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India Economics

The Retail Revolution – Part II – A Catalyst for Agriculture

What's New: The emergence of organized sector retail chain stores and a rise in competition is likely to be a catalyst for bringing about much needed reform in the agriculture-related supply chain. The large players in the retail sector and fast moving consumer goods are also influencing the government to liberalize the regulations, which hitherto have constricted the operational environment. In addition, political pressure is rising, invoking a response from the government to change the regulations so as to enable farmers to operate more productively.

Conclusion: First, instead of using the current chain, which results in large mark-ups due to a multiple number of intermediaries, the farmers are beginning to transact directly with the large corporates, reducing inefficiencies. Second, some of the large retail players will start contract manufacturing with farmers, providing them with the right quality inputs (fertilizers and seeds), capital support and signals on the mix of output they need to produce to earn maximum returns. Third, an increase in direct sourcing by large players will also encourage the private sector to invest in the logistics and infrastructure needed to improve the productivity and efficiency of the supply chain.

Implications: The new environment should help boost productivity growth and per capital income in the rural economy, where almost 70% of the Indian population resides. Although it could take three to four years before the positive impact of the changing environment starts to be reflected in the growth numbers, the first signs of a turnaround are now visible.

The Retail Revolution – Part II – A Catalyst for Agriculture

This note forms the second part to our series on the retail revolution. The first part, published on November 22 "The Retail Revolution – Part I – The Macro Story", discussed the overall macroeconomic impact from the emergence of the organized retail sector. In this note, we discuss the current macro environment of the agriculture sector and the potential implications for the sector from organized retailing.

Summary

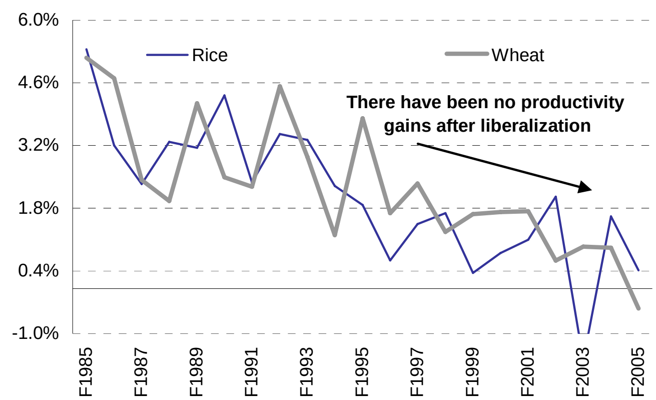
The agricultural sector, which accounts for about 20% of GDP and employs about 220 million people, has been neglected so far. Over the years, owing to government intervention in input and output pricing, there has been little incentive for farmers to improve efficiency. Moreover, in the past few years, public investment in agriculture as a percentage of GDP has also been declining gradually. The present agriculture supply chain (see Exhibit 2 on the following page) has a tremendous amount of inefficiencies at the farm level, the intermediary level and at the marketing and distribution level. However, we believe that the emergence of organized sector retailing can prove to be a significant catalyst for the growth environment in the sector. Indeed, private corporate entities are influencing government policy to improve the business environment for the sector. This, coupled with increasing political pressure to revive agricultural growth, has forced the government to initiate some important reforms over the past two years.

Agriculture Has Been a Neglected Sector So Far

Growth in India's agriculture sector decelerated to an annual average of 2.4% over the period F1996-F2006, from 3.5% during the five years ending F1995 and 4.6% during the 1980s. The agriculture sector, which provides employment to approximately 60% of the workforce (220 million people), continues to be dependent on the monsoon rains as only about 40% of the cultivation area is irrigated. Crop productivity growth has gradually decelerated over the last ten years (Exhibit 1). In fact, productivity levels for cereals in India are 60% lower than in China. The sector also suffers from huge inefficiencies on the distribution side in terms of lack of organized pricing information, inadequate storage and transport infrastructure and a high level of intermediation. Cumulative wastage in this supply chain is estimated at about US$11 billion, or 9.8% of the agriculture component of GDP.

