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Deregulation of agricultural markets in India

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Abstract

Deregulation is a widely suggested strategy to make agricultural markets efficient. In this article, we critically examine the recent reforms undertaken in India aiming to deregulate agricultural markets. Our analysis is from the perspective of the potential of market reforms to benefit farmers. Relying on primary and secondary data for analysis, we draw three conclusions: (1) While reforms to agricultural marketing in the country are long overdue, the new farm laws in their current form are unlikely to result in any radical changes to majority farmers. (2) The provisions of the laws, when implemented, will weigh in favour of traders. This goes against the basic tenets of the introduction of the laws. (3) Even the regulated markets can generate favourable outcomes for farmers if farmer-oriented entities play dominant roles in them. We argue that deregulation in the absence of enabling pre-conditions are unlikely to generate favourable outcomes for farmers. Instead, they may even turn counterproductive.

Key words: agricultural markets, regulatory policies, reforms, farmers, farmer-oriented organizations

1. Introduction

Distortions in agricultural markets in developing countries have serious implications for the economic outcomes and livelihood conditions of farmers. A widely suggested strategy to make agricultural markets efficient is deregulation (World Bank 2008). Yet, it is a contested domainⁱ. In India, agricultural markets have been subjected to excessive state interventions and regulations. Several policy-led attempts have been made in the past two decades to deregulate markets. Latest in the sequence is the passing of three new farm laws – The Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Act, The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act and The Essential Commodities (Amendment) Act – that aim to further deregulate the markets. The ruling government, terming the laws as “historic”, argue that the acts will bring about the much-required transformations in agricultural marketing in India. However, the acts have triggered protests from various corners, transcending political ideologies with demands for immediate roll back.

In this article, we critically examine the new farm laws passed in India from the perspective of their potential to benefit farmers. A few questions abound: What do the new laws entail? What are the constraints of farmers, particularly smallholders who form more than 86 percent of the farming community in the country, to actively participate in market and earn remunerative returns? Would the new farm laws resolve these constraints to enable better market participation of smallholder farmers? The ongoing debate on farm laws is hinged on a binary argument: whether the existing institutions are to be replaced with alternate markets or not. In this article we argue that positions taken by both protestors and supporters are based on misconceptions and miss the real issues faced by smallholder farmers.

We present three arguments: (1) While reforms to agricultural marketing in the country are long overdue, the new farm laws in their current form are unlikely to result in any radical changes to majority farmers. For, in the absence of an enabling ecosystem, deregulation alone cannot ensure better market participation and market outcomes for farmers. (2) The provisions of the laws, when implemented, will weigh in favour of traders. This goes against the basic tenets of the introduction of the laws. (3) Even the regulated markets can generate favourable outcomes for farmers if farmer-oriented entities play dominant roles in them.

Rest of the paper is organized as follows. Section 2 presents a broad-brush picture of the evolution of regulatory policies on Indian agricultural markets since the beginning of planning era. In section 3, we critically examine the recently introduced three farm laws. We delve into the provisions of the laws to critique the grounds for opposing and supporting them and to examine the potential of the provisions to address challenges faced by smallholder farmers to access and participate in markets. We present our insights from field in section 4 highlighting how producer collectives by staying within the confines of existing regulatory framework can help generate favourable market outcomes for farmers. Section 5 concludes.

2. Policies on agricultural markets

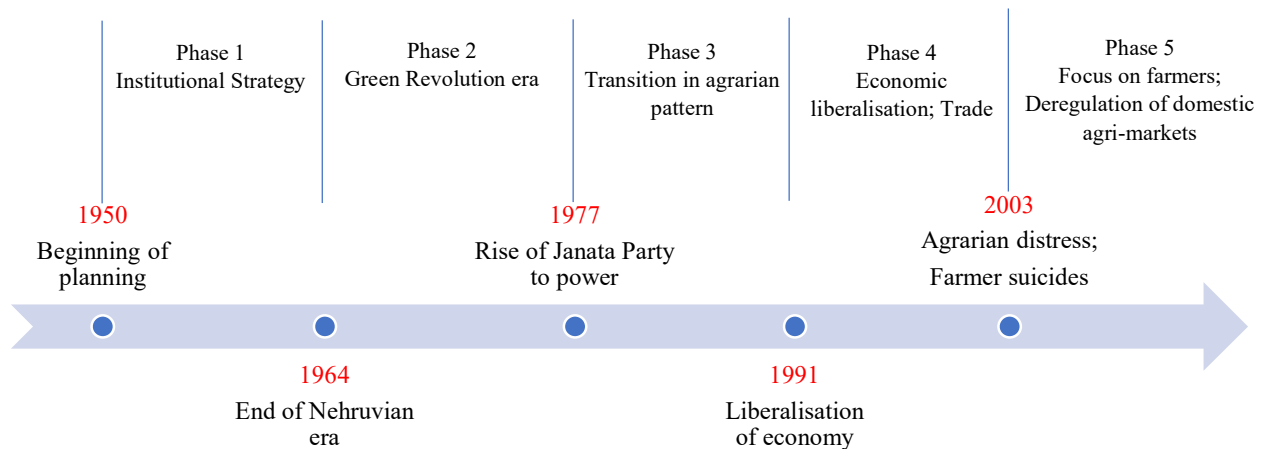
The primacy that needed to be accorded to farmers in agricultural policies was recognised as early as 1949, even before the country became a republic proper. The Congress Agrarian Reforms Committee (ARC), which was constituted to make recommendations on agrarian reforms subsequent to the abolition of Zamindari system, put the agenda of ‘farmers’ at the forefront. ARC in its report acknowledged the dominance of smallholders in the country’s agrarian landscape. For the growth of both the sector and the overall economy, ARC emphasized the importance of economic sizeⁱⁱ of unit of production and the need for agrarian reform to focus on shifting surplus agricultural population to non-

