

Farm Laws versus Field Realities: Understanding India's Agricultural Markets

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Abstract

This paper evaluates the actual state of agricultural markets and existing agricultural market regulation in India. It contrasts this with the design of the new “farm laws,” and argues that those reforms may be misdirected in many respects. The paper makes a case for better understanding of intermediation, the need for several kinds of public investment, improvements in production conditions in agriculture, and attention to the broader economic context within which agricultural marketing reforms occur.

Keywords: agricultural marketing reforms, India, farm laws, APMCs, intermediation, economic development

Acronyms, acrimony and assumptions

Over the last year, in the midst of the ongoing Covid-19 pandemic, the past, present and future of Indian agriculture has been in the national spotlight. The source of the controversy is the introduction of three new agricultural market laws that are perhaps now better known simply as #farmlaws. Read together, these new farm laws represent a set of concerted actions intended to alter the manner and degree of state regulation over the exchange, storage, movement, and taxation of agricultural produce in India. They also mark the first time in Indian legislative history that central law has been brought to bear on the regulation of the critical ‘first transaction’ between the farmer and the primary buyer of their produce. The focus has therefore turned to the country’s vast and varied agricultural markets and to the vital, complex, and contested task of regulating them. As a result, a set of acronyms – ECA, APMC, MSP – have become staples in public commentary in an increasingly polarised public debate.

The public policy discourse broadly has seen two dimensions. First, there are the those in public policy who have framed this as a pro- vs anti- markets and liberalization debate. Those who support it argue these reforms were necessary for transformation of the agricultural sector much like the 1991 liberalization from high tariffs and the infamous license-quota-permit raj that launched India

into a sustained high growth regime. Those who oppose it say that these laws are essentially meant to help large corporates capture Indian agriculture and consequentially would be disastrous for farmers and rural livelihoods. Second, there are the farmers and farmer organizations who have expressed deep rooted anxieties toward a potential loss of their existing systems of trade and marketing and government support. Their anxieties are rooted in history and their lived experience as successive governments have reneged on their promises and support to the Indian farmer. This includes the promise of providing a floor price in 23 commodities, support in terms of easier access to credit, insurance, technical assistance, marketing infrastructure, and protection against market power of larger firms.

Whatever the arguments may be, they are so emotionally charged and polarized that discussions about precise mechanisms through which such changes and transformations would take root are largely absent from the discourse. Our aim here is not to provide an overview of the laws or settle the pro-laws versus anti-laws debate. Instead, we take a step back to evaluate the assumptions behind the framing of the new central farm laws. We evaluate them for their empirical validity in the context of the realities of Indian agriculture, agricultural markets and supply networks. We discuss the extent to which these assumptions should be taken for granted given the actually existing structure and organisation of agricultural market systems in diverse regional and commodity contexts. For example, we argue in this article that statements like ‘allowing farmers to sell outside mandis will give them more options and therefore increase their incomes’ are based on assumptions that need to be empirically validated, are incomplete, and their fulfilment depends on many structural conditions.

Most importantly, these generalized statements ignore the great deal of heterogeneity in the structural conditions and realities across regions. Thus, while a proposal may sound economically logical, the ways in which markets actually work in reality has often been grossly misunderstood. We also provide, wherever useful, comparative analysis of the outcomes of similar proposals in other parts of the globe. We draw upon our own individual and collaborative research and the rich scholarship of those who have spent decades understanding the complexities of Indian agriculture.

The essay that follows is an effort at providing both conceptual and empirical clarification in a vast and vital sector of Indian economy and society that remains persistently underspecified and misunderstood. In doing so, we point to both the possibilities and limitation of regulatory reforms in transforming agricultural markets and expanding farmers’ incomes. Indian agricultural markets require and deserve more and better regulation, which begins with regulatory first principles and is responsive to existing market systems,

structures and relationships. But our engagement and reform imagination must go beyond regulatory reform to proposing new frameworks for well-directed public investment that acknowledge the structural challenges of Indian agriculture and its relationships with the wider non-agrarian economy.

APMC laws, actually existing markets, and farmers' sales in context

The first and foremost assumption behind the new central farm laws is that the existing regulatory regime, operating under state agricultural marketing acts across the country, restricted competition among buyers in primary markets. In doing so, it forced farmers to sell their produce to commission agents and traders in local APMC mandis. As a result, not only were APMC mandis presumed to be the dominant site of exchange across India, but they were also known to operate as corrupt, monopolistic market sites where commission agents and a few entrenched local buyers exploited farmers and controlled the trade. Indeed, this image of APMC mandis as dens of trade run by middlemen and mercantile power has a near canonical, incontestable popular appeal, especially in the imagination of the mainstream media. Against this singular and dramatic claim, the presentation of empirical data to the contrary appears both banal and baffling at the same time.

