WORKING PAPER NO: 517

Foreign Direct Investment in India's Retail Sector and Farmers' Productivity: Few Issues

Murali Patibandla
Professor
Corporate Strategy & Policy
Indian Institute of Management Bangalore
Bannerghatta Road, Bangalore – 5600 76
Ph: 080-26993039
muralip@iimb.ernet.in

Foreign Direct Investment in India's Retail Sector and Farmers' Productivity: Few Issues

Abstract

Productivity is generally defined as the amount of output realised for a given level of inputs. The neo-classical growth theory considers productivity as a function of technology and capital accumulation. In this paper, I argue that apart from technology and capital, productivity depends on institutional factors such as property rights, incentives, transaction, and information costs. Foreign direct investment in India's retail sector can bring in the best practices of supply-chain management and reduce transaction and information costs of input and output markets and thereby contributes to farmers' productivity. I bring forth a few conceptual issues and qualitative empirics on this topic.

Key-words: Farmers' Productivity; Supply-chain; Technology; Institutional Factors; Transnational Corporations

1. Introduction

At the time of India's independence in 1947, eighty percent of the population was engaged in agriculture. Most of the farmers lived in extreme poverty (Nehru, 2004). The British colonial rule treated the agriculture sector as a main source of revenue collection, although in some parts especially South India they built infrastructure for irrigation system. The British rule kept the property rights of agricultural land ill-defined especially in the northern part of India for collection of land revenue. They adopted and extended the Zamindari system of the Mughal period, in which a large land lord with large holding was responsible for the collection of the revenue on property of farmers for a specified rural region. As part of the legacy, even at present the property rights of agricultural land remain tenuous in the large states of Bihar and Uttar Pradesh.

The first Prime Minister of India Nehru adopted the Fabian Socialist Policies of five year planning for rapid industrialisation. There was a benign neglect of agriculture. The government mobilised large resources which were pumped into building large-scale public sector and public financial institutions to transfer capital into both public and private sector monopolies. There were hardly any significant investments in the rural areas- no rural connectivity, no significant electrification, no investments for development of land and water and basic primary and secondary education. The terms of trade were kept in favour of the industrial sector; especially the large-scale capital-intensive sector and the urban sector as against the agriculture and rural sector. The large industrial sector was protected from imports, so prices of manufactured goods were much above the international level while the agricultural prices were kept below international prices. In essence the agricultural sector subsidised urban consumption. Furthermore, the government imported food grains from the U.S. (PL. 420) at highly subsidised rates. This is similar to dumping which destroys local production. As a consequence, the agriculture remained un-productive.

After the war in 1965 with Pakistan, the Government of India woke up to the need for self-sufficiency in food production. It undertook investment in the Green revolution. The Green revolution in agriculture is one of the successful policies of the government. The introduction of new seeds and fertilisers, and product market support to farmers helped India achieve self-

sufficiency in food production in a very short period. Over time, as land and water are fixed inputs, the agriculture sector started to experience diminishing returns.

The economic history of developed capitalist economies since the industrial revolution shows that structural transformation led to the majority of the work force moving from agriculture to industry and from industry to service sectors as the technological change and capital accumulation improved productivity in agriculture and industry. At the advanced stage, the service sector employs a major part of the workforce. In India's case, the structural evolution has been different- while the share of agriculture in the total employment decreased slightly from 80 per cent to 65 percent in the last seventy years, the share of service sector in the GDP increased rapidly since independence. In 1991, at the time of India's economic reforms, the primary sector (agriculture, fishing, mining and forestry) accounted for 32.8 per cent of GDP, industry accounted for 27.4 per cent and the service sector accounted for 39.8 per cent. By 2014, the service sector share increased to 60 percent of GDP. After the reforms, there was a decline in public investment in areas such as irrigation and drainage, soil conservation and water management systems and rural roads (Ahluwalia, 2002). Owing to large population land to productivity of Indian agriculture remains low compared to international standards. Within the rural economy, there are areas of well-developed, commercialised agricultural markets and large-scale underdeveloped. In the latter, output, capital and labour markets are interlocked, resulting in a poverty trap for marginal farmers.