farm activities. ARC envisaged state as the primary agency responsible for ensuring remunerative returns to producers. According to the committee, the state had to ensure that agricultural prices did not fall below the minimum cost of cultivation and the relation of agricultural prices with industrial prices remained at a parity which was fair to agricultural producers. The recommendations to enforce fair price at minimum level were to have state regulations on foreign trade by means of tariffs, quota, and state trading. However, agricultural policies remained production and crop price centric for more than half a century until National Commission for Farmers was set up in 2004.

2.1. Trajectory of policy evolution

Policies on agricultural marketing in independent India have evolved from being production and price centric to producer centric. The trajectory of policy evolution is marked with periodic shifts in the core focus. Based on the variations in core policy focus, the agricultural policy space can be broadly divided into five distinct phases (Figure 1). The first phase, which coincided with the Nehruvian era, focused on addressing foodgrains availability and price stabilisation in the backdrop of acute food shortage. With the onset of Green Revolution, in the subsequent phase, production and productivity were significantly improved by following selective technology development and incentivising strategy. The third phase saw the emergence of farmers as an economic and political force making demands for remunerative returns. It also marked the beginning of shift towards market-orientation. Liberalisation of the economy and the consequent external constraints characterised the fourth phase. In the fifth and the current phase, recognising the vulnerabilities of agricultural producers, the policy focus shifted from production and productivity to producers. This phase saw serious attempts to deregulate agricultural markets and various institutional reforms. The first three phases were marked by excessive state control while the latter phases involved more market-oriented policies.

Figure 1: Broad phases of policy evolution



Deregulation of foodgrains market was attempted on multiple occasions but reversed due to enormous rise in wholesale prices. Often returns to farmers were overshadowed by concerns of food security and price stability for consumers until recently. A landmark market reform was initiated with the introduction of Model State Agricultural Produce Marketing (Development & Regulation) Act 2003 (referred to as Model APMC Act 2003) that aimed at considerably liberalising domestic agricultural markets. It significantly deviated from the policies in the past, marking the liberalisation of agricultural marketing in India. Two major provisions of the Model Act were: (a) allow private markets and (b) encourage contract farming, which would enable large corporates and agri-processors to directly engage with farmers and procure produces directly from them. Around the same time, Companies Act was amended to incorporate a new entity– Producer Companies, an organisational form to collectivise primary producers that combined features of both cooperative and company. Formal policy guidelines on producer companies were released in 2013.

Further reforms in the organization of domestic agricultural markets were attempted with the launch of electronic National Agricultural Market (e-NAM) in 2016, a pan-India e-trading portal, which aimed to unify the regulated wholesale markets in the country was introduced. The NAM portal was envisaged to provide a single window service for all Agricultural Produce Market Committee (APMC) related information and services. One of the key objectives was to facilitate better price discovery by removing information asymmetry between buyers and sellers. Legislative amendments for the smooth implementation of e-NAM were made through the introduction of a new model act, Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017.

2.2. Effects of regulation of agricultural markets

There are countering views on the outcomes of agricultural market regulations in the country. As sales takes place through auction under a defined framework, regulated markets are argued to have facilitated a fairer deal to the farmers (Acharya 2004). Regulations also had a significant part to play in achieving self-sufficiency in food production as it enabled a marketing platform for farmers (Purohit et al 2017). On the other hand, the market regulations are argued to have created distortions constraining opportunities for farmers to realise remunerative returns and disincentivising private sector to participate in them. Rent seeking agents became dominant players in the marketing ecosystem (Chand 2012, Minten et al 2012). Therefore, price discovery process in the country remained ineffective as indicated by the variation in prices of agricultural commodities across spatial markets (Chatterjee and Kapur 2017).

By international standards, the effectiveness of India's regulatory framework is not encouraging. The recent World Bank report on enabling business of agriculture (EBA) scores ranks India at 54th position among 101 countries for which the scores are published (World Bank 2019). EBA score is arrived at based on quantitative indicators on supplying seed, registering fertilizer, securing water, registering machinery, sustaining livestock, protecting plant health, trading food, and accessing finance. The score indicates the effectiveness of regulatory framework in catering to the needs of farmers. Further, the rank is associated with development outcomes – higher rank is associated with lower poverty rates and better food security. India's rank speaks on the poor effectiveness of its regulatory framework.

Partial implementation of the provisions of the Model Act 2003 is cited as a reason for the persistence of inefficient agricultural markets (Chand 2012). There is a broad consensus that the agricultural marketing system in India must undergo immediate reforms if it is to protect the interests of farmers. Removal of regulations are argued to increase competition in agricultural markets leading to better farm prices and incentivise greater productivity (Minten et al 2012). It is in this context that we are examining the effectiveness of the new farm laws.

