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Farm Bills: Could They Liberate Indian Agriculture?[1]

Abhirup Sarkar[2]

Abstract

The paper identifies gainers and losers from the three Bills on farm produce first cleared by the Indian Parliament and then withdrawn. It argues that while big traders and net buyers in village markets were potential losers, small and medium producers as well as urban consumers, apart from big corporate retailers stood to gain from the Bills. The government has to remain vigilant to ensure food security for the poor and smooth functioning of the PDS followingcorporatization of Indian agriculture if the Bills are reintroduced in future.

Keywords : Farmer Bill, Corporatization of Agriculture, APMC, MSP

JEL Classification Codes: Q13, O 13

I. Introduction

Three contentious farm bills − The Farming Produce Trade and Commerce (Promotion and Facilitation) Bill(also known as the APMC Bypass Bill),The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Bill and The Essential Commodities (Amendment) Bill were cleared by the Parliament amid widespread uproar from the opposition. This was followed by sustained unrest by a section of Indian farmers, mostly from the states of Punjab and Haryana. Recently the bills have been withdrawn. It is not clear if the government simply yielded to the pressure exerted by the agitating farmers or had some deeper political consideration for withdrawing the enactment. One thing, however, is clear. Whatever be the reason behind the government's action, it is purely political. While heated debates are on as to whether and to what extent withdrawal of the bills is going to help the ruling party in the forthcoming assembly elections,it is unfortunate that discussions on the economic content of the bills, their merits and draw-backs,seem to have taken a backseat. I shall try to fill up this gap by touching upon the possible economic effects of the abandoned bills.

II. Three Farm Bills

One question needs to be answered at the outset: why talk about the shelved bills now?

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1. Presidential address to 42nd Annual Conference of Bangiya Arthaniti Parishad, March, 2022.
2. Former Professor of Economics, Indian Statistical Institute Kolkata.

Since the bills have already been abandoned what is the point in discussing the possible effects it could have had on the economy in general and the agricultural sector in particular? There are at least two reasons. First, the bills pertain to the so called 'agricultural reforms', which, even if abandoned for the time being due to political compulsions, may raise their heads again when such compulsions are taken care of. Second, by studying the nature and sources of dissent it is possible to understand the structure of Indian agriculture and the constraints it is limited by.

Quite understandably, political reactions to the legislations have been diverse, extreme and possibly one-sided. While the ruling party was projecting the Bills as a means of emancipation for the Indian farmer, the opposition was viewing them as a recipe for his doom. It is, therefore, necessary to understand the finer socio-economic nuances of the Bills, keeping aside emotions, ideology and political stances. In particular, three questions naturally come to mind. How were these bills going to affect different stakeholders in and outside the agricultural sector? Second, why were big farmers in and around the states of Punjab and Haryana as opposed to small farmers elsewhere in the country mainly opposed to the bill?[3] A third question arises as to how the Bills could influence the long run development of Indian agriculture. Before trying to find answers, let us quickly look into the nature of the Bills.

The Farming Produce Trade and Commerce Billsought to allow barrier-free trade of farmers' produce.In many states they are allowed only within the physical premises of the markets notified under the state Agricultural Produce Marketing Committee laws (APMC Acts). The Bill was supposed to prevail over the APMC Acts and facilitate exchangeoutside such markets as well, such as in places of production, collection and aggregation, including farm gates, factory premises, warehouses, silos and cold storages. Clearly, this Bill empowered thefarmers to sell to alternative trading channels, including big retails run by corporates.

The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Bill provided a framework for farmers to engage in contract farming i.e. farming as per an agreement with the buyer before sowing, under which farmer sells produce to the buyer at a pre-determined price.The Bill allowed individuals, partnership firms, companies, limited liability groups and societies to enter into an agreement with farmers to purchase agricultural produce, minimum period of the agreement being one crop season, or one production cycle of livestock, and maximum duration being five years.

The Essential Commodities (Amendment) Bill amended the Essential Commodities Act, 1955. The amendmentallowed private players to freely hold stocks of food grains,

3. Of course, there have been quite a few *political* protests all over the country, but the protests in Punjab and Haryana seem to be more spontaneous.

including cereals, pulses, potato, onion, oilseeds and oil, in 'normal' times. Only in times of war, famines, natural calamity and extraordinary price rise (defined as 100% increase in retail price for horticultural produce and 50% for non-perishable agricultural food-stuffs) the Central government was empowered to intervene and regulate the market.

The three Bills, taken together, were designed to change the fundamentals of Indian agriculture, for better or worse. If the Bills were not withdrawn, any private player, including big retailers, could buy straight from the farmer and sell directly to the consumer, bypassing markets regulated by APMCs and the layers of middle men tied to them. He could enter into a direct contract with the farmer, build big storehouses using modern technology, optimally store his stocksand reap the benefits of economies of scale. Some of these benefits would possibly be passed on to the producers and some to the consumers. Moreover, through big corporate retailers, international markets werelikely to open up for Indian farmers. In short, champions of the Bills argued, the legislations were destined to liberate agriculture from the age-old grip of middle men, make it market oriented and efficient which, in turn, would benefit producers and consumers alike.

Opponents felt that none of these projected benefits were going to materialize. Corporatization of agriculture and contract farming would have placed farmers at the mercy of the corporates who would exploit the farmers by paying them low prices and harm the consumers by charging them high prices. Indian farmers are too small to bargain with big corporates and will always remain at the receiving end. More important, once corporates take over the market, the government will make an exit by withdrawing minimum support prices, reducing procurement of food grains and jeopardizing the public distribution system. Finally, opening up of agriculture to free international trade would raise food prices and compromise food security of the country.

III. Evaluation

To evaluate these extreme positions, one needs to recall the Indian agricultural scenario. The agricultural sector in India is made up of a large number of small and marginal farmers with very small landholdings accompanied by an even larger number of landless labourers and small traders. These small agents coexist witha small number of large farmers, who, more often than not, are also large traders.The structure is pyramidal. The small farmers consume a part of their produce and sell the remainder either at the local market, or to local traders who collect the produce from their doorsteps. Some smaller farmers produce too little to sustain themselves and have to supplement their income by working on other people's land. Like agricultural labourers, they are net buyers of food in the local market. The small traders, after collecting the produce, take it to bigger markets or "mandi"s either directly or through larger traders. These mandi-s as well as the trading networks leading to them are controlled by large farmers-cum-traders through APMCs.

These large players pile up their stocks through purchases in the mandi-s and sell these stocks to urban wholesale markets. Since mandi-s are usually located at a considerable distance from the site of cultivation of the small farmer,they can be accessed by him only with the help of the trading network. This makes the small producer dependent on the trader who controls the trading network.

There are other channels of dependence as well. In spite of increased penetration of commercial banks in the rural areas, small farmers are still in need of production loans which are met by an indigenous money lender who also happens to be the large trader controlling the local mandi and its trade. The big trader also looks after the small farmer in times of crisis and thus provides him insurance. In return, the trader (perhaps through his agent, who is a small trader) buys the produce at a much lower price than that prevailing in the mandi. Indeed, interlinkage between the product and the credit market or between the product and the insurance market makes the small farmer dependent on the trader and defenceless against his unfair practices.

There is, of course, a government who announces a minimum support price (MSP) before each harvest to ensure that farm prices do not fall too low. The Government declares the MSP right before the harvest in order to procure food grains and distribute them to the rest of the country through PDS. In fact, based on the recommendations of the Commission for Agricultural Costs and Prices, the Department of Agriculture declares MSP for 22 crops before their sowing seasons. Whatever crop may be left to the farmer after selling to the traders (for example, as a result of a bumper harvest), can be sold off to the Government at the MSP. The Food Corporation of India, which is the nodal central agency of the Government of India, undertakes procurement of wheat and paddy under the price support scheme. But like the mandi-s, government procurement centres are also far off from the site of cultivation of most small farmers. So again it is only the bigger sellers, who take advantage of MSP and government purchase[4].

Clearly, the status quo is far from ideal. It is exploitative from the point of view of the small farmer. With so many layers of middle men, it is inefficient from the point of view of the urban consumer. Again collusion between large traders give them little incentive to innovate and invest. Finally, MSP tends to benefit large sellers rather than their smaller counterparts.The moot question is: how could the three Bills change the status quo? Would this change be for the better or for the worse?

One thing, however, is certain and generally agreed upon — the Bills aimed at wooing

4. According to a 2012-13 NSSO report, less than 10% of Indian farmers take advantage of MSP. A very recent write-up in the Times of India published on October 3, 2020 reports that in 2018-19 MSP helped only 12% of rice cultivators and procurement of rice from backward regions of the country was abysmally low.

big corporatesto the agricultural sector. But before we try to assess the effects of corporate entry into Indian agriculture, two commonly held misperceptions need to be cleared. First, there is a perception, based more on ideology and emotion than reasoning, that corporatization itself is essentially a bad thing and hence it will ruin the producers as well as the consumers of agricultural commodities. It must be realized that corporatization is the order of the day and much of our economy is dependent on corporates. Corporates influence day-to-day consumption, from edible oil, soap, toiletries to mobile phones and TV sets, not only in the urban areas, but also in the villages.Again, entry of big corporates does not necessarily ruin the consumers. Indian telecommunication industry is a case in point. In this sector, competition among big corporates has hugely reduced the cost of calling, messaging and internet surfing, which BSNL alone could not have achieved.

The second misperception is about speculation. There is an unfounded fear that once the Essential Commodities Act loses its bite, speculators will enter the market, indiscriminately buy and hoard stocks, create artificial scarcities and jack up prices. These apprehensions fail to take into account the fact that speculators enter the market to make profits and like any other commodity, agricultural goods are subject to the law of demand, i.e. a rise in the price reduces the quantity demanded. If speculators hoard a lot of stocks and sell too little at present at high prices, they have to sell unusually large quantities in future at low prices to exhaust their stocks. This violates intertemporal profit maximization. Neither is it profit maximizing to hold stocks for ever, indeed beyond one harvest period, because once the new harvest hits the market, prices are likely to come down anyway.

What happens if big corporates enter the rural markets as buyers and the urban markets as sellers? The immediate effect is an increase in *competition.* Large traders, who were enjoying virtual monopolies in local pockets will have to face competition from agents of corporates who will reach the rural markets to acquire stocks. This increase in competition among buyers is likely to *raise* buying prices in the rural market which will directly benefit the small farmer. On the other hand, increase in competition to sell in the urban market between corporates and large traders will *reduce* selling prices which will benefit urban consumers. On account of the increased competition, profit margins from trade will fall, i.e. the difference between selling price and buying price will shrink. This will hurt large traders. Corporates, however, are likely to make substantial profits because they depend more on the volume of trade rather than the trading margin.An additional benefit will be obtained through investments of the corporates in large warehouses. In their own interest, corporates will build big storage facilities in the rural areas which will reduce wastage of agricultural produce by saving fruits, vegetables and food grains from rotting. Part of this benefit is likely to be passed on to the producers and consumers. To recapitulate, while small and medium producers, urban consumers and big corporates were likely gainers of the abandoned legislation, large sellers were the likely losers. It is not

surprising, therefore, that big farmer-traders of Punjab and Haryana were spontaneously protesting the bill.

But this is not the end of the story. As corporates compete in the rural markets as buyers, raising local prices of agricultural produce, net buyers in the rural market will be seriously hurt. These net buyers, consisting mostly of agricultural labourers and small traders, are the poorest and the most vulnerable section of the Indian population. Their survival is partly secured by low market penetration in the rural areas leading to low food prices. Entry of corporates will threaten this security. The other source of food security for this vulnerable population is the PDS. But even the PDS is likely to be compromised if corporates lift large stocks of food grains and other agricultural produce from the rural market and sell them either in the urban market or abroad; for, in this case, the government may not be able to procure enough to smoothly run the public distribution system. In short, corporatization of agriculture is likely to hurt the poor and the vulnerable.

There is yet another flip side. The small farmer, who is now in the grip of the local big trader through various interlinked contracts, will be free from his bondage when corporates make their entry and create a stand-alone market for his product. If he sells in that market, he has to break his age-old ties with the local trader. But then who will provide him insurance? Who will provide him credit? Indeed, if one market (in this case, the product market) opens up, other markets remaining imperfect or even non-existent, the net effect could be a reduction in well-being for the small producer.

The possibility is well demonstrated in Cranton and Swamy (1999)[5]. The paper shows that introduction of civil courts in Bombay Deccan in the second half of the nineteenth century led to better enforcement of debt contracts paving the way for new lenders to make their entry. As a result the credit market became competitive and the lending rate went down. Old money lenders, who were charging very high interest rates, went out of the market. But these old money lenders were also providing insurance to the borrowers through the provision of loan roll-over in a time of crisis. With their exit, this informal insurance arrangement also vanished. So when there was a severe output shock, borrowers were impoverished and this led to food riots in Poona and Ahmednagar in 1875.

There is yet another concern. Does an Indian farmer, getting into a contract with a corporate, have adequate legal literacy and financial resources to fight for his rights if there is a violation on the part of the corporate? Suppose there is a drop in the market price of wheat and so the corporate reneges on his promise to buy the agreed upon amount from the farmer.The typical Indian farmer has neither the monetary ability nor the legal knowledge to confront the corporate in a court of law. Along with the Bills, the government

5. Rachel E Cranton and Anand V Swami, ‘The hazards of piecemeal reform: British civil courts and the credit market in colonial India’, Journal of Development Economics, volume 58 (1999), pp 1-24.

should have provided a legal infrastructure to the farmers to confront big players.

Indian agriculture is not uniformly prosperous. Wheat producing regions of Punjab, Haryana and Western UP are more productive than rice producing regions of the East and the North-East[6]. Therefore, though India fares among the top five wheat and rice producing countries in the world, rice productivity is well below those of the other four (see Table 1), while in terms of wheat productivity, India's position is above that of Russia and the United States (see Table 2). It is, therefore, natural that the corporates, if they get a chance to enter, will make their first entry in the wheat producing regions of Punjab, Haryana and Western UP. We may recall that these are the main surplus producing regions of the country contributing to more than 90% of government procurement. Moreover, because farmers in these regions are relatively prosperous, they are less dependent on traders through interlinked contracts. It is, therefore, easier for them to break their ties with the traders and take advantage of free markets. All these factors, taken together, made trader-farmers in Punjab and Haryana jittery about corporate entry which showed up in their spontaneous opposition to the Bills.

In the rice producing parts of the country, on the other hand, productivity is low, access to formal credit is restricted, household savings are too meagre to provide any insurance against bad times and consequently the age-old dependence of the farmer on the local trader (who is also a money lender and a big producer) is strong. Moreover, in these areas land is fragmented and scattered over a wide radius. The trader here has to constantly travel from one plot of land to another in order to procure small amounts of crops (because productivity is low) and this increases the cost of procurement. Corporatization is bound to be slow and faltered in these regions. This, in turn, implies that the Bills would have little impact in the areas where the need for development is the highest.

If the Bills were not withdrawn, how would the long run growth of Indian agriculture be impacted? The stark reality facing the agricultural sector is that of low productivity. About 60% of the population are engaged in agriculture producing only 16% of the GDP (according to latest census data) and only 10% of export earnings. This is in spite of the fact that India has an arable land area of 159.7 million hectares (394.6 million acres), which is second largest in the world after USA. What the Indian Agricultural sector badly needs is long term investments, which can facilitate better irrigation and can pave the way for higher productivity. A better diversification of agricultural activity focusing on the urban market can also lead to more prosperity for farmers.

IV. Conclusion

6. Southern states of Tamil Nadu, Telangana and Andhra Pradesh have relatively better yields of rice but they are still low by world standards.

But to what extent would the Bills have served these purposes? We have already argued that corporatization is unlikely to penetrate the backward parts of Indian agriculture in the immediate future. As for the more advanced ones, it will bring prosperity for some and reduced income for others. Investments, if any, are likely to take the form of building warehouses and efficient supply chains. But there is no reason to believe that corporates will have any incentive to undertake productivity-enhancing irrigation projects. It is the government that has to take the initiative.

Indeed, the government has to do much more than that. It has to ensure food security to the poor and the vulnerable in the face of rising food prices in rural markets. It has to ensure that enough food grains are procured to keep the PDS running. It has to ensure that farmers, in remotest corners of the country, get adequate credit and insurance so that they can safely come out of the grip of large traders and take advantage of corporatization. The Bills could have liberated the Indian farmer only if these safeguards were provided by the government.

Table 1: Production and Productivity of Top Five Rice Producing Countries, 2018

Country	Production (million tons)	Yield (kg/hectare)
China	212.13	7026.6
India	172.58	3878.2
Indonesia	83.04	5191.4
Bangladesh	56.42	4736.8
Viet Nam	44.05	5818.0

Source: FAO

Table 2: Production and Productivity of Top Five Rice Producing Countries, 2018

Country	Production (million tons)	Yield (kg/hectare)
China	131.48	5416.3
India	99.7	3370.5
Russian Federation	72.14	2725.0
USA	58.29	3199.9
France	35.8	6842.7

Source: FAO

Printing Currency to revive the Economy: An Evaluation of Modern Monetary Theory in the Indian context[1]

Asis Kumar Banerjee[2]

Abstract

In this lecture, I examine a relatively recently proposed economic policy aimed at solving the problem of economic deceleration in India. The proposal, based on the so-called modern monetary theory (MMT), is almost shockingly simple: the government should increase expenditure by whatever amount that may be necessary for the purpose and should finance it simply by printing currency (or, equivalently, by public borrowing). While it is known that continued use of this type of policy would result in inflation in the long run, the advocates of the proposal contend that in the present demand-deficient state of the Indian economy inflation due to excess demand is a remote possibility. I shall differ with this view. I shall show that two important features of the Indian economy (viz, a persistent deceleration in the growth rate of the economy in recent times and a high degree of market imperfection) jointly imply that exclusive reliance on MMT-type policies is likely to result in inflation even in the short run. What is called for is a combination of these policies with measures aimed at reducing inequality in the distribution of economic power. Economic reforms of the right type can play a vital role here. Addressing the issue of the lack of monetary sovereignty of the developing economies would also be a step in the right direction.

Key Words : Modern Monetary theory, Economic Revival, Growth deceleration, Market Concentration, Government Expenditure

JEL Classification Codes:

I. Introduction

It is hardly necessary for me to tell you how honoured I feel on being invited to give the XV-th Amiya Kumar Dasgupta Memorial Lecture at this 42nd Annual Conference of Bangiya Arthaniti Parishad. Although I did not get the opportunity of being a student of the late Professor Dasgupta in the classroom, in the broad sense I, like all others who practice the discipline of Economics in India today, can in all humility consider myself to be a part of the tradition of modern economic thinking whose foundation was laid in our

1. XV-th Amiya Kumar Dasgupta Memorial Lecture, 2022, 42ND Annual Conference, Bangiya Arthaniti Parishad, Kolkata, March 12, 2022).

2. Former Vice-Chancellor and former Professor of Economics, University of Calcutta.

country by a handful of people in the 1940s and the following decades. Among these great pioneers Dasgupta was perhaps the foremost.

We have it on the authority of one of his most illustrious students that Dasgupta often said that the reason why he was interested in Economics was the "presence of economically remediable misery in the world". (See Sen (1994.) There can be no difference of opinion over the fact that our economy at the moment is in a state of great misery. It is also generally believed that a large part of the misery is economically remediable. Needless to say, I am referring here to the Covid-hit economy of India. The widespread destruction caused by the pandemic has not been limited to the health sector. The economic consequence of the pandemic has also been nothing less than devastating.

We shall be failing in our duties, however, if we put the blame for this pathetic economic scenario entirely on the pandemic and let the matter rest there. The pandemic, after all, has hit the whole world. Yet, in the year 2020-21, the performance of the Indian economy was particularly poor in comparison to that of many other countries of the world, including most of our South Asian neighbours. So far as the growth rate of real GDP is concerned, with the exception of Maldives, no other South Asian country's growth performance in 2020-21 (or in the calendar year 2020) has been worse than that of India (where the growth rate in 2020-21 was −6.6 per cent). In fact, Bangladesh posted a *positive* growth rate of 2.3 per cent. Comparisons over wider geographical regions do not change the picture very much. China registered a positive growth rate of 2.3 per cent. In Brazil the growth figure was – 4.1 per cent. While the advanced economies too had negative growth rates, in most of them the rates of *contraction* were less than that of India. In U.S.A. and Japan, for instance, the growth rates were −3.5 per cent and – 4.7 per cent respectively. (In the U.K., however, it was − 9.8 per cent.) In one exercise it was reported that if the 2020 (or 2020-21) growth rates of 194 of the countries of the world are arranged in *decreasing* order, the growth rate of India would be at the 142-nd place. For a country that, barely a decade or so ago, was one of the fastest growing economies in the world, this is certainly bad news.

One is naturally led to ask what *economic policy* actions would be warranted in this gloomy scenario. Since the question has been widely discussed both in the academic economic literature and in the media, the broad contours of the policy conclusions that emerge are, by now, well-known. One basic point that has emerged is that *demand deficiency* in the private sector is at the root of much of our present economic predicament. Economic policy should,therefore, be aimed at stimulating demand in the private sector and at increasing government expenditure so that aggregate demand can be boosted. While I shallmostly talk in terms of a demand-deficient economy, I note in passing that even if, in the longer run, the economy is able to come out of the demand deficiency problem, the need for government expenditure is likely to continue since in a country like ours

the government has a vital role to play in dealing with the various *supply-side* constraints on the growth of output. Moreover, as is well-known, faster growth in the private sector does not necessarily imply a more egalitarian economy, let alone a more egalitarian *society*. Therefore, government action is likely to remain necessary even if and when the slide in the rate of economic growth is arrested.

Now, what can the government *specifically* do? So far as India is concerned, the standard prescriptions of conventional *monetary policy* (viz. reducing the rate of interest and making loans attractive in other ways) have so far failed to generate the desired effect. The government has also been reluctant to take *fiscal* actions on a significant scale, citing the already mounting budget deficit and posing the rhetorical question where the money required for financing higher levels of government expenditure will come from.

In this lecture I wish to examine and evaluate a relatively recent proposal that seems to have gathered a considerable amount of support both among academic economists and social activists. The proposed method is based on what has been called the *modern monetary theory* (MMT) and is almost shockingly simple. According to an older version of MMT, whenever the private sector of the economy faces a demand problem, all that the government needs to do is to print currency. A more recent version emphasises the need to increase government expenditure. Where will the money come from? Again, just print currency or, equivalently, engage in public borrowing in *any* amount without bothering about the problem of repayment because the government can always print money in case there is no other way to make the repayment.

. While it is known that continued use of the deficit financing method prescribed by MMT may result in inflation in the long run, it has been argued by advocates of the MMT proposal that in the present depressed state of the Indian economy the possibility of inflation caused by excess demand is a far cry and that, therefore, this particular shortcoming of MMT-oriented policies can safely be ignored in the short run. I shall differ with this view. I shall show that some of the features of the economic scenario of India jointly imply that these policies are likely to result in inflation *even in the short run*. I shall contend that what is called for is a judicious combination of currency printing (or public borrowing) with measures aimed at reducing the inequality in the distribution of economic power.Economic reforms of the right type can play a vital role in this context. Addressing the issue of the lack of monetary sovereignty of the developing economies would also be a step in the right direction.

I shall start by stating two features of the Indian economic scenario that will play important roles in my arguments.

II. Two features of India's economic scenario

II. 1. Persistent deceleration in the growth rate

While the Covi19 pandemic itself was certainly a bolt from the blue, the record of our poor growth performance goes back into the *pre-pandemic* years.To take a quick look at the numbers, recall first that the five fiscal years from 2003-04 to 2007-08 was a high-growth-rate period for India when the annual real GDP growth rate was 8.9 per cent on the average. The global financial crisis of 2007-08 brought it down abruptly to 4.15 per cent in 2008-09. In the following two years 2009-10 and 2010-11, however, there was remarkable recovery. The success was attributed to the economic reforms undertaken over the preceding two decades. The dream run, however, came to an end in 2011-12 when the growth rate fell to 6.9 per cent from the 8.7 per cent rate achieved in the preceding year. In 2012-13 it fell further to 5.1 per cent.

It is difficult to compare the *official* data about the growth rates in these years with those in 2013-14 and the following years because of a shift in the base year from 2004-05 to 2010-11. In terms of the new base year prices, the GDP growth rates in the seven years from 2013-14 to the last pre-Covid year 2019-20 were as follows: 6.9, 7.3, 7.9, 8.2, 7.2, 6.1 and 4.0 per cent. On the basis of these figures it would seem that in the first four of these seven years there was an upward trend in the growth rate while in the last three the trend was, again, downward.

Many economists, however, are of the opinion that even the upward trend in the first four of these seven years starting from 2013-14 was more apparent than real. For example, it has been shown that if the 2013-14 growth rate had been calculated with the older base year of 2004-05, the figure would have turned out to be 4.7 (rather than 6.9) per cent. To be sure, periodic revisions of the base year is standard statistical practice in GDP calculations. It is, however, difficult to believe that estimates of GDP growth in a given economy between two *given* years would change so dramatically when the base year is shifted by a few years.

Thus, India has been experiencing *persistent* economic deceleration since 2017-18, if not since 2013-14. The drop in the growth rate to a negative figure in 2020-21 was only the culmination of a fairly long process of deterioration. Like the abysmally low growth rate of this year, the persistent nature of the deceleration in the growth rate also seems to be a *distinguishing* feature of our recent economic history. This has *not* been the case in any other South Asian country. In Bangladesh, for instance, the growth rate figures for the seven years starting with 2013-14 were as follows: 6.0, 6,1, 6.6, 7.1, 7.3, 7.9, and 8.2. Clearly, this is a case of a persistent *acceleration* of the growth rate. In *all* of the other countries of the region there were *cyclical fluctuations* in the growth rather than a prolonged period of continuous fall.

II. 2. Concentration of market power

It is also well-known that the free fall in the growth rate has been accompanied by an accentuation of the problems of poverty and inequality of income and wealth. These disturbing trends are now well-documented. (See, in particular, Chancel et. al. (2022.) For later reference, I note here a similar trend in inequality of another type. This has to do with concentration of market power. While estimates of the degree of market imperfection in the Indian economy as a whole are hard to come by, some estimates of *industrial* concentration are available. Sedai (2016), reports that the *manufacturing* sector in India became more skewed in terms of the distribution of market shares over the period1999 – 2013. A more recent study, (Saraswati, (2019), finds thatin a number of subsectors of the manufacturing sector both the Herfindahl-Hirschman index of concentration and the degree of market imperfection measured by the excess of price over marginal cost were higher in the period 2014 – 2017 than during 2009 – 2014 although in some other subsectors there was a slight fall in these measures of concentration. It is also noted that by conventional standards the absolute value of the overall degree of market imperfection in the industrial sector in India has remained highover several decades.

With these two features of the Indian economy in the background, I am now ready to take up my main agenda.

III. Printing currency: Modern monetary theory

III. 1. Limitless issue of fiat money

Contrary to what its name may indicate, MMT actually has a long history. The earliest clear statement of the theory was in the1905 book *The State Theory of Money* by the German economist Georg Friedrich Knapp. Later development of the theory drew inspiration from, among other writings, a 1947 paper by Abba P. Lerner entitled 'Money as a Creature of the State'. The name Modern Monetary Theory came into fashion in the 1980s. More recently, advocates of MMT have sought to build a full-fledged macroeconomic theory of their own. A recent comprehensive statement can be found in Mitchell et. al. (2019).

