. Factors Impacting the Sino-Indian Relationship

Multiple geopolitical, strategic and historical factors compel China and India to share an adversarial relationship (Zhang and Sun 2019). These factors often undermine the headways made by two countries in improving the bilateral relations. The repeated Sino-Indian border stand-offs are a consequence of these unresolved factors.

Geopolitical Factors

There are three geopolitical factors resulting in strategic competition between China and India. One, China and India share a 3500 km long border running through the rugged Himalayan ranges. There are three contested sectors where the 1962 LAC has served as the de facto border between the two countries. The eastern sector spans roughly through the Indian state of Arunachal Pradesh and Sikkim. The central or middle sector, west of Nepal, is the smallest contested area, which includes the Indian states of Himachal Pradesh and Uttarakhand. While the western sector, and the current hotspot for the Sino-Indian border tensions, is in the Union territory of Ladakh (Fravel 2020). China and India disagree over at least 13 places about the location of the LAC across these three sectors. Due to the lack of consensus on the international boundary, the patrolling units often run into each other, resulting in multiple stand-offs. There are set drills and procedures established under the confidence-building mechanism of the 1993 border agreement and subsequent acts on how to resolve these issues (Menon 2016). But the current stand-off, which has resulted in gun fires being shot for the first time in 45 years, indicates the approaching expiry date for these agreements (Gettleman 2020). Furthermore, with improved infrastructure on both sides along the LAC, the probability of repeated stand-offs in the future is high.

Two, besides land, the Asian powers also share a cross border water dispute. One of India's major rivers, the Brahmaputra, also called the Yarlung Tsangpo in China, originates in the Chinese occupied Tibet and flows into India before entering Bangladesh (Khadka 2017). The two countries share the classic case of an upper-lower riparian dispute. The crux of the dispute is related to hydrological data sharing, which China does with Bangladesh, but not with India. Furthermore, Beijing has recently signalled that it would now focus on the lower reaches of Yarlung Tsangpo by constructing a few dams – one of which will be double the size of Three Georges Dam (Lo and Elmer 2020). These would have strategic and environmental consequences for India.

Finally, the emerging bipolar structure, with the US and China being two poles, has pushed India towards the former (Kuo 2019). Although it is not a formal alliance, and India claims to have maintained its strategic autonomy, the recent logistic exchange (LEMOA), communication and security (COMSCASA) and geospatial information sharing agreements (BECA) are select examples of the increased Indo-US cooperation. The Indo-US rapprochement, among other reasons, stems from the insecurities related to the revisionist People's Republic of China (PRC) under the CCP, which is flexing its technological, military and economic muscles in the Indo-Pacific region. China views the Indo-US reconciliation as an attempt to contain its rise and the use of the *China threat theory* as an excuse to balance against it (Colley 2020).

Strategic Factors

Besides geopolitical factors, there are also a few strategic drivers, which emerged in the last two decades, resulting in increased tensions among the two countries. The first driver is Chinese naval modernisation and its increased footprints in the Indian Ocean Region (IOR). China's dependence on the Sea Lanes of Communication (SLOCs) and its Malacca dilemma compel it to establish its presence in the IOR (Ji 2007). The 2015 defence white paper categorically asked the PLA to move from coastal defence to developing overseas capabilities (China Military Strategy 2015). Furthermore, *The Science of Military Strategy*, China's authoritative military doctrinal text, attributes particular strategic importance to a unified "two oceans region," encompassing the western Pacific and northern Indian Oceans (2013; Tarapore 2020). It calls for China to establish a presence in those oceans, extract their resources, influence countries on their littorals, and develop its military capabilities for those purposes (Tarapore 2020). In 2017, the PLA, after multiple denials, finally confirmed the establishment of its first overseas military base at Djibouti (Reuters 2017). The Pentagon's latest *China Military Power* report (2020) identifies several countries in Asia and the IOR, which could potentially be Chinese naval bases in the future. But the most likely ones among them are Gwadar in Pakistan and Ream in Cambodia (Annual Report to Congress 2020).

Furthermore, in December 2019, a Chinese research vessel, the Shi Yan 1 was also detected near Port Blair, which happens to be India's only tri-command base until now (Negi 2019). Research vessels are used for two purposes, to familiarise with the oceanic and geographic conditions, and assert sovereignty in the region. The Indian Navy reportedly expelled the Chinese research vessel from the Indian waters.

But, since 2009, the Chinese Navy has maintained an ongoing naval task group in the Gulf of Aden (Peri 2020). As Arzan Tarapore estimates, this task group, along with frequent research vessels and submarine deployments, means the PLAN maintains a constant presence of seven or eight navy ships in the Indian Ocean at any time (2020). Although most of the Chinese actions in the Indian Ocean until now are within the ambit of international law, the increased naval footprints directly impacts India's interests within the region, given the nature of the disputed relationship.

Two, India's strategic concerns have increased since the rollout of the Chinese Belt and Road initiative (BRI). India has stayed away from the BRI citing sovereignty, procedural and leadership issues (Kondapalli 2017). But, China's involvement in South Asia has increased in this decade since Xi inaugurated his flagship foreign policy programme (Ranjan 2019). *'China will deepen relations with its neighbours in accordance with the principle of amity, sincerity, mutual benefits, and inclusiveness, and the policy of forging friendship and partnership with its neighbours,'* said Xi in his 19th Party Congress speech in October 2017 (Xi 2017). China Institute of International Studies, a think tank under the People's Republic of China's (PRC) Foreign Ministry, released a report titled *BRI Opportunities and Challenges in South Asia* (Singh 2019), which highlights four strategically important infrastructure subprojects for China in South Asia: The China-Pakistan Economic Corridor (CPEC), the Bangladesh-China-India-Myanmar Economic Corridor (BCIM), the Trans-Himalaya Corridor, and China's cooperation with Bangladesh, Sri Lanka, and the Maldives under the 21st century Maritime Silk Road (Singh 2019). Furthermore, in 2019, China also announced that it would establish a new pilot project Free Trade Zones (FTZs) in six provinces across the country to improve trade with the neighbouring countries (Wong 2019). The prime beneficiaries of these initiatives in South Asia would be Pakistan, Nepal and Myanmar. India has historically viewed this region as its sphere of influence, and Beijing's growing economic, political and cultural clout undercut New Delhi's influence especially with the smaller South Asian countries like Nepal, Sri Lanka, Maldives and Myanmar. These countries could be tempted to view India as a hedge against China in the region for better gains, which is not an optimal situation for the former. Moreover, deep suspicion is attached to the BRI and to China's ulterior strategic motives regarding its military footprints in the region and its broader "great game," in which South Asia plays a pivotal role (Russel and Berger 2020).

Three, India shares a trade deficit of almost $50 billion with China (The Economic Times 2020). The dependence for certain products like electronic equipment, raw material for medicines, fertilisers, etc., is exceptionally high (Kewalramani, et al. 2019). Successive Indian governments have raised this issue with the Chinese leadership on multiple occasions with the recent instances being the two informal summits between Modi and Xi (Ramachandran 2019) (Chaudhury 2019). However, the empirical data suggest that the Chinese leadership has chosen not to address India's concerns (Patronobis 2019).

Finally, China's increased influence in international organisations and the formation of newer regional institutions like the Asian Infrastructure and Investment Bank, the New Development Bank, the Shanghai Cooperation Organisation, etc. provide opportunities to the PRC to hamper India's objectives. It limits India's participation in international institutions and blocking its voice as an emerging power in the anarchic international world. For instance, China's stand on India's entry in the United Nation's Security Council and Nuclear Suppliers Group are manifestations of such behaviour.

Historic Factors

India was one of the first countries to recognise the existence of the PRC in 1949 (Hariharan 2020). Despite the promising start, the two countries fought a gruesome land war on the heights of the

Himalayan ranges in October and November 1962. Three years before the war, India gave political asylum to the Dalai Lama and his followers after they escaped from Tibet amid the Chinese crackdown. This has been an inflexion point in the relations between the two countries until today. The 1962 war, which resulted in India’s defeat, created a feeling of antagonism which has been ingrained deeply into the Indian psyche. Furthermore, the ties between the two countries have become fraught due to multiple border skirmishes and stand-offs, Sikkim in 1967, Sumdorong Chu Valley in 1987, and Doklam in 2017, to name a few (Fravel 2020). The recent Galwan incident, which resulted in the deaths of 20 Indian soldiers, and the ongoing stand-off in eastern Ladakh are examples of mutual suspicion and distrust that the two countries harbour despite completing 70 years of diplomatic ties in March 2020.

Given the current improvement of the border infrastructure on both sides along the LAC and worsening of relations to historic lows, the probability of the Sino-Indian border stand-offs happening in the future has increased. The stand-offs, as witnessed from the recent Galwan incident, could turn into skirmishes and even conflicts, if these factors are kept unaddressed by both countries.

III. Limitations to India’s Continentalist Approach in Confronting China

This section examines India’s continentalist approach and the limitations to it while confronting China. India is compelled to deploy stronger defences on its northern borders due to the standard Chinese ‘salami-slicing’ tactics along the LAC. However, it is not in India’s interest in the dispute to escalate into a border war, accidentally or intentionally. There are four reasons for this: Falling into a two-front war trap with limited resources, improved Chinese capabilities with its Western Theatre Command (WTC) since Xi Jinping’s security reforms, nuclear risk, and most importantly, under-utilising India’s advantageous position in IOR which is constrained due to its continental preoccupations in the north.

The successive Indian army chiefs have cautioned about a possibility of India’s two-front war, which would most likely begin on the LAC, but spread across to its western borders (The Economic Times 2018). In his first press conference after becoming the army chief in December 2019, Gen MM Naravane spoke of the ‘collusivity’ between Pakistan and China and said this could be ‘both physical on land borders and in other spheres.’ (Karanbir 2020) He claimed that India should rebalance its deployment from the west towards the northern sectors and focus on modernisation and capacity building (Karanbir 2020). The Indian army has conducted multiple simulations to map the scope and nature of a two-front war.[1] But its limited armed forces modernisation and weapons acquisition, lack of implementation of the reforms suggested by the successive committees post the Kargil War, meagre defence budgets over past several years, and relatively limited multi-theatre operational capabilities could mount a substantial challenge. The worry is even more poignant after accounting for the current COVID crisis and the impact it will have on India’s economy in the near future.

Two, the Chinese deployment, firepower and infrastructure capabilities along the Sino-Indian border and the Western Theatre Command (WTC) have improved significantly since Xi’s military reforms. Multiple assessments have noted that the total troop strength for China’s WTC is around 2,30,000 (O'Donnell and Bollfrass 2020). This includes 70,000 troops from the Xinjiang Military District and 40,000-50,000 from the Tibet Military District (O'Donnell and Bollfrass 2020). In case of a long-drawn stand-off, like the one which we are witnessing in eastern Ladakh, the reinforcements to the WTC would most likely come from China’s Central Theatre Command (CTC) and strategic reserve forces. Reforms have also streamlined the process of reinforcements and cross-theatre deployment (Kewalramani and

Desai 2020). In case of firepower, newer weaponry like the T-15 tanks, the PCL 181 towed howitzers, the GJ-2 advanced attack drones and the Z-20 multi-utility rotary-wing have been developed for the WTC since 2017 after the Doklam crisis (Desai 2020). Some of these were specially manufactured for operating in the Tibetan plateau region for an Indian contingency. China has also raised world-class infrastructure on the Tibetan plateau in terms of highways, rail links, airports, logistic installations and temporary shelters (Reuters 2020). More importantly, the national defence transport regulation passed in 2016 in the PRC's Standing Committee of the National People's Congress (NPC) approved the use of civilian infrastructure for national defence (Apri 2016). It coupled with China's National Defence Mobilisation law of 2010 and elevation of CMC National Defence Mobilisation Department in Xi's latest military reforms help CMC rapidly mobilise reserve forces and militia in coordination with the PLA services and theatre commands (Kania and McCaslin 2020).

Although the ongoing stand-off highlights India's capabilities to mirror Chinese deployment in case of an escalation, sustenance for long-term, especially considering the harsh terrains, logistical limitations and escalation of both eastern and western borders would be a challenging task for the Indian armed forces.

Third, both China and India are nuclear-armed countries with No-First Use (NFU) doctrines. However, there are ambiguities over the conditions under which China could act outside its NFU policy. But it is mostly directed towards the US threat from the east. In case of the ongoing China-India stand-off, there has been no attempt by either side to draw attention towards its nuclear capabilities (Sethi 2020). The recent 2020 Pentagon *China Military Power* report highlights the PRC strategists' discussions over the need for low yield nuclear weapons for the future contingencies (2020). The development of low yield nuclear weapons, the potential change in China's posture to Launch on Warning (LOW) and an anticipated doubling of its nuclear warheads in the next five to ten years would have an impact on how India views the Chinese nuclear posture (Zhao 2020). These developments, if true, could perhaps increase the risk associated with the border conflict.

Finally, there is an invariable maritime domain to the Sino-Indian conflict which works in India's favour. India's geographical location in the Indian Ocean at the crossroads of global trade, its proximity to the all-important IOR straits and the rising profile as a net security provider for the region is both a caution and concern for China. The PRC's interests in the IOR are expanding steadily due to its dependence on the Sea Lanes of Communications (SLOC) for trade, commerce and energy supplies, increased investments in the region under the BRI, and expanding Humanitarian Assistance and Disaster Relief (HADR) operations in the African continent. The PLAN still lacks adequate capacity as well as the capability to challenge the Indian Navy in the Indian Ocean. It has limited experience in operations beyond coastal waters, limited blue water naval combatants, not enough basing agreements to operate in the Indian Ocean and limited long-range air strike capabilities (Gill 2020). More importantly, its logistical support such as mid-air and open-seas refuelling is still in the developing stage (Wuthnow 2020). Securing SLOCs in the Indian Ocean would be an extremely arduous task for China if India or other regional navies employ a naval blockade. China is well aware of this conundrum, and one of the ways to address this besides exploring alternative transit routes and improving the naval capabilities is to keep India actively engaged on the western and northern borders. This would exhaust India's significant chunk of capital resources and strategic minds, thus, resulting in relative neglect towards the IOR.

IV. India’s Way Forward: The Maritime Domain

The previous section highlighted limitations for India in keeping the conflict confined to the Himalayas. This section explores the ways and means in which India could use the maritime domain to alter the balance of power and create bargaining space for itself in case of an escalation. Before attempting to examine India’s choices in the maritime domain to counterbalance China, it is desirable to briefly consider the general utility of seapower.

Seapower provides coalitional leverage, which army and air force could only provide on the escalation of the situation (Shrikhande 2020). A renowned US naval strategist and historian Alfred Thayer Mahan has argued that British control of the seas, combined with a corresponding decline in the naval strength of its major European rivals, paved the way for Great Britain’s emergence as the world’s dominant military, political, and economic superpower (The Office of the Historian: Department of State). Terms like ‘leverage’ and ‘influence’ are associated with sea power by scholars and naval historians like Mahan, Corbbet and Gray (Gray 1992). Their individual work reiterated the importance of sea power, which is slow to act but could provide some rapid changes, altering the complete course of the dispute. More recently, sea power has been used to address mutual concerns and to counterbalance an emerging power, which could be a threat to regional stability.

India benefited from the use of sea power in the 1971 war when it launched operation Trident to inflict massive damage on Pakistan’s naval vessels and port facilities (Pubby 2020). The audacious mission conducted by Indian Navy on December 4 and 5, proved to be a crucial turning point in the 1971 Indo-Pak War (Maru 2017). But more importantly, sea power provides conventional deterrence, both by denial and punishment, which is more relevant for India in addressing the rising Chinese threat on land and seas (Shrikhande 2020).

Expanding the theatre of conflict to the Indo-Pacific region, more specifically to the Indian Ocean and the east of the Malacca Strait, works in India’s advantage. Despite being the world’s largest Navy, the PLAN has operational limitations in the IOR (Brewster 2019). In comparison, the Indian Navy maintains a geographical advantage, maritime domain experience and awareness, and numerical superiority in this theatre, especially in the Indian Ocean (Baruah 2020). India’s use of the maritime domain for addressing the Chinese contingencies can be divided into peacetime activities and activities during the border stand-off. The peacetime activities involve capabilities building (both indigenisation and transfer of technology), regional and extra-regional balancing, creating structures for intelligence sharing and altering its naval doctrine for the use of force. Activities during a stand-off include establishing a tripwire on its Himalayan frontiers and threatening to escalate in the maritime domain if a certain threshold is crossed, and making use of the peacetime agreements for force posturing on the east of Malacca and in the Western Pacific Region.

Peacetime Activities

India should upgrade its naval capabilities by raising newer forces, improving the existing force structure, manufacturing modern vessels in quick succession and investing in the latest naval aviation and subsurface platforms (Rajagopalan 2017). It should also invest more in the sea-denial technologies like anti-ship ballistic and cruise missiles, integrated and layer sensor systems, long-range naval bombers, sea mines, air defence systems, and so on (Desai 2020). But, factoring India’s shrinking defence budgets and the impact of the pandemic on its defence spending, maritime partnerships provide excellent alternatives to fill the gap (Rajagopalan 2017).

However, experience shows India's non-alignment mentality, making it recalcitrant towards such initiatives. For instance, it took over 13 years and repeated Chinese transgressions across the Himalayas and the South China Sea for the Quadrilateral Dialogue (Quad) to be upgraded from the mid-ranking official-level meeting to the foreign ministerial-level meeting (Madan 2020). Despite inviting Japan to the Malabar maritime exercises since 2009, India remained sceptical of the Quad to be an overt anti-China formation (Bedi 2020). Furthermore, Prime Minister Modi, in his 2017 Shangri la Dialogue keynote address, categorically stated that India would not participate in any formation or grouping which is directed against any country and India's conception of the Indo-Pacific is all-inclusive (2018). But the ongoing 2020 Sino-Indian stand-off would perhaps compel India to revisit some of its strategic choices from the past.

India has already signed Logistics Exchange Memorandum of Agreement in 2016, which enables the US and India to access designated military facilities for refuelling and replenishment in four areas — port calls, joint exercises, training and humanitarian assistance and disaster relief (Peri 2016). It has signed similar military-logistics agreements with Australia in June 2020 and Japan in September 2020, both during the ongoing stand-off. India also invited Australia to the Malabar trilateral naval exercises with the US and Japan (Jaishankar 2020; Chaudhury 2020; Bedi 2020). Such initiatives lay the foundation for greater military flexibility between the four Indo-Pacific stakeholders for the future.

However, I argue that it is in India's interest to step up and sign military-logistics and basing agreements with the Quad as a regional Indo-Pacific grouping. India should also consider such initiatives with regional stakeholders like Vietnam, Indonesia, Malaysia and the Philippines, either bilaterally or under the Quad formation. These countries are also impacted by the Chinese maritime aggression in the South China Sea and would provide ideal basing facilities for the Indian naval ships in the region. For instance, the Indian Navy has extensive naval interaction with Vietnam – especially in training, repairs, maintenance, logistics, etc (Bedi 2020). Vietnam has also given limited berthing rights to the Indian Naval vessels at Cam Ranh Port. However, there is no defence partnership or basing agreement between the two countries. Such agreement, with Vietnam for instance – bilaterally or under Quad – would increase India's presence and provide operational manoeuvrability in the South China Sea, the western Pacific Ocean and the broader Indo-Pacific region. It should also consider increasing its cooperation in terms of basing and logistics agreement and information sharing with the extra-regional stakeholder like France in the Indo-Pacific theatre. But these agreements without the Indian naval capacity upgrade would be of limited use as diplomacy and military diplomacy only act as a force multiplier when backed by military strength.

India could also use the Indian Ocean Rim Association (IORA) and Indian Ocean Naval Symposium (IONS), the two India-driven forums to deepen cooperation with like-minded countries affected by Chinese coercion. Through these forums, India could provide limited diplomatic support against the increased Chinese coercion to regional stakeholders like Vietnam and the Philippines (Ramanathan 2020). These forums could also be used for discussing ways and means to share maritime intelligence and understand China's grey zone tactics (Ramanathan 2020). Finally, India should assist these countries with developing specific naval capabilities, which would help them reduce asymmetry with the PLAN capabilities in the region.

