Productivity

Vol. 57

October - December 2016

No. 3

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Supply Chain in the Fish Processing Sector in Kerala

India as a Top Destination in FDI Inflows

Macroeconomic Determinants of FDI Inflows in India

Foreign Direct Investment in Strategic Sectors of India

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Cultural Archetype Brand from Indian Craftsmen for Socially Responsible Citizenship

Work-related Variables and Work-Life Balance

FDI Inflows and Outflows during 2013-15: Selected Countries

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Subscription:

Subscription and orders for the journal should be sent to the publisher: **Prints Publications Pvt Ltd**, New Delhi, India

Annual Subscription rates for subscribers are:

I = -414.41 =1	National	Rs. 3000.00
Institutional	International	US\$ 350.00

Online version free with print subscription

All remittance must be paid in favour of:

Prints Publications Pvt Ltd
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Prints Publications Pvt Ltd

"Prints House", 11, Darya Ganj, New Delhi-110 002

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E-mail: contact@printspublications.com

www.printspublications.com.

ISSN: 0032-9924 e-ISSN: 0976-3902

Productivity

A QUARTERLY JOURNAL OF THE NATIONAL PRODUCTIVITY COUNCIL

Vol. 57 ● October - December 2016 ● No. 3



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Publishers & Distributors:



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ISSN: 0032-9924 e-ISSN: 0976-3902

Indexed in:

This journal is Indexed, Abstracted in Proquest (USA), EBSCO Publishing (USA), Genamics (Journalseek) Indian Citation Index (ICI).

Published and printed on behalf of National Productivity Council, by Mr Pranav Gupta, **Prints Publications Pvt Ltd**, at Printext, New Delhi, India.

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Focus

Foreign Direct Investment in Strategic Sectors of India: A Study on the Role of Reforms and Sectoral Guidelines

NITI BHASIN

Since the onset of globalization, India has progressively adopted liberalized investment policies to facilitate the growth of foreign direct investment (FDI). The initial policy stimulus to FDI in India came in July 1991 when the New Industrial Policy provided, inter alia, automatic approval for projects with foreign equity participation up to 51 per cent in high priority areas. Ever since, the government has kept the momentum of reforms going with measures being announced from time to time to further facilitate and broaden the base of FDI in India. This paper analyses the FDI policy for some strategic sectors of the Indian economy, viz., agriculture, manufacturing, defence and financial services, and examines the role of sectoral policy on FDI prospects of the economy. Realizing the importance of various strategic sectors in building a robust economy, the government has progressively put more sectors and sub-sectors on the automatic route for speedy execution of FDI proposals. Further, the FDI ceiling for many of these sectors has also been raised to generate greater interest in investing high-end technology and know-how.

1. Introduction

The 1990s witnessed a paradigm shift towards marketoriented economic policies and a careful dismantling of obstacles in its wake. This has helped the smaller, emerging economies gain access to world markets, emergent technologies and collaborations. This has also given them a window to the developed world and helped them understand the significant role of globalization as an instrument, which could be utilized not just to achieve economic efficiency, but also eradicate poverty. Globalization has also resulted in the creation of a new business framework. More changes are being seen in the business scenario specifically in terms of openness, adaptiveness and responsiveness. The most important dimensions of economic globalization are: breaking down of national barriers, international spread of trade, financial and production activities and growing power of transnational corporations and international financial institutions in these processes. In this context, India has also been receptive and has progressively adopted liberalized trade and investment policies since the onset of globalization. Encouragement of foreign direct investment (FDI) is an integral part of the economic reforms process of these countries because it is seen as an instrument of technology transfer, managerial skills, augmentation of foreign exchange reserves and globalization of the economy (Bhasin, 2012). The literature on the determinants of FDI (Armutlulu, Anýl, Canel and Porterfield, 2011; Sury, 2008; Murthy and Bhasin, 2014; Bhaumik, Driffield and Pal, 2010; Gorynia, Nowak and Wolniak, 2010; Holt brugge and Kreppel, 2012) shows that the considerations affecting FDI in a country range from market size and resource availability to factors like tax environment, socio-legal environment and political environment.

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The initial policy stimulus to FDI in India came in July 1991 when the New Industrial Policy provided, *inter alia*, automatic approval for projects with foreign equity participation up to 51 per cent in high priority areas. Since then, the government has initiated the second generation reforms under which measures have been taken to further facilitate and broaden the base of FDI in India. The policy for FDI allows freedom of location, choice of technology, repatriation of capital and dividends. As a result of these measures, there has been a strong surge of international interest in the Indian economy. The rate at which foreign direct investment inflows have grown during the post-liberalisation period is a clear indication that India is fast emerging as an attractive destination for overseas investors.

As part of the economic reforms programme, policy and procedures governing foreign investment and technology transfer have been significantly simplified and streamlined. Presently, FDI is freely allowed in all sectors including the services sector except in cases where there are sectoral ceilings. It is the intent and objective of the Government of India to attract and promote FDI in order to supplement domestic capital, technology and skills for accelerated economic growth. Foreign direct investment, as distinguished from portfolio investment, has the connotation of establishing a 'lasting interest' in an enterprise that is resident in an economy other than that of the investor.

India has one of the most transparent and liberal FDI regimes among the emerging and developing economies. By FDI regime is meant those restrictions that apply to foreign nationals and entities but not to Indian nationals and Indian-owned entities. The differential treatment is limited to a few entry rules, spelling out the proportion of equity that the foreign entrant can hold in an Indian (registered) company or business. There are a few banned sectors (like lotteries and gaming and legal services) and some sectors with limits on foreign equity proportion. The entry rules are clear and well defined and equity limits for foreign investment in selected sectors such as telecom quite explicit and well known.

The government has put in place a policy framework on FDI, which is transparent, predictable and easily comprehensible. This framework is embodied in the Circular on Consolidated FDI Policy, which is updated from time to time to capture and keep pace with the regulatory changes, effected in the interregnum. The Department of Industrial Policy and Promotion (DIPP), Ministry of

Commerce and Industry, Government of India makes policy pronouncements on FDI through press notes/press releases which are notified by the Reserve Bank of India (RBI) as amendments to the Foreign Exchange Management (Transfer or Issue of Security by Persons Resident Outside India) Regulations, 2000. These notifications take effect from the date of issue of press notes/press releases, unless specified otherwise therein. The procedural instructions are also issued by the Reserve Bank of India. The regulatory framework, over a period of time, thus, consists of acts, regulations, press notes, press releases and clarifications. The Consolidated FDI Policy Circular subsumes and supersedes all previous press notes/press releases/clarifications/circulars issued by DIPP. The information given below is based on the Consolidated FDI Policy Circular which became effective from 7 June 2016.

2. Guidelines for Some Strategic Sectors of India

Investments can be made by non-residents in the capital of a resident entity only to the extent of the per centage of the total capital as specified in the FDI policy, along with other entry conditions. Such conditions may include norms for minimum capitalization, lock-in period, etc. Besides the entry conditions on foreign investment, the investors are required to comply with all relevant sectoral laws, regulations, rules, security conditions and state/local laws/ regulations.

For different sectors/activities where FDI can be undertaken, the FDI policy lays down the sectoral caps. A sectoral cap, i.e., the maximum amount which can be invested by foreign investors in an entity, unless provided otherwise, is composite and includes all types of foreign investments, direct and indirect. With the progress of liberalization in India since 1991, FDI in most of the sectors is permitted up to 100 per cent on the automatic route. However, in some of the sectors such as defence, and certain services, FDI is permitted only up to a certain limit, subject to applicable laws/regulations, security and other conditionalities. Total foreign investment, direct and indirect, in an entity will not exceed the sectoral/statutory cap.

Singh (2005) observes that while absolute amount of FDI has shown increase over the years, the real progress in terms of addressing the problems plaguing various subsectors of the economy has been hollow. There are a number of studies that have focused on the importance of FDI in individual sectors in India such as wind (Kathuria

et al., 2015), infrastructure (Satyanand, 2012) and services (Sen, 2011). This paper would take a broader view of sectoral FDI and analyse the FDI policy for some strategic sectors of the Indian economy such as agriculture, mining, manufacturing, defence and financial services. Further, it would examine the role of sectoral policy on FDI prospects of the economy.

2.1 FDI in Agriculture

Agricultural sector occupies a key position in the Indian economy. Though agriculture has now shrunk as a proportion of gross domestic product (GDP) to around 13 per cent, it is a vital sector and provider of livelihood for two-third of India's working population. It is but natural that the problems of farmers are addressed with a sense of urgency. Agriculture being a state subject, the bulk of public investment in agriculture takes place at the level of states and the central government supports the states as a catalyst.

While agriculture no longer dominates the Indian economy in terms of GDP, it is still the most important in

terms of employment. In other words, declining share of income has not been accompanied by an equivalent decline in employment. It is a classic case of lopsided structural transformation.

Agricultural and allied products like cereals (mainly rice), tea, coffee, cashew, spices, tobacco and leather are important items of India's exports and hence foreign exchange earnings. Agriculture is also the source of raw material for agro-based industries including textiles, cigarettes, jute, sugar, paper and processed foodstuffs. Moreover, agricultural sector provides market for capital goods (tractors, pump sets and other agricultural machinery), inputs (fertilizers, insecticides) and light consumer goods. The nation has invested huge resources for the development of agriculture under various plans.

Concerned by the slow growth in the agriculture and allied sectors, the Government of India has launched a series of programmes/schemes in recent years to rejuvenate agriculture and improve farm income. Encouragement of FDI in the farm sector is a major policy initiative (Table 1).

Table 1: FDI in Agriculture

Sec	ctor/Activity	Percent of equity/ FDI Cap	Entry Route	
1.	Agriculture and Animal Husbandry	100%	Automatic	
	 Floriculture, horticulture, apiculture and cultivation of vegetables and mushrooms under controlled conditions. 			
	 Development and production of seeds and planting material. 			
	 Animal husbandry (including breeding of dogs), pisciculture, aquaculture, under controlled conditions. 			
	 Services related to agro and allied sectors. 			
Not	e: Besides the above, FDI is not allowed in any other agricultural sector/activity.			
2.	Plantation Sector	100%	Automatic	
	 Tea sector including tea plantations. 			
	Coffee plantations.			
	Rubber plantations.			
	Cardamom plantations.			
	Palm oil tree plantations.			
	Olive oil tree plantations.	1		
Not	e: Besides the above, FDI is not allowed in any other plantation sector/activity.			
	er Condition: Prior approval of the state government concerned is required in e of any future land use change.			

Source: Government of India, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion, Consolidated FDI Policy (effective from 7 June 2016).

2.2 FDI in Mining, Petroleum and Natural Gas

The metallurgical and mineral industries constitute the bedrock of industrial sector as they provide the basic raw materials for most of the industries. The development and management of mineral resources plays a major role in the industrial growth of a nation and its people at large. As minerals form the basis of modern industry in peace and in war, it is necessary to have a rational policy as regards their working and utilization. The keynote of this policy should be conservation and economic working.

Minerals, being non-renewable resources of the country, require special attention so that these are exploited and utilized in an optimal manner. The role of mineral prospecting, exploration, mining and utilization assumes importance in this context.

Based on the recommendations of High Level Committee on National Mineral Policy (Chairman: Anwarul Hoda), 2006, the National Mineral Policy (NMP), 2008, was announced by the Government of India in March 2008. The NMP, 2008, endeavours to attract technology and fresh investment through specific measures. The NMP, 2008,

enunciates measures like assured right to next stage mineral concession, transferability of mineral concessions and transparency in allotment of concessions in order to reduce delays which are seen as impediments to investment and technology flows in the mining sector. The NMP, 2008, also seeks to develop a sustainable framework for optimum utilization of the country's mineral resources for the industrial growth in the country and at the same time improving the life of people living in the mining areas, which are generally located in the backward and tribal regions of the country.

India's oil reserves amount to 0.5 per cent of the global reserves. Due to the stagnating domestic production of crude oil, India imports approximately 70 per cent of its oil needs, much of it from the Middle East. Its dependence on imported oil is growing steadily. Foreign direct investment in mining and petroleum sectors is encouraged through a liberal investment policy (Table 2). As can be seen from Table 2, 100 per cent FDI is allowed in mining; this has been done with a view to generate resources for consumption by huge infrastructural projects set up in the economy to meet the demand of a growing economy.

Table 2: FDI in Mining, Petroleum and Natural Gas

Sec	tor/Activity	Percent of equity/ FDI Cap	Entry Route
1.	Mining		
Α.	Mining and exploration of metal and non-metal ores including diamond, gold, silver and precious ores but excluding titanium bearing minerals and its ores; subject to the Mines and Minerals (Development and Regulation) Act, 1957.	100%	Automatic
B.	Coal and lignite mining for captive consumption by power projects, iron and steel and cement units and other eligible activities permitted under and subject to the provisions of Coal Mines (Nationalization) Act, 1973. Setting up coal processing plants like washeries subject to the condition that the company shall not do coal mining and shall not sell washed coal or sized coal from its coal processing plants in the open market and shall supply the washed or sized coal to those parties who are supplying raw coal to coal processing plants for washing or sizing.	100%	Automatic
C.	Mining and mineral separation of titanium bearing minerals and ores, its value addition and integrated activities subject to sectoral regulations and the Mines and Minerals (Development and Regulation Act, 1957).	100%	Government
2.	Petroleum and Natural Gas		
A.	Exploration activities of oil and natural gas fields, infrastructure related to marketing of petroleum products and natural gas, marketing of natural gas and petroleum products, petroleum product pipelines, natural gas/pipelines, LNG regasification infrastructure, market study and formulation and petroleum refining in the private sector, subject to the existing sectoral policy and regulatory framework in the oil marketing sector and the policy of the government on private participation in exploration of oil and discovered fields of national oil companies.	100%	Automatic
B.	Petroleum refining by the Public Sector Undertakings (PSU), without any disinvestment or dilution of domestic equity in the existing PSUs.	49%	Automatic

Source: Government of India, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion, Consolidated FDI Policy (effective from 7 June 2016).

2.3 FDI in Manufacturing

Industrial sector plays an important role in realizing higher economic growth in the country. Riding high on the performance of manufacturing sector, industrial sector in India has registered higher growth in recent years. Many policy measures taken by the government for creating enabling environment for industrial growth have started showing its impact on increased FDI inflows, better performance of infrastructure sector. The landmark initiatives like Make in India, Ease of Doing Business, Startup India, Digital India and Smart Cities, etc., will provide further impetus to industries and the industrial sector is expected to be the key driver of economic growth in the country. These initiatives would also help in transforming infrastructure sector which is *sine qua non* for achieving and sustaining higher economic growth.

The government released the National Manufacturing Policy (NMP), 2011, on 4 November 2011 for bringing about a quantitative and qualitative change with the following objectives:

- To increase manufacturing sector growth to 12–14 per cent over the medium term.
- To enable manufacturing to contribute at least 25 per cent of GDP by 2022.
- To create 100 million additional jobs in the manufacturing sector by 2022.
- To create appropriate skill sets among the rural migrant and urban poor for their easy absorption in manufacturing.
- To increase domestic value addition and technological depth in manufacturing.
- To enhance global competitiveness of Indian manufacturing.

The NMP envisages simplification of business regulations without diluting their intent. Recognizing the importance of micro, small and medium enterprises (MSMEs) in the country's economy, the policy contains dedicated interventions for MSMEs in addition to other interventions for manufacturing industry generally. These interventions relate primarily to the following:

- Technology upgradation.
- Adoption of environment-friendly technology.
- Equity investments.

Skill development, to make young people employable, has been given high priority in the policy through fiscal incentives for the private sector and government schemes.

The NMP, which is the first such dedicated policy measure for the manufacturing sector in the country, is expected to change the manufacturing landscape of the Indian economy through (a) increased capital formation, (b) industrial infrastructure of global standards, (c) technology upgradation, (d) creation of innovation and (e) vocational skill development infrastructure; and industry, worker and environment-friendly regulations.

The NMP also provides for constitution of a highlevel Manufacturing Industry Promotion Board (MIPB) to ensure coordination amongst central ministries and stategovernments.

Presently, foreign investment in manufacturing sector is under automatic route. Further, a manufacturer is permitted to sell its products manufactured in India through wholesale and/or retail, including through e-commerce without government approval.

2.4 FDI in Defence

The FDI policy in defence and the appropriate FDI ceiling for this sector has been a subject of debate since long. The proponents of lower FDI participation in defence have always argued that defence is a strategic sector and a rise in FDI ceiling would imply a threat to national security and vulnerability to policies of home countries of foreign investors. Consequently, the FDI ceiling in defence remained 26 per cent for a very long period of time. This restrictive policy kept away both investments and technology transfer, as few foreign firms are keen to invest resources in a venture where they have no significant control. Hence, whatever was coming as FDI was very basic technology.

Given the fact that India imports about 70 per cent of its defence requirements, FDI along with usage of advanced technology is a better option for manufacturing defence equipment domestically rather than importing them from abroad. After keeping the FDI ceiling in defence at 26 per cent for a very long period of time, the government raised FDI cap in defence to 49 per cent in 2014. However, a rise in the ceiling did not translate into any substantial rise in FDI in defence as it still did not allow for majority stake for the company bringing in the technology. No foreign investor was comfortable with transferring proprietary technology to a company in which it does not own a major share.

Realizing the need of the hour, on 20 June 2016, the government opened up the defence sector allowing foreign companies to own as much as 100 per cent equity in the local defence sector through the government approval route in cases where it is likely to result in access to modern technology. This announcement is expected to generate a positive sentiment amongst prospective investors and pave way for greater FDI and boost in productivity. It is now believed that this decision would bring in real investments as the major issue of ownership and control in this technology-driven sector has now been addressed. Further, the government has modified the policy to allow 100 per cent FDI by doing away with the condition of access to 'state-of-the-art' technology and modified to 'modern or for other reasons', a move that will widen scope for investments.

2.5 FDI in Financial Services

Financial sector of an economy refers to the whole gamut of legal and institutional arrangements, financial intermediaries, markets and instruments with both domestic and external dimensions. A well-functioning financial system is a pre-requisite for the pursuit of economic growth with stability. The core function of a financial system is to facilitate smooth and efficient allocation of resources from savers to the ultimate users. The financial infrastructure contributes to the effective functioning of institutions and markets and thereby to stability. Hence, it serves as the foundation for adequate access to financial services and sustained financial development.

No major economy in the world today can be viewed in isolation from the rest of the world. Given the size and the growing magnitude of interaction—in terms of trade, services and capital flows—and the greater openness to globalization, India is in a different economic milieu today than it was two decades ago. India is virtually part of the world of globalized finance and is learning to walk, negotiating the strong currents, both positive and negative, generated by the forces of financial globalization. India's FDI policy in the financial services sector has progressively liberalized over a period of time, with many services being put on the automatic route (Table 3). Foreign investment in financial services, other than those indicated in Table 3, require prior approval of the Government of India.