Productivity is generally defined as extent of output realised for a given level of inputs. Output is taken as value-added (production-raw materials) and input as labour (L) and capital (K). The process of converting inputs into outputs is technology. The neo-classical economic growth theory ignores raw materials and land by the assumptions that they enter production as fixed inputs and they are not substitutable with K and L. This is erroneous as land is a significant input in determining agricultural productivity. Quality of land in terms of its fertility and ground water levels, raw material use such as fertilisers determine the productivity and also possible diminishing returns to scale.

In the neo-classical growth theory (Solow, 1956), productivity is taken to be a function of technological change and capital accumulation. Technological change can be exogenous and

endogenous depending on the institutions of the country that provide incentives for an agent to invest in research and development, and human capital accumulation for fostering technological change. In this paper, I examine both the conventional factors and also institutional factors such as property rights, incentives, and transaction and information costs in determining productivity of farmers. The institutional factors are important for Indian agricultural productivity because the Indian economy is characterized by pervasive market and institutional failures.

India is the largest producer of fruits and vegetables because of its tropical nature. About 30 to 40 percent of the output is destroyed because of highly fragmented supply-chain, inefficient infrastructure, and segmented and imperfect input markets. One of the ways to resolve these problems is reducing information and transaction costs of farmers in the input and product market. This can take place if large retailers invest in fixed costs of building in fracture and secure output directly from producers.

The Boston Consulting Group (2012) estimated that the retail sales were $ 471 billion with 7 percent share for the organised retail ($ 34 billion) in 2011. It also shows that by 2020 the size of the organised retail would be around $ 260 billion with a penetration of 21 percent. Increasing middle class incomes and use of automobiles, refrigerators, credit cards and adoption of technology for supply-chain is expected to shift the balance in favor of organised retail in metros and small towns. However, major part of India's retail sector characterized by fragmented and inefficient supply-chain. Most of the expenditure of Indian consumers is on food, on average about 50 percent of the total retail, which would be much higher for low income groups. This is where a large retailer can play important role in investing in fixed costs of supply-chain, reduce number of middle-men, and reduce transaction and information costs to farmers and consumers. The main proposition is that adoption of efficient supply-chain augments economic growth by reducing transaction and information costs, deadweight losses and uncertainty of market exchange and thereby contributes to increase in the surplus and productivity of farmers. The following question is why do we need foreign direct investment (FDI)?

Transnational corporations (TNCs) have become a major source of technological flows globally. Most of the innovations take place in the developed economies with vibrant National Innovation Systems (Patibandla, 2006). TNCs enter emerging economies to take advantage of low cost skills

for global markets and to cater to growing local markets. If TNCs are able to adapt the new technology to local markets and local firms benefit from spillovers and imitate the latest technologies it will be beneficial to local suppliers and consumers. TNCs that build backward linkages with local suppliers are more beneficial than those that operate as 'islands' in developing countries (Patibandla and Petersen, 2002). Backward linkages include local suppliers and forward linkages include global markets. FOr example, Wal-Mart accounts for 30 percent of China's exports, contributed to employment generation and expansion of domestic and international markets. In India's case, the examples are software and services, two-wheelers, automobiles, and electronics industries in which TNCs have made significant contribution to technology transfer, employment generation, development of suppliers, consumer surplus and exports.

Wal-Mart is the largest retailer in the world. Its competitive advantage is highly advanced supply-chain both nationally and globally. It applies latest technologies and transfers technologies to supplies to be cost-effective in a continuous manner. Its main strategy has been keeping prices low. Wal-Mart procures goods directly from manufacturers bypassing all intermediaries and transfers technology and best practices to suppliers to keep its costs low. It is a misnomer to say Wal-Mart is a monopoly. The industrial organisation literature shows monopoly is no more defined in terms of market share. It is defined in terms of price equal to long-run average cost. This paper shows the implications of adoption of Wal-Mart's supply-chain to Indian conditions. In the following section, I discuss issues relating to productivity of Indian farmers and implications of FDI on farmers' productivity.

2. Conceptual Issues and Qualitative Empirics

The neo-classical growth theory (Solow, 1956) shows that productivity is a function of technological change and capital accumulation. Technological change is considered as exogenously given. Capital accumulation is determined by savings and it is assumed that savings flow into investment without friction. As physical capital is subject to diminishing returns, productivity growth peters off. The new-growth theory (Romer, 1990; Lucas, 1988) considers technological change as endogenous emanating from the private and public agents' investments

in human capital and R&D in response to incentives of markets and intellectual property protection.