However, the reality is that even today the majority of Indian farmers, especially small and marginal cultivators, sell their produce to small-scale and largely unlicensed traders and intermediaries in the village or in local sites of exchange (such as periodic *haats* or bazaars) outside regulated market yards. But, if farmers are bound by law to sell in APMC mandis, why are so many of them selling outside?

At least part of the answer is that India still does not have enough mandis. Over the decades, most states in general, and specific regions in particular, have hugely under-invested in the basic infrastructure required to create viable, primary wholesale markets within easy physical reach of farmers. The 2017 Doubling Farmers Income Report estimates that in addition to the current 6,676 principal and sub-market yards under APMCs (also woefully limited in terms of infrastructure) India needs over 3,500 additional wholesale markets. Approximately 23,000 rural periodic markets (or *haats*) have also suffered long-standing neglect.

Another part of the reason for the high proportion of first sales outside mandis has to do with the structural reality of small and marginal farming in India. Most Indian farmers are extremely small. With average land holdings of less than a hectare, many farmers do not have sizeable volumes of marketable surplus.

With little quantities to sell, it makes more economic sense to sell to local aggregators than transporting these amounts to mandis. The local aggregators might in turn sell in APMC mandis. In states that have strong APMC markets, it is generally the larger farmers who are more likely to sell in mandis.¹

The stark reality, however, only becomes apparent when you move from general assumptions and national data to engaging with state, intra-state and commodity-specific contexts of agricultural marketing (Krishnamurthy 2015). For instance in our own recent field-based study across states and seven districts, we found that in contrast to the dominant narrative of restrictive state regulation in agricultural markets in India through the APMC Acts, the eastern Indian states of Bihar and Odisha are characterized instead by market deregulation (Bihar repealed its act in 2006) and limited and weak formal regulation by the state (Odisha, which has one of the oldest marketing acts, but few functional regulated markets on the ground). The vast majority of first sales takes place at the village level itself and remain out of the purview of any formal regulation. Even market exchange and trade in notified market sites, whether mandis or haats (under local government authority), cannot really be considered as formally regulated, at least by usual norms. Furthermore, in Bihar since most wholesale markets are set up for bilateral trade between village aggregators, commission agents and traders with well-established credit and trading relations, many farmers are dissuaded from venturing into the wholesale market even when it is within easy physical reach. This holds true even when the farmers themselves are not bound by credit relations to sell to a particular local intermediary in the village, as one would commonly assume (Chatterjee et al 2020). Rather, it is the fact that the wholesale market is not set up to facilitate direct exchange with many small producers that shuts them out of participating in mandis and keeps village-level exchange between small farmers and small traders/aggregators going.

What about other states, such as Karnataka, Madhya Pradesh, Maharashtra and Uttar Pradesh – states which did have established APMC Acts and active APMC mandis, especially in agriculturally productive and dynamic regions? Here, there is no denying that where APMC mandis do exist and have established themselves as dominant market sites, mandi committees have often misused their powers to restrict competition. Obtaining a licence for a new entrant — whether a regional trader, processor, national or multinational corporation, or farmer producer organisation — has often proved to be a bureaucratic nightmare and a costly affair.

¹ NSS Situation Assessment Survey of Agricultural Households Round 70.

We must remember though, that while reforms that make it easier to register traders or obtain licenses might seem to be the equivalent to deregulating the market, they can have very different consequences. As an analogy, imagine the consequences if the solution to corruption-related bottlenecks in obtaining drivers licences was to remove the requirement for driving licenses altogether. And indeed, this distinction was recognized up until the new central acts, where the direction of reform was to enable access to APMC mandis *and* alternative marketing sites and channels, but with both operating under a framework of regulatory oversight.

In this regard, it would be very unfair to ignore the steps that different states had already taken, especially over the last two decades to amend their own laws and reform the existing marketing system. Madhya Pradesh, for instance, is well known for having introduced an amendment to enable private corporations such as ITC to set up their own single-license yards outside mandis, even before the central government advocated such a move, in the first Model APMC Act in 2003 (Krishnamurthy 2015). Maharashtra brought changes in its laws to enable the setting up of private markets, of which over sixty licensed private markets are presently operational in the state.² And Karnataka has been recognised for pioneering deep legal and institutional reforms to interlink all its APMC mandis in a common electronic spot market platform, an innovation that partly inspired the central government's e-National Agricultural Market scheme, launched in 2016 (Agarwal et al 2017). In fact, of the 28 states and union territories that had functioning APMC Acts at the time the new central laws were promulgated, 27 enabled corporations to take a single unified trading license, allowed direct marketing outside mandis, and made provisions for the establishment of private wholesale markets.³

Marketing regulation, especially after these state-level reforms, has not directly restricted farmers from selling outside APMC mandis. It is true that in their initial avatar, states with strong APMCs did restrict traders operating in notified market areas to purchasing inside regulated mandi yards. While the aim was to provide better oversight, in many instances this led to indirectly limiting the set of licensed buyers and thus competition in the local market. Over time however, through various reforms, these constraints were, at least formally, removed.