MMT differs from most of the mainstream macroeconomic theories in its view about how money arose in the first place. While most other theories consider the evolution of money into its present form to have been driven mainly by the obvious difficulties of a system of direct barter or exchange between commodities, MMT notes there are many historical instances of money being used by the rulers simply as an instrument of control. Even in pre-modern times money used for this purpose took the form of *fiat money*. Fiat money is essentially the type of money that we see in the world today. It has no intrinsic value as a commodity. Its general acceptability in an economy or a society is derived *exclusively* from the fact that the government of the country declares the particular currency

as the official currency of the country, retains the sole authority of issuing the currency and accepts *tax payments* only in that currency.In the early days in the development of MMT this view of money was called *chartalism*, the word being derived from the Latin word *charta* meaning a *token* ora *ticket.*

III. 2. Change of orientation: Limitless government expenditure

There is an interesting twist in the evolution of MMT from the viewpoint of political economy. Knapp's original version of MMT had a 'right-wing' orientation. It supported the view that there should be "minimal government". The government did not need to incur any expenditure to fight unemployment. Taxes also were, therefore, unnecessary. Whenever there is a problem of inadequate demand in the free market, all that the government needed to do was to issue fiat money and hand it out to people. People would use the money to increase their purchases of goods and services. This will solve the demand problem of the *private sector*. There was no need for a *public sector*.

Today, however, MMT is popularly perceived to be a 'leftist' theory. It is easy to see why if we look at the policy regime in the U.S.A. in the Ronald Reagan era. Those were the heydays of supply-side economics and neo-liberalism. The government refused to tax the rich on the plea that that would harm investment and growth. The resulting lack of government revenue was then used as the excuse to turn down many popular public expenditure proposals such as those for universal health care, free college education etc. It was around this time that the modern version of MMT was being formulated. This version emphasised that boosting the growth rate of the economy cannot be the only objective of economic policy. It is also important to pay attention to the problems of poverty and inequality. Proponents of the new version of MMT took the old version and gave it almost exactly the opposite political orientation. By claiming that the government had *limitless powers to finance its expenditure* and that neither taxation nor public borrowing was necessary for the purpose, MMT was now trying to demolish the Reaganite excuses for refusing to fund the various welfare programmes. No wonder, MMT is now perceived by its supporters as a 'progressive' theory. The title of a recent best sellerby Stephanie Kelton, one of the best-known exponents of MMT, is also a pointer in this direction. (See Kelton (2020).) Be that as it may, in the newer MMT the stress is on currency printing as a method of financing deficits in government budgets.

In its *mostrecent* formulation MMT has undergone yet another change of emphasis. This particular change, however, is arelatively minorone. The theory is now often stated in terms of *debt-financing of government expenditure* rather than in those of currency printing. It is emphasized that there is actually no difference between these two methods of deficit financing. It is precisely because the government has limitless powers to issue currency that it also has limitless ability to borrow from the public. There can never arise

a problem of repayment of public debt because fiat money can always be issued if the situation so demands. Although the two versions are logically equivalent, in advanced economies the debt-financing interpretation may be the more realistic of the two in view of the dwindling importance of cash transactions in such economies. In the Indian context, however, I shall concentrate mostly on the'currency printing' version of MMT.I shall, however, also remark briefly on the version that prescribes debt-financing of government expenditure.

III. 3. The salient points

Before attempting a critical evaluation of MMT, let us quickly restate the salient points of the theory. As stated above the main point is that any sovereign government has the power to issue (and to enforce the use of) fiat money, providedthat it does not need to peg the value of its currency to that of something else (such as gold) on which it has no control. Under the gold standard, to issue new currency the government (or the central bank) has to back the new issue by adequate gold reserves (because currency would have to be interchangeable with gold at a fixed rate). This would restrict its power to issue new currency. Gold and other metallic standards are, however, now things of the past. In a modern economy the power of a sovereign government to issue currency is practically limitless. In the time of Georg Knapp, of course, most of the countries of the world (including his own country, Germany) were still on the gold standard. Knapp was *proposing* a switchover to the system of fiat money. At that time the proposal was quite unconventional.

Since it is money that buys goods and services in the market, it follows that under the system of fiat money, a sovereign government has limitless command over the goods and services produced in the economy. The only limitation comes from the availability of *real* productive resources. It goes without saying that when these resources are *fully employed*, further money creation will lead to *inflation* caused by *excess demand*. Subject to this limit, the government can finance *any* level of its expenditure simply on the basis of *seigniorage* which is the government's profit from printing currency i.e. the difference between the face value of the currency notes and their production cost. Unlike an individual, a government does not have any *financial* constraint. It only has to worry about *real* constraints on the productive capacity of the economy as and when they become binding.

III. 4. The possibility of inflation

There have been criticisms and defenses of MMT. The main criticism is that MMT-inspired policies may cause *inflation*. There is a possibility that, lured by this painless way of solving the demand deficiency problem, the government may overdo things and there may be an excess supply of money. To bolster their position, the critics point out that in the economic history of recent centuries there have been many instances of governments

doing essentially what MMT recommends. The result, however, has frequently been *hyper- inflation* i.e, inflation at very high rates. A classic example is that of Germany in the years following the First World War, the time of the so-called Weimar republic. Germany was defeated in the War. It was required to make huge repatriation payments to the victorious side. It was, however, unable to raise the necessary resources. Badly damaged by the war, the economy did not have the required productive capacity. More importantly, the people were unable to pay the necessary taxes. The government resorted to printing currency to cover its expenditure. Soon, inflation raised its head. Too much money was chasing too few goods. The inflation rate spiked in the year 1923 when the prices of almost all goods doubled every four days. For quite some time the inflation rate remined at a high level. Several other European countries (for instance, Austria, Hungary and Poland) also experienced hyperinflation at different points of time in the first half of the twentieth century. It has been pointed out that all of them were printing large amounts of currency to finance government budget deficits. Similar cases have also been observed in other parts of the world and in more recent times. The experiences of Argentina, Brazil, Venezuela and Zimbabwe have been cited in this connection.

High rates of inflation are known to have negative effects on the standards of living of the majority of the population of a country. Nominal wages and salaries rise at much slower rates than commodity prices. As a result, *real* wages fall. Poverty and hunger become widespread. Moreover, inequality also increases sharply at such times. All these, in turn, create social tension and political instability. Many historians have pointed to the economic conditions of Weimar Germany as one of the main causes behind the rise of Hitler and Nazism. A British diplomat posted in Germany at the time of hyperinflation wrote in his report to his own government, “The population is ripe to accept any system of firmness or for any man who appears to know what he wants and issues commands in a loud, bold voice.”

It is mainly because of the risk of inflation that MMT has found very few supporters even among Keynesian economists. Keynesians usually are enthusiastic supporters of government expenditure as a remedy for demand deficiency in the private sector of the economy. However, on the question of how to *finance* government expenditure they seem to have parted ways with MMT. Among present-day Keynesians, Paul Krugman is a prominent critic of MMT.

Supporters of MMT have tried to defend their proposal against this criticism. Some of them have argued that that the cases of hyperinflation that are usually cited in this connection must be due to some specificities in the economic features of these particular countries because, as per their observations, there is, in general, very little correlation between the quantity of money that is created and the rate of inflation in the economy. To quote from the book on MMT (mentioned above) by Mitchell et. al (2019, p. 263), “…

no simple proportionate relationship exists between rises in money supply and rises in the general price level".

This particular defense of MMT, however, does not seem to be very convincing. The question here is not so much whether there is an exact proportional relationship between the two (i.e. whether the latter rises in the *same* proportion as the former). Rather, it is whether there is a *significant* positive correlation between the two. It turns out that the answer is 'yes'. For the U.S.A. analysis of decadal data since 1870 yield a statistical correlation of 0.79. Thus, in the U.S.A., over time the two have moved in tandem. Comparison *between* countries at a given point of time also yield a similar result (i.e. inter-country differences in rates of inflation are, to a significant extent, explainable by differences in the increases in money supply). (See, for instance, Mankiw (2019, pp. 109 – 110.)

There is, however, a stronger defense of MMT against the criticism centered on the possibility of inflation. As long as there is a problem of *demand deficiency* in the market, *by definition* there cannot be inflation caused by excess demand. It is only when the real productive resources of the economy are fully employed that *further* rounds of note printing will lead to a situation of excessdemandand will bring about inflation. Advocates of MMT, however, are of the opinion that full employment of productive resourcesis only a theoretical possibility. In practice, an economy rarely witnesses full employment in the literal sense. Usually, they operate with spare productive capacity and often with high rates of unemployment. In other words, almost always there will be scope for real output and employment to increase in response to an increase in money supply (and the resulting increase in demand). If and when full employment is eventually achieved, additional currency printing can be stopped.

This defense of MMT is unexceptionable *unless there are other constraints at work*. To identify these "other" constraints, we can use here some terminology that is used in "mainstream" economics. Following Mankiw, we may distinguish between the *natural* level of output and the *optimal* level. The natural level is the level where the economy operates "on the average" (i.e. most of the time) and toward which the economy gravitates in the long run. The optimal level, on the other hand, is the level of output at which social welfare is maximised. For the society's point of view it is obviously suboptimal to leave productive resources unutilised. Therefore, at the optimal level of output there will be full employment. An important reason why the natural level is usually *below* the optimal level is *market imperfection.* Supporters of MMT as well as those of some of the relatively conventional types of economic theory (such as the so-called "New Keynesian" Theory) contend that the phenomenon of market imperfection is quite pervasive. In most markets producers have *market power*. They often apply high mark-ups and charge prices way above marginal costs.

It is not difficult to see that in this scenario inflation takes place when output *exceeds* its natural level (even though it remains *below* its optimal level). It is as if producers then perceive output to be "unnaturally" high and use their market power to achieve what they consider to be a "correction". They increase their profit mark-up over costs. The resulting increase in the price level will mean a fall in output if the aggregate demand curve is downward-sloping. As Mankiw remarks, "After all, price setters do not aim to maximise social welfare. They aim to maximise private welfare and they do so by hitting their target mark-ups of prices over marginal costs." Note, however, that output is now below the optimal (and, therefore, the full employment) level. Thus, inflation can arise even *before* full employment is reached. Thus, starting from *any* situation of inadequate demand and unemployment, if the government goes on printing currency and increasing government expenditure, output will increase and prices will remain stable only as long as output is below its natural level. There will come a point after which it will exceed this level and there will be inflation.

The point is often stated in terms of the *rates of growth* of output rather in those of the *levels* of output. The average of the rates of growth of output in the past several years is then the *natural rate of growth*. Producers start increasing prices when the actual growth rate exceeds the natural growth rate.

III. 5. Two inflation-related concerns in the Indian context

(A) Persistent deceleration coupled with market concentration

In my opinion there are *two* different sources of the risk of inflation arising from currency printingand related policies in the Indian context. Identification of the *first* (andthe more important) of these two involves little more than a simple extension of the discussion in the preceding subsection. Inflation is a real possibility if the economy in question is one that has been in *persistent deceleration* over a period of several years in the past. (As was remarked in Section 2 above, India, unfortunately, is a case in point.) The average of the past several years' growth rates will be a relatively low figure in such an economy. In other words, an extended period of deceleration in the growth rate will reduce an economy's natural rate of growth. As soon as there is a turnaround in the rate of growth (brought about by currency printing and the consequent the increase in demand), there is a real danger that producers will interpret this as a case of the current growth rate exceeding the natural growth rate of the economy and exert their market power to increase their profit markups.

(B) Lackof monetary sovereignty

My *second* concern applies more generally to *monetary* policies and to all *developing* economies.It seems to me that MMT, implicitly,seems to take the viewpoint of the U.S.

economy. Recall the assumption that the government enjoys "monetary sovereignty" i.e. that it can issue any amount of the domestic currency without bothering about the effect on the value of the currency in terms of some extraneous object. Note, now, that the extraneous object need not be gold. It may be *another country's currency*. While gold standardis now a thing of the past, the matter of the value of the currency of one country in terms of that of another (i.e. the matter of the *foreign exchange rate*)remains . Every country needs to import goods and services from abroad and to pay for them by earning foreign exchange through exports. If the foreign exchange rates rise (i.e. if domestic currency becomes cheaper in terms of foreign currencies) , prices of imported goods in the home market will rise. This will create an inflationary pressure. Note that this will happen even if the *quantities* of the imports remain unchanged.

From this standpoint, the U.S.A. is in a very fortunate position. Its currency, the dollar, is the dominant currency of the world. In the global market the price of almost everything is quoted in terms of the U.S. dollar, no matter which country is exporting or importing it. Therefore, all countries of the world try to maintain adequate dollar reserves. U.S. dollar, therefore, is almost always in high demand in the world economy. If there is a recession in the U.S.A. the government (via the Fed) can print dollar notes (as per the prescription of MMT). It does not need to worry about a decline in the value of dollar. It is true that, like the value of any other thing, the value of the dollar also is determined by the interaction of the forces of demand and supply. If it was any *other* currency, there would be the possibility that the increased supply of dollar would reduce its value. The high demand for dollars in the global economy, however, ensures that, despite the increased supply of dollars by the U.S.A., the value of dollar does *not* decline. The U.S.A. can, therefore, print currency without worrying about this particular cause of inflation.

For *other* countries, however, it is a different story. The increased supply of domestic currency would lead to a fall in the dollar value of the currency, leading to inflation. It is now widely recognised that, in all of the cases of hyper-inflation that we have mentioned before, this was one of the main ways in which the inflationary pressures arose. Note that this particular problem is specific to policies of *monetary* expansion as distinguished from other types of expansionary policies.

In *developing* countries there is also likely to be an *indirect* (or second-round) effect working in the same direction. These countries depend on imports to a much greater extent than the advanced ones. This is particularly true of imported goods that are used as *inputs* in the production process. These include not only capital goods like machines and technologically sophisticated goods (such as computer chips) but also vital raw materials among which oil is the perhaps the most important(so far as the non-oil-producing countries are concerned). Moreover, there are developing countries that are dependent on

imports even for their supply of *consumergoods*. If domestic demand and, therefore, production are be boosted by printing currency, demand for all of these imported goods will increase. This will increase the demand for dollars in the country. Since these countries cannot issue dollars, the forces of demand for and supply of dollars will lead to a *further* round of fall in the value of the domestic currency in terms of the dollar, adding to the inflationary pressure.

To be sure, the indirect effect operating through increased demand in the domestic market will also be there if demand is the domestic economy is sought to be boosted by any *other* means, monetary or fiscal. It may seem, therefore, that this second round effect is not a problem specific to monetary policies such as currency printing. The fact remains, however, that the magnitude of this indirect inflationary effect is likely to be larger in the case of monetary expansion. The reason is that while the problem posed by the need to import vital inputs may have to be faced in all cases, printing currency or increasing money supply in other ways would *exacerbate* the problem by increasing the *supply* of *domestic* currency at the same time. It is as if theupward pressure on the value of dollar (in terms of domestic currency) will, in this case, come from two sides rather than from one. Inflationary pressure in the domestic economy, therefore, will be likely to be stronger.

Note that this second source of inflation has nothing to do with the difference between the actual and natural growth rates of output. In other words, if the government of a developing country goes on printing currency, there may be inflation not only before the full employment or the socially optimal level of output is attained (as we have seen above) but also before reaching even the *natural* level of output (whichis itself usually *lower* than the full employment level) is reached. This possibility does not seem to have been noted by the exponents of MMT because, as remarked above, the present-day discussion of MMT is almost always set against the background of the U.S. economy.

IV. Debt-financing of government expenditure

IV. 1. Basic similarity with printing currency and some differences

Consider now the currently more fashionable debt-financing version of MMT. First note that printing currency is formally equivalent to government borrowing *from the central bank*. When the central bank lends to the government, it simply credits the requested amount of money to the account that the government maintains in the bank. If, now, the government draws cash from this account (or draws cheques on it) either for the purpose of handing out doles to the people in order to stimulate their demand for privately produced commodities or for that of financing its own additional expenditure, the effect is the same as that of printing currency.

In the case of *public borrowing*, however, the government borrows from the *public* and not from the central bank. Hence, this method of financing the government's budget deficit is slightly different from that of printing currency. MMT, of course, is quite right in pointing out that the government's ability to borrow is limitless precisely because its ability to print currency is limitless. The policy works because the public does not doubt the government's ability to repay the debt. Ifworse comes to worst, the government can always print money and make the repayment. (This is also the reason why *external* borrowing is considered by the public to be a source of risk for the domestic economy: the government cannot issue *foreign* currency.) Yet, public borrowing and printing currency are not exactly the same things. There are at least *two* differences. *First*, while the government can print literally *any* amount of currency, it cannot borrow any amount from the public. While it can *issue* any amount of public debt, the public's ability to *buy* the government bonds is obviously limited by the amount of sparable funds at their disposal.Thus, there *is* a *financial* constraint on the government following from the financial constraints of the individuals although at times of recession it does not usually prove to be a *binding* constraint. The MMT view is that the government *never* has a financial constraint. The only constraint that it ever faces is the *real* limitation of the full-employment level of output if and when that level is reached.

Secondly, public borrowing often needs to be supported by monetary policy action. This is because the increased supply of government bonds may tend to depress their prices. This will tend to *increase* interest rates in the economy. That will, in turn, have a negative effect on aggregate demand in the economy. (It will also increase the *interest burden* of *new* government loans but, according to MMT, *that* is of no concern since the government can simply go on borrowing. There is no such thing as an unsustainably high level of public debt.) This is why in practice, even under MMT-type policies, public borrowing will have to be followed up by open market purchases of bonds by the central bank. This helps to hold down interest rates in the economy. Thus, contrary to the MMT view, *conventional* monetary policy also does have a role in fighting growth deceleration although the role may not be a central one.

IV. 2. Criticism of the debt-financing version of MMT: Is inequality an additional issue?

Unlimited debt-financing of government expenditure is likely to create *inflationary pressures* in the economy both in the short run and the long for exactly the same reasons as those that I have discussed before in the context of the currency printing proposal. I refrain from repeating my arguments here.

It has, however, been alleged by some critics of MMT that debt-financing has an *additional* drawback. It tends to *accentuate* the already existing *inequality* in the distribution

of income and wealth in the economy. This is because, under this method of deficit financing, the government essentially uses the excess saving in the private sector to finance its expenditure. Now, most of the private saving is done by the relatively well-to-do. In India, for instance, about half of the population is in no position to do any saving at all. For another significant part of the population the saving rate is positive but quite small. Hence, at any point in time, most of the accumulated savings in the economy are in the hands of the affluent. In an economy in recession most of it is unutilised. When the government sells bond to the public, most of it is purchased by this section of the population. It is as if the government, on their behalf, finds a way of profitably investing their unutilised money. This adds to their wealth and, therefore, increases inequality of wealth in the economy even further. In this connection the critics quote Keynes who is reported to have remarked that debt-financing of government expenditure puts extra wealth in the hands of those who are already wealthy. The additional wealth is a "booty" that lands into the "lap" of the capitalists. An increase in the inequality of wealth, in turn, also increases inequality of current income. On these grounds, tax-financing of government expenditure would be better than debt-financing.

This particular criticism of debt-financing of government expenditure is, in my opinion, a little off the mark. It considers public borrowing in isolation from the government expenditure that it is supposed to finance. The supporters of MMT did not advocate public borrowing for financing the regular expenses of administration. As we have remarked before, in the current version of MMT the idea is to use the money to finance welfare schemes and the creation of social capital. These types of government expenditure are clearly inequality-*reducing*.

While I am on this point, I also wish to digress for a moment and comment on Keynes' views on the matter. There seems to be some confusion in the literature over this issue. Part of the confusion is due to the cryptic nature of some of Keynes' remarks in the General Theory. In my opinion a clearer picture can be obtained if the General Theory is read side by side with Keynes's policy writings of the 1940s when he was working in the British treasury. The official policy documents that reflected Keynes' thoughts are the 1942-45 *Treasury Memoranda*. (See Moggridge(1979, pp. 203 – 419.) Keynes considered demand deficiency to be a *long run* problem of capitalism and his preferred solution also had a long run orientation. He recommended public *investment* spending by decentralised public entities. In the General Theory (p. 238) also he had commented on the need for "socialisation" of investment. In the Treasury Memoranda he developed the idea more fully, emphasisig the need for accommodative monetary policy to support such investment programmes. Many experts on Keynes's economic thinking now stress that the commonly held perception that Keynes was merely recommending 'consumption manipulation' through fiscal stimulus as the solution to a short run problem of demand

deficiency in the private sector is an incorrect or, at least, an *incomplete*, representation of Keynes's position. (See Meltzer (1981).More recent contributions include Backhouseand Bateman (2008) and Dawyer (2011).)

Be that as it may, it seems to me that an increase in inequality is unlikely to be a *special* problem of debt-financing of public expenditure (as opposed to financing by printing currency). As I see it, it is inflation that is the main concern in both cases. Needless to say, however, at times of inflation the inequality of income distribution in the economy tends to rise since profit incomes rise faster than other types of incomes. But that is a derivative of the main issue and not an independent concern.

V. The policy question

Since I have argued that,in the currently prevailing economic situation in the country, fighting the economic predicaments of the Indian economy by limitless deficit financing of government expenditure (either by printing currency or by public borrowing) would lead to inflation, it falls upon me to say a few words about what kind of *policies* I would suggest. I wish to make the following points in this connection.

First of all, I wish to clarify that it is the *limitless* currency printing (or borrowing) for *indefinite* periods of the type suggested by MMT that I am sceptical about. The criticism is not meant to be directed at *limited* and *temporary* use of these interventions. On the contrary, I completely agree with the widely held view that in the *very*short run, i.e. in the *immediate* future, these are the *only* type of policy interventions that can bring much-needed relief to people at the lower ends of the income scale. Many economists, including some of the experts working in the U.S. Federal Reserve System, have expressed the opinion that the extreme economic distress caused to large sections of society, especially in the developing world, by the Covid pandemic sets this economic crisis quite apart from not only the more usual downturns of the business cycle but also from such other major economic crises of recent decades as the Global Financial Crisis of 2007. In these other cases the problem was basically one of inefficiency in the allocation of economic resources. Unemployment is an economic wastage and is, therefore, an instance of inefficiency. The Covid-induced economic crisis is one of altogether different proportions. Under its impact a very large section of the population is struggling desperately just to stay afloat economically. The issue at the moment is not merely one of restoring efficiency in the allocation of resources in the usual sense. It is one of the very survival of people in the literal sense. In this scenario handing out cash doles to the needier sections of the society (or crediting money to their Jan Dhan bank accounts) is probably the only economic policy action that can work *instantaneously*. This will increase people's purchasing power *directly*, not via public projects. Note that producers in the private sector will, at first, sell, from their accumulated inventory. Since the unsold stocks accumulated

from the past is not a part of the *current* period's production, this may not create new jobs immediately. Nevertheless, this policy action would be desirable not only from the *social* point of view but also from the *economic* one since survival is obviously a prerequisite of efficiency.First things first.

Beyond the immediate future, however, there would be need to be more cautious. As I have sought to explain, inflationary pressures may start to appear not only when the productive resources of the economy are fully employed but also much before that stage is reached.

To be fair to MMT, it should be noted here that the supporters of MMT have a rejoinder on this issue. In the context of the U.S.economy, they have argued that the blame for the inflationary pressure cannot be laid on MMT. It is the market power of the corporate houses that plays the crucial role in creating inflation whenever the growth rate exceeds its natural level. But that is inflation caused by supply-side factors and has nothing to do with either of the two issues that are MMT's main concerns (viz. the demand deficiency problem in the aggregate economy on the one hand and the needs of the poorer sections of the society on the other). It is the responsibility of the government to tax away the supernormal profits generated by the hikes in their profit mark-ups. This will dissuade the corporates from exerting their market power. While the tax revenue so generated can be used for supporting an even greater amount of public expenditure, that will not be its *main* purpose because currency printing (or borrowing) can go on unabated. In a similar vein, advocates of MMT can argue that the existence of the other source of inflation, viz. the lack of monetary sovereignty, is, again, something for which MMT cannot be blamed.

Policy formulation, however, is not just a matter of apportioning blames. It is a question of what can be done to improve the state of affairs. I have already touched upon the MMT recommendation of *supplementing* currency printing with taxes on supernormal profits. Keynesians have raised the obvious counterquestion. If taxes enter the picture after all, then what was wrong with the traditional textbook Keynesian medicine for demand deficiency? Increase government expenditure and tax the rich to finance it. There would be no need to incur any budget deficit at all in the process since the desired expansionary effect can be obtained from the operation of the balanced budget multiplier. If and when full employment is reached, further increases in government expenditure would be unnecessary. Until then, there would be no inflationary pressure from the demand side. As in MMT, taxes of the right type will also take care of inflation arising from hikes in the profit markups of large producers.

It is another matter that the government, in its wisdom, has so far declined to travel this path, choosing, instead, to practise supply-side economics and apparently apprehending that taxing the corporates (and the people to whom the lion's share of the corporate

dividends go) at higher rates would be a disincentive to productive investment. Indeed, the only significant modification in the structure of income taxes in India in recent years times has been a *cut* in the rate of *corporate* income tax. So far, this change has failed to induce the increase in investment that was hoped for. On the contrary, indirectly this has been counterproductive since this has increased the post-tax profits of the corporate houses. Since new private investment is not an attractive proposition at the moment, the companies have spent this windfall income by increasing dividend payments. (It is this that explains, at least partly, why company shares have become so attractive and has led to a booming share market in an otherwise-depressed economic scenario.) Since dividend income is free of *personal* incometax and since the distribution of ownership of company shares is highly unequal, this has actually *increased* the *overall* inequality of the distribution of personal income in India.In turn, this has accentuated the demand deficiency problem by decreasing the relative share of GDP going to those whose propensity to consume is high.

I wish to emphasise, however, that, apart from taxes, there are two types of inflation-control measures corresponding to the two sources of inflationary pressures discussed before. The government swears by *economic reforms.* So far as the issue of *corporatemarketpower*in the domestic economy is concerned, reformscan play avital role. Much depends, however, on what we *mean* by reforms. A reform programme was initiated in India in the 1990s and subsequent governments have pursued it zealously. Initially, the emphasis was on dismantling the so-called "Licence-Permit Raj" of the 1950s and the next few decades. This part of the programme was more or less completed by the 2000s. I am not entering here into the debate over whether this type of reforms has, on the whole, been beneficial for the economy. But this was the relatively easy part of the programme, the "low-hanging fruit". Responding to the critics' contention that the *principal* objective of economic reforms is, or, at least, should be, to make the economy more *competitive*, the government set up the Competition Commission of India in 2009. However, while this was a step in the right direction, not much progress toward the desired objective is discernible. At the very beginning of the lecture I referred to some relevant empirical estimates and I refrain from repeating them here. On the other hand, the focus of the reforms of the more recent years seems to have been on *privatization* of the public sector units (PSUs). While artificially prolonging the lives of unviable production units or retaining unproductive workers on the payroll is inadvisable on economic grounds, it can be argued that a large part of the alleged unviability problemis actually due to managerial inefficiency. There is no reason, however, why professional managers cannot be hired to run the PSUs while retaining their *public* ownership. After all, separation of ownership and management is the standard model of running an enterprise that is followed in the private sector companies to which these units are being handed over.Reforms of the type

that would promote competition by reducing the concentration of economic power in the private sector of the economy come out as a main policy recommendation in the present context.