This paper considers that apart from technology and capital, institutional factors such as property rights, incentives, transaction and information costs play important role in determining productivity. A person refrains from investing his/her efforts in a particular activity (durable asset) if he/she is not sure of appropriating the returns on the investment, particularly if there is fear of appropriation from the state and other private agents. A productive worker is not motivated if rewards within an organisation and society at large are not based on relative performance of peers that is societies fail to adopt incentive compatible practices. A worker would turn out to be less productive in a given activity if he/she has to divert his/her time and resources towards dealing with transaction costs (searching, information processing, paper work, long queues, etc.).

A well-defined property rights system reflects a set of entitlements that define owners' privileges and obligations regarding the use of a resource. It is expected to have the following general features; (1) comprehensively assigned: All resources are either collectively or privately owned and all entitlements are known and enforced. (2). Exclusive: Owners internalise all benefits and costs from the use of a resource. (3) Transferable: All property rights should be transferable in voluntary exchange with minimum transaction costs. (4) Secure: Property rights should be safeguarded/protected from involuntary seizure or encroachment by other private agents and governments.

The property rights system has to define and enforce private and common property elements. For example, a private agent owns a piece of land but ground water is common property. If the agent overexploits ground water, the productivity of other agents declines. Furthermore, a powerful agent could externalise negative externalities of polluting water and land at the cost of large diffused groups. For example, industries such as leather tanning are generally located on the river belts for leather treatment purposes. Several of these clusters resulted in significant pollution of river and ground water and agricultural lands in the nearby regions. The Regulation in India has been ineffective despite a large number of rules and laws governing environmental protection. For example, in Tamil Nadu leather industry in the Palar Valley and garment industry cluster in

Tirupur have resulted in vast tracts of agricultural land becoming unfit for agricultural use and a large section of the local population has been deprived of their sources of drinking water. Harris-White (2003) observes that the state has been indifferent or slow to act against the business class of these clusters because of their collusive powers with the state. The consequence of this is that the costs of the negative externalities affects mostly those who are least able to bear the costs, namely, the disenfranchised and diffused rural poor for whom the transaction costs of undertaking countervailing collective action are too high.

The new-growth theory (Romer, 1990; Lucas, 1988) considers technological change as endogenous emanating from the private and public agents investments in human capital and R&D in response to incentives of markets and intellectual property protection. Investment in human capital is subject to increasing returns owing to learning economies. New technologies can be characterised by non-rivalrious and non-excludability conditions. Non-excludability implies new technologies include a few public property characteristics and spill-overs (externalities) to other firms. Non-rivalry implies that use of a new technology or a blueprint (or a new idea) does not preclude others from its' use- there can be a simultaneous use by large a number of agents. The larger the number of users, the larger is its' aggregate value.

Lucas (1988) focuses on human capital accumulation although physical capital plays an essential but subsidiary role. Human capital accumulation takes place in schools, research organisations and in the course of producing goods and engaging in trade. In Lucas model: $Yj= A(H) F(Kj, Hj)$, Y is output, A represents technology as the scale variable, Kj stock of physical capital, and Hj is stock of human capital. Technological change is a function of human capital. From this, one can see a two-way causation between workers' productivity and technological change. The level of human capital stock in terms of both number and level of skills determines the productivity. Human capital invested in research and development leads to new ideas and blueprints, which, in turn, further increase productivity. New ideas and technologies, and learning by doing economies associated with new technologies further enhance human capital accumulation (skill levels).

Lucas (1988) in discussing relative productivity of agents across countries shows how a natural (comparative) advantage in specialising can backfire in the long run. He shows a world in which an initial comparative advantage in farming can cause a region to become a food producer.

Growth potential may, however, lie not in farming but in industrial goods, goods people living in regions that do not have good farmland will turn to. People in these countries will eventually become expert manufacturers, whereas farmers will in the long-run lag far behind because they are specialised in a product with no growth potential.