Table 3: FDI in Financial Services

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Sec	ctor/Activity	Percent of equity/ FDI Cap	Entry Route
1.	Asset Reconstruction Companies Asset Reconstruction Company (ARC) means a company registered with the Reserve Bank of India under Section 3 of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act).	100%	Automatic
2.	Banking-Private Sector	74%	Automatic up to 49%. Government route beyond 49% and up to 74%.
3.	Banking-Public Sector Banking-Public Sector subject to Banking Companies (Acquisition and Transfer of Undertakings) Acts, 1970/80. This ceiling (20 per cent) is also applicable to the State Bank of India and its associate banks.	20%	Government
4.	Credit Information Companies (CIC)	100%	Automatic
5.	Infrastructure Companies in Securities Markets Infrastructure companies in securities markets, namely, stock exchanges, depositories and clearing corporations, in compliance with SEBI Regulations.	49%	Automatic
6.	Insurance Insurance company. Insurance brokers. Third-party administrators. Surveyors and loss assessors. Other insurance intermediaries appointed under the provisions of Insurance Regulatory and Development Authority Act, 1999.	49%	Automatic

7.	Pension Sector	49%	Automatic
8.	Power Exchanges Power exchanges registered under the Central Electricity Regulatory Commission (Power Market) Regulations, 2010.	49%	Automatic
9.	White Label ATM Operations	100%	Automatic
10.	Non-Banking Finance Companies (NBFC) Foreign investment in NBFC is allowed under the automatic route in only the following activities:	100%	Automatic
	Merchant banking.		**/
	Under writing.		
	Portfolio management services.		
	Investment advisory services.		
	Financial consultancy.		
	Stock broking.		
	Asset management.		
	Venture capital.		
	Custodian services.		
	Factoring.		
	Credit rating agencies.		
	 Leasing and finance. 		
	Housing finance.		
	Forex broking.		
	Credit card business.		
	 Money changing business. 		
	Micro credit.		1 1
	Rural credit.		P - 4 P

Source: Government of India, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion, Consolidated FDI Policy (effective from 7 June 2016).

3. Conclusion

To sum up, the reforms process in India has substantially relaxed restrictions on foreign investment, industrial licensing and foreign exchange. Capital market has been opened to foreign investment and banking sector controls have been eased. Realizing the importance of various strategic sectors in building a robust economy, the government has progressively put more sectors and subsectors on the automatic route for speedy execution of FDI proposals. Further, the FDI ceiling for many of these sectors has also been raised to generate greater interest in investing high-end technology and know-how. As a result of the various policy initiatives taken, India has been rapidly changing from a restrictive regime to a liberal one and FDI is encouraged in almost all economic activities under the automatic route. The government is committed to promoting increased flow of FDI for better technology, modernization, exports and for providing products and services of international standards. Therefore, the policy of the government has been aimed at encouraging foreign investment, particularly in core infrastructure sectors so as to supplement national efforts.

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Foreign aid must be viewed as an investment, not an expense

-Kay Granger

Focus

An Empirical Analysis of Macroeconomic Determinants of Foreign Direct Investment Inflows to India

SYED TABASSUM SULTANA

Foreign direct investment (FDI) is of growing significance in propelling economic growth of any nation. It presents several advantages to both the investing country and the host country. For any host country, it acts as a mechanism to supplement domestic capital as it provides access to superior technology and further increases the existing levels of efficiency and productivity. It also generates new production opportunity, provides managerial skills needed to stimulate economic growth and gain access to regional and global markets. Investing countries have attractive prospects for the capital outflow and gain an entry into emerging markets or economies. Foreign direct investment presents a win-win situation to the host and the home countries. Numerous macroeconomic variables of the host country directly or indirectly affect the inflow of FDI.

The current study attempts to identify the macroeconomic factors that determine the flow of FDI inflows in India from 1981 to 2014. It analyses in-depth the relationship between FDI and macroeconomic factors like GDP, Exchange Rate, Imports, Exports, Corporate Tax, External Debt, Interest Rate and Inflation. Firstly, the current study finds that the FDI inflows to India have followed a mixed trend during the said period. Secondly, it concludes that FDI inflows are negatively correlated with respect to interest rate and corporate tax and positively correlated with respect to the other variable like GDP, Exchange Rate, Imports, Exports, External Debt and Inflation. Thirdly, it finds a significant correlation between FDI and Interest Rate, Exchange Rate, Exports, Imports and External Debt. Lastly. Macroeconomic Determinants like Exchange Rate, Exports GDP and Imports fuel the flow of FDI and FDI in turn multiplies External Debt and Exports. However, the relationship between Exports and FDI is bidirectional.

1. Introduction

Foreign Direct Investment (FDI) is of growing significance in propelling global economic growth. It presents several advantages to both the investing country and the host country. For any host country, it acts as a mechanism to supplement domestic capital as it provides access to superior technology and further increases the existing levels of efficiency and productivity. It also generates new production opportunity, provides managerial skills needed to stimulate economic growth and gain access to regional and global markets. Investing countries have attractive prospects for the capital out-flow and gain an entry into emerging markets or economies.

Foreign Direct Investment provides a win-win situation to the host and the home countries. Any investment that flows from one country into another is known as foreign investment. Foreign Direct Investment refers to an investment made by a company based in one country into another company based in other country, and companies making such direct investments have a significant degree of influence and control over the company into which the investment is made. The inflow of investment from other countries is desirable since it complements and stimulates domestic investments in capital-scarce economies of developing countries. Foreign capital is extremely. important to a developing and emerging economy like India. Ever since the dawn of Liberalization, Privatization and Globalization, India has been able to be investor-friendly by easing regulatory environment in terms of foreign investment and attract huge flow of foreign investments. Thus, India's presence among the fastest growing economies of the world is so distinct and is ranked among the top three attractive destinations for inbound investments.

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The history of FDI in India can be divided two stages: pre-liberalization and post-liberalization. The pre-liberalization period can be traced way back pre-Independence, i.e., the establishment of East India Company of Britain. During the colonial era, British capital came to India. Nevertheless, no credible data about such FDI inflows from the British companies is available till date. Pre-Independence British companies have setup their units in mining sector and in those sectors that suit their own economic and business interest.

The post-Second World War Japanese companies have made a foray into the Indian market and enhanced their trade with India, yet the U.K. remains to be the most dominant investor in India. The issues relating to foreign capital, operations of MNCs, gained attention of the policymakers after Independence.

The FDI policy has been framed keeping the national interests in mind. It was a popular means of acquiring advanced technology and mobilizes foreign exchange resources. The first prime minister of India considered foreign investment as 'necessary' not only to supplement domestic capital but also to secure scientific, technical and industrial knowledge and capital equipments. Several changes in the FDI policy have occurred on account of changes in economic and political regimes.

The industrial policy of 1965 allows MNCs to venture through technical collaboration in India. However, the crisis India faced during the second Five Year Plan (1956-61) forced the government to adopt a liberal attitude to allow more equity participation in foreign enterprises resulting in more foreign exchange and greater financial resource mobilization. The government was proactive in offering many incentives such as tax concessions, simplification of licensing procedures and even de-reserving some industries such as drugs, fertilizers, aluminium, heavy electrical equipments, etc., in order to further attract the FDI inflows into the country. This liberal attitude of the government towards foreign capital attracted investors from many advanced countries like the USA, Japan, Germany, etc. However, in the 1970s, the government adopted stringent foreign policy owing to the significant outflow of foreign reserves in the form of remittances of dividends, profits, royalties, etc.

During this period the government adopted a selective and highly restrictive foreign policy as far as foreign capital, type of FDI and ownerships of foreign companies was concerned. Government has setup Foreign Investment

Board and enacted Foreign Exchange Regulation Act in order to regulate flow of foreign capital and FDI flow to India. The soaring oil prices resulted in reduced Exports and deterioration in Balance of Payment position during 1980s yet again forced the government to retrospect and make much-needed changes in the foreign policy. Around this time, the government encouraged FDIs and allowed MNCs to operate in India, leading to partial liberalization of the Indian economy. The government steadily introduced reforms in the industrial sector, aimed at increasing competency, efficiency and growth in industry through a stable, pragmatic and non-discriminatory policy for FDI flows.

Severe Balance of Payment crisis during early 1990s that Indian economy faced lead to a crisis in exports. The marked increase in crude oil prices due to the war in Gulf further crippled the external debts and debilitated the Indian economy that it was left with foreign exchange reserves just enough to finance three weeks of its imports. The outflow of Foreign Currency deposited by the Indian NRIs gave another further jolt to the struggling Indian economy. The overall Balance of Payment stood at an abysmal Rs (-) 4,471 crores and inflation reached an alarming 13 per cent. Foreign reserves of the country just stood at Rs 11,416 crores. The unprecedented political uncertainty the country enveloped into during this period worsened the situation further. Consequently, India's credit rating fell at an all-time low in the international market for both short-term and long-term borrowing. These developments pushed the economy on the brink of default with respect to external payments liability. At this critical period, the then finance minister of India, Dr Manmohan Singh, with the help of World Bank and IMF ushered in a new era by introducing the macroeconomic stabilization and structural adjustment programme. India opened its door to FDI inflows and adopted a more liberal foreign policy in order to restore the confidence of foreign investors. Further, under the new Foreign Investment Policy, the Government of India constituted Foreign Investment Promotion Board (FIPB) with a primary objective to invite and facilitate foreign investment through single window system monitored from the prime minister's office. The foreign equity cap was raised to 51 per cent for the existing companies and the government allowed the use of foreign brand names for domestically produced products which was restricted for long. India also became the member of Multilateral Investment Guarantee Agency (MIGA) for protection of foreign investments. The government lifted restrictions on the operations of MNCs by revising the

FERA Act 1973. New sectors such as mining, banking, telecommunications, highway construction and management were thrown open to foreign investors as well as to the private sector. This led to herald the post-liberalization stage of inward FDI to India. Since then India has been liberalizing its FDI policy to encourage flow of FDIs in India.

Make in India is one such initiative launched by the Narendra Modi government in September 2014 to encourage multinational as well as national companies to manufacture their products in India so that India would emerge as the top destination globally for FDI. This gave further impetus for the post-liberalization period and many changes in FDI policy were made to further boost the foreign investments. During the same the following twenty-five sectors of the economy were permitted 100 per cent FDI through automatic route and/or government route except Space, Defence and news media which were confined to 74 per cent, 49 per cent and 26 per cent, respectively.

- i. Automobiles
- ii. Automobile Components
- iii. Aviation
- iv. Biotechnology
- v. Chemicals
- vi. Construction
- vii. Defence Manufacturing
- viii. Electrical Machinery
- ix. Electronic Systems
- x. Food Processing
- xi. Information Technology and Business Process Management
- xii. Leather
- xiii. Media and Entertainment
- xiv. Mining
- xv. Oil and Gas
- xvi. Pharmaceuticals
- xvii. Ports and Shipping
- xviii. Railways
- xix. Renewable Energy
- xx. Roads and Highways
- xxi. Space and Astronomy

- xxii. Textiles and Garments
- xxiii. Thermal Power
- xxiv. Tourism and Hospitality
- xxv. Wellness

However, the following activities/sectors cannot receive FDI as per the policy:

- i. Lottery Business
- ii. Gambling and Betting, Casinos, etc.
- iii. Chit Funds
- iv. Nidhi Company
- v. Trading in Transferable Development Rights
- vi. Real Estate Business (other than construction development)
- vii. Construction of Farm Houses
- viii. Manufacturing of Cigars, Cheroots of Tobacco
- ix. Activities/sectors not open to private sector investment, i.e., Atomic Energy and Railway Operations

Arvind Mayaram Committee Report on FDI and Foreign Institutional Investors (FII) on 21 June 2014 states foreign investments in India shall be FDI and Foreign Portfolio Investment (FIP). Definition of FDI suggested by the Committee is in line with IMF definition. The FPI includes portfolio investors like FIIs and Qualified Foreign Investors (QFIs). Foreign investment by way of equity shares compulsorily convertible preference shares/debentures less than 10 per cent should be treated as FPI. Most recently, according to FDI report 2016 by FDI intelligence. India has replaced China as the leading destination for FDI projects in the Asia-Pacific region with \$63bn of announced inward capital investment in the year 2015, accounting for 53 per cent of FDI into China and India collectively. Apart from that, India replaced China as the top destination for FDI by capital investment following a year of high-value project announcements, specifically across the coal, oil and natural gas and renewable energy sectors.

In the recent past, i.e., 20 June 2016, the NDA government has introduced radical liberalization of FDIs; it has eased the norms to an extent, making India the most open economy in the world for FDI. The major changes are as follows. In civil aviation the cap is raised to 100 per cent; however, 49 per cent under automatic route

and beyond that through government approval. Coming to pharmaceutical sector it is 74 per cent FDI under automatic route and beyond that through government approval. In single brand retail, local sourcing norms relaxed up to 3 years and a relaxed sourcing regime for another 5 years for products having state-of-the-art, cutting-edge technology. In Defence the change was the condition of access to state-of-the-art technology has been done away with and the FDI limit is also applicable (49 per cent automatic and beyond that through government approval on a case-to-case basis) to manufacturing of small arms and ammunition. The amendments were made to liberalize and simplify FDI policy to provide ease of doing business in India, leading to larger FDI inflows that will contribute to growth of investment, incomes and also providing much-needed major impetus to employment and job creation in India.

It is evident from the above discussion that FDI is a predominant and vital factor in influencing the process of global economic development. Hence, the current study attempts to identify and analyse the important macroeconomic factors as determinants of FDI inflows in India for the period 1981–2014.

The period under study is important for the following various reasons. First and foremost, the partial liberalization of the Indian economy during 1980 and LPG reforms in 1991 opened the doors to the private sector. Second, the experiences of South-East Asian countries by liberalizing their economies in 1980s became stars of economic growth and development in early 1990s. Third, India's experience with its first generation economic reforms and the country's economic growth performance were considered safe havens for FDI which led to second generation of economic reforms in India in first decade of this century. Fourth, there is a considerable change in the attitude of both the developing and developed countries towards FDI, as it is considered as the most suitable form of external finance. Fifth and lastly, increase in competition for FDI inflows particularly among the developing economies and shift of the power centre from the Western countries to the Asian subcontinent (India and China are emerging as most promising economies of the world) is yet another reason to take up this study.

2. Literature Review

2.1 Macroeconomic determinants of FDI

Though several empirical studies have investigated the factors determining FDI, most of the studies utilize multiple numbers of theories or hypotheses in order to investigate

the empirical linkage between FDI and variety of economic, social and political variables. Past literature says that large number of variables has been identified as the determinants that explain the flow of FDI. The extant of literature related to macroeconomic variables, viz., Corporate Tax, Exchange Rate, External Debt, Inflation, Interest Rate, International Trade and Market Size is presented below.

Corporate Tax: Fiscal policies determine general tax levels, including corporate and personnel tax rates and thereby influence inward FDI. Other things being equal a country with lower tax rates should stand a greater chance of attracting FDIs than a country with higher rates. It is difficult to ascertain how much influence it can have on the total inflows of FDI (Chopra, 2003).

The sensitivity of FDI to corporate tax rate is so far uncertain as some find evidence in the importance of tax rate, others argue tax has no significant effect. Singh and Jun (1995) find a positive relationship between taxes on international transactions and FDI inflows to developing countries. Devereux and Freeman (1995) empirically analyse foreign direct investments among seven major trading countries concluded that tax has no statistically significant effect on decisions whether to invest at home or abroad; however, tax influences decisions in which countries to make foreign direct investments. Gordon and Hines (2002) using empirical analyses using 15 years' data confirm that tax influences the level and location of foreign direct investment. Tomonori Sato (2012) concluded that corporate tax has a significantly negative effect on foreign direct investment. Nahid Kalbasi Anaraki (2015) investigated whether corporate tax rate dominates the role of other macroeconomic fundamentals in shaping FDI to selected core European countries. Using panel data and fixed effect model for the period of 1990-2015, the study concluded that corporate tax rate plays a more important role than economic fundamentals in affecting FDI inflows to core European countries.

Exchange Rate: It is the rate at which one currency may be converted into another. In other words, it is the relative strength of the domestic country in relation to the foreign country. High volatility of the exchange rate of the currency in the host country discourages investment by the foreign firms as it increases uncertainty regarding the future economic and business prospects of the host country (Banga, 2003). Pan (2003) has found positive impact of exchange rate in case of China while negative impact of this variable has been reported by Ali and Guo (2005) in China.

External Debt: External debt or foreign debt refers to the total debt a country owes to foreign creditors, complemented by internal debt owed to domestic lenders. The level of external debt refers to the net external assistance extended to India in the form of loans. It has a negative impact on FDI inflows. The level of indebtedness shows the burden of repayment and debt servicing on the economy, thus making the country less attractive for foreign investors (Chopra, 2003). Ostadi and Ashja (2012) concluded that external debt have significant negative effect on foreign direct investment, and increasing foreign debt has destroyed foreign investors vision and created negative expectations of the future economy which together reduced investment in the country.

Inflation: Low inflation rate is considered to be a sign of internal economic stability in the host country. High inflation rate indicates incapability of the government to balance its budget and failure of the central bank to conduct appropriate monetary policy. Changes in inflation rates of the domestic or foreign country are anticipated to alter the net returns and optimal investment decisions of the MNEs. It is expected to have negative impact on FDI (Barga, 2003).

Interest Rate: The interest rate is the rate which is charged or paid for the use of money or more precisely the cost of borrowing. Also, the real interest rate in the host economy captures the host country's return on investment as an attracting factor for FDI. Gross and Trevino (1996) found that a relatively high interest rate in a host country has a positive impact on inward FDI. However, the direction of the impact could be in reverse if the foreign investors depend on host countries capital market for raising FDI fund, the expected to have positive relation to FDI inflow.

International Trade: International trade openness is measured by the quantum of exports and imports. A large body of literature exists on the direct and indirect effects of foreign direct investment, with a substantial number of studies concerned with the apparent relationship between FDI and international trade. While some studies have concluded that there is a substitution effect between inward FDI and trade (Gopinath et al., 1999; Ramstetter, 1991; Svensson, 1996), other studies have concluded there is a complementary effect (Bayoumi and Lipworth, 1997; Blomström et al., 1988; Eaton and Tamura, 1994; Fontagné and Pajot, 1997; Marchant et al., 2002; Mekki, 2005; Pfaffermayr, 1996). Similarly, the empirical evidence on the causal relationships between FDI and trade is equally

contradictory, with results ranging from unidirectional causality, bidirectional causality or even no causality between FDI and trade. Foreign direct investment and international trade are not only increasingly complementary and mutually supportive, but also increasingly inseparable as two sides of the process of economic globalization (Ruggiero, 1996).