It is said that academic economists' policy recommendations are often merely a wish list. Taking this an excuse, I also dare to put forward my wishful thinking about how to deal with the *other* source of inflationary pressure resulting from MMT-type policies, viz. the effective lack of monetary sovereignty of the developing countries. I start by recalling how, *within* a country, currency (or, more generally, money) solves the difficulties of a system of direct barter and also provides a convenient store of value.The important thing is that everybody must accept the same thing (whether it is a precious metal or paper money backed by reserves of such metal or just fiat currency) as money. It is immaterial whether this general acceptability is imposed by some ruler or is the result of a broad social agreement arrived at through a long historical process. In the context of international trade, in much the same way, there arises the need for something that *all countries* would agree to accept for the purpose of paying for imports or receiving payments for exports and that all countries can also use as a store of internationally acceptable value. It is plain common sense, therefore, that what is needed is a *global currency* and that, just as monetary policy at the country level is directed by a central bank (on behalf of the government), there should be a central bank for the global economy for administering the global currency from the perspective of inter-country trade. Again, such a global financial system can be either set up on the basis of some kind of agreement or imposed from above by some country (or countries) on the others.

It was Keynes, again, who, in the 1940s, first thought of a global bank set up on the basis of *mutual agreement*. He called it a *Clearing Union* and proposed a global currency called *bancor.* The idea was debated on, but *rejected*, at theBretton Woods conference of 1944. (For the details of Keynes's proposal, see, for instance, Horsefield (1969, pp. 3 – 36).) Instead, taking advantage of its position as the most powerful country of those times (in both economic and military terms), the U.S.A. essentially imposed on the rest of the world the idea of using the U.S. dollar as some kind of a global currency.

To be fair, it should be noted that the U.S.A. did try to provide an economic justification of this idea by emphasising that the dollar had long been the most stable currency in the world *and* by proposing restoration of the Gold Standard (which it had essentially forsaken in the 1930s in order to deal with the Great Depression). The value of gold in terms of the U.S. dollar was, again, proposed to be kept fixed. The values of all *other* currencies were to be kept fixed in terms of the U.S. dollar,essentially, therefore, all countries signing the Bretton Woods agreement would be, either directly or indirectly, under the monetary discipline of the gold standard. While it is true that no country would have monetary sovereignty in the sense of being able to pursue an independent money supply

policy, this would be true of *all* countries including the U.S.A. So, actually, there would be no discrimination in favour of the U.S.A. Moreover, two institutions, the International Monetary Fund (I.M.F.) and the International Bank for Reconstruction and Development (IBRD), would be set up. The IMF was to help the member countries in financing transitory balance of payments deficits. Devaluation was to be permitted in the exceptional case of a "fundamental balance of payments disequilibrium". IBRD (which later came more often to be called the World Bank), on the other hand, was to be concerned with the needs of reconstruction of the economies ravaged by the War and, more generally, with the development needs of the member countries. U.S.A. offered to be the major donor to the capital requirements of these two institutions.

I am not entering here into a discussion of whether the claim of equal treatment of all countriesin the Bretton Woods agreement was valid or, more broadly, whether a return to the gold standard was the most advisable thing to do at that time. (Keynes, for one, disagreed.) What is more relevant in our present context is that the justification of the system in terms of the fixed nature of gold value of U.S. dollar gradually became irrelevant over time until it disappeared completely in 1971when the U.S.A. itself formally went off the gold standard.Thus, the part of the Bretton Woods framework that was related to the gold standard was now gone. But the system of using the dollar as essentially the global currency has survived to this day, depriving all member-countries of the I.M.F.-World Bank system *other than* the U.S.A. of the type of monetary sovereignty that the U.S.A. retains. As noted before, this has affected the developing countries particularly badly because of their dependence on imports of inputs.

My wishful thinking in this context (i.e. my *second* policy recommendation) is now easily guessed. It is that all countries be granted monetary sovereignty. I emphasise that this does not have to result in a chaos in the international payments system. What is needed is a reconstruction of the system along the lines proposed by Keynes. Needless to say, the details of the Keynesian plan may have to be considerably modified in response to some of the major issues that were not in the forefront in Keynes's time but now are. Perhaps the most important of these is the need to finance investments that would address the problem of preserving the environment and the ecological balance (which, again, is a problem calling for an *international* approach rather than a nation-state based one.)

VI. Conclusion

I conclude by making a concise statement of my main points.I do not support the idea of relying *solely* on MMT-type policies for the purpose of bringing the Indian economy out of the present phase of stagnation. My apprehension is that these policies would hit the barrier of an unacceptably high rate of inflation (along with a consequent further increase in inequality) even in the short run and much *before* full employment is reached

unless these are combined with other policies. It is such a *combination* that I advocate. Tax policy and the *right kind* of economic reforms can go a long way toward reducing the concentration of economic power within the domestic economy which, in my opinion, is a main source of the risk of inflation. However, since lack of monetary sovereigntyis another source of this risk, a complete solution of the problem would also call for a restoration of this sovereignty. Obviously, this would involveconcerted action in the international arena which, alas, seems to be a far cry at the moment.

With these words I end my submission. Once again, I thank Bangiya Arthaniti Parishad for giving me the opportunity to pay my humble respects to the memory of the late Professor Amiya Kumar Dasgupta in the form of this lecture.

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Does Job Prospect Influence School Enrolment for Women in South Asia?

Saibal Kar[1]

Abstract:

It is well-known that school enrolment and retention of female students in most countries of South Asia are abysmally poor. While some recent improvements have been made possible via direct transfers to attract female students in school, the factors that can make participation natural and widespread remain elusive. This paper tries to link school enrolment to prospects in industry and service sectors in these countries. We find that rise in industrial jobs for women invariably attract female students to secondary school enrolment, which is not similar to rise in job prospects in services. Female school enrolment is also strongly influenced by peer-effects. We explore male industrial jobs and related interaction effects in establishing the proposed relation for eight south Asian countries between 1994 and 2018 via use of dynamic panel estimations.

Keywords: Schooling, Female employment, Industry, Panel, South Asia

JEL Code: J24, J38

I. Introduction

Why do people with similar economic characteristics end up with different levels of schooling? Why should there be a strong gender difference in schooling enrolment in many countries, especially, those in South Asia? Do women in the south Asian countries respond positively to job market prospects? These and similar questions integral to the enormous literature on human capital beginning with Yoram Ben-Porath and Gary Becker in the 1960s are obviously not new, but the empirical literature surrounding such issues in developing countries have informed next to nothing so far. One of the common obstacles regarding tracing the connection from schooling to the returns in the vein of the famous Mincer equation has been the inadequate data sources on schooling, and much less on female schooling. Over time, the data has improved, but to the extent female school participation is influenced by labor force participation, contemporaneous, as well as that derived from prior responses remains unexplored. This paper is invested in this particular exercise, such that, we explore functional relationships between female job market prospects in industries, in the manufacturing sector, or in the service sector and the high-

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school enrolment in eight south Asian countries for 1994 to 2018.

The extant literature points out that differences in cognitive abilities across a distribution of the population, access to credit, household size, public policies etc. can be the determining factors behind educational attainments. However, in many cases these variables can be endogenous -- an issue which has been often underestimated in the vast literature on production or accumulation of human capital. Indeed, it is well known that the estimation of the returns to education is sensitive to the presence of measurement errors, typically because unobserved ability can affect both educational choice and the returns to education. One of the strategies used to deal with this problem consists of selecting instrumental variables that are correlated with schooling but not with earnings (conditional on schooling). The typical instruments used in the literature are school reforms, family background variables, information on siblings and twins, etc (Card, 1999). These endogenous variables may offer useful information on the degree of risk (see for example Brunello, 2002 for inclusion of absolute risk as a determinant) that the households get exposed to regarding the choice of type and level of schooling. Further, using a mean-variance frontier Hartog and Vijverberg (2007) identify the types of schooling that insure against the uncertainties in the labor market. The effect of risk on human capital investment being a very important topic in the analysis of earnings uncertainty appeared in the early work of Levhari and Weiss (1974), where risk has been treated exogenously. More recently, however, studies by Hogan and Walker (2002); Belzil and Hansen (2002); Hartog and Diaz-Serrano (2002), etc. used stochastic dynamic programming approaches that reach somewhat opposite conclusions. To remind, Levhari and Weiss (1974) developed a two period model with exogenously determined labor supply to show that an increase in uncertainty about the returns to human capital reduces the level of investment in schooling under good states that generate higher marginal returns to schooling. Somewhat surprisingly, therefore, uncertainty may even encourage investment in human capital. Are the mean values and the associated volatility of the critical variables then impactful for the choice of schooling, and to what degree?

The present paper attempts to fill this gap by invoking an empirical strategy where we test contemporaneous and lagged effects of industrial and service sector opportunities on the schooling decision among women. Section 2 offers a brief literature review; section 3 describes the data and empirical specifications. Section 4 presents the main results and section 5 concludes.

II. A Brief Literature Review

The studies on the production or accumulation of human capital at an individual level draw largely on the seminal contributions by Becker (1962) and Ben-Porath (1967) and was later enhanced by Buiter and Kletzer (1995), Snow and Warren Jr. (1990), Graham

(1981), Nitzan and Paroush (1980), Ritzen and Winkler (1977), Donaldson and Eaton (1977), and many others. Since the literature is wide and multi faceted, we refer to a few in order to motivate our point of departure. Over the last two decades, Pecorino (1994), Becker et al. (1990) etc study human capital investment and growth; while Hanushek, Leung and Yilmaz (2004); Seshadri and Yuki (2004); Caucutt and Kumar (2003); Benabou (2002, 2000) and others, emphasized skill formation for children facing credit constraints and parental altruism. Recently, Cooray, Mallick and Dutta (2014) investigated the influence of human capital disaggregated by gender on economic growth.

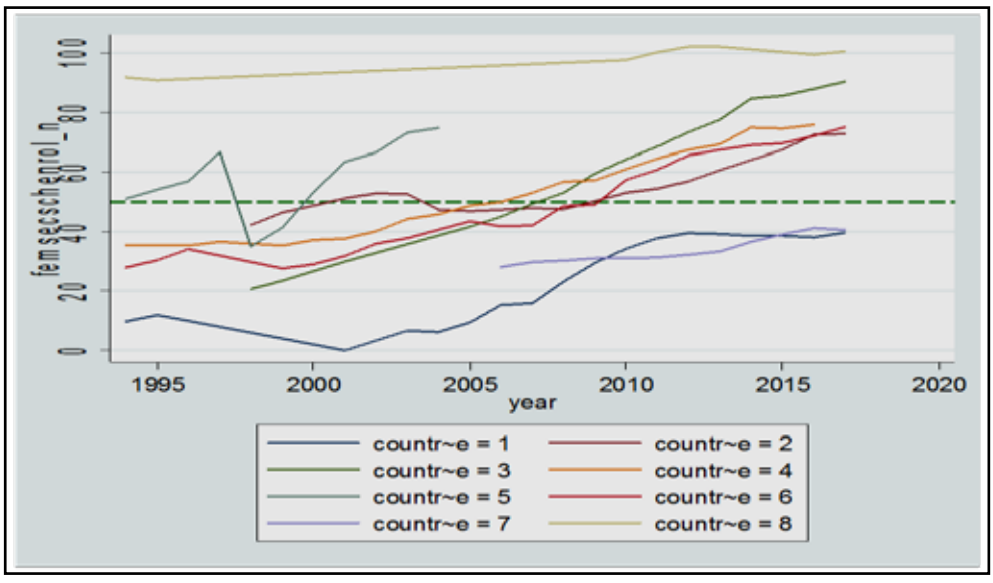
However, up till 1974 the literature of human capital investment was under perfect foresight with respect to future earnings for every level of education. The effect of risk on the production of human capital by an individual was first formalized by Levhari and Weiss (1974) and was subsequently followed by Williams (1979, 1978), Kodde (1986), Hogan and Walker (2002); Pereira and Martins (2002), Hartog and Vijverberg (2002), and others. Still later, a number of country-specific evidence supporting the intricate analytical basis of human capital acquisition are available in Harmon, Hogan and Walker (2003), Palacios-Huerta (2006, 2004), Christiansen, Joensen and Nielsen (2007), Grochulski and Piskorski (2010) and others. Notwithstanding, prevalence of uncertainty in acquiring human capital remains a subject of contemporary interest. The two sources include: one, when schooling decisions are made and two, when perceived distribution of the random variables are realized in the post-schooling period. The optimal production of human capital in the face of a risk-return trade-off affects individuals' demand for higher education considerably (see Diaz-Serrano and Hartog, 2006; Hartog and Diaz-Serrano, 2007; Bajdechi and Hartog, 2007; Jacobs, Hartog and Vijverberg, 2009 etc.).

It is also well known that individual decision making towards choice of education is guided by various micro and macroeconomic policies of the government (see Beladi et al., 2014). Government provides public education system, public libraries and fund projects to improve the situation. A vast literature that studies the effect of education subsidies and labor income taxes on the formation of human capital is also integral to this idea, and in fact, the rising income inequality for the past two decades is often attributed to the increase in returns to education. It highlights the efficacy of the distributional goals of the publicly provided education or subsidized private education.

The above review does not explain how job prospects and industrial activities may impart influence on the choice of type and level of schooling. Presently, we refer to a few studies that have done so in the recent past. It would further show that the possible impact on female school enrolment - high school and beyond, has received little or no attention. This clearly justifies our attempt at tracing this link for South Asia (Figure 1), which clearly shows low (Afghanistan, Pakistan, <50%) to mediocre turnouts (India, Bhutan) for 7 out of 8 countries for most of the years under consideration. Except for Sri

Lanka (approximately 80% enrolment rates) all other countries fall short by 10% to 60% in terms of comparable female enrolment rates in developed countries. In terms of the connection, however, Kerr et al. (2020) show that as part of a randomized control experiment, intervention in the form of information on labor market prospects offered to 97 randomly chosen high schools in Finland led graduating students ready to update their beliefs, apply to programs associated with higher earnings. In terms of loss of prospects, as one experienced in Palestine owing to closure of the Israeli labor market, drop outs from high school was an unambiguous outcome (Saad and Fallah, 2020). However, ironically, strong labor market prospects as well as higher individual ability may also lower efforts in school (see, Chadi et al. 2019 for German students). If such lack of effort becomes pervasive however, or suffers from lack of interest and investments from the government, as fairly common in developing countries then wage inequality across educated and uneducated workers remains low but they also receive less welfare benefits (Hromcova and Agnese, 2019). These evidences clearly offer important empirical lessons that the present study takes forward.

Figure 1. Female Secondary School Enrolment for South Asian Countries



Note: Country1-Afghanistan; Country 2 - Bangladesh; Country 3 - Bhutan; Country 4 - India; Country 5 - Maldives; Country 6 - Nepal; Country 7 - Pakistan; Country 8 - Sri Lanka. Source: Author's calculation

III. Data and Empirical Method

III. I. Data

The data for eight south Asian countries collected between 1994 and 2018 forms a panel data set. Admittedly, given many missing data points about crucial variables like the school enrolment, the total number of observations has at times gone down approximately to 150 when the most populated variable returns 200 data points. The countries of South Asia, namely Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka have improved in terms of school participation among the women to some extent, but not remarkably for most. Yet, a relationship between employment prospects controlled for a set of standard predictors and the school enrolment among women is a worthy candidate to focus on various economic consequences. The data is collected from the World Development Indicators for all these years.

The dependent variable is female secondary school enrolment, as percentage of gross enrolment[2] (femsecscenrol_n). The set of explanatory variables include, (i) per capita gross domestic product (gdppercap_n); (ii) Employment in industry, female (% of female employment, modeled ILO estimate, femempind). This is our main independent variable, but we also test (iii) similar relations with service sector job prospects for women (femlemlservice) (iv) As we depict shortly, secondary school enrolment for women against both industrial employment for women, and per capita GDP for the country are concave. Naturally, we use squared terms for each of these variables in order to capture the non- linearity in the relationships (femindsq and gdpsq, respectively). (v) Since we are dealing with aggregative, cross-country data, industry value added as percentage of GDP (industryva_n) should serve as an adequate control for heterogeneity apart from information regarding the industrial depth in each of these countries. To elaborate on this variable, according to WDI, the choice of industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added

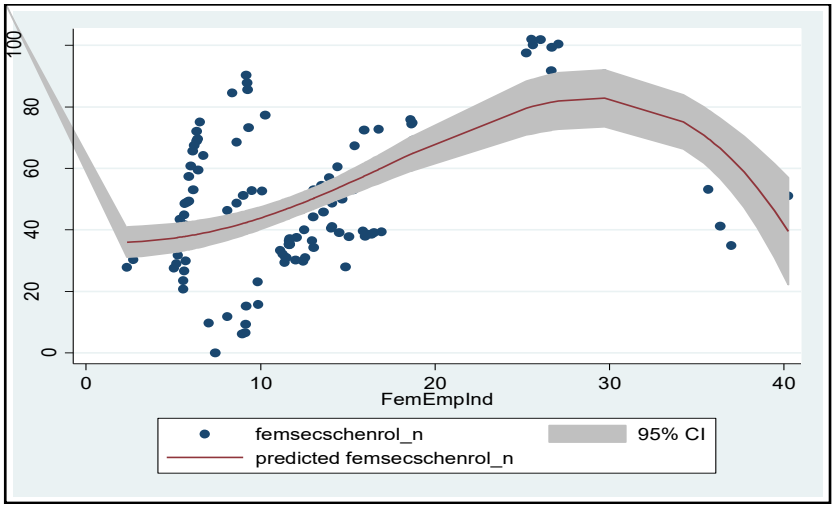
2. 1 Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers (definition as per World Development Indicators, World Bank). For South Asia, primary and secondary school enrolment are more readily reported as compared to tertiary education at the aggregate.

is determined by the International Standard Industrial Classification (ISIC), revision 3 or 4. (vi) It is important to remember that a large body of the related literature has identified women workers as 'added workers' who help to smooth consumption during economic downturns (for a detailed survey, see Killingsworth and Heckman, 1986, chapter2). Consequently, high degrees of labor force participation and industrial and service sector employment for men may have negative impact on female labor force participation and hence, women school enrolment. (vii) The industrial employment for men (maleempind, [I1]) might also render similar effect on women schooling, in addition to (viii) an interaction effect, where, memptr represents male secondary school enrolment interacted with male industrial employment. We also consider (ix) manufacturing value added separately (manufacturingva_n), as defined above and (x) share of imports in gdp (imports_n), which for south Asian countries might be conduits of exports as well as production of non-traded goods.

Before the panel data is applied to the empirical specification, the first step is to check whether the series is stationary in order to avoid spurious correlations arising from non-stationary series. Among several tests developed for identifying unit roots in panel data the most frequently used test under the assumption of heterogeneous slopes is Im-Pesaran-Shin (ips) unit-root test. We used Im-Pesaran-Shin unit-root test for stationarity of the variables. The null hypothesis of ips test states that all panels contain unit roots [presence of unit root or I(1)], while the alternative hypothesis states that Some panels are stationary [I(0)]. The results of the unit root test show that except for male industrial employment, none of the series is non-stationary allowing us to conduct the regression analysis at levels.

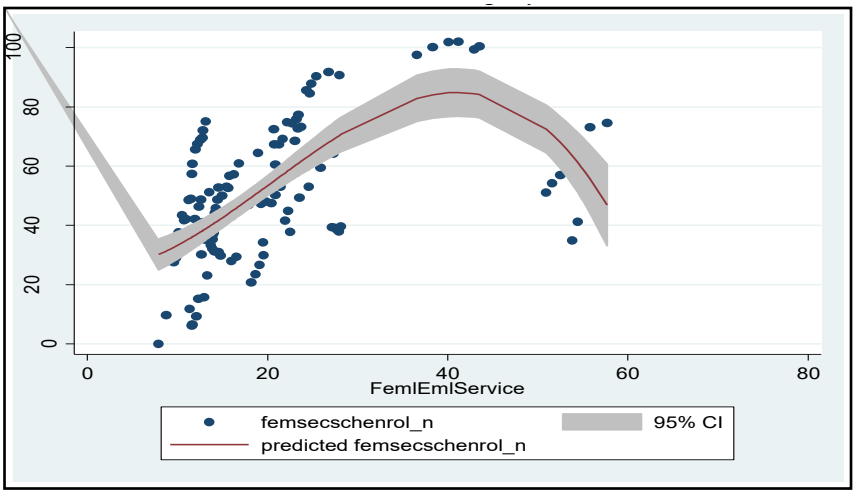
Based on the available data, we also offer some graphical representations. For example, Figure 2 shows a projected positive but decreasing relation between female industrial employment and female secondary schooling. Subsequently, Figure 3 shows that the relation between female service sector employment and female secondary school enrolment is even more concave, rising sharply up to 40% of employment and falling rapidly beyond that. Indeed, the aggregate outcomes clearly suggest that more disaggregated micro-econometric analysis should be the key to identify the sharp reductions, and could be an important factor in explaining the ever shrinking female labor force participation in some of the South Asian countries, including India, in recent decades.

Figure 2. Relation between Female secondary school enrolment and Female industrial employment



Source: Author's calculation

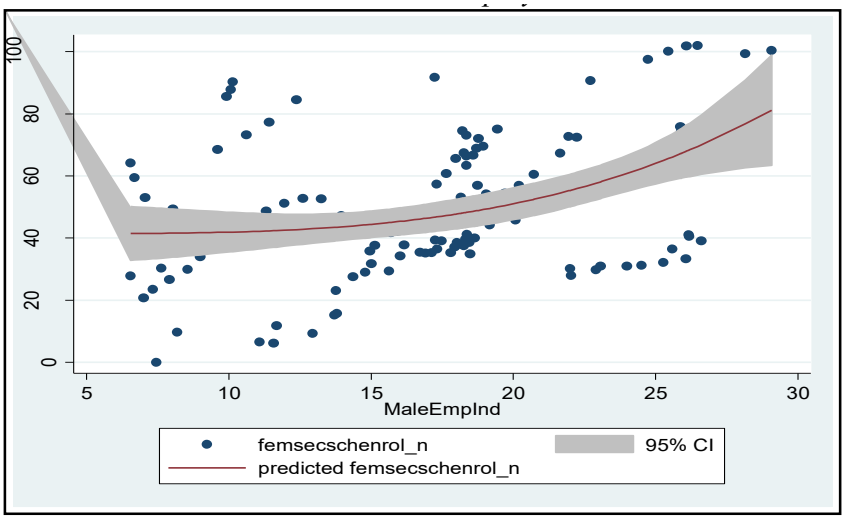
Figure 3.Relation between Female secondary school enrolment and Female service employment



Source: Author's calculation

However, Figure 4 shows that male industrial jobs promote secondary school attendance for women in South Asia. The main outcome might be owing to the income effect, while the nature of jobs could in part be complementary as well.

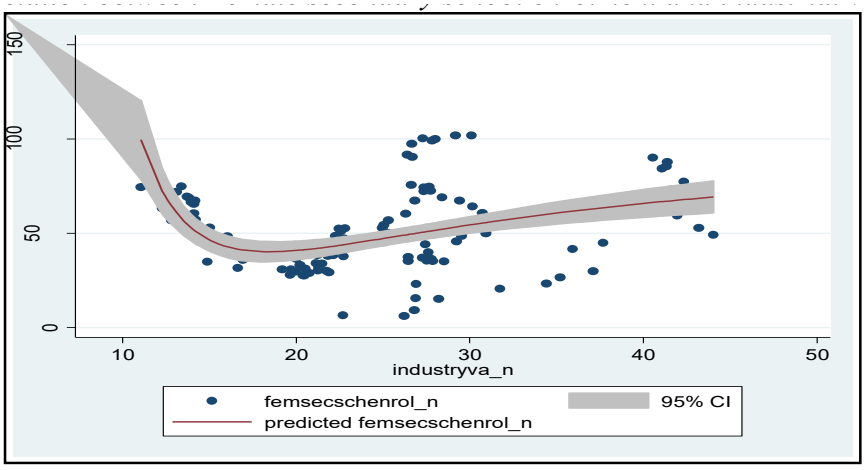
Figure 4. Relation between Female secondary school enrolment and Male Industrial employment



Source: Author's calculation

In fact, the positive impact of industrial jobs for men is also carried forward in terms of industry value added in respective countries. Figure 5 shows that female school enrolment falls briefly as industry value added rises at low depths of industrialization but rises steadily beyond 20% industry value added. The projection is significant at 5% confidence intervals.

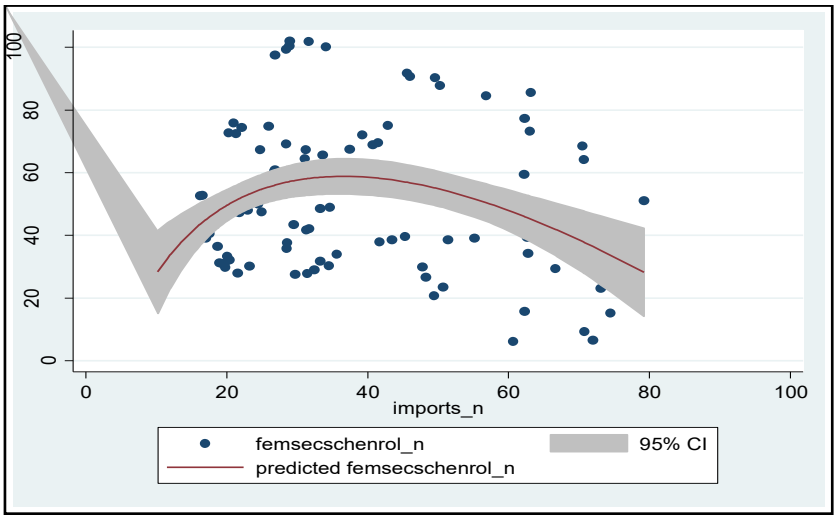
Figure 5. Relation between Female secondary school enrolment and industrial value added



Source: Author's calculation

Figure 6 shows that female secondary school enrolment rises up to the 40% mark for imports- to-GDP ratio and subsequently declines. A few other relations are relegated to the appendix.

Figure 6. Relation between Import share and Female secondary school enrolment



Source: Author's calculation

III. II. Empirical Methods

Overall, we present an empirical relation in equation (1) below:

$$femseschenrol\_n_{it} = \alpha_0 + \beta_1 femempind_{it} + \sigma_i \sum_{i=1} \underline{X}_{it} + \beta_2 \gamma_i + \beta_3 \theta_t + \varepsilon_{it} \qquad i = 1..k \qquad (1)$$

where, all variables are reported for i^{th} country in the t^{th} year. $\underline{X}_{it}$ stands for the vector of covariates (plus one interaction variable as defined above) and σ_i is the i^{th} regression coefficient for the control variables. α_0 is the regression constant, while β_1 is the coefficient of regression for (*femempind*) the main independent variable. γ_i and θ_t stand for country fixed and time fixed effects, respectively, while ϵ_{it} represents the idiosyncratic error term. The interaction term offers further point estimates for the panel of countries. In this case we are interested in observing if male secondary school enrolment interacted with male industrial

employment for the panel of countries yields meaningful marginal estimates. The marginal estimates take the following form, such that we can predict the critical values of male industrial employment or male school enrolment for their influence on female secondary

$$\frac{\delta(femsecsc\ henrol\ )_{it}}{\delta(\text{malempind}\ )_{it}} = \sigma_m + \sigma_{int}\overline{(malescenrol)}_{it} \quad (2)$$

school enrolment interacted with male industrial employment for the panel of countries yields meaningful marginal estimates. The marginal estimates take the following form, such that we can predict the critical values of male industrial employment or male

$$\overline{(malescenrol)}_{it} = -\frac{\sigma_m}{\sigma_{int}} \quad (3)$$

school enrolment for their influence on female secondary school enrolment. Formally,

where, σ_m is the direct coefficient for the effect of male industrial employment on female secondary school enrolment, while σ_{int} is the coefficient of the interaction term for the mean value of male school enrolment. Putting the above equation to zero, we get,

In other words, from (3) one can estimate the critical mean level of male school enrolment that leaves no impact on female secondary enrolment. Instead of the mean value, we can also check for other quartiles to reflect on the female school enrolment as an outcome when male industrial employment rises. The regression tables in the next section shall offer this critical value.