Following Romer and Lucas, the Indian agriculture sector needs significant investments in physical and human capital, technology and incentives of farmers. Technological investments in land and water preservasion, and human capital of educating farmers in the efficient use of inputs are imperative. This should improve productivity which releases people engaged in agriculture to be absorbed by manufacturign and services. As the number of people engased in agriculture declines through productivity their surplus increases thereby contributing to increase in per capita income. This paper explores whether large retailers can play a role in technology transfer, improving incentives, and reducing tranaction and information costs of farmers.

The growth theory does not distinguish between firms and industry as it assumes all farmers have access to similar technology and relative prices of factors of production. However, these assumption fail in India because farmers do not have access to similar technology and pay different prices to inputs owing to segmented capital and labour markets.

Relative Technical (*TE*) and Allocative Efficiency (*AE*)

Farmers within a given activity realise different levels of productivity because of technology gap and different costs of inputs. They realise different levels of allocative efficiency of using inputs owing to segmented factor markets which is widely prevalent in India. Following Farell (1957) and Patibandla (1998), I illustrate this in the diagram.

Diagram: Relative Technical and Allocative Efficiency
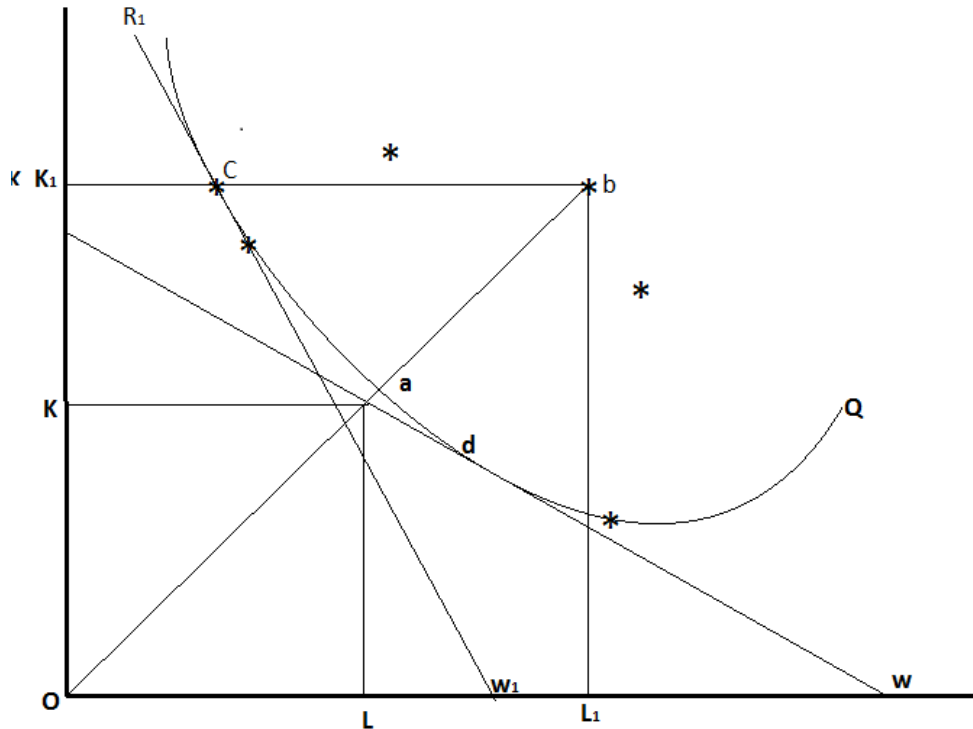
Q represents technology frontier of producing a unit of output. Observations on the frontier are the most technically efficient in using L and K. The observations above the frontier are less efficient. For example, at pont, b a farmer uses more inputs to the extent of KK_1 and LL_1 in producting a unit of output. The differences in TE arise from the technology gap between farmers, different costs of inputs of K, L, fertilisers and quality of land.

RW and R_1W_1 are the relative prices of factors of production faced by farmers. Point c presents capital-intensive technique and d presents labour-intensive technique. The differences in AE arise from segmentation of the markets in terms of organised and unorganied factor markets. In the organised markets, farmers have more access to capital at a lower rate than in the unorganised markets. The factor market segmentation arises from differences in definition and enforcement of property rights, informational imperctions and transaction costs. For example, if the property rights of land are well-defined and enforced, a farmer can avail capital at a lower rate than in the unorganised markets.