² List of private market license holders in Maharashtra:
<http://erp.msamb.com/online/ListOfMarketReport> (Maharashtra State Agricultural Marketing Board)

³ Status of Marketing Reforms, Directorate of Marketing and Inspection, Ministry of Agriculture and Farmers Welfare, Government of India.
https://www.dmi.gov.in/Documents/Reform_Status.pdf

While this does not mean that the regulatory reform agenda across Indian states was near complete, the claim that until June 2020 Indian farmers were trapped in sales within APMC mandis is a gross mischaracterization of ground realities. For millions of small and marginal farmers in states like Bihar and Odisha or in remote or otherwise marginalized locations across many other states, APMC mandis—whether in letter, spirit or substance—had never materialized in the first place. For others, alternative channels such as private procurement hubs and private markets were already present on the ground or were at least legally viable options for interested commercial buyers. This is true even in the states of Punjab and Haryana for all crops except wheat and non-basmati paddy, the two dominant crops which are procured at Minimum Support Prices by those states. Most importantly, unlike the new central acts, both the Model APMC Acts (2003 and 2017) and the amended state marketing laws in place provided a more robust regulatory framework for alternative channels to operate outside mandis. In primary agricultural markets, marketing infrastructure such as APMC mandi yards are not cosmetic matters, but vital and dynamic elements of the primary marketing ecosystem. Similarly, key aspects of regulatory design are not semantic matters, but are at the heart of regulatory purpose and practice on the ground.

Regulatory principles and the role of mandis as public goods

Given the vilification of APMC mandis, it is perhaps not surprising that the first principles and economic reasoning behind the original regulatory system have been largely overlooked in the design of the new laws. These principles are well worth recalling.

Today it is common to think of APMC mandis primarily or even solely as sites for revenue extraction by the State and as entrenched local markets controlled by powerful local commission agents and traders. These are indeed features of many such marketplaces, especially in certain states. However, the original reasoning behind setting up local physical wholesale markets in agricultural regions was to give farmers access to a publicly regulated marketplace where they could sell their produce to the highest bidder in an auction, benefit from standardization and vigilance in assaying and weighing, and expect that their payments would be honored in full and on time. Given the small size of the majority of producers across India, it was understood that with only a limited number of buyers in any given local market area, tangible regulatory oversight was important to limit the tendency towards the formation and consolidation of monopsonies.

Conceived as multi-seller and multi-buyer market sites, mandis were intended to function as primary spot markets, enabling competitive price discovery, market information and knowledge exchange, on-site dispute resolution, and counter-party risk assurance. Here, farmers could organize collectively, and an elected local committee – dominated, in principle, by farmers but with trader, commission agent, labour and cooperative and other agency representatives – was put in charge of overseeing activities (Krishnamurthy 2020). When in place, well-functioning mandis are public goods. Their presence has spill-over effects even on the prices of non-mandi transactions, where the current mandi rate typically serves as a benchmark for negotiation. This is why it has been commonly observed that private corporate buyers rely on local mandi prices to set prices for procurement outside mandis. Moreover, this is also why even after the state-level reforms discussed above worked towards enabling multiple, alternatives sites outside APMC mandis, state regulation did continue to seek to license all major buyers interested in purchasing produce in the local market area.

On the ground, as we have already mentioned most states and regions did not invest in building enough mandis, existing market yard infrastructure remained woefully deficient, and APMCs are deeply compromised in practice. One of the largest unspent line items of the central budget happens to be the funds allocated to create agriculture marketing infrastructure (Chatterjee and Krishnamurthy 2019). Yet even with all their many infirmities, empirical data show us that wherever they do exist, mandis matter for farmers. Using micro-data on mandi prices, one of us shows that a one standard deviation increase in APMC mandi density is associated with 3-5% higher mandi prices after controlling for local demand and supply conditions (Chatterjee 2020). This, of course, does not mean that creating more markets anywhere will improve prices perpetually. In Punjab, where most paddy is procured at the Minimum Support Price (MSP), creating more markets might make logistics simpler but will have no relationship with prices. However, in other states and commodities, where prices are determined by market forces, more mandis potentially facilitate greater competition and hence help price realization.