- i) Export: Export is a function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. Generally there is a positive relationship between FDI inflows and exports. However, the empirical work on the relationship stresses complementarily and substitutability relationships between exports and FDI. Singh and Jun (1995) concluded that the export-related variables strongly explain pulling of FDI to a country.
- ii) Imports: Pacheco-López (2005) points out that there are two possible causal linkages between FDI and imports. Firstly, an increase in imports in a country leads to a rise in FDI inflows to the same country. She argues that imports show the existence of a demand for a commodity. As a result, multinational enterprises might be attracted to carry out direct investment in the same country in order to produce the product domestically. Secondly, the presence of multinational enterprises in the host country stimulates an increase in imports through a rise in demands for imported supplies, such as, raw materials and intermediate products, as well as capital goods from the home country.

Market Size: Market size which is measured in terms of GDP is expected to have positive relationship with FDI. Countries having more GDP growth rate can attract more FDI inflows. Market-oriented FDI aims to set up enterprises to supply goods and services to the local market. This kind of FDI may be undertaken to exploit new markets. The market size of host countries is very important location factor for market-oriented FDI. The general implication is that host countries with larger market size, faster economic growth and higher degree of economic development will provide more and better opportunities for these industries to exploit their ownership advantages and therefore will attract more market-oriented FDI. Anowar and Mohammad (2012) examined co-integration and the causal relationship between FDI and GDP in both short and long run of Bangladesh, Pakistan and India over the period 19722008. The results of the study found that there is significant relationship for both long run and short run of Pakistan and unidirectional relationship for Pakistan and India.

Cevis and Camurdan (2007) in their study using a panel data set of 17 developing countries and transition economies for the period 1989:01–2006:04 concluded that main determinants of FDI inflows are inflation rate, interest rate, growth rate and the trade (openness) rate and FDI inflows give power to the economies of host countries.

Hooda (2011) conducted a research on FDI on the economy of India from 1991 to 2008 using simple and multiple regression technique. Their study concluded that the main determinants of FDI in developing countries are inflation, infrastructural facilities, exchange rates, stable political environment, interest rates, labour costs and corporate taxes.

Faroh and Shen (2015) examined the impact of interest rate on FDI in Sierra Leone. They used an econometric model based on time series data and analysed for the period 1985–2012. They concluded trade openness and exchange rates are the key determinants of FDI flow

in Sierra Leone. Others variables such as inflation, GDP and interest rate were found to be insignificant factors causing the variability of FDI inflows.

2.2 Objectives of the study

- To study the trends and patterns of FDI inflows to India.
- To study the association between host country macroeconomic factors and FDI inflows.
- To identify macroeconomic factors influencing FDI inflows to India.

2.3 Scope of the study

The current study takes into consideration the eight macroeconomic variables, i.e., GDP, Exchange Rate, Imports, Exports, Corporate Tax, External Debt, Interest Rate and Inflation. Thirty-four years annual data from 1981 to 2014 was taken into consideration for the analysis. Table 1 presents the various macroeconomic factors considered for the study along with the respective proxies of the variable and sources from which the data is drawn.

Table 1: Sources of data

S No.	Macroeconomic factors (Variables)	Description of the factors	Proxy	Source
1	Exchange rate	Rupee/USD	Financial market viability	www.rbi.com
2	Exports	Exports of goods and Services (% of GDP)	Trade openness	ww.data.worldbank.org
3	External debt	External debt (US\$)	Risk	ww.data.worldbank.org
4	FDI	Net Inflows of Foreign direct investment (US\$)	FDI inflows	ww.data.worldbank.org
5	GDP Growth rate	Annual growth rate of GDP (%)	Market size	ww.data.worldbank.org
6	Imports	Imports of goods and services (% of GDP)	Trade openness	ww.data.worldbank.org
7	Inflation	CPI	Economic stability	www.inflation.eu
8	Interest rate	Lending rate	Monetary policy	www.sbi.com
9	Corporate tax	Top tax rate	Attractive environment	www.wtdb.org

3. Research Methodology

Software: The current study has used E-views 8 and SPSS 16.0 software.

3.1 Statistical tools and techniques used for analysis

Pearson Correlation: Correlation is a measure of the relationship between the two variables; it measures the strength of their relationship, which can range from absolute value over any period of time.

Unit Root Test (Augmented Dickey-Fuller Test):

Usually time series data follow a particular trend and economic theory requires that they are subjected to differencing or de-trending procedures otherwise spurious results will be obtained (Gujarati, 1995). The stationarity of a data series is a prerequisite for drawing meaningful inferences in a time series analysis. A data series is said to be stationary series if its mean and variance are constant over a given period of time and the covariance between the two extreme time periods does not depend

on the actual time at which it is computed but it depends only on lag amidst the two extreme time periods. One of the common methods to find whether a time series is stationary or not is unit root test. There are numerous unit root tests; one of the most popular among them is the Augmented Dickey–Fuller (ADF) test. The ADF test is applied to test the data series stationary.

Johansen's Co-integration Test: It is applied to establish long-term relationship between the variables. The Johansen approach to co-integration test is based on two test statistics, i.e., trace statistic and maximum eigenvalue statistic. In the trace test, the null hypothesis is that the number of distinct co-integrating vector(s) is less than or equal to the number of co-integration relations. The maximum eigen value test examines the null hypothesis of exactly r co-integrating relations against the alternative of r+1 co-integrating relations with the test statistic.

Granger Causality Test: Granger (1969) and Sim (1972) were the ones who first developed Granger causality test to examine the application of causality in economics. Granger causality test is a technique for determining whether one-time series is significant in forecasting another. The standard Granger causality test seeks to determine whether past values of a variable helps to predict changes in another variable. Granger causality technique measures the information given by one variable in explaining the latest value of another variable. In addition, it also says that variable Y is Granger caused by variable X if variable X assists in predicting the value of variable Y. If this is the case, it means that the lagged values of variable X are statistically significant in explaining variable Y. The null hypothesis (H0) that we test in this case is that the X variable does not Granger cause variable Y and variable Y does not Granger cause variable X.

Table 2: FDI Net Inflows in India

Year	Net FDI inflows in \$ Million	Annual Growth of FDI (%)		
1981	91.92			
1982	72.08	-21.58		
1983	983 5.64 -92.1			
1984	19.24	241.13		
1985 106.09		451.40		
1986	117.73	10.97		
1987	212.32	80.34		
1988	91.25	-57.02		
1989	252.10	176.27		

1990	236.69	-6.11
1991	73.54	-68.93
1992	276.51	276.01
1993	550.37	99.04
1994	973.27	76.84
1995	2143.63	120.25
1996	2426.06	13.18
1997	3577.33	47.45
1998	2634.65	-26.35
1999	2168.59	-17.69
2000	358.22	-83.48
2001	5471.95	1427.55
2002	5626.04	2.82
2003	4322.75	-23.17
2004	5771.30	33.51
2005	7269.41	25.96
2006	20029.12	175.53
2007	25227.74	25.96
2008	43406.28	72.06
2009	35581.37	-18.03
2010	27396.89	-23.00
2011	36498.65	33.22
2012	23995.69	-34.26
2013	28153.03	17.33
2014	33871.41	20.31

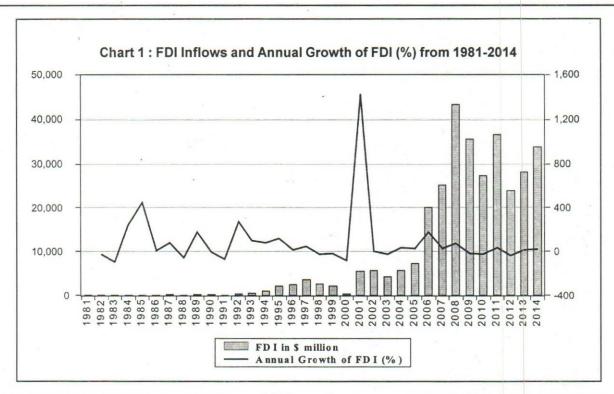
Source: World Bank (www.data.worldbank.org)

Table 2 presents FDI net inflows in India and also annual growth of FDI in terms of per centage. The annual growth of inflows of FDI is computed by using FDI inflows data.

4. Analysis and Discussion

When it comes to analysing the trend of FDI inflows, it has been observed that there is a mixed trend; in other words, the flow of FDIs has been fluctuating over a period of time, especially in the recent past. The annual growth rate was negative in 1982, 1983, 1988, 1990, 1991, 1998 to 2000, 2003, 2009, 2010 and 2012. In the year 2001, the growth per centage was highest to an extent of 1,427 per cent. Figure 1 presents the graph of FDI net inflows in India and annual growth of FDI.

In the year 1983 the FDI inflows to India has been very meagre to an extent of \$ 5.64 million and during the same year there was steep fall in the growth of inflows of



FDI which happened to be 92.18 per cent. In the year 2008 the inflows have been utmost to an extent of \$43406.28 million. From the year 2012 to 2014 it has been found that there is an increasing trend in the FDI inflows to India.

Pearson correlation coefficient is computed using SPSS to know the association between macroeconomic factors and FDI. The results of the correlation analysis are as given in Table 3.

Table 3: Correlation between Macroeconomic Factors and FDI

			Correlation						
		Corporate Tax	Interest Rate	Exchange Rate	Inflation	Exports	Imports	GDP	External Debt
FDI	Pearson Correlation	317	-,667"	.656**	.075	.890"	.920"	.296	.863**
	Sig. (2-tailed)	.068	.000	.000	.674	.000	.000	.089	.000
	N	34	34	34	34	34	34	34	34

Note: **.Correlation is significant at the 0.01 level (2-tailed)

FDI and Corporate Tax: The *r* value -0.317 indicates that there is a negative low degree of correlation between FDI and corporate tax. The correlation was not significant at 1 per cent level of significance.

FDI and Interest Rate: The *r* value -0.667 indicates that there is moderate degree of negative correlation between FDI and interest rate. The correlation is found to be significant of 1 per cent level of significance.

FDI and Exchange Rate: The *r* value **0.656** indicates that there is moderate degree of positive correlation between FDI and exchange rates. The correlation is found to be significant at 1 per cent level of significance.

FDI and Inflation: The *r* value **0.075** indicates that there is low degree of positive correlation between FDI and inflation. The correlation is not significant at 1 per cent level of significance.

FDI and **Exports:** The *r* value **0.890** indicates that there is high degree of positive correlation between FDI and exports. The correlation is found to be significant at 1 per cent level of significance.

FDI and Imports: The *r* value is **0.920** indicates that there is very high degree of positive correlation between FDI and imports. The correlation is found to be significant at 1 per cent level of significance.

FDI and GDP: The r value **0.296** indicates that there is low degree of positive correlation between FDI and GDP. The correlation is not significant at 1 per cent level of significance.

FDI and External Debt: The *r* value **0.863** indicates that there is high degree of positive correlation between FDI and external debt. The correlation is found to be significant at 1 per cent level of significance.

Table 4: Augmented Dickey-Fuller (ADF) Unit Root Test results

S. No.	Variable	1st	1st lag		2nd lag		lag
		t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
1.	External Debt	1.759765	0.9995	-0.047865	0.9464	-6.95141	0.0000*
2.	Exchange Rate	-0.120557	0.9389	-4.454383	0.0013*		
3.	Exports	0.516479	0.9847	-7.418705	0.0000*		-
4.	FDI	-0.513867	0.8760	-6.389376	0.0000*		
5.	Interest Rate	-1.000055	0.7417	-5.545574	0.0001*		
6.	Imports	-0.209830	0.9276	-4.839904	0.0005*		
7.	Inflation	-4.007396	0.0040*				
8.	Corporate Tax	-4.467798	0.0016*				
9.	GDP	-4.817932	0.0005*				

Note: *Significant at 5 per cent Level of Significance.

To check the stationary whether the data of the selected variables is stationary or not, Augmented Dickey–Fuller (ADF) test was applied. The results of the same are presented in Table 4.

It was found that Exchange Rate, Exports, FDI, Interest Rate, Imports were found stationary for 2nd lag and variables such as Inflation, Corporate Tax and GDP are stationary for 1st lag itself at 5 per cent level of significance. However, the variable External Debt was found to be stationary for 3rd lag.

After having completed examination of the stationary of each time series, the next step is to figure out the level of co-integration or long-term relationship between the

considered variables. To test long run relationship between FDI and other selected macroeconomic variables, Johansen's Co-integration test was applied. In this technique, two test statistics are involved in identifying the number (r) of co-integrating vectors, namely, the trace test statistics and the maximum eigenvalue test statistics. The results of Johansen's Co-integration Test between FDI and other Macroeconomic Variables are shown in Table 5. The co-integration between non-stationary variables has been tested by the Johansen's Trace and Maximum Eigenvalue tests. For Trace test it was found that at most seven, first time hypothesis of no co-integration is not rejected. Therefore, the tests indicate that eight co-integrating vectors exist at 5 per cent level

Table 5: Johansen's Co-integration Test between FDI and Other Macroeconomic Variables

Hypothesized No. of CE(s)	TraceStatistic	Prob.	Max-EigenStatistic	Prob.
None	442.4001	0.0000*	111.9765	0.0000*
At most 1	330.4236	0.0000*	90.80208	0.0000*
At most 2	239.6216	0.0000*	75.55736	0.0000*
At most 3	164.0642	0.0000*	57.64140	0.0002*
At most 4	106.4228	0.0000*	36.18328	0.0261*
At most 5	70.23952	0.0001*	30.12326	0.0231*
At most 6	40.11626	0.0023*	21.39670	0.0459*
At most 7	18.71956	0.0157*	18.60016	0.0097*
At most 8	0.119405	0.7297	0.119405	0.7297

Note: *Significant at 5 per cent Level of Significance.

of significance. For Maximum Eigen Value tests it was found that at most seven, first time hypothesis of no co-integration is not rejected. Therefore, the tests indicate that eight co-integrating vectors exist at 5 per cent level of significance.

After having completed examination of the stationary of each time series and also ascertaining long run

relationship between FDI and selected macroeconomic variables, the next step is to determine the direction of causality. Granger Causality test is performed between all possible pairs of variables to determine the direction of causality. Pair wise the results of only significant *p* value are shown in Table 6. Based on the results of Granger Causality test it can be concluded that Exchange Rate,

Table 6: Pair-wise Granger Causality Test Results

S. No.	Hypothesis	F-Statistic	Prob.
1.	Exchange rate does not Granger Cause FDI	5.06311	0.0136*
2.	Exports does not Granger Cause FDI	5.28488	0.0116*
3.	GDP does not Granger Cause FDI	4.06547	0.0286*
4.	Imports does not Granger Cause FDI	6.79284	0.0041*
5.	FDI does not Granger Cause Exports	5.28630	0.0116*
6.	FDI does not Granger Cause External Debt	3.75765	0.0363*

Note: * Significant at 5 per cent LOS

Exports, GDP and Imports causes FDI. Foreign direct investment in turn Granger causes External Debt and Exports. It was found the relationship between Exports and FDI is bidirectional.

5. Conclusion

Foreign direct investment inflow in India could be direct and indirect. Foreign direct investment is direct when the foreign investor, whether a person, company or group of entities, seeks to control, manage or have significant influence over the Indian enterprise. Foreign investment is done through a portfolio, which it is an indirect investment. The three principal forms of FDI in India are joint ventures, acquisition of assets and Greenfield ventures.

The current study attempts to identify and analyse the macroeconomic factors as determinants of FDI inflows in India for the period 1981–2014. The macroeconomic factors considered are GDP, Exchange Rate, Imports, Exports, Corporate Tax, External Debt, Interest Rate and Inflation.

When it comes to analysing the trend of FDI it has been observed that there is a mixed trend; in other words the flow of FDIs has been fluctuating over a period of time, especially in the recent past. The annual growth rate was negative in 1982, 1983, 1988, 1990, 1991, 1998

to 2000, 2003, 2009, 2010 and 2012. From 2000 to 2001 the growth per centage was highest to an extent of 1,427 per cent. The study found that FDI has shown negative correlation with respect to interest rate and corporate tax and positively correlated with respect to GDP, Exchange Rate, Imports, Exports, External Debt and Inflation. The correlation between FDI and Interest Rate, Exchange Rate, Exports, Imports and External Debt was found to be significant. When it comes to identifying the Macroeconomic Determinants of Foreign Direct Investment following conclusions were drawn Exchange Rate, Exports GDP and Imports causes FDI. Foreign direct investment in turn Granger causes external debt and exports. However, the relationship between Exports and FDI is bidirectional. The current study conclusions will help policymakers of FDI to focus on which macroeconomic variables so as to attract more inward FDI to India as it presents empirical evidence.

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India's growth drivers are actually two drivers. One is consumption, which arises out of our demographic advantage. And the other is the investments. Because we need a lot of investment in the country.

-Chanda Kochhar

Focus

Impact of Foreign Direct Investment (FDI) Inflows on Productivity: Evidence from Panel Data Analysis

PABITRA KUMAR JENA AND UTPAL CHATTOPADHYAY

The present study aims to analyse the impact of FDI inflows on productivity in India. The study reviewed some of the earlier works on impact of FDI inflows on productivity during pre- and postglobalization period. These studies found that the impact of FDI inflows on productivity is mixed, i.e., both positive and negative. The studies observed that varied results depend on characteristics of the host country and the investing firms. Factors such as 'absorptive capability' of the host economy, domestic market competition, ownership structure of foreign firms and technology gap between foreign and domestic firms in the industry can explain the different outcomes. Absorptive capability refers to the fact that FDI may be more beneficial for an industry if the domestic firms have a minimum level of technological development and human capital. Since competition effects foreign firm; it can lead to crowding out of domestic firms which are forced to make an exit being unable to compete with the foreign firms. This study found that impact of FDI inflows on productivity is positive in case of manufacturing sector as well as service sector firms. Empirical evidence showed that both manufacturing and service sectors have positive Total Factors Productivity Growth (TFPG). The positive growth of TFPG in both sectors is mainly due to Technical Efficiency Change (TEC). The manufacturing sector however is having more TEC in comparison with service sector. The higher TEC in manufacturing sector is due to both Pure Technical Efficiency Change (PTEC), which is also known as managerial efficiency, and Scale Efficiency Change (SEC) which is also known as size efficiency. But TEC in service sector is due to PTEC (managerial efficiency) and not SEC (size efficiency). Further, the paper goes on to discuss the limitations of the present study and scope for further research. Finally, some policy suggestions for better inflows of FDI in India are spelt out.