Capital price has to be observed both in static and dynamic terms. The dynamic aspect refers to uncertainty in output: output prices at the time of harvest and dependency on monsoons. If a farmer expects output prices are going to be high he/she may borrow capital at a high price to invest in productivity (Basu, 1997). If the expectations go wrong, he/she will get into a debt trap. Information economics (Akerlof, 1970) shows that informational imperctions may result in high capital costs. If a lender is not able to distinguish between high and low quality borrowers, he/she would make losses if low quality borrowers do to pay back. This results in increase in interest rates to account for defaults.

In this context, what will be the role of a large retailer in reducing the market imperfections? A large retailer can invest in fixed costs of infrastructure which may reduce uncertainity. For example, investment in cold storage facilities can help the retailer to provide farmers inter-temporal prices rather than harvest time prices. A large retailer can invest in sophisticated forcasting methods and thereby reduce uncertainity. A large retailer can educate farmers on adopting best technique of production, and right usage of fertilisers and pesticides. There is evidence of this in the case of Wal-Mart in China. Schell (2011) shows that Wal-Mart plays an important role in helping the farmers to adopt best techiques, prices that reflect world prices through its global supply-chain and in the the recent times it is helping farmers to adopt environmental-friendly practices.

Transaction and Information Costs and Farmers' Surplus

Transaction and information costs in the input and output markets play an important role in determining farmers' surplus and incentives for investing in productivity enhancing practices. Transaction cost (Williamson, 1975; 1985) and information costs economics (Akerlof, 1970; Spence, 1976) show market exchange involves informational and transaction costs at different levels and dimensions. If a large number of small producers and consumers act autonomously, the unit information and transaction costs of exchange would be higher than if they could pool these costs and realise economies of scale. A large retailer performs the job of pooling these costs and reduces the unit costs through realisation of economies of scale by adoption of supply-chain. Drawing from my previous work on this topic (2014):

The surplus equation of a farmer when the market is served by a large of number of small firms is:

$S = P (Q) Q - bQ - [(Is+Ts)]$ 1

The surplus equation after the entry of a large retailer is:

$S = P (Q) Q - bQ - (Ir+Tr+d+m)]$ 2

S is the surplus, P is market price, Q quantity of output, b is long run average cost of production, Is is information costs and Tc is transaction cost of a small producer (which is assumed to be similar for all the producers), Ir and Tr are respective information and transaction costs of a retailer, d is the deadweight loss owing to transfer of output through the retailer and m is the mark-up of the retailer. The condition for a positive surplus owing to the entry of the retailer is:

$[(Is+Ts)>(Ir+Tr+d+m)]$ 3

In the first case, we assume that the output is a homogenous good. The role of the retailer is to match supply and demand both in static and dynamic terms by processing information and assessing uncertainty. This is highly relevant to markets for perishable food products such as vegetables, fruits, meat and fish and also products such as rice, wheat and pulses. A small producer does not possess information and capital for realising a price that reflects inter-temporal demand of spreading the supply from one harvest to the next harvest time through storage. He/she has to sell the total output at the time of harvest. A large retailer could invest in storage costs and process the information of inter-temporal demand and pass on the information to producers. The extension of this argument could be a large retailer assessing the inter-regional demand within a country and also at the global level. For example, basmati rice could be produced only in the states of Punjab and Haryana in northern India but major part of consumption of rice is in the south.

Pin is the price of inter-temporal demand, Ph is the price of the harvest time, m is the unit mark-up of the retailer and c is the unit cost of storage. $Pin-Ph-m-c$ is the surplus that a farmer could realise because of the retailer.

The link for productivity can be seen in terms of distress sales by farmers at the time of harvest. This discourages farmers from investing in productivity-enhancing practices. If a farmer incurs additional costs for improving productivity, this will increase output, which, in turn, increases supply at the time of harvest. This depresses price realised by the farmer furthermore. If a large retailer undertakes matching of inter-temporal demand and supply, this could mitigate distress sales and result in increase in surplus to farmers which incentivises them to invest in productivity-enhancing investments.