Finally, India needs to reconsider its naval doctrine, which was formed in 2009 just when the PLAN started venturing into the IOR and developing anti-access/area-denial capabilities (Singh 2019). Since then, multiple factors like India's threat perception, its economic performance which directly impacts the capital expenditure, and China's capabilities and interests in the region have evolved. India's naval doctrine needs to accommodate these changing realities for giving itself operational freedom during a crisis. For example, the Indian Navy emphasises on sea control and power projection capabilities in the IOR, but with India's limited defence budget, the room for acquiring tools required for implementing these operational doctrines is minimal (Desai 2020). In such a scenario, I argue that India should prioritise investing in sea denial tools, which are relatively cost-efficient and would help in limiting China's footprints in the IOR during a crisis.

Activities During Escalation

India should look to expand the theatre of conflict to the Indo-Pacific Region during the escalation of the Sino-Indian border stand-off. Furthermore, it should establish a tripwire on its Himalayan frontiers, which would implicate a response from the Indian Navy in the maritime domain should there be a forceful change of status quo (Tarapore 2020). It should utilise the peacetime capacity that it has built and partnerships that it has developed to establish Indian military's forward presence near the Strait of Malacca. More importantly, it should be able to convincingly communicate that India could escalate in the Indian Ocean if China doesn't stop its salami-slicing activities on its northern borders. In reality, India may not choose to escalate in the maritime domain, but the deterrent threat should be credible enough to provide a bargaining space for its land dispute.

Further, bilateral and regional basing agreements would also allow India to flex its muscle on the east of the Malacca Strait. Currently, an Indian naval vessel takes four days from the tri-service Andaman Nicobar command to reach the South China Sea.[2] Moreover, that vessel is either isolated or outnumbered in the Chinese backyard.[3] For credible force posturing, India has to maintain a permanent presence on the east of Malacca, and basing agreements with the regional and extra-regional stakeholders in the western pacific would help India in doing so. By investing in the assets in China's backyard, India with like-minded countries should attempt to tie PLAN down on the east of Malacca, thus limiting its footprints in the Indian Ocean Region. It should also consider participating in the Freedom of Navigation Operation (FONOPS) with like-minded countries in the South China Sea (Shrikhande 2020). FONOPS serves two purposes: 1) Non-recognition of the territorial claims implying no country has an EEZ claim in that region 2) No country has a claim over the national airspace in that region (Shrikhande 2020). These FONOPS would reiterate India's beliefs in the maritime rules-based order, which is questioned by the PRC's assertive behaviour in the South and East China Seas.

All these possibilities could only be worked out if India focuses on its naval capabilities developments. No doctrine or posture changes will help if the naval modernisation takes a back seat. While border defences and use of land and air power along the Himalayan land frontiers is essential given the history of the boundary dispute, they are insufficient to deter China. Development and demonstration of maritime power, however, would allow India a range of policy choices which it could use in explicit and implicit strategic negotiations with Beijing.

V. Conclusion

The ongoing Sino-Indian stand-off, which resulted in the fatalities of over 20 Indian soldiers and unknown PLA personnel, have significantly damaged bilateral relations. The multiple layers of unaddressed complexities in the Sino-Indian relationship make it a burning pot. The border dispute is both a symptom and a trigger of this adversarial relationship. Given the current improvement of the border infrastructure on both sides along the LAC and worsening of relations to historic lows, the probability of such stand-offs happening in the future has increased. India could limit the cost of a stand-off by expanding the theatre to the Indo-Pacific region. Geographical advantage, the experience of operating in the Indian Ocean and distance from all the key chokepoints work in India's favour. However, it should also explore internal and regional balancing with like-minded countries and reconsider its operational doctrine, based on the newer threats and budgetary constraints, for a maritime conflict. The skilful use of the maritime theatre would not only deter the PLA but could provide India with a bargaining space for a political negotiation, which is necessary to resolve the border stand-offs on its Himalayan frontiers.

Notes

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[1] Indian Army Officer, Telephonic Interview with the authors, September 16, 2020.

[2] Anonymous Indian Naval Officer, telephonic interview by the authors, September 19, 2020.

[3] Anonymous Indian Naval Officer

References

n.d. “Mahan’s The Influence of Sea Power upon History: Securing International Markets in the 1890s,”." *Milestones: 1866-1898.* The Office of the Historian: Department of State. Accessed October 5, 2020. https://history.state.gov/milestones/1866-1898/mahan.

Apri, Claude. 2016. "China: Civilian Infrastructure used for Military Purpose on the Plateau." India Defence Review, April 27. http://www.indiandefencereview.com/china-civilian-intrastructure-used-for-military-purpose-on-the-plateau/.

Baruah, Darshana M. 2020. *India in the Indo-Pacific: New Delhi’s Theater of Opportunity.* Washington, DC: Carnegie Endowment for International Peace, 18-19. https://carnegieendowment.org/2020/06/30/india-in-indo-pacific-new-delhi-s-theater-of-opportunity-pub-82205.

Bedi, Rahul. 2020. "Explainer: Why India Hasn't Yet Invited Australia to the Quad's Naval Exercises." The Wire, September 9. https://thewire.in/security/australia-quad-malabar-exercises-navy.

Brewster, David. 2019. "China may only Seek a Limited Naval Role in the Indian Ocean." The Interpreter, February 11. https://www.lowyinstitute.org/the-interpreter/china-may-only-seek-limited-naval-role-indian-ocean.

Chaudhury, Dipanjan Roy. 2020. "Modi and Abe hold Summit Dialogue over Phone; Indo-Japan Navy Pact Announce." The Economic Times, September 11. https://economictimes.indiatimes.com/news/defence/india-japan-sign-agreement-giving-military-access-to-each-others-bases-for-supplies/articleshow/78035221.cms.

—. 2019. "Modi-Xi Mamallapuram Informal Summit: LAC, Counterterrorism, Trade Deficit on Agenda." The Economic Times, October 10. https://economictimes.indiatimes.com/news/politics-and-nation/modi-xi-mamallapuram-informal-summit-lac-counterterrorism-trade-deficit-on-agenda/articleshow/71516684.cms?from=mdr.

2017. "China Formally Opens First Overseas Military Base in Djibouti." Reuters , August 1. https://in.reuters.com/article/us-china-djibouti/china-formally-opens-first-overseas-military-base-in-djibouti-idUSKBN1AH3E3.

2015. "China Military Strategy ." *The State Council of the People's Republic of China.* May 27. Accessed October 17, 2020. http://english.www.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm.

2020. "China Planning Spending Spree in Tibet as India Tension Rise, Sources Say." Reuters, September 4. https://www.reuters.com/article/us-china-investment-tibet-idUSKBN25V1KS.

Colley, Dr Christopher K. 2020. "China’s Ongoing Debates About India and the United States." *Asia Dispatches.* Wilson Center, June 30. https://www.wilsoncenter.org/blog-post/chinas-ongoing-debates-about-india-and-united-states.

Congress, Annual Report to. 2020. "Military and Security Developments Involving the People's Republic of China 2020." *Office of Secretary of Defense.* September 1. https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF.

Desai, Suyash. 2020. "India's Approach to the Indian Ocean Region: From Sea Control to Sea Denial." The Diplomat, March 9. https://thediplomat.com/2020/03/indias-approach-to-the-indian-ocean-region-from-sea-control-to-sea-denial/.

—. 2020. "Is China's Western Theatre Command Confident Enough to Challenge India?" 9Dashline, June 30. https://www.9dashline.com/article/is-chinas-western-theatre-command-confident-enough-to-challenge-india?rq=Suyash.

Fravel, M Taylor. 2020. "Stability in a Secondary Strategic Direction: China and the Border Dispute with India After 1962." In *Routledge Handbook of China–India Relations*, by Kanti Bajpai, Selina Ho and Manjari Chatterje Miller. New York: Routledge. doi:http://dx.doi.org/10.2139/ssrn.3546583.

—. 2020. "Why are China and India skirmishing at their border? Here's 4 things to know." Washington Post, June 2. https://www.washingtonpost.com/politics/2020/06/02/why-are-china-india-skirmishing-their-border-heres-4-things-know/.

Gettleman, Jeffrey. 2020. "Shots Fired Along India-China Border for First Time in Years." The New York Times, September 8. https://www.nytimes.com/2020/09/08/world/asia/india-china-border.html.

Ghosh, Nilanjan, Parthapratim Pal, Ronjini Ray, and Jayati Chakraborty. 2018. *China-India Relations in Economic Forums: Examining the Regional Comprehensive Economic Partnership.* ORF Occasional Paper, New Delhi: Observer Research Foundation. https://www.orfonline.org/research/43125-china-india-relations-in-economic-forums-examining-the-regional-comprehensive-economic-partnership/.

Gill, Don Mclain. 2020. "India Must Secure the Indian Ocean to Deter China's Assertion Along the Border." RUSI, July 9. https://rusi.org/commentary/india-must-secure-indian-ocean-deter-china%E2%80%99s-assertion-along-border.

Gray, Collin. 1992. *The Leverage of Sea Power: The Strategic Advantage of Navies in War.* New York: Free Press.

Hariharan, Hamsini. 2020. "70 years of Sino-Indian Ties: Why the Words of India's First Envoy to China are Still Relevant." CNBCTV18, January 7. https://www.cnbctv18.com/views/70-years-of-sino-indian-ties-why-the-words-of-indias-first-envoy-to-china-are-still-relevant-5005371.htm.

2020. "India's trade deficit with China reduces to USD 48.66 bn in FY20." The Economic Times, July 2. https://economictimes.indiatimes.com/news/economy/foreign-trade/indias-trade-deficit-with-china-reduces-to-usd-48-66-bn-in-fy20/articleshow/76750117.cms.

Jaishankar, Dhruva. 2020. "India-Australia's Growing Partnership built on Military Ties and Concerns about China's Rise." thrPrint, September 29. https://theprint.in/opinion/india-australia-partnership-military-ties-china-rise/511879/.

Ji, You. 2007. "Dealing with Malacca Dilemma: China's Efforts to Protect its Energy Supply." *Strategic Analysis* 31 (3): 467-489. doi:10.1080/09700160701415743.

Kania, Elsa, and Ian Burns McCaslin. 2020. *People's Warfare Against COVID-19: Testing China's Military Medical and Defense Mobilisation Capabilities.* Washington, D.C: Institute for the Study of War, 11-12. http://www.understandingwar.org/report/peoples-warfare-against-covid-19-testing-china%E2%80%99s-military-medical-and-defense-mobilization.

Karanbir, Shaurya. 2020. "Threat of Collusion between China, Pakistan Maximum in Siachen, Shaksgam Valley: Army Chief General Manoj Naravane." The Economic Times, January 13. https://economictimes.indiatimes.com/news/defence/threat-of-collusion-between-china-pakistan-maximum-in-siachen-shaksgam-valley-army-chief-general-naravane/articleshow/73205626.cms.

Kewalramani, Manoj, and Suyash Desai. 2020. "Understanding China's LAC Deployment Capabilities." Deccan Herald, September 9. https://www.deccanherald.com/opinion/understanding-china-s-lac-deployment-capabilities-884952.html.

Kewalramani, Manoj, Anirudh Kanisetti, Suyash Desai, and Shibani Mehta. 2019. *An Indian Approach to Navigate China's Rise.* Takshashila Discussion Document- 08, The Takshashila Insitution. https://takshashila.org.in/wp-content/uploads/2019/12/TDD-AnIndianApproachtoNavigateChinasRise-MK-AK-SD-SM-2019-08-1.pdf.

Khadka, Navin Singh. 2017. "China and India water 'dispute' after border stand-off." BBC, September 18 18. https://www.bbc.com/news/world-asia-41303082.

Kondapalli, Srikant. 2017. "Why India is Not a Part of Belt and Road Initiative Summit." The Indian Express, May 15. https://indianexpress.com/article/opinion/why-india-is-not-part-of-the-belt-and-road-initiative-summit-4656150/.

Kulkarni, Sudheendra. 2018. "9 Hours of Modi-Xi Talks Yield Big Results." NDTV, April 30. https://www.ndtv.com/opinion/modi-and-xi-show-the-potential-of-dil-se-talks-1844699.

Kuo, Mercy A. 2019. "The Return of Biopolarity in World Politics." The Diplomat, February 19. https://thediplomat.com/2019/02/the-return-of-biopolarity-in-world-politics/.

Lo, Kingling, and Keegan Elmer. 2020. "Could China's New Dam Plans unleash more Trouble with India?" The South China Morning Post, November 8. https://www.scmp.com/news/china/diplomacy/article/3108904/could-chinas-new-dam-plans-unleash-more-trouble-india.

Madan, Tanvi. 2020. "What You Need to Know about the Quad in Charts." Brookings, October 5. https://www.brookings.edu/blog/order-from-chaos/2020/10/05/what-you-need-to-know-about-the-quad-in-charts/.

Maru, Hitarth. 2017. "Operation Trident: Remembering India's Historic Naval Victory From 1971." Swarajya Magazine, Dececmber 4. https://swarajyamag.com/defence/operation-trident-remembering-indias-historic-naval-victory-from-1971.

Menon, Shivshankar. 2016. *Choices: Inside the Making of India's Foreign Policy.* Washington, DC: The Brookings Institution.

Modi, Narendra. 2018. *Prime Minister's Keynote Address at Shangri La Dialogue.* June 18. Accessed November 7, 2020. https://www.mea.gov.in/Speeches-Statements.htm?dtl/29943/Prime+Ministers+Keynote+Address+at+Shangri+La+Dialogue+June+01+2018.

Negi, Manjeet Singh. 2019. "Navy Expels Suspected Chinese Spy Vessel from Indian Waters." India Today, December 3. https://www.indiatoday.in/india/story/navy-expels-suspected-chinese-spy-vessel-from-indian-waters-1624631-2019-12-03.

O'Donnell, Frank, and Alexander K. Bollfrass. 2020. *The Strategic Postures of China and India: A Visual Guide.* Managing the Atom Project, Cambridge, Massachusetts: Belfer Center for Science and International Affair. https://www.belfercenter.org/publication/strategic-postures-china-and-india-visual-guide#toc-5-0-0.

Patronobis, Sutirtho. 2019. "New Solutions Needed: China on Widening Trade Deficit with India." Hindustan Times, August 26. https://www.hindustantimes.com/business-news/new-solutions-needed-to-address-trade-deficit-with-india-china/story-3TxCVwvWIOF896s38z4JgP.html.

Peri, Dinakar. 2016. "“What is LEMOA,”." The Hindu, August 30. https://www.thehindu.com/news/national/What-is-LEMOA/article15604647.ece.

—. 2020. "We Are Watching Movements in the Indian Ocean Region: Navy Chief." The Hindu, January 16. https://www.thehindu.com/news/national/we-are-watching-movements-in-the-indian-ocean-region-navy-chief/article30573179.ece.

2018. "Prepared for a Two-front War but Want Peace: Army Chief Bipin Rawat." The Economic Times, July 13. https://economictimes.indiatimes.com/news/defence/prepared-for-a-two-front-war-but-want-peace-army-chief-general-bipin-rawat/articleshow/56297112.cms.

Pubby, Manu. 2020. "India loses 1971 War Hero; Declassified CIA Files Reveal Impact of his Operation Trident." thePrint, July 4. https://theprint.in/report/india-loses-1971-war-hero-declassified-cia-files-reveal-impact-of-his-operation-trident/2024/.

Rajagopalan, Rajesh. 2017. *India's Strategic Choices: China and the Balance of Power in Asia.* Washington, DC: Carnegie Endowment for International Peace, 16-19. https://carnegieindia.org/2017/09/14/india-s-strategic-choices-china-and-balance-of-power-in-asia-pub-73108.

Ramachandran, Sudha. 2019. "India-China Relations: From the Wuhan Spirit to the Chennai Connect." *China Brief* 19 (9). https://jamestown.org/program/india-china-relations-from-the-wuhan-spirit-to-the-chennai-connect/.

Ramanathan, Aditya. 2020. "Choppy Waters in the South China Sea." *All Things Policy* . The Takshashila Institution, October 05. Accessed October 6, 2020. https://ivmpodcasts.com/all-things-policy-episode-list/2020/10/5/ep-426-choppy-waters-in-the-south-china-sea.

Ranjan, Amit. 2019. "China's Infrastructure Projects in South Asia under BRI: An Appraisal." *Contemporary Chinese Political Economy and Strategic Relations: An International Journal* 5 (1): 1080. https://search.proquest.com/openview/ebd4e3e73a09cba5da82d878a2496157/1?pq-origsite=gscholar&cbl=2042768.

Russel, Daniel R, and Blake H Berger. September 2020. *Weaponizing the Belt and Road Initiative.* Asia Society Policy Institute. https://asiasociety.org/sites/default/files/2020-09/Weaponizing%20the%20Belt%20and%20Road%20Initiative_0.pdf.

Sethi, Manpreet. 2020. "Why India and China haven't used the N Word throughout the Ladakh Conflict." thePrint, August 3. https://theprint.in/opinion/india-china-nuclear-doctrine-ladakh-conflict/473444/.

Shrikhande, Sudarshan. 2020. *Harnessing Indian Sea Power Post-Galwan: Considerations of Time, Space and Force.* ORF Occasional Paper, New Delhi: Observer Research Foundation. https://www.orfonline.org/research/harnessing-indian-sea-power-post-galwan-considerations-of-time-space-and-force-69573/.

Shrikhande, Sudharshan. 2020. *Leveraging India's Seapower Against China.* The Takshashila Institution. Bangalore, September 23. https://www.youtube.com/watch?v=yrVdYoyY9TQ&t=2143s.

Singh, Abhijit. 2019. "All Out at Sea: On India's Engagements in the Indian Ocean." The Hindu, May 16. https://www.thehindu.com/opinion/op-ed/all-out-at-sea/article27141593.ece.

Singh, Antara Ghoshal. 2019. "China's South Asia Challenge for the Belt and Road Initiative." The Interpreter, March 15. https://www.lowyinstitute.org/the-interpreter/china-south-asia-challenge-belt-and-road-initiative.

Singh, Rahul. 2020. "A Timeline: India-China's Deadliest Border Clash since 1975 Explained." Hindustan Times, June 17. https://www.hindustantimes.com/india-news/a-timeline-india-china-s-deadliest-border-clash-since-1975-explained/story-9Ct6lHQKkRuXM5w2K5xmwO.html.

Tarapore, Arzan. 2020. "Building Strategic Leverage in the Indian Ocean." *Washington Quarterly* 43 (4): 210. https://doi.org/10.1080/0163660X.2020.1850833.

—. 2020. "Building Strategic Leverage in the Indian Ocean." *Washington Quarterly* 43 (4): 207. https://doi.org/10.1080/0163660X.2020.1850833.

—. 2020. "Building Strategic Leverage in the Indian Ocean." *Washington Quarterly* 43 (4): 223. https://doi.org/10.1080/0163660X.2020.1850833.

2013. *The Science of Military Strategy.* Beijing: Academy of Military Sciences of the People's Liberation Army of China.

Wong, Dorcas. 2019. "China's Six New Free Trade Zones: Where are they Located? (2019 Expansion)." China Briefing, September 10. https://www.china-briefing.com/news/china-free-trade-zones-six-provinces/.

Wuthnow, Joel. 2020. *System Overload: Can China's Military be Distracted in a War over Taiwan.* Center for Study of Chinese Military Affair, Institute for National Strategic Studies, China Strategic Perspective, 26. https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/china/china-perspectives-15.pdf.

Xi, Jinping. 2017. "Full Text of Xi Jinping's Report at 19th CPC National Congress." Beijing: Xinhua, November 3. http://www.xinhuanet.com/english/special/2017-11/03/c_136725942.htm.

Zhang, Jiadong, and Qian Sun. 2019. "China-India Relations: A Premature Strategic Competition between the Dragon and the Elephant." *Issue & Studies: A Social Science Quarterly on China* (Taiwan and East Asian Affair) 55 (2): 2. https://doi.org/10.1142/S1013251119400046.

Zhao, Tong. 2020. "Modernizing without Destabilising: China's Nuclear Posture in a New Era." Carnegie-Tsinghua Center for Global Policy, August 25. https://carnegietsinghua.org/2020/08/25/modernizing-without-destabilizing-china-s-nuclear-posture-in-new-era-pub-82454.