Exhibit 1

Slowing Productivity Growth (3 Yr MA)



Source: Economic Survey of India, Ministry of Agriculture, Morgan Stanley Research

Current Farm Produce Supply Chain is Outmoded

The Indian farming industry is dominated by small and marginal farmers and has suffered from lack of investment in the supply chain for years. Some of the major structural issues with the sector are as follows:

Fragmented structure of farm produce market: About 60% of the farm land area is with marginal, small and semi-medium farmers (about 107 million land-holdings). The average land size per farmer is only 0.005 square miles (1.4 hectares). These farmers lack the bargaining power to deal with market intermediaries and hence are often exploited. The archaic infrastructure for transporting agricultural produce from farm-gate to consumers has meant huge losses in transit and large mark-ups in pricing due to extra layers of intermediation.

Outdated marketing structure and laws: Currently, much agricultural produce is sold by farmers, primarily via government-mandated market yards (known locally as "*mandis*"). Until, recently, the private sector was restricted from directly purchasing agricultural produce from farmers. The market yards serve, at an average, a very high radius of almost 459 square kms (177 square miles) – owing to which farmers have to travel long distances to sell their limited produce.

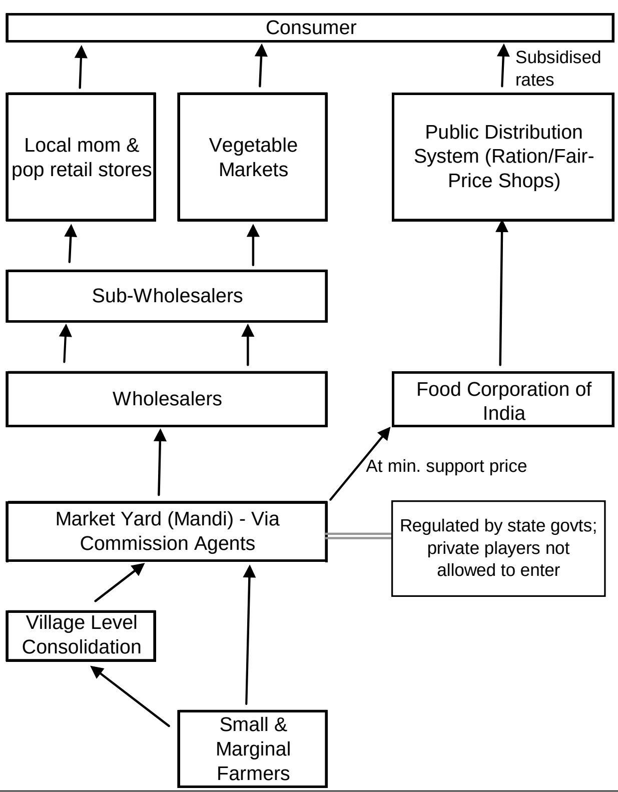
Additionally, the mandis are mired with inefficiencies. There is considerable malpractice, which results in farmers realizing less than market value. Transactions tend to favor traders. Often traders who buy produce from farmers operate in a coordinated manner, resulting in lower realizations for farmers. The infrastructure of the marketplace is also lacking in terms of efficiency, frustrating the farmers.

Until recently, most states controlled the marketing of agricultural produce through the Agricultural Produce Marketing Committee (APMC) Act. The government's effort to regulate the farm produce market through the APMC Act, so as to ensure better realization to the farmer, is now effectively becoming a major hurdle to achieving that very objective. APMCs are supposed to be formed through regular elections with farmer representation, but in many states government machinery dominates the governance of these markets in practice.

To summarize, the current market structure has many problems, including: (a) large number of farmers with fragmented holdings and multiple levels of intermediation; (b) a restrictive regulatory environment; (c) large mark-ups between farmers' realizations and final consumer prices; (d) lack of transparency in price determination; (e) lack of infrastructure; and (f) lack of encouragement to improve the product mix towards higher-value-added items as there is a lack of standardization, gradation and certification.