3. Critical view on the new farm laws

Three farm laws – The Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Act, The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act and The Essential Commodities (Amendment) Act – passed in September 2020 aim to further deregulate the agricultural marketing system in India, advancing the market reform agenda initiated with the Model Act 2003. Passing of the three acts have led to widespread protests and much political furore in the country. The contents of the acts, the process through which they were passed, their constitutional validity and their potential impact on federal structure have become sources of controversies. The major contestation is that enactment of these laws will give way for “corporatisation” of agricultural marketingⁱⁱⁱ and gradual withering away of MSP regime which would deteriorate the prospects of several stakeholders including farmers, commission agents and workers in regulated markets. Whereas the supporters argue that the laws will bring about the much-needed reforms in the agriculture marketing sector, turning the terms in favour of farmers. The passing of acts is euphemistically tipped as the “1991 moment” for Indian agriculture. We focus on the provisions of the acts and their potential impact on the market outcomes for farmers.

3.1. Features of the acts

We present the key highlights of the three acts. The Essential Commodities (Amendment) Act, 2020 deregulates stock limits imposed for essential commodities, except under extraordinary circumstances. Important considerations of the act are facilitating ease of doing business and attracting private investment by removing regulatory uncertainties. The Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, popularly referred to as “APMC bypass act”, allows farmers and traders to trade outside the notified APMC markets (mandis) without paying any State taxes or fees. The act provides for “freedom” to conduct trade and commerce in a trade area. Definition of trade area is quite liberal. It could be farmgates, factory premises, warehouses, silos, cold storage or any other structures or places. Buyers must make payment with a maximum delay of three days, failure of which can invite penalty. Dispute settlement provisions are also laid out. Other features include removal of licence requirements for buyers, changes in market fees and levies for farmers, facilities for inter-state trade and encouraging framework for electronic trading. The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 (hereafter referred as Contract Farming Act) facilitates contract farming and direct marketing. It provides for a national framework on farming agreements – trade & commerce agreement and production agreement. The act makes provisions for guaranteed price and dispute settlement mechanism.

Among the three acts, most controversial is the APMC bypass act. The premises for controversies are anticipated effects on (a) the organization of agricultural markets through regulated mandis and (b) the MSP regime. Provisions of the Contract Farming Act also cast doubts. In the next three sub-sections, we examine these concerns in greater detail. Then, we focus on the potential of new laws to address the constraints of smallholder farmers to actively participate in markets.

3.2. Regulated markets vs private trade

Key highlight of “APMC bypass act” is that it provides for creating an ecosystem where farmers and traders have the “freedom” of choice to sell and purchase. The implicit assumption is that so far mandis are the predominant, if not the only, outlet available for farmers to sell their produces and the mandis constrain opportunities for farmers to earn remunerative returns.

A quick analysis of the disposal data provided by Situation Assessment Survey (SAS) conducted in 2013 presents a slightly different picture. SAS captures the quantity sold in first, second and third

disposals and the agency to which it was sold in each disposal. For the major crops, almost the entire quantity is sold in the first disposal (Table 1). A significant share of the first disposal is sold directly to local private traders. Except for wheat, bajra, gram, tur, and soybean the share of quantity sold to private traders is higher than that sold at mandis. This indicates that predominant share of sales is already taking place outside mandis.

There is wide heterogeneity in the share of quantity sold to various agencies across states. Take the case of paddy and wheat, the most important foodgrains grown in the country. In states like Punjab, where there are functioning mandis and active procurement by public agencies, sales to private traders is very low (Table 2). Mandis and government agencies that procure at MSP rates form the dominant sales outlets. It is not the same case for paddy in West Bengal, the largest producing state. More than three-fourth of the quantity sold in first disposal is to private traders. Similarly, in Uttar Pradesh, another major paddy producing state, close to 50 percent of the quantity sold in first disposal is to private traders. This is despite having APMC Acts in place. Clearly, private trade of agricultural produces is rampant. The share accounted for by mandis varies across crops and locations, on many occasions below that of private traders.

Table 1: Agency-wise share of quantity sold for major crops (All India)

Crop	Share of quantity sold in first disposal (%)	Agency wise share of first disposal (%)			
		Private traders	Mandis	Input Dealers	Coop & Govt. Agencies
Paddy	97.32	47.77	27.01	7.36	14.13
Wheat	98.11	27.88	45.29	7.43	18.84
Maize	98.66	57.43	25.31	12.57	3.55
Bajra	96.60	43.25	48.85	5.01	1.41
Jowar	98.43	57.84	24.95	5.61	1.20
Ragi	99.50	50.19	26.80	7.97	13.82
Gram	99.79	28.16	60.98	9.71	1.01
Tur	99.01	42.04	47.46	6.19	3.27
Urad	99.16	66.01	25.07	8.43	0.35
Moong	99.78	70.75	25.51	2.39	1.13
Masur	99.26	41.35	40.25	17.16	0.00
Groundnut	99.68	49.34	25.96	19.26	2.85
Soybean	99.57	30.77	62.73	4.50	1.64
Cotton	98.63	50.74	28.61	13.28	4.62

Source: Author's calculation based on NSS-SAS 2013 data

Table 2: Agency-wise share of quantity sold for Paddy and Wheat in major producing states

State	Share of quantity sold in first disposal (%)	Agency wise share of first disposal (%)			
		Local Private traders	Mandis	Input Dealers	Coop & Govt. Agencies
Paddy					
West Bengal	98.66	77.46	16.71	1.29	0.75
Punjab	98.37	8.77	59.16	1.45	29.75
Uttar Pradesh	97.92	48.09	25.07	17.75	3.26
Wheat					
Uttar Pradesh	98.28	36.78	46.20	14.32	2.27
Punjab	97.84	12.79	47.72	0.35	39.13
Madhya Pradesh	99.34	17.84	40.53	7.78	33.39

Source: Author's calculation based on NSS-SAS 2013 data

This may partly be attributed to limited availability of physical regulated markets. According to the Report of the Committee on Doubling Farmers' Income published by the Ministry of Agriculture and Farmers' Welfare, average area served by mandis in the country is 434.48 sq km (GoI 2017). This shows that the available mandis are far fewer than the recommendation of one mandi per 80 sq km made by National Commission for Farmers in 2004. Interlinkages between credit and marketing and the absence of farmer-friendly institutions to serve their varied needs would also make farmers rely on private traders.