The standard information economics of adverse selection and signaling is more applicable to the case of differentiated goods on quality dimension than homogenous goods. If buyers do not possess information on the quality differences of goods in the market, the price settles down at average which forces good quality products to leave the market. This is the typical case of adverse selection of markets descending to low quality products (Akerlof, 1970). The adverse selection outcome can be avoided if high quality sellers invest in costs of signaling the quality (Spence, 1976). One of the mechanisms of signaling is by providing warranties. A small producer may not possess the resources to invest in costs of signaling. A large retailer may be in a better position to pool the products of different quality, assort them and invest in matching costs of signaling. The other side of the story is that a large retailer may be in a position to standardise the output to reduce the quality differences. For example, some large retailers in India help farmers to standardise the quality of vegetables by training the farmers and providing them with inputs such as right kind of pesticides.

India's Retail Sector and Farmers

In 2012, the Indian retail sector is estimated to be Rs. 18,673 billion and it accounts for around 15 percent of GDP and 8 percent of total employment. The sector is highly fragmented with about 96 percent of the stores in the unorganised sector. The Kirana stores (Mom and Pop stores) number around 12 million spread across 5,000 towns and 600,000 villages throughout India. These are mostly family-owned with family labour. At the bottom of the pyramid is millions of pavement stalls in India.

Turnover per employee for the retail sector in India is about Rs. 340,000 per annum. The turnover per employee for Wal-Mart International is about Rs.9,971,057 which is 29 times that

of the unorganised sector in India. If foreign players capture 10 per cent share by 2015, that will turn out to be Rs. 189660 million with employment of 19000 employees replacing about 0.55 million in the unorganised sector.

Most of the expenditure of Indian consumers is on food, on average about 50 percent of the total retail, which would be much higher for low income groups. Majority of Kirana stores stoack up food grains and dry foods. Fruits and vegetables are sold by pavement stalls and relatively better organised larger vendors both coexisting side by side. The products are procured from wholesalers located in certain central parts of a city. In the case of fruit and vegetable vendors, they procure the products everyday at the dawn and ship them to their sale locations. Since they do not have access to formal credit, they have to manage working capital effectively.

In the case of vegetables and fruits, on average, output passes through six middlemen- from farmers to consolidator, commission agent, trader, commission agent, wholesaler, retailer and finally to consumer. Asymmetric information generated by middle-men, especially the wholesalers, makes farmers, the front-end retailers and consumers worse off. As a result, farmers receive a small fraction of the final price paid by consumers. India's food distribution system is a result of government regulation of the 1940s and 1950s which attempted to curtail hoarding of food products by cartels. In 1966, the government enacted a law which banned farmers from dealing directly with retailers and forced them to sell through licensed middlemen called 'mandis'. Overtime, this resulted in emergence of multiple middlemen and commission agents. Farmers avail credit from traders who buy their produce and then sell them seeds and fertilisers for the next crop (Robinson, 2007; Naik, 2014) - a vicious circle of poverty trap.

Average farmers face debt trap: credit at high interest rates, poor quality inputs of seeds, fertiliser, poor farming methods, and tied sales with money lenders (Patibandla and Sastry, 2004). Conventional thinking focused on credit in breaking the above circle. So far this has not worked because farmers still depend on informal markets owing to high transaction costs of availing formal credits (and poorly defined property rights and high uncertainty of the markets). Even if credit is available, it does not solve the problem of distress sales. I argue that the most potent factor of the circle is distress sales. Distress sales also discourage (medium) farmers from investing in productivity-enhancing practices. If a farmer incurs additional costs for improving

productivity, this will increase the output, which, in turn, increases the supply at the time of harvest. This depresses price realised by the farmer furthermore. This is exactly where the entry of large retail firms makes a difference if they source directly from farmers, pay for the output at the time of delivery and adopt an efficient supply-chain. Large retailers can break the circle by reducing distress sales aspect through direct procurement from farmers and adopting inter-temporal prices instead of harvest time prices through infrastructure of supply-chain.

The Case of Wal-Mart

The main competitive advantage of Wal-Mart is the highly advanced supply-chain both locally and globally. In order to keep prices low, it is involved in cooperative exchange with all the stakeholders: workers, managers and suppliers (Basker, 2005). It transfers technology and best practices to suppliers. Labour (wage) costs are treated as overheard costs for the retail business and kept as low as possible. In the case of India, close to 80 percent of workers are present in the unorganised sector with low wages and benefits. If Wal-Mart enters India it has to pay minimum wages and benefits as being part of the organised sector.