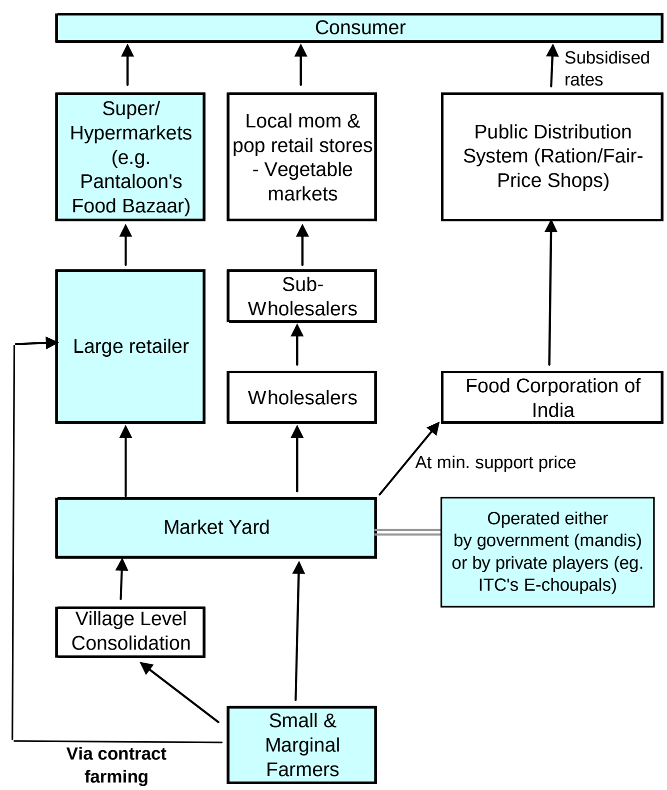
Laws related to food processing still not conducive enough: We see the food processing industry as a critical spoke in the agriculture growth story – higher value addition of the marketable agriculture surplus should help increase farmers' remunerations, increasing the shelf-life of agricultural products should help reduce wastage, and, most importantly, exports of processed products should help Indian farmers participate in globalization. However, the growth of the food processing industry has been constrained by the regulatory environment. Although the government has removed a number of reservations in food processing industries for the small-scale sector, the overall regulatory environment is still not sufficiently conducive to encourage the required participation from the private sector. Government support in creating the infrastructure for bulk handling and storage has also not been forthcoming.

Exhibit 2
Present Agriculture Supply Chain



Source: Morgan Stanley Research

Exhibit 3
New Agriculture Supply Chain



Source: Morgan Stanley Research

***Government spending mix was previously skewed towards subsidies*:** The mix of spending on capital and subsidies was skewed towards subsidies up until F2003. The government had focused on providing subsidies instead of investing in infrastructure. Expenditure on agriculture-related subsidies (food + fertilizer + power) was 2.3% of GDP in F2003, up from 0.6% in F1982 (Exhibit 4). Note that our subsidy calculations exclude the sizeable tax exemptions on agricultural income earned by large farmers. Over the same period, the government reduced capital spending in agriculture to 0.4% in F2003 from 1.2% of GDP in F1982. However, over the past two to three years, the mix has started improving again, with the government increasing capital expenditure and keeping the subsidy burden in check.

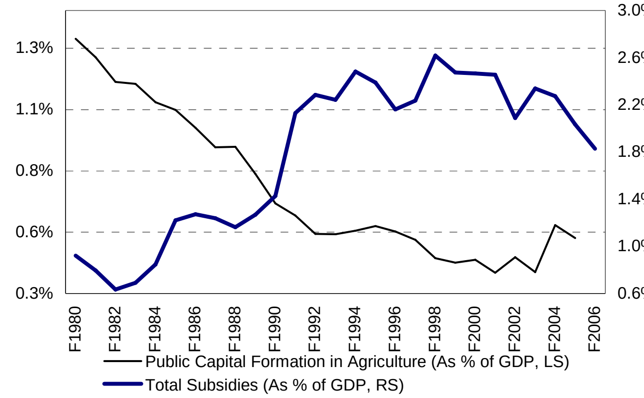
The Retail Revolution Promises to Catalyze the Process of Change

The emergence of organized sector retail chain stores and a rise in competition is encouraging these players to look towards improving efficiency in the agriculture-related supply chain. Some of the large players are beginning to initiate efforts to improve efficiency in terms of how the produce is procured from farmers. The private sector is influencing the government to liberalize regulations that constrict the operational environment. In addition, political pressure is also rising, invoking a response from the government to change the regulations so as to enable farmers to operate more productively. We note below some of the key changes in the farming-related business environment that should help bring about an improvement in agricultural output over the next three to four years.

Regulatory environment has already started changing: Many states have recently amended the APMC Act, which in effect was restricting the private sector from directly transacting with farmers. This Act forced farmers to use government-mandated markets (mandis) to market their produce. Thirteen states and three union territories have amended the APMC Act, allowing private sector participation in the direct purchase of agricultural produce from farmers. The most important change in the amended AMPC Acts is encouragement to the private sector to transact directly with farmers. Currently, due to malpractice and the high number of intermediaries, the farmers' share of the final price paid by consumers is lower than one-third. Price discovery is not transparent and commission agents take an unduly high share of the final price. Amendment of the APMC Act should provide the regulatory environment to allow private sector participation.