Moreover, long-term ethnographic research in states like Madhya Pradesh also demonstrates the capacity that APMC mandis have to reform over time in the interests of producers, both through the leadership and vigilance of farmers and through the actions of mandi functionaries and state administrators. In these contexts, mandis have also demonstrated their distinctive comparative advantage as multi-commodity, multi-buyer, multi-season public market places in contrast to single-buyer, single commodity, seasonal procurement centers, whether they are run by state agencies or private companies. As a result, reforms that improve the competitiveness of trade in mandis and the quality of critical

processes of exchange (improvements in weighing, auctioning systems, ease of payment) tend to be more inclusive as mandis are public sites open to all farmers rather than restricted to those registered and recognised by formal documentation for government procurement or part of particular corporate procurement networks (Krishnamurthy 2011, 2015, 2020).

In this regard and in the present moment, it is especially important not to conflate the primary role of mandis with that of public procurement. It is only in the states of Punjab and Haryana and only for the two main foodgrains, wheat and non-basmati paddy, that the APMC mandi serves as a procurement center for universal, unlimited procurement. In light of the new central laws, therefore, the conflation and interlinkage between the fate of APMC mandis and the future of MSP procurement is unique to Punjab and Haryana. But it does reveal the danger of the Centre pushing market reforms in a complex state subject and vital livelihood system without openly and explicitly sharing its larger vision for Indian agriculture and how its future plans for different, yet interrelated state interventions fit in. Given the scale and dependence of these two states on the food grain procurement regime currently in place – and their huge, mobilized networks of farmers and commission agents – the widespread protests in India's northern granaries reflect their genuine and specific anxieties.⁴ Even so, this should not dominate our understanding of the role that APMC mandis, as publicly regulated market sites for exchange between primary producers and multiple buyers (which may include the state) play in the agricultural marketing ecosystem.

It is true that the new central acts do not repeal existing state marketing acts or legislate on the functioning or taxation of existing APMC mandi yards. However, they do raise very serious concerns about the overall quality of regulatory oversight of commodity exchange in the new trade areas that have been created under these laws. This includes the minimal requirement for buyers to have nothing other than a PAN card (the Indian tax identification number) to procure from farmers, without any system of registration let alone any mechanism for addressing counter-party risk. The numerous cases of traders in states like MP absconding after having made only partial payments to farmers over the last few months have highlighted this problem. The new dispute resolution mechanism under distant, overworked and technically unskilled

⁴ We have earlier made this argument in Chatterjee and Krishnamurthy (2020) 'Farm laws: First principles and the political economy of agricultural market regulation,' as part of a Symposium on the Farm Laws on *Ideas for India* (October 2020). Two recent articles in *The India Forum* by Shreya Sinha (November 2020) and Surinder Jodhka (March 2021) focus on the changing dynamics of agriculture and the anxieties related to the farm laws in the context of Punjab.

district administrators has proved, at least presently, ill-equipped to address such scenarios, while the clause denying farmers recourse to the formal court system has understandably raised alarm bells among farmers organizations.

Traders and intermediaries, like any other businesses, try to make profits and enhance their margins, and they do fleece farmers when they can. These take the form of renegeing on promised prices, using faulty weights, making incorrect claims about quality, and delaying payments. Regulations are supposed to keep these practices in check, rather than assume that they will suddenly disappear. If APMC mandis are failing to protect farmers from malpractices they need to be reformed and held accountable. As already mentioned, there is good evidence that reforming mandis is not an unattainable dream, although it does require serious enhancement of regulatory capacity and public vigilance in the field. Instead, the new laws now allow the same traders suspected of restrictive trade practices within APMC mandis to operate freely outside the mandis without any oversight. Bihar's repeal of its APMC act in 2006 is a prime example of the fact that absence of regulatory oversight does not improve lives of farmers, if anything it made matters worse.

In this context, the fact that the setting up of systems for the registration of traders and the recording of transactions as part of a market intelligence system have been left entirely to the discretion of the central government only if and when they should find these to be necessary in the future, provides little cause for comfort or confidence. Surely, in markets that are well known for asymmetries of information and where ensuring better and more transparent price discovery is an essential function, putting the onus of ensuring such mechanisms are mandatory and should be put in place prior to implementing the acts, is not an unreasonable expectation of the government. Unfortunately, for many farmers, this state of effective deregulation is in fact, the *status quo*. But, given that the stated goal is to have well-regulated and competitive markets, the decision to effectively deregulate is a regressive direction to have chosen. It also reveals something about the status that messy, physical agricultural exchange involving poor, small farmers occupies in the imagination of our law and policymakers. It is impossible to imagine a futuristic vision for drastic deregulation of the stock exchange and financial markets being met with delight and optimism. Ironically and quite surprisingly, the Farmers' Produce Trade and Commerce Act 2020 has a clause that explicitly keeps the "reforms" from being applied to stock exchanges.⁵

⁵ "Nothing contained in this Act, shall be applicable to the Stock Exchanges and Clearing Corporations recognized under the Securities Contracts (Regulation) Act, 1956 and the transactions made thereunder.", Clause 16, Chapter V, The Farmers' Produce Trade and

Law and market integration: what it is does and does not do

The second major objective of the central laws is to enable market integration. The present government's motto for India's agricultural markets is One Nation, One Market, a slogan that was schematized in the flagship e-National Agricultural Market platform launched in 2016 and now enshrined in law by the very careful choice of words 'trade and commerce' and the avoidance of the term 'marketing' in the title of the most controversial of the three acts.