Despite limited reach, mandis provide a well-defined framework for farmers to engage with other players. A significant service provided by mandis to all participants is the daily price discovery for commodities other than those dominated by government procurement. However distortionary the prices may be, mandis are considered as the best reference prices even for transactions taking place outside these markets. Empirical evidences based on SAS data show that those who sell at mandis earn higher than those who sell at informal markets (Negi et al 2018). However, it may be noted that a major share of mandi arrivals is accounted for by large farmers (Chatterjee & Kapur 2016).

That they act as marketing platforms with some useful functions do not make mandis a preferred system in their current form. They are sites of imperfect competition with a few buyers and a large number of sellers. Collusion among buyers lowers prices realised by farmers (Banerji & Meenakshi 2004). Operational inefficiencies, poor infrastructure, and excessive political interference make mandis unattractive for both farmers (sellers) and traders (buyers). Dominant roles played by commission agents and middle-men in mandis are well documented (Chand 2012, Minten et al 2012). Smaller lots, high transaction costs and price and market uncertainties act as deterrents to the participation of smallholders.

3.3. MSP regime

One of the major arguments of those protest the new farm laws is that they will result in withering away of MSP regime. In states where public procurement of food grains is actively done, MSP does act as a safety net for farmers, especially during harvest season when market prices usually plummet. MSP system is deeply engrained in the agriculture output market despite several questions on its coverage and effectiveness. And it is politically salient. The prompt response of the central government, amidst the ongoing protests, to hike MSP for a few selected crops makes it evident.

While the fears of protestors are not completely unfounded, the fact remains that public procurement is limited both in terms of quantity and regions where procurement operations are active. The crops most actively procured are rice, wheat and to some extent groundnut (Table 3). Regional distribution of procurement by public agencies is highly skewed. In 2017-18, around 90 percent of the rice procured was from 8 states whereas almost the entire wheat procurement was from just 5 states (Table 4). Similar pattern can be seen in other years as well.

Table 3: Production vs Public procurement of major crops in 2017-18

Crop	Production (in million tons)	Procurement (in million tons)	Procurement as share of production (%)
Rice	112.91	38.18	33.82
Wheat	99.7	30.82	30.92
Gram [@]	11.23	0.06	0.54
Tur [@]	4.25	0.26	6.07
Masur [@]	1.61	0.03	1.68
Groundnut ^{*1}	9.18	1.05	11.41

Soybean*	10.98	0.07	0.66
Cotton#	34.89	1.07	3.07

Note: @Pulses were procured under Price Stabilization Fund; *Oilseeds were procured by NAFED under Price Support Scheme; †Procurement data available up to 04-12-2017; #Cotton purchases by Cotton Corporation of India. Quantity in '000 bales of 170 Kgs each.

Source: Agricultural statistics at a glance 2018, Ministry of Agriculture & Farmers Welfare

Table 4: State-wise public procurement of Rice and Wheat (in '000 tons)

State	2013-14	2014-15	2015-16	2016-17	2017-18
Rice					
Punjab	8106 (25.45)	7786 (24.30)	9350 (27.32)	11052 (29.00)	11833 (30.99)
Andhra Pradesh	3737 (11.73)	3596 (11.22)	4336 (12.67)	3724 (9.77)	4000 (10.48)
Haryana	2406 (7.56)	2015 (6.29)	2861 (8.36)	3583 (9.40)	3992 (10.45)
Telangana	4353 (13.67)	3504 (10.94)	1579 (4.61)	3596 (9.44)	3618 (9.48)
Odisha	2801 (8.80)	3357 (10.48)	3369 (9.85)	3630 (9.53)	3287 (8.61)
Chhattisgarh	4290 (13.47)	3423 (10.68)	3442 (10.06)	4022 (10.55)	3255 (8.52)
Uttar Pradesh	1127 (3.54)	1698 (5.30)	2910 (8.50)	2354 (6.18)	2875 (7.53)
West Bengal	1359 (4.27)	2032 (6.34)	1568 (4.58)	1923 (5.05)	1673 (4.38)
Madhya Pradesh	1045 (3.28)	807 (2.52)	849 (2.48)	1314 (3.45)	1096 (2.87)
Tamil Nadu	684 (2.15)	1051 (3.28)	1192 (3.48)	144 (0.38)	1011 (2.65)
Uttarakhand	463 (1.45)	465 (1.45)	598 (1.75)	706 (1.85)	38 (0.10)
Others	1474 (4.63)	2306 (7.20)	2084 (6.09)	2058 (5.40)	1506 (3.94)
All-India	31845 (100)	32040 (100)	34218 (100)	38106 (100)	38184 (100)
Wheat					
Punjab	10897 (43.43)	11641 (41.54)	10344 (36.83)	10649 (46.38)	11706 (37.98)
Haryana	5873 (23.41)	6495 (23.18)	6778 (24.13)	6752 (29.41)	7432 (24.11)
Madhya Pradesh	6355 (25.33)	7094 (25.31)	7309 (26.02)	3992 (17.39)	6725 (21.82)
Uttar Pradesh	683 (2.72)	628 (2.24)	2267 (8.07)	797 (3.47)	3699 (12.00)
Rajasthan	1268 (5.05)	2159 (7.70)	1300 (4.63)	762 (3.32)	1245 (4.04)
Others	16 (0.06)	6 (0.02)	90 (0.32)	10 (0.04)	17 (0.06)
All-India	25092 (100)	28023 (100)	28088 (100)	22962 (100)	30824 (100)