Exhibit 4

Public Capital Spending vs. Subsidies* on Agriculture



* Taken as sum of food, power and fertilizer subsidies.
Source: Economic Survey of India, RBI, CMIE, CSO, Morgan Stanley Research

Information access is changing: Large consumer staple companies such as ITC and Hindustan Lever are making a significant effort to improve information access for farmers and help reduce malpractice in the farm produce trade. Indeed, the objective of these companies is to build a competitive advantage over other players by building a franchise with farmers, which, in turn, should help them reduce their farm produce procurement costs and increase the distribution reach for their products. For instance, ITC has installed about 6,500 internet kiosks (called eChoupals) in the distant villages allowing 3.5 million farmers to access information related to agriculture. Each eChoupal helps the farming community come together and access information related to weather, gauge local/global market prices of farm produce and order inputs such as fertilizers and seeds. Each community elects one of its members who is sufficiently well educated to access the internet (which is being offered in local languages such as Hindi) to share the information with the other members. ITC is also providing capital subsidies for minor infrastructure projects, which help farmers improve the crop yields.

ITC has also gained specific permission from the relevant state governments to procure farm produce from farmers. Transacting through eChoupals is helping cut the cost of transactions by about 40-50%, with savings being shared between the farmers and the company.

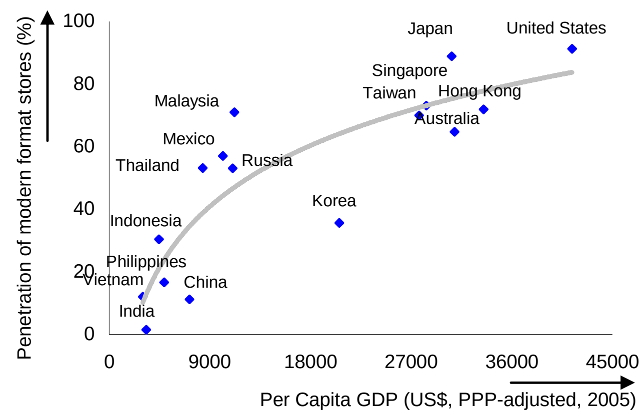
Retail chain stores also beginning to change the environment: Food and beverages account for about 70% of the addressable market (relevant private final consumption expenditure) for the retail chain stores (supermarkets and hypermarkets). We believe that all large companies intending to build a major network of chain stores are working on a plan to connect to farmers for sourcing their requirements at a reasonable cost and at the right quality. The private sector has refrained from investing in agri-marketing infrastructure because of excessive government intervention and dominance of the unorganized sector.

However, with the new regulatory environment and the trigger from organized sector retailing, the private sector is now likely to begin investing albeit gradually. *First,* large players should bring about a change in the way farmers sell their produce. Instead of using the current chain, which results large mark-ups due to multiple number of intermediaries, the farmers are beginning to transact with large corporates, reducing inefficiencies. These players should also start encouraging standardization, gradation and certification of farm produce. *Second*, some of the large players will start contract manufacturing with farmers, providing them with the right quality inputs (fertilizers and seeds), capital support and signals on the mix of output they need to produce to earn maximum returns. *Third,* an increase in direct sourcing by large players will encourage the private sector to invest in the logistics and infrastructure needed to improve the productivity and efficiency of the supply chain.

Changing price discovery mechanism through commodity exchanges**:** The government has also encouraged exchange-trading in agricultural commodities. In F2004, the government removed the prohibition on futures trading in all commodities. The volumes of exchange-traded commodities have increased significantly and helped improve the efficiency of agricultural marketing in the country. The new trading systems, which allow trading based on warehouse receipts, will help reduce price risk. The National Commodity and Derivatives Exchange has also initiated pilot projects in a few states to help farmers start hedging their price risk by trading on the exchange. Efficient price discovery, better price dissemination to farmers, provision of a delivery platform, warehousing logistics support and provision of quality checks are some of the key advantages of full-fledged commodity exchanges. As participation in the commodity exchanges rises, these benefits should start accruing to farmers.

The government has recently given permission to start a national electronic spot market exchange. The National Spot Exchange for Agricultural Products (NSAEP) plans to start operations in three states in January 2007. The NSAEP has identified 11 agricultural commodities for spot trading. The new exchange intends to integrate the current fragmented markets electronically. It will result in efficient price discovery, make it easier to procure commodities from one centre, which aggregates output produced in multiple locations, provide warehousing receipt financing and guarantee timely payment to farmers.