In the case of supply-chain, it was one of the first retailers to adopt electronic scanners at the registers which were tied to an inventory control system such that it could know immediately which items were selling well. By 1988, Wal-Mart possed the largest privately owned satellite communications network in the U.S. This helped the managers to obtain a complete picture of where goods were and how fast they were moving from the suppliers to front-end service and track all the costs involved (Lichtenstein, 2005). This made inventory management very efficient thereby reducing working capital costs.

Wal-Mart procures goods directly from manufacturers bypassing all intermediaries and always drives hard bargain from suppliers. It spends a significant amount of time meeting vendors and understanding their cost structure. Once satisfied, it establishes long-term relationship with vendors. It is in constant touch with suppliers through computer network (Chandran, 2003). The long-term relationship of repeated interactions reduces transaction costs of exchange. Once goods ate procured, its warehouses supply 85 percent of the inventory as compared to 50-60 percent for competitors.

Wal-Mart entered India through a joint venture with the Indian firm Bharati to circumnavigate India's FDI rules. Bharati did not have prior retail business. It wanted to enter the retail business by using Wal-Mart's expertise. Interestingly, it is a non-exclusive partnership and Wal-Mart can forge other alliances in India. Bharati is Wal-Mart's franchisee and wholly owns and manages the front-end retailing by setting up multiple stores across India.

Bharati Wal-Mart had three forms of business models: Cash and Carry, Small Supermarkets (Easy Day) and Compact Hyper Markets. In the case of Cash and Carry format, there was no policy restrictions on goods sold as it is basically a business to business model. However, the government issued only 60 licenses for Cash and Carry operations for the whole country. Small and medium scale businesses were given a registered card with which they could buy goods in bulk and sell them to consumers with a mark-up. These stores carried a wide range of manufactured goods procured from all over India and grocery items. As the firm derived scale advantage in procuring goods, they sold them at a lower price than traditional wholesalers, thereby benefitting consumers indirectly. The other formats were single brand entities.

In 2010, Bharati Wal-Mart launched an initiative to support farmers through a combination of direct sourcing and training to generate a consistent source of high-quality produce for their supply chain. It engaged over 800 farmers and sourced over 15 percent of vegetables sold in its stores. It is expected to directly source from 35,000 small and medium farmers by 2015. In establishing cold-storage facilities, frequent power break downs have necessitated investment in diesel generators. Later on, Wal-Mart broke the joint venture with Bharati and it plans to establish its operations across the country.

The company established three large distribution centres (with warehousing and cold-storages) in the north and one in the south of India. The northern centres have been sourcing food items directly from farmers by establishing long-term relationships. Wal-Mart established Wal-Mart India, a separate entity, in the city Gurgaon of the northern India which provides technical, software and logistics support to Wal-Mart.

On the other hand, it is observed that Wal-Mart may prefer to deal with large farmers but not qa large number of small farmers to avoid incurring transaction costs of dealing with them (Gupta,

2012). This issue should be examined both in terms of direct and indirect effects. My field study (2013) on small famers in the villages of the Guntur district of Andhra Pradesh showed that small farmers form cooperative arrangements for pooling their output of vegetables and transport them in commonly hired trucks to the whole sale market in Guntur town. The large retailer can foster this type cooperative behavior of small farmers both in output and input markets. The indirect effect occurs when large retailers procure output directly, say, from large farmers and pay them inter-temporal prices, the functioning of the market improves which benefits small farmers as a form of externalities and spillover effects.

3. **Conclusion**

One of the dominant reasons for low productivity of farmers in India is the highly segmented and inefficient supply-chain. Numerous middlemen in the supply-chain result in the low surplus realised by farmers which distorts incentives for investing in productivity. Distress sales at the time of the harvest is one of the factors leading farmers into debt-trap. In this paper, I have argued that apart from technology and capital, institutional factors such as property rights, incentives, transaction, and information costs of input and output markets play significant role in determining farmers' productivity.