Figures in parentheses are percentage share of total procurement in the year

Source: Agricultural statistics at a glance 2018, Ministry of Agriculture & Farmers Welfare

Quite evidently, both regulated market system and MSP regime which are flag bearers of green revolution era, have benefitted only a minority of the estimated 90 million farmer households in India.

They have limited reach and are inefficient. Despite the presence of mandis, significant share of the first disposal of agricultural produces is sold to local private traders. For many region-crop combinations, it is a normal way of selling, not exceptional. Therefore, it seems, the positions taken by both proponents and opponents of new farm laws have based their arguments on misconceived notions.

3.4. Contract Farming

Contract farming is recognised to be an effective mechanism to generate desired outcomes for farmers – price assurance, productivity enhancement, quality improvement and risk reduction. Frequently cited concerns such as delay in payments, price reduction, and undue rejections (Singh 2013) are addressed in the Contract Farming Act through provisions for guaranteed price, institutional arrangements for registering written contract and dispute settlement mechanism. Yet, experiences from India and other developing countries do not inspire much confidence in its potential to benefit smallholders. A systematic review of empirical evidences on contract farming finds that wealthier farmers with relatively better land holding and other assets tend to participate more (Ton et al 2018). The aspect of non-inclusiveness is highlighted in India specific studies as well (Singh 2012, Kaur & Singla 2018). Poorer farmers are found to have greater propensity to exit contracts (Narayanan 2013). Viability of the model is correlated with successful vertical co-ordination. Survival of contracts over time hinges on the income effect they can generate (Ton et al 2018).

Specific to the provisions of the Contract Farming Act, there are at least three main concerns. First, is related to the scope of contract farming. In India contracting farming is limited to very few commodities – driven by size and quality requirements of produces, specific varieties of seeds or commodities that are not widely traded in APMC markets. The Act per se is unlikely to widen the coverage of commodities. Second, is about reference price. The Act makes provisions for a reference price, in case of price variation in the market, purportedly to ensure best returns to farmers. Reference price, according to the Act, “*may be linked to the prevailing prices in specified APMC yard or electronic trading and transaction platform or any other suitable benchmark prices*”. As the current availability of alternate platforms is gravely inadequate, APMC market price will act as the reference price. If the APMC market is weak or absent for the commodity under contract, then realising competitive price reference is unlikely. This is to the disadvantage of farmers, contrary to what is envisaged in the Act. Third, pertains to dispute settlement mechanism. Given the poor institutional capacities, the effectiveness with which disputes will be settled is doubtful. In short, the Contract Farming Act is unlikely to effect any significant changes to the fundamental characteristics of the practise of contract farming. However, it indeed addresses several lacunae in modalities of contract farming agreement.

3.5. Constraints to market access and participation

Impediments to market access and participation faced by smallholder farmers are enormous. In literature, market access is conceptualised as either physical distance or transaction cost, mostly non-physical coordination cost (Chamberlin & Jayne 2013). Among the various indicators, distance to market or travel time (Chamberlin & Jayne 2013) is the most frequently used proxy for market access. “Remoteness” is widely acknowledged as an impeding factor which adds to the transaction cost. A direct solution is to have a greater number of markets, closer to farmgates. Market participation, on the other hand, is measured in terms of probability of selling and ratio of sales to production (Muto & Yamano 2009). Availability of infrastructure, interlinkage between credit and marketing functions and endowments are important determinants of market participation.

Weak marketing infrastructure pose serious limitations to market participation of smallholder farmers^{iv}. Marketing infrastructure comprises of both institutional (e.g. information, standards and grades, etc.)

and physical (e.g. roads, storage, assaying & weighing facilities etc) elements. Better market information is found to induce market participation of farmers in remote areas who produce perishable crops (Muto & Yamano 2009), reduce price dispersion across markets (Jensen 2007, Aker 2010) and improve the functioning of rural markets (Goyal 2010). Whereas it does not have any positive effect on farmgate prices or sales when competition in the market is absent (Muto & Yamano 2009, Camacho & Conover 2019) or when the middlemen wield considerable market power (Mitra et al 2018). There is mixed evidence on food standards acting as potential barriers to access export markets (Dubé, Pingali & Webb 2012).

Absence of proper quality standards and grades in domestic markets is another challenge. Economic theory suggests that asymmetric information on quality leads to transaction of lemons (Akerlof 1970). The case of cotton market illustrates this well. Despite being the second largest producer and exporter of cotton, Indian cotton fetches discounted price in world market due to poor quality. Between 2007 and 2019, Indian cotton consistently figured as the most contaminated in terms of degree of contamination according to the surveys of International Textile Manufacturers Federation (ITMF 2020). This, to a great extent, may be attributed to the lack of emphasis on quality in local markets. Empirical studies find weaker association between prices paid and quality of cotton in Indian markets compared to those in the United States (MacDonald et al 2010). As domestic markets do not reward farmers for higher quality cotton (Ramaswami 2020), concerns of quality assume least priority leading to quality uncertainty and lower prices. Also, poor feedback mechanisms leave the producers unaware of the quality demanded in the consumer market.