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The Role of Religious Faith in Financial Exclusion: An Analysis of Financial Deepening in India

D Narayana*

Shagishna K**

Abstract

Financial inclusion may be thought of at two levels: having a bank account, reflecting access to banks and financial literacy; and financial deepening, as reflected in operating interest-bearing deposit or loan accounts. As a sizable proportion of the Muslims in the country subscribes to the belief that *'Riba is Haram'*, such religious prohibition to subscribe to interest-bearing banking products may lead to exclusion from financial deepening. While many countries have overcome this deficiency by hosting Islamic banking in their conventional banking systems, India is an exception. The objective of this paper is to examine the prevalence of financial exclusion owing to religious faith in India. A careful analysis of district-level data on deposit accounts, and population census data on urbanization and religious composition, suggests exclusion of Muslims from financial deepening. Regression analysis confirms that faith-based financial exclusion is significant in many states of India. A few private initiatives of recent years to offer interest-free banking services have attracted a large clientele, indicating unmet demand. The lack of a policy response means denying financial inclusion for large segments of population.

JEL: G21. G51, G53, G59

Key Words: Islamic Banking, Interest-free Banking, Conventional Banking, Financial Exclusion, Financial Deepening, Religious Faith, Urbanization, Deposit Accounts.

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* Prof. D. Narayana, Ph.D (Indian Statistical Institute, Kolkata) is currently a member of the Contributory Pension Review Committee of Government of Kerala.

** Ms. Shagishna K is a Research Associate of D Narayana in the Contributory Pension Review Committee of Government of Kerala.

I. Introduction

Financial inclusion is a cherished goal of any economy, both as a moral imperative as well as for economic efficiency. It is generally agreed that India has made rapid progress in financial inclusion. Recent advances in inclusion are attributed to Pradhan Mantri Jan Dhan Yojana and digital finance following demonetization. One of the widely adopted definitions of financial inclusion in India, attributed to Reserve Bank of India (RBI), runs as follows: '[the] process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups in particular, at affordable cost in a fair and transparent manner by regulated mainstream institutional players' (Chakrabarty, 2013, p.2.). The model adopted for achieving this goal of financial inclusion is a bank-led system, with commercial banks, co-operative banks, banking correspondents, SHGs and so on being part of it.

There are three dimensions to financial inclusion as may be elicited from the definition given above: (i) access to financial services; (ii) the deepening of financial services for those who have access to minimal services; and (iii) greater financial literacy so that who are offered financial products can make informed choices. In this formulation, access is a function of both supply of services and basic financial literacy. Deepening of financial services is built on minimal access and greater literacy of financial products. Whichever definition is taken, financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. Confining here to banking products, financial inclusion broadens the resource base of the financial system by developing a culture of saving among large segments of the population and protects their financial wealth. It also mitigates the exploitation of vulnerable sections by usurious money lenders, by facilitating easy access to formal credit. If a person has a bank account but does not deposit money or borrow despite having the economic means of doing so, then it will be interpreted as lack of financial literacy. This understanding excludes the possibility of a financially literate person not depositing or borrowing money because their religion prohibits receiving interest.

The fundamental principle governing banking is interest. Depositors receive interest on their savings and borrowers pay interest on their loans. The banks' sustainability depends on the interest spread and the security of their loans. Hence, financial inclusion works for those willing to pay and receive interest. Naturally a question arises: if certain population groups do not have faith in interest, or if interest payment is against their system of beliefs, what happens to financial inclusion of such groups? Are the financial products such as deposits and loans of banks appropriate for them? If they are not appropriate, then do certain population groups get excluded? There is a hint of such exclusion in the report by Raghuram G. Rajan, 'Certain faiths prohibit the use of financial instruments that pay interest. The non-availability of interest-free banking products results in some Indians, including those in the economically disadvantaged strata of society, not being able to access banking products and services due to reasons of faith' (Planning Commission, 2008, p.72). We have found little discussion of this issue in the economic literature on financial inclusion in India.

In the light of the above, the issue of financial inclusion needs to be framed as a two- step process. Access to services and financial literacy, as reflected in a person having an account and carrying out receipt and payment, transfer of money and using instruments like pay order or demand draft, may be considered first-level inclusion. Utilizing interest-bearing deposit and loan services is definitely a reflection of deepening of financial services and greater financial literacy. But not utilizing such services cannot be interpreted as solely due to lack of financial literacy. It could be because of two other reasons. One, there is an institutional bias in not providing financial services to areas dominated by certain communities. Two, it could be a reflection of certain communities, subscribing to a religious faith of not paying or receiving interest, not utilizing deposit and loan services because the financial system offers only interest-bearing instruments. The design of the system does not allow for other types of financial instruments. Those having faith in other modes are then excluded by design.

Population groups that ideologically oppose interest are pervasive across the globe. Financial systems have evolved to meet the needs of such population groups in many economies. Interest-free banking or Islamic banking institutions fall into this category. Islamic banking is common in Islamic countries; many others have also begun opening Islamic 'windows' in conventional banking, offering *shariat*-compliant financial instruments. India is not one of them.

In India, some private initiatives have been taken in Islamic banking. Can these initiatives meet the needs of the excluded population groups? Can they be considered as an alternative to the banks? This paper seeks to address some of these issues. The first objective of the paper is to assess the magnitude of access to basic financial services, among some large Indian states. The second objective is to examine the magnitude of exclusion from financial deepening of population groups owing to their religious faith. Financial deepening has two dimensions, namely savings and loan services, and the factors relevant to each are different. This paper confines itself to the savings dimension of financial deepening. The third objective is to explore alternative institutions of financial inclusion. A narrative of interest-free banking in some of the leading economies is provided to show their success as an alternative to conventional banking. The limited Indian experience with interest-free banking is analysed to see whether it could be adopted in India more extensively.

The paper is organized in nine sections, including the introduction. Section two discusses interest-free banking: its principles, products, and spread in the Middle East and some other leading economies. Section three elaborates on the data and methods used in this paper. Section four takes up the coverage of bank accounts among the households in the Indian states. Section five analyses financial deepening in the urbanized Indian state of Kerala, with higher prevalence of international migration. Section six examines the magnitude of faith-based financial exclusion in some other Indian states. Section seven presents regression results of deposit accounts on urbanization and proportion of Muslims. Section eight describes the experience of an interest-free banking institution, namely Sanghamam Multi-State Co-operative Credit Society, in deposit mobilization and credit disbursal. Section nine states our conclusions.

II. The Spread of Interest-free Banking

Interest-free banking or Islamic banking is a system in accordance with the *shariat* (Islamic law or jurisprudence) that prohibits paying any fee for renting of money for specific periods of time ("*riba"*). It also prohibits any sort of investment in businesses that are considered *haram* or against the principles of Islam. *Riba* or interest under Islamic law basically means anything in 'excess' – the investor should not make an undue profit from the hard work of any other person. A system of reasonable profit, where the investor takes a risk that is well calculated, is permitted. Over the years various products have evolved under Islamic banking, such as *Mudharbah* (profit sharing), *Musharaka* (joint venture – both parties share everything equally), *Murabaha* (cost + profit), *Ijara* (letting of lease) and so on. The modern Islamic banks have developed financial instruments conforming to *Shariah* principles (Rao 2016). They cover all the major categories of conventional banking such as deposit, lending, trade finance, and treasury. There is, however, some variation across regions and countries in the specificity of the financial instruments. For instance, project financing under loan products based on *Musharaka* and *Murabaha* are popular in Middle East, South Africa, and Indonesia, but are considered risky in Malaysia (Oracle Financial Services, 2017).

The most important development in Islamic banking history is the establishment of the Islamic Development Bank (IDB) in 1975. The IDB was established as an international financial institution by representatives of member countries of the Organization of the Islamic Conference (OIC) (23 members in 1975, rising to 57 by 2014). The IDB's main objective is to promote economic and social development in the Muslim world following the principles of Shariáh, and it has been a significant financier and promoter of an array of Islamic banking and finance initiatives since its formation (Abedifar et al., 2014). By the end of the 1970s, several Islamic banks had been established in the Muslim world, e.g., in Dubai (1975), the Faisal Islamic Bank of Sudan (1977), and the Bahrain Islamic Bank (1979). Oil wealth played a crucial role in building these banks. The burgeoning surplus as oil prices inched north, and a post-oil vision of the economy, both boosted Islamic banking.

Many countries have also begun opening Islamic 'windows' in conventional banking, offering *shariat*-compliant financial instruments. Malaysia and the Kingdom of Bahrain are two interesting examples. Malaysia, as a colony, was dominated by foreign banks. After gaining independence in 1957, the country did not introduce the Islamic banks immediately. Two legislations, one in 1983 and another in 1989, facilitated the co-existence of Islamic banks alongside the conventional banking sector. Bahrain chose to occupy a leading position as an international financial centre, which necessitated the development of conventional banking structure. Into this system were brought Islamic banks. The experiences of these two countries prove that Islamic banking systems can co-exist with the conventional system.

The United States, United Kingdom, Germany and others have opened Islamic banking windows in their financial system. The beginning of interest-free banking in the UK could be traced to 2003. In less than five years, it became a prominent financial player in the UK financial market. The UK was the first non-Islamic country to permit a *shariat*-compliant bank called the Islamic Bank of Britain in 2005. Many conventional banks, such as HSBC and Lloyds TSB, have also started offering Islamic financial products (Aldohni, 2008). The US has American Finance House La Riba, a *riba*-free institution. In 2017, there were 505 Islamic banks globally, including 207 Islamic banking windows with an asset base of USD 1.72 trillion (GIFR, 2019).

In the UK, Islamic banking got a boost largely because of the unique position of London as a major centre of international trade and finance. London accounts for about 20% of all international bank lending, and more than 30% of all foreign exchange transactions in the world. The UK was eager to promote London as the global centre for Islamic finance. The growing wealth of Muslims in the country, and the danger of Islamic institutions working informally outside the regulatory frame, played an important part in this decision. This danger is enhanced when there is a sizable Muslim population who, for religious reasons, are reluctant to deal with conventional banks. It was reported that over three-quarters of British Muslims wanted banking services that fit with their faith (BBC News 2005). Having Islamic financial products under the supervision of official financial authorities could thus serve many purposes. In sub-Saharan Africa, it is observed that the introduction of Islamic banking spurred financial inclusion, which in turn helped in reducing poverty (Abdu, Musa, et.al, 2018).

In the Indian context, an early mention of faith-based financial exclusion in official circles was by the Sachar Committee in 2006. While this did not result in any government action, the Raghuram Rajan Committee in its report on The Finance Sector Reforms in 2008 suggested that interest-free banking should be promoted on a large scale to provide access to those who do not use conventional banking instruments. An Islamic banking 'window' will encourage many from the Muslim community to come forward and invest in *shariah*-compliant products; in particular, those in the economically disadvantaged strata of society will be able to access banking products and services (Planning Commission, 2009). But the same story of neglect persisted: Islamic banking continued to be misunderstood in India, seen as a religious charitable venture, restricted to the country's poverty-ridden and economically downtrodden members of the Muslim community. The development of Islamic Banks globally could not demolish this myth (Singh & Yadav 2013). Indian banking sector has kept away from introducing *shariah*-compliant products to meet the needs of observant Muslims.

Even though Islamic banks are yet to gain traction in India, some Non-Banking Financial Companies (NBFCs) following the principle of interest-free banking have begun functioning in Kerala. Prominent among them are Cheraman Financial Services Limited and Sanghamam Multi-State Credit Co-operative Society Limited, which have been functioning for close to 10 years. In 2017, the Halal Fayidah Co-operative Society came into being to cater to the needs of devout Muslims. In this paper, Sanghamam Multi-State Co-operative Credit Society Ltd. has been taken up for more detailed study.

III. Data and Methods

How do we examine the relationship between financial inclusion and religious faith? Our argument is that being Muslim and subscribing to the injunction that *'Riba is Haram'*, some Muslims do not deal with interest-bearing instruments in banking. Even while having a bank account and carrying out money transfer and such other functions, they do not deposit or borrow. In banking terminology, they do not open deposit or loan accounts. In a research strategy where primary data are collected from individuals, this would simply mean asking the question 'do you have a deposit/loan account?', and the answer would be equally straightforward. However, to identify such a trend using secondary data from diverse sources, the approach has to be different.

An assessment of financial inclusion or access to financial services and basic financial literacy is possible by using an indicator such as the proportion of population having bank/post office accounts. Having a bank account implies that basic access is present as the person concerned is literate about bank accounts. The latest round of National Family Health Survey (NFHS- 4, 2015-16) provides information on population, health, nutrition, and access to bank, etc. at the level of the states. Answer to the specific question 'whether the household has a post office/bank account' is used to arrive at the proportion of households having post office/bank account. Information is also available on the 'percentage of women having bank account which they themselves use'. This could be an indicator of financial inclusion of women.

The analysis of the relationship between financial deepening and religious faith requires a different approach, as data asking a direct question are not available. Financial deepening, that is having a bank account and operating deposit account, would be related to the level of economic activity, especially non-farm activities, education, gender, income, movement of population in search of employment (migration) and so on. As the level of income rises, the per capita deposit accounts are expected to rise. Similarly, as the level of economic activity goes up, the per capita deposit account would increase. As data on income or level of economic activity at the district level is not available, the best proxy would be the level of urbanization. As level of urbanization goes up, per capita deposit accounts are expected to rise, and the proportion of Muslims holding such accounts would fall. The relationship of interest to holding accounts would then require separating out the effects of these different factors on the population operating deposit accounts.

The paper is based on secondary data collected from diverse sources.

- Population data is drawn from Population Census 2011 publications. As our focus is mainly on variations across states, and among districts within states, rather than on the levels of population itself, the use of 2011 population data is not expected to affect our results.
- The source of data on number of deposit accounts is Reserve Bank of India (RBI). RBI publishes data on the number of scheduled commercial bank offices, number of deposit and loan accounts, and deposit and loan amounts at the level of districts on an annual basis. We have taken the data pertaining to March 2019.
- The Population Census provides information on the population numbers at district and sub-district levels by religion and by residence.
- While data on urbanization are available at the district level, such data are not available on migration at any level of disaggregation, and whatever data are available in the decennial population census are not very useful. However, there is one exception: data on international migration at the district level are available for the state of Kerala. The Kerala Migration Survey, carried out by the Centre for Development Studies every five years since 1998, provides information on the number of emigrants, return migrants, remittances and so on. The two datasets together can be used to arrive at per capita number of deposit accounts. These could be plotted against the percentage of Muslim population at the level of the districts within a state. The strength of the relationship could also be tested.

A related issue is that of the selection of districts: should we select all the districts within India or select districts within a few states? The vast inter-state variation in banking development, as also in per capita incomes and prevalence of poverty, requires us to restrict the analysis to a few states. The selection of states is explained in the following sections.

IV. Access to Financial Services

Any discussion of financial inclusion necessarily begins with a clear statement of exclusions, viewed as processes 'through which individuals or groups are wholly or partially excluded from full participation in the society in which they live' (Jalal,1998, quoted in Sen, 2000, pp. 26-27). Sen draws a clear distinction between active and passive exclusion. Relational exclusions may be brought about by a deliberate policy to exclude some people from some opportunities. Our opportunities and prospects depend crucially on what institutions exist, how they function, and how inclusionary they are (Sen, 2000). Thus, financial exclusion by institutions based on policy could be called active exclusion.

In the Indian context, the last 15 years have seen concerted efforts being made by the Reserve Bank of India and the Government of India to achieve financial inclusion. In 2014, Government of India initiated the National Mission for Financial Inclusion 'to provide universal banking services for every unbanked household, based on the guiding principles of banking the unbanked, securing the unsecured, funding the unfunded and serving the unserved and underserved' (Department of Financial Services, 2020, p. 278). As part of the Mission, banking service points have been expanded, and the strength of bank branches and ATMs has been augmented in all geographical areas, irrespective of demographic composition of such areas. In particular, there is no evidence of any deliberate policies or decisions to exclude minority communities from financial inclusion at an institutional level. In fact, the Strategy Paper of 2017 emphasises the need to ensure smooth flow of credit facilities to them. The Reserve Bank of India has furthered the cause by issuing a Master Circular in 2019 to all Scheduled Commercial Banks to that effect (Ibid., p. 288). This emphasis probably arises from the grudging acceptance of faith-based exclusion: 'Prevalence of certain value system and beliefs in some sections of the population results in lack of favourable attitudes towards formal financial services' (NSFI, 2017, p. 15). Thus, we believe there has not been any active exclusion in India.

The concerted efforts by the government have resulted in measurable progress in financial inclusion at the level of the states. The measure used for the assessment of financial inclusion is the proportion of households having a bank or post office account. Such an indicator reflects the access to financial services and basic financial literacy. It also looks at the proportion of women who have a bank account that they operate as a measure of financial inclusion of women.

Using the data from NFHS -4 for the year 2015-16, it is seen that the proportion of households having a bank account is uniformly high in all the Indian states. It is a remarkable achievement that India now provides financial access to almost all its population. The households are also financially literate as is evident from the large number of accounts opened. It is seen that the proportion is over 90% in 13 of the 21 states listed in Table 1. In another six states it is between 85 and 90%. Only in two states – Bihar and Assam – is the proportion below 85% (though Assam, at 83.6%, is nearly there).

Unlike the uniformly high access to financial services observed for the households across the Indian states, financial inclusion of women shows considerable regional variation. In the southern states along with Punjab, Rajasthan, Himachal Pradesh and Uttarakhand, more than 60% of Hindu women operate bank accounts on their own. Less than 50% of women operate bank accounts in Bihar, Jharkhand, Madhya Pradesh, Maharashtra and West Bengal, with the proportion falling in between in the rest of the states. Comparing women belonging to different religious groups, while the regional pattern holds, the proportion of Muslim women operating accounts is substantially lower than that of Hindu women, whereas there is hardly any difference between Hindu women and Christian women. While there is almost universal access to financial services for households, women are still excluded.

Does religion explain the variation in the proportion of households not having bank accounts among the states? A simple scatter plot of percentage of Muslim population in the state and the proportion of households having a bank account (Figure 1) suggests that there is hardly any relationship between the two. Irrespective of the proportion of Muslims in the total population, almost all the states report the proportion of households having bank accounts of between 87 and 97 percent. The exceptions are West Bengal, Assam, and Bihar, reporting higher proportion of Muslims and lower proportion of population having bank accounts. The lower proportion cannot entirely be attributed to the proportion of Muslims in the population, as the proportion of population in poverty is also high in these states, which is a confounding factor.

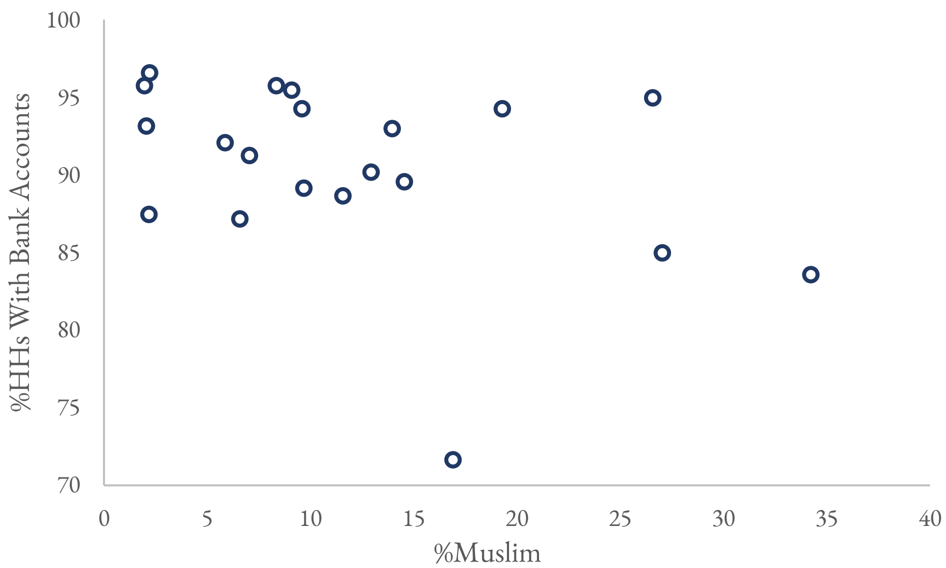
Table 1: Access to Financial Services in Indian States

State	%HHs with bank accounts	%Muslim in population	% Women who have a bank account that they operate		
			Hindu	Muslim	Christian
Andhra Pradesh	94.3	9.6	66.7	60.1	70.4
Assam	83.6	34.2	50	36.2	34.4
Bihar	71.7	16.9	27.5	21.5	—
Chhattisgarh	93.2	2.0	51.3	46.5	51.5
Goa	95.8	8.3	81.7	71.5	90
Gujarat	89.2	9.7	49	41.5	59.6
Haryana	91.3	7.0	48	16.4	—
Himachal Pradesh	96.6	2.2	69.3	—	—
Kerala	95	26.6	74.5	62.2	77.7
Jharkhand	89.6	14.5	46	42.7	53
Karnataka	90.2	12.9	59.9	55.7	67.3
Madhya Pradesh	87.2	6.6	37.5	32.6	—
Maharashtra	88.7	11.5	45.9	29.4	—
Odisha	87.5	2.2	56.3	50.4	55.6
Punjab	95.8	1.9	61.6	39	—
Rajasthan	95.5	9.1	59.5	41.7	—
Tamil Nadu	92.1	5.9	77	75.2	79
Uttar Pradesh	94.3	19.3	56.4	47.7	—
Uttarakhand	93	13.9	62.2	34.6	—
West Bengal	85	27.1	46.7	36	—

Source: National FHS-4; Census of India- 2011.