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1. Introduction

Foreign Direct Investment (FDI) inflows are becoming an important source of investment funds in developing countries, particularly in India. Many economists. academicians, policymakers and management experts have described it as an important source of more production, enhancement of efficiency, growth of new technology and management know-how of firms and a useful link to world markets for Indian economy (see, for example, Balasubramanyam, Salisu and Sapsford [1996]. Fry [1993]). On the other hand, some researchers on Indian economy have expressed their concerns about the adverse effects of FDI on the development of domestic firms or alternatively, it may be considered a source of economic exploitation of developing countries (Sasidharan, 2006; Lyer, 2009). Thus, it is important to understand what economic role foreign direct investments really play in the context of Indian economy (Chakraborty, and Peter, 2007). Here, some of the crucial issues are: (a) Do FDI inflows crowd out domestic private investment or do they increase it by fostering various backward and forward linkages with domestic firms? (b) Do FDI inflows increase GDP growth by enhancing productivity, increasing efficiency, creating job opportunities, increasing exports, bringing in new management and production techniques? or (c) Do they lower GDP growth in the long run by taking excessive profits out of the Indian economy (Agarwal P., 2003)? The statistics on sectorwise FDI inflows into India reveals that, during 2001 to 2012, the services sector alone accounts for near about one-fifths (19 per cent) of the total. The other sectors which capture a significant per cent of the total FDI inflows in the country include Construction Development (12 per cent), Telecommunications (7 per cent), Computer Software and Hardware (6 per cent), Drugs and Pharmaceuticals (6 per cent), Chemicals (5 per cent).

Power (4 per cent), Automobile (4 per cent), Metallurgical (4 per cent) and Petroleum & Natural Gas (3 per cent).

Impacts of FDI inflows into Indian economy are of two types, namely, direct and indirect. The direct impact of FDI inflows includes impact on domestic investment, income, employment, productivity, price level and export growth. Besides these, there are also a plethora of other impacts which affect the domestic economy indirectly. Spillovers from FDI take place when the entry or presence of multinational corporations increases the productivity of domestic firms in a host country and the multinationals do not fully internalize the value of these benefits. When any company with higher productivity makes an entry, then it naturally encourages other companies within the same sector to improve their performance and competitiveness.

2. Review of Literature

Despite the theoretical assumptions of positive impact of FDI inflows, empirical results of earlier studies show that FDI has a mixed impact on the productivity of domestic firms. The studies that noted positive effects include; Kosova (2010), Lyer (2009), Bergman (2006), Wei and Liu (2006), Sarkar (2006), Banga (2004), Gorg and Greenaway (2004), Goldar et al. (2003) Lipsey (2002), Kathuria (2001), Siddarthan and Lal (2004), Pradhan (2001), Djankov and Hoekman (2000), Liu et al. (2001), Chuang and Lin (1999), Blomström and Wolff (1994), Blomstrom (1986). While those found negative effects are: Gachino (2007), Sasidharan (2006), Atiken and Harrison (1999), Okamoto (1999), Kokko (1994), Djankov and Hoekman (2000), Haddad and Harrison (1993). Though some authors argued that FDI has positive effects, but such (positive) effects may be offset by large negative effects on the domestic firms' productivity. Several explanations have been offered for these mixed results. including different measuring techniques and unreliable data used in the studies (Görg and Strobl, 2001). It is argued that varied results also depend on characteristics of the host country and the investing firms. Factors such as 'absorptive capability' of the host economy, domestic market competition, ownership structure of foreign firms and technology gap between foreign and domestic firms in the industry can better explain the different outcomes.

3. Motivation of the Study

It is seen from the literature review that impact of FDI inflow on productivity is mixed: positive and negative. Even

though a few studies are available regarding impact of FDI inflows on productivity in India after reform but they seem to be dated in the present context. Therefore a need for an update is now felt regarding assessing the impact of FDI inflows on productivity in Indian economy using more the recent data at different sectoral level. Further, it is important to examine whether impact of FDI on productivity changed at a particular historical juncture (after 1990) when some decent economic growth has already taken place and the economy is well poised on a high growth trajectory. It would be interesting to examine the sources of productivity growth of FDI firms in India after liberalization. The study attempts to assess the impacts, separately on firms from manufacturing sector and the service sector firms. Both these sectors are critical for the Indian economy. Since liberalization, service sector has remained the 'engine of growth', while, of late, the manufacturing sector is being considered more important for growth as well as employment generation.

4. Research Methodology

The study used firm level data from Prowess Database. The sample period is 2001-2012. These data are collected by the Centre for Monitoring Indian Economy (CMIE) from the company balance sheets and income statements and cover both listed and unlisted firms from a wide cross-section of manufacturing, services, utilities and financial industries. In order to measure the impact of FDI inflows on productivity and identify the sources of productivity changes two sectors, namely, manufacturing and service sector have been considered for this study. Only 452 firms from manufacturing and 548 from service are covered in the sample for 11 years, i.e., from 2002 to 2012. The selection of firms is according to the IMF guideline. Only those firms are selected which have foreign equity holding of 10 per cent or more. It has been decided to take only 452 manufacturing and 548 service sector firm due to lack of data availability after reform period and some missing observations on the firm-specific variables which reduce the entire number of observations in the sample to 4,972 in case of manufacturing sector and 6,028 in case of service sector. Fixed effects model (FEM) and Random Effects Model (REM) have been used to measure impact of FDI inflows on productivity. Hausman test has been used to decide whether FEM or REM would be appropriate for a given panel data set. Malamquist Indices of Data Envelopment Analysis (DEA) have been used to measure productivity growth and sources of productivity changes such as technological

changes, technical efficiency changes, managerial efficiency changes and size efficiency changes of FDI firms.

5. Framework for Measuring the Impact of FDI Inflows on Productivity

In this section, this study tries to examine impact of FDI inflows on productivity. To measure the impact of FDI inflow on productivity the study has used Cobb-Douglas Production Function. The impact of FDI on the productivity can be derived from the Cobb-Douglas Production Function, which states that:

$$Y = F(A, K, L, M \text{ and } E)$$
 (1.1)

Where Y is the production, A is an index of the level of technology, which is also called as total factor productivity (TFP) in the economics literature. Similarly, K, L, M and E are capital, labor, materials and energy respectively. The logarithm of both sides of the above model was taken to convert the equation into linear form; its log transformation is specified below:

$$Log Y_{ijt} = Log A + \alpha Log K_{ijt} + \beta Log L_{ijt}$$

+ $\gamma Log M_{ijt} + \delta Log E_{ijt} + u$ (1.2)

Where, Y_{it} is the quantity produced by firm i in sector i at time t. It is calculated by deflating the output value (sales volume plus change in inventories) by the Wholesale Price Index (WPI) of the total manufacturing goods. K_{iit} capital, is defined as the value of fixed assets, which is deflated by the same Wholesale Price Index (WPI) of the total manufacturing goods. Liir is the total number of mandays per firm. This information is not directly available and it is computed by dividing expenses of firms on salaries and wages by the average wage rate of the industry into which the firm belongs to. Again, the average wage rate of the industry is calculated by dividing total emoluments on total man-days of the industry. The industry data are used from the ASI database. M_{iit} represents the intermediate inputs, like raw materials, stores and spares purchased by firms for production of final products, which is deflated by the WPI of the total manufacturing goods (Balakrishnan et al., 2000). Eiit represents the energy inputs, like power, fuel and water charges purchased by firms to use for production of final products, which is deflated by the WPI series of fuel and power products (Topalova and A. Khandelwal, 2011).

5.1 OLS Technique

The technique entails estimating output as a function of the inputs and then subtracting the estimated output from actual output to capture productivity as the residual. However, concerns have been raised that this traditional estimation technique may suffer from simultaneity and selection bias. Suppose we have a random sample of firms with information on output, labour, material, energy and capital. If we estimate the Cobb-Douglas function in logs, we get:

$$\begin{aligned} & \text{Log Y}_{ijt} = \beta_1 \text{Log K}_{ijt} + \beta_2 \text{ Log L}_{ijt} + \beta_3 \text{Log M}_{ijt} + \\ & \beta_3 \text{ Log E}_{iit} + \Omega_{iit} + U_{iit} \end{aligned} \tag{1.3}$$

Where, Ω_{ijt} refers to the productivity shock known to the firm, but unobserved by the econometrician. u_{ijt} refers to all other disturbances such as measurement error, omitted variables, functional form discrepancies and any other shocks affecting output that are unknown to the firm when making input decisions.

The basic computation methodology used for measuring TFP, then, is as follows

$$Log TFP_{ijt} = Log Y - \beta_1 Log K_{ijt} - \beta_2 Log L_{ijt} - \beta_3$$

$$Log M_{iit} - \beta_3 Log E_{iit}$$
 (1.4)

5.2 Panel Data Techniques Approaches

Recently, a large number of studies have used panel data technique for capturing better effects of FDI inflows on productivity across different firms. An important advantage of panel data over time series or cross-sectional data sets is that, without making any restrictive assumptions, it allows not only to model or explain why individual units behave differently but also to model why a given unit behaves differently at different time periods. Let all variables be indexed by an i for the individual (i = 1,...,N) and a t for the time period (t = 1,...,T). In very general terms; a linear model can be specified as:

$$yit = \alpha i + x'it \beta + \varepsilon it$$
 (1.5)

where x_n is a K-dimensional vector of explanatory variables, not including a constant. This means that the effects of a change in x are the same for all units in all periods, but that the average level for unit i may be different from that for unit j. The α_i thus capture the effects of those variables that are peculiar to the i individual and that are constant over time.

This leads to the random affects model, where the individual affects αi are treated as random. The error term in this model consists of two components: (a) a time-invariant component αi and (b) a remainder component ϵ_{it} that is uncorrelated over time. It can be written as:

$$y_{it} = \mu + x \phi_{it} \beta + a_{it} + \epsilon_{it}$$
 (1.6)

The selection of model between fixed effect and random effect depends on the 'true nature' of the effects α_i i.e., whether to treat the individual effects as fixed or random as such decision puts a significant amount of difference in the estimates of the β parameters. The fixed effects model is conditional upon the values for α_r . In contrast, the Random Effects Model (REM) is not conditional upon the individual α_r A FEM assumes differences in intercepts across groups or time periods, whereas a REM explores differences in error variances. Hausman (1978) has suggested a test wherein the two estimators (one from FE and another from RE) are compared.

Table 1: OLS Result for Manufacturing Sector

Variables	Co-efficient	t- value	P-Value
TFP	0.76	3.45	0.000
CAPITAL(K)	0.146	4.15	0.000
LABOUR(L)	0.074	2.13	0.000
MATERIAL(M)	0.355	15.00	0.000
ENERGY(E)	0.084	2.61	0.000

R = 0.732, $R^2 = 0.684$, Adjusted $R^2 = 0.665$, D.W Statistics = 2.135.

6. Empirical Findings on Impact of FDI Inflows on Productivity and Discussion

In this study, an attempt has been made in order to know impact of FDI in flows on productivity in case of FDI firm. The following Tables 1 and 2 shows OLS results for manufacturing sector and service sector respectively.

In Table 1 it is observed that K (Capital) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.146, p-value = 0.000 and t-value = 4.15). This suggests more capital investment in FDI firms would lead to more production and vice versa. Similarly, it is observed that Labour (L) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.074, p-value = 0.000 and t-value = 2.13). This implies use of more amount of labour would lead to more production and

vice versa. Likewise, Material (M) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.355, p-value = 0.000 and t-value = 15.00). This signifies more amount of material will lead to more production and vice versa. Again, Energy (E) has positive relationship with production of FDI firms and it is highly significant (Coefficient = .084, p-value = 0.000 and t-value = 2.61). These specify more

Table 2: OLS Result for Service Sector

Variables	Co-efficient	t- value	P-Value
TFP	0.78	4.34	0.000
CAPITAL(K)	0.195	3.18	0.000
LABOUR(L)	0.193	2.20	0.000
MATERIAL(M)	0.391	8.41	0.000
ENERGY(E)	0.144	3.09	0.000

R = 0.793, $R^2 = 0.734$, Adjusted $R^2 = 0.714$, D.W Statistics = 2.19.

amount of consumption of energy would lead to more production and vice versa. In the above table, Adjusted R² is 0.665 which is a measure of how much per centage of the variability in the outcome is accounted for by the predictors. Thus in this model, predictors (K, L, M and E) collectively account for 66.5 per cent of the variation in FDI inflows into the Indian economy.

In the above Table 2 it is observed that (Capital) K has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.195, p-value = 0.000 and t-value = 3.18). This suggests more capital investment in FDI firms would lead to more production and vice versa. Similarly, it is observed that Labour (L) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.193, p-value = 0.000 and t-value = 2.20). This implies use of more amount of labour would lead to more production and vice versa. Likewise, Material (M) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.391, p-value = 0.000 and t-value = 8.41). This signifies more amount of material will lead to more production and vice versa. Again, Energy (E) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.144, p-value = 0.000 and t-value = 3.09). These specify more amount of consumption of energy would lead to more production and vice versa. In Table 2, Adjusted R2 is 0.714 which is a measure of how much per centage of the variability in the outcome is accounted for by the predictors. Thus in this model, predictors (K, L, M and E) collectively account for 71.4 per cent of the variation in FDI inflows into the Indian economy.

Table 3: Fixed-Effects Model Results

Variables	Co-efficient	Standard Error	t- Value	P-Value
CAPITAL(K)	.451	0.070	6.44	0.000
LABOUR(L)	248	0.056	-4.42	0.000
MATERIAL(M)	.125	0.031	4.03	0.000
ENERGY(E)	.076	0.013	5.84	0.000
CONSTANT	18.25	4.828	3.78	0.000

Panel data result for Manufacturing Sector

Number of Groups = 452, Number of Observation = 4972

R - Square Within	=	0.434	
Between	=	0.416	
Overall	=	0.465	
F (4,4968)	=	798.93	
Correlation (u_i, Xb)	=	0.288	
Prob > F	=	0.000	
Sigma_u	=	638.784	
Sigma_e	=	781.202	
Rho	=	0.400	

Table 4: Random Effect Model Results

Variables	Co efficient	Standard Error	t- Value	P-Value
CAPITAL(K)	0.239	0.028	8.43	0.000
LABOUR(L)	-0.456	0.070	-6.49	0.000
MATERIAL(M)	0.136	0.023	5.67	0.000
ENERGY(E)	0.087	0.014	5.97	0.000
CONSTANT	34.75	8.434	4.12	0.000

Number of Groups = 452, Number of Observation = 4972

R-Square Within	=	0.4141	
Between	=	0.5599	
Overall	=	0.5210	
LR chi2(4)	=	2083.67	
Prob > chi2	=	0.000	
Sigma_u	=	533.382	
Sigma_e	=	780.692	
Rho	=	0.318	

Since, Hausman test specification, recommended the use of FEM this study interprets the result of FEM in

case of manufacturing sector. From FEM results, it is seen that (Capital) K has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.451, p-value = 0.000 and t value = 6.44). This suggests more capital investment in FDI firms would lead to more production and vice versa. On the contrary, it is observed that Labour (L) has negative relationship with production of FDI firms and it is highly significant (Coefficient = -0.248, p-value = 0.000 and t-value = -04.42). This implies more amount of labour would lead to less production and vice versa. Likewise, Material (M) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.125, p-value = 0.000 and t-value = 4.03). This signifies more amount of material will lead to more production and vice versa. Again, Energy (E) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.076, p-value = 0.000 and t-value = 5.84). These specify more amount of consumption of energy would lead to more production and vice versa.

Panel data result for service sector

In case of service sector Hausman test specification has been conducted which showed existence of random effects. So this study interprets the result of REM in case of service sector. Table 5 and 6 however report the relevant estimates considering both the FEM and REM.

Number of Groups = 548, Number of Observation = 6082

Table 5: Fixed Effects Model Results

Variables	Co efficient	Standard Error	t-value	P-value
CAPITAL(K)	0.325	0.028	11.25	0.000
LABOUR(L)	- 0.374	0.080	- 4.67	0.000
MATERIAL(M)	0.195	0.024	7.98	0.000
ENERGY(E)	0.098	0.015	6.42	0.000
CONSTANT	89.453	9.808	9.12	0.000

R-Square Within	=	0.575
Between	=	0.584
Overall	=	0.579
F (4,4968)	=	3223.96
Prob > F	=	0.000
Correlation (u_i, Xb)	=	0.2993
Sigma_u	=	324.460
Sigma_e	=	350.148
Rho	=	0.461

Number of Groups = 548, Number of Observation = 6,082

Table 6: Random Effects Model Results

Variables	Co-efficient	Standard Error	Z- Value	P-Value
CAPITAL(K)	0.237	0.021	11.28	0.000
LABOUR(L)	-0.593	0.231	-2.56	0.003
MATERIAL(M)	0.112	0.036	3.11	0.002
ENERGY(E)	0.065	0.017	3.82	0.000
CONSTANT	134.193	43.452	3.08	0.002

R-Square Within	=	0.575
Between	=	0.584
Overall	=	0.579
LR chi2(4)	=	3453.56
Prob > chi2	=	0.000
Sigma_u	=	278.540
Sigma_e	=	350.148
Rho	=	0.387

From REM results, it is seen that (Capital) K has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.237, p-value = 0.000 and Z-value = 11.28). This suggests more capital investment in FDI firms would lead to more production and vice versa. On the contrary, it is observed that Labour (L) has negative relationship with production of FDI firms and it is highly significant (Coefficient = -0.593, p-value = 0.003 and zvalue = -2.56). This implies more amount of labour would lead to less production and vice versa. Likewise, Material (M) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.112, p-value = 0.002 and z-value = 3.11). This signifies more amount of material will lead to more production and vice versa. Again, Energy (E) has positive relationship with production of FDI firms and it is highly significant (Coefficient = 0.065, p-value = 0.000 and z-value = 3.82). These specify more amount of consumption of energy would lead to more production and vice versa.

7. Comparison of the Productivity between Foreign Firms and Domestic Firms

The study has followed the model proposed by Aitken and Harrison (1999) to examine whether the foreign firms are more productive. They had used an augmented production function to examine the effect of foreign ownership on firm productivity within a region or an industry. We use a log-

linear production function to verify whether foreign ownership has a positive association with increased productivity.

$$InY_{ijt} = \alpha + \beta_1 InK_{ijt} + \beta_2 InL_{ijt} + \beta_3 InM_{ijt}$$

+ \beta_4 Log E_{iit} + \beta_5 FS_Firm_{iit} + \epsilon_{iit} \tag{1.7}

The log of output is regressed on a vector of inputs and a share of foreign ownership. The variable FS_Firm_{ijt} refers to the ownership variable. This variable takes the value 1 for those firms whose share of foreign capital exceeds 10 per cent or zero otherwise. We expect the coefficient of FS_Firm_{ijt} to be positive and significant. Inputs consist of capital (K_{ijt}) , labour (L_{ijt}) , materials (M_{ijt}) and energy (E_{ijt}) . The above equation is estimated using the OLS method. The estimated results are presented in the Tables 7 and 8. As expected the coefficient of the variable FS_Firm_{ijt} is positive and significant. This result clearly corroborates with our notion that those firms with foreign participation in its equity are more productive than the domestic firms.