Lack of appropriate storage facility constrains farmers to exploit intertemporal arbitrage opportunities (Aggarwal et al 2018) and credit market imperfections limit their abilities to move grain intertemporally (Burke et al 2019). Availability of market facilities is another determinant of market participation. Evidence suggests that improvement in market facilities leads to an increase in the farmer's propensity to sell at the market and the relative gains are more for poorer farmers from such improvements (Shilpi & Umali-Deininger 2008).

Poor endowments including private access to productive assets such as land holding and education, access to financing and access to improved technologies create entry barriers for market participation of smallholder farmers (Barret 2008). Recent evidences suggest that there is persistently high level of income inequality among agricultural households in India (Bathla & Kumar 2019, Chakravorty et al 2019), largely driven by inequalities in the size of operational holding.

3.6. Potential impact of the new laws

Two constraints directly addressed by the new farm laws are the number of available markets and access to them. Allowing sales at farmgate and other premises of choice would certainly increase the number of markets. Having more markets near production site would take care of "remoteness". A concern here is, by and large, this may be a mere formalisation of existing practises as a significant share of the first disposal, already, is to local private traders. Access to greater number of marketplaces (Chatterjee & Kapur 2016) and access to buyers who are willing to pay higher prices increases the likelihood of realising higher prices. However, access to markets is a necessary but not a sufficient condition for farmers to earn remunerative prices. Lack of competition or imperfect competition between traders (Osborne 2005) and collusion among buyers in agricultural markets are found to depress product prices. This highlights the need for addressing other related components of agriculture marketing networks. Empirical studies show that even the functioning of electronic markets is dependent on the availability of adequate physical infrastructure (Nuthalapati et al 2020).

Traders stand to gain from the new reforms as the licensing requirements have been eased and market fee are not applicable for transactions in trade areas outside APMC markets. Traders may prefer to transact outside APMC mandis as it reduces their costs. This may weaken the role of regulated markets and price discovery process in regulated markets. Price discoveries outside the regulated markets are likely to favour traders. With more trade areas, the sales volume per market site will be low. Medium and large traders do not prefer to deal with individual farmers due to low volumes and high search and transaction costs. They would prefer intermediate aggregation. Therefore, purchases at farm gate would be done by small local traders. This is likely to increase the role of middlemen and poorer price-quality linkage in the absence of competition and any formal assessment of quality.

Unfortunately, the laws in their present form fail to address most constraints faced by smallholder farmers. In the absence of an enabling ecosystem (Gopikuttan & Naik 2020), the smallholder farmers are unlikely to take advantage of the potential benefits offered by the current reform measures. Though the new reforms make provisions for making payment on the same day and penalties in the case of delay beyond three days, there is no entity in the ecosystem that guarantees payments. Any failure of timely payment may go to dispute settlement and may raise the transaction costs of farmers. Unfavourable circumstances that prevented meaningful market participation of smallholder farmers will persist as the new reforms do not have adequate provisions to transform them. In short, both the existing APMC system and the current farm laws are more beneficial to the traders, not to the farmers.

4. Possible alternatives

Are there any alternative ways to make the markets amenable to smallholder farmers? Are there ways to strengthen the existing system? Insights from our field work in Karnataka suggest that presence of farmer-oriented organizations as dominant players can transform regulated markets into competitive market sites. APMC Sirsi located in northern Karnataka is an interesting example. Arecanut and pepper are the major commodities traded in this market. We accessed records maintained by APMC Sirsi and conducted semi-structured interviews of farmers, traders, and commission agents to better understand the market dynamics.

Almost the entire market arrival in APMC Sirsi is traded at sale yards managed by four cooperatives – Totgars Co-operative Sale Society Limited (TSS), Taluka Agricultural Produce Co-operative Marketing Society Limited (TMS), Taluka Agricultural Produce Co-operative Marketing Society Siddapur Limited and Kanagod Group Co Operative Society Yadalli – who act as commission agents in the market (Table 5). They attract farmers’ produces by providing a range of services such as credit, storage, transportation, pledge loan, information (on both market prices and farm practices) and marketing. They also manufacture and supply cattle feed and agri-inputs such as fertilisers and pesticides, provide extension services, facilitate purchase of agricultural implements and consumer goods and extent customised health insurance schemes. The services provided are tightly coupled with the patronage of their members. They are provided in an integrated manner.

Table 5: Market arrival of arecanut and pepper in APMC, Sirsi (in Quintals)^v

Type of entity	2017-18	2018-19	2019-20
Arecanut			
Cooperative Society	1,75,977.01 (99.61)	1,72,840.69 (99.80)	1,75,283.87 (99.93)
Private agents	695.36 (0.39)	339.26 (0.20)	116.96 (0.07)
Total	1,76,672.37 (100)	1,73,179.95 (100)	1,75,400.83 (100)

Pepper			
Cooperative Society	1,859.28 (99.75)	3,505.97 (99.75)	3,133.12 (99.75)
Private agents	4.63 (0.25)	8.74 (0.25)	8.00 (0.25)
Total	1,863.91 (100)	3,514.71 (100)	3,141.12 (100)

Figures in parentheses are percentage share of total market arrival in the year

Source: APMC, Sirsi

Further, the cooperatives incentivise members to transact through them – both purchasing inputs and services offered and selling agricultural produces at sale yard. Two large cooperatives in the market, TSS and TMS, gave incentives of Rs. 96.33 lakhs and Rs. 65.13 lakhs respectively to their members in 2018-19 (Table 6). Besides, a share of the net profit is distributed in the form of dividends.