Now, as far as the technicality of the panel regression is concerned, we offer two sets of results. (i) First, we use the well-known static fixed effects (FE) to trace any relation between female employment in industries and the female secondary school enrolment. The panel fixed effects is the chosen model after we have tested for panel random effects and the efficacy of the applications of panel data over linear regression models via LM tests. For want of space we do not report these preparatory stages and move directly to the applications of the FE. (ii) Second, we use the dynamic panel data estimates, in particular system GMM (Generalized Method of Moments with further details in Arellano and Bond, 1991 and recent applications and explanations in Dutta et al. 2020). Prior applications of SGMM show that inclusion of a lagged dependent variable as a regressor violates strict exogeneity, because the lagged dependent variable is necessarily correlated with the idiosyncratic error. When the strict exogeneity assumption is violated, commonly used static panel data techniques such as fixed effects (FE) estimators are inconsistent. The method via which we resolve concerns about endogeneity is the Dynamic Panel estima-

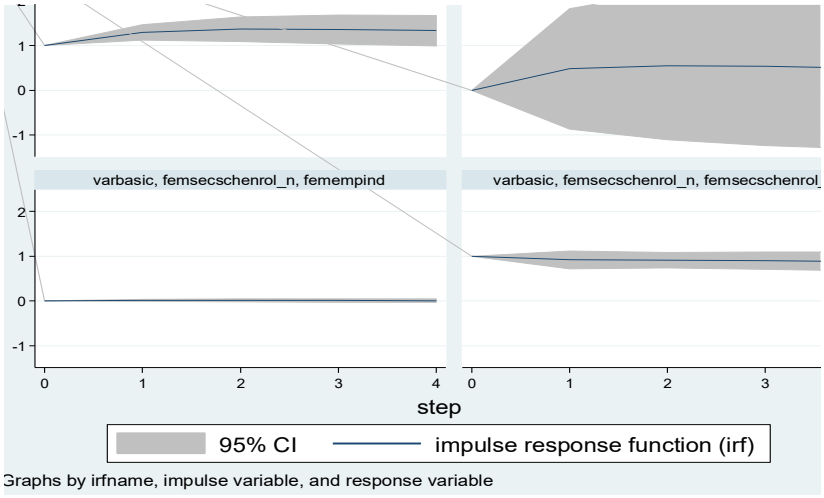
tors. In recent decades, the use of dynamic panel estimators for cross country panels (or firm-level, state-level panels) has steadily increased. The dynamic processes in economic activities make dynamic panel estimation useful especially to control for unobservable heterogeneity. For OLS or fixed effect models, the unobserved individual effects can be correlated not only with the endogenous regressors but also with predetermined regressors. The dynamic panel estimators, as described below, use internal instruments generated via moment conditions employing several lags of the endogenous covariates. This reduces the sample size considerably. While this would not be a concern for an extensive sample, it is definitely a concern in our case given that the panel is not balanced and that many countries and variables have missing entries. In the process, we control for the maximum number of differences to be chosen as instruments for the system GMM exercises. We find that the number of instruments is substantially lower than the number of groups, allowing us to conduct the exercises with much lower probability of encountering the well-known Nickell bias.

III. III. Identification

There is no easy way to establish that the causation is invariably from the set of dependent variables to the measure of school enrolment as proposed in this study. Theoretically speaking, we argue that industrial job prospects, and subsequently adding prospects in services, that of male counterparts in these economies and effects of trade, are all distinctly capable of causing the school attendance. Yet, it is a short step to argue that unless school enrolment and graduation rates are high, certain kinds of activities would not flourish in a given region or for an economy in the aggregate. This violates strict exogeneity in the independent variables and raises concerns about simultaneity apart from omitted variables bias that are natural for developing countries with insufficient enumeration on variables of interest integral to the literature on education and labor market outcomes. Consequently, we look into possible causality between schooling and employment variables, in particular, how industrial employment and service sector employment Granger cause female secondary school enrolment in the south Asian countries. We report the panel VAR based Wald test for Granger causality to inform regarding the causation in Table 1. In addition, we report the impulse response functions in figures 7a and 7b. Figure 7a shows that a 1% shock in female employment at industries raises school enrolment among women significantly and commensurately and retains it for several forward lags (top figure, right panel). On the other hand, female school enrolment does not have any impact on female industrial employment (bottom figure, left panel). Figure 7b invokes both industrial employment and service sector employment as drivers of female secondary school enrolment and finds that while a positive shock to industrial employment raises and then slightly reduces female school enrolment after 3 periods, a positive shock to service sector reduces and then steadily raises school enrolment among women. The reverse causation does not seem

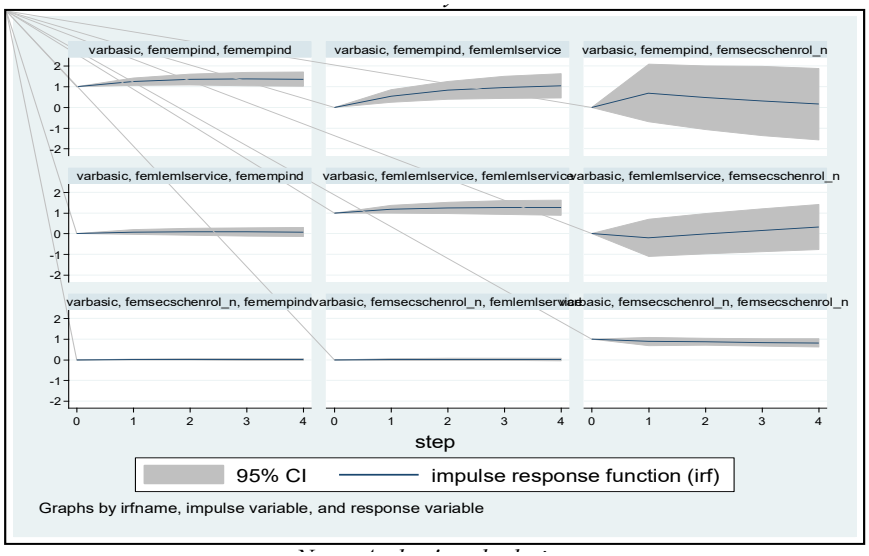
valid, however. Table 1 enumerates these results and establishes that the causation indeed runs from industrial and service sector employment to female school enrolment and not vice versa.

Figure 7a. Impulse response Functions between Female Industrial Employment and Female Secondary School Enrolment



Note: Author's calculation

Figure 7b. Impulse response Functions between Female Industrial Employment and Female Secondary School Enrolment



Note: Author's calculation

Granger causality Wald tests

Set I

H0:female industry does not granger cause female school can be rejected. H0:female service does not granger cause female school can be rejected (<25%).

Set II

H0:female school does not granger cause female industry cannot be rejected. H0:female service does not granger cause female industry cannot be rejected (<25%).

Set III

H0:female school does not granger cause female service cannot be rejected. H0:female industry does not granger cause female service can be rejected .

Table 1. Granger causality Wald tests

Equation	Excluded	Chi2	Df	Prob>Chi2
femsecschenrol_n	Femempind	4.9753	2	0.083
femsecschenrol_n	femlemlservice	4.084	2	0.130
femsecschenrol_n	ALL	5.1535	4	0.272
femempind	femsecschenrol_n	2.6525	2	0.265
femempind	femlemlservice	2.6043	2	0.272
femempind	ALL	5.6072	4	0.230
femlemlservice	femsecschenrol_n	.38595	2	0.825
femlemlservice	femempind	13.892	2	0.001
femlemlservice	ALL	14.378	4	0.006

Note: Author's calculation

There should still be concerns regarding endogeneity arising from functional relations between one or more explanatory variables, such as industrial prospects for women positively influencing service sector employment. Therefore, resorting to system GMM is the best redress to concerns regarding endogeneity especially because the model chooses lagged values of the independent variables while estimating the contemporaneous impact on the independent variable. Nevertheless, we have conducted further robustness analysis to buttress available results.

To briefly reiterate, GMM estimator generates estimates that are more efficient than the ones generated by the difference GMM estimator (of Arellano and Bond, 2001) in the presence of series that are persistent (as lagged levels of such series are weak instruments for subsequent first difference series; for example, Bond et al., 2001). Additionally, the difference GMM estimator magnifies gaps in the context of unbalanced panel dataset (Roodman, 2009). Blundell et al. (2001) have noted that the system GMM estimator relies on relatively weaker restrictions on the initial condition process, and is considerably asymptotically efficient.

IV. Empirical Results

We begin by presenting the benchmark results through the panel fixed effects. As convention, we report the direct impact of female industrial employment on the female secondary school enrolment in Table 2 column 1. The variable is supported by its own square term along with GDP and its square terms as well. The effect of industrial job prospects is positive and highly significant (at 1% level) for female schooling in south Asia. As rise in per capital GDP is expected to raise female schooling as well, the own coefficient rise almost 6 times for a unit rise in industrial employment for women. The square terms show convergence properties. In column 2, female employment in service sector over and above employment in industries, however, does not improve school enrolment and might actually reduce it marginally. In column 3 we include manufacturing value added and in column 4, industry value added in its place. Both show negative and significant (1% level) impact on female secondary school enrolment, which tends to document that an improvement in the depth of industrial and service sectors do not motivate women to choose schooling, unlike the more direct impact of industrial jobs. In fact, greater industrialization might lower school enrolment -- an outcome which needs further research into the deeper connections between the two. Apparently, if industrialization is low-skill intensive, as could be for south Asian economies high formal education might not be necessary to facilitate jobs. The other aspect which the panel data does not capture is the extent of informalization in south Asian countries that push a substantial part of manufacturing and industrial activities into the realm of low technology, household activities that engage a large number of women without formal education. In column 5, the first difference of male industrial employment remains positive but non-significant.

In Table 2, we assign a number of other variables as potential explanatory factors for the female school enrolment as conceived of in this exercise. Columns 1-4 in Table 2 now include female employment in the service sector, which despite being negative is not significant everywhere. The first four variables repeated from Table 1 maintain the sign and statistical significance all through. We do not find the coefficient of male industrial employment to be significant at first difference, still. However, the interaction term (memptr) between male industrial employment and school enrolment is positive and

significant (1% level, column 3). The marginal impact as explained in equations (2) and (3) bears significance here. The coefficients in table 2 suggests that unless the mean male school enrolment is fairly low industrial employment for men is likely to raise women school enrolment. Indeed, unless growth in male school enrolment (the coefficient being in the first difference) falls below zero, women choose secondary enrolment unambiguously with rise in male industrial jobs. Finally, column 4 in Table 2 uses robust standard errors by country clusters and the results continue to display statistical significance.

As already mentioned, the benchmark FE analysis is corroborated with system GMM specifications and analyses in Tables 3 and 4 respectively. Importantly, the first lag of the dependent variable is also chosen as a regressor in the system GMM. Column 1 table 3 shows that female employment in industries is still positive but weakly significant (10%) than before, although in subsequent specifications (column3-5) it remains highly significant. The lagged value of the dependent variable being positive and significant at 1% suggests presence of strong peer effect, wherein the school enrolment benefits from history of observing moderate to high enrolment in previous years. The prevalence of various school enrolment and attendance programs as initiated in many parts of south Asia should be instrumental in maintaining such steady enrolment patterns for female students. Nevertheless, as symmetric to table 1, column 2 includes female employment in services which is positive but not significant. Columns 3 and 4 include manufacturing and industry value added at the national level, both of which have negative and significant impact on school enrolment among women. In other words, the set of results discussed under Table 1, with a possibility of being fraught with endogeneity, holds true even when concerns about endogeneity is rigorouly addressed. As part of further robustness checks, we delineate that the Sargan test for validity of overidentifying restrictions have been conducted and reported as footnote to table 4.

Table 4 column 1 shows that female secondary school enrolment rises more than proportionately for a unit rise in the female industrial employment and it is statistically significant at 1%. However, rise in male employment in the service sector seems to lower female secondary school enrolment. Once again, the precise mechanism which dissuades women from school enrolment needs better qualification, which the aggregative data under consideration does not reveal adequately. Imports in column 2 and the interaction variable in column 3 (memptr) is also positive and significant at 1% level. These coefficients taken together clearly impart a positive influence on female school enrolment across countries of south Asia, which simple depictions as in figure 1 has already revealed. Further, with regard to the interaction variable, column 3 table 4 the ratio of the coefficients maintain that a significant drop in male school enrolment on average would be warranted in order to nullify the positive impact of male industrial employment on female school enrolment. These results are supported by Sargan test which shows that overidentifying restrictions

do not pose threats for the validity of the system GMM specifications in these columns. In essence, an attempt to relate job market prospects to school enrolment among women is both challenging and problematic in view of many other considerations that influence labor market performance and school attendance among female participants in developing countries. Yet, recent micro- econometric relations between the two suggest that similar connections might also exist in the aggregate. The above results showed that despite substantial loss of data based on the more intricate questions to be explored, the majority of the specifications showed invariant support towards the fact that expansion in industrial jobs leads to higher school enrolment among women in south Asia.

V. Concluding Remarks

Many developing countries continue to be deficient in educational infrastructure, typically because the allocation of funds are perpetually inadequate and that private facilities remain outside the scope of millions in such countries. Countries of South Asis have made major progress in the last few decades as far as women schooling, and in general, women empowerment is concerned. One of the sources of such empowerment obviously comes from financial independence, whether through engagement in industrial activities, service related activities or through self-employment. Since the socio-cultural context within countries of south Asia is both complex and deep, the exact mechanism which drives women empowerment through persistence in schools,; by achieving better educational outcomes and economic power remains somewhat unclear.

The legal capacities could facilitate but not directly deliver economic advantages, unless the transition from school to work remains strong. Yet another feature of the female labor market in south Asia is a significant withdrawal from the workforce. In India for example, the recent fall in women labor force participation to only 17% is puzzling. Is this owing to longer school years? Has rise in income to male counterparts the main factor behind such withdrawal, or is it that women are not even going to school and therefore falling out of employment opportunities? While we do not directly address these questions in this paper, but the role of industries in motivating women to attend and finish school has been explicitly addressed. In other words, poor industrial employment opportunities might be a reason why men and more so, women find school attendance and completion, economically not very useful. While this takes us back to the early questions on human capital formation, as we

have already discussed in the introduction, yet it seems that the labor market outcomes do play a role. Our results, across various empirical specifications that control for sources of endogeneity establish that industrial job prospects motivate women to attain a higher level of secondary school enrolment. The same is not true about service sector expansion and growth, perhaps owing to the nature of the expertise required, or the job profile.

While industrialization per se does not influence this decision directly, yet depth of industries translating into female jobs undoubtedly influences positive turnout. There are many related questions that the present paper does not answer but opens up possibilities to look into country-specific data or even sector specific information to establish the relation much more convincingly, and perhaps explain the falling labor market participation among women in some of these countries.

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Farmers' Problems and Agricultural Marketing In India[1]

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Abstract

The long struggle of farmers against three farm laws has exposed the problems of marketing of agricultural products in India. The three controversial laws were intended to involve big private corporate companies in the production, marketing, storage and processing of agricultural produce to push investment private investment in agriculture sector to increase productivity in production, improve market efficiency and generate employment, but this was viewed by the farmers as an attack on the land and livelihood of the farmers, a threat on the peasant holdings and also threat to Public Distribution System (PDS) of ration to the poor households. This paper discusses the problems of the prevailing agrarian structure in the country, unviable farming and issues in marketing of the agricultural products, and draws policy recommendations.

Key Words : Agrarian Structure, Farmers' Problems, Agricultural Marketing

JEL Classification Codes : Q13, O 13, R 11,R14.

I. Introduction

Struggle of farmers at Delhi borders of Singhu,Tikkeri and Gazipur with sit in dharna for more than a year (2020-21) and demonstrations in Delhi and other parts of the country were devoted to highlight the problems of agriculture. This struggle was led Samyukt Kisan Morcha (SKM), an apex body of farmers representing more than 400 farmers' organisations. This long struggle was successful leading to withdrawal of three controversial farm laws enacted by Government of India. The year 2020-21 can be rightly called year of Indian Farmers. The three controversial laws were intended to involve big private corporate companies in the production, marketing, storage and processing of agricultural produce to push investment private investment in agriculture sector to increase productivity in production, improve market efficiency and generate employment. This was interpreted by the farmers as an attack on the land and livelihood of the farmers, a threat on the peasant holdings and also threat to Public Distribution System (PDS) of ration to the poor households. This difference of opinion between the GOI and farmers' unions under SKM has produced an interesting debate on the problems of agriculture and marketing of agricultural marketing. In this lecture we shall examine the main issues raised and

1. A lecture delivered during 42nd Annual Conference of Bengal Economic Association on March 12th 2022 at Kolkata.

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discussed. We also intend to examine the issues which connect agricultural production to its marketing in the context of introduction of emerging modern technology of agricultural production. This lecture is organized into four sections besides the introduction. The first section is devoted to the agrarian structure problems of farmers and farming as brought out by NSSO data. The second section deals with causes of unviable agriculture of small and marginal farmers. The section third concentrate on the issues of marketing of agricultural produce which has been heart of controversy around the three controversial laws enacted and later on repealed by the Union government. The last section provides conclusions, summary and also makes some policy recommendations.

II. Agrarian Structure and Its Problems

Indian agriculture is marked by several problems and most of these are related to the nature of its structure. The structure of agriculture is dominated by marginal and small farmers. The small farmers own between one and two hectares of land while marginal farmers own less than one hectare of land. According to 70th round of NSSO (2013), these two categories of farmers constitute 85.42% of the total farmers (Table-1). The total number of holdings has been estimated as 101.982 million or nearly 10.2 crore. Out of this total 75.4% are marginal farmers whose holding size is less than one hectare or 2.47 acres. This percentage of the farmers was 69% in 2002-03. In 2012-13 these farmers owned 29.75% of the total area under agriculture but they cultivate 34.5% of area compared to 23% in 2002-03. This means that the number and the proportion of marginal farmers are increasing and also the proportion of the total area cultivated by them. This is due to subdivision of holdings from one generation to another. Among these farmers many are cultivating a less than acre of land. In fact the number and proportion of medium and large farmers is very low (14.58%) and consequently the average size of the operational land holdings is very small and has been estimated at 0.913 hectare or 2.26 acres. Most of these farmers not only operate small size of holdings but also are very poor and lack capital resources to make investment. There is a large interstate variation in the size of holdings. The states like Rajasthan and Punjab have relatively large average size of operational holdings above 3 hectares and states like Bihar and West Bengal have very low average size of land holdings below 0.5 hectare.

The average monthly income per agricultural household was estimated at Rs. 10218 in 2012-13. Out of this income Rs. 4063 was contributed by wages (including salary), Rs.134 by leasing out land, Rs. 3798 from net receipt of crop production, Rs 1582 was net receipt from farming of animals and Rs. 641 net receipt from non-farm business. This means that the largest source of income of the farmers is wages i.e. sale of labour. It is further estimated that more than 50% of the income of marginal farmers is contributed by the wages/salary. The contribution of net receipt from crop

production is very low, may be less than 30% in their case. The share wages and salary has been 23.4% in case of small farmers while crop cultivation share was 57%. The medium and large holding households receive a major share of their income from crop cultivation which falls in the range of 67% and 86% (Table-2). There is interstate variation in composition of sources of income of the farmers. The farmers of Himachal Pradesh of cultivate vegetables and fruits and farmers in Kerala who cultivate coconut and get higher income per acre as well as from net sale of crop production. Similarly the farmers of Punjab get higher income from net sale of crop production due to high crop productivity and assured MSP for wheat and paddy compared to farmers of Bihar and West Bengal. Thus, it is the level of per acre crop productivity, nature of crops produced and availability of MSP which increase the share of income from net sale of crop production.

The low level of size of holdings, low level of per acre yield and lack of MSP for crops and production of low value/price crops make holdings of the majority of Indian farmers non-viable. Bhalla (2006) estimated on the basis of data of 66th round of NSSO that given the level of technology and other factors, the average Indian farmers needed 4 hectare or 10 acres of land holdings to be viable. He opined that 94.6% of the farmers were having holdings below this level. In 2012-13 the proportion such holdings has shrunk to 2.17% of the total holdings. The interstate variation made it possible for farmers with land of 2 hectares (5 acres) to be viable in Punjab, one hectare (2.5 acres) in Himachal Pradesh and Jammu and Kashmir to be viable. This was due to high level of per acre crop productivity in Punjab and high value crops grown in Himachal Pradesh and Jammu and Kashmir. In states like Bihar, West Bengal, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan, Karnataka, Andhra Pradesh farmers are unviable if their holdings are below 2 hectares. Where the farmers are unviable their annual income from all sources is less than their total annual expenditure. Such farmers resort to borrowing to meet their annual consumption requirements every year and get involved in debt trap. Apart from low income the borrowing from non institutional sources adds to their vows. They resort to barrow from money lenders/commission agents or big/rich farmers who charge very high interest rates from them. The data bring out that the smaller the size of land holdings more is dependence of farmers on non-institutional source of credit. The landless farmers' dependence on non-institutional credit is to the extent of 84% or more while the marginal farmers' dependence on this source of credit has been 53%. The small farmers' dependence on non-institutional credit is to the extent of 47%. The access of the poor farmers to institutional loans is very limited (Table-3). This is due to very small size of their land holdings, lack of their awareness

of procedures and official empathy. Every year mounting of this debt becomes a debt trap leading them slowly towards their depeasantisation or proletarianisation. This leads to displacement of large number peasants from agriculture. The majority of them suffer downward mobility from owner cultivators to labourers both in agriculture and out of agriculture. Those experiencing downward mobility react in different ways. Some accept this as a natural process and suffer silently. Some of them react violently against themselves and also against their perceived enemies. In Indian situation this has given rise to an unfortunate phenomenon of farmers' suicides. National Crime Record Bureau (NCRB) has been bringing out the annual data on farmers suicides since 1997. It is reported that nearly 4 lakh farmers committed suicides between 1995 and 2018 (Hardikar, 2021). This has become now a disturbing social phenomenon. The individual stories of farmers' suicides are very common now in the rural India. Most of the victims of farm suicides had a very small plot of land for cultivation. Although it became a loss making proposition they continued to cultivate that piece of land to become indebted as cultivation hardly covered the cost of cultivation. They had no alternative jobs available to them. These victims continued to barrow to sustain themselves till it became impossible to continue. Then they swallowed Sulfas to "free" themselves from the burden of ever growing debt and escape from humiliation meted out by money lenders/bankers. There are a large number of studies which bring out a nexus between debt burden and suicide of small and marginal farmers (Deshpande and Arora, 2011; Reddy and Mishra, 2009; Singh, Bhangoo and Sharma,2020; Sidhu and Gill,2006). In fact, loss making or unviable agriculture and debt trap in absence of alternative employment opportunities that have brought doom for a large number of marginal and small farmers. It needs to be underlined that major states where farmers' suicides have happened on massive scale are ones which have adopted the modern cultivation and victims were producers of commercial crops. The crop failure due to drought or natural calamities, failure of bore- well or purchase of tractor on a small holdings have contributed to the misery of these unfortunate farmers.

III. Causes of Unviable Farming

There is a serious need to look into the question of unviable agriculture for poor farmers especially marginal and small farmers in our country. In economic theory and empirically the need for capital formation is emphasized for increasing agricultural productivity in production. In agriculture adequate capital investment is needed for developing human capital, augmenting R&D capacity, irrigation and water management, development of rural growth centers to provide non-farm employment and income opportunities. From macro perspective some economists have examined this issue in terms of changing investment priorities of the public policy in India in R&D, irrigation and water management

and rural non-farm sector (Bisaliah and Dev, 2010). With introduction of economic reforms in the country after 1991, there has been neglect of agriculture in policy priorities of the government. The capital formation in agriculture of India grew at an accelerated rate over the first three decades since Independence but its growth rate was drastically reduced during 1980s due to absolute decline in public capital formation (Mishra, 1996). This has continued in the post reform period after 1991. Many studies have confirmed the falling trend of public investment in agriculture (Mishra and Chand, 1995; Chand and Kumar, 2004). The burden of decline of public investment has fallen on farm households. These farm households had to resort to borrowing in absence of their income, for meeting requirement of agricultural production expenditure. This led to massive indebted of the poor farmers from non-institutional sources. This neglect is because in the post reform period the country did not face crisis of food shortage like it was faced in 1950s and 1960s. In the changed scenario there has been general neglect of agriculture in public investment in the recent period. The recent data pertaining to 2011-12 to 2017-18 indicates the share of Public investment in agriculture has remained in the range of 5.1% to 6.4% while share of private investment has shown a declining trend and remained between 10.1% in 2011-12 and lowest at 7.5% in 2017-18. Consequently total share of capital formation in agriculture as a proportion of total investment in the economy declined from 8.5% in 2011-12 to 7.2% in 2017-18 (Table-4).This is much lower than the share of agriculture in the national income which is around 18-19.5% during these years (GOI, 2018). A large proportion of area (more than 50%) under cultivation remains dependent on rainfall. Thus, more than half of area under cultivation remains a gamble of monsoon in India making farmers in dry area to suffer under draughts and floods. The impending danger of climate change has added to their woes. A vast area in the country continues to suffer from deficiencies of infrastructure for agriculture. In many states there are not regulated markets within the reasonable distance of five kilometers or so. The infrastructure for marketing of agricultural produce and development of rural non-farm employment activities are seriously deficient for most of the farmers. In many cases opportunities for diversifying activities for diversifying are absent. The freeing of prices of agricultural inputs after 1991 made their prices to rise adding to cost of production of agricultural commodities. As fixation of prices agricultural products remained under the control of the government and they did not rise in the same proportion as cost of production of major agricultural crops. In fact, economists had built a discourse during the reform period that industrial sector reforms were to transform the economy from agrarian to industrialized one. But the experience has brought out that industrial sector did not become an engine of economic growth. It failed to generate sufficient employment opportunities to absorb surplus labour released by growing mechanization of agriculture. During the post reform period, lowering of the tariff barriers and decontrolling of prices of industrial goods and services have increased cost of living and producing in other sectors of the economy. But

this has impacted more the agriculture sector due to slow rise in prices of agriculture produce. Agriculture sector has faced adverse terms of trade and profitability of this sector has declined (Alagh, 2019). The impact of adverse terms of trade is very severe on the marginal and small farmers who have very limited capacity to withstand it. The lack of adequate investment, limited irrigation facilities, low research priorities for rain-fed crops have caused low productivity level for poor farmers. The emerging adverse terms of trade and non-payment of MSP to most of the farmers have acted as barrier to proper realization of prices of agricultural produce.