If a large retailer invests in fixed and sunk costs of supply chain, it could reduce average transaction and information costs by procuring output directly from and paying intertemporal prices (instead of one time harvest prices) to farmers. Why do we need FDI instead of resorting to home grown large corporations? In the recent times, TNCs have become a major source of rapid flow of technologies and best practices across the globe. India's experience in several sectors has shown that TNCs brought in latest technologies, provided competition to local players which resulted in overall competitiveness of industries, and generation of employment benefitting consumers and suppliers. TNCs, such as Wal-Mart can introduce the best practices of supply-chain and build backward linkages with suppliers and forward linkages with the global market. India's population is expected to reach 1.6 billion by 2050. This will result in exponential increase of demand for food. It is the long-term supply-side mechanism that will curtain food inflation but not short-term monetary approaches. The job of the government is to formulate and implement competition policy and labour and environmental standards effectively.

References:

Ahluwalia, M.S (2002): "Economic Reforms in India Since 1991: Has Gradualism Worked?" *Journal of Economic Perspectives*, 3, 67-88.

Akerlof, G (1970): "The Market for Lemons: Qualitative Uncertainty and the Market Mechanism", *Quarterly Journal of Economics* 84, 488-500.

Basu, S (1997): "Why Institutional Credit Agencies are Reluctant to Lend to the Rural Poor: A Theoretical Analysis of the Indian Rural Credit Market", *World Development*, 25, 267-280.

Basker, E (2005): "Job Creation or Destruction? Labour Market Effects of Wal-Mart Expansion", *The Review of Economics and Statistics*, 87 (1), 174-83.

Brea-Solis H, Ramon Casadesus-Masanell and Emili Grifell-Tatje (2010): "Business Model Evaluation: Quantifying Walmart's Sources of Advantage", Harvard University.

Chandran, P. M (2003): *Wal-Mart's Supply Chain Management Practices*, ICFAI ICMR Case Collection.

Farrell, M (1957): "The Measurement of Production Efficiency", *Journal of Royal Statistical Society*, 120 (3), 253-281.

Fishman, C (2006): *The Wal-Mart Effect* (New York: The Pinguin Pres).

Gupta, S (2012): "FDI in Retail: How Can It Benefit India's Farm Sector?", *Issue Perspective*, Center of Strategic & International Studies, 1 (3).

Harris-White, Barbara, (2003), *India Working: Essays on Society and Economy*, (Cambridge: Cambridge University Press).

Lichtenstein, N (2005): "Wal-Mart: Template for 21st Century Capitalism", *New Labour Forum*, 14 (1), 21-30.

Lucas, R.E (1988): "On the Mechanics of economic Development", *Journal of Monetary Economics*, 22, 3-42.

Naik, D (2014): "Farmers Struggle to Escape Middlemen", *The Wall Street Journal*, February, 26.

Nehru. J. (2008, *"The Discovery of India"* (New Delhi: Penguin India".

Patibandla, M (2014): "Implications of Foreign Direct Investment in India's Retail Sector", *IIMB Management Review*, xx 1-8.

Patibandla, M (2013): "Foreign Direct Investment in India' Retail Sector: Some Issues"; *Productivity Journal*, Vol 53(2) July

Patibandla, M (2006): *Evolution of Markets and Institutions: A Study of an Emerging Economy* (New York and London: Routledge Taylor and Francis).

Patibandla, M (1998): "Structure, Organizational Behavior and Technical efficiency", *Journal of Economic Behavior and Organization*, 34 (3), 419-434.

Patibandla, M and B, Petersen (2002): "Role of Transnational Corporations in the Evolution of a High-Tech Industry: the Case of India's Software Industry", *World Development*, 30 (9), 1561-77).

Patibandla, M and T, Sastry (2004): "Capitalism and Cooperation: Cooperative Institutions in a Developing Economy", *Economic and Political Weekly*, XXXIX (27), 2997-3004.

Robinson, S (2007): 'Food Fight', *Time*.

Romer, P.M (1990): "Endogenous Technological change", *Journal of Political Economy* 98, S71-102.

Schell, O (2011): 'How Walmart Is Changing China', *the Atlantic*.

Spence, M (1976): "Informational Aspects of Market Structure: An Introduction, *Quarterly Journal of Economics",* 90 (4), 591-7.

Solow, R (1956): "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, February, 70, 65-94.

Williamson, O. E 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*, (New York: Free Press).

Williamson, O.E. 1985. *The Economic Institutions of Capitalism*, (New York: The Free Press).