There are two aspects to market integration. First, facilitation of barrier-free movement of agricultural produce across state borders. Second, creating a uniform set of rules and taxes on agricultural trade across the country. In this light, it is important to ask whether the promulgation of the central acts will indeed bring out a more unified and integrated agricultural market?

Many state governments, when they were faced with shortages of certain crops and rising local prices, have been used to instituting arbitrary bans on export of those crops outside their borders. It is also true that traders were harassed at state borders when they transported agricultural produce and were asked to produce documentation that the relevant mandi tax had been paid. Both these aspects of state intervention were indeed against the idea of a unified national market. Leaving the questions of constitutional validity aside, the central act now makes such practices illegal. However, the extent to which a law is implemented on the ground, by the administration that answers to the state, remains to be seen.

More importantly, on the second issue of creating a unified set of rules and taxes, the effect seems to be virtually the opposite. By declaring all the physical territory outside existing APMC mandi yards or other notified sites under state APMC laws as 'trade areas', the central law has in effect created multiple regulatory regimes both within and across states. This is a deeply counterproductive outcome. It has already given rise to a regulatory turf war between the Centre and the states. A number of state governments have passed resolutions against the laws and at least three opposition-ruled states (Chhattisgarh, Punjab and Rajasthan) have passed their own legislations in response. Across the board it has actually led to regulatory segmentation and generated greater regulatory ambiguity and uncertainty. This is hardly the kind of regulatory environment that will attract private sector investment and incentivize expansion, especially given that corporations have to eventually manage and negotiate their procurement operations in administrative territory of states. Even more worryingly, in the aftermath of the laws and protests, we

Commerce (Promotion and Facilitation) Act, 2020.
<http://egazette.nic.in/WriteReadData/2020/222039.pdf>

have also seen state governments expressing their protectionist impulses to safeguard the interests and entitlements of their own farmers against those of producers from other states.

There were other, better ways to address the problem. The central government could have heeded the voices within its own leadership that had proposed the creation of an interstate council for agriculture to build consensus and achieve greater coordination and regulatory synchronization. This would have been a far more constructive approach to the challenge of market integration. Instead, we have witnessed extraordinary scenes, as a set of central laws with the stated objective of facilitating the free and unfettered inter-state trade of agricultural produce, have given rise to a situation where the State itself erected massive, physical barriers to prevent farmers—the producers—from reaching New Delhi to protest the laws and place their demands.

However, even if the laws had indeed done a more competent job of enabling market integration (rather than resulting in effective fragmentation), it is critical to remember that integration always comes with two very important caveats. First, any form of integration creates winners and losers and therefore has distributional consequences (see Chatterjee 2020 for exposition of one such force). Although we would expect that the net gains are positive for farmers, some benefit more than others. Importantly, there will be some farmers—those who are small and unproductive—who will indeed be worse off. Second, integration also makes incomes more volatile (Allen and Atkin 2016). In the absence of any functioning insurance policy or other credible risk mitigation strategies, this again has serious welfare consequences for farmers. Therefore, as we have emphasised in earlier writing, pushing for greater market integration does not only require far greater institutional capacity, public investment, regulatory innovation, and context-specific implementation. It also must be supplemented by much greater acknowledgement of and preparation for both the gains and losses from integration and their consequences for the millions of lives, livelihoods and economic and social transitions involved in the process (Chatterjee and Krishnamurthy 2020). Instead, the new central farm laws eschew all such responsibility and take recourse in one final major assumption, one that may be seen as the most far-fetched or far-reaching depending on one's perspective. This is the assumption that regulatory reform will incentivize large corporate players to enter India's agricultural markets and plough in massive private investments that will bring much greater efficiency and consolidation, while passing on the gains to farmers, thereby significantly enhancing farmers' incomes.

Agri-business, private investment and farmers' incomes

The one thing that both the supporters of the central farm laws and those protesting against the new legislations will agree on is that the new reforms place great faith in the role that the private sector and large-scale corporate capital can play in transforming Indian agricultural markets. There are actually a series of critical assumptions at work here. First, that bad, restrictive state laws and constant state intervention in markets via the imposition of stock limits have thus far prevented private players from entering local markets and buying directly from farmers and that once these impediments are removed we will see the entry of large corporates into agricultural markets. Second, that large corporate actors will make substantial, transformative investments in agricultural supply chains and systems. And third, that corporate presence will bring much needed consolidation and efficiencies, eliminating intermediaries and passing on the gains directly to farmers, thus boosting their income. Let us examine the evidence around each assumption.