Note: '—' Indicates Estimates not available because of small sample size

Figure 1: Distribution of States by %Households with Bank Accounts and %Muslim Population, 2015-16



The data presented above refers to the year 2015-16. The last five years have seen concerted effort by the government to extend the Jan Dhan accounts to the eligible households as part of the national mission mentioned earlier. The data published by the Department of Financial Services, Government of India shows that 100% of the eligible households now have bank accounts; only in seven states do less than 0.25% of households still not have a Jan Dhan account (https://pmjdy.gov.in/statewise-statistics). The phenomenal expansion of Jan Dhan accounts has also led to 53.3% of all accounts being held by women as of 1 January 2020 (op. cit., p. 279).

It may be concluded that religion has not inhibited population groups from accessing basic financial services in India. Further there is hardly any evidence of institutional bias leading to non-provision of services in areas dominated by particular communities. The phenomenal expansion of the financial system over the decades following bank nationalization has borne fruit in recent years in delivering financial services to all segments of the population. But has providing access to basic financial services led to the utilization of them for saving and borrowing? That would be the sign of financial deepening, which is the engine of economic growth and income generation. These are taken up in the next few sections.

5. Exclusion from Financial Deepening in a Developed State

As regards financial deepening, the measure taken for analysis in this paper is deposit accounts. The data on deposit accounts available for the districts are taken to compute the per capita measures. It is expected that a developed state will report higher number of deposit accounts. If religious faith is a factor for not accessing deposit services, then the number of per capita deposit accounts will be moderated by the proportion of Muslims in the population. Further, if there is institutional bias in not providing services to minority communities, then it would get reflected in lower number of accounts not only in districts dominated by Muslims but in districts dominated by Christians as well. This section seeks to explore these relationships with reference to Kerala. In the Kerala context, urbanization and emigration are key factors of economic life which have a bearing on financial deepening.

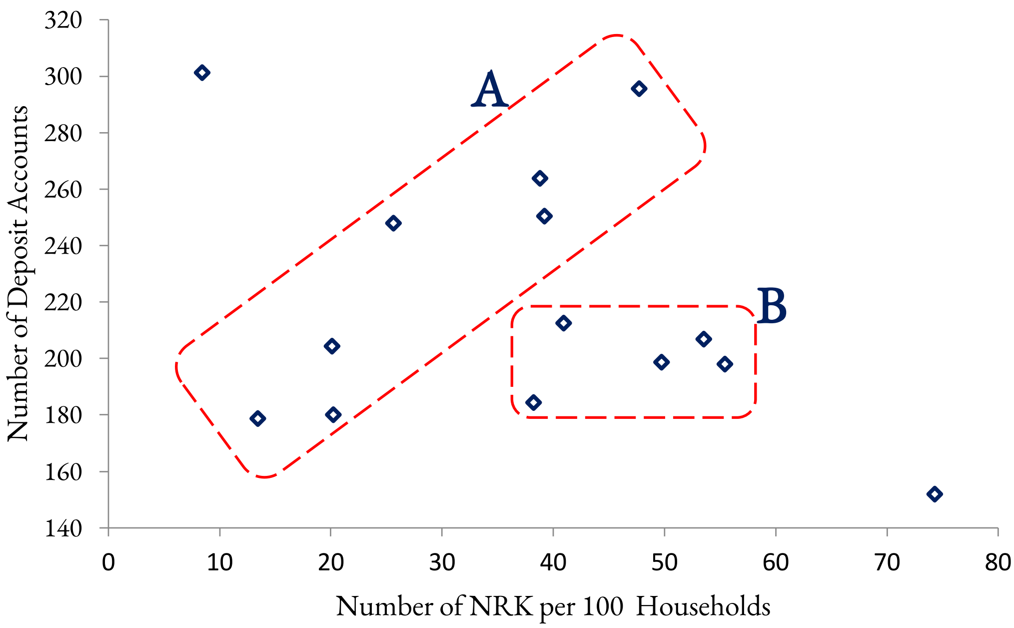
Kerala is one of the most urbanized states in India with 47.7% of the population living in urban areas. The level of urbanization varies from around 4% in Wayanad and Idukki districts to over 65% in Kannur, Kozhikode, Thrissur, and Ernakulam. Alapuzha and Thiruvananthapuram districts report more than 50% of the population living in urban areas. Urbanisation is an indicator of higher levels of economic activity followed by higher financial activity. A positive relation is expected between levels of urbanization and per capita deposit accounts across the districts. However, a scatter plot of urbanization and deposit accounts does not depict any clear relationship. Taking six districts with comparable levels of urbanization above 50%, it may be seen that the number of deposit accounts per 100 population varies from 184 to 301. Probing a little deeper and taking into consideration the proportion of Muslim population in these districts, it is observed that the number of deposit accounts falls as the proportion of Muslims in the population rises. So, the expected relationship between urbanization and deposit accounts is not seen because of the varying proportion of Muslims.

For a population of 3.48 crores in the state, the number of non-resident Keralites (emigrants and return migrants) was 34.17 lakh in 2018. That is around 10% of the population. Kerala reports 38.6 Non-Resident Keralites (NRK) per 100 households with considerable variation across the districts. Malappuram reports the highest at 74.3 and Ernakulam the lowest at 8.4. More than half the number of households in Kollam and Kannur districts has been exposed to international migration. Around 42% of the emigrants are Muslims and in terms of the rate per 100 households, it is 43 for Muslims, 28 for

Christians and 15 for Hindus. Studies have shown that income and asset holding among the NRK households are significantly higher than other population groups (Rajan and Zacharia, 2019).

The districts with higher proportion of NRKs are expected to have higher number of deposit accounts. However, a scatter plot of NRKs and deposit accounts does not depict any clear relationship (Figure 2). The lack of a clear relationship is owing to the interaction of two factors, namely urbanisation and the proportion of Muslim population. Taking the seven districts with relatively low levels of Muslim population, it is seen that as the number of NRKs increases the number of deposit accounts too increases (Panel A). With higher levels of Muslim population, as the number of NRKs increases the number of deposit accounts do not show an increase (Panel B). There are two districts which do not fall in either of the Panels, namely Ernakulam and Malappuram. Ernakulam has the lowest number of NRKs but is a major commercial centre and hence, has the highest number of deposit accounts. Malappuram on the other hand has the highest number of NRKs, is rapidly urbanizing but has the lowest number of deposit accounts. The district has the highest proportion of Muslims at 70%. This suggests that the proportion of Muslim population in a district has a dominant role in determining the number of deposit accounts.

Figure 2: Distribution of Districts by Deposit Accounts and NRKs, Kerala

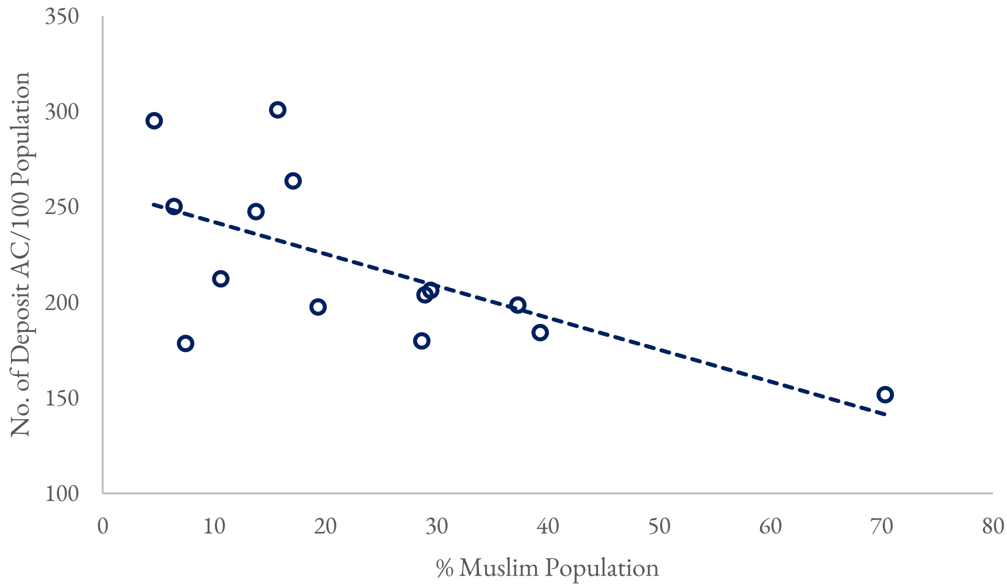


Source: dbie.rbi.org.in; Census of India- 2011; Rajan and Zacharia,2019

The discussion of the relationship between urbanization and financial deepening, and between the number of NRKs and deposit accounts, suggests that the proportion of Muslim population in the district is a crucial factor in financial deepening. In order to confirm the role of the proportion of Muslim population, the data on deposit accounts for the districts of Kerala are plotted against it in Figure 3. It may be seen that there is a strong relationship between the two. The number of deposit accounts per 100 population varies from 152 to over 300. 5 out of 8 districts where the proportion of Muslim population is below 20% f report more than 250 accounts per 100 population. For districts with Muslim population of 30 to 40%, the number of accounts drops to 200 and below. The district with 70% of Muslim population has the lowest number of deposit accounts. The relationship is too obvious to be missed.

However, to confirm that what we are seeing is faith-based exclusion, it is necessary to rule out the possibility of institutional bias.

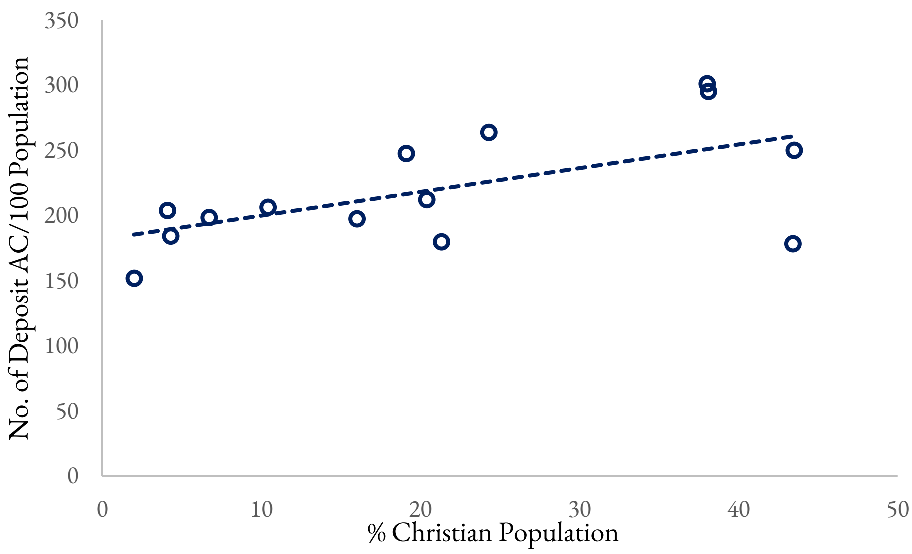
Figure 3: Distribution of Districts with Deposit Accounts and Muslim Population, Kerala



Source: dbie.rbi.org.in; Census of India- 2011

Kerala has another minority community, namely Christians, of considerable size (18%), distributed over the districts from 2% in Malappuram to 43.5% in Kottayam. A scatter similar to Figure 3 is plotted with percentage of Christian population in Figure 4. It is seen that the number of deposit accounts do not fall with the increase in the proportion of Christians in the population, if at all there is a mild positive relationship ruling out any institutional bias against the community.

Figure 4: Distribution of Districts with Deposit Accounts and Christian Population, Kerala



Source: dbie.rbi.org.in; Census of India- 2011

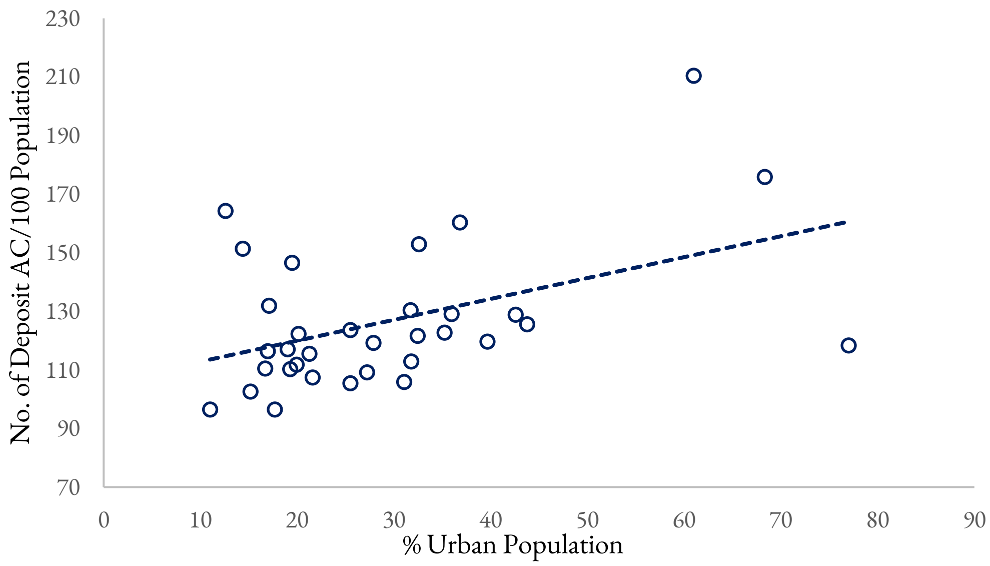
In a state with large remittance flows, the level of banking activity is expected to be high. Over 200 deposit accounts per 100 population in most of the districts reflects a vibrant banking sector in Kerala, but such vibrancy has eluded districts with higher prevalence of migrants, suggesting financial exclusion of certain population groups. It is also seen that such exclusion is not on account of any institutional bias. If financial exclusion is observed in a highly literate state like Kerala because of the belief '*Riba is Haram*' then is similar exclusion present in other Indian states with sizable Muslim population?

VI. Faith-based Exclusion in Select States

Indian states are characterized by varying proportion of Muslims in the population and their distribution across the districts within the state. In Odisha, Punjab, Chhattisgarh, and Himachal Pradesh, the proportion of Muslims in the population is very low. The states of Tamil Nadu, Karnataka, Gujarat, Madhya Pradesh have moderate proportion of Muslims; however, the variation across the districts is low. We confine our analysis to Maharashtra, Rajasthan, West Bengal, and Jharkhand, in addition to Kerala.

In Maharashtra the proportion of Muslim population is lower at 12% compared to 27% in Kerala. The inter district variation too is lower in Maharashtra, from 2% to 21% compared to 4% to 70% in Kerala. The number of deposit accounts per 100 households varies from 97 to 211, excluding the Mumbai and Mumbai suburban districts that report over 500 accounts. The scatter plot of deposit accounts and urbanization shows a positive relationship (Figure 5). But there is considerable variation in the number of accounts among the districts at any given level of urbanization. For instance, the 12 districts falling between 10 and 20% level of urbanization report 97 to 164 deposit accounts. Similar large variation in the number of deposit accounts from 106 to 161 is seen among the districts falling in the range of 20-30% urbanization. Most importantly, at the higher ends of urbanization (above 60%) the number of deposit accounts varies from 129 to 211. Such large variations at any level of urbanization suggest that other factors influence the number of accounts, including the proportion of Muslims.

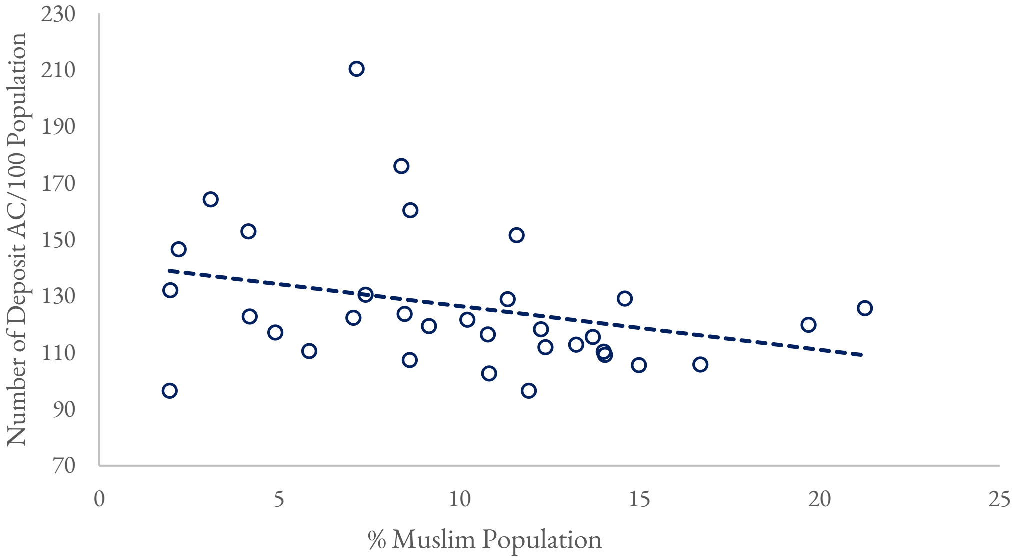
Figure 5: Distribution of Districts with Deposit Accounts and Urban Population, Maharashtra



Source: dbie.rbi.org.in; Census of India- 2011

When the number of deposit accounts and Muslim population is plotted on a scatter an inverse relationship between the two may be seen (Figure 6). The relationship is slightly weaker because of confounding factors like urbanization. For a given proportion of Muslims in the population, there is considerable variation in the number of deposit accounts among the districts. The two scatter plots (Figures 5 & 6) suggest the need for considering the influence of urbanization and Muslim population together to explain the variation in deposit accounts across the districts, which would require going beyond scatter plot analysis to a multiple regression analysis.

Figure 6: Distribution of Districts with Deposit Accounts and Muslim Population, Maharashtra



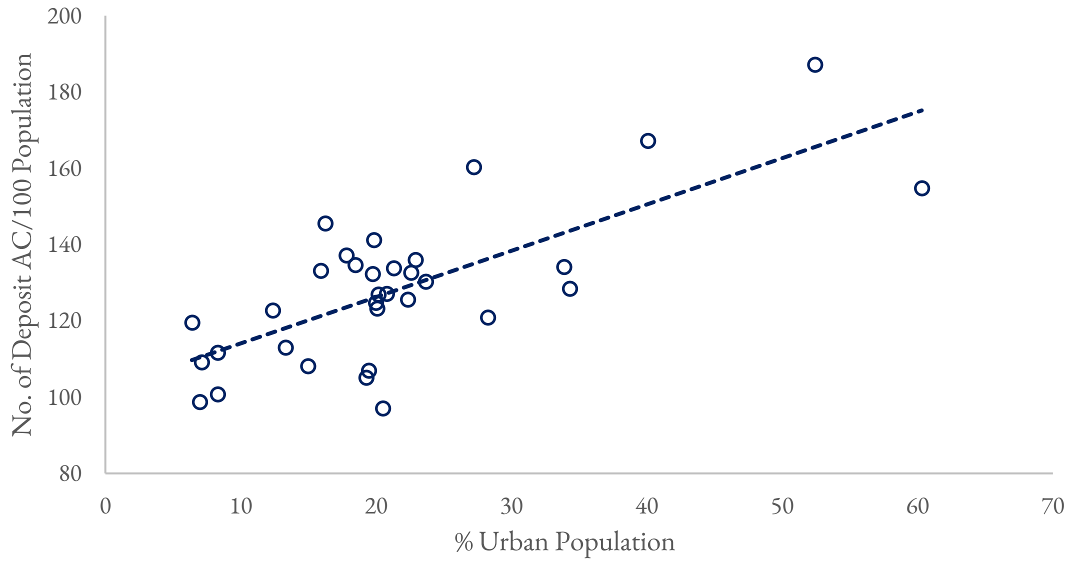
Source: dbie.rbi.org.in; Census of India- 2011

In Rajasthan, the scatter of levels of urbanization and number of deposit accounts (Figure 7) shows a strong positive relationship. At very low levels of urbanization the number of deposit accounts vary from 99 to 120. Above 30% urbanization the number of accounts stands between 128 and 187. Taking deposit accounts in relation to the proportion of Muslim population, we do not see a clear negative relationship observed in Kelara or Maharashtra. The reason for the absence of a clear relationship is the co-movement of level of urbanization and proportion of Muslim population, i.e., the less urbanized districts are also those with a higher proportion of Muslims.