Table 7: Productivity of FDI Firms for Manufacturing Sector

Variables	Co-efficient	t- value	P-value
CONSTANT	0.32	7.87	0.000
CAPITAL(K)	0.168	3.78	0.000
LABOUR(L)	0.096	3.34	0.000
MATERIAL(M)	0.214	5.56	0.000
ENERGY(E)	0.067	4.56	0.000
FOREIGN PRESENCE (FS_FIRM)	0.258	5.78	0.000

R = 0.754 , R² = 0.713, Adjusted R² = 0.685 , D.W Statistics = 1.99.

Table 8: Productivity of FDI firms for Service Sector

Variables	Co-efficient	t- value	P-value	
CONSTANT	0.32	3.47	0.000	
CAPITAL(K)	0.221	7.25		
LABOUR(L)	0.124	6.31 5.12	0.000	
MATERIAL(M)	10.242			
ENERGY(E)	0.09	3.18	0.000	
FOREIGN PRESENCE (FS_FIRM)	0.425	6.71	0.000	

R = 0.742 , R2 = 0.721, Adjusted R2 = 0.691 , D.W Statistics = 2.094.

8. Sources of Productivity Changes: A Study of Manufacturing and Service Sector

In general, productivity is defined as a ratio of a volume measure of output to a volume measure of input use (OECD Manual, 2001). In this study, we refer to TFP, which is comprehensive measure involving all factors of production. There are four different approaches to measure the TFP. These are as follows: (a) Growth accounting approach (b) Least squares econometrics production function models (c) Stochastic production function (d) Nonparametric approach. This study examines the productivity growth of Indian FDI firms, particularly, manufacturing and service sectors using non-parametric method of DEA. DEA was originally designed to study the relative efficiencies of different firms of managerial units assumed to have a common best practice production technology available. The method compares among firms on the basis of the extent to which inputs are used efficiently in the production of output, given the technology (Farrell, 1957; Charnes et al.,1978).

The study has taken production as output and investment, Energy Consumption, Gross Fixed Asset as the three inputs in production function for manufacturing as well as service sector. Using the DEA, the Malmquist indices are computed based on annual time series data for the period 2001–2002 to 2011–2012. The Malmquist (output-oriented) TFP change index between period *t* (the base period) and period *t*+1 is given by

$$M_0(x^{t+1}, u^{t+1}; x^t, u^t) = \left[\frac{D_0^t(x^{t+1}, u^{t+1} / CRTS)}{D_0^t(x^t, u^t / CRTS)} \cdot \frac{D_0^{t+1}(x^{t+1}, u^{t+1} / CRTS)}{D_0^{t+1}(x^t, u^t / CRTS)}\right]^{\frac{1}{2}}$$
(1.8)

where the notation $D_o^s(u^r,x^r)$ represents the distance from the period t observation to the period S technology. A value of M_o greater than one will indicate positive TFP growth from period S to period t. But a value less than one indicates a TFP decline. However, the Malmquist total factor productivity change can be decomposed into the product of technical changes and efficiency changes.

Efficiency change:
$$\frac{D_0^t(x^{t+1}, u^{t+1} / CRTS)}{D_0^t(x^t, u^t / CRTS)}$$
 (1.9)

Technical change:

$$\left[\frac{D_0^t(x^{t+1}, u^{t+1}/CRTS)}{D_0^{t+1}(x^{t+1}, u^{t+1}/CRTS)}, \frac{D_0^t(x^t, u^t/CRTS)}{D_0^{t+1}(x^t, u^t/CRTS)}\right]^{\frac{1}{2}}$$
(1.10)

However, under constant returns-to-scale (CRTS) the efficiency change (EC) can be decomposed into two components as

$$EC = \frac{D_0^{t+1}(x^{t+1}, u^{t+1}) / CRTS}{D_0^t(x^t, u^t) / CRTS}$$
(1.11)

$$= \frac{D_0^{t+1}(x^{t+1}, u^{t+1}/VRTS)}{D_0^t(x^t, u^t)/VRTS} \cdot \left[\frac{D_0^t(x^t, u^t)/VRS}{D_0^t(x^t, u^t)/CRS} x \frac{D_0^{t+1}(x^{t+1}, u^{t+1})/CRS}{D_0^{t+1}(x^{t+1}, u^{t+1})/VRS} \right] (1.12)$$

In the above equation, the first term outside the parenthesis is called as Pure Efficiency Change (PECH) and it measures change in technical efficiency under the assumption of Variance Returns to Scale (VRTS). The term in the parenthesis is scale efficiency change and it measures the changes in efficiency due to movement toward or away from the point of optimal scale. If the Malmquist TFP is greater than one, we say that there is growth in production. A value less than one indicates decline in TFP.

Table 9 shows overall sources of productivity growth in case of manufacturing sector as well as service sector.

The output-oriented Malmquist indices of productivity change are computed using the DEA. Table 9 presents the mean estimates (geometric mean) of Malmquist indices of total factor productivity growth (TFPG) and its decomposition into Technical Efficiency Change (TEC) and Technological Progress (TP). The TEC is further decomposed into Pure Technical Efficiency Change (PTEC) and Scale Efficiency Change (SEC). Data show that both manufacturing and service sectors have positive growth because their TFPG is greater than one. The TFPG of manufacturing sector (1.018) is more compared to service sector (1.001) and mean TFPG of both sector is 1.014. This indicates that on an average TFPG of FDI firms are positive.

The decomposition results of TFPG into TEC and TP change are given in the third and fourth columns of Table 9. In the manufacturing sector the TEC is 1.038 and TP is 0.981. While in the service sectors TEC is 1.031 and TP is 0.981. This indicates positive growth of TFPG in both sector is mainly due to TEC. Again, TEC is more in manufacturing sector compared to service sector. This negative change on TP is due to availability and adoption of sophisticated technology. So TP is warranted in both the sector for more positive growth in TFPG. The TEC is further decomposed into PTEC and SEC and the results are presented in the fifth and sixth columns of the Table 1.9. In the manufacturing sector PTEC is 1.026 and SEC is 1.012. While in the service sector, PTEC is 1.039 and SEC is 0.992. This indicates that TEC in manufacturing

Table 9: Change in TFP and its Components for Manufacturing and Service Sector

Sector	TFPG	TEC	TP	PTEC	SEC
Manufacturing	1.018	1.038	0.981	1.026	1.012
Service	1.011	1.031	0.981	1.039	0.992
Mean	1.014	1.034	0.981	1.0325	1.002

Table 10: Annual Changes in TFP, Technology and Technical Efficiency in Manufacturing Sector

Year	TFPG	TEC	TP	PTEC	SEC
2001–2002	1.108	1.251	0.886	1.046	1.195
2002–2003	1.041	1.0771	0.972	1.301	0.923
2003–2004	0.906	0.821	1.104	0.812	1.047
2004–2005	1.067	1.243	0.858	1.247	0.997
2005–2006	1.163	0.428	1.533	0.787	0.544
2006–2007	0.848	2.239	0.348	1.255	1.941
2007–2008	0.984	0.646	1.012	0.795	0.813
2008–2009	1.25	1.12	1.034	1.124	0.996
2009–2010	0.808	0.972	0.832	0.923	1.053
2010–2011	1.007	0.989	1.12	1.005	0.985
2011–2012	1.016	0.632	1.092	0.991	0.638
Mean	1.018	1.038	0.981	1.026	1.012

sector is due to both PTEC (managerial efficiency) and (Size Efficiency) SEC. But TEC in the service sector is due to PTEC (managerial efficiency) not SEC. So India has to increase size efficiency of FDI firms in case of service sector. India has to also improve in technological progress in manufacturing sector as well as service sector.

8.1 Year-wise change in TFP and its components for manufacturing sector

The table10 shows year-wise Change in TFP and its components for Manufacturing Sector.

Table 10 shows year wise productivity growth of FDI firms in the manufacturing sector. Productivity growth has been seen in 7 out of 11 years and the remaining 4 years experienced decline in productivity growth. Similarly, technical efficiency change growth has been reported in 5 out of 11 years and rest of 6 years seen decline in growth of technical efficiency change. Further, out of 11 years technological progress growth has been seen in 6 years and rest of 5 years reported decline in technological progress. Likewise, out of 11 years, pure technical efficiency growth has been seen in 6 years and rest of 5

years reported decline in pure technical efficiency growth. Finally, out of 11 years scale efficiency growth has been seen in 4 years and rest of 7 years reported decline in scale efficiency growth. In the recent year 2011–2012 India had experienced less growth in TEC and SEC for manufacturing sector.

8.2 Year-wise change in TFP and its components for service sector

Table 11 shows year wise change in TFP and its components for service sector.

Table 11 shows year wise productivity growth of FDI firm in the service sector. Productivity growth has been seen in 6 out of 11 years and rest of 5 years experienced decline in productivity growth. Similarly, technical efficiency change growth has been reported in 6 out of 11 years and rest of 5 years seen decline in growth of technical efficiency change. Further, out of 11 years, technological progress growth has been seen in 3 years and rest of 8 years reported decline in technological progress. Likewise, out of 11 years, pure technical efficiency growth has been seen in 5 years and rest of 6 years reported decline in

Table 11: Annual Changes in TFP, Technology and Technical Efficiency in Service Sector

Year	TFPG	TEC	TP	PTEC	SEC
2001-2002	0.798	0.964	0.827	0.9	1.071
2002-2003	1.017	1.329	0.536	1.268	1.065
2003-2004	0.979	1.189	0.824	1.121	1.061
2004-2005	1.111	0.603	1.844	0.711	0.847
2005-2006	0.661	0.828	0.798	0.766	1.081
2006-2007	1.285	1.053	1.316	0.991	1.062
2007-2008	0.787	0.925	0.851	0.957	0.566
2008-2009	1.039	1.249	0.832	1.393	1.231
2009-2010	1.308	1.087	0.961	1.318	0.825
2010-2011	0.862	0.948	0.91	0.93	1.02
2011-2012	1.274	1.166	1.092	1.074	1.086
Mean	1.011	1.031	0.981	1.039	0.992

pure technical efficiency growth. Finally, out of 11 years, scale efficiency growth has been seen in 8 years and rest of 3 years reported decline in scale efficiency growth. If we consider year-wise average annual performance of both the sector, performance of manufacturing sector is better as compared to service sector. In case of service sector, more emphasis should be given for scale change which will lead to more positive growth in productivity.

9. Limitations of the Study

The study suffers from the following limitations:

For examining impact of FDI inflows on productivity, only 452 firms from manufacturing sector and 548 firms from service sector were considered due to data constraints. This study also tries to examine the impact of FDI inflows on productivity only after reform period due to paucity of data.

10. Scope for Further Research

By way of pointers to future research, it is suggested that sector level (other than manufacturing and service) impacts of FDI inflows study can be conducted for finding sector-specific impacts. A comparative study with reference to China or any of the emerging economies may also be attempted. Further, relative efficiency within sectors may be worth examining. Also, it may be interesting to explore impact of outward FDI flows. More so, in the light of the recent developments by way of increasing FDI outflows from Indian corporate in manufacturing and services.

11. Conclusion

This study has used panel data technique for examining the impact of FDI inflows on productivity of firms belonging to both manufacturing and service sectors. The Hausman test specification recommended the use of FEM for the manufacturing sector, while REM for the service sector. From FEM results, it is seen that in case of manufacturing sector Capital (K), Material (M) and Energy (E) has positive relationship with production of FDI firms. Further, it is observed that Labour (L) has negative relationship with production of FDI firms. In the case of service sector, the REM results show that Capital(K), Material(M) and Energy (E) have positive relationship with production of FDI firms. Again, it is observed that Labour (L) has negative relationship with production of FDI firms from the service sector. Therefore, emphasis should be given to strengthen the variables (i.e., capital, material and energy) which have positive impact on productivity whereas there should be less use of labour for better productivity in case of both manufacturing as well as service sectors. The negative relationship between labour and production of FDI firms will be a cause of concern for the government of the host country like India. This is more so in the case of manufacturing sector which is supposed to bear the major burden of creating new job opportunities. However, as FDI firms mostly operate in high technology sectors and are known for their higher productivity levels, the findings of this study are not in contradiction with the reality. The real impact of FDIs on employment of the host economy is likely to be felt more in the domestic

firms which benefit by virtue of their relationship (for example as vendors/ suppliers) with the large FDI firms.

It is also seen that both manufacturing and service sectors have positive growth as their TFPG are 1.018 and 1.011 respectively. The TFPG of manufacturing sector (1.018) is marginally higher than that of the service sector (1.011), the mean TFPG of both sectors stands at 1.014. This indicates that, on an average, TFPG of FDI firms is positive. The positive growth of TFPG in both sectors is mainly due to technical efficiency changes (TEC). Again TEC is higher in manufacturing sector as compared to service sector. If we consider year-wise average annual performance of both the sectors, performance of manufacturing sector is better as compared to service sector. In case of service sector due attention should be given to scale change which will lead to more positive growth of productivity.

12. Recommendations

As findings of this study reflect some encouraging results for FDIs in India, the government should make an all-out effort to attract more FDI inflows into the country. Some of the (sub) sectors from manufacturing and service industries should be made more attractive for FDIs where the scope for forward and backward linkages is the maximum. The infrastructure needs further strengthening, particularly those related to supply of materials and energy. It is heartening to note that productivity growth in manufacturing FDI firms is higher than their counterparts from the service sector. This largely supports the Indian government's recent initiatives of targeting higher growth in the manufacturing sector through larger participation of foreign firms in India. But to make this happen the government has to take some urgent steps in policymaking, besides convincing the global business community that India is a good place for doing business. The pending legislations relating to land acquisition, labour reforms, federal taxation (for example Goods and Services Tax or GST) have to be put in place at the earliest. A political consensus on economic reforms is the need of the hour to attract more and more foreign investments into India and the responsibility lies on all the stakeholders including the governments, both at the centre and the states of India.

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Foreign investment is what keeps the whole show going.

-Patrick Barkey

Focus

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

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Productivity is generally defined as the amount of output realized for a given level of inputs. The neoclassical 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.

1. Introduction

At the time of India's independence in 1947, 80 per cent 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 landlord 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 industrialization. There was a benign neglect of agriculture. The government mobilized 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 capitalintensive 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 subsidized urban consumption. Furthermore, the government imported food

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grains from the US (PL. 420) at highly subsidised rates. This is similar to dumping which destroys local production. As a consequence, the agriculture remained unproductive.

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 fertilizers, 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 per cent in the last 70 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 per cent 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, commercialized 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 realized 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 neoclassical 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 fertilizers determine the productivity and also possible diminishing returns to scale.

In the neoclassical 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 per cent 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 per cent share for the organized retail (\$ 34 billion) in 2011. It also shows that by 2020 the size of the organized retail would be around \$ 260 billion with a penetration of 21 per cent. 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 favour of organized 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 per cent 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 middlemen, and reduce transaction and information costs to farmers and consumers. The main proposition is that adoption of efficient supplychain augments economic growth by reducing transaction and information costs, dead weight losses and uncertainty of market exchange and thereby contributes to increase in the surplus and productivity of farmers. The following question is why 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 per cent 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, twowheelers, 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 supplychain 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 by passing 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 organization 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 neoclassical 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 organization 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; (a) Comprehensively assigned: All resources are either collectively or privately owned and all entitlements are known and enforced. (b) Exclusive: Owners internalize all benefits and costs from the use of a resource. (c) Transferable: All property rights should be transferable in voluntary exchange with minimum transaction costs. (d) 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 externalize 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 spillovers (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 organizations 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, Ki 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 specializing 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 specialized 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 preservation, 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 manufacturing and services. As the number of people engaged in agriculture declines through productivity, their surplus increases thereby contributing to increase in percapita income. This paper explores whether large retailers can play a role in technology transfer, improving incentives, and reducing transaction 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 assumptions 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.

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

Farmers within a given activity realize different levels of productivity because of technology gap and different costs of inputs. They realize different levels of allocative efficiency of using inputs owing to segmented factor markets which is widely prevalent in India. Following Farrell (1957) and Patibandla (1998), I illustrate this in the Diagram 1.

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 point b a farmer uses more inputs to the extent of KK_1 and LL_2

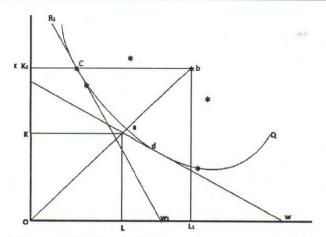


Diagram 1: Relative Technical and Allocative Efficiency

in producing a unit of output. The differences in TE arise from the technology gap between farmers, different costs of inputs of K, L, fertilizers 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 organized and unorganized factor markets. In the organized markets, farmers have more access to capital at a lower rate than in the unorganized markets. The factor market segmentation arises from differences in definition and enforcement of property rights, informational imperfections 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 unorganized 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 imperfections 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 uncertainty. For example, investment in cold storage

facilities can help the retailer to provide farmers intertemporal prices rather than harvest time prices. A large retailer can invest in sophisticated forecasting methods and thereby reduce uncertainty. A large retailer can educate farmers on adopting best technique of production, and right usage of fertilizers 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 techniques, prices that reflect world prices through its global supplychain and in therecent times it is helping farmers to adopt environmental-friendly practices.

4. 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 realization of economies of scale by adoption of supplychain. 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:

$$S = P(Q) Q - bQ - [(Is + Ts)]$$
 1.1

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

$$S = P(Q) Q - bQ - (Ir + Tr + d + m)$$
 1.2

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 dead weight 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:

$$[(ls+Ts)>(lr+Tr+d+m)]$$

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 realizing 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 realize 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 realized 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 signalling 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 signalling the quality (Spence, 1976). One of the mechanisms of signalling is by providing warranties. A small producer may not possess the resources to invest in costs of signalling. A large retailer may be in a better position to pool the products of different quality, assort them and invest in matching costs of

signalling. The other side of the story is that a large retailer may be in a position to standardize the output to reduce the quality differences. For example, some large retailers in India help farmers to standardize the quality of vegetables by training the farmers and providing them with inputs such as right kind of pesticides.

5. 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 per cent of GDP and 8 per cent of total employment. The sector is highly fragmented with about 96 per cent of the stores in the unorganized 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 unorganized sector in India. If foreign players capture 10 per cent share by 2015 that will turn out to be Rs 189,660 million with employment of 19,000 employees replacing about 0.55 million in the unorganized sector.