IV.Issues of Marketing in Agriculture

Farmers work on the land with the equipment and machinery and produce agricultural output. Part of this produce is kept for household consumption and the remaining part is brought in the market for sale. The sale of output in the market leads to realization of income if value of the sale exceeds the expenditure on acquisition of inputs from outside the household/ from the market. In absence of buyer of the produce or availability of buyer of the produce at less than remunerative price, the farmer suffers a loss of revenue/ income. In addition to increasing the total production and productivity in agriculture it is equally important to provide our farming community with better marketing facilities with efficient infrastructure so that the farmers get remunerative prices.

In the British period the primary purpose of agriculture marketing policy was to keep prices of food grains and agro-raw material in check. This policy was intended to benefit the industry based in the U K with supply of cheap raw material from India. However the Royal Commission on Agriculture in its report in 1928 recommended the regulation of agricultural marketing practices, establishment of regulated market yards in the country side and provision of market facilities and transparency in trading. In pursuance of these recommendations, a Model Bill was prepared in 1938 and circulated among the states to be enacted by them. But much progress could not be made before Indian Independence. This task of enacting legislation was undertaken by different states during 1960s and 1970s and laws were put into operation after framing of the rules. These are known as Agricultural Produce Market Committee (APMC) Acts in different states of India. All the primary wholesale markets in grains, vegetables and fruits were brought under the ambit of these Acts. In each state a well laid out market yards and sub-yards were constructed and for each market area an Agricultural Produce Market Committee (APMC) was constituted to frame the rules and enforce them. Thus, an era of organized marketing in agriculture came into existence with regulated markets through representatives of the farmers in the APMC area. But the pace of expansion of regulated markets has been very slow in the country. Consequently the system is unable to extend necessary benefits to the farmers. As on March 31, 2015 there were 6746 regulated markets in the country (the reported, number in Lok Sabha on March 31. 2018 was 6946) with 20580 rural periodic Markets/

sub-yards. There is a huge variation in density of regulated markets in different parts of the country. This varies from the lowest area served by a regulated market of 118.76 sq. km. in Punjab to 11215 sq. km. in Meghalaya. At an all India level the average area served by the regulated market is 487 sq. km. against the recommendations of National Farmers Commission (2004) that a regulated market should be available to a farmer within a distance of 5 km. The corresponding marketing area served by a regulated market should be 80 sq. km. A poor framer with a few quintal of marketed surplus cannot be expected to take to market which is at a distance of 50 km. This means that for convenience of the farmers to sell their produce India needs six times the present number of regulated markets, roughly 41000 markets in the place of the present number of 6746. The situation is very pathetic in India at present. This indicates that the system of regulated markets for agricultural produce is fairly inadequate. The progress of establishment of regulated markets has failed to keep pace with the requirements of adequate number of regulated markets to handle the growing marketed surplus in the country and provide easy access to the farmers close to them. The actual benefits of the regulated markets to the farmers depend on the facilities available at market yards and sub-yards. At present level (as on March 31, 2015) covered and open auction platform exist in 2/3rd of the regulated markets. Hardly one-fourth of markets have a common drying area for the produce. The facility of cold storage exists in only 9% of the markets. The grading facility was available in less than one-third of the markets. Most of the markets lack the facility of electronic weigh bridge (GOI, undated). A regulated market structure is not fully developed in the country. The data indicates that the number of regulated markets is substantially less and the existing markets are not equipped with requisite facilities for proper handling of trade and protection of interests of the farming community. The number of such markets is very low and their density is not enough to handle agricultural trade. All over India there is a wide variation in spatial distribution of regulated markets in the country. With inadequate facilities for sale and purchase of agriculture produce in large parts of the country, farmers suffer in various ways at the hands of the traders and middlemen. This has created a situation in the country that a majority of small and marginal farmers get exploited at the market places or have to depend on traders and merchants for sale of their produce. The result is that a vast majority of farmers are unable to realize the announced MSP by Government of India. NSSO data has brought out that hardly 6% of the total farmers get prices in the markets as periodically announced by Government of India. Since big farmers have the advantage the total of 10% of agricultural produce can realize MSP in market yards. In many places the farmers receive prices less than MSP in the range between Rs. 350-500 per quintal or generally 25% less than MSP. On this basis an estimate has shown that in the year 2020-21 the farmers' lost Rs. one lakh crore to private traders (Singh, 2021). This does not include the loss of farmers on account of other malpractices by the private traders including bungling in weighing, cuts on account of moister, cleaning/grad-

ing of produce and unspecified charges imposed on the farmers. This has been happening year after years and the governments have turned their eyes other way. In fact in the post reform period a parallel discourse has been organized at Union Government level especially after 2003 to engage big private players through the route of contract farming by agro-processors and others in the value chain in agricultural trade to break the monopoly of APMC markets. This has resulted in repeal of APMC Act in Bihar in 2006 with further loss to the farmers. The Government of India promulgated three agrarian Ordinances in June 2020 which were converted into three agrarian laws in September 2020. These laws were: (i) The Essential Commodities (Amendment) Act, 2020; (ii) The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020; and (iii) The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020. The first Act removed the limit of stock holding of agricultural produce for processors or value chain participant or an exporter. The restrictions on stock holding could be considered if there was fifty percent increase in prices of non-perishable agricultural foodstuffs and hundred percent increases in prices of horticultural produce. The second Act permitted under the direction of the Union Government opening up of private markets outside the control of APMC markets to conduct trade of agricultural produce. In the private markets a provision was made that no tax, fee or development cess/charges could be levied by the state governments. These markets were also made free from the control of the state governments. They also abolished middle persons/ Commission agents in these markets. The third Act permitted contract farming between private players including big companies to enter into contact with the farmers to produce a commodity of specific quantity and quality from a farmer and allowed the contractor to charge for any services to the farmers. These contractors were also made free from levy of any tax, fee or development cess/ charges imposed by the state government. Thus, an attempt was made to create a private market system parallel to the APMC markets. This was done to break allegedly the monopoly of APMC markets in trading of agricultural trade and allow competition between the two types of the markets. The Union Government wanted to encourage private investment in establishment of private markets and engage private players in contract farming by agro-processors and participants in value chain. They were provided concessions to encourage investment by private players in market infrastructure, cold chains, storage and processing activities. These concessions were freedom from any control or taxes, fees or development cess/ charges levied by the state governments. These were discriminatory measures against the APMC markets to shift buyers of agricultural commodities from APMC markets towards the private markets. The attempt by the Union Government to promote private corporate sector in trade, storage and processing was opposed by the Indian farmers. They organized a campaign for more than year for withdrawal of the three controversial farm laws and the government was compelled to withdraw these laws in December 2021. The attempt to create a competition between the un-

derdeveloped APMC markets (in vast areas of undeveloped APMC markets) and private corporate markets was based on unrealistic understanding of fair competition and lack of knowledge of the actual conditions prevailing in marketing of agricultural produce in India.

V. Conclusions and Recommendations

It has been brought out that Indian agriculture is dominated by small and marginal farmers. They jointly constitute 85.42% of the total farmers. The share of medium and large framers is 14.58 percent of the total. The large farmers are not very large owning above 10 hectares of land and they constitute a very small (0.24%) proportion of the total and own less than 6 % of the total area. The small and marginal farmers not only constitute a very high proportion of the total number they also own 53.29% of the total area. They are themselves engaged in cultivation even when their farming has become unviable. These farmers are continuing in agriculture because employment to them outside agriculture is not available. The unskilled labour work in rural areas is not available to them in sufficient quantity. They suffer from massive under/disguised or open unemployment. The quantity of work is shrinking in agriculture due to increasing mechanization of agricultural activities. The data has brought out that most of marginal farmers and sufficient number of small farmers are willing to work as labourers within and outside the village. In the small towns labour Chowks have come into existence where poor farmers and agricultural labourers gather daily to be hired by some employers. In fact, major part of income (57.5%) of marginal farmers and substantial part of income (38.3%) of small farmers is contributed by wages and salary. The priority of public policy for allocation of resources is for secondary and tertiary sectors. But these sectors are not generating enough employment to absorb the workforce getting released from agriculture. The Periodic Labour Force Survey 2017-18 has brought out that more than 40% of the total workforce is directly engaged in agriculture. The organized sector (consisting of corporate business and industry) is not adding to employment for the last three decades and country has entered the jobless/job-loss stage of economic growth. It is imperative that Indian policy makers accept this fact and make serious effort to make agriculture of small and marginal farmers as viable to avoid the ongoing tragedy of farmers' suicides. Serious implementation of MGNREGA of providing 100 days of employment to small and marginal farmers along with the landless labourers can be of serious help.

The analysis by several economists has brought out that for increasing income of the farmers a lot of public investment is needed in irrigation and water saving technologies, R&D in agricultural universities, generation of non-farm employment in rural areas especially with agro-processing activities. But public investment in agriculture has been falling since 1980s and especially after the post reform period. Agriculture research system is in shambles in the country. The same is the case with public extension system for agri-

culture. There is an urgent need to increase the share of public investment in agriculture from 5-6% to 17-18% of the total investment in the country. This will generate enough incentives for the farmers to make private investment. This will also generate non-farm employment and income of the farmers. To make it sure that farmers' income increases sufficiently, the farmers have to be encouraged to join hands mutually in the form of cooperatives or Farmers' Producer Organisations (FPOs) or any other form for group activities to involve them in marketing and agro-processing activities. The governments had lost interest in cooperatives long back and progress in establishment of FPOs is very low and patchy. Without joint/ group activities it is very difficult to transfer a major share of consumer price to the farmers. The small and marginal farmers individually are not in the position to undertake marketing and agro-processing activities in their hands. Without innovation in the organizational form of cultivation, marketing and agro-processing it is very difficult to make small and marginal farmers viable. It is also very difficult to ensure availability of institutional credit to them within the present agrarian structure. This would require a lot of public investment and institutional support by the state governments and participation of farmers' unions/organisations and NGOs.

In the agricultural marketing any intervention made has to be from the perspectives of small and marginal farmers. Misadventures like involvement of private corporate sector in agricultural marketing needs to be avoided. The first task which needs to be undertaken on priority basis is to complete unfinished agenda of establishment of APMC markets in the country. Swaminathan Commissions' recommendation that an APMC market should be available to the farmers at a distance of 5 km. should be implemented without further delay and these markets should have all the facilities like electronic weigh machines covered drying space, storage including cold storage. These markets must function under elected representatives of the farmers with the help of technical experts and administrative employees. It should be ensured that the farmers bringing their produce in the APMC markets to get prices not less than those announced by the Union Government as MSP. This could lead to rise in income by 25% on the marketed surplus by the farmers.

Measures taken in isolation will not work. The agriculture of the country has to be put in the priority of policy in the country. The option of shifting workforce from agriculture to other sectors like industry or services is not available in the country in the present stage of her development. A series of measures, like large amount of investment in irrigation and water saving technology, R&D, extension services, organizational innovations towards group activities, expansion in APMC markets and ensuring MSP for all the agricultural commodities, have to be taken together to ameliorate the conditions of farmers and farming in India.

Table-1 Distribution of Ownership Holdings and Share in Total Area

	Classes (in ha.)	Percentage of Households		% of Area
1.	Landless	< 0.02	7.41	0.01
2.	Marginal Below	1ha	75.42	29.75
3.	Small Farmer	1-2 ha	10,00	23.54
4.	Semi-medium	2-4 ha	5.01	22.07
5.	Medium	4-10 ha	1.93	18.83
6.	Large	Above 10 ha	0.24	5.81

Source: NSSO 70th Round

Table-2 landholding wise Sources of Farmers' Income 2013 (in %)

Class in Ha.	Cultivation	Non-farm	Livestock	Wages &Salary
Landless	0.75	9.45	25.9	63.9
0.01-0.40	16.5	11.3	25.1	57.5
0.41-1.00	40.9	12.0	8.8	38.8
1.01-2.00	57.0	8.5	11.1	23.4
2.01-4.00	68.6	5.2	10.8	15.4
4.01-10.00	77.6	4.5	7.6	10.3
Above 10.00	86.2	4.3	6.3	3.2
All Sizes	47.9	8.0	11.9	32.2

Source: NSSO 70th Round

Table-3: Sources of Loans of Agricultural Households (In Percentage)

Size class (in ha.)	Institutional	Non-institutional	Total Loan
Less than 0.01	14.9	84.1	Rs. 31100
0.01-0.40	46.9	53.1	Rs. 23900
0.41-1.00	53.2	46.8	Rs. 35400
1.01-2.00	64.8	35.2	Rs. 54800
2.01-4.00	67.5	32.5	Rs. 94900
4.01- 10.00	71.5	28.5	Rs. 182700

Above 10.00	78.9	21.1	Rs. 290300

Source: NSSO 70th Round

Table-4: Share of Gross Capital Formation in Agriculture and Allied Activities in Total Investment in India (in percentage)

Year	Share of Public	Share of Private	Total
2011-12	5.4	9.3	8.5
2012-13	5.5	8.3	7.7
2013-14	5.1	10.1	9.0
2014-15	5.3	9.0	8.2
2015-16	5.4	7.6	7.1
2016-17	6.2	8.3	7.8
2017-18@	6.4	7.5	7.2

@ It is a revised figure.

Source: Government of India (2019) **Agricultural Statistics at a Glance 2018,** department of Agriculture and Farmers Welfare, New Delhi, P. 58.

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Agriculture Marketing and Farmers' Problems in India: Perspectives on Reforms and Doubling Farmers' Income

Debesh Roy[1]

Abstract

In the context of the farmers' protest against the three bills enacted by the Government of India, this paper discusses critically the critical challenges faced by Indian farmers, pricing of agro-products, the need for reforms in marketing channels and agrarian structures so as to enable doubling of farmers' income in the near future.It also delineates the importance of the development of rural infrastructure and efficient Agri-Value Chains to accelerate growth and efficiency of the agricultural sector of the economy.

Key Words : Agriculture Marketing, Farmers' Problems , Reforms and Doubling of Farmers' Income in India

JEL Classification Codes :Q13, O 13,R 14

It is indeed an honour to be invited by Bengal Economic Association to deliver this lecture at the 42nd Annual National Conference of the Association. I sincerely thank Prof. Biswajit Chatterjee, President of Bengal Economic Association, and the organisers for the invitation.

I. Introduction

India's target of achieving a $5 trillion economy by 2024-25 needs to be supported by a transformed and reformed agriculture sector, which would significantly improve the income of farmers. It is, therefore, imperative that the agriculture sector should support the objective by focusing on transformative reforms, while targeting an annual agriculture GVA growth of 5 percent. In this lecture I will discuss the critical challenges being faced by Indian farmers in the existing agriculture marketing system, doubling farmers' income, need for agriculture marketing reforms for making farming financially sustainable, development of rural infrastructure and efficient agri-value chains, agriculture export reforms, and I would conclude the lecture by underscoring the need for comprehensive reforms in the agriculture sector with a high priorityaccorded to agri-marketing reforms, for doubling farmers' income and mitigating agrarian distress.

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II.Critical Challenges for Indian Farmers

The criticality of agriculture for sustainable and inclusive growth of the Indian economy can be gauged from the fact that, the sector provides employment to about 41.5 per cent of the total workforce in India, but contributes only about 15.5 per cent (2021-22) to the country's real Gross Value Added (GVA)[2] . About 86 per cent of operational holdings in the country are in the small and marginal categories, and the average size of an operational holding is only 1.08 hectare (ha). Due to fragmentation and disorganisation, farmers face constraints in procuring inputs like seeds and fertilizers at reasonable prices, lack bargaining power in the market for realising better value for their produce, and have inadequate access to technology, extension services, market, credit and crop insurance. As a result, majority of the small and marginal farm holders are unable to realise optimal value from their farming operations, resulting in agrarian distress.

The average monthly income of an agricultural household during July 2012 to June 2013 was as low as INR 6,426, as against its average monthly consumption expenditure of INR 6,223 (GoI, 2017). As many as 22.5 per cent of the farmers live below the official poverty line.According to the NABARD All India Rural Financial Inclusion Survey (NAFIS) (NABARD, 2018), the average monthly income of agriculture households in India was INR8,931 in 2016-17. Further, a wide variation was observed by NAFIS among states with respect to the average monthly income of agricultural households. States like Punjab (INR 23,133), followed by Haryana (INR 18,496), Kerala (INR 16,927), Gujarat (INR 11,899) and Himachal Pradesh (INR 11,828) reported high income, which indicates that this sector has been making a sizeable contribution to the economy of the states. On the other hand, agricultural households from Jharkhand (INR 6,991), Andhra Pradesh (INR 6,920), Uttar Pradesh (INR 6,668), Bihar (INR 7,175), Tripura (INR 7,592), Odisha (INR 7,731)and West Bengal (INR 7,756) reported low average monthly income(NABARD, 2018).

According to the Report of the Committee on Doubling Farmers' Income (DFI Committee, Chairman: Dr. Ashok Dalwai) (GoI, 2017), technology fatigue is manifesting in the form of yield plateaus, and India's yield averages for most crops at global level do not compare favourably. At the same time, the costs of cultivation are rising. Further, there has been an alarming rise in the magnitude of food loss and food waste. Finally, the markets do not assure the farmer of remunerative returns on hisproduce (GoI, 2017).

A critical problem faced by India's agriculture sector is the fragmented and distortions-ridden state of agricultural markets. One of the major reasons for low income of farmers is un-remunerative prices for their produce due to lack of a competitive market

2. Second Advance Estimates of National Income 2021-22, National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India

structure, which is bereft of transparent price discovery system. With majority of farmers belonging to the small and marginal category, they lack the bargaining power to sell their produce at remunerative prices in the Agriculture Produce Marketing Committee (APMC) markets.

More often than not, farmers are forced to sell their produce at unremunerative prices due to distress sales during the immediate post-harvest season, because of their lack of holding capacity, and the exploitation by traders (*arhatiyas*) in APMC markets. Also, in an open economy, sometimes the price shocks that emerge in global markets are imported into domestic markets. Lack of aggregation of produce makes it uneconomical for farmers to transport their produce to the APMC markets for their sale. APMC Acts require that farm produce to be sold only at regulated markets through registered intermediaries. Therefore, bereft of options for alternative and competitive marketing channels near the farm gate, small and marginal farm holders, on most occasions sell their produce at unremunerative prices.

Farmers lack knowledge about consumer demand across India, which is critical to develop efficiency in agriculture value chains. This is also influenced by various economic considerations, and on the technical and logistical capabilities to connect the produce, involving post-production activities of aggregation/assembly/pooling, sorting/ assaying/ testing, transportation, food/agro-processing, storage, distribution and retail (GoI, 2017). There is also a lack of transparency in price discovery, which restricts returns to farmers. Marketing, as a support function, helps to direct the other activities, for greater optimisation of the costs involved and for improved value realisation (ibid.).

GoI announces Minimum Support Price (MSP) in respect of 23 commodities. However, wheat and rice are the major commodities which are procured by state agencies at MSP, from a few states. Hence, 92.7 per cent of procurement of wheat of 433.4 lakh metric tonnes (LMT) by state agencies and FCI, during Rabi Marketing Year 2021-22, was from Punjab (30.5 per cent), M.P. (29.6 per cent), Haryana (19.6 per cent) and U.P. (7.4 per cent). In case of rice, Punjab (22.6 per cent), Telangana (15.7 per cent) and Andhra Pradesh (9.4 per cent), together procured 47.7 per cent of the total procurement of 601.85 LMT during Kharif Marketing Season 2020-21[3].However, the same is not true in respect of other states and other commodities like pulses and oilseeds, and farmers have been found to receive prices below MSP. Table 1 shows that during October 2021-February 2022, the prices of *arhar* in the APMC markets of major producing states, viz. Maharashtra, Madhya Pradesh, Karnataka and Gujarat, as also the all-India average (except January 2022) prices remained below MSP. In M.P. which is the second largest producer of *arhar*, the prices ranged between 64.3 per cent of MSP in October 2021 and 93.5 per cent in December 2021.

3. Source: Food Corporation of India

Table 1 Wholesale Prices of Arhar as a Percentage of MSP

	Oct-21	Nov-21	Dec-21`	Jan-22	Feb-22
Maharashtra	94.2	91.1	90.7	95.1	98.2
Madhya Pradesh	64.3	70.4	93.5	84.4	86.7
Karnataka	99.6	94.3	89.7	95.1	96.1
Gujarat	89.4	83.5	87.2	92.4	88.0
All-India average	94,1	85.8	89.6	102.7	96.8

Source: Prepared by the author based on data accessed from agmarknet.in

As explained by noted agricultural economist Dr. Ashok Gulati, asking for legal status for MSP is untenable as the Centre does not have the wherewithal to buy all the 23 commodities, and private players fearing legal action would shun buying. Mandating MSP would lead to disappearance of export markets, disruption in domestic supply chain, unmanageable surpluses and an unaffordable subsidy burden (Kumar, 2020). In the current scenario of complex demands in a surcharged atmosphere, a tectonic shift to a highly decentralised food and agriculture management, giving more legal authority, financial support and responsibilities to states may be an option worth considering (ibid.).Interestingly, the Commission for Agricultural Costs and Prices (CACP) in its Kharif Policy 2018-19 had suggested a legislation conferring on farmers 'the Right to Sell at MSP.' The DFI Committee observes, that though MSP is an important intervention by the government, it is not sufficient by itself. The honouring of the MSP through its use in procurement is a more substantive condition in making MSP mechanism effective. Hence, there is need for a bouquet of procurement tools that can cater to different commodities in different ways (GoI, 2017).

III. Doubling Farmers' Income

GoI has envisioned the achievement of doubling farmers' income (DFI) by the year 2024-25. However, this is a humongous task, and more so in the context of the pandemic. The following seven-point strategy for DFI is mostly under implementation: (i) irrigation with focus on water-use efficiency, viz. "per drop more crop" (PDMC) through Pradhan Mantri Krishi Sinchayee Yojana (PMKSY); (ii) quality seed and soil health, (iii) investments in warehouses and cold chains; (iv) value addition through food processing; (v) electronic National Agriculture Market (e-NAM); (vi) increase in the coverage and effective implementation of Pradhan Mantri Fasal Bima Yojana (PMFBY); and (vii) promotion of ancillary activities like dairy, poultry, bee-keeping and fisheries.

The strategy for DFI, involving increase in private investment by 6.62 per cent per annum from the base year 2015-16 at the national level, also includes among others: (a) promoting higher agricultural growth in less developed regions, including rainfed areas, with a focus on marginal and small holders; (b) strengthening livestock related activities and crop diversification to high value produce like horticulture, in line with market signals; (c) shifting priority focus to post-production management and the agricultural marketing system; (d) sizeable increase in institutional credit to farmers; (e) allocation of more resources by state governments towards minor irrigation; and (f) incentivising private corporate sector to participate in investments in agriculture (GoI, 2017). In order to achieve DFI, GoI can use income policy to protect the poor, free up prices for farmers, and allow private trade to stock and operate freely and have unhindered exports (Gulati and Hussain, 2017). What is also needed is continuance of PM-KISAN, with a reasonably higher allocation, along with top-up by states, on the lines of YSR-Rythu Bharosa-PM-KISAN of Andhra Pradesh.

IV. Agriculture Marketing Reforms: Making Farming Financially Sustainable

A series of reforms in quick succession was undertaken by GoI, beginning from 2002, in response to the changes in trading environment during 1990s. The reforms included the Removal of (Licensing Requirements, Stock Limits and Movement Restrictions) on Specified Foodstuffs Order, 2002 and 2003, under which paddy/rice, coarse grains, sugar, edible oilseeds and edible oils, pulses, gur, wheat products and hydrogenated vegetable oil or vanaspati were removed from the list of Essential Commodities Act (1955). Further, the prohibition on futures trading in agricultural commodities was removed in 2003. While these were important reforms, they did not include agriculture marketing reforms, as agriculture marketing is a state subject, and, hence, it required reform by respective states. Nevertheless,GoI undertook several initiatives to facilitateagriculture marketing reforms in states. The Expert Committee set up in by Ministry of Agriculture, GoI, in its report submitted on 29 June 2001, suggested various legislative reforms as well as the reorientation of the policies and programmes for the development and strengthening of agricultural marketing in India. The committee noted that there were stringent controls on the storage and movement of several agricultural commodities, which were acting as a disincentive to farmers, trade and industries.The State Agricultural Produce Marketing Regulations Act and the Essential Commodities Act had to be amended to remove restrictive provisions, preventing the emergence of an efficient and competitive marketing system. Further, it was felt that a negotiable warehousing receipt system could be introduced through appropriate legal change, for agricultural commodities to enhance institutional lending to the agricultural marketing sector, and to improve price-risk management

In view of the foregoing, the Ministry of Agriculture set up a committee under the chairmanship of K M Sahni, which drafted and finalised the model legislation after holding discussions with the officials of state governments. Themodel Act, viz. the State Agricultural Produce Marketing (Development and Regulation) Act, 2003, was shared with all state governments for implementation. Some of the major provisions of the Model Act are: (i) more than one market can be established by private persons, farmers, cooperatives and consumers in a market area; (ii) there will be no compulsion on the growers to sell their produce through existing markets administered by the Agricultural Produce Market Committee (APMC); (iii) a new chapter on contract farming was added to facilitate and promote smooth progress in contract farming; (iv) provision made for the direct sale of farm produce to contract farming sponsor from farmers' field without the necessity of routing it through notified markets; (v) provision made for imposition of single point levy of market fee on the sale of notified agricultural commodities in any market area and discretion provided to the state governments to fix graded levy of market fee on different types of sales; (vi) registration for market functionaries provided to operate in one or more than one market areas; and (vii) provision made for the purchase of agricultural produce through private yards or directly from agriculturists in one or more than one market area (Chand, 2016).

A path-breaking agriculture marketing reform initiative by GoI is the electronic National Agriculture Market (e-NAM), which envisages setting up of a common e-market platform that was initially be deployed in 585 regulated wholesale markets in states/union territories desirous of joining the e-platform. The e-NAM is expected to lead to significant benefits to farmers through higher returns, while benefitting buyers through lower transaction costs, and consumers through stable prices. It is also expected to facilitate the emergence of integrated value chains in major agricultural commodities across the country, and encourage the setting up of scientific storage and movement of agri-commodities. Smallholder farmers can benefit if they were to find ways for aggregating produce on their own, bypassing the arhatiya and even the local mandi in the process. This is where farmer producer organisations (FPOs)/ farmer producer companies (FPCs) can play a key role, by facilitating aggregation and creation of volumes that is intrinsic to the success of e-NAM. The government needs to incentivise and regulate the development of FPOs, and not seek to form or control them directly (Gulati et al, 2020). However, it has been observed that creating a seamless, unified national market for agriculture produce, as e-NAM is supposed to do, even a state-wide market, has been difficult, due to resistance from existing market players. The success of e-NAM would depend on GoI's efforts to influence state governments to dismantle the existing structure and operations of APMC mandis by amending the APMC Acts and implement e-NAM as seamless national hi-tech markets competing with each other, and ultimately benefitting the farmers.