In West Bengal, deposit accounts per 100 population show a mild positive relationship with urbanization. But it is seen that at each level of urbanization, on an average, the number of accounts is lower in districts where proportion of Muslims is higher. Thus, the selected states Kerala, Maharashtra, Rajasthan, West Bengal all show a positive relationship between urbanization and number of accounts as expected. The strength of the relationship is considerably moderated by the proportion of Muslims in the population. In all the states examined, a larger proportion of Muslims leads to a lower number of accounts per capita, suggesting that faith does play a role in financial deepening (or lack thereof).

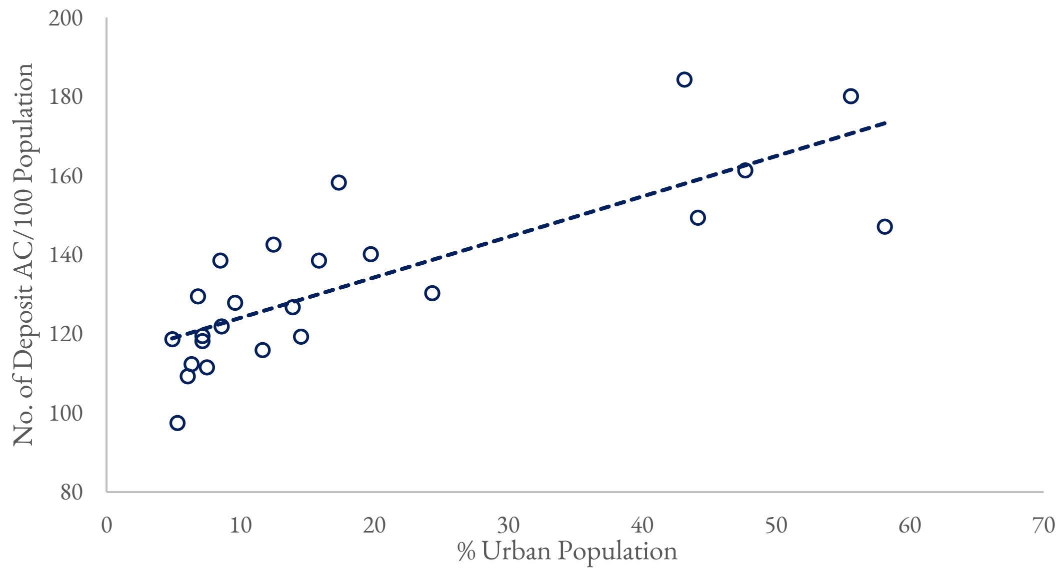
The data on deposit accounts and urbanization for Jharkhand plotted on a scatter (Figure 8) show the expected positive relationship. It is also seen that at any given level of urbanization the number of deposit accounts rise in inverse proportion to Muslim population, indicating faith-based exclusion.

Figure 7: Distribution of Districts with Deposit Accounts and Urban Population, Rajasthan



Source: dbie.rbi.org.in; Census of India- 2011

Figure 8: Distribution of Districts with Deposit Accounts and Urban Population, Jharkhand

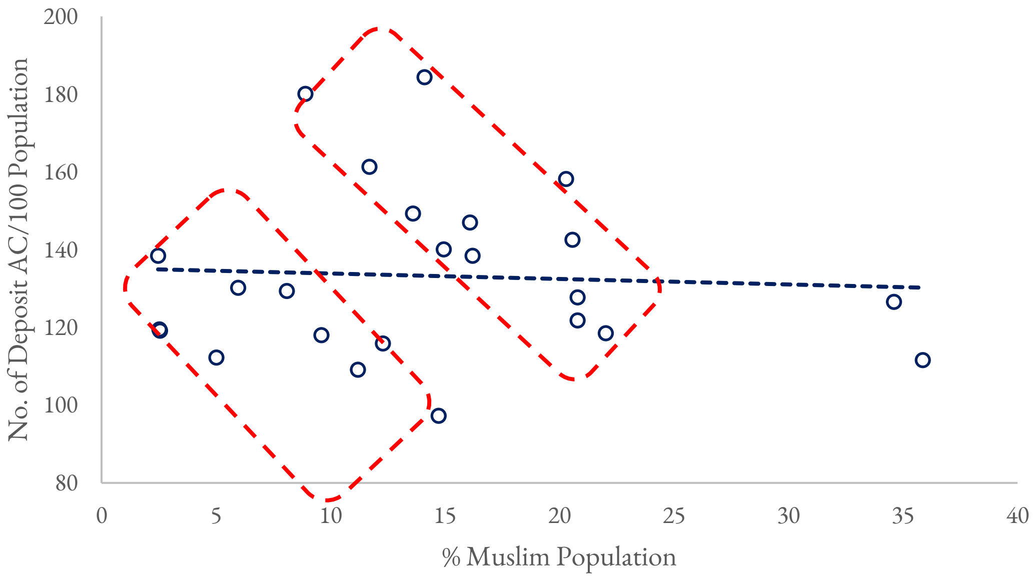


Source: dbie.rbi.org.in; Census of India- 2011

The percentage of Muslim population of the districts and number of deposit accounts per 100 populations for Jharkhand is shown in a scatter plot (Figure 9). Unlike the clear inverse relationship between the Muslim population and deposit accounts seen in Kerala, the trend line is almost parallel to the horizontal axis in Jharkhand. But a closer look suggested two clearly separated clusters both showing strong inverse relationships. Within groups of districts, as the proportion of Muslim population increases, the number of deposit accounts decreases.

The clusters are distinguished by levels of urbanization. In the lower cluster urbanization varies from 5 to 10%, with two exceptions. In the upper cluster it rises from 15 to 50% across the districts, with three exceptions. Corresponding to the level of urbanization, the number of deposit accounts too show a sharp jump. While in the lower cluster the deposit accounts range from less than 100 to 140, in the upper cluster it rises to around 120 to 180. There are two districts not falling in either of the clusters, both reporting highest proportion of Muslim population with low levels of urbanization and with fairly low number of accounts. As in the other four states, in Jharkhand too urbanization and proportion of Muslim population play a role in determining the number of deposit accounts. In order to test the strength of the two factors an appropriate multiple regression analysis is carried out.

Figure 9: Distribution of Districts by Number of Deposit A/Cs and % Muslim Population, Jharkhand



VII. The Strength of Faith – Based Exclusion

A search for the answer to the question whether faith-based prohibition of interest-bearing financial instruments is present led us to explore the relationship between number of deposit accounts and proportion of Muslims in the population. The search began by exploring the relationship between the proportion of non-resident Keralites and deposit accounts, and that between urbanization and deposit accounts. It was observed that while there are clear positive relationships, the proportion of Muslims in the population moderates them considerably. In successive steps, the relationship was explored for Maharashtra, Rajasthan, Jharkhand, and West Bengal. In order to go beyond exploration and confirm the strength of the relationship, we conduct a regression analysis.

We use a simple linear regression model, with deposit accounts per 100 population as the dependent variable (D). The two explanatory variables taken are level of urbanization (U) and the proportion of Muslim population (M). The regression equation is setup as follows, district being the unit of analysis.

$$D = b_0 + b_1 M + b_2 U + u$$

In this equation, urbanization is taken to capture the effect of income level and non-farm economic activity. The number of deposit accounts is expected to increase with the level of urbanization. Hence, b_2 is expected to have a positive sign. If Muslims do not deposit their savings (given the prohibition on *riba*), then the number of deposit accounts would be lower in the districts where the proportion of Muslims is higher. It is expected that the co-efficient of Muslim population (b_1) will be negative.

The result of the regression estimation is presented in Table 2. The model fits the data well in the states taken up for analysis as indicated by the R square and F values. The co-efficient of Muslim population has the expected negative sign except for Jharkhand. The co-efficients are also statistically significant in Kerala, Maharashtra and Rajasthan. Jharkhand and West Bengal behave differently because of the peculiar clustering of the districts around certain levels of urbanization. (The Jharkhand case was presented in Figure 9 above.) West Bengal too shows a similar clustering. The co-efficients of urbanization have the expected signs in all states and are statistically significant except for Kerala. Kerala shows a clustering of districts similar to Jharkhand.

Table 2: Results of Regression of Deposit on Muslim Population and Urbanization

State		Kerala	Maharashtra	Jharkhand	West Bengal	Rajasthan
No. of Observations		14	33	24	18	33
Intercept (b_o)		235.88	122.80	113.35	136.55	107.12
Muslim Population (M)		-1.85	-2.26	0.03	-0.20	-0.89
Urbanization (U)		0.66	0.89	1.02	0.66	1.32
R		0.73	0.63	0.80	0.60	0.76
R Square		0.53	0.40	0.63	0.36	0.58
F		6.26	9.85	18.25	4.24	20.31
Sig F		0.02	0.00	0.00	0.03	0.00
t - Stat	Muslim Population	-3.41	-3.09	0.10	-0.81	-1.83
	Urbanization	1.62	3.86	6.03	2.68	6.37
P - Value	Muslim Population	0.006	0.004	0.925	0.432	0.078
	Urbanization	0.135	0.001	0.000	0.017	0.000

Source: Computed from dbie.rbi.org.in; Census of India- 2011

The regression results establish that deposit accounts are strongly related to the level of urbanization. They clearly reflect the growth of number of deposit accounts with social and economic development. The statistically significant negative co-efficient of Muslim population confirms the prevalence of faith-based financial exclusion in India. It is likely to be present in the selected states of India, but regression results do not bring it out adequately because of the co-movement of urbanization and Muslim population in some states.

VIII. The Progress of an Interest-free Banking Institution

Sanghamam Multi-State Co-operative Credit Society Ltd (SMSCCSL) was established in 2012 at Kozhikode, Kerala. The Society has an authorized share capital of Rs. 50 crores and is working as an interest-free bank with seven branches in Kerala and Tamil Nadu, five of which were opened during 2013-14 and two in 2016. In the first year for which data is presented below (2014-15) it was functioning with five branches, 2630 members, and a share capital of Rs. 293.80 lakh. By 2018-19, the membership and the share capital have increased to 18,857 and Rs. 409.92 lakh respectively. The deposit growth during the period has been phenomenal, from Rs. 454 lakhs to Rs. 7931 lakhs, that is a 17-fold increase in just four years. The same time period also saw an 11-fold increase in loans, from Rs. 360 lakhs to Rs. 3942 lakhs, which is also very high (Table 3).

Table 3: Growth of Membership, Deposit and Loan of SMSCCSL

Year	B1	B2	B3	B4	B5	B6	B7	Total
				Number of Members				
2014-2015	252	498	273	259	1348	---	---	2630
2015-2016	415	791	444	321	2390	---	---	4361
2016-2017	1214	1046	732	395	3319	623	749	8078
2017-2018	1636	1511	2717	500	4307	955	1453	13079
2018-2019	1933	1942	4264	633	6495	1279	2311	18857
				Deposits (in Rs Lakh)				
2014-2015	18.61	84.84	45.12	2.33	302.83	---	---	453.73
2015-2016	39.83	316.07	77.79	30.94	566.74	---	---	1031.37
2016-2017	112.62	598.28	168.97	50.91	495.2	48.05	78.63	1552.66
2017-2018	173.19	969.74	319.82	130.01	2401.41	440.55	543.02	4977.74
2018-2019	171.83	1276.36	491.26	383.92	3867.48	689.59	1051.03	7931.47
				Loan (in Rs Lakh)				
2014-2015	21.28	56.96	29.47	16.43	236.07	---	---	360.21
2015-2016	37.79	265.75	70.61	30.66	424.19	---	---	829
2016-2017	81.63	597.37	167.25	26.39	460.79	44.45	92.93	1470.81
2017-2018	166.73	453.51	236.03	87.33	1188.58	165.93	256.18	2554.29
2018-2019	190.67	646.76	323.4	152.61	1981.56	223.83	422.81	3941.64

Source: Annual Reports of SMSCCSL, 2014-2019.

Note: B1- Vaniyambadi, B2 – Aluva, B3 – Kozhikode, B4 – Virudhunnagar, B5 – Erattupetta, B6 – Trichy, B7 – Kuttiady.

Among the seven branches of Sanghamam, Erattupetta has a pride of place, accounting for 51% of membership in the first year. This dominance has continued during the entire period. As regards the deposit amount, 67% of the total is accounted for by Erattupetta in the first year. With the opening of the new branches its share has come down but continues to be around half the total. A similar dominance is seen in loan disbursement, starting at 66% and falling to 50% towards 2019.

Erattupetta is a Muncipal town with a population of 35,000 (75% of whom are Muslims) in Kottayam district in Kerala. It is a major trade centre, well-connected with Tamil Nadu. It is possible that the trade in the town was being financed informally before the entry of Sanghamam. Since it met the demand of the trading class, the result was the phenomenal growth of deposits and loans of Sanghamam. As a membership society, it could respond to this demand in time. More importantly, the by-laws that govern the functioning of the society are drawn based on the principle of profit and loss sharing. The Society accepts deposits from and lends to persons of all religious affiliations. Loans above a certain minimum amount are secured by collaterals, and their use is strictly monitored. The agency function limits the geographical coverage of the Society. Despite these limitations, there are large number of people who subscribe to the alternative philosophy of banking.

The case of Sanghamam points to a large unmet demand for interest-free banking in various parts of India. Private initiatives such as Sanghamam could hardly meet this demand for two reasons. Firstly, there are not too many such enterprising private individuals. Secondly, the request for opening additional branches by Sanghamam submitted in 2017 has not been responded to favourably by the central government (Annual Report SMSCCSL, 2017-2018). Introducing some form of interest-free banking in the financial system seems to be the way forward.

IX. Conclusion

The paper set out with three objectives, namely, to assess basic financial inclusion, study the role of faith in financial deepening, and explore alternatives to conventional banking for the excluded. The specific context of the paper is that conventional banking is not in consonance with the value systems of a sizable proportion of the population of the country.

The detailed state-wise analysis showed that in Kerala, despite high levels of urbanization, migration and literacy, districts with higher proportion of Muslim population reported relatively lower number of deposit accounts per 100 population, suggesting faith-based exclusion from financial deepening. It was also seen that such exclusion was not based on institutional bias. Similar financial exclusion could be observed in Maharashtra and Rajasthan with different proportions of Muslims in the population and considerable variation across the districts. Jharkhand and West Bengal, with higher proportion of Muslims in the population, do not reveal lower number of accounts in the districts with higher proportion of Muslims. Part of the reason for such a behaviour is the clustering of districts, with hardly any variation within clusters and large variation between clusters. Thus, faith-based exclusion from financial deepening is a reality across multiple states in India.

The example of Sanghamam confirms that when an alternative to conventional banking is offered, the adoption is immediate and expansion is large, suggesting that the excluded have been provided instruments that they find acceptable to use. The success of private initiatives to fulfil this need is severely limited, because the necessary government support may not be forthcoming. As financial inclusion is a moral imperative and is essential for economic efficiency, exclusion of a community has no justification. The country has to learn from the experience of the United Kingdom, Malaysia, and others, and host interest-free banking window in the financial system. The danger of not doing so is that large financial resources may flow into unregulated informal channels, while simultaneously denying finances to those who need it the most.

References

Abdu, Musa, Adamu Jibir, Salihu Abdullahi, and Aliyu A. Rabi'u. "Can Islamic banking and finance spur financial inclusion? Evidence from Sub-Saharan Africa." *CBN Journal of Applied Statistics* 9, no. 1 (2018): 77-104. http://hdl.handle.net/10419/191712

Abedifar, Pejman, Philip Molyneux, and Amine Tarazi. "Non-Interest Income Activities and Bank Lending." (2014).

Aldohni, Abdul Karim. "The emergence of Islamic banking in the UK: a comparative study with Muslim countries." *Arab Law Quarterly* 22, no. 2 (2008): 180-198. https://www.jstor.org/stable/27650617

BBC News. 2005. *Islamic banking 'goes mainstream'*. February 15. Accessed September 2020. http://news.bbc.co.uk/2/hi/business/4264939.stm.

Chakrabarty, K. C. "Financial inclusion of urban poor in India." *Reserve Bank of India Monthly Bulletin* (2013). https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/03BSP080213F.pdf

Cambridge Institute of Islamic Finance. 2019. "Global Islamic Finance Report." http://www.gifr.net/

Department of Financial Services, *Annual Report, 2019-20.* https://financialservices.gov.in/annual-report

ET Bureau. 2011. *Kerala High Court bench gives nod to Islamic banking.* February 4. Accessed October 2020. https://economictimes.indiatimes.com/news/politics-and-nation/kerala-high-court-bench-gives-nod-to-islamic-banking/articleshow/7422332.cms.

INDIA, POMPI. *Census of India 2011 Provisional Population Totals.* New Delhi: Office of the Registrar General and Census Commissioner, 2011. https://www.censusindia.gov.in/2011-prov-results/prov_results_paper1_india.html

International Institute for Population Sciences (IIPS) and ICF. "National Family Health Survey (NFHS-4), 2015–16: India." (2017). http://rchiips.org/nfhs/nfhs-4Reports/India.pdf

National Strategy for Financial Inclusion, 2019-24. https://rbidocs.rbi.org.in/rdocs/content/pdfs/NSFIREPORT100119.pdf

Oracle Financial Services. "Islamic Banking Processes and Products". *Oracle White Paper.* USA, 2017.

Planning Commission. *Hundred Small Steps: Report of the Committee on Financial Sector Reforms.* SAGE India, 2008.

Planning Commission. *Press note on poverty estimates, 2011-12.* No. id: 5421. 2013. https://niti.gov.in/sites/default/files/2020-05/press-note-poverty-2011-12-23-08-16.pdf

Rajan, S. Irudaya, and Kunniparampil Curien Zachariah. *Emigration and Remittances: New Evidences from the Kerala Migration Survey 2018*. No. id: 12989. 2019. http://cds.edu/wp-content/uploads/2019/01/WP483.pdf

Rao, Seema. 2016. *What is Islamic Banking and why does the RBI want it in India?* November 27. Accessed December 2020. https://scroll.in/article/822234/.

Sanghamam Multi State Co-operative Credit Society Limited, *Annual Report*, 2014-2019. http://www.sangamam.in/downloadpage.php

Sen, Amartya. "Social exclusion: Concept, application, and scrutiny.", Social Development Papers, no. 1, *Asian Development Bank, Manila* (2000).

Singh, D. J., and D. P. Yadav. "Islamic Banking in India-Growth and Potential." *International Journal of Marketing, Financial Services & Management Research* 2, no. 4 (2013).

https://pmjdy.gov.in/statewise-statistics accessed on 14 October 2020.

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Grants from Centre and States' Fiscal Marksmanship

Sharmadha Srinivasan*

Prakhar Misra ** [1]

Abstract

In this paper, we aim to establish the issues with fiscal marksmanship of states' revenue budgets. We particularly focus on the grants received from the Union government. Within grants, we find state plan schemes and centrally sponsored schemes to be the most volatile. Our analysis looks at three key stakeholders in the budget-making process and their role in poor fiscal marksmanship. These are the Centre, the states and the Finance Commission. The actuals could miss budget estimates due to the Centre misprojecting its revenues or expenditures, the states misprojecting their revenues, or the Finance Commission making errors while recommending grants. Poor estimation methods, weak capacity in drawing up budgets and implementing projects, specific conditionalities imposed either by the Centre or the Finance Commission and exogenous and random shocks that cannot be controlled for — all affect marksmanship of the states' revenue budgets.