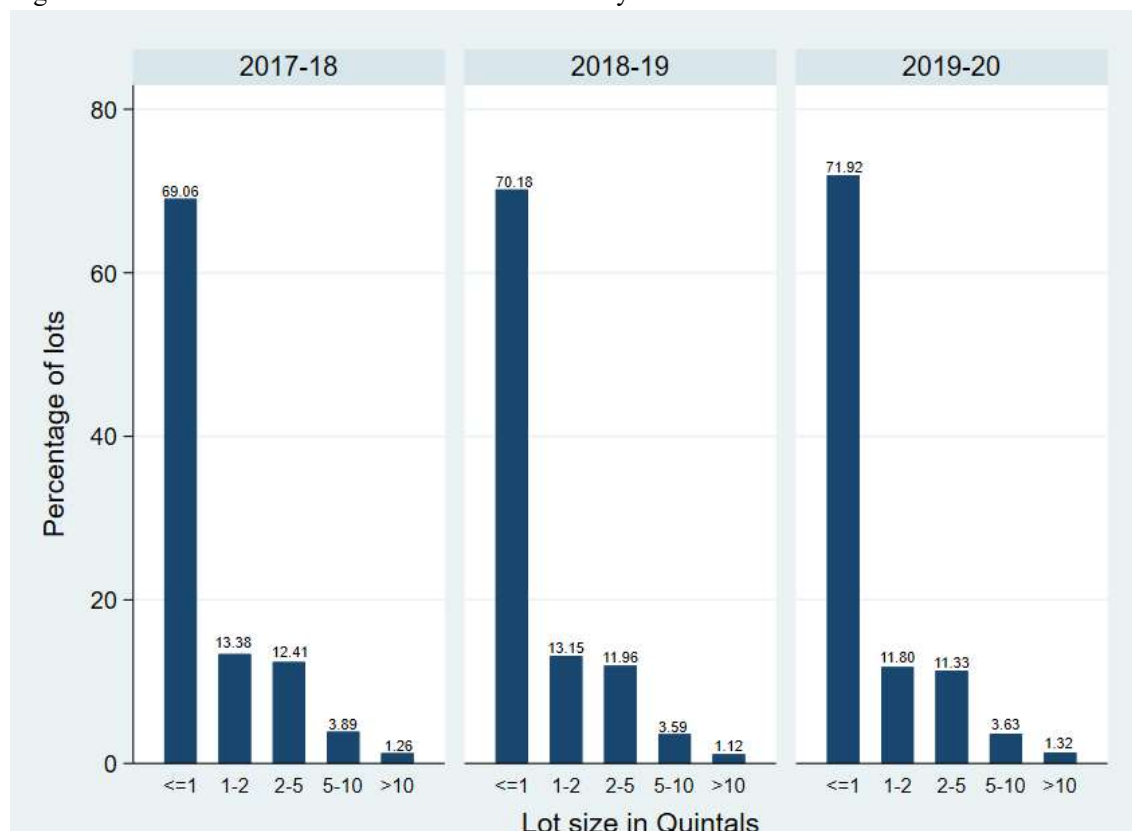
Table 6: Financial strength of cooperatives and direct benefits to members (All figures in Rs. lakhs)

	2017-18		2018-19	
	TSS	TMS	TSS	TMS
Turnover	46547.56	18048.14	50478.70	20303.78
Net Profit	205.51	62.31	210.25	63.48
Incentives paid to members	128.01	94.19	96.33	65.13

Source: Annual reports of TSS and TMS

Analysis using data obtained from sale yard managed by TSS, which records the largest market arrival in APMC Sirsi, shows that smaller lots form disproportionately large share of market arrivals (Figure 2). Around 95 percent of the market arrival of arecanut is in lot sizes up to 5 quintals^{vi}. The cooperatives do not lay any restrictions on the minimum quantity for trade on their sale yard.

Figure 2: Distribution of arecanut lot sizes in TSS sale yard



Source: Authors' calculation based on data obtained from TSS

Three cooperative societies - TSS, TMS and The Central Arecanut and Cocoa Marketing and Processing Co-operative Limited (CAMPCO) – actively participate as buyers in APMC Sirsi, together accounting for bulk of the purchase (Table 7). This increases competition among buyers as the cooperatives generally quote higher rates for produces and purchase large quantities. Interview responses of buyers validated this aspect. According to their responses, buyers are forced to quote high if they want to purchase from the APMC market^{vii}. They also informed that on many occasions they end up with lesser quantity than desired, sometimes without anything. These indicate that buyers face competition in the market and the ultimate beneficiaries are farmers.