Better price realisation for farmers will serve as an important incentive for raising productivity and production, and in turn lead to higher growth of output. In many states, farm harvest prices prevail below the minimum support price (MSP) in the harvest period and shoot up subsequently. e-NAM will help check such market imperfections. Some states like Punjab and Haryana desperately need diversification in crop pattern away from paddy–wheat rotation. However, this has not been happening due to unattractive market for alternative crops. e-NAM is expected to promote market-driven diversification and reduce dependence of farmers in these states on MSP and public procurement.The success of e-NAM in improving competitiveness and integrating pan-India markets will require assaying facilities created in various markets to ascertain quality traits as quality variations are quite large in agricultural commodities. Also, each mandi will require forwarding agents to handle the produce for buyers from outside the mandi (Chand, 2016).

According to Dr. Ramesh Chand (2016), the price dispersion at farm-gates and between them and wholesale markets is large for most crops. He has further emphasized that there is a need for a mind-set shift that looks at market-linked realisation, instead of administered returns to farms to take agriculture into enterprise mode, and goes on to assert that the marketing system has to develop options that address the price dispersion between wholesale markets and farm-gate. This will lead to market led price realisations and not gratuitous cost-plus price mechanism only. Farmers' well-being is directly linked to their ability to carry out exchange at markets of choice (Chand, 2016).

Though e-NAM will improve competitiveness in markets through larger participation of buyers and more transparent system of bidding, it should not be considered a panacea for all deficiencies in agricultural markets. e-NAM necessitates some reforms proposed in model APMC Act whereas it will not address some vital issues having bearing on conduct and performance of market (Chand, 2016).

There are four important areas for agri-marketing reforms, which are not part of e-NAM, viz: (i) direct sale by farmers to buyers, processors, or, contract marketing without bringing produce to mandi; (ii) establishment of private markets with treatment at par with APMC. Even under e-NAM, market committee will continue to hold its monopoly power in terms of offering a platform for sale/ purchase; (iii) removal of legal barriers to entry of organised and modern capital and investments into agricultural marketing.; and (iv) rationalisation of market fee, commission charges, cess and taxes and development charges (Chand, 2016).

It is imperative to work out strategies to capture the totality of marketable surpluses generated by the farmers. This calls for the creation of an enabling market environment with in-built mechanism to absorb as high a percentage as possible or the minimum 60 per cent of the surpluses, through an efficient market environment (GoI, 2017).Further,

there is a need for information at regular intervals to optimise the agri-business value chain system. The information would not only help to make market linked decisions during crop planning, input sourcing and harvest time-lines, but also provide due cause for the right sized and rightly located infrastructure, such that capacity creation is with market flow and throughputs in mind(GoI, 2017).

GoI's vision of DFI signified a paradigm shift in agriculture policy from ensuring food security to income security of farmers, by maximising their gains through post-production activities. The enactment of Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 (FPTC Act, 2020), Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 (FAPAFS Act, 2020) and Essential Commodities (Amendment) Act, 2020 (ECA, 2020), was an attempt by GoI, to usher in a comprehensive agri-marketing reforms. However, the Acts have been repealed, in response to the year-long agitation by a section of farmers against the Acts. It is, therefore, imperative for the central and state governments, along with agriculture scientists, economists, farmers, agri-tech companies, corporate sector, and all stakeholders to start a consultative process to facilitate state governments to enact agriculture marketing reform Acts, and for GoI to enact a law facilitating easy inter-state movement of agri-commodities/ produce. Further, in order to develop an efficient nation-wide agri-marketing system, e-NAMs need to be scaled up and made more efficient, and all private markets and accredited warehouses should be linked to e-NAMs.

The prices of agricultural commodities are generally at their lowest during the harvest season as the supply far exceeds the immediate, short-term demand, and increase significantly during the lean season when the demand exceeds the supply. This adversely affects the farmers who realize lower prices of their produce in the harvest season. Futures markets provide a market mechanism to balance this imbalance of the supply–demand pattern of agricultural commodities. Trading in futures not only provides price signals to the market of today, but also of months ahead, and affords guidance to sellers (farmers/ growers/ processors) and buyers (consumers) of agricultural commodities in planning ahead and, in financing and marketing commodities from one season to the another. While commodity exchanges in India were allowed only futures trading in commodities, the Securities and Exchange Board of India (SEBI) has, subsequently, laid out rules for the introduction of commodity options. The launch of options will boost overall market participation and also complement the existing futures and make the commodities market more robust and efficient. The combination of futures and options can give market participants the benefit of price discovery of futures and simpler risk management of options. However, SEBI has banned futures and options trading in major agriculture commodities, viz. chana, mustardseed, soya bean and its derivatives, crude palm oil, moong, paddy (Basmati) and wheat on 21 December 2021, for a period of one year, as part of GoI's efforts to curb

inflation. While the impact of a ban on futures and options on curbing inflation is debatable, it prevents market participants, most importantly the farmers in the spot market, of a crucial source of price information. Spot markets (viz. the mandis) for agricultural commodities are fragmented across geographical locations, and futures prices provide a critical reference point for pricing in these spot markets[4].

V. Development of Rural Infrastructure and Efficient Agri-Value Chains

Investment in rural infrastructure is a pre-condition to enable the acceleration of agricultural growth, creation of new economic opportunities, and generation of employment. The Union Budget 2021-22 had made availablethe Agriculture Infrastructure Fund (AIF) to APMCs for augmenting their infrastructure facilities. Also, 1,000 more APMC mandis were to be integrated with e-NAM. There are about 1.7 crore farmers registered in the existing 1,000 e-NAMs, which have displayed transparency and competitiveness into the agricultural market. The AIF, with a corpus of INR 1 lakh crore was created by GoI under Atma Nirbhar Bharat Abhiyan, for the development of farm-gates and aggregation points, and post-harvest management infrastructure. The scheme involves credit support by banks and financial institutions to primary agricultural credit societies (PACS), marketing cooperative societies, farmer producer organisations (FPOs), self-help groups (SHGs), farmers, joint liability groups (JLG), multipurpose cooperative societies, agri-entrepreneurs, startups and central/state agency or local body sponsored public-private partnership projects. Interest subvention and credit guarantee for loans up to INR 2 crore is also available to eligible borrowers.

Further, setting up of mega food parks, integrated cold chains, food processing units, agro-processing clusters, and implementation of Operations Greens Scheme, under GoI's comprehensive package of PM Kisan SAMPADA Yojana (PMKSY) , will not only provide a big boost to the growth of food processing sector in the country but also ensure higher income to farmers, while creating huge employment opportunities especially in the rural areas, reducing wastage of agricultural produce, and enhancing the export of processed foods. The Production Linked Incentive (PLI) Scheme for the food processing sector is a step in the right direction.

India is the largest producer of milk in the world, having increasedfrom 146.3 million tonnes in 2014-15 to 198.4 million tonnes in 2019-20 (GoI, 2021). Dairying is an important secondary source of income for millions of rural households engaged in agriculture. The success of the dairy industry has resulted from the integrated co-operative system of milk collection, transportation, processing and distribution, conversion of the same to milk powder and products, to minimize seasonal impact on suppliers and buyers,

4. https://www.bloombergquint.com/opinion/the-ban-on-agri-commodities-futures-is-weak-in-law-and-economics (accessed on 28 February 2022).

retail distribution of milk and milk products, sharing of profits with the farmer, which are ploughed back to enhance productivity and needs to be emulated by other farm produce/producers. A focus on dairy value chain could significantly improve the income of smallholder farmers. Therefore, in order to double income of farmers, it is important to focus on dairy value chain through FPOs/ FPCs and cooperatives. India is also the second largest producer of fish, fruits and vegetables in the world. Promotion of value chains for horticulture, poultry and fisheries, involving FPOs/ FPCs, could significantly give a fillip to the income of small and marginal farmers.

VI. Agriculture Export Reforms

India ranks among the top ten exporters of agricultural products in the world. According to WTO's World Trade Statistical Review 2021, the country's share in global agricultural exports increased from 1.1 percent in the year 2000 to 2.2 percent in 2020, valued at $39 billion, In order to catch-up with Brazil($89 billion) and China($82 billion), India needs to bring about structural reforms in the agriculture sector, including a stable trade policy regime (Roy, 2021).

The Agriculture Export Policy (AEP), 2018 of GoI, aims atachieving an export target of $60 billion by 2022 and $100 billion within a few years, thereafter.This is indeed a humongous task, and achieving the target would involve a paradigm shift from a "business-as-usual" approach to a well-calibrated, comprehensive, strategic and result-oriented agri-export policy and action plan.

The agri-export strategy should include integration of value-added agri-produce with global value chains (GVC), by adopting the best agricultural practices involving productivity gains and cost competitiveness. Also, in order to boost exports of dairy products and make the dairy sector globally competitive, GoI needs to consider the development of Dairy Export Zones (DEZs) in collaboration with state governments (Roy, 2021). The AEP has recommended the establishment of Agriculture Export Zones (AEZs), to facilitate value addition of agri-commodities for increasing exports in a WTO compatible manner. In order to ensure higher income to farmers, FPOs need to be linked to AEZs to supply SPS-compliant agri-products.

VII. Conclusion

The full benefit from linking agricultural markets in India and putting them on electronic platform will be available to farmers when a single trading license is valid across the country and when a farmer gets the option to sell her/his produce in any market throughout the country.

The unfinished agenda for agri-reforms would include pursuing tenancy reforms, significantly raising R&D spending on modernisation of agriculture through artificial intelligence and blockchain technology for increasing crop productivity and resource-

use efficiency, strengthening of agri-tech start-up ecosystem, and skilling of farmers who could be taken out of farming to be gainfully employed along efficient agri-value chains. Further, inclusion of agri-marketing in the Concurrent List of the Constitution of India, needs to be thoroughly debated nationally by all stakeholders and prioritised by the government.Effective implementation of comprehensive agricultural reforms, with a high priorityaccordedto agri-marketing reforms, could lead to sustainability of Indian agriculture, and facilitate the achievement of doubling farmers' income by 2024-25, while mitigating agrarian distress.

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Agricultural Marketing and problems of farmers – Focus on West Bengal

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Abstract

Farmers in West Bengal are characterised by marginal landholdings, low volume of Farmers in West Bengal are characterised by marginal landholdings, low volume of marketable surplus and high input costs, thereby lowering incomes. Traditional marketing channels and inadequate modern agriculture markets, adversely affect sale price of produce. The farmers in the state, known for cultivation of fruits and vegetables receive reasonable share in consumers' price, however, the small scale of production and inadequate logistics lowers the profitability. The alternate marketing mechanism such as contract farming, direct marketing system, digital marketing, etc. has not yet taken off in the State although a scheme called "Participatory Farming in Horticulture in West Bengal' is under implementation. Under these circumstances, collectivisation of agricultural produce through promotion of Farmer Producers' Organisations (FPOs) becomes imperative for creating end to end value chain logistics and thereby increasing the farmers' income manyfold. In this context, the recent initiative of the State Govt. to promote FPOs and implement Agriculture Infrastructure Fund (AIF) scheme will pave way for further strengthening the agricultural marketing infrastructure with FPOs as enabler. Since farm-gate infrastructure at aggregation points/ market places is critical for value addition and better price realisation particularly by the small producers, its adoption by the FPOs/ SHGs, etc. will create viable marketing channels with better bargaining power. Policy support and suitable market-led interventions to building sustainable FPOs with complete value chain around them would pave way for development of a sustainable agriculture marketing framework for small farmers in the State.in theState.

Although the agriculture contributes significantly to the economy of the State of West Bengal, predominance of small (14%) and marginal (82%) size of operational holdings with average land holding of less than a hectare (0.77 ha) (Agricultural Statistics at a Glance, 2016) is considered to be one of the key impediments to increase the farmers' income. The marginal landholding limits the farmers' ability to access modern technology, organised markets due to low surplus and financial resources for creation of basic post-harvest facilities to be able to realise optimal returns. With the rising cost of cultivation, fragmented landholdings, diverse socio-economic factors, inadequate marketing and

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logistic facilities coupled with adverse impact of climate change has led small holding farming unsustainable. The resource-poor farmers are naturally risk averse and prefer a lower outcome which is relatively certain as compared to the prospect of a higher return with which a greater degree of uncertainty is attached. While it is well established that the small/marginal landholdings are most efficient in terms of production efficiency and resource-use, the net income of the farmers depends largely on the post-harvest value addition, market efficiency and the robustness of the supply chain for a given agricultural produce.

The traditional marketing channels in India are under the ambit of State Govt., Co-operative sector and private trade. There are around 28,994 agricultural markets in India comprising of 7,190 regulated markets and 22,505 rural primary markets (GoI 2011). The regulated agricultural markets cater to about two-fifths of the marketed farm produce. However, small and marginal farmers have very limited access to regulated markets (Sharma and Wardhan 2015). The low market density resulting in highly fragmented markets for agricultural commodities is a major constraining factor. The development of market infrastructure in the country has not been in tandem with the demand for markets. The National Commission on Farmers (NCF: 2004) had recommended availability of regulated markets within a radius of 5 kilometre (km), with an average coverage area of 80 square kilometre (sq km). As against this, the current coverage of regulated markets ranges from 114 sq km in Chandigarh to 11,215 sq km in Meghalaya, with an all-India average of 496 sq km (GoI 2019). To meet the NCF standards, the country would need 41,000 regulated markets compared to the current 7,190.

In West Bengal, traditional marketing channel is characterized by high trader's margin and several intermediaries across the value chain, each adding to the market cost. Since most of the agricultural commodities are sold through the traditional marketing channels, the farmer's share in the consumer's price is considerably low. As per Mckinsey report, the farmers in a developed marketing system usually receive 40-70% of final retail price whereas in India, their share is as less as 25% of final consumer price. On the whole, the existing market system is mainly dominated by the traders and the connect between the producers and buyers continues to be weak. Absence of all-weather road connectivity, poor access to market infrastructure, lack of market intelligence and inadequate credit support are the critical issues confronting rural areas. Moreover, most of the primary rural markets (gramin haats) are not equipped even with basic facilities like platform for sale and auction, electricity, drinking water, road linkage, etc. The West Bengal State Agricultural Marketing Board has set up Krishak Bazars for providing better marketing infrastructure as well as modernized marketing facilities to the farmers and other market functionaries. As reported, 186 Krishak Bazars have been established at different locations with better marketing infrastructure like Auction Platform, Farmers' Rest House,

Administrative Building, Weighbridge, Godown, Shop-cum-Godown, Krishak Sahayak Kendra, etc. Some of these Krishak Bazars are connected with National Agricultural Market (e-NAM). While the State Govt. and other stakeholders has taken steps to improve agricultural marketing infrastructure in the State, the modern/ innovative market channels like contract farming, direct marketing, digital marketing systems, etc. are required to be promoted to ensure improved price realisation by the farmers.

I. Agricultural market efficiency

As per one study report, the agricultural marketing efficiency in West Bengal in terms of producer's share in consumer rupee was estimated to be around 44% for brinjal, 37% for bhindi, 26% for tomato, 45% for guava and 60% for marigold cultivation (Mandal et al., 2011). This indicates that although farmers receive reasonable share in consumers' price, the low level of profitability in cultivation of these crops was mainly due to small scale of production, low marketable surplus and high input cost incurred by the farmers. The poor transportation facilities, occasional market glut during peak season, lack of remunerative price and intra-day price variation (price uncertainty) were the other important constraints faced by the farmers in marketing of their produce and hence instability in returns.

II. Emerging Marketing channels

In some of the fruit crops like Mango, the farmers sell their entire produce to the traders before harvest at field level at a lumpsum price wherein the responsibility of harvest and further marketing of produce rests with the purchaser (Trader). In this arrangement, though the farmers do not incur any marketing cost, they realise very little profit and the major share of market realisation goes to the trader. The formal contract farming arrangement as per the State Govt. scheme "Participatory Farming in Horticulture in West Bengal" is yet to gain momentum in the State except some sporadic initiatives by private companies. For example, PepsiCo-India has arrangement with the potato growers in nine districts, wherein Frito lays, a beverage subsidiary of PepsiCo India works with farmers to procure agri-products from them. This subsidiary enters into an agreement with local farmers for production of a special variety of potato (containing almost 20% dry matter), which is mainly used for making potato chips. At the grass root level, the agency employs extension agents, who work as intermediaries between the farmers and the agency. In an effort to reduce price risk, the agreement fixes a-priori price of the harvested produce at the beginning of the crop season.

III. Farmers' Collectives- An evolving Marketing mechanism

With a view to taking the benefits of economies of scale for reduced cost of marketing, enhanced bargaining power and efficient use of pre & post-harvest infrastructure, the

farmers' collectives have proved to be an effective mechanism to ensure increased income to the farmers particularly small producers. The aggregation model of marketing through farmers' collectives not only facilitates adoption of warehouse receipts based financing but also avoids distress sale immediately after harvest and improves the marketability of the produce due to primary processing/ value addition and collective bargain. The initiative of formation and nurturing of Farmer Producers' Organisations (FPOs) started by NABARD in 2010-11 has gained considerable traction in the state and has emerged as one of the viable channels for agri marketing. Till date, there are around 430 FPOs in the State, of which 317 FPOs have been promoted by NABARD over the last several years.

IV. Agriculture Infrastructure Fund (AIF)- Role of FPOs

Considering the need for creating and strengthening farm gate level infrastructure and improving the post harvest facilities for better price realisation of the agricultural output, the Govt. of India in Union budget 2020-21 announced Agriculture Infrastructure Fund of Rs. 1 lakh crore for implementation in the country. This is being implemented as a Central Sector Scheme which aims to mobilise medium-long term debt financing facility for investment in viable projects related to post harvest management infrastructure and community farming assets through incentives and financial support. Under this scheme, funds are to be provided by banks and financial institutions as loans with interest subvention of 3% per annum and credit guarantee coverage under the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for loans upto Rs. 2 crores. Beneficiaries will include farmers, marketing co-operative societies, FPOs, SHGs, JLGs, multipurpose co-operative societies, agri-entrepreneurs, start-ups and Central/state agency/local body-sponsored public-private partnership (PPP) projects. This facility will help in creating better storage facilities (warehouses), modern cold storages, food processing units, assaying, grading and packaging units, ripening chambers, etc, besides PPP projects for crop aggregation.

The State Govt's initiative to implement AIF scheme and also to promote new FPOs under the Central Sector Scheme will provide ample opportunities to encourage produce aggregation, value addition and market-linked innovations in post-harvest facilities for creating commercially viable and efficient marketing ecosystem conducive for promoting Rural Enterprise Hubs. Creation of appropriate infrastructure at FPO level would pave the way for emergence of desirable agriculture marketing structure and address the farmer's woes to a large extent.

V. NABARD's interventions in creating/ strengthening agri marketing infrastructure in the State

1. **Scheme for strengthening Primary Agriculture Co-operative Societies (PACS) as Multi Service Centres (MSC) -** Under the Agriculture Infrastructure Fund scheme, PACS can avail of NABARD's concessional special refinance facility through State Co-operative Banks to take loans at an effective rate of 1% interest after netting the interest subvention at 3% to create quality infrastructure (capital assets). More than 100 PACS in the State have sought for assistance and it is expected that more PACS will avail this benefit as AIF implementation gains momentum over the next few years. Agriculture marketing infrastructure for which projects have been submitted are (i) Logistics facility (ii) Cold Stores and cold chain (iii) Primary processing centre (iv) Warehouse and (v) Sorting and grading unit

2. **Storage capacities created through various Funds viz. Rural Infrastructure Development (RIDF), Warehouse Infrastructure Fund (WIF) and Integrated Scheme Agriculture Marketing (ISAM) -** NABARD has extended finance support for several projects under RIDF and WIF which has led to creation of 1.08 million MT storage capacity in the state. One of the flagship schemes of GoI ie. ISAM, where credit linked capital subsidy scheme is routed through NABARD aims at creating scientific storage capacity with allied facilities like primary processing of agriculture produce by various methods like grading, sorting and packaging including cold storage. In this regard, 1.56 million MT capacity has been created through approximately 2480 rural godowns in the State.

3. **Geotagging of Warehouses for promoting Warehouse receipt-based financing -** Department of Food & Public Distribution, Govt. of India is working on geotagging all warehouses, cold storages and refrigerated vans in the country for real-time tracking of the location and status of space availability. This will help curb distress sale by farmers and help them get a remunerative price for their produce by timing their sale rightly. NABCONS, a subsidiary of NABARD, has developed a web-based agri-storage infrastructure information system, which enables (i) efficient use of existing warehousing capacity, (ii) integration of small farmers with the commodity value chain, (iii) reduction in post-harvest losses in agriculture and allied commodities, and (iv) uberisation of warehousing. Since the information system captures location, capacity, facilities, and contact details of each warehouse, geo-tagging has also led to the development of a farmers' app to help farmers locate the nearest storage structure within a radius of 30 km, enabling them to take a conscious decision in choosing the right storage structure for holding their produce. In the state of West Bengal, more than 5000 such warehouses have been geotagged.

4. **Opportunities under Agriculture Infrastructure Fund -** Some of the need-based agricultural infrastructure, which are being encouraged under AIF with the involvement of FPOs, SHG and other farmer entrepreneurs/ start-ups are:

- Supply chain infrastructure for clusters of crops including export clusters – Linking of primary processing units to be run by SHGs/ FPOs with the existing/ new-age entrepreneurs in food processing especially for paddy, pulses and spices.
- PPP projects promoted by Central/State/Local Govts. or their agencies, such as upgraded infrastructure for Market Yards/ PACS
- Supply chain services including e-marketing platforms
- Warehouses & silos at the right places as per farmer/ FPO demand
- Assaying units at FPO/ SHG Federation level
- Sorting, grading and packaging units – As part of integrated Packhouse by FPOs/ SHG Federations.

VI. Way forward

- Many studies have established that the small farms produce as much as or higher value of output per unit area than that produced by the medium or large farms, which strengthens the argument that small farms can be the future of Indian agriculture. However, a combination of livelihoods and agribusiness or value chain approach can help leverage the sector for betterment of its stakeholders i.e. farmers, labourers, etc. Therefore, there is a need to leverage the strengths of modern and large players in the agribusiness value chains for an inclusive and effective sustainable agricultural marketing.
- Institutional innovations besides product, process and organisational innovations in the sector to deal with existing and emerging challenges and problems of sustainability can be converted into opportunities.
- For sustainable future of Indian agribusiness (including agriculture) the involvement of farmers' institutions like co-operatives, FPOs, etc., becomes imperative with appropriate policy interventions for their seamless growth.
- The key stakeholders in the agriculture value chains, especially lending institutions, logistics players, technology enablers, research institutions, etc., are required to synergise their efforts and innovate products, processes and service delivery model to match the expectations of the farmers under the fast changing climate ecosystem.

- The existing rural markets are required to be transformed into viable functional market place with adequate modern infrastructure. These markets may be handed over to FPOs in the concerned panchayat/ block for further operation and management besides onboarding on eNAM platform
- Startups in agri marketing may be encouraged by the State Govt. through appropriate policy and incentive schemes for promoting digital marketing and bringing significant efficiency & transparency in the agri marketing landscape.

[The views expressed in the paper are authors' own and other usual disclaimers apply]

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Progress of Development of Indian Mixed Economy during COVID 19 affected period - A search for progression avoiding world pandemic[1]

Purna Chandra Maity[2]

Abstract

This paper reviews the measures undertaken by Government of India to mitigate the challenges faced by our liberalized economy during the Covid pandemic period, ranging from growth promotion, export , food security, atma nirbhar bharat and financial sector reforms .The paper makes a contour of the measures aimed at revival of the economy affected by the pandemic and looks for an optimistic outcome for the Indian economy.

Key words : Covid 19 Pandemic, Policy initiatives, Reforms in the economy , Financial stimulus, Health Sector

JEL Classification Codes : R11, O11, I 28.

I. Introduction

The economic impact of the COVID-19 pandemic in India has been largely disruptive. India's growth in the fourth quarter of the fiscal year 2020 went down to 3.1% according to the Ministry of Statistics. The Chief Economic Adviser to the Government of India said that this drop is mainly due to the corona virus pandemic effect on the Indian economy. Notably, India had also been witnessing a pre-pandemic slowdown, and according to the World Bank, the current pandemic has "magnified pre-existing risks to India's economic outlook". The World Bank and rating agencies had initially revised India's growth for FY2021 with the lowest figures India has seen in three decades since India's economic liberalization in the 1990s. However, after the announcement of the economic package in mid-May, India's GDP estimates were downgraded even more to negative figures, signaling a deep recession. The Government of India announced a variety of measures to tackle the situation, from food security and extra funds for healthcare and for the states, to sector related incentives and tax deadline extensions. On 26 March a number of economic relief measures for the poor were announced totaling over ₹170,000 crore (US$23 billion). The next day the Reserve Bank of India also announced a number of measures which would make available ₹374,000 crore (US$50 billion) to the country's financial system.

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1. Valedictory address to the 42nd Annual Conference of Bangiya Arthaniti Parishad, Kolkata on March 13, 2022

2. Dr. Purna Chandra Maity is presently, Principal of Acharya Jagadish Chandra Bose College (Affiliated to University of Calcutta).

The World Bank and Asian Development Bank approved support to India to tackle the COVID-19 pandemic.

India has predicted itself as the fastest growing major developed economy in the world and is now expected to be re-established as one of the top four economic powers in the world over the next 10-20 years, avoiding all obstacles of present COVID situations for last two years. Indian economy at present may be treated as middle income developing market economy and it is the 6th largest economy in the world comparing with present GDP. It is the 3rd largest economy in the world too comparing with total purchasing power parity.

As per report released by International Monetary Fund (IMF), India's provisional expected gross domestic product (GDP) at current prices will stood at Rs. 51.23 lakh core (US$ 694.93 billion) in the first quarter of Financial Year 2022.Presently India needs to grow up its employment rate at least 2% per year to ensure its optimum employment growth continuously up to coming 10 years and to ensure its GDP growth up to expected 8.5% during forthcoming 10 years. According to data from the Department of Economic Affairs, as of August 27, 2021, foreign exchange reserves in India reached US$ 633.5 billion mark. .

II. Remarkable Recent Observable Developments in Indian Economy

With a remarkable improvement in the economic scenario of India, there have been investments across various sectors of the economy. The private equity - venture capital (PE-VC) sector recorded investments worth US$ 10.7 billion across 137 deals made with-in August 2021 only. Some of the important recent developments in Indian economy as reflected in the published data from the Department of Economic Affairs, on August 27, 2021, are as follows:

- Increase of Imports and Exports: India's merchandise exports between April 2021 and August 2021 were estimated at US$ 164.10 billion and merchandise imports between April 2021 and August 2021 were estimated at US$ 219.63 billion.
- Bloom in Manufacturing Sector: The Manufacturing Purchasing Managers' Index (PMI) in India stood at 52.3 in August 2021. This is a august sign in Manufacturing Sectors.
- Expected increase of Revenue: The gross GST (Goods and Services Tax) revenue collection stood at Rs. 112,020 core (US$ 15.21 billion) in August 2021. This is the remarkable sign of development avoiding COVID pandemic crisis.
- Bloom of Industry and Internal Trade: According to the Department for Promotion of Industry and Internal Trade (DPIIT), FDI equity inflow in India stood at US$

547.2 billion between April 2000 and June 2021. This flow will lead India in a new era of industrial revolution.