JEL: E62, H62, H68, H72, H77

Keywords: Fiscal Marksmanship, Revenue budgets, Finance Commission, Centrally Sponsored Schemes

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* Sharmadha Srinivasan is an Associate at the IDFC Institute

** Prakhar Misra is a Senior Associate at the IDFC Institute

I. Introduction

The budgeting exercise is central to the promise of efficient and effective governance. If the errors in estimating revenue and expenditure are large, the implementation of programmes and policies of any government will suffer, affecting welfare outcomes. The accuracy of budget estimates is referred to as fiscal marksmanship[2].

This is directly dependent on the ability of the state to make accurate budget forecasts, which in turn is chiefly a function of the capacity available to engage with this process.

State budgets get little attention even though sub-national governments in India now collectively spend one and a half times more than the Central government (Reserve Bank of India State Finances, 2019). An increased share of taxes devolves to the states following the recommendations of the Fourteenth Finance Commission. Yet, state governments tend to do poorly on fiscal marksmanship. This intersects with the challenge of state capacity in two ways — it reflects an inadequate capacity to estimate revenues and spending and it limits the capacity of state governments to follow their policy agenda. Capacity constraints interpreted through the 3Ps of personnel, paperwork and process not only capture the issues neatly but also allude to solutions where this can be strengthened.

In this paper, we look at unpacking the nuances in state capacity, complicated by India's federal structure that affect the marksmanship of state budgets. The existing literature involving an analysis of states' budgets has found that errors in revenue receipts of states are more pronounced compared to their revenue expenditure (Chakraborty et al., 2019). The 2019 Reserve Bank of India (RBI) State Finances report also points out that states have been overestimating all sources of revenue. Further, it notes, the overestimation is exacerbated when it comes to grants received from the Centre[3]. States and their actual revenues are also particularly affected by the Centre itself being unable to get its forecasting methodologies right (Jena, 2006). In this paper, we look at the state budgets of the 28 states[4] in India by Gross Domestic Product (GDP). We limit our analysis to revenue receipts of states and marksmanship of grants from the Centre.

The paper is divided into two sections. The first section analyses the revenue receipts of states to establish that grants from the Centre form the problematic component. Within grants, state plan schemes and centrally sponsored schemes (CSS) show a greater variation of actuals from estimates. The second section details the reasons why fiscal estimation on grants is problematic and analyses the role of the states, the Centre and the Finance Commission. We then conclude the paper.

II. Analysing Fiscal Marksmanship of State Revenue Receipts

Analyses of state budget estimates and actuals from 2003-04 to 2017-18 show that the total revenue estimates for each state have a lot of variation and are overestimated in most cases. Grants from the Centre cause a large part of the overestimation. Within these grants, we find that the state plan and centrally sponsored scheme sub-heads are the categories causing variation. We look at these three trends in the subsections below.

1. Overestimation of Total Revenue

The overestimation of total revenues for states has been increasing since 2013-14 (see Table 1). The average overestimation across all states and all years was 10.79% and average underestimation was 10.32%. Further, in 2013-14, all 28 states overestimated their total revenues by an average of almost 10.41%, with the highest being 28.68% (Arunachal Pradesh) and the lowest being 3.56% (Rajasthan). Clearly, there is a problem in budget estimations if all states across all years are missing revenue marksmanship.

In Table 1, the analysis of overestimation of total revenues for states is broken into two categories: General Category states and Special Category states. This is because for special category states, such as Assam and Nagaland, their revenues are considerably low and they are heavily dependent on the Centre for their transfers. In 2013-14, Arunachal Pradesh and Meghalaya overestimated revenues by over 28.68 and 26.9 per cent respectively. The effects of these errors are much larger for these special category states.

However, the fiscal marksmanship problem is pervasive irrespective of category. States likes Kerala and Punjab of general category and Assam, a special category state have all overestimated their budgets for revenue receipts in almost all the years between 2003-04 and 2017-18 as shown in Figure 1. Kerala and Punjab overestimated their revenue in all 15 years by 7.14% and 11.17% respectively. Assam too overestimated its revenues in 14 out of 15 years by an average of a massive 18.18%. Considering that the three states differ in location, fiscal structures and size, scale and scope of the economies, this reflects a structural problem with revenue marksmanship.

An additional interesting trend to note is that the fiscal marksmanship of all states worsens in terms of overestimation of revenues beyond the years 2007-08. Of the years of study from 2003-04 to 2017-18, most states from 2003-04 to 2007-08 underestimated the revenues they would receive from the Centre (as seen in the left side of Table 1). Compared to later years, states such as Karnataka, Tamil Nadu, Haryana and Mizoram underestimated their revenues in all years in this period. Such underestimation is less of an issue compared to overestimation in the preceding years. This is because when the states underestimate revenues, better collections help in providing additional resources to departments but when they fall short, they have major implications in terms of cuts on capital expenditures and maintenance of capital assets.

Secondly, the underestimation in this period is primarily because there were significant increases in tax revenue collected by the Centre. Due to the introduction of the Tax Information Network (TIN), income tax collection increased by an average of 31 per cent. Service tax too increased sharply during the first period due to expansion of coverage. Given that in most states' the actual receipts were higher than estimated revenues during this period, one can conclude that in periods of high buoyancy of Central tax revenue, the States tend to underestimate their revenue from tax devolution. Thus, our analysis in this section, mainly shows that estimation errors, in general, are quite large, and the impact of underestimation of revenues are quite different compared to overestimation.

Table 1: Average Overestimation of Total Revenues by States over the Years 2003-04 to 2017-18

Over/Underestimation of Total Revenues for states (%)

	Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
General Category	KA	19.45	7.17	3.88	4.77	0.95	-8.36	1.58	8.52	-12.23	17.89	-8.62	-6.21	2.11	1.88	1.45
	MH	-10.24	2.13	-3.95	5.16	16.52	1.7	-2.41	9.09	-0.18	4.56	-3.95	-8.27	-6.66	-7.3	-0.03
	TN	4.59	14.76	12.26	5.63	6.71	6.87	-4.17	11.25	-0.56	-1.75	-8.89	-3.9	-9.58	-5.36	-8.21
	UP	-5.2	0.96	6.28	7.94	-7.22	-9.29	2.1	-0.39	-0.43	-8.15	-5.36	-14.57	-9.13	-8.77	-12.72
	AP	16.8	-10.66	-3.13	-0.19	-1.47	-11.38	-18.09	-10.65	-7.37	-11.09	-13.35	-1.53	-1.64	-9.44	-16.28
	KL	-6.96	-5.35	-8	-4.98	-1.58	-1.7	-7.26	-0.61	-3.59	-8.32	-15.3	-10.63	-10.84	-10.64	-11.29
	MP	-9.93	14.44	3.77	9.43	9.62	-2.4	3.59	19.36	8.33	0.73	-4.84	-14.35	-7.79	-2.21	-3.05
	RJ	-0.01	2.18	1.46	6.67	7.63	1.46	-7.53	8.16	9.03	5.96	-3.56	-13.94	-9.95	-11.54	-2.19
	GJ	-2.65	-2.64	7.97	17.96	8.27	1.04	-0.34	5.84	5.13	-0.89	-6.74	-10.75	-10.81	-5.61	-6.26
	WB	-3.33	-2.83	11.18	-3.27	-1.6	2.32	-12.74	-0.65	-10.77	-11.01	-17.56	-18.37	-2.98	-9.03	-7.97
	CT	-18.67	-1.58	12.15	6.04	3.06	0.04	-3.93	10.68	0.22	-5.74	-14.41	-22.04	-20.51	-12.6	-9.75
	GA	-34.38	-30.72	-24.51	-16.94	-12.95	0.53	-0.88	8.77	-1.53	-16.89	-11.73	-4.96	-13.94	-10.12	1.66
	HR	0.34	3.31	15.09	30.59	10.23	-14.95	-6.44	4.17	-4.56	-9.9	-13.18	-14.45	-9.09	-16.61	-8.89
	JH	-1.46	5.24	0	0	0	2.06	-88.94	0	-19.2	-23.61	-22.21	-27.34	-15.38	-15.61	-19.59
	BR	3.83	-3.8	-6.76	3.09	2.8	-1.7	-15.08	-5.72	-8.69	-12.46	-13.92	-23.07	-6.85	-15.25	-14.37
	OR	-4.11	3.38	10.96	16.6	12.84	5.76	-0.45	5.82	10.67	0.21	-4.59	-15.11	-2.82	-4.9	-4.19
	PB	-10.36	-11.93	-1.58	-16.19	-15.44	-10.95	-7.96	-3.53	-16.78	-15.75	-17.72	-13.08	-10.18	-4.38	-11.77
Special Category	HP	-1.27	9.27	12.22	20.15	25.13	-0.95	-1.26	9.68	3.19	-4.56	-11.24	8	-0.4	-0.02	-1.25
	MN	-5.01	15.83	1.2	2.53	27.01	6.48	-90.33	1.15	-3.89	-11.96	-15.51	-9.38	-4.36	-2.55	-6.65
	ML	8.53	-8.66	-11.55	-12.85	-24.69	-24.1	-9.43	-3.03	-16.92	-20.63	-26.99	-42.23	-16.18	-0.47	-17.79
	MZ	41.38	44.54	11.71	16.16	5.34	19.63	-1.52	3.71	7.03	-5.42	-5.45	-6.27	-6.95	-3.57	4.98
	NL	25.89	-5.9	3.29	2.08	-2.09	4.14	-4.86	-6.62	-0.45	-4.87	-10.93	-19.78	-9.54	-10.66	1.5
	AR	-	-95.33	25.42	29.61	28.81	-1.22	31.87	6.29	-7.44	-11.66	-28.68	4.09	-9.3	-7.79	-5.65
	AS	-18.11	-23.71	-9.53	-12.74	-9.79	-18.55	-13.78	-12.89	-16.12	-18.51	-21.97	-27.54	-25.6	-25.63	270.79
	SK	-36.16	-3.68	7.31	-33.57	-2.35	-0.67	8.87	-15	-12.26	-20.86	-13.4	-27.01	-21.19	-5.63	-2.13
	TR	-4.75	2.45	0.98	4.03	0.97	-4.5	21.81	-6.24	8.14	-1.59	-5.96	-14.41	-24.74	-25.15	-25.71

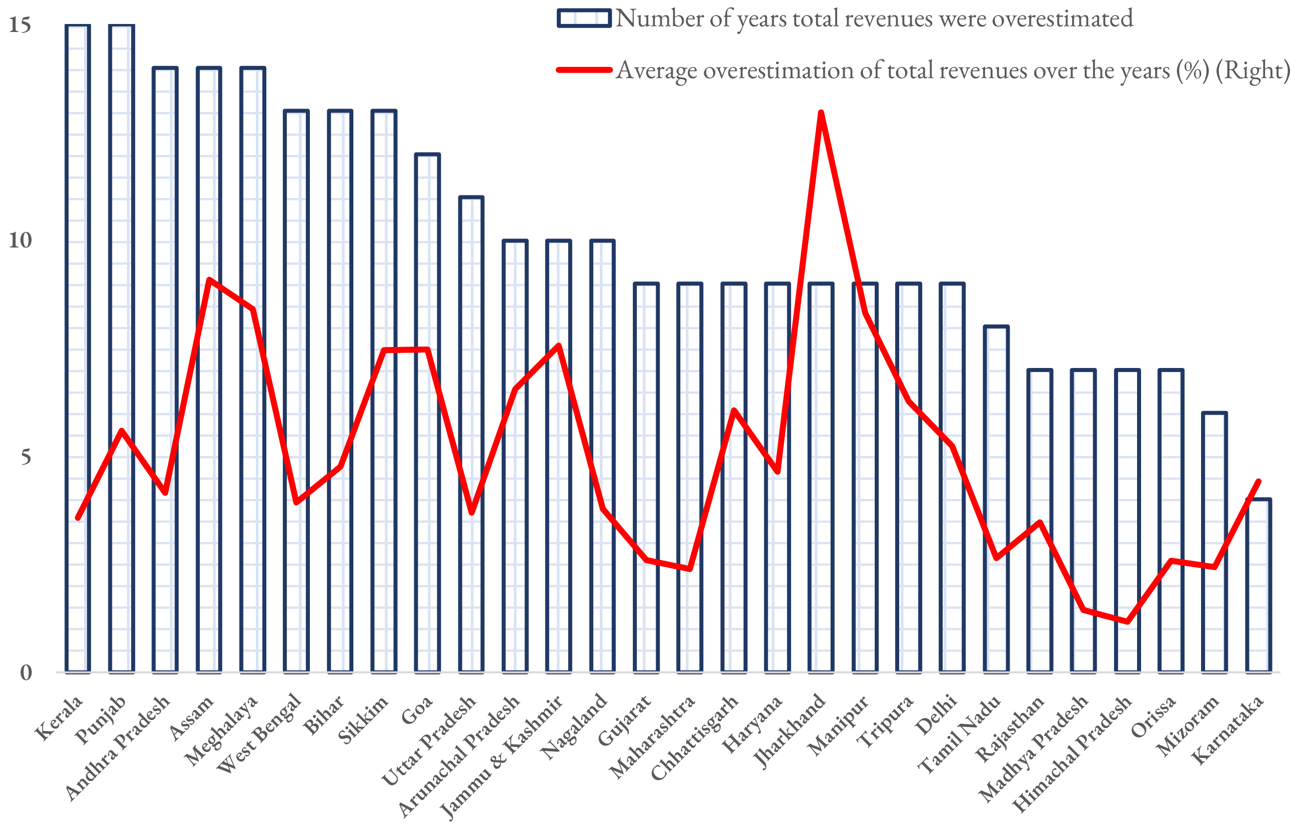
Source: Authors' Analysis; Data from RBI State Finances: A Study of Budgets of 2019-20

Note:

1) We calculate ((Actuals-Budget Estimates)/Budget Estimates)*100 to estimate overestimation/ underestimation. If the number is positive, then the budgets were underestimated and vice-versa.

2) Red indicates overestimations and green indicates underestimations.

Figure 1: Overestimation of Total Revenues by States



Source: Authors' Analysis; Data from RBI State Finances: A Study of Budgets of 2019-20

2. Grants from Centre Dominate Overestimation of Revenue

The total revenues of a state can be broadly divided into two components: the states' own revenues and central transfers.

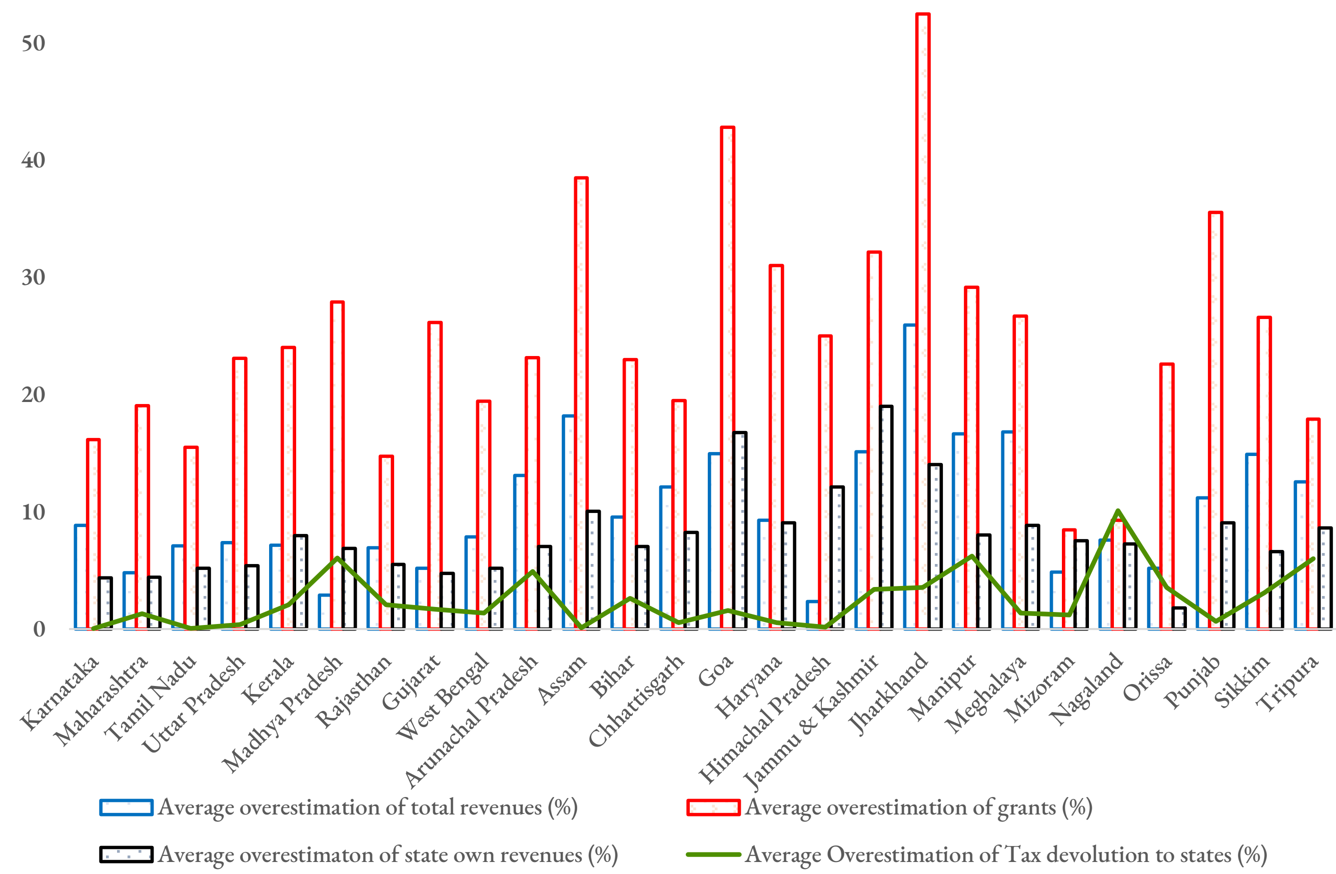
1. States' own revenue refers to the revenue-raising capacity of a state through its tax and non-tax avenues. The state's own tax revenues are taxes levied specifically by the state, from entertainment tax to state sales tax (VAT). To a large extent, these have now been replaced by state goods and services tax (GST). The state's own non-tax revenues are from interest receipts on investments and loans to the provisioning of social and economic services.
2. Central transfers are primarily transfers of revenue collection by the Centre to fiscally support the states. They are divided into the following components: states' share of central taxes and grants from the Centre. The 'states share of central taxes' is the states' allocated component of the divisible pool of taxes which is the total tax revenue raised by the Centre and states, minus the cost of collection and excluding revenues from cesses and surcharges. Grants from Centre are transfers provided for states that need financial assistance for their plan and non-plan schemes, to primarily aid their revenue gap.

Our focus in this paper is on central transfers, and particularly on grants, for three reasons. We see that current literature has scrutinised the states' share of central taxes a fair bit but grants from Centre haven't received as much scholarship (Mohan and Shyjan, 2009; Bhanumurthy, Bose & Satija, 2019). Second, the RBI State Finances report, as well as other papers on fiscal marksmanship of states (Chakraborty et al., 2019), have pointed out that grants from Centre are the most problematic when it comes to estimation errors[5]. Last, it is important to note that the tax devolution component of central transfers is governed by a fixed formula. However, the determination of grants by the Finance Commission is more discretionary as it is guided more by principles than a formula (Mann, 2018). Thus, analysis of this pillar of India's fiscal architecture is crucial.

The importance of grants has grown in state budgets. Figure 2 shows that average overestimation of states' own revenue is a lot less volatile than that of grants from Centre as well as the tax devolution to states (i.e states' share of central taxes). Also as seen in Figure 3, within the states' own revenues component, the estimation errors are much larger for the non-tax revenues than for tax revenues.

While the state's share of central taxes constitutes at least 40% of all central transfers, the extent of overestimation is low compared to grants from the Centre as well as the state's own tax revenues. The extent of overestimation of grants is large. At 11.02%, the mean overestimation of the grants component is more than double the mean overestimation of state own revenues (4.47%) and total revenues (6.02%). The standard deviation of overestimating total revenues and the states' own revenues is 10.71% and 7.9% respectively, compared to 24.67% for grants. This is despite the average allocation of grants increasing as a percentage of total revenues. In the 10 richest states, this increased from 12% in 2003-04 to 18% by 2017-18. It becomes clear from this that it is the grants from the Centre where the challenge of fiscal marksmanship for the states lies.