Most of the expenditure of Indian consumers is on food, on average about 50 per cent of the total retail, which would be much higher for low income groups. Majority of *kirana* stores stock up food grains and dry foods. Fruits and vegetables are sold by pavement stalls and relatively better organized 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 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 middlemen, 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 fertilizers 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, fertilizer, 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 realized 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 supplychain. 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.

6. The Case of Wal-Mart

The main competitive advantage of Wal-Mart is the highly advanced supplychain 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 per cent of workers are present in the unorganized sector with low wages and benefits. If Wal-Mart enters India it has to pay minimum wages and benefits as being part of the organized sector.

In the case of supplychain, 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 possessed the largest privately owned satellite communications network in the US. 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 are procured, its warehouses supply 85 per cent of the inventory as compared to 50–60 per cent 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 frontend 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 per cent 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 a 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 (2012) 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 behaviour 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.

7. Conclusion

One of the dominant reasons for low productivity of farmers in India is the highly segmented and inefficient supplychain. Numerous middlemen in the supplychain result in the low surplus realized by farmers which distorts incentives for investing in productivity. Distress sales at the time of the harvest are 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 inter-temporal prices (instead of one time harvest

prices) to farmers. Why dowe 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. The TNCs, such as Wal-Mart, can introduce the best practices of supplychain 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 supplyside 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.

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An Investment in knowledge pays the best interest

Benjamin Franklin

Focus

India as a Top Destination in FDI Inflows: Is It a Reality or a Myth?

BADAR ALAM IOBAL

FDI inflows are the necessity of Indian economy. This is because India is in the process of transformation from traditional economy to modern economy. FDI inflows play a crtical role in providing resources for accelerating the pace of growth of Indian economy. FDI further helps in keeping current account deficit at the low ebb. This paper tries to highlight the emerging trends in FDI inflows to Indian economy. FDI inflows are also coming through mergers and acquisitions. India is adequately attracting FDI inflows and hence has come out as the top destination in the world.

1. Introduction

Foreign Direct Investment (FDI) is a double-edged sword as it cuts both ways. On the one hand, it does contribute and promote development of an economy. On the other hand, it generates flight of capital, which in turn affects the development of a host country. But FDI has been accepted as a lesser evil and become the most vital and strong vehicle for accelerating growth of the world economy in general, and developing and emerging economies in particular. The most appropriate example is the emergence of China and India. While China has come out as the second biggest recipient of FDI in the world replacing the United States, India has also come up as a most favoured destination for FDI in the globe, i.e., 1st rank. Hence, India is the one bright spot in the global economy today.

2. Recent Trends in Global FDI Inflows

In 2014, FDI flows fell by 16 per cent worldwide. However, 'there is a trend of increasing FDI inflows to developing economies, which now receive 55 per cent of all global FDI inflows'. Another remarkable trend in 2014 was the increase in outward investment from the South, with 36 per cent of all outflows. In Latin America, flows decreased by 14 per cent after four years of consecutive increases. This decrease was the consequence of a decline in M&As in Central America and the Caribbean, and of lower commodity prices, which reduced investment in the extractive industries in South America. Despite the slowdown in FDI, Brazil, Mexico, Chile and Colombia made it to the list of top 20 FDI recipients in the world, the WIR reports.

The UNCTAD's FDI forecast model projects global FDI inflows to grow from USD 1.2 trillion in 2014 to USD 1.7 trillion in 2017. But although a survey of large

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multinationals top executives supports these figures, 'risks looming over the global economy may darken the outlook for FDI'.

3. FDI Trends in India

India has come up as the number one FDI destination in the globe during the first six months (January–June) of 2015. With FDI inflows amounting to nearly 31 billion, India has outclassed all other countries, especially China and the US, and moving up to top place from the being at the 5th place during the corresponding period of 2014.

In the year 2014, India has attracted 680 projects involving FDI with an amount of USD 25 billion and has also generated jobs worth of 1.5 lakh. The year 2014 has recorded an increase of 37 per cent in number of projects, 32 per cent in FDI inflows and 39 per cent generation of jobs.

In the first six months of 2015, there is an increase of 135 per cent in FDI inflows and with FDI value of USD 91 million, largest ever FDI flows per project along with a rise of 221 per cent in FDI inflows in the manufacturing sector.

According to a recent survey conducted by Global Consultancy Firm (GCFEY), the most heartening thing is that 60 per cent of the global business leaders opined that India is the most attractive investment place on the FDI world map followed by China, Southeast Asia and Brazil (see Table 1). The survey further opines that India is poised to emerge as the globe's fastest growing major country in 2015.

Table 1: Trends in Ranking of Countries in FDI Inflows 2015

Name of the country	% Share of Business Leaders		
India	60		
China	47		
Southeast Asia	38		
Brazil	27		
North America	21		
Latin America	18		
Middle East	17		
Western Europe	12		
Northern Africa	11		
Central Eastern Europe	10		

Source: Global Consultancy Firm EY.

Among 10 possible FDI destinations, India has come up at the top position and the most pertinent trend is that per centage of India is more than that of China's per centage. Similarly, there are disparities of alarming nature among top ten global FDI destinations, especially in regard to China.

The FDI inflows are considered crucial and strategic for the Indian economy. Indian economy requires FDI inflows amounted to USD 1 trillion in coming five years to meet the rising demand of funds to finance the biggest component of India, namely, infrastructure sine-quo-non for speedy growth and development of the Indian economy. The major and vital segments of infrastructure sector are ports (gateway of a country), airports and highways.

According to the recent *Financial Times* Report (FTR), the Indian economy has outclassed the economies of China and the US in terms of the most favoured FDI destination in the six month of 2015. Accordingly, FDI inflows to Indian economy during January and June 2015 amounted to USD 31 billion. On the other hand, FDI inflows to the Chinese and the US economies were stood at USD 28 and USD 27 billion, respectively, during the period under review.

4. Two FDI Scenarios

Recently, two different scenarios were made out by the government. First scenario states that how FDI flows into India increased by a big margin of 49 per cent in 2014. The second scenario opines how FDI flows into India increased by a margin of 40 per cent from the countries where Indian prime minister visited for seeking more FDI flows. Now let us examine both scenarios.

First FDI Scenario: In 2014–15, India has attracted nearly 45 billion FDI inflows which mean an increase of 23 per cent over the figure of 2013–14 when India attracted FDI amounted to USD 36.4 billion. If reinvested earnings and other capital flows are excluded or avoided, then we got FDI equity flows. Hence, it is evident that there is an increase of 27 per cent in India's FDI Inflows in 2014–15. If we examine FDI inflows in terms of rupee even then the figure of 49 per cent increase is not possible. Hence, FDI inflows to India increased by a margin of 23 to 28 per cent in 2014–15. Added to this, in the data compiled by the Reserve Bank of India (RBI), FDI inflows to India are not increased by a margin of 49 per cent as claimed in the first scenario. Actually, FDI inflows to India according to RBI statistics went by 0.12 (yes) per cent from USD 30.7

billion to USD 34 billion. It is pertinent to mention here that there has been steady and gradual increase in India's FDI inflows over the years and this is possible due to concerted efforts made out by the policymakers.

If we take into account the first quarter of 2015, India is witnessing the same trend. Total FDI inflows in the first three months of 2015–16 went up by 12 per cent to a figure of USD 12.5 billion which is slightly higher than the figure of 2014–15, i.e., 11.1 per cent. If we consider only the FDI equity flows, the rise is higher at 32 per cent touching a figure of USD 9.5 billion as against a figure of USD 7.2 billion in the same period. In the first six months of 2015, the rise in India's FDI inflows was just 12 per cent. But in case of FDI equity the increase was 30 per cent. This means the growth of FDI inflows to India is not near to the claim of 49 per cent.

Second FDI Scenario: In the second FDI scenario, it was pointed out that India's FDI has gone up by 40 per cent and this increase was due to the fact that Indian prime minister has visited 26 nations. There are 6 countries which were figuring out of 10 top investors in India and these 6 nations, namely, Mauritius, Singapore, Japan, the USA, Germany and France, constituted nearly 86 per cent of country's total FDI inflows in the current year, i.e., 2015-16. It is an undisputed fact that FDI inflows from the US and France have increased by 126 per cent and 108 per cent, respectively. Mauritius FDI inflows to India went up by a margin of 85 per cent during the period under reference, In case of other three remaining countries, namely, Singapore, Japan and Germany, the rise in FDI Inflows to India stood at 12 per cent, 21 per cent and 8 per cent, respectively, during the said period. This means that the claim of the policymakers for 40 per cent increase is not sustainable.

There are now 20 other nations where the Indian prime minister has visited. But the fact is that the FDI inflows from these 20 nations is at the low ebb and insignificant. Added to these there are contradictions in respect of FDI policy and FDI inflows. The present government is of the firm view that FDI is not allowed in multi-brand retail whereas FDI policy allowed it with certain riders. Similarly, the Indian government has not yet finalized FDI policy in regard to ecommerce. Contrary to this, e-commerce has registered considerable amount of FDI.

5. Most Crucial and Strategic Sectors

Indian economy is fast regaining its lost glory as a top destination in terms of FDI inflows. This has become

possible because of the booming e-commerce and the emergence of new economy of new-age firms. So far the Indian government did not release firm-wise disaggregated sector-wise FDI inflow numbers. But in terms of available statistics, it is opined that venture capital and private equity funds are bringing out billions dollars into the fledgling e-commerce driven by an optimism of a fast-growing mobile internet universe that may have swung the scales in India's favour in the world FDI sweepstakes.

Services sector is the sine-quo-non for driven Indian economy in terms of GDP, which included industries, namely, business outsourcing, courier firms and financial services, was the biggest attracting FDI flows during 2014–15. These segments had attracted FDI inflows amounted to USD 3.3 billion followed by telecom with a figure of USD 2.9 billion. Trading segment that could include some e-commerce market places come a close third with an FDI figure of 2.8 billion followed by automobiles with an amount of USD 2.6 billion and computer hardware and software firms amounted to USD 2.2 billion.

In the months of April–June of the year 2015, computer hardware and software firms, which also include some technological companies offering ecommerce services, registered FDI inflows amounted to USD 2.6 billion mirroring the clamour among overseas investors to invest into Indian economy (Table 2). Business analysts are of the view that the multiplier effects of the recent FDI inflows need to examine keeping in mind the issue of job creation before opening any sector to FDI inflows.

New initiatives started by the new government, namely, Make in India and Digital India, certainly have contributed in enhancing the investors' sentiments and confidence, the two vital requirements which are the need of the hour. But the programme of Make in India as a means of accelerating country economy would be beneficial when India would start attracting FDI inflows in manufacturing, which will create more jobs than the services of new-age activities such as e-commerce.

6. Sectors Attracting FDI Equity

Despite the Indian government's concerted efforts in regard to enhance FDI in the manufacturing sector to boost its growth, services sector still continues to attract most of the FDI inflows. Hence, services finds its lodestone, attracts FDI despite Make in India push.

Table 2: Trends in FDI Inflows into India during April-March 2014-15 and April-June 2015

(FDI Figures in USD Million)

Name of the segment	April-March 2015 (FY)	April-June 2015
Computer Software and Hardware	2,200	2,556
Automobile Industry	2,570	1,094
Trading	2,570	897
Services Sector	3,253	636
Telecom	2,895	395
Power	657	271
Chemicals other than Fertilizers	669	251
Drugs and Pharmaceuticals	1,523	215
Metallurgical	472	233
Construction Development	758	34

Source: Ministry of Commerce & Industry, Government of India, New Delhi, 2015.

Table 3: Sectors Attracting Highest FDI Equity Inflows in 2013-14 and 2014-15 (USD Billion)

Sector	2013-14	2014-15
Services Sector	2.22	3.25
Construction Development	1.22	0.75
Telecommunications	1.30	2.89
Computer Soft & Hardware	1.12	2.20
Drugs and Pharmaceuticals	1.27	1.52
Automobile Sector	1.51	2.57
Chemicals Except Fertilizers	0.87	0.66
Power	1.06	0.65
Metallurgical Industries	0.56	0.47
Trading	1.34	2.76

Source: DIPP, Ministry of Commerce & Industries, Government of India, New Delhi, 2015.

Out of the total FDI inflows of USD 31 billion received between April and March 2014–15, the services sector constitute nearly 17 per cent of the cumulative inflows. During the months of April–March 2014–15, the services sector got FDI equity amounting to USD 3.25 billion as against of USD 2.22 billion during the same period of 2013–14 (Table 3).

India's services sector comprise of financial, banking, insurance, non-financial/business, outsourcing, research and development, courier, technology testing and analysis. The services sector was followed by construction development, telecommunications, computer software and hardware and drugs and pharmaceutical. The placing is made out in terms of the share of these services in India's total FDI inflows.

Sectors, namely, telecommunications, automobile industry and computer software and hardware got FDI worth of USD 2.89 billion, 2.57 billion and 2.20 billion, respectively.

According to different experts, India's manufacturing sector will observe a turnaround in terms of FDI inflows only during the last couple of quarters of the current financial year. It is pertinent to mention here that the initiative known as Make in India brought in a positive change in the sentiments and confidence of the foreign investors that India is open for business. But this change is not in terms of change in numbers. What is needed is some key reforms to be made out for manufacturing sector, especially land bill and GST Goods and Services Tax.

6. FDI Attractiveness Survey 2015

In a big endorsement of country's economic fundamentals and the degree of attractiveness, about a third of respondent in the recent Annual Survey known as Attractiveness Survey of India have put India as a most favoured market in 2015. The majority of the respondents have put India among the top three attractive nations in terms of FDI inflows and also placed China as a major competitor in coming times. The EY's Annual Survey is based on the sample of 550 business leaders who are also the decision-makers. The survey was undertaken during the time period started from March and completed in April 2015. The major factors which have contributed towards emergence of India as a top designations are strong macroeconomic fundamentals, political stability, FDI policy and minimizing red tapism. It is heartening to note that government's derive to improve business is yielding desired results (Table 4). There has been a rise of 37 per cent in the number of projects, 32 per cent in FDI inflows and 39 per cent in jobs creation.

Table 4: Emerging Trends in Attractiveness Survey of India in 2015

Item	2013	2014
Number of FDI Projects	496	680
FDI Inflows in (USD) Billion	18.9	25.0
Jobs Created by FDI in 00's	1,04,000	1,45,000

Source: EY's Annual Survey 2015.

The salient features of the survey are as under:

- 550 business leaders were contacted and interviewed;
- 32 per cent of the business leaders put India as the most attractive market in 2015;
- 60 per cent of the respondents opined that India is among the major three investment destinations in the world;
- 55 per cent of the business leaders are well aware of the initiative 'MAKE IN INDIA',
- 69 per cent of 550 business leaders have shown keen interest in investing in India in coming five years;
- 35 per cent of the respondents place India among three major destinations in terms of manufacturing;
- 66 per cent business leaders want to see better infrastructure;
- 44 per cent of the interviewed leaders want the streamlined taxation structure and procedures;
- 47 per cent want that the business environment be eased out further; and
- 31 per cent business leaders want amendment in labour laws and these laws should simplify.

7. New Area Open to FDI

In a major FDI initiative the railways have got attracted FDI amounted to Rs 40,000 crore for establishing vital and strategic electrical and diesel locomotive factories at Madhepura and Marhoura in the state of Bihar under the scheme of Public Private Partnership. The GE Transportation System (GETS) of the US will get the Rs. 22,000 core contract for establishing Marhoura diesel locomotive plant. The other locomotive factory at Madhepura will be setting by a French firm Alstom with a cost of Rs. 18,000 crore. Both plants will start production from the dare of award of the contract to the respective companies.

8. FDI Inflows and Regulation Clauses

India has many clauses for regulation of sectoral FDI inflows which affect the smooth flows of FDI in the economy. These clauses comprise of minimum capitalization, shareholding barriers and non-compete conditions. Hence, the foreign investors want that the above-mentioned clauses must be eased out so that a level playing field could be created and domestic and foreign firms must be treated at par.

Foreign investors should be subject to those norms imposed by sector regulators or departments, ensuring parity with domestic investors. Sectors which would be more benefited by removal of sectoral conditions are non-banking finance, venture capital, construction, pharmaceutical and retail. Indian government is trying hard to remove most riders related to FDI, hence, should retain those riders which have strategic or national security considerations. What is happening is that sectoral riders are proven to be a burden for FDI policy. These riders further lead to duplications.

In India many sectors have enormous riders for foreign investors to comply with. These conditions are over above what local firms have to follow. For instance, foreign investors setting up Non-Banking Financial Company (NBFC) have to bring in USD 5000,000, i.e., USD 500 million, whereas investment in construction sector has a minimum area requirement. Similarly, acquisition by foreign firms in pharmaceutical sector is subject to the norms designed to ensure availability of drugs. Likewise, multi-brand retailing has norms on the goods sourcing and setting up backend infrastructure like logistics and warehousing.

Hence, the need of the hour is that the government must simplify the existing norms to make the country's FDI policy more responsive and meaningful. Two issues must be kept in mind. Firstly, make ease of doing business. Secondly, reduce the time taken for FDI to come into the country's economy.

9. What is Needed Now?

The need of the day is investment and administrative reforms. The following are the required reforms to drive out the growth of Indian economy.

- Reforms in infrastructure projects and the 100 smart cities;
- 2. Induction of new schemes on financial inclusion:
- Effective and efficient environment for making India digital;
- 4. Speedy legislation for land acquisition;
- Allow FDI in insurance and defence sectors of the economy;
- 6. Rationalization of corporate tax structure;
- Reduction in the existing rate of corporate tax rate from 30 per cent to 25 per cent;
- Speedy implementation of Goods and Services Tax (GST) by 2016;
- Implementation of MAT (Minimum Alternative Tax);
- Creation of friendly tax regime for real estate investment trusts or alternate investment funds;
- Reduce the existing rate in respect of royalty and fees for technical services used by the firms; and
- 12. Deferment of General Anti-Avoidance Rules.

These reforms may go a long way in enhancing India's FDI attractiveness enormously.

10. Recent Changes in Government Policy for FDI

The approval of so-called composite cap bears no effect on the sectoral limits. Now, therefore, foreigners cannot own more than 49 per cent in any insurance or defence venture. The most significant change which has taken place is abolition of distinction between FDI and PFI and also of other type's foreign investors. The colour of investment does not matter so far as these are foreigners, and so long as they don't own more than the given limit in a particular sector.

The proposed composite cap is applicable to all sectors of the economy except defence and banking. This means private banks and portfolio or FIIs can invest to a maximum limit of 49 per cent and the upper limit would be 74 per cent. There is no change in regard to public sector- and state-owned banks and their respective limit would remain 20 per cent. In regard to country's defence, with in the limit of 49 per cent, foreign portfolio limit would remain as 24 per cent. It is important to mention here that the proposed change would have more reflection in investments relating to commodity, stock and power exchanges. Prior to these composite changes, portfolio investment was restricted to 23 per cent. But it is heartening to note that in the above mentioned segments now the limit will be 49 per cent.