- Increase of Industrial Production: India's Index of Industrial Production (IIP) for July 2021 stood at 131.4 against 122.6 for June 2021. This increase of Industrial Production Index is a sign of its optimum growth in Industrial sectors.
- Increase of Consumer Food Price Index (CFPI): Combined inflation was 3.11 in August 2021 against 3.96 in July 2021. This is sign of increase of consumption of goods and services during COVID situations.
- Increase of Consumer Price Index (CPI): Combined inflation was 5.30 in August 2021 against 5.59 in July 2021. The fall of price index indicates decrease of inflation and increase of standard of livelihood during COVID situation.
- Increase of Foreign Portfolio Investment: Foreign portfolio investors (FPIs) invested US$ 2.5 billion in India in August 2021. This is a good sign of increase of foreign investment in India to enhance infrastructure development with all-round economic growth.

III. Some Specific Initiatives taken over by Central Government

The present Government of India has adopted various measures to revive the COVID-19 affected economy just after the 2nd wave of the virus. Though, Government of India at present has adopted some special key measures to make Indian economy as the fastest growing major developed economy in the world from very beginning. When our economy is going to reach in the optimum point the COVID-19 virus has demolished all the efforts of development issues. Yet the central government has taken the following initiative to regain our economic development process.

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- During the third decade of 21st century the first revolutionary budget was introduced by the Minister in Charge for Finance & Corporate Affairs, Mrs. Nirmala Sitharaman in the Parliament on February 1, 2020. The budget aimed at boosting the Indian economy through combined measures of short-term, medium-term and long-term policies enforcing equal importance in all levels of development and equal priority was given in all sectors of economic development.
- In the Union Budget 2021-22, capital expenditure for Financial Year 2022 was provided where budgeted expenditure is likely to be increased to increase by 34.5% at Rs. 5.5 lakh core (US$ 75.81 billion) over the Financial Year 2021 to boost up the economy and its optimum growth and development.

- Increase of government budgeted expenditure is expected to boost up private investments, in various sectors of production with production-linked incentive schemes providing different types of opportunities to the investors. Consistently proactive, graded and measured policy support is anticipated to boost up and growth of the Indian economy structure with sustainable growth and development.
- In September 2021, Prime Minister Mr. Narendra Modi approved the production-linked incentive (PLI) scheme in the textiles Industries sectors—for man-made fiber (MMF) apparel, man- made fiber fabrics with10 different segments/ products of technical textiles—at an estimated outlay of Rs. 10,683 core (US$ 1.45 billion).
- In September 2021, the government approved a production-linked incentive (PLI) scheme for automobile and drone making industry sectors with an outlay of Rs. 26,058 crore (US$ 3.54 billion) to boost up the country's manufacturing capabilities as well as boost up the manufacturing sector.
- In September 2021, Union Cabinet approved some major reforms in the telecom sector, which is expected to boost up the employment, growth, production, competition and consumer interests. Some key reforms include rationalization of adjusted gross revenue, rationalization of bank guarantees and encouragement to spectrum sharing which will enhance the all round growth and development of the said sector.
- In September 2021, the government of India announced plans to release Rs. 56,027 crore (US$ 7.62 billion) under various export promotion schemes to boost exports and to ensure favorable balance of trade..
- In August 2021, the Indian government approved Deep Ocean Mission (DOM) with a budget outlay of Rs. 4,077 crore (US$ 553.82 million) over the next five years. Deep Ocean mission is such an Indian initiative to undertake the deep ocean exploration focused on India's exclusive economic zones and continental shelf. The program will consist of various manned and unmanned submersibles exploring the sea bed.
- In May 2021, the government of India approved the production linked incentive (PLI) scheme for manufacturing advanced chemistry cell (ACC) batteries at an estimated outlay of Rs. 18,100 crore (US$ 2.44 billion); this move is expected to attract domestic and foreign investments worth Rs. 45,000 crore (US$ 6.07 billion).
- The Union Cabinet approved the production linked incentive (PLI) scheme for white goods (air conditioners and LED lights) with a budgetary outlay of Rs. 6,238 crore (US$ 848.96 million) and the 'National Programme on High Efficiency Solar

PV (Photo Voltaic) Modules' with an outlay of Rs. 4,500 crore US$ 612.43 million).

- In June 2021, the RBI (Reserve Bank of India) announced that the investment limit for FPI (foreign portfolio investors) in the State Development Loans (SDLs) and government securities would persist unaffected at 2% and 6%, respectively, in the Financial Year 2022.
- To boost the overall audit quality, transparency and add value to businesses, in April 2021, the RBI issued a notice on new norms to appoint statutory and central auditors for commercial banks, large urban co-operatives and large non-banks and housing finance firms.
- In May 2021, the Government of India has allocated Rs. 2,250 crore (US$ 306.80 million) for development of the horticulture sector in 2021-22. It will enrich the horticulture sector in peak of its development soon.
- In November 2020, the Government of India announced Rs. 2.65 lakh crore (US$ 36 billion) stimulus package to generate job opportunities and provide liquidity support to various sectors such as tourism, aviation, construction and housing. Also, India's cabinet approved the production-linked incentives (PLI) scheme to provide ~Rs. 2 trillion (US$ 27 billion) over five years to create jobs and boost production in the country.

A large numbers of foreign companies are setting up their facilities in India on account of various positive initiatives adopted by the Central Government of India like Make in India and Digital India etc. Mr. Narendra Modi, Prime Minister of India, launched Make in India initiative with an aim to boost country's manufacturing sector and increase purchasing power of an average Indian consumer, which would further drive demand and spur development, and thus be benefitted all the investors in this sector. The Government of India, under its Make in India initiative, is trying to boost the contribution made by the manufacturing sector with an aim to take it to 25% of the GDP from the current 17%. Besides, the Government of India has also come up with Digital India initiative, which focuses on three core components: creation of digital infrastructure throughout the country, delivering services digitally to almost all people residing in India and to increase the digital literacy to all citizens.

Some of the recent initiatives and developments undertaken by the Government of India to ensure more and more economic development throughout India avoiding all COVID – 19 pandemic. These initiatives are summoned below:

- By November 1, 2021, India and the United Kingdom hope to begin negotiations on a free trade agreement. The proposed Free Trade Agreement between these two countries is likely to unlock business opportunities and generate jobs employment ensuring sustainable economic development in India. Both the countries have renewed their commitment to boost trade and commerce in a manner that benefits all of them.
- In August 2021, the National Institution for Transforming India (NITI) Aayog and Cisco collaborated to encourage women's entrepreneurship in India. The aim of this initiative is to invite globally reputed policy makers, experts, and administrators to India to share their knowledge, expertise, experience in policy making and good governance with Indian counterparts.
- In August 2021, Prime Minister Mr. Narendra Modi announced an initiative to start a national mission to reach the US$ 400 billion merchandise export target by FY22.
- In August 2021, Prime Minister Mr. Narendra Modi launched digital payment solution, e-RUPI, a contactless and cashless instrument for digital payments.
- In June 2021, RBI Governor, Mr. Shaktikanta Das announced the policy repo rate unchanged at 4%. He also announced various measures including Rs. 15,000 crore (US$ 2.05 billion) liquidity support to contact-intensive sectors such as tourism and hospitality.
- In June 2021, Finance Ministers of G-7 countries, including the US, the UK, Japan, Italy, Germany, France and Canada, attained a historic contract on taxing multinational firms as per which the minimum global tax rate would be at least 15%. The move is expected to benefit India to increase foreign direct investments in the country.
- In June 2021, the Indian government signed a US$ 32 million loan with World Bank for improving healthcare services in Mizoram.
- In May 2021, the Government of India (GoI) and European Investment Bank (EIB) signed the finance contract for second tranche of EUR 150 million (US$ 182.30 million) for Pune Metro Rail project.
- According to an official source, as of September 15, 2021, 52 companies have filed applications under the Rs. 5,866 crore (US$ 796.19 million) production-linked incentive scheme for the white goods (air conditioners and LED lights) sector.
- In May 2021, Union Cabinet has approved the signing of memorandum of understanding (MoU) on migration and mobility partnership between the Government

of India, the United Kingdom of Great Britain and Northern Ireland.

- In April 2021, Minister for Railways and Commerce & Industry and Consumer Affairs, Food & Public Distribution, Mr. Piyush Goyal, launched 'DGFT Trade Facilitation' app to provide instant access to exporters/importers anytime and anywhere.
- In April 2021, Dr. Ahmed Abdul Rahman AlBanna, Ambassador of the UAE to India and Founding Patron of IFIICC, stated that trilateral trade between India, the UAE and Israel is expected to reach US$ 110 billion by 2030.
- India is expected to attract investment of around US$ 100 billion in developing the oil and gas infrastructure during 2019-23.
- The Government of India is going to increase public health spending to 2.5% of the GDP by 2025.
- For implementation of Agriculture Export Policy, Government approved an outlay Rs. 2.068 billion (US$ 29.59 million) for 2019, aimed at doubling farmers income by 2022.

IV. Some Remarkable Reflection of Growth and Development

As per the data published in a Department of Economic Affairs, Government of India report, in the first quarter of Financial Year 2022, expected India's output recorded a 20.1% Year over Year growth (YoY), recovering >90% of the pre-pandemic output in the first quarter of Financial Year 2020. India's real gross value added (GVA) also recorded an 18.8% Year over Year (YoY) expected to increase in the first quarter of Financial Year 2022, posting a recovery of >92% of its corresponding pre-pandemic level (in the first quarter of Financial Year 2020). Also, in Financial Year 2021, India recorded a current account surplus at 0.9% of the Gross Domestic Product (GDP). The growth in the economic recovery is due to the government's continued efforts to accelerate vaccination coverage among almost all citizens over 18 years. This initiative also provided an optimistic outlook to further regain industrial activities.

As per RBI's revised estimates of July 2021, the real Gross Domestic Product (GDP) growth of the country is estimated at 21.4% for the first quarter of Financial Year 2022. The increase in the tax collection, along with government's budget support to states, strengthened the overall growth of the Indian economy.

Presently India is focusing on renewable sources to generate energy. It is planning to achieve 40% of its total energy from non-fossil sources by 2030, which is currently 30% and have plans to increase its renewable energy capacity to 175 giga watt (GW) by 2022. In line with this, in May 2021, India, along with the UK, jointly launched a 'Roadmap 2030' to collaborate and to combat climate change by 2030.

India is expected to be the third largest consumer economy as its consumption may triple to US$ 4 trillion by 2025, owing to shift in consumer behaviour and expenditure pattern, according to a Boston Consulting Group (BCG) report. It is estimated to surpass USA to become the second largest economy in terms of purchasing power parity (PPP) by 2040 as per a report by PricewaterhouseCoopers.

V. Conclusion

The long-term growth perspective of the Indian economy will remain positive due to its young population and corresponding low dependency ratio, progressive and healthy savings, and investment rates, increasing dynamism in globalization in India and strong integration into the foreign policy and global economy. In 2020, India's ten largest trading partners were the United States, China, the United Arab Emirates (UAE), Saudi Arabia, Switzerland, Germany, Hong Kong, Indonesia, South Korea, and Malaysia. In 2019–20, the foreign direct investment (FDI) in India was $74.4 billion which is increased to US$ 547.2 billion between April 2000 and June 2021. The leading sectors for FDI inflows were the service sector, the computer industry, and the telecom industry. India has free trade agreements with several nations, including ASEAN, SAFTA, South Korea, Japan, and several others which are in effect or under negotiating stage.

The service sector makes up 50% of GDP and remains the fastest growing sector, while the industrial sector and the agricultural sector employs a majority of the labor force. The Bombay Stock Exchange and National Stock Exchange are some of the world's largest stock exchanges by market capitalization. India is the world's sixth-largest manufacturer, representing 3% of global manufacturing output, and employs over 57 million people. Nearly 66% of India's population is rural, and contributes about 50% of India's GDP. It has the world's fourth-largest foreign-exchange reserves worth $640.401 billion. India has a high public debt with 86% of GDP, while its fiscal deficit stood at 9.5% of GDP. India's government-owned banks faced mounting bad debt, resulting in low credit growth. Simultaneously, the NBFC sector has been engulfed in a liquidity crisis. India faces moderate unemployment, rising income inequality, and a drop in aggregate demand. India's gross domestic savings rate stood at 30.1% of GDP in FY 2019. In recent years, independent economists and financial institutions have accused the government of fudging various economic data, especially GDP growth. Recently, India has overtaken France as the world's 6th-largest economy by nominal GDP.

India is the world's largest manufacturer of generic drugs, and its pharmaceutical sector fulfills over 50% of the global demand for vaccines. The Indian IT industry is a major exporter of IT services with $191 billion in revenue and employs over four million people. India's chemical industry is extremely diversified and estimated at $178 billion. The tourism industry contributes about 9.2% of India's GDP and employs over 42

million people. India ranks second globally in food and agricultural production, while agricultural exports were $35.09 billion. The construction and real estate sector ranks third among the 14 major sectors in terms of direct, indirect, and induced effects in all sectors of the economy. The Indian textiles industry is estimated at $100 billion and contributes 13% of industrial output and 2.3% of India's GDP while employs over 45 million people directly. India's telecommunication industry is the world's second largest by the number of mobile phone, smart-phone, and internet users. It is the world's 23th-largest oil producer and the third-largest oil consumer. The Indian automobile industry is the world's fifth-largest by production. India has retail market worth $1.17 trillion, which contributes over 10% of India's GDP. It also has one of the world's fastest growing e-commerce markets. India has the world's fourth-largest natural resources, with the mining sector contributing 11% of the country's industrial GDP and 2.5% of total GDP. It is also the world's second-largest coal producer, the second-largest cement producer, the second-largest steel producer, and the third-largest electricity producer. Recently, India has overtaken France as the world's 6th-largest economy by nominal GDP. Thus Indian economy is progressive during worldwide COVID pandemic period too.

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The Emergence of New-poor in India: Dimensions and Indicators

Sreeja Patra[1] and Debalina Chakravarty[2]

Abstract:

Covid 19 and subsequent lockdown measure has impacted the economy worldwide. The stoppage of all income-generating activities has pushed the marginalised section of all countries below the poverty line, which may be termed as new-poor. This article tries to access the economic factors, determining the emerging income class known as the new-poor in India.Different literature has been analysed to understand the theoretical background and empirical estimation of new-poor. The prolonged slowdown before the pandemic, due to export fall and demand cut shot, incapacity of the formal sector to absorb the labour force, informalization of the formal sector, wretched working conditions in the informal sector without any income and social security are identified as the push factors, which already existed before the pandemic. On the other hand, inadequate supply of socially provided benefits measures, absolute loss of income and poor recovery ratehave been identified as thepush factors, causing the emergence of new-poor in India. With the removal of restrictions, the volume and aspect of the new-poor could be fade-out however taking adequate measures to combat the emergence of new-poor under prospective economic shocks such as pandemic necessitates the current study.

Keywords: **New-poor,Covid-19, Poverty, Unemployment, Informal sector,**

JEL Classification: **E21, J21, E24, Z00**

I. Introduction

The pandemic due to COVID-19 and the subsequent lockdown measures affected-crores of the world's populations in different ways. Though this pandemic was primarily considered a health crisis it has a greater impact on the socioeconomic status of the entire world (Mishra,2020). The imposition of the lockdown measure to curb the diseasehas broken almost all income-generatingactivities across the globe(Asare and Barfi,2021). It is also stated that the shock to the global economy due to lockdown is much higher than the global economic crisis in 2008 (Abodunrin *etal.,*2020).Despite all the fiscal and

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monetary assistance from the government of all countries, the global GDP has shrinked by 5.2% in 2020 (World Bank, 2020; Asare and Barfi,2021).The booming economies such as the USA, Germany, France and Canada also have experienced a contraction in GDP and the contraction rate varied from 5.4% to 9.1% (IMF, 2020). The gap between different income groups is likely to widen due to the loss of income (UNDP, 2020). The world poverty rate, as an immediate impact of income loss, increased to 9.4% in 2020 from 9.2%in 2017 (Poverty and Global Economic Prospect, 2020).

Followed by the global trend India's GDP also fell by 22% in the first quarter of the financial year2020 and it further fell by another 7% in the second quarter of the same accounting yeardue to pandemic and subsequent lockdown measures (Kesar *et al.,*2021).A purposive surveyby Bhalotia, Dhingra, and Kondirolli (2020) on 8000 workers in urban India reports that 52% of the urban workforce has suffered from either loss of work orworking for zero-hour or received no pay during the stringent lockdown period. Another survey on around 12 states of India, reveals that 90%of self-employed urban workers lost their employment completely during the period March 2020 to May 2020 (Kesar *et al.,*2021).An overall income loss is estimated to be 72%, among which 80% accounts for urban India. Action Aid (2020) also reported the total percentage of loss of employment for the entire Indian economy was 75% whereas it was 78% for urban workers, indicating that COVID-19 posed a mass toll on the vulnerable section of the urban counterpart of the country (Totapally *et al.,* 2020).The Dalberg (2020) survey also shows that the loss of average monthly income of overall workers was 65%, among which the 20% of lower quintiles reported the loss of average monthly income of 71%. With these fallbacks of income, income inequality has increased from 64% in the pre COVID period to 84% in the post-lockdown period (Bhalotia *et al.,* 2020). CMIE-CPHS survey also finds that additional 23 crores of people were pushed below the national poverty line after the pandemic, resulting in a significant rise in the rate of poverty by 15% and 20% in rural and urban India simultaneously by indicating the highest hit on the growth rate of the economy (Kesar *et al.,*2021).The foregoing numbers suggest that the nationwide stringent and the longest lockdown measure, imposed on 24th March2020 and continued till May 2020,shattered all income-generating activities. This loss of income forced the vulnerable section who were already suffering from wretched working and livelihood conditions without any social security measures to go down to another extreme and resulted in an addition to the existing poor,whichmay be termed as the new-poor. So, the objective of the article is to assess the economic factors determining the emerging income class known as the new-poor in India.

The second section of this article discusses importance of the current study in the background of sustainable development perspective. The third section briefly explains how the existing literature defines the new-poor for the entire world economy and how

are they different from the existing poor. The fourth section describes the different estimation provided by different literature to identify the number of new-poor in India.By understanding the definition and importance of new-poor, the fifth section attempts to recognize the possible economic factors- some were already existing before the pandemic i.e., the pull factors and some economic factors came into the picture with the awake of a pandemic, i.e., push factors which are the probable factors responsible for the emergence of the new-poor in the Indian economy. The final section summarizes and concludes.

II. Sustainable Development Goal of eradication of poverty and emergence of new-poor

Since the birth of development economics identification and eradication of poverty has achieved the highest priority.The overall long-term wellbeing of a nationis closely connected with the rate of poverty along with other major determinants of growth variables like the growth of capital, larger investment, population growthand labour supply, education, government expenditure, research, and development, etc (Dowrick,1995).Thefoundation of sustainable development literature has also given the highest priority to poverty alleviation to ensure inclusive growth, by assuringshared prosperity for the present generation without sacrificing the needs of the future generation (Bell, and Morse,2012; Bell and Morse,1999; Griggs*etal.,*2013). Much more literature for example Christoff, 1996; Costanza,2003; Eriksen and O'Brien,2007; Šileika and Bekeryt,2013; Anbumozhi and Bauer,2010 has identified reduction of poverty is necessary for achieving sustainable development.To spread public concern about the important social priority, the Millennium Development Goals (MDGs)were set to accomplish a win over the worldwide social issues like extreme poverty and hunger, chronic disease, incomplete schooling, gender gap, and environmental degradation (Sachs,2012; UN,2014).Though MDGs claimed success in reducing poverty, they also agreed on further improvement(Krishna *et al.,*2017).This eventually resulted in the initiation of Sustainable Development Goals to be achieved by 2030.

SDGs, adopted by the United Nation in 2015, formed a more structured way of solving issueslike extreme poverty and destitution, quality education and an improved healthcare system. SDGs also talk about better access to clean water and sanitation,bringing about gender equality by reducing the gender gap,and promoting sustainable economic growth while advancing job opportunities and stronger economies.SDG targets also take care of the sustainability of natural resources such asthe health of the land, air, and sea (GeneralAssembly,2015; Loewe,2015). The success of SDGs mostly depends on two important assumptions: consistent economic growth and rapid globalization (Sachs *et al.,* 2020). But COVID-19 has torned both of these shreds.Two-thirds of the sustainable goals become unattainable due to pandemics (Zanoletti,2021; Summer *et al.,*2020). More precisely goals and targets that depend on growing numbers of GDP will not be met.Literature

has also identified COVID-19 has threatened all the SDG targets of achieving zero poverty (Robin and Fisher,2021).

Table1: Sustainable Development Goal of eradication of poverty and COVID-19

SDG Targets by 2030	COVID-19 threatens targets	The target achieved would have mitigated the impact of COVID-19
Eradication of extreme poverty (Goal)	YES	NO
Reduction of poverty below the national poverty line(Goal)	YES	YES
Implementation of social protection measures (Goal)	YES	YES
Ensuring equal rights to economic resources. (Goal)	YES	YES
Building resiliency of the poor and vulnerable against the climatic shock. (Goal)	YES	YES
Significant mobilization of resources to eliminate poverty in all dimensions. (Goal)	YES	YES
Acceleration of investment in poverty eradication programs. (Goal)	YES	NO

Source: Robin and Fisher, 2021

Moreover, several pieces of literature have estimated the economic impact of the pandemic. Mohamed *et al.,* (2020) projected that the economic downturn due to the pandemic would lead the GDP to fall by 3.6% and this, in turn,would lead the poverty rate to rise worldwide by 23%. Another study by McKibbin and Fernando (2020), estimated there would be an addition to the poverty line of the world bank of ₹243.9 (US$ 3.2)[3] of 90to350 lakh people. They also added that this additional poor would be accounted for from the middle-income developing countries. Vos *et al.,* (2020) in their study,based on

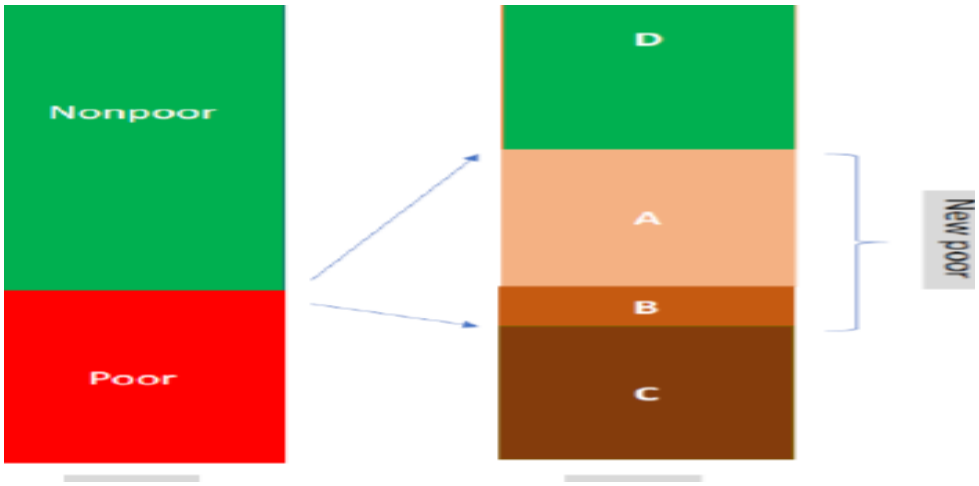
3. US $1= ₹ 76.95 (converted in INR as on 6th May, 2022)

thirty household survey data from South Asian and Sub-Saharan African countries, have also shown that a 1% contraction in GDP would result in an increase in poverty between 1.4 and 2.2 crores people at the world bank poverty line of ₹145.35 (US $1.9)* per day. So, the identification of the new-poor is the need of the hour.

3.Theoretical background of understanding the characteristics of new-poor

The definition of 'new-poor'is stated by the World Bank as"those who were expected to be non-poor in 2020 before the COVID-19 outbreak but are now expected to be poor in 2020" as shown in figure1 (Nguyen *etal.,*2020). The characteristics of the new-poor in 2020 are different from the chronic poor in 2019 and 2020. Moreover, the profile of the new-poor is significantly different from the nonpoor in 2020 also.In terms of most of their features, the new-poor fall somewhere between the chronic poor and the non-poor.

Figure1. Definition of new-poor



Source: Nguyen *et al.,* 2020

It also seems from the Global Monitoring Database (GMD), that the new-poor are much closer to the chronic poor than the non-poor. These new-poor generally live in an urban dwelling with better access to basic amenities such as – access to electricity, clean water and improved sanitation. They have abetter opportunity to accessinfrastructure, own slightly higher basic assets, and are mostly employed in non-agricultural sectors such as manufacturing, service, and commercial sectors (Table 2). They also tend to be more educated than the poor in 2019 and 2020 but less educated than the non-poor. Surprisingly, the share of employment rate among new-poor is lower than both the chronic poor and non-poor and the unemployment rate among the new-poor is much higher than both the chronic poor and non-poor (Table 2).

Table2.Comparison between the indicators of chronic poor,new-poor and non-poorworldwide

Indicators	Chronic poor in pre-COVID-19[4]	New-poor[5]	Non-poorin post-COVID-19[6]
Share of population living in urban areas	19	28	54
Employment rate	63.41	58.59	59.12
Unemployment rate	4.90	5.80	3.98
Out of labour force	31.69	35.60	36.90
Employment in the service sector	18.69	22.13	39.60
Level of education (in terms of secondary education- completed/not completed)	29.38	32.01	31.19
Associated with the non-agricultural sector	32.33	44.29	78.30

Source: Global Monitoring Database, World Bank, 2020

The theoretical foundation of the emergence of the new-poor is based on the assumption thatchange in GDP growth is proportionally distributed to all the sectors of the economy hence, the poverty rate is distributional neutral in all countries. But there are several pieces of evidence, reflecting that the actual impacts are highly skewed for a certain sector. In this regard, there are some caveats in the new-poor literature. First, the set of reduction of mean income or consumption per capita applied to each country are arbitrary in nature and the income and consumption may vary from country to country even from region to region within the same country as well in a real situation (Baquir and Biao,2020; Sumner *et al.,*2021; Ram and Jadav,2021; Diop and Asongu,2021). Second, these measures are unable to capture distributional effects in income, especially they omit the effect that may arise primarily from the labour market (Sumner *et al.,* 2020). Third, these stud-

4. People, who were below the poverty line before the pandemic in 2019 and continued to be below the poverty line after the pandemic.

5. People, who were supposed to be non-poor in 2020 but became poor due to pandemic and related income shock.

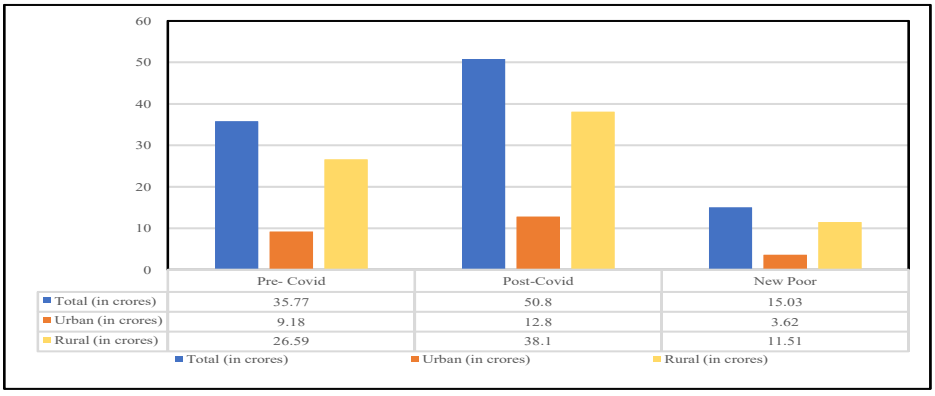
6. People, who continued to be above the poverty line before the pandemic (during 2019) and continued to be the same after the pandemic as well (after March, 2020).

ies are unable to consider the effect of social support provided by the Government which may have refrained the country from falling into an extreme poverty trap by some ratio (Baquir and Biao,2020; Sumner *et al.,*2020). Forth, there are also different significant factors which were already existed in the economy or have arisen not the COVID-19 can give a significant rise to the poverty picture. But for the simplicity and to find out the specific impact of COVID-19 on poverty this literature is ignoring those factors (Baquir and Biao, 2020; Sumner *et al.,*2020) Fifth, the data set that have used to calculate the rural and urban poverty scenario are collected from PLFS data. Though the consumption expenditure captured by PLFS is Rs. 300 and Rs. 1000[7] below in the rural and urban areas then also due to the unavailability of the Consumer Expenditure Survey (CES) data set authors have used the PLFS data set (Kannan,2017; Ram and Jadav,2021).