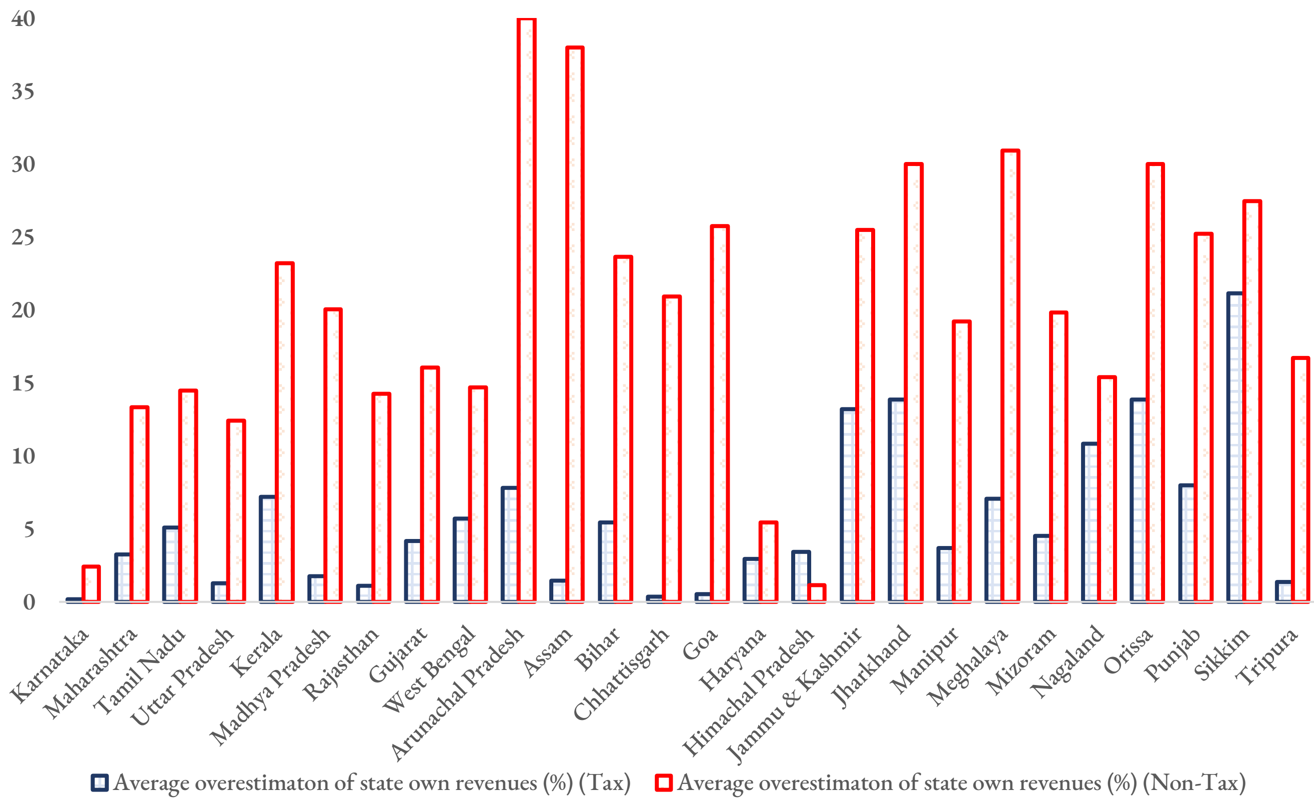
Figure 2: Average Overestimation of All Years of Grants, State Own Revenues, Tax devolution to states and Total Revenue by each state



Source: Authors' Analysis; Data from: RBI State Finances: A Study of Budgets of 2019-20

Note: We removed the state of Andhra Pradesh from this figure as the state's overestimation of its own revenues was an extreme outlier: 2797 per cent in 2006-07. While we can't be completely sure, this could most likely be an input error which is reflected in some of the official estimates available.

Figure 3: Average Overestimation of State Own Revenues, (Tax and Non-Tax Revenue) by each State



Source: Authors' Analysis; Data from: RBI State Finances: A Study of Budgets of 2019-20

3. State Plan and Centrally Sponsored Schemes Show Estimation Errors

Grants from Centre are transfers that are either recommended as general-purpose grants (untied in nature) to *enable* states to deliver services or as specific purpose transfers for areas such as health and education (primarily routed through centrally sponsored schemes) to *ensure* states deliver a minimal level of governance (Rao, 2017). Grants are further divided into two components: plan and non-plan grants. Plan grants further consist of state plan schemes, central plan schemes, centrally sponsored schemes and NEC/special plan schemes. We give the details of each of these schemes in the appendix of this paper. Two trends emerge in state plan schemes and centrally sponsored schemes as we analyse budget numbers for 28 states.

First, there is a huge disparity in the accuracy of the forecasts of state plan schemes. Table 3 shows the marksmanship of state plan schemes over the years 2003-04 to 2016-17. In the years 2012-13 and 2013-14, all states except three (Madhya Pradesh, Delhi and Tamil Nadu) overestimated state plan schemes. The average overestimation was a colossal 31% and 34.17% respectively. Some other data points are quite startling. In the year 2015-16, many states, from Maharashtra to Haryana and Jammu and Kashmir, underestimated their state plan schemes massively. Maharashtra underestimated its state plan scheme by 1268.76%. The next year was better but still at 692.81%. Haryana and Jammu Kashmir too underestimated their state plans by a massive 576.26% and 626.28% respectively. On the other hand, Uttar Pradesh had an underestimation of 79.21% in 2015-16 but an overestimation the very next year of 538.59%.

The second trend that emerges is that errors in the forecasting of centrally sponsored schemes are frequent (see Table 4). As shown in Figure 4, Uttar Pradesh has overestimated the centrally sponsored schemes component of grants from the Centre for the most number of years -- 14 out of 15 years. The average overestimation of budget estimates of the schemes in these years was a high 32.45%. On the other hand, Tamil Nadu has underestimated the budget estimates of centrally sponsored schemes in 14 out of 15 years. The average underestimation for these years was a startling 74.9%. Sikkim too overestimated its centrally sponsored schemes in all 15 years. There is a huge variation even among the richest states and the most resource-intensive in getting their estimates of centrally sponsored schemes right. Moreover, the variations move in different directions, making the case for unpacking the marksmanship of these schemes. It is clear that marksmanship on the revenue side is quite poor. State plan schemes and centrally sponsored schemes contribute to this misjudgement more than the other components. We turn to the reasons for this in the next section.

Table 3: Error in Forecasting of State Plan Schemes (%)

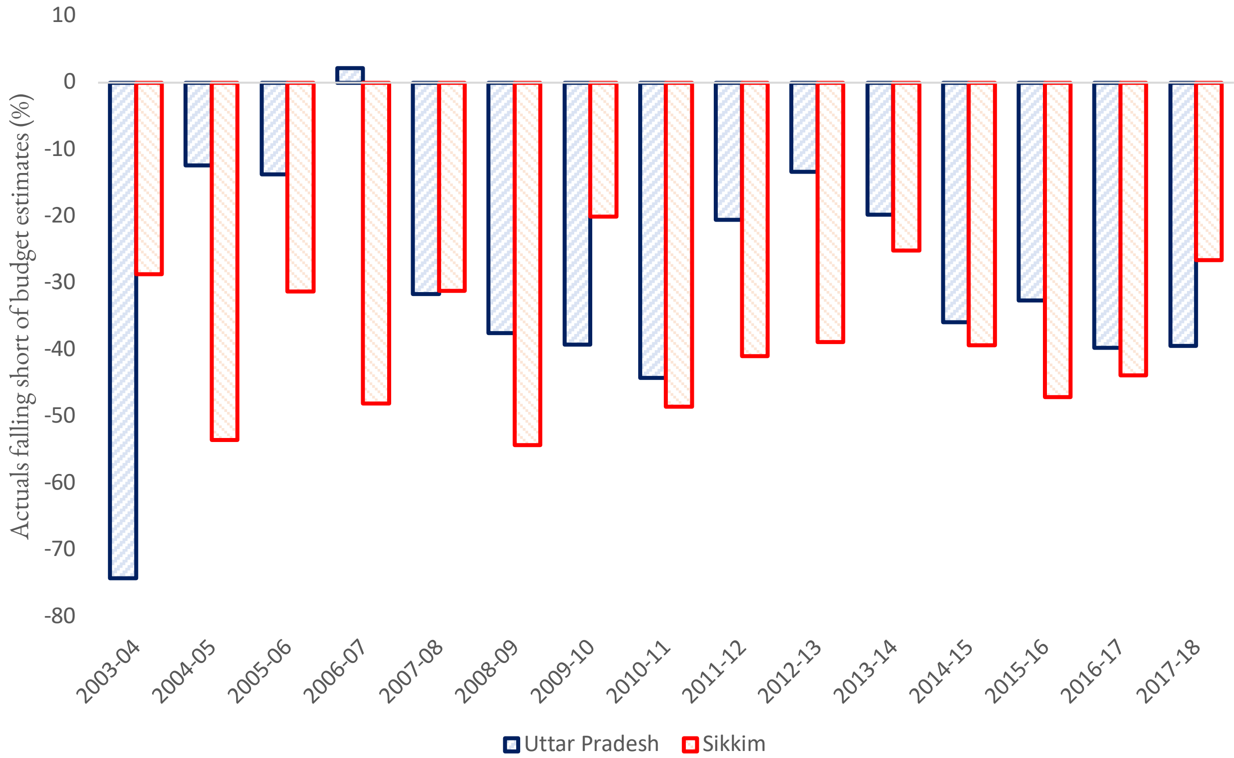
Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
KA	-39.68	8.08	-32.03	-30.48	-5.94	-1.83	29.57	17.85	3.02	-21.44	-9.16	-42.22	14.95	-20.04
MH	-43.59	-7.16	-18.22	78.38	4.35	1.89	-36.4	-30.42	-28.58	-43.83	-52.23	-76.16	1286.76	692.81
TN	-17.87	-2.58	-18.17	-3.46	4.9	19.06	-20.55	-25.86	-18.01	-9.22	0.74	290.24	7.19	-36.56
UP	-21.74	21.65	-16.07	4.45	-34.98	17.74	-0.97	-12.15	-9.89	-33.66	-9.63	-38.43	-79.21	538.59
AP	-16.37	-45.53	-37.14	-13.68	8.25	-21.03	-44.53	-57.02	-31.06	-45.04	-45.89	46.14		
KL	-36.61	-2.13	-23.61	-20.67	-5.36	-18.54	-42.74	-35.65	-32.61	-42.74	-53.03	-24.91	11.61	193.5
MP	-11.33	36.89	-9.04	26.14	6.54	-13.8	-93.03	-13.8	-28.15	38.5	-10.85	-61.2	-47.49	-5
RJ	24.09	9.99	-12.19	-12.26	40.04	49.94	-24.65	-0.97	-21.14	-30.01	-19.43	-33.16	-18.15	-29.07
GJ	-14.18	-10.23	-4.99	-26.46	0.67	-12.2	-46.95	-46.53	-41.39	-28.69	-45.93	62.14	-46.19	-3.04
WB	-23.89	1.1	-18.95	-9.06	-10.73	17.81	1.93	-8.23	46.89	-57.42	-55.24	-23.62	-39.36	-40.86
CH	-26.97	5.45	-19.33	19.54	-18.08	-30.88	-15.43	39.71	-27.83	-20.08	-41.19	95.82	218.41	419.99
GA	-8.67	-15.28	-55.58	-62.53	14.55	-25.45	-57.25	-31.89	-67.02	-37.71	-29.26	-47.32	-80	-33.32
HR	104.76	17.04	91.95	91.86	54.62	62.21	-88.87	5.02	-53.23	-51.89	-46.48	143.64	576.26	59.81
HP	0.49	-11.47	-6.44	-59.12	466.4	-1.21	10.09	2.27	10.57	-1.55	-18.16	-15.09	-27.66	20.38
JK	2.27	6.57	0.28	-71.66	133.37	1.98	-1.38	-13.08	-23.77	-26.49	-39.8	-15.04	626.28	29.43
JH	0	0	-36.66	27.65	0	90.3	167.81	0	-57.88	-63.66	-69.64	-5.54	50.57	751.84
MN	10.59	49.2	-5.87	255.86	-82.18	4.55	-10.87	2.52	-6.66	-21.03	-28.59	-26.47	-11.4	-22.64
ML	23.39	-35.43	-16.79	-30.25	-44.25	-29.36	-9.32	-10.42	-26.81	-28.98	-25.32	-25.99	-51.35	-
MZ	84.18	146.29	-83.32	96.68	-14.22	1.11	18.34	-17.07	-1.5	-16.96	-22.28	-2.62	35.92	30
NL	39.28	-1.3	-28.93	16.35	3.72	10.34	1.94	-3.53	2.36	-13.97	-21.9	-38.36	-5.2	-88.95

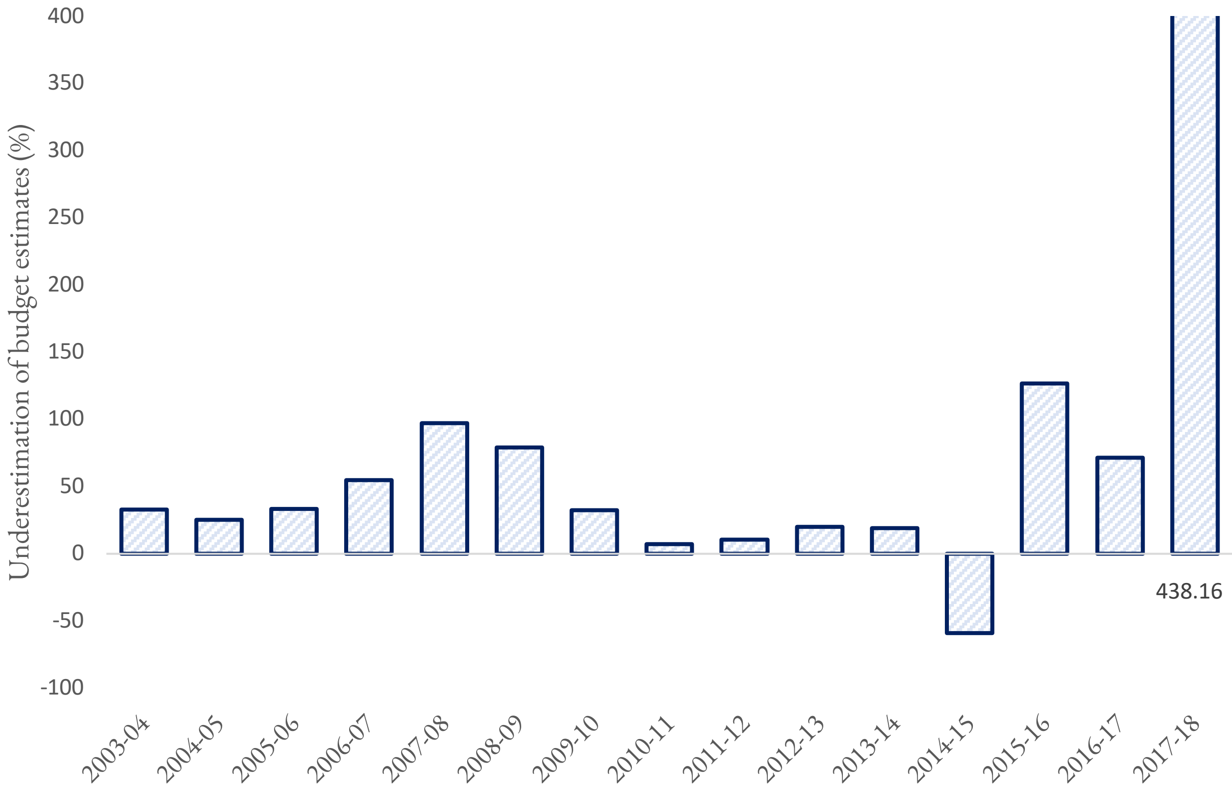
AR	-16.37	-74.94	20.94	13.69	-0.89	19.91	4.8	7.94	-21.91	-6.64	-41.26	95.9	-	-
AS	-9.9	1.38	-23.89	-22.33	-19.82	-6.16	-7.52	-1.28	-31.79	-29.17	-35.62	-33.72	-55.97	-54.07
BR	43.09	14.49	-27.91	-12.04	-18.21	-21.14	-26.15	-7.59	-43.12	-43.46	-41.86	-48.31	-7.95	-51.52
OR	-38.39	-15.94	-21.08	-27.19	6.46	-1.66	-17.49	-15.82	-19.47	-26.77	-37.07	-37.87	-39.65	-19.99
PB	-38.38	-20.21	9.67	35.79	-26.25	-42.41	46.56	9.37	-64.38	-68.16	-84.12	-48.76	-41.42	-50.09
SK	4.04	-1.68	-21.09	-17.25	-21.69	6.4	10.97	-26.33	-23.44	-29.9	-15.08	-26.19	-61.76	53.27
TR	10.16	30.82	-0.6	6.58	-15.41	-5.9	-5.77	-6.96	9.04	-7.46	-5.91	-19.45	-58.67	-41.56
DL	12.57	8.22	-28.35	-68.71	-30.27	-34	46.2	47.1	-62.38	122.96	-17.53	-48.42	-40.52	-30.18

Source: Author's Analysis; RBI State Finances: A Study of Budgets of 2019-20

Note: The above table has data from 2003-04 to 2016-17. Data for Meghalaya and Nagaland are not available.

Figure 4: Estimation Error of Centrally Sponsored Schemes for Uttar Pradesh and Sikkim





Source: Authors' Analysis
Data from RBI State Finances: A Study of Budgets of 2019-20

III. Reasons for Poor Fiscal Marksmanship

Poor fiscal marksmanship has many causes from poor planning and information assimilation to faulty execution of plans and schemes. However, the consistency in missing forecasts points towards at least a few structural problems that are germane to the budgeting process. In summary, the three main reasons for variations in actuals from projections for states are:(i) Centre's overestimation of its revenues resulting in variations in tax devolution and grants; (ii) Centre's wrong projection of its expenditures or unforeseen expenditures resulting in Centre cutting grants to the states; (iii) States' overestimation in projecting own revenue.

Before we get into the specifics, it is important to go over the process of estimating budgets. The grants are awarded based on the recommendations of the Finance Commission constituted once every five years. Plan grants were awarded by the Planning Commission till its abolishment, while the Finance Commission solely looked at non-plan grants. The basis on which the grants are recommended changes with each Finance Commission. For example, the First Finance Commission posited that the budgetary needs of the state, as well as the equitable allocation of resources, served as the governing principles for grant recommendations. The subsequent Commissions, while maintaining these broad principles, introduced additional criteria such as the fiscal burden of the Centre. The Fourth Finance Commission explicitly laid down the revenue gap-filling approach as a dominant principle. This approach estimates each state's revenue deficits post-tax devolutions from the Centre before recommending the grants. Since then, this has been accepted as the established principle to devolve grants to the states (Reddy & Reddy, 2016). Grants from the Centre are provided to states as a revenue gap-filling measure in cases where the state's assessed expenditure exceeds the sum of its revenues. This process highlights two aspects that make fiscal marksmanship of grants from the Centre difficult.

1. The states' budgets are heavily dependent on the Centre's budget. The dependence of states on central transfers is high with relatively poor states depending on the Centre for nearly half their revenues (Jena, 2006). A misprojection or an unexpected revenue shortfall by the Centre means the states' finances get affected. This shortfall is more likely to be reflected in grants rather than say devolution of taxes because these are not based on a fixed formula. For example, as we pointed out earlier, the budgeting of state plan schemes has been consistently overestimated due to incorrect projections of transfers of devolved taxes by the Centre.
2. The budget reassessment exercise is a massively complex task given the number of budget heads and sub-components under various departments and schemes. To illustrate the scope of the problem, the government accounting system divides expenditure into six heads: major head, sub-major head, minor head, sub-minor head, detailed head and object head. Each state has 30-40 departments with one major head but numerous minor and sub-minor heads. A centrally sponsored scheme such as the National Health Mission could have countless sub-minor heads for the states to estimate and the Commission to evaluate. There would be numerous such schemes. Thus, we need to appreciate the complexity the Finance Commission faces when performing these calculations to meet the needs of the state while balancing the fiscal burden at the Centre.