Table 7: Number of buyers and quantity purchased in APMC, Sirsi

Arecanut Purchase	2017-18	2018-19	2019-20
Number of buyers			
Coop Society	3	3	3
Private traders	242	224	234
Total	245	227	237
Quantity Purchased (in Quintals)			
Coop Society	82,465.35 (46.68)	81,728.90 (47.19)	88,247.95 (50.31)
Private traders	94,207.01 (53.32)	91,451.05 (52.81)	87,152.89 (49.69)
Total	1,76,672.37 (100)	1,73,179.96 (100)	1,75,400.83 (100)

Pepper Purchase	2017-18	2018-19	2019-20
Number of buyers			
Coop Society	2	3	3
Private traders	39	48	46
Total	41	51	49
Quantity Purchased (in Quintals)			
Coop Society	680.82 (36.53)	1,350.92 (38.44)	1,009.80 (32.15)
Private traders	1,183.08 (63.47)	2,163.79 (61.56)	2,131.32 (67.85)
Total	1,863.91 (100)	3,514.71 (100)	3,141.12 (100)

Figures in parentheses are percentage share of total purchase in the year

Source: APMC, Sirsi

Our qualitative interviews of farmers and traders suggest that they have different motivations for undertaking transactions at regulated market. Farmers have four major considerations: a) there is a greater number of buyers in the APMC market. Since the sales are done through a tender process, there is a chance of getting higher price for the produce. b) payment to the farmer is done on the same day of sale. This transfer is done by the cooperative on behalf of buyers, regardless of who the buyer is. The buyer can clear the dues within three days, without paying any interest. Guaranteed and immediate payment attracts farmers to transact in the mandi. c) there is strong credit-marketing interlinkage. Farmers depend upon the cooperatives for their liquidity needs during lean seasons, on the promise of selling their produce at the market yard managed by the cooperatives. Though interlinkage is a common strategy used by the commission agents to tie-in farmers to attract market arrival (Minten et al 2012), rent seeking by cooperative intermediaries is not observed in APMC Sirsi. In addition to transportation charges, farmers paid only pre-sale handling charges as stipulated by the APMC. Further they were given incentives proportionate to their transactions. d) the market functions throughout the year and since the cooperatives participate in the market as buyers, there is an assured buyer on any day of sales activities.

Considerations of traders are: a) the APMC market attracts large volume of produce. This reduces transaction cost for traders. b) the market arrivals in large quantities and in multiple lots provides them with choices of better quality produce.

Lessons from Sirsi experience are two-fold. First, there is a need to recognise and resolve multiple vulnerabilities faced by smallholder farmers for enabling better market participation. And several of these vulnerabilities need to be addressed simultaneously by creating pro-smallholder institutional ecosystem. In Sirsi, this is led by producer cooperatives that provide integrated services to farmers. Second, competition in primary wholesale markets is possible within the confines of existing market structures. Cooperatives play significant role as both commission agents and buyers in the regulated market. They attract farmers to transact through them by offering direct and indirect benefits. Dominant logic suggests exclusion of intermediaries and replacing them with producer organizations. Sirsi market offers a counterintuitive insight.

Notwithstanding the deficiencies in the new laws, they offer a rare opportunity for the mandis to transform themselves as farmer-oriented institutions and stay relevant. Mandis should convert themselves into farmer centric service organizations to deliver better and useful services to farmers to attract them to trade in their premises. They must invest in market infrastructure, facilitate better price discovery process, and provide integrated services, particularly to smallholder farmers, including

information, credit, transportation, and storage. Encouraging farmers' collectives to take advantage of scale economies in post-harvest management would facilitate smallholder farmer participation. Mandis should actively introduce quality assessment-based transactions such as warehouse-based sales. Modernisation of mandis into institutions of service to holistically facilitate agribusiness of farmers will create a win-win situation. Instead of discrediting and dismantling the mandis, the present crisis can be used to transform them as farmer-beneficial institutions, true to their original objective.

5. Conclusion

In this article we examined the new farm laws passed in India, in the context of deregulating agricultural markets. Our approach was to look at them from the perspective of their potential to transform agricultural markets to generate favourable outcomes for farmers. There are two distinct camps advocating and opposing the laws. We showed that positions taken by both protestors and supporters are based on misconceptions and miss the real issues faced by smallholder farmers.

Our conclusions are mainly three: (1) While reforms to agricultural marketing in the country are long overdue, the new farm laws in their current form are unlikely to result in any radical changes to majority farmers. (2) The provisions of the laws, when implemented, will weigh in favour of traders. This goes against the basic tenets of the introduction of the laws. (3) Even the regulated markets can generate favourable outcomes for farmers if farmer-oriented entities play dominant roles in them. Deregulation in the absence of enabling pre-conditions are unlikely to generate favourable outcomes for farmers. Instead, they may even turn counterproductive. Need of the hour is to promote farmer-oriented institutions which can yield competitive outcomes.

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ⁱ There are countering views on the effect of deregulation. For instance, Weeks (1999) in the context of Central America finds that deregulation of domestic markets is not associated with growth in agricultural performance. Whereas there is an emergent body of literature showing positive effects of supermarkets and modern supply chains on market outcomes.

ⁱⁱ Economic size of holding may vary according to agro-economic conditions.

ⁱⁱⁱ There are several reports on drop in arrival of commodities to APMC markets due to enhanced direct purchase by corporates. For instance, see https://www.financialexpress.com/industry/new-central-laws-corporate-entities-scale-up-crop-purchases-from-farmers/2129002/?utm_source=whatsapp_web&utm_medium=social&utm_campaign=socialsharebuttons

^{iv} For a discussion on the present conditions of agricultural marketing infrastructure in India, see Gopikuttan & Naik (2020).

^v Market arrivals presented in this table are based on the quantity traded through APMC mandi. Our interactions with farmers and traders suggested that negligible quantities are traded outside mandis.

^{vi} Average arecanut yield in this region is around 10 quintals per acre.

^{vii} Trading in Sirsi APMC market is done through electronic tender process.