IV. Different Empirical Estimations of New-Poor for the Indian Economy

Although even after more than seven decades of development plans and programs India holds one of the highest figures, who are living in acute conditions of poverty, without the basic amenities of living conditions (Jana,2021; Alok,2020), an average of 7% growth rate in GDP during the past 26 years made a dramatic move to reduce the poverty rate in India and with the latest NSSO survey of 2017-18, registered 4%decline in the population who were under extreme poverty. At the same time, it was estimatedthat extreme poverty in India is going to fall below 4 crores by 2021(Ramachandran, 2021). But the sudden outbreak of the pandemic is expected to push1.5 croreto 19.9 crore people below the poverty line, as stated by the IMF report (Celasun and Lee,2021; World Economic Outlook,2021).

Figure 2. Estimation of new-poor at 5% contraction in consumption



Source: Ram and Jadav, 2021

7. XXX

Sumner *etal.,*2020 have calculated the additional number of people who are pushed below the international poverty line threshold i.e., ₹145.35 (US$ 1.9), ₹ 243.92(US$ 3.20), and ₹ 420.81 (US$ 5.50)per dayby assuming the contraction in the per capita consumption by 5%, 10%, and 20%. They have used the microdata from World Bank's PovcalNet data set by taking 2018 (for south Asian countries the reference year is 2015, due to lower coverage of the data set) as the reference year for 1500 countries across the globe. In absence of micro level data of individual's income and consumption the contraction in income has been captured by increasing the value of the poverty line accordingly. If the per capita consumption or income reduces by x% and if the national poverty line is defined at z, then the upward revised poverty line(θ) would be, $\theta = \frac{z}{1-x}$. The estimation shows that in an arbitrary situation of consumption or income contraction of 5%, 10% and 15%, there could be an addition of 6, 7, and 8 percentage points below the world poverty line, ₹ 145.35 (US$ 1.9), ₹243.92 (US$ 3.20) and ₹ 420.81 (US$ 5.5) respectively and in absolute numbers.This study also shows that thepeople pushed below the world's poverty line i.e., the new-poorwill rangefrom 8.5 crores (in case of5% contraction in consumption expenditure) to 58 crores (in case of 20% contraction in consumption expenditure) worldwide.Table 3 summarises the other available estimates of new-poor worldwide.

Table 3. Different estimations of new-poor worldwide

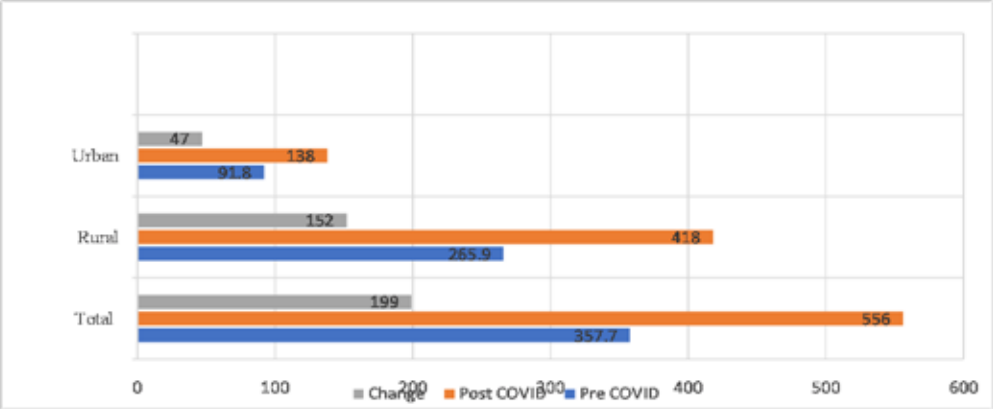
Research Group	Poverty headcount world (in crores)	Reference
IFPRI	4.8	Vos *et al.,* 2020
Brookings	14.4	Kharas, 2020
Brookings	4-6	Kharas and Hamel, 2020
World Bank	4.9	Mahler *et al.,* 2020
WIDER	11-50	Sumner *et al.,* 2020
World Bank	8.8-11.5	World Bank, 2020a

Source: Author's compilation

Ram and Jadav, 2021 in their paper estimated the pushed number of poor people due to COVID-19, by using the Periodic Labour Force Survey (PLFS) data 2018-19 and have considered a 5% and 10% contraction in consumption expenditure. The survey reveals that a 5% contraction in consumption expenditure is going to drag15.1 crore people nationwide below the national poverty line suggested by Rangarajan Committee (2014), among which 11.5 crores are in rural areas and 3.6 crores in urban areas (Figure 2). Moreover, if per capita consumption is reduced by 10% it will push 15.2 crores of rural and 4.7 crores urban populations (Figure 3) below the national poverty line (Rs.32/per

day and Rs. 47/per day in rural and urban areas respectively).By using the world bank data (Table 4), Baquir and Biao (2020) estimated the poverty scenario for South Asian countries, which is the epicenter of poverty. They have calculated an additional number of poor people at all levels of shocks and the possible scenario ranges from 5.46 crores to 6.89 crores and 18.3 crores to 19.11 crores in the reduction of per capita consumption by 5% and 20 % respectively.

Figure 3. Estimation of new-poor if the per capita consumption reduces by 10%



Source: Ram and Jadav, 2021

Table 4.Estimation of new-poor in India

World Poverty Line	**New-poor if the threshold is at ₹243.92 (US$3.20)**	**New-poor if the threshold is at ₹ 420.81 (US$ 5.50)**
No. of people living below the poverty line (in crores)	78.5	112.8
Additional poor if per capita consumption fall by 5% (in crores)	5.46	6.89
Additional poor if per capita consumption fall by 10% (in crores)	7.67	8.528

Additional poor if per capita consumption fall by 20% (in crores)	18.33	19.11

Source: Baquir and Biao, 2020

SWISurvey by Azim Premji University,2021 has calculated the pushed number of populationsby setting the poverty line as Rs. 2900 per capita per month in rural areas and Rs. 3,344 per capita per month in urban areas according to the recommendation of the Anoop Sathpathy Committee and this is consistent with the Indian Labour Commission (ILC) and Supreme Court of India. This study reveals based on CMIE-CPHS data from 2019 to February 2020 that 14 crores people in rural and 9 crores people in the urban area have been pushed into extreme poverty. The counterfactual scenario shows that poverty would have declined by 4 crores and 1 crore in rural and urban areas, had the pandemic not occurred. CMIE estimate shows per capita consumption in India has fallen by 12.5% during the period 2020-2021 with the contraction of the economy by 7.3%.

In theperiod 2021-22, though the economy is forecasted to grow by 8.3%, unequal distribution may deny the trickledown effect thatbarely leaves the poor with any fruit to reap and may degrade the situation by making the poor poorer (Ram and Jadav,2021). This requires the urgent call for identification of the factors which are aggravating the numbers of poor i.e., the new-poor in India.

V. Economic factors influencing new-poor in India

The enormity of the pandemic outweighs all the previous series of recessions in independent India (Deshpande, 2020; Kesar *et al*., 2021) However, the impact of the pandemic needs to be examined by the performance of the economy just before the wake of the COVID shock as the Indian economy was already going through the most prolonged-downturnin the post-liberalisation period(SWI, 2021). So,the feature of the ramifications has not been entirely unprecedented (Kesar *et al.*,2021). The Indian economy experienced an average growth rate of 8% from 2014 to 2017. However, the growth rate falls back to 6.5% in 2018-19 and further declined to 4% during 2019-20 i.e., just before the pandemic. This longevity of the slowdown in GDP has continued for three consecutive periods and it exceeded not only the crisis of the 1990s and early 2000s, but the impact is even higher than the global financial crisis of 2011-12 and 2012-13. To examine the factors causing the slowdown to persist for such a long period this literature has identifiedsome push factors which were already there before the pandemic even started spreading and some of the factors originated with the awakening of the pandemic and subsequent lockdown measures or the pull factors.

V. I. Push factors

V. I. I. Fall in export due to retaliating measures by the USA and its partner countries (external factors)

On the external front, there was a sharp contraction in exports due to a fall in demand at the global level. The slower the rate of growth in world GDP, characterized by deglobalisation or restoration of the preventive measures against trade liberalization by the United States and its mutual trading partner countriesheaded to a significantfallin the growth rate of the volume of the world trade and industrial productionfrom January 2018 onwards (IMF,2019; Anand and Azad,2019; Subramanian and Felman,2019). The depletionin the demand worldwide resulted in anacute declinein India's export growth rate. The fall back in demand and profitability also hampered the expectationof the producersand pushed them to cut back their investments resulting in further depression in demand. This fall in demand ultimately resulted in a fall in output and employment (Dasgupta,2020; State Working India,2021).

V. I. II. Deceleration in private savings

The export growth during the period 2002-2011 was characterised by highergrowth of investment, almost 11% a year between 2002 and 2011. In contrast the post-2013 export growth was expelled by private consumption. This private consumption was driven by the increased individual financial debt andresulted in a significant rise in the individual debt rates from 19% to 28% of GDP between 2015-2019.The increased individual debt resulted in a sharp decline in domestic savings which again caused private investment to fall in further periods. The fall in private investment led the economy tofall in GDP growth and loss of income for the mass(Chinoy and Jain, 2021).

V. I. III. Insolvency of big corporates

In addition, Subramanian and Felman (2019) addressed deterioration in the balance sheets of the financial and non-financial corporations and their feedback effect was the primary cause of the overall demand decline at the aggregate level. Kesar *et al.,* (2021) added that since 2010, the number of firms whose profit income (profit before depreciation, interest, tax, and amortization) is lower than the interest payments has raised during 2017-18. The decline in demand with the export slowdown led the non-financial corporate sectors towards insolvency, as their income falls below interest payments. The repayment crisis faced by non-financial corporate sectorsadversely affected the balance sheets of the banks and NBFCs by dwindling their profitability, which pushed them to default. The backtrack of big NBFCs like- IL&FS, DHFL, Reliance Home Finance and Reliance Commercial Financehas dissuaded lenders to invest in NBFC sectors, distinguished by greater uncertainty and financial fragility resulting in a credit crunch and led to further decline in output, investment and demand.

V. I. IV. Demonetisation and job loss (internal factor)

On the domestic front, with the rollout of demonetization, the economy was paralyzed at least for a short periodand left the economy with its chronic impact in the long run also (Preethi and Sangeetha, 2017). Demonetisation ofcurrency notes in November 2016 resulted in a job loss of around 5 million and consequently, output fall reported to fall by 2 percentage points during the fourth quarter of 2016 (Basole *et al.,*2019;Chodorow-Reich*et al.,* 2020; Nitin *et al.,* 2018; Ramakumar,2018). It also adversely affected the informal economy, by reducing the output by up to 40% and also severely disrupted the agricultural sector by impacting the arrival and prices of agricultural production across India (Aggarwal and Narayanan, 2017).

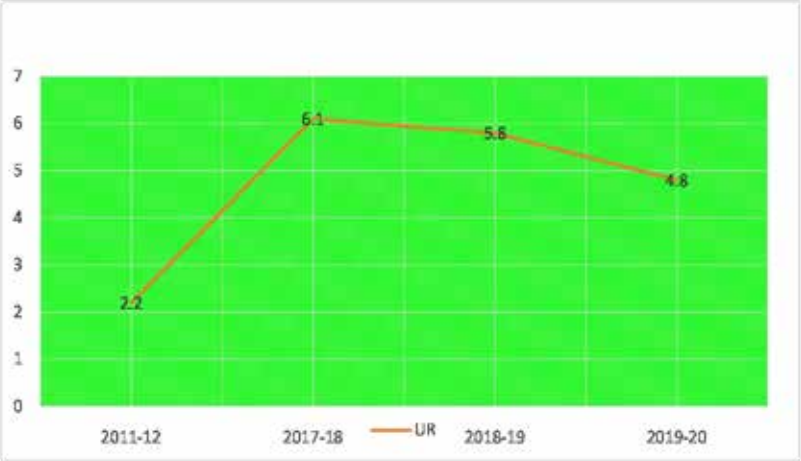
V. I. V. GST and slowdown of GDP growth

The initiation and implementation of GST or the Goods and Services Tax from July 2017 all over the nation, also led to an economic fallout.GST has impeded the small and medium scale industries to a large extent.Adopting numerous terms and conditions associated with GST and transformation to GSTN forced the small industries to hold back their inventory, resulting in a huge loss in their balance sheet. As the GST measure is not flawless, the execution and implementation of some factors associated with GST intensified the slowdown (Vijayakumar, 2020).

V. I. VI. High rate of unemployment

Amid the global and financial crisis, the absolute drop down in workforce deemed structural transformation, vulnerable working conditions aggravated the situation to some extreme level.The NSSO (2011-12) data shows that, where the working-age populationgrew by 11.5 crores between 2011-12 and 2017-18, the labourforcegrew by only 77 lakhs.The average unemployment rate during the period 2017-2020 was 5.6 as compared to only 2.2% during 2011-12 (Figure4).SWI,2021 reported the unemployment rate for young graduate men was around 33%and for the female, it was around 42%. With the lack of capacity to absorb the workforce,weak structural transformation is also pointed to as the most important economic factor for aggravating the vulnerabilities of the weaker section during the pandemic.

Figure 4 Comparison of the unemployment rate (percentage)



Source: PLFS survey 2011-12, 2017-18, 2018-19 and 2019-20

V. I. VII. High dependence on informal sectors

In defiance ofthe high economic growth experienced by the Indian economy in about three decades, a large number of working populations derive their livelihood from the informal economy.The informal economy is characterized by lower-income, wretched working conditions, an absence of social protection measures, and at the extreme, a dependence on day-to-day earnings for sustenance (Chen, 2014; ILO, 2018; Kesar *etal.,* 2021 SWI, 2018). The PLFS survey of recent times (Table5) shows that 58% of the rural male are self-employed whereas only 13.8% are engaged as regular salaried workers. According to PLFS (2019-20)Inthe urban area,about 39% of males and 35% of the female population still derive their livelihood from self-employment.With the larger share of the informal economy, the sudden shock of a pandemic can easily tear the income shades of the majority of the workforce.

V. I. VIII. Informalisation of formal sector

While casual/ daily wage worker for both urban and rural area counts for24.2% during 2018-19, it is important to note that even among regular salaried worker only 29% has a written job contract (2019) and this structure remains considerably the same for the past three decades (Kesar *etal.,* 2021; SWI, 2021). Researchers also argued that, with the incapability of the high productivity formal sector in creating job opportunities, there has been an increase in informalisation and insecurity of jobs related measures even within the formal sector, contributing to the overall high level of informality of the Indian workforce (Bhattacharya *etal.,* 2013; Bhattacharya and Kesar, 2020; SWI, 2018) andthe pres-

ence of such informality and precarity in the workforce signifies that any kind of deferral of economic activity will instantly destroy all kinds of employment and income-generating opportunities for the larger section, who are already marked as vulnerable (Kesar *et al.,* 2021).

Table 5 Share of workers among different sectors

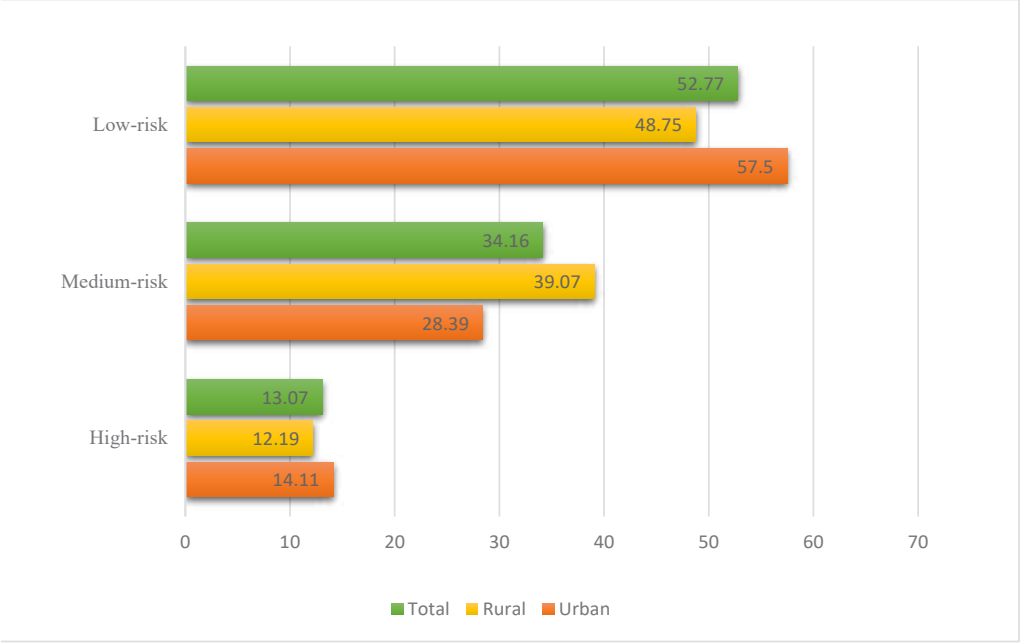
Survey period	Male (percentage)			Female (percentage)		
	Self-employed	Regular wage/ salaried employees	Casual Labur	Self-employed	Regular wage/ salaried employees	Casual labour
PLFS 2019-20	Rural					
	58.4	13.8	27.8	63	9.5	27.5
	Urban					
	38.7	47.2	14.1	34.6	54.2	11.1
PLFS 2018-19	Rural					
	57.4	14.2	28.3	59.6	11	29.3
	Urban					
	38.7	47.2	14.2	34.5	54.7	10.7
PLFS 2017-18	Rural					
	57.8	14	28.2	57.7	10.5	31.8
	Urban					
	39.2	45.7	15.1	34.7	52.1	13.1

Source: PLFS survey 2017-18, 2018-19 and 2019-20

V. I. IX. Less opportunity to pursue work from home

To emphasize the structural vulnerabilities, by using the PLFS 2018-19, Bhatt *et al.,* 2021 in their paper documented that, in India, only 20% of workers are privileged to peruse jobs by working from home and only half of the workforce is associated with low-risk occupation, which is characterized by the security of job and employment during the stringent lockdown days. In contrast, 14% of the working group (15-59 years) in urban areas are associated with high-risk sectors (Figure5).So, with the closure of all economic activities the workers associated with high risk, lost all of their income opportunities and this pushed them into poverty with an absolute poverty trap by reducing their income.

Figure 5 Analysis of risk level of the workers between the age group 15-59 years in the occupation[8]



Source: Bhatt *et al.,* 2021

V. II. I. Lack of access to social security measures

Some social scientists claimed that, in spite of the existence of a predominant informal economy, without any income and social security measures, can be eliminated by publicly provided social security benefits. The survey by Azim Premji University, 2021hasassessed the reach and effectiveness of government support provided during the period of lockdown through pre-existing social security nets.Thesurvey results reflect that one of the largest social security nets available in the country is the Public Distribution System (PDS), which provides subsidized essential food items, including essential grains, pulses, sugar, and oil from government-recognized fair price shops nationwide, had wide accessibility with minimum exclusion rates. Around 80 percent of low-income households were getting access to rations through PDS. Though, the PDS support system during the starting of the lockdown was granted at the state level only to the permanent residents of the state. So, a vast proportion of the migrant workers were unable to get ration under PDS. This report also suggests that a major proportion of the sample, that they have collected across India, reported in taking less amount of food, despite having access to the locally and centrally provided PDS support system.

8. Population measured in crores

Kesar *et al.,* (2021) estimated the accessibility and efficacy of the cash transfer scheme of the government during the stringent lockdown period. The survey shows a high exclusion rate, as about half of the targeted groups are unable to access the cash transfer schemes. To examine the reasons for the higher exclusion rate, the study found that lower access to social capital restricted the abilities of the marginalised section to access such schemes. In general, the government-provided support system is inadequate and hardly comparable with income loss. This fall in income led to a lower food intake by the vast proportion of the vulnerable section of the economy. The survey also shows that borrowing money from the informal sectors was the option chosen by the vast proportion to restore the necessary activities.

V. II. III. Income loss due to lockdown and lower recovery rate and further inclination towards informalisation

With the closure of lockdown measures, though several workers returned to work, the recovery rate, both in terms of employment and income, is a long way from complete. Moreover, the workers going back to their work are reported to earn a lower income than before (Table 6). Several reports also propound that, there is a further shift towards another higher level of informalisation and self-employment. Interestingly, the recovery pattern is also varying largely for different social identities. While women have a lower recovery rate as compared to men, experienced workers have the highest recovery rate as compared to freshers. The large variation in the recovery rate also stimulatessome of the weaker sections to fall below the poverty line (Abraham *et al.,* 2021; Bertrand *et al.,* 2020; Deshpande, 2020).

Table 6.Summary of income loss and recovery rate of employment in India from the different sample survey

Survey Name	Sample Size	Key Findings	**Reference**
Dalberg survey	8states	The average monthly income of the households declined from Rs. 9960 to Rs. 4110 as on June 2020 Urban self-employed, farmers, construction workers and agricultural labourer reported 60-70% loss in their monthly income	Totapally *et al.,* 2020

Centre for economic performance at the London school of economics	8500 workers in urban India	The average loss of earning was 48% for the urban workers The formal workers experienced 17% loss in income, while the informal workers underwent a loss of 63% of their income	Bhalotia *et al.,* 2020
NCAER-DCT-VS	Workers in Delhi and selected districts of Rajasthan, Haryana, Uttar Pradesh	48% of the respondent reported to earn a lower wage in November 2020 to that in the pre-lockdown period February, 2020	Pramanik, 2012
Flourish Venture survey, 2020	770 gig workers in Delhi, Mumbai, Chennai and Bangalore	In the pre- lockdown period 90% of the sample stated to earn 15000 per month prior to March 2020, but only 10% continued with the same income level in August 2020	Flourish Ventures, 2020
Women in Informal Employment: Globalising and Organising (WIEGO)	580 informal workers in Delhi, Ahmadabad and Tiruppur	99% of domestic workers in Delhi lost their job in the month of April 2020 and only 42% were able to get back their job in July 2020 The average earnings of the rag-pickers, street vendors and home-based workers in Delhi failed by 90% Only 14% of home-based workers recover their pre-lockdown level of income in June 2020 in Tiruppur In Ahmadabad only 30% sustained their informal earnings in June 2020	WIEGO 2020a; 2020b; 2020c

National Study on Future of Work for the Informal Workers	2668 workers engaged in construction street vending and domestic work across Delhi, Lucknow, Ranchi, Ahmedabad and Thiruvananthapuram	78% of construction workers lost their income entirely from April to May 2020 60% of domestic workers and 68% of street vendors reported zero earningsfrom April to May 2020 The household's income was 20% lower in post lockdown period of June 2020	Nanavaty,2020
Azim Premji University Covid Livelihoods Phone Survey (CLIPS)	2778 responded across 12 states	In urban areas only 40% of the pre- lockdown level of income was achieved 60% of regular salaried workers before lockdown were self-employed or doing casual wage work in October-November 2020	Basole *et al.,* 2021
India Working Survey	Samples collected from Karnataka and Rajasthan	The number of workers with zero earning went up drastically during June 2020 Casual or daily wage workers, who used to earn an average of Rs. 5242 in February 2020 came down to Rs. 4761 per month	Basole *et al.,* 2021
Source: Author's complilation.			

VI. Conclusion

COVID 19 outbreak and related lockdown measures have disrupted the entire socio-economic condition of the globe along with major macroeconomic variables worldwide. The turmoil in aggregate demand-supply due to restriction measures on movement resulted in macroeconomic shock for most of the economies. Following a similar trend, consumption in the Indian economy fell sharply with the imposition of lockdown. The fall in consumption resulted in a sharp decline in the aggregate demand function of the country. Fall in demand led the private agents to curtail investment expenditures on inventories. Some of the government expenditures though summed up to reliving the situation, the aggregate demand has fallen sharply during the period of April-May, 2020. On the supply

side, closing down of production units pushed the producers to cut back the output, which caused employment to fall during the stringent lockdown period of April and May,2020.

In addition to this, the Indian economy even after the three decades of policy reforms, is dominated by informal sectors, characterized by lower investment, absence of social security measures, precarious working conditions and low and inconsistent earnings. This informal nature of the job refrains the employers from providing secure employment, rather than secure earnings to the workers. The immediate shutdown effect on all economic activity, therefore, resulted in employment loss and an absolute fall back in the earnings of the major proportion of the workforce. This, in turn, forced a large population associated with the informal economy to live in a condition of poverty, implying an acute shortage of basic life goods and services. The population, reverting below the poverty line due to the outbreak of pandemic and lockdown measures is termed as new-poor in the popular literature.

To analyse the impact of COVID-19 and the new-poor many economists argued that, though the shock of COVID-19 was unprecedented, the results are not unexpected. The prolonged slowdown and absolute fall in export demand worldwide caused domestic demand and investment to fall during 2017- 2019. The fall in domestic savings, deterioration in the balance sheet of big corporate sectors and financial institutions along with the presence of a high unemployment rate that already existed in the economy prior to COVID-19 made a strong ground for a macroeconomic crisis in the pre-pandemic periods. Another school of thought, blamed the unforeseen imposition of financial reforms as an important factor in employment loss, especially in the informal sector. The incapability of the formal sectors to adopt and generate enough employment for the labour force and further informalisation of the formal sector mutilated the income security of the informal workforce.

Despite the presence of a predominance of income insecurity, the impact could be mitigated with the largely provided state-funded social security nets. But several surveys also show that these social security measures are neither enough nor sufficient to meet up the needs of the marginalised section of the society. The recovery percentage also slowed down for different sectors even after the elimination of lockdown measures. Moreover, the majority of the workforce associated with the informal economy consisting of casual labour, self-employed and daily-wage workers reported not earning the pre-lockdown level of wages in November 2020. These pull factors catalysed the emergence of new-poor in the Indian economy. In contrast to that, literature, explaining the dimension of income fallout and the consequent emergence of poverty corroborated the emergence of the new-poor as the immediate impact of the COVID-19 outbreak can fizzle out with the removal of lockdown measures. Moreover, the loss of entire income and employment, as well as poverty found consistent for some sections of the workforce even after one year

of opening up all economic activities that can hit the growth variables of the economy. Hence, micro-level as well as macro-level analyses are required to understand the dimensions of the new-poor in Indian economy.

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