11. Fruit Bearing Decision

The recent change made out by the Indian government in respect to composite cap will bear the fruits for both investors and investees and, as a result, uncertainty would be removed. This change will bring desired degree of clarity and legal certainty sine-quo-non for elimination of inconsistencies, bring down transaction overheads. This change may also take away the costs of complying with multiple sets of rules and procedures and dealing with existing multiple regulators and centre of powers. The soul of this change is that it will bring more investment flows into the economy, particularly in sectors having multiple caps or limits.

12. Some Sense of Fear

The composite cap is creating some fears which are to be looked at seriously. First, allowing FDI in country's defence sector, the issue of national security could be at stake. Similar fear is feeling out in regard to country's banking sector which is considered as 'hot money' flows or greater threat of volatility of capital. There could be an indirect control of foreign investors over the banks through portfolio route. The planners and policymakers have to examine these two matters of concerns and should adopt a balanced approach to meet out these two possible issues.

13. FDI Inflows through M & A

Cross-border transaction is a significant driver of FDI inflows to India and the same reflects an increase business confidence of world player in Indian economy and local firms. The FDI inflows have registered an increase of 10.2

per cent through mergers and acquisitions. Three hundred and nine merger and acquisition deals amounting to USD 24.8 billion have been signed by Indian companies between quarter 1 and quarter 3 2015. One hundred and ten deals worth USD 24.4 billion have been announced so far in 2015. This is highest year to date vale since 2012 of inbound mergers and acquisitions in the country. Twenty-eight collectively deals in energy, mining and utilities have taken place involving FDI inflows worth USD 3.7 billion or 15 per cent of the total mergers and acquisitions (Table 5). There has been decline in merger and acquisition activity in case of pharmaceutical and consumer sector. Where in case of other sectors there has been an increase. In regard to buyouts of 82 involving FD inflows worth of USD 6.3 billion, the technology share is 24 deals and USD 1.7 billion.

Table 5: Trends in Sector Breakdown between 2014 and 2015 (In USD Billion)

Sector	Q1-Q3 2014	Q1-Q3 2015
Pharma, Medical & Biotech.	5.2	2.4
Consumer	4.2	2.5
Financial Services	2.7	2.9
Construction	0.9	3.2
Industrials and Chemicals	1.4	3.2
Technology	2.8	3.3
Energy, Mining and Utilities	2.1	3.9
Others	5.0	5.1

Source: Ministry of Commerce & Industries, Government of India, New Delhi, 2015

14. Recent Trends

The total value of merger and acquisition deals involving Indian companies increased to USD 7.7 billion in the September quarter from the year ago period. Two hundred and thirty three deals involving Indian companies have taken place. Eighteen per cent rise in terms of aggregate disclosed value (vs USD 6.5 billion in Q# of 2014), the deal volume remained at the same levels (223 deals in Q3 2014). Technology continued to dominate the M & A sector tables in terms of volume, accounting for 36 deals. There are hundred and sixteen cross-border M & A deals with a cumulative disclosed value of USD 6.6 billion, accounting for 85 per cent of the total disclosed deal value. Of the top 10 deals of

the quarter in terms of value, 50 per cent are outbound and drove the significant rise in value to USD 3.6 billion in Q# of 2015 as compared to USD 0.3 billion in Q1 and USD 0.5 in Q2 of 2015 (Table 6).

Table 6: Trends in Quarterly Transaction M & A Activity in India Q4 2012 to Q3 2015

Quarter	Value in USD Billion	Number of Deals
Q4-2012	8.6	210
Q1-2013	4.6	235
Q2-2013	9.1	178
Q3-2013	5.4	166
Q4-2013	7.9	163
Q1-2014	2.0	199
Q2-2014	11.6	222
Q3-2014	6.5	232
Q4-2014	8.5	215
Q1-2015	3.9	209
Q2-2015	6.4	226
Q3-2015	7.7	233

Source: EY Analysis of Thomson ONE Data.

15. Other Side of FDI Inflows

The Indian economy remains behind China in regard to 'gross FDI inflows' despite recent rise, and funds are largely entering into consumption space like e-commerce and not manufacturing which is the need of the hour. The recent spurt in FDI inflows to India may not give boost to the new initiative known as Make in India. In a recent report released by Emkay Global, it is pointed out that net FDI has come down in respect of China. This is due to higher investments in foreign destinations.

The persisting hype created by Indian media in respect of India's surpassing China and the US in terms of FDI inflows is being seen an affirmation of the success of Make in India. The availability of data is indicating a reverse of it. The disaggregated statistics reveals that FDI flows are concentrating on exploiting international consumption instead of stimulating domestic manufacturing which is the need of the day. According to the available statistics, gross FDI inflows into China are 3.6 times more than FDI inflows entered into India. It will not be in fitness of things that recent increase in FDI inflows in India as a proof of revival in the investment cycle in India.

It is true to say that there has been a rise of FDI inflows in Indian economy with a hope of turnaround in the growth outlook. But it would be premature to opine that the upcoming increase in FDI inflows into the Indian economy is a concrete proof and trend of revival in country's investment cycle and transforming of initiative of Make in India into a reality.

16. Major Issues to be Looked At

There are some very critical issues that have to be looked at which could affect the FDI inflows into Indian economy and its top ranking. First, is to look at the ease doing business environment. India still ranks 130th in the ease of doing business indicators opined by the World Bank. Second, India needs to look at infrastructure development. The Government of India is proactive in making new roads; India has a long way to go when to it comes to energy, telecommunications and other modes of transportation including the railways and aviation. Third, the most power firms are bleeding today due to bad balance sheets and bankrupt state electricity boards. Indian government is unable to meet the needed infrastructure investment. Hence, India needs to develop a better regulatory framework, a rational pricing system, reform financial markets and strengthen dispute resolution mechanism so that the private sector finds infrastructure projects economically feasible. Fourth is land acquisition. Amendments in Land Act 2013 are sine-quo-non for newly created initiative Make in India. Fifth, there is an immediate need for bringing desired improvement in governance in regard to speedy clearance, i.e., from registration to providing utilities. Rationalizing the number of clearance for establishing a business, developing effective and efficient coordination among different components at the centre, and states and using e-governance extensively for transparency and efficiency are the need of the hour. Sixth, central government must make concerted efforts in regard to policy coordination on investment and FDI inflows with the states. Sometime the central government is proactive whereas state governments languish with outdates rules, procedures and mechanisms. Seventh, attracting sustained FDI inflows may bring improvement in the technology ladder. Foreign investors are having great fear in their minds in respect of sharing their technology and going for licensing or joint venture due to the fact that India has a weak IPR regime. Eighth, are the existing transaction costs in respect of infrastructure and trade facilitation? In this regard, 2015 CAG Report is an eve opener. Hence, if India wants to be a top destination for

FDI inflows on the one hand and on the other to attain Make in India, then the government has to look into above mentioned issues and a viable solution has to be made out.

17. Most Crucial Initiative

In order to remain and sustain the Indian economy as a top destination of FDI inflows in the world, the Indian government has come out with a policy of relaxing FDI rules in 15 sectors and also easing out the process of FDI approval. This may send a positive signal to global investors. The following are the sectors wherein rules and process have been relaxed.

- Deference with 49 per cent under government route,
 49 per cent under automatic rule:
- 2. Construction with 1,000 per cent;
- 3. Broadcasting with up to 74 per cent:
- Single brand retailing trading 100 per cent automatic route;
- Banking-Private with 74 per cent. 49 per cent is automatic and beyond 49 government route;
- Plantations with 100 per cent allowed under automatic route:
- Investment by firms- special dispensation for firms, trusts/companies based outside India and owned by NRIs;
- Duty free shops- 100 per cent under automatic route;
- 9. Civil aviation- 49 per cent;
- 10. Information companies- 100 per cent;
- LLP- 100 per cent under government route and 100 per cent automatic route.

These measures are in the right perspective and earnest as Indian government does not want to enable funding for speculative tactics. These moves will result into a lot of capital flowing in the sectors.

18. Conclusion

It is true that India has come up as the top or number one FDI destination in the world during the last six months of 2015. It is also correct to say that with FDI inflows of nearly USD31 billion, India has outclassed other competitors, namely, the China and the US. It is hard to sustain. Concerted efforts have to be made out by all

concerned. The areas wherein the concerned authorities have to do are labour cots, labour skills, stable political and social environment, research and development. The government should make FDI policy simple and the same should not be subject to any discriminatory special norms or conditions.

India needs FDI and the planners and policymakers should not be obsessed with where it is coming from and which sector it is going into. The emerging idea of Make in India could see the light of the day when FDI comes to manufacturing sector which is sine-quo-non for creation of jobs. If the Indian government or Indian economy wants to maintain its top rank in FDI inflows in the world, then every effort must be directed towards Make in India so that it could become a reality.

The disaggregated statistics on FDI inflow and outflow (Greenfield and cross-border M & A) showing a much different scenario against the general perception.

Opportunities are like sunrises. If you wait too long, you miss them.

-William Arthur Ward

Feature

Employment Pattern in Unorganized Manufacturing Sector in Uttar Pradesh

NOMITA P. KUMAR

This paper tries to explore the employment scenario in the unorganized manufacturing sector of Uttar Pradesh. The findings reflect upon the fact that the unorganized sector has got immense employment potential due to its more absorption capacity and requirement of low investment. We have delved deep into the issue of growth and pattern of employment by nature and quality of work and gender wise and region wise. Efforts are also made to capture growth in factor productivities and capital intensity of the sector with a view to understand the efficiency of the sector. The study incorporates overall unorganized manufacturing sector as well as for different enterprise types.

1. Introduction

Generating gainful employment has been one of the major challenges for the policy formulators in India, especially after the launch of reforms. This is attributed to the fact that the employment situation has not been very encouraging during the post-reform phase as on one hand the organized manufacturing faltered to generate employment opportunities and on the other hand unorganized manufacturing sector witnessed remarkable rise in both the number of units and workers reported Rani and Unni (2004) and Sahu (2007). The unorganized manufacturing sector of India is huge and quite diversified. including a wide range of manufacturing units dispersed all over the country both in rural and urban areas (Saikia, 2015). The fact prevails that unorganized manufacturing sector is largely labour intensive and thus holds the promise for further generation of employment opportunities especially in developing countries like India, which is labour abundant. Recognizing the importance of unorganized sector, the 11th and 12th Five Year Plan envisaged it as the 'most potential sector' or rather 'engine of Growth' for rapid employment generation.

Uttar Pradesh has always been in the forefront in the area of industrial development. During the 5th,6th and 7th Five Year Plan, the industrial growth rate was 9.4, 11.8 and 10.8 per cent , respectively (12th Five Year Plan, UP). In the post-liberalization era the industrial growth rate in Uttar Pradesh dropped. However, the state was able to meet the challenges and hence the growth rate in 10th Five Year period revived to the tune of 6.6 per cent inspite of prevailing recession at the global level. For the 11th Five Year Plan the industrial sector growth was targeted at 10.5 per cent and that of manufacturing sector at 12 per cent in order to achieve overall growth in GSDP of 10 per cent . Achieving such a high growth target needs huge

Dr Nomita P. Kumar, Assistant Professor, Giri Institute of Development Studies, Lucknow. investment in the industry sector along with upgradation of existing technology and modernization as well as creation of world-class infrastructure. Uttar Pradesh 12th Five Year Plan document reports that growth of industrial development was 9.3 per cent in 2007–08, -7.8 per cent in 2008–09, 3.9 per cent in 2009–10 and 9.2 per cent in 2010–11.

The specific objective of this paper is to analyse the employment growth of the unorganized manufacturing sector in Uttar Pradesh. We have delved deep into the issue of growth and pattern of employment by nature and quality of work and gender wise and region wise. Efforts are also made to capture growth in factor productivities and capital intensity of the sector with a view to understand the efficiency of the sector. The study incorporates overall unorganized manufacturing sector as well as for different enterprise types.

2. Data Source

The primary source for data on various dimensions like output, employment, capital, gross value added, etc., for the unorganized manufacturing is provided by National Sample Survey Organisation (NSSO) through its various rounds. The NSS survey covers all the units of unregistered manufacturing sector and provides wide range of estimates for the entire gamut of unregistered manufacturing sector at different geographical scales, viz, states, regions and district. The unorganized or unregistered manufacturing sector in the NSS framework provides information for all the manufacturing enterprises that are not included in the Annual Survey of Industries collected by Central Statistical Organisation. To be more precise, the sector includes, firstly, all the manufacturing enterprises except those registered under section 2m(i) and 2m(ii) of Factories Act, 1948, and Bidi and Cigar Workers (Conditions of Employment Act, 1966, and secondly those run by the government (central government, state government, local bodies)/Public Sector Enterprises.

In this study we have used data for the unorganized manufacturing sector of Uttar Pradesh basically drawing upon the last three quinquennial rounds of NSS surveys on Unorganised Manufacturing Sector, i.e., 51st Round conforming to July 1994–June 1995, 56th Round (July 2000–June 2001) and 62nd Round (July 2005–June 2006). These rounds however differ to some extent in terms of industrial classification and coverage which leads to a few conceptual and methodological inconsistencies while comparing different rounds under consideration. For

instance, the data of different rounds conforms to different National Industrial Classifications, viz., 1987, 1998 and 2004. Therefore, we have made the industry groups comparable with the industry groups under NIC 2004. Secondly, industrial categories of repair services, repair of capital services, etc., were not included in the 51st round, but excluded in 56th and 62nd rounds, and, for example, industrial categories such as cotton ginning, cleaning and bailing, recycling, etc., are included in 56th and 62nd rounds but excluded in 51st round. These industrial categories from the data set for analysis in order to make valid comparison in Uttar Pradesh over the NSS rounds under consideration.

3. Unorganized Manufacturing in Uttar Pradesh

The informal or unorganized sector is accorded an important place in the development process of any economy. The dualistic theory states that the development process in the Third World countries have seen birth and expansion of an unorganized or informal sector which will ultimately disappear when the economy develops (Anagol and Sundaram, 1995). Scholars refute that the growth in the unorganized sector is primarily due to distress-driven or disguised unemployed people who are temporarily employed in the sector. The sector is regarded as the growth engine of many developing economies and is one of the fastest growing industrial sectors all over the world (Saikia, 2015). The strategic role of the sector is the creation of wide variety of gainful employment opportunities at a very low cost of capital, along with its contribution to production, income generation, export and capital accumulation.

Before indulging into the pattern and growth of employment in unorganized manufacturing sector in Uttar Pradesh, it is pertinent to analyse the structure of the sector as existing in Uttar Pradesh (Table 1). The size of the unorganized manufacturing sector in Uttar Pradesh is huge both in terms of number of units and workers. Table 1 shows that during 2005-06 more than 99.56 per cent of the manufacturing enterprises were in unorganized segment and this dominance percolated since 1994–95 in Uttar Pradesh. Even in respect of employment this sector attracts a lot. In 1994-95 this segment of the manufacturing accommodated about 91.03 per cent of the workers in the manufacturing, which increased to 93.08 per cent in 2000-01 and declined to 91.35 per cent in 2005-06. Keeping the track records the other way round we can look into absorbtion capacity of organized

Table 1: Structure of Manufacturing Sector in Uttar Pradesh: 1994-95 to 2005-06

Year	Type of Industry	No. of Units		No. Work		Gross Value Added		
			% Share		% Share	Rs Lakh	% Share	
1994-95	Organized	10,154	0.40	5,84,872	8.97	12,39,255	71.41	
	Unorganized	25,14,761	99.60	59,32,716	91.03	4,96,272	28.59	
	Total	25,24,915	100.00	65,17,588	100.00	17,35,527	100.00	
2000-01	Organized	6,935	0.30	4,01,674	6.92	9,57,702	57.88	
	Unorganized	22,90,083	99.70	54,03,572	93.08	6,97,007	42.12	
	Total	22,97,018	100.00	58,05,246	100.00	16,54,708	100.00	
2005-06	Organized	10,503	0.44	5,00,540	8.65	16,42,591	57.22	
	Unorganized	23,59,375	99.56	52,87,901	91.35	12,27,847	42.78	
	Total	23,69,878	100.00	57,88,441	100.00	28,70,438	100.00	

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

manufacturing in Uttar Pradesh. Infact the story of manufacturing sector is summed up by unorganized manufacturing in the State, especially if seen in terms of number of units and the expanse of employment generated. However, the sector contribution in terms of gross value added is very meagre, which was 28.59 per cent in 1994–95, increased to 42.12 per cent in 2000–01 and 42.78 per cent in 2005–06. This is because of abysmally low level of productivity due to low level of technology-in-use in the sector, what we will discuss in a later section.

The NSSO reports that unorganized manufacturing sector is sub-divided into three enterprise types, viz., own account manufacturing enterprises (OAMEs), nondirectory manufacturing enterprises (NDMEs) and directory manufacturing enterprises (DMEs). As per the definition followed by NSSO, OAMEs are enterprises run without hiring workers on a fairly regular basis, NDMEs are establishments which employ upto six workers and atleast one being hired workers on a regular basis and DMEs are establishments employing six or more but less than ten workers and atleast one of them being a hired worker. The composition of structural changes in unorganized manufacturing sector in Uttar Pradesh during 1994-95 to 2005-06 is shown in Table 2 through three indicators, viz., number of units, number of workers and gross value added. All the indicators have been put according to different enterprise types. Continued dominance of OAMEs in unorganized manufacturing industries in Uttar Pradesh is quite clear from the table. The enterprises are characterized by the tiniest self-

employing enterprises amongst all the units in this segment. The dominance of the OAMEs segment is conspicuous in terms of all the three indicators. For example, in 2005-06, 86.15 per cent of units, 70.82 per cent of workers and 34.09 per cent of gross value added in the unorganized manufacturing sector are absorbed by the OAMEs segment. On the other hand, NDMEs absorb only 10.97 per cent, 14.92 per cent and 18.24 per cent, respectively, and DMEs segment these per cent ages are 2.86 per cent, 14.26 per cent and 47.66 per cent. Thus, it is very clear that unorganized manufacturing sector is largely dominated by OAMEs. especially in terms of number of units and workers engaged thereof in Uttar Pradesh. The modern sector represented by NDMEs and DMEs presence in the unorganized manufacturing has been very marginal while considering number of units and number of workers but in terms of gross value added they have fairly respectable share, especially DMEs in Uttar Pradesh.