The first assumption that laws and regulation prevent entry of private players into agricultural markets is inaccurate. Indian agricultural market systems are inhabited by an overwhelming number of private actors between producers and consumers: including aggregators, traders, commission agents, brokers, intermediaries, transporters, processors, wholesalers, and retailers. Their scale might be small, but they are private participants in markets nevertheless. The fact that Indian agricultural policy only recognizes them as petty, distortionary figures rather than genuine participants in complex and dynamic agro-commercial systems is a fundamental problem. This basic lack of acknowledgement, or deep-seated misrecognition of their existence and role translates into the absence of a genuine economic and political vision for the real, actually existing system of agricultural markets in India.

Even as small farmers and small firms predominate in India's agricultural markets, large corporations have had a long and varied history of participation in agricultural commodity exchange and trade across different regions and commodity systems. These companies exist in different states with varying regulatory regimes. However, large corporations enter and sustain their participation in these markets when it is profitable for them to do so. On the supply side, they focus on the costs of procurement, but more importantly it is the demand for their products that drive their commercial investments. Stable and substantial source of demand is a critical determinant for large corporates to enter, invest and make profits in agri-business.

Take the case of export markets that provides such a source of stable and substantial demand. Following the potential in international market for shrimps

that opened up due to the spread of the early mortality syndrome disease in East Asia in 2010-11, Indian processors were quickly able to capitalize. While Indian shrimp exports accounted for 6% of global exports in 2009, India is now the world leader having captured more than 20% of the global market. Shrimps are produced in many coastal states with varying forms of regulation, but trade is driven by corporate exporters. Similarly, we see a range of corporations actively participating in markets for oilseeds and raw materials for the feed industry (such as soybean and maize), both of which require investments in processing. Procurement and processing take place in states with and without functional APMC acts.

The structure of supply chains and marketing systems respond to underlying structural conditions of production and demand, while being influenced by regulatory structures. Thus, in cities with enough demand there exist supermarkets like Reliance Fresh and Big Bazaar and other scales of formal or so-called 'modern' retail existing alongside informal (although not unorganized) distribution and vending channels. Given that the top ten grocery retail stores in India have grown at an annual rate of over 70% in the 2000s (Gulati, Joshi, Landes 2008), the claim that regulations have prevented the entry of private players or large corporates might be seen as quite a stretch. In that respect, the new laws can be expected to have a limited impact on the entry of private players since they are already operating wherever they see good commercial opportunities. A very large proportion of the population, however, remains poor and low-income, and depends heavily on subsidized foodgrains from the government. They also depend on local private markets for basic food provisioning and this explains the persistence of a heavily intermediated and persistently small-scale and informal private food distribution system.

Will large corporates make transformative investments in supply chains after the new laws? Nothing in the existing regulations was preventing them from making these investments. Large corporates make investments when it is profitable for them. The presumption is that the removal of storage and stock limits will in and of themselves spur large-scale private investments in infrastructure and logistics. However, even if this were to be the case, since they own these investments – cold storages, transportation networks etc., the corporations are also likely to keep a lion's share of the profits. Further, large corporates have no incentives to create public goods like public marketplaces or market intelligence systems. For instance, Amazon's market intelligence infrastructure is for its own use and not for the use of all market participants at large. If a private platform becomes large enough that it accounts for a sizeable proportion of market transactions, serious questions about monopoly powers will then arise.

On the ground, there has been little evidence that deregulation in a small-holder farming market system drives large-scale private sector investment in infrastructure and supply chains. Bihar, which has had no state regulation in agricultural markets since 2006, is the most well-known example. It has been repeatedly documented that the marketing infrastructure in Bihar is in a dilapidated state. Our research documents that almost all transactions in Bihar are at the farmgate to local traders. Large corporate buyers are only present in very select regions when conditions of production suit their needs. For example, national and multinational corporations that process, trade and export maize for poultry feed operate in some districts to the north of the Ganga river, where farm sizes and productivity is relatively larger. Even then, these companies hardly interact directly with farmers, choosing to go through intermediaries to procure their demand. In fact, our fieldwork in Purnea district observed a proliferation rather than a reduction in local brokerage and intermediation as the demand for maize has increased over the last several years.