We now investigate the issues faced by the states, Centre and the Finance Commission to outline some reasons for poor fiscal marksmanship of grants from the Centre.

1. States' Budgeting Exercise

The data bears out criticism of the accuracy of state budget forecasts. This is for numerous reasons. First, there is a lack of foresight and planning by departments while drawing out the budgetary estimates. State budgets are not well framed before drawing them and show little relationship between formulation and execution of policies (Jena, 2006). The true revenue gap assessment falters because of misestimation on both the revenue and expenditure side of the state budget. On the expenditure side, line departments have no expenditure ceilings to ensure their actuals are more in line with the estimates drawn. Drawing out forecasts without controls on spending therefore tends to veer away from the actuals.

To understand the process of budgeting more closely, we reached out to officials in government. In conversations with Secretaries and Under-Secretaries of the revenue departments of a state, we found that there is no rational way in which they project their estimates on expenditure. For some departments, they rely on information from the village/patwari level and aggregate that to project the estimates.[6] It is likely that the information provided is way off the mark. In certain cases, if they don't receive the information they have asked for, they ballpark the estimate based on previous year's estimates with an error band of +/- 10% and submit those to the Finance Commission. All of this adds to errors in estimating revenue gaps which then exacerbate the difference between budgets and actuals.

Second, the nature of funding of state plan schemes tends to cause issues with their projections.

These schemes are funded and executed by states for subjects that are specifically not on the Union list. As discussed earlier while outlining reasons for poor fiscal marksmanship, although state plan schemes are completely budgeted by the states, projection by states of their total revenues is still heavily dependent on the Centre and their tax devolution shares to states. A shortfall in tax devolution to the states leads to the budget for state plan schemes being cut as resources by the state would have to be diverted elsewhere.

Lastly, policy impact and exogenous shocks also affect projections. States may take policy decisions over the course of the five-year assessment period, such as introducing populist measures in an election year, that affect expenditure projections. A recent study of interim budgets shows that the budget estimates on expenditure are particularly biased in an election year, as governments undertake additional spending beyond what can be accounted for to appease vote banks (Pant, 2019). There are also policy decisions where the accounting of the expenditure is done after the policy announcement is made. For example, states, while announcing farm loan waivers, were yet to factor this into their expenditure budget of that year (Mishra & Singh, 2017). Exogenous shocks could also be due to a recessionary or inflationary environment, or a calamity or disaster that involves additional spending beyond what was stated in the Disaster Response Funds. Such shocks mostly result in random errors in estimating by states and make marksmanship difficult.

2. Getting Centre's Projections Right

Given the heavy dependence of the states on the Centre's budgets, Centre's projections play a huge role in the states' marksmanship. We studied the budgets of the Central government (Srinivasan, Misra and Rajadhyaksha, 2019) and found that the government had overestimated revenue in 18 out of 22 years and underestimated expenditure in 12 out of the 22 years, as shown in Table 5 below. The poor fiscal marksmanship was attributed primarily to errors in the forecasting of tax collections (also seen in Table 5). A similar study of the Centre's forecasts on revenues and expenditure reveals that forecasts are not rational in nature, and not all available information is factored correctly (Bhattacharya & Kumari, 1988). The sub-components of the plan grants from the Centre mostly involve funding for central sector schemes and centrally sponsored schemes.[7] Given this revenue dependence on the Centre, a shortfall in the Centre's revenue projections will ultimately result in the states receiving fewer grants.

The conditionalities imposed by the Centre contribute to the gap between the actuals and estimates of centrally sponsored schemes. Centrally sponsored schemes are broadly divided into 'core of the core', 'core' and 'optional' schemes with a prescribed model of revenue sharing.[8] This ratio of sharing between the Centre and the state is 70:30, 60:40 and 50:50 for General Category states and 90:10 for Special Category states. Further, centrally sponsored schemes are mandated by the Centre, and the actual grants released are tied to the state's actual performance with regard to the scheme (Garg, 2006). However, these guidelines are exacting and not geared toward better performance. For example, the National Health Mission lays down a population criterion for setting up a health facility, not considering that certain poor states may have low population density (Kapur, 2019).

In addition to this, the states need to raise and match the grants given by the Centre in the decided ratio. The actuals, in this case, differ from the estimates, if the states are unable to put up matching grants for a scheme. M. Govinda Rao, in his paper, elaborates on how a shortfall in grants from the Centre, results in states scaling back on capital expenditure rather than already committed revenue expenditure. This shortfall translates to reduced allocation for centrally sponsored schemes as well. Thus, if the states are unable to put up their end of the ratio, the grant from the Centre also falls through. On Sarva Shiksha Abhiyan, the poorer states couldn't access the grants given as they were unable to raise revenues of their own to match the grants due (Raghavan, 2014). The later instalments are only given after a state can fulfil extensive formalities (such as utilisation certificates) on the scheme in a very time-consuming process. In the time it takes to fulfil formalities, ground realities may change, and the Centre may introduce budget cuts (Rao, 2017). In cases where states are unable to utilize the initial tranche of grants, this too results in non-release or delay in transferring grants to the states (Jha et al., 2008). This invariably leads to mismatched incentives on such schemes where the focus for states is on the utilisation of the money than on better implementation.

Table 5: Centre's Estimation Errors in Revenue and Expenditure over the Years 1997-98 to 2018-19

Year	% Difference in Actuals from Budget estimates		
	Revenue Receipts	Total Expenditure	Tax Revenue Receipts
1997-1998	-12.56	-0.05	-15.63
1998-1999	-7.71	4.27	-10.44
1999-2000	-0.73	5.00	-3.09
2000-2001	-5.42	-3.80	-6.36
2001-2002	-13.07	-3.40	-18.01
2002-2003	-5.45	0.94	-22.72
2003-2004	3.92	7.42	1.53
2004-2005	-1.07	4.15	-3.89
2005-2006	-1.06	-1.60	-1.17
2006-2007	7.66	3.44	7.33
2007-2008	11.40	4.72	8.83
2008-2009	-10.40	17.72	-11.98
2009-2010	-6.78	0.36	-2.58
2010-2011	15.58	7.99	6.22
2011-2012	-4.87	3.71	-4.64
2012-2013	-6.03	-5.40	-3.84
2013-2014	-3.94	-6.36	-7.86
2014-2015	-7.42	-7.31	-7.54
2015-2016	4.68	0.75	0.42
2016-2017	-0.20	-0.14	5.21
2017-2018	-5.31	-0.22	1.26
2018-2019	-10.01	-5.20	-11.04

Source: Authors' Analysis; Data from: Union Budgets of India

3 The Difficult Job of the Finance Commission

The Finance Commission makes recommendations on grants based on the estimates and forecasts of revenue and expenditure of the Centre and states. This data, as discussed earlier, is filled with errors. It is tasked with doing the necessary adjustments to make the state budgets' data comparable as well as the projections realistic (Reddy & Reddy, 2019). It also judges the revenue needs according to the norms laid down factoring in tax effort, the state's economy and expenditure before awarding grants. Despite these efforts, there is a divergence between its projections and the actuals as shown in Table 6. Certainly, this divergence leads to issues with fiscal marksmanship at the states.

Table 6: Non-Plan Revenue Deficits, Projections and Actuals

Finance Commission	Finance Commission Projection	Actual	Variation (Actual over Projection)	Percentage Variation
Tenth (1995-2000)	7582	61831	54,249	715.5
Eleventh (2000-5)	35359	183997	148,638	420.4
Twelfth (2005-10)	56857	164964	108,107	190.1
Thirteenth (2010-15)	51799	139689	87,890	169.7

Source: Indian Fiscal Federalism by Y.V Reddy and G.R Reddy (Chapter 9, Page 141)

The above table suggests that the actual transfers were far greater than what the Finance Commission projected - possibly due to tax collections being better than projected. This will necessarily creep into marksmanship of states. There are many reasons for such a divergence to occur. First, the governing principles set by the Finance Commission on awarding grants give rise to perverse incentives. One of the dominant principles for the awarding of grants is the budgetary needs of the state accounted for through the revenue gap. But this principle gives rise to moral hazard providing an incentive to indulge in 'fiscal dentistry' - to underestimate their revenue projections and overestimate expenditure - in an attempt to receive more grants from the Centre (Rao, 2000). Further, there remains a perception amongst states that the Finance Commission scrutinises their revenues and expenditure according to much stricter norms and hence more states attempt to accordingly tailor their budgets (Reddy & Reddy, 2016). This, of course, doesn't explain why actuals are greater than projections but indicate why it will be hard for the Finance Commission to project correctly.

The Finance Commission not only has to reassess the revenue gap of the states but also has to see the fiscal room available from the Centre's coffers to bridge that gap. The 14th Finance Commission re-assessed the state's pre-devolution revenue gap as being Rs. 25.7 lakh crores or 2.7% of GDP between 2015-16 and 2019-20 compared to the Rs. 59.3 lakh or 6.21% of GDP gap projected by the states as seen in Table 7.

Table 7: State projections and Fourteenth Finance Commission Re-Assessment for 2015-16 to 2019-20

Item	**States' Projections (Rs crore) (% of GDP)**	**Finance Commission Re-Assessment (Rs crore) (% of GDP)**
Own Revenue Receipts	7041349 (7.36%)	8209352 (8.58%)
Revenue Expenditure	12980292(13.57%)	10632315 (11.12%)
Pre-Devolution Revenue Gap	5938943(-6.21%)	2577919 (-2.70%)

Source: Fourteenth Finance Commission Report

As stated earlier, specific purpose grants - such as grants for centrally sponsored schemes - are tied to more conditionalities. Sector-specific grants have been granted since the Third Finance Commission with the Sixth Finance commission the first to make large increases in sector-specific grants. The Seventh Finance Commission recommended grants to specific states which had underdeveloped administrative standards. The Eleventh Finance Commission mandated grants for special problems of states and to local bodies based on the 73rd and 74th Amendments to the constitution. These specific purpose grants such as the local body grants were given to augment the finances of municipalities and rural panchayats. But in cases where states did not comply with the norms for these specific purpose grants such as raising their share of the grant, the subsequent transfers were held back. This ultimately explained the variation of the budgetary estimates. It is only the 14th Finance Commission that, in a major deviation from the previous Commissions, did not recommend sector-specific or state-specific grants. Instead, it recommended more untied grants to the states, more in line with the spirit of cooperative federalism.

Last, the Finance Commissions make macroeconomic assumptions around the growth rate of the global economy, price level and interest rates etc to arrive at a projection closer to actual outcomes. Such unanticipated shocks are many and contribute to the random errors in deviation of actual outcomes from projections. Shocks from the global economy are hard to predict: recessions, oil spikes, domestic shocks such as increased financing of public and foreign debt due to inflation spikes, and slowing down of investment due to adverse policies. These impact revenue and expenditure projections. A bad drought or a natural disaster for which adequate funding has not been set aside, will also potentially throw off calculations. These are, however, largely random factors where it is difficult to achieve better fiscal marksmanship compared to the systemic biases in forecasting (Chakraborty & Sinha, 2018).

Conclusion

The above analysis makes it clear that fiscal marksmanship of the states has too many variables and too many actors for it to be precise. The volatility of fiscal transfers — both tax devolution and grants — has a detrimental impact on the functioning of the state. On the tax devolution front, the Goods and Services Tax (GST) and the compensation cess, defined by a formula by the Finance Commission should help to reduce volatility. The GST compensation cess for revenue losses should ideally help states budget their revenue estimates better and reduce uncertainty. However, it is hard to determine the impact of GST on fiscal marksmanship of fiscal transfers, given the limited number of years we have data for. On grants from Centre, which we have delved into, numerous forecasting issues are both pertaining to systemic issues germane to the institution involved, and random or unforeseen errors due to the contingent nature of public policy. While the latter is hard to control, more can be done to reduce errors in the former.

At the state level, problems that can be addressed are the poor estimation methods employed, the under-capacity of most finance departments in drawing out budgets and the better implementation of schemes and projects. In addition, governments would do well to stay clear of arbitrary policies that introduce unaccounted expenditure that stress public finances. The issues faced by the state hold for the Centre as well. It too employs poor estimation methods — for example, its estimates on tax collection are more like ambitious targeting than rational estimation. Given the dependence of the states on the Centre, it must fix its budgetary processes.

Last, impractical conditionalities — imposed either by the Centre or the Finance Commission — for grants for specific purposes have resulted in deviations from actuals. Beyond these issues are largely the exogenous factors which cannot be foreseen or controlled. Thus, while estimates can never be exact, there is enough scope to minimise such errors.

References

Bhanumurthy, N., Bose, S., & Satija, S. (2019). Fiscal Policy, Devolution and Indian Economy. NIPFP Working Paper Series, (287). Retrieved from https://nipfp.org.in/publications/working-papers/1883/

Chakraborty, P., Chakraborty, L., & Shreshtha, R. (2019). Budget Credibility of Subnational Governments: Analyzing the Fiscal Forecasting Errors of 28 States in India. NIPFP Working Paper Series, (280). doi: https://www.nipfp.org.in/media/medialibrary/2019/09/WP_2019_280.pdf

Chakraborty, L., & Sinha, D. (2018). Has Fiscal Rules changed the Fiscal Behaviour of Union Government in India? Anatomy of Budgetary Forecast Errors in India. International Journal Of Financial Research, 9(3), 75. doi: 10.5430/ijfr.v9n3p75

Rao, G. (2020). Budget and Tax System Changes: Confusing Signals. Economic And Political Weekly, 55(9). doi:https://www.epw.in/journal/2020/9/budget-2020-21/tax-system-changes-budget.html

Jena, P. (2006). Fiscal Marksmanship: Link between Forecasting Central Tax Revenues and State Fiscal Management. Economic And Political Weekly, 41(37). Retrieved from https://www.epw.in/journal/2006/37/special-articles/fiscal-marksmanship.html

Kapur, A. (2019). Centre gives a lot of money to states for social welfare. A good policy, but only on paper. The Print. Retrieved from https://theprint.in/opinion/centre-gives-a-lot-of-money-to-states-for-social-welfare-a-good-policy-but-only-on-paper/253685/

Kumari, A., & Bhattacharya, B. (1988). Budget Forecasts of Central Government Revenue and Expenditure: A Test of Rational Expectation. Economic And Political Weekly, 23(26). Retrieved 24 June 2020, from https://www.jstor.org/stable/4378672

Mann, G. (2018). Central Transfers to States: Role of the Finance Commission. Retrieved 24 June 2020, from https://www.prsindia.org/theprsblog/central-transfers-states-role-finance-commission

Mishra, N., & Singh, P. (2017). A Deep Dive into State Budgets in India. National Council of Applied Economic Research. Retrieved from http://www.ncaer.org/Events/IPF-2017/IPF-2017-Mishra-Singh-Conf-version.pdf

Mohan, R. & D. Shyjan (2009) Tax devolution and grant distribution to States in India: analysis and roadmap for alternatives. CDS working papers, no.419. Trivandrum: CDS.

Pant, D. (2019). The arithmetic of this election year interim budget is questionable. The Print. Retrieved from https://theprint.in/opinion/the-arithmetic-of-this-election-year-interim-budget-is-questionable/187038

Raghavan, P. (2014). Cutting down centrally sponsored schemes would empower states and help improve their effectiveness. The Times Of India. Retrieved from https://timesofindia.indiatimes.com/blogs/minorityview/cutting-down-centrally-sponsored-schemes-would-empower-states-and-help-improve-their-effectiveness/

Reddy, Y., & Reddy, G. (2019). Indian Fiscal Federalism (1st ed., pp. 104-151). Oxford University Press.

Reserve Bank of India - State Finances: A Study of Budgets. (2019). Retrieved 24 June 2020, from https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets

Rao, G. (2017). Central Transfers To States In India Rewarding Performance While Ensuring Equity | National Institute of Public Finance and Policy Retrieved 24 June 2020, from https://smartnet.niua.org/content/6de1129a-310e-47a4-91aa-71e56e234483

Srinivasan, S., Misra, P., & Rajadhyaksha, N. (2019). Finance ministry has a poor forecasting record. Livemint. Retrieved from https://www.livemint.com/Politics/Ey6VRIMAozRK082XGruVbP/Finance-ministry-has-a-poor-forecasting-record.html

Subhash Chandra Garg. (2006). Transformation of Central Grants to States: Growing Conditionality and Bypassing State Budgets. Economic and Political Weekly, 41(48), 4977-4984. Retrieved June 24, 2020, from www.jstor.org/stable/4418976

Tripathi, P., & Grigoriadis, T. (2020). State Capacity and the Soft Budget Constraint: Fiscal Federalism, Indian Style. *Indian Style (May 17, 2020).*

Notes

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[2] Fiscal marksmanship is calculated by assessing the difference between actuals and budget estimates, published by governments every year. We would like to point out that the percentage 'estimation' or 'forecasting' errors in this paper are calculated with respect to Budget Estimates and not Actuals. Thus, this paper estimates it as [(actual - budget estimate)/budget estimate].

[3] Grants from Centre are the same as Grants-in-Aid. For this paper, we refer to them as Grants from Centre. An additional caveat we would like to add here, highlighted by Govinda Rao, is that the

temporal study of grants is marked by discontinuity in grant policy. In the initial years, money was transferred through the state budgets but in the years post 2005-06, grants for many schemes were increasingly routed to the implementing agencies bypassing state budgets. In 2013, post recommendations of the High-Powered Committee on Public Expenditure Efficiency chaired by Dr Rangarajan, grants were rerouted through state budgets. We undertake this study despite these shifts in policy over the years.

[4] We restrict it to the 28 states due to availability of data for all 15 years we study from 2003-04 to 2017-

[5] The RBI State Finances 2019 report notes that 'While the extent of overestimation is growing steadily in case of states' own tax revenue (7.2 per cent in 2013-14 to 11.1 per cent in 2016-17), the over-estimation in total revenue is consistently dominated by grants from the Centre' (Annex II.1,pg 29).

[6] The established process both for Centre and states is: (i) issuance of budget circular in October every year to the spending departments along with assumption about the growth, inflation and other relevant macro parameters and indicative budget envelope for the department; (ii) the heads of departments forwarding the circulars and directions to the Drawing and Disbursement Officers to prepare their estimate of expenditures for the ensuing year and the latter are required to prepare their expenditure estimates based on the inputs they receive from their subordinates; (iii) Compilation by the heads of spending departments and communication of the estimates to the Finance Department; (iv) Discussion of each spending department with the Finance Department to match the expenditure estimates with projected revenues.

As detailed in the paper by Mishra (2014), 'the state's budget preparation begins with the submission of budgets by the Drawing and Disbursement Officers (DDOs) who are based at district and sub-district levels. These budgets are submitted to the state's Estimating Officer by the end of August each year. The Estimating and Controlling Officers scrutinize the budgets prepared at the district level and, after separation by department, send them to the heads of the respective departments of the state by mid-November.'

[7] Central sector schemes are completely funded as well as executed by the Central government and departments, on subjects on the Union list. Centrally sponsored schemes, while funded by both the Centre and the state governments, are implemented by states and their agencies.

[8] This classification came in only after 2015-16, based on a report by the NITI Ayog committee. This was in response to the Union government making the States contribute more to the schemes after the 14th Finance Commission increased the States' share in tax devolution.

Appendix

Concept	Definition
State plan schemes	State plan schemes are plans funded and executed by states for subjects that are specifically not on the Union list.
Central plan schemes	Central plan schemes are those that are directly funded as well as executed by the Central government and departments, on subjects on the Union list.
Centrally sponsored schemes	Centrally sponsored schemes are schemes while funded by both the Centre and the state governments, are implemented by states and their agencies. There is a prescribed model of revenue sharing between the Centre and the state with a greater share of the funding allocated to the Centre. This ratio of sharing between the Centre and the state is mostly - 50:50, 70:30, 75:25 or 90:10 - depending on the category of the state and scheme.
North-Eastern council or special plan schemes	North-Eastern Council or special plan schemes are schemes specifically designed for the development of the North-Eastern states, where the schemes are either funded completely by the Centre or funding is shared in a 90:10 ratio model between the Centre and states.
Non-plan grants	Non-plan grants are grants given to cover non-plan gaps on revenue accounts of the states.

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