Exhibit 5
Penetration of Modern Format in Food Retailing



Source: Pacific Economic Cooperation Council, IMF, Morgan Stanley Research

A Lot More Still Needed from the Government

The policy-makers in India have been very vocal in their concern about the low growth in the agriculture sector and its impact on inequality trends. Ideally, the government would look to capitalize on the opportunity provided by the retail revolution by simultaneously initiating complementary reforms in the agriculture sector.

Accelerate growth in basic infrastructure investment**:** Currently, only 40% of the cropped area is irrigated. This implies very little improvement in the penetration of irrigation facilities, given that the ratio stood at 34% in F1991. Low penetration of irrigation facilities has left a large part of the area under cultivation exposed to the vagaries of the monsoon. The government's policy programs need to encourage investment in irrigation facilities to reduce this high dependence on monsoon rains. In addition to this, almost 56% of the villages in India were unelectrified as of 2004. Even in the electrified villages, there are frequent power outages – averaging almost 14 hours a day. This has a collateral impact on irrigation facilities as well, since farmers have to rely on more expensive generator sets to irrigate their plots, leading to a higher cost of production.

As we mention earlier, public investment in agriculture as a percentage of GDP had also been declining gradually until

F2003. However, the outcome of general elections in 2004 was a gentle reminder to the politicians who appeared to be ignoring the poor, particularly in the rural parts of India. The UPA government has made an effort to pick up the spending, although the effort has been constrained by a stretched government balance sheet. Although official data for public investment in agriculture for F2006 are unavailable, the government budget denotes an up-tick in spending over the past two years. We believe the government needs to ensure that this spending momentum is accelerated, especially in areas such as rural electricity and irrigation facilities.

Upgrade the food supply chain: Although, the spread of private participation and investment in market yards (mandis) and other agriculture-marketing infrastructure will likely pick up, it is going to be gradual. There is a need for the government to the take the lead and initiate an upgrade of the existing marketing infrastructure. Investment in rural roads, cold storage and market yard development is also key. In addition, we believe the government needs to create a conducive institutional environment to attract private investment in the food-processing sector, which is currently constrained by a multiplicity of food-related laws.

Modify fertilizer pricing policy**:** The government's fertilizer policy has distorted the trend in fertilizer consumption and therefore the mix of soil nutrients. While the government subsidizes nitrogenous (N) fertilizer and has decontrolled phosphatic (P) and potassic (K) fertilizers, the prices of decontrolled fertilizers are relatively higher than urea (controlled fertilizer). Farmers therefore use more urea, which has a higher nitrogen content. The result is that the NPK ratio in India has deteriorated to 6.4: 2.5: 1, resulting in low productivity. The ideal usage ratio of nitrogen, phosphorus and potassium (NPK) is 4: 2: 1. Although the private sector players are trying to educate farmers, we think the government also needs to adjust its fertilizer pricing policy to encourage farmers to make this shift in fertilizer use mix.

Increase spread of crop insurance: Indian farmers face uncertainties in the form of weather and prices. Hence, proper insurance products need to be introduced that can help alleviate financial risk. Although the National Agricultural Insurance Scheme (NAIS) was introduced in F2000, its reach has not been significant so far – just 1.5% of farmers availed themselves of this insurance in the Rabi season (winter crop, harvest April-May) of 2004-05 and 5.4% of farmers used it in the Kharif season (summer crop, harvest October-November).

Credit availability**:** The government has encouraged the commercial banks to increase lending to the agriculture sector over the last two years. The growth of institutional credit to agriculture has accelerated to 31% in the three years ending F2006, compared with 14% in the preceding three years. In addition, 55.6 million credit cards (covering about 25% of the farm sector) have been issued to farmers under the Kisan Credit Card Scheme. These cards allow farmers to gain access to short-term crop loans for seasonal operations and also to term loans for agriculture and allied activities. The government has also provided interest subsidies on new loans availed by farmers in F2006. In our view, the government needs to ensure that the momentum in agriculture credit flow is sustained over the next few years.

Bottom Line

The new environment should help boost productivity growth and per capital income in the rural economy, where almost 70% of the Indian population resides. Although it could take three to four years before the positive impact of the changing environment starts to be reflected in the growth numbers, the first signs of a turnaround are now visible.

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