Another interesting contradiction is the following. Take the states of Bihar and Karnataka that produce maize for both the domestic and international market. Poultry feed mills in Bihar have a capacity of around 150-200 tonnes per day whereas those in Karnataka are 10 times as large.⁶ If APMC regulations were the binding constraints, why would corporations set up facilities in Karnataka (a state with an APMC) but not in Bihar (a state where agricultural markets are as laissez-faire as it gets)?

In another site, we observed that while newer export markets bring regional agro-commercial investments and spur production, they also increase income volatility for farmers and bring agro-ecological risks. In Balasore district in Odisha, where many farmers have shifted over the years to a paddy-prawn production system where such cultivation is feasible, we saw private enterprises that had world class prawn processing facilities. Here, refrigerated trucks plied the roads to pick-up prawns from farmers villages. While this may have increased incomes of prawn farmers in some seasons, these changes were not transformative from the point of view of farmers. In fact, the volatility of prawn cultivation would often throw many of them into debt. Farmers were also dealing with the problems of saline ingress in their fields.

The reality as it currently stands in India is one where the share of public investment in total investment in agriculture has steadily declined, from a high of 33 percent in the 1960s to 15 percent for the period from 2010-2017. But corporate investment has not risen to meet the need. Corporate investment in

⁶ Singh, S. and Damodaran, D. (2015, June 4). Bihar: An unlikely corn revolution. *The Indian Express* <https://indianexpress.com/article/india/india-others/bihar-an-unlikely-corn-revolution/>

agriculture only accounts for 3 percent of the total. It is private investment—predominantly by farming households themselves—that contributes by far the major share of investment in agriculture and allied activities at 82 percent.⁷ The idea that this scenario is sustained by the regulatory stranglehold of the state rather than the structural conditions of production, marketing, distribution and consumption, and most crucially, the political and economic priorities of central and state governments, is deeply unconvincing.

Finally, how should one approach the relationship between large agri-business and farmer incomes? The extent to which farmers' incomes are likely to go up due to investments and procurement by agri-businesses will depend upon the extent to which agri-businesses are willing to share their profits. There is neither a theoretical nor an empirical reason to believe that they would.

Farmers, especially small and marginal farmers in developing countries, are limited in their ability to change supply in response to prices, at least in the short run. In economic parlance, their supply curve is very inelastic. This is because post-harvest, due to poverty, need for cash, and lack of storage they are forced to sell at whatever prices are offered to them. Even in the longer term, the best they can do is switch crops conditional on the agro-ecology, but the options are limited. When supply is inelastic, even a small reduction in demand by agri-business, as they exert market power, can reduce farmer prices significantly and reduce their share in the profit.

Do we have evidence of this? Indeed, with consolidation that gives rise to scale economies in the first place, comes market power. From international experience, the news for farmers is not pleasant. In the United States, which is the epitome of laissez-faire, meat, grain, seed, and pesticide markets are dominated by four large firms. One firm controls equipment manufacturing. This has obviously led to large increases in surplus but that has not been shared with farmers. It is estimated that 75% of contract farmers live below the poverty line⁸ and most of them operate in losses (Taylor and Domina 2010). Farmer suicides as a result of farm distress and debt are on the rise in the US, EU, and Australia.

Big agri-business exerts its market power through 'industry-transforming supply chain restructuring.' The US Department of Justice is currently investigating many cases of price-fixing, bid rigging, and monopsony practices

⁷ Batla, S. and Hussain, S (2021, 5 February). 'Getting the Investment-Subsidy Mix Right in Indian Agriculture', *The Wire*. <https://thewire.in/agriculture/getting-the-investment-subsidy-mix-right-in-indian-agriculture>

⁸ Lowrie, A. (2019, November 11). The Human Cost of Chicken Farming. *The Atlantic*.

by ‘Big Ag.’⁹ Experiences in other developing countries where deregulation has fostered growth of agri-businesses has been similar. Entry of agri-business in Kenya has reduced farmer incomes (Dhingra and Tenreyro 2021). In the absence of a strong and high-capacity competition commission, and with the new laws limiting farmers from approaching courts, the Indian case is rather worrisome.

The assumption that intermediaries are a nuisance is faulty. In supply chains and agricultural market systems, they perform many valuable functions like providing credible quality assaying, reducing counter party risk, and provision of credit that both the state and the large corporate sector has failed to provide. Given their regional expertise they are often hired by large corporates. Thus, ad-hoc moves to replace them usually prove counter-productive. For example, when intermediaries were removed through legislation in Bangladesh, the entire edible oils supply chains collapsed, hurting farmers, processors and consumers (Emran et. al. 2020).

Conclusions and the way forward

Our basic argument is that there are no low hanging fruits when it comes to transforming Indian agriculture. While better regulations can improve the existing situation, it is vital not to get carried away in overstating the role of regulatory reform in achieving transformative changes in agriculture, especially when it comes to sustainably enhancing farmers’ incomes. Moreover, it is a grave mistake to confuse effective deregulation (which is what the new central farm laws promote) with better regulation that earnest reforms would have sought.

For farmers to benefit from alternative channels, the presence of strong domestic markets and a dynamic and well-regulated marketing ecosystem is vital. This is because alternative procurement platforms, while competing with pre-existing market sites like mandis, at the same time, peg their transactions to local wholesale prices, infrastructure and processes. It is for this reason that multi-buyer physical spot markets, especially those where auctions are conducted for farmers’ produce, are particularly important for price setting and discovery. Just as the MSP can only be guaranteed where the state enters the physical market to assure purchase at a minimum price, it is the presence of

⁹ Hafiz, H. and Miller, N. (2021, February 18). Competitive Edge: Big Ag’s monopsony problem: How market dominance harms U.S. workers and consumers. *Washington Center for Equitable Growth*.

<https://equitablegrowth.org/competitive-edge-big-ag-monopsony-problem-how-market-dominance-harms-u-s-workers-and-consumers/>

genuine, viable options that make alternative procurement channels valuable to farmers. The answer therefore lies not in binary formulations that are pro- or anti-APMC, but in supporting the creation of multiple options for farmers that respond to the existing constraints that farmers face in specific contexts.

Similarly, new, organized and technologically driven procurement and marketing systems will only work as actual options for producers if they manage to address the real constraints that farmers face on the ground, especially access to credit, inputs, storage, transport, and timely payments. Most of these constraints originate in the relations of land ownership and access, and the limits and exclusions they impose on smallholding farmers and landless cultivators. Simply put, farmers will not be in a position to exercise any previously existing or newly granted regulatory freedom in the market if they cannot overcome these constraints. Equally, while increasing competition among intermediaries is desirable, their elimination is a misguided — and indeed dangerous — objective if one does not respect or replace the roles and risks that they cover.

It is also vital to remember that given the structure and condition of the Indian economy, we cannot afford to only see agriculture as a sector stuck in a low-level equilibrium (as true as that may be in economic terms). We must also acknowledge and engage with it as a vast, diverse and pulsating livelihood system. Agriculture and associated activities like wholesale and retail trade, brokerage and intermediation, transportation and logistics, support millions of livelihoods. All the individuals, families and firms associated with these jobs are not there to make huge profits because they are protected by restrictive state regulation. Working within the structures, opportunities and constraints of both the agrarian and non-agrarian economy, they are there primarily to do the best they can to make ends meet.

These individuals and institutions do a very good job of ensuring efficiency — the swift matching of supply and demand across the Indian economy. The response of these systems in the face of unprecedented disruptions imposed by the Covid-19 pandemic and lockdown was only the most recent instance of the complex and usually invisible interconnections that keep the essential food and agricultural economy going at all times. They also stand in for many public goods that the government ought to provide — accessible credit, quality assaying, basic market infrastructure, information dissemination. And yes, they charge a fee, but not for nothing.

Of course, there is much scope for improvement. Agriculture and agricultural markets certainly need both more investment and better regulation. While significant investments will need to be made by the private sector, others, especially those related to public goods and infrastructure that would benefit

farmers will have to made by the government. This is not restricted to infrastructure. The poor state of our agricultural universities, for instance, makes us reliant on foreign firms for better technology and leaves our farmers bereft of much needed public extension services. In any case, as we have argued in this article, the impediment to investment – public or private – is not regulation. Moreover, even well-regulated agricultural markets cannot necessarily guarantee remunerative agricultural incomes or agro-ecological sustainability. Farmers will require multiple kinds of support from the state as they face both an intensification and expansion of risks.

What if our policy reformers have a different world in mind? One where more people have better and well-paying jobs such that fewer people rely on agriculture and where farmers have larger landholdings and modernized and consolidated production, marketing, processing and distribution systems maximise and sustain their incomes. The means to that end is also not deregulation. For deregulation, across the world, has consolidated market power in the hands of a few and has not provided the escape to prosperity to those who ensure food on our plates. Across the world, arbitrary and forceful removal of intermediation has led to painful outcomes for everyone. The means to that end is also not pushing famers into unemployment.

Given the diversity, complexity and scale of the challenge, the approach to agricultural reform needs to be both much more comprehensive and much more contextual. It must be led by the states even as we urgently require better institutional arrangements for both Centre-state and inter-state coordination and consensus building. It will need new frameworks for public investment and regulation, and these must begin by focusing on the multiplier effects that well-directed public investments can generate both on and off the farm. In doing so, it must also recognize the limits to how much surplus agriculture can generate, who gains from surplus and is able to accumulate, and the need for supporting a variety of transition pathways for diversification within Indian agriculture and the Indian economy.

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