Table 2 also highlights the changing profile of unorganized manufacturing sector between 1994–95 and 2005–06. Taking number of units under consideration we find that the share of OAMEs remained unchanged throughout, NDMEs has marginally declined in 2000–01 but regained in 2005–06. DMEs have registered a gain in number of units in 2000–01 but declined in 2005–06. In terms of number of workers, the share of OAMEs has seen continuous increase from 1994–95 to 2000–01 and also in 2005–06. The share of workers has declined during 1994–95 to 2000–01 in NDMEs and then increased in 2005–06 and that of DMEs significantly declined

Table 2: Structure of Unorganized Manufacturing Sector in Uttar Pradesh

Year	Enterprise Type	No. of Units		No. Worl		Gro Value	
			% Share		% Share	Rs Lakh	% Share
1994-95	OAME	21,43,458	85.24	10,01,712	55.21	6,28,548	51.93
	NDME	2,80,728	11.16	5,10,135	28.12	2,09,288	17.29
	DME	90,576	3.60	4,94,967	27.28	2,66,423	22.01
	All	25,14,761	100.00	18,14,438	100.00	12,10,380	100.00
2000-01	OAME	19,74,671	86.23	35,95,669	66.54	3,15,849	45.32
	NDME	2,30,144	10.05	7,28,016	13.47	1,53,073	21.96
	DME	85,269	3.72	10,79,887	19.98	2,28,071	32.72
	All	22,90,083	100.00	54,03,572	100.00	6,96,987	100.00
2005-06	OAME	20,33,045	86.17	37,44,876	70.82	4,18,624	34.09
	NDME	2,58,904	10.97	7,88,714	14.92	2,23,999	18.24
	DME	67,426	2.86	7,54,312	14.26	5,85,229	47.66
	All	23,59,375	100.00	52,87,902	100.00	12,27,842	100.00

Source: NSSO Reports Different Years.

throughout the period. In terms of gross value added, the share of OAMEs declined significantly during 1994–95 to 2000–01 and then again a downward trend could be observed between 2000–01 and 2005–06. Gross value added in NDMEs units increased during 1994–95 to 2000–01 and then declined during 2000–01 to 2005–06. The DMEs segment in contrast experienced increase in its share in gross value added through the period under study.

Now turning our attention to absolute numbers, we find that there has been overall improvement in number of units during 1994-95 to 2005-06. However, a break-up in the period shows that during 1994-95 to 2000-01, the number of units drastically declined, particularly for OAMEs and NDMEs segments, while numbers of DMEs units declined and then during 2000-01 to 2005-06 the number of units increased in each segment of the unorganized manufacturing sector except for DMEs which still saw a decline. In terms of number of workers there has been an increase in absolute numbers during 1994-95 to 2005-06 for the overall unorganized manufacturing segment. During 2000-01 to 2005-06 overall unorganized manufacturing suffered a setback in terms of numbers of workers there has been decrease in terms of absolute numbers. Though the OAMEs and NDMEs have witnessed an improvement

in absolute numbers but DMEs segment have seen an absolute decline on number of workers.

4. Employment in the Unorganized Manufacturing Sector in Uttar Pradesh

Growth of Employment: The compound annual growth rate of employment in unorganized manufacturing sector in Uttar Pradesh during 1994-95 to 2005-06 is given in Table 3. The employment in unorganized manufacturing sector witnessed an annual increase of 24.39 per cent during 1994-95 to 2000-01. The closure of as large as 224 thousand units during this period and further increase in number of units (69 thousand) during 2000-01 to 2005-06 period created havoc in this sector as employment showed an increase during the period when units closed down but later employment declined when units started to increase. We have a large chunk of workers in this segment and due to new policy regime the units did close but employment still showed an upward trend thus depicting more pathetic condition of workers being disguisedly employed. However, the sector experienced a downward trend during 2000-01 to 2005-06. This fall in employment was accompanied by creation of new units giving a sign of relief to workers still pouring in into this segment. For the entire period this sector has managed

an annual growth rate of 11.29 per cent in employment. Looking at the growth rate of employment in the sub-sectors, the OAMEs witnessed an increase of 29.12 per cent, followed by DMEs with growth of 16.89 per cent and NDMEs with 7.37 per cent during 1994–95 to 2000–01. However, overall decline in employment (0.54 per cent) was noticed during 2000–01 to 2005–06 and the maximum decline was registered in DME units during this phase, though increase in employment was seen in OAMEs and NDMEs.

Type of Employment and Workers: The employment situation of unorganized manufacturing sector in Uttar

Pradesh has shown a positive growth taking place over the entire study period (vide Table 3). Now we can look deep into the composition of employment structure in terms of part-time and full-time workers, separately for male and female category of workers. The situation at all-India level suggests that in recent years, the unorganized manufacturing sector experienced tremendous increase in part-time workers, while full-time workers declined as was noted by Sahu (2007). Similar story could be perceived at our state level too, hence we analyse the size and composition of workers in terms of the nature of employment

Table 3: Compound Annual Growth Rate (%) of Employment in Unorganized Manufacturing Sector in Uttar Pradesh

Enterprise Type	1994-95/2000-01	2000-01/2005-06	1994–95/2005–06 14.10 4.45	
OAME	29.12	1.02		
NDME	7.37	2.02		
DME	16.89	-8.58	4.30	
ALL	24.39	-0.54	11.29	

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

Table 4: Workers by Employment Type in Unorganized Manufacturing Sector

Years	(8)	OAME			NDME		DME			All		
	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total Total
				Comp	osition	of Worker	s (in '00)			***		
2000-01	2902.5	693.1	3595.7	697.1	30.9	728.0	1049.7	30.2	1079.9	4649.3	754.3	5403.6
2005-06	2697.2	1047.6	3744.9	746.6	42.1	788.7	712.4	41.9	754.3	4156.2	1131.7	5287.9
			Sha	re of Ful	l time an	d Part-tim	e Worker	rs (in%)				
2000-01	80.72	19.28	100.00	95.76	4.24	100.00	97.20	2.80	100.00	86.04	13.96	100.00
2005-06	72.02	27.98	100.00	94.66	5.34	100.00	94.44	5.56	100.00	78.60	21.40	100.00
				Incr	ement/D	ecrement	(in '00)					
2000-01/ 2005-06	-205	354	149	49	11	61	-337	12	-326	-493	377	-116
				Compo	und Ann	ual Grow	th Rate (%	%)	Ţ			
2000-01/ 2005-06	-1.82	10.88	1.02	1.73	8.07	2.02	-9.24	8.51	-8.58	-2.76	10.67	-0.54

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

be it part-time or full-time and also male and female category.

Data in Table 4 shows the composition of workers by type of employment for the period 2000–01 to 2005–06.

It showers light on the issue that the share of full-time workers for the overall unorganized manufacturing sector declined from 86.04 per cent in 2000–01 to 78.6 per cent in 2005–06. This implies that the share of part-time workers have increased over this period, thus pointing to the fact

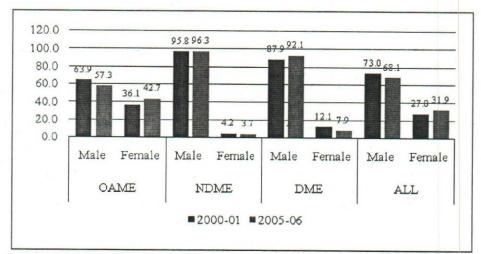
that employment in unorganized segment has taken a drastic transformation. The different layers of this segment do not show a very uniform status. The OAME enterprises have largest chunk of part-time workers and absorbed 19.28 per cent of workers as part-time workers in 2000–01 and increased further to 27.98 per cent in 2005–06. The share of part-time workers for NDME and DME stood at 4.24 and 2.80 per cent in 2000–01 and increased to 5.34 and 5.56 per cent in 2005–06.

What is striking is that the share of full-time workers has seen a downward trend for all the three category of unorganized manufacturing in Uttar Pradesh which also highlights the issue of mass exploitation in the segment. During 2000–01 to 2005–06 there has been a sharp decline in full-time workers (-493 thousands) category but part-time worker seems to have increased tremendously (377 thousands). The decline in full-time workers was largely due to large decline in OAMEs and DMEs segments of the unorganized workers. What is more astonishing is the fact that employment in unorganized manufacturing has witnessed overall decline in employment in Uttar Pradesh.

Taking cognizance of the absolute figures we can conclude that comparison of employment situation in 2005–06 with that of 2000–01 reveals that the number of full-time workers for the overall unorganized manufacturing sector as well OAMEs and DMEs segments was lower in 2005–06 than the numbers in 2000–01. Only the NDME segment the number of both full-time and part-time workers

was higher in 2005–06 than the numbers in 2000–01. In terms of compound annual growth we witness a fall of 2.76 per cent in full-time workers category and significant increase of 10.67 per cent in part-time workers during the phase 2000–01 and 2005–06.

Type of Employment and Workers by Sex: The composition of unorganized manufacturing workers separately for male and female for the period 2000-01 to 2005-06 is given in Graph 1. It reflects upon the fact that in 2000-01 about 73.0 per cent of total unorganized manufacturing workers in Uttar Pradesh were male. The share of male workers declined to 68.1 per cent in 2005-06. This further reflects upon the share of female workers have registered an increase over the period, i.e., being 27.0 per cent in 2000-01 and increased to 31.9 per cent in 2005-06. The composition of workers in terms of sex of the workers is not uniform for the segments in unorganized manufacturing in Uttar Pradesh. The OAMEs segment account for more female workers under its ambit both in 2000-01 and 2005-06. The highest share of male workers could be seen in NDME segment and DME segment in Uttar Pradesh. We find that the share of female workers have registered a decline both in NDME and DME segment of unorganized manufacturing in Uttar Pradesh. It is only OAME segment of this unorganized manufacturing that females have registered an increase over the study period thus pointing towards the pathetic condition of female workers of the segment (Graph 1).



Graph 1: Composition of Workers by Sex in Unorganised Manufacturing Sector in Uttar Pradesh

Table 5 illustrates the absolute number of workers. The size of male workers declined from 3,943 thousand in 2000–01 to 3,602 thousand in 2005–06, while the size of

female workers increased from 1,460 thousand in 2000–01 to 1,686 thousand in 2005–06. Thus, between the period of our study we find that there has been increment of about

Table 5: Workers by Sex and Employment Type in Unorganized Manufacturing Sector (in '00)

Composition of	Year		Mal	е	. Fen	nale	
Workers (in '000)		Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
OAME	2000-01	1,986	310	2,296	916	383	1,299
	2005–06	1,848	299	2,147	849	749	1,598
NDME	2000-01	672	25	697	25	6	31
	2005–06	733	27	760	14	15	29
DME	2000-01	927	22	949	122	8	131
	200506	669	26	695	43	16	59
ALL	2000–01	3,586	357	3,943	1,063	397	1,460
	2005–06	3,250	351	3,602	906	780	1,686
Share of Full-time and I	Part-time Workers	(%)					
OAME	2000-01	86.50	13.50	100.00	70.51	29.49	100.00
	2005–06	86.08	13.92	100.00	53.14	46.86	100.00
NDME	2000-01	96.43	3.57	100.00	80.52	19.48	100.00
	2005-06	96.45	3.55	100.00	47.41	52.59	100.00
DME	2000-01	97.68	2.32	100.00	93.68	6.32	100.00
	2005–06	96.33	3.67	100.00	72.40	27.60	100.00
ALL	2000-01	90.95	9.05	100.00	72.79	27.21	100.00
	2005–06	90.25	9.75	100.00	53.72	46.28	100.00
Increment/Decrement (i	in '00)	-					
OAME		-138.4	-11.3	-149.6	-66.9	365.8	298.9
NDME		60.5	2.0	62.5	-11.0	9.2	-1.8
DME		-257.9	3.5	-254.4	-79.3	8.1	-71.2
ALL		-335.8	-5.7	-341.5	-157.3	383.1	225.9
Compound Annual Grov	wth Rate (%)						
OAME		-1.79	-0.92	-1.67	-1.88	18.24	5.31
NDME		2.18	1.98	2.17	-13.72	26.27	-1.50
DME		-7.83	3.80	-7.50	-23.00	18.73	-17.88
ALL		-2.43	-0.40	-2.24	-3.92	18.39	3.66

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

225.9 thousand female workers and decline of male workers of 341.5 thousand with the compound annual growth rate of 3.66 per cent for female workers and -2.24 per cent for male workers. The highest increment in terms of number of workers was in the OAMEs segment for female workers and positive increment was seen for males in NDMEs segment of 2.17 per cent.

Table 5 also highlights the composition of workers by type of employment for male and female for various segments in unorganized manufacturing in Uttar Pradesh. It is clearly visible that the share of female workers as part-time workers is high for overall unorganized manufacturing workers; about 27.21 per cent were parttime workers in 2000-01 and 46.28 per cent in 2005-06. The corresponding data for male part-time workers unorganized manufacturing stood at 9.05 per cent in 2000-01 and 9.75 per cent in 2005-06. What is interesting to note is that female workers absorption level as part-time workers has increased significantly during 2000-01 to 2005-06 amongst all the three categories of unorganized manufacturing sector. On the other hand the share of male part-time workers increased only marginally in all the three segments of the unorganized manufacturing sector in Uttar Pradesh.

In terms of absolute numbers the size of male part-time workers declined from 357 thousand in 2000–01 to 351 thousand in 2005–06, while the size of female part-time workers increased from 397 thousand to 780 thousand during the same period. A cursory look at all the three segments of the unorganized manufacturing establish the fact that for female part-time workers experienced increase but male part-time workers saw a decline in the category of OAMEs and rest of the sector saw only a marginal increase. The highest increment was registered by OAMEs for females in the segment.

The category of full-time workers witnessed a declining trend for both male and female workers for the overall unorganized manufacturing sector during the study period. However, the increment in full-time workers was noticed for males only in the category of NDMEs and rest of the categories witnessed a clear-cut decline for males and also for females in all the three segment of unorganized manufacturing sector.

To summarize, whatever the improvement in employment of the unorganised manufacturing sector in Uttar Pradesh has been observed between 2000–01 and 2005–06 was largely contributed by increase of part-time

female workers especially in the OAMEs segment. It is worth mentioning that the size of full time workers of both males and females declined though more in absolute terms for male workers, i.e., by 335.8 thousands and females by 157.3 thousand. Thus, the recent increase in female workers, especially in OAMEs segment, is governed by huge increase in female part-time workers in the same segment, which points to mass casualization of female workers in unorganized manufacturing in the state of Uttar Pradesh.

5. Productivity of Unorganized Manufacturing Sector in Uttar Pradesh

As a matter of fact we know that unorganized manufacturing units use very low level of technology, which results in low productivity, low profits and low growth in the sector. There are evidences to prove that the factor productivity in the unorganized manufacturing sector in India is very low (Mukherjee, 2004; Sahu, 2007; Kathuria et al., 2010; Saikia, 2015). There are studies at all-India level to prove the statement but there is little evidence about it for the state of Uttar Pradesh. Kathuria, Natarajan and Sen (2010a) observe that Uttar Pradesh is the state with highest level of labour productivity in unorganized sector and its level is around three times higher than Bihar, the state ranked second in labour productivity. Further, they add 'Surprisingly, in UP labour productivity levels are more or less similar in both the sectors' and tried to reason out why the unorganized sector in UP had such a high productivity. Was it the 'NOIDA effect', or was it National Region Capital effect or there has been higher weights assigned to DMEs (expected to be more productive and capital intensive) in the NSSO survey for UP? Further investigations ruled out the possibilities that there was overwhelming sampling of DME units in UP. The study states that the higher labour productivities in UP is driven by key industries, namely, manufacture of television and radio receivers, motor vehicles, office, accounting and computing machinery among others.

On the other hand capital–labour ratio in the unorganized manufacturing sector is much lower than that in the organized manufacturing sector, while for the country as a whole it was 3.5 times lower but interestingly for Uttar Pradesh the unorganized sector is not only highly capital intensive but its capital intensity is as high as that of organized sector (Kathuria et al., 2010).

Kathuria et al. (2010) also reported that except UP, all other states showed low level of productivity in

Table 6: Factor Productivity and Capital Intensity in Unorganized Manufacturing Sector in Uttar Pradesh

Enterprise Type	Year	Labour Productivity	Capital Productivity	Capital Intensity
OAME	1994–95	62,747	19.5	68,897
	2000-01	8784	12.5	97,933
	2005–06	11,179	4.8	3,58,530
NDME	1994–95	41,026	2.5	13,010
	2000-01	21,026	1.3	7,681
	2005-06	28,400	0.7	1,14,146
DME	1994–95	53,826	1.2	18,433
	2000-01	21,120	0.6	6,318
	2005-06	77,585	0.5	21,459
ALL	1994–95	66,708	24.9	1,55,053
	2000-01	12,899	14.3	1,48,156
	2005–06	23,220	6.6	82,510

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

Table 7: Compound Annual Growth Rate of Factor Productivities and Capital Intensity in Unorganized Manufacturing Sector

Enterprise Type	Year	Labour Productivity	Capital Productivity	Capital Intensity
OAME	1994-95/2000-01	-27.9	-7.2	6.0
	2000-01/2005-06	4.9	-17.4	29.6
-	1994-95/2005-06	-14.5	-12.0	16.2
NDME 1	1994-95/2000-01	-10.5	-10.5	-8.4
	2000-01/2005-06	6.2	-11.4	71.6
	1994-95/2005-06	-3.3	-10.9	21.8
DME	1994-95/2000-01	-14.4	-11.8	-16.3
	2000-01/2005-06	29.7	-2.9	27.7
	1994-95/2005-06	3.4	-7.9	1.4
ALL	1994-95/2000-01	-24.0	-8.8	-0.8
	2000-01/2005-06	12.5	-14.2	-11.0
	1994-95/2005-06	-9.1	-11.3	-5.6

Source: CSO (1994/95, 2000/01 and 2005/06) and NSSO Reports 433, 434, 477, 479, 480, 525 and 526.

unorganized manufacturing, which poses serious challenge after the launch of reforms in our economy as the sector has confronted with stiff competition from the large scale units. The major challenge for the sector is reported to be creating gainful employment with increasing the level of factor productivity.

The fact remains that partial factor productivities present only the partial picture of the efficiency in factor use. We have studied productivities of unorganized manufacturing sector via calculating two partial productivities, viz, labour productivity, measured in terms of gross value added per worker.and capital productivity,

measured via gross value added per unit of fixed capital. We have also calculated capital intensity, measured via capital–labour ratio, which reflects upon investment per worker. The level and compound annual growth rate of labour and capital productivities and capital intensity of the unorganized sector in Uttar Pradesh are presented in Tables 6 and Table 7, respectively.

The labour productivity for the overall unorganized manufacturing sector increased from Rs 66,708 in 1994-95 to Rs 23,220 in 2005-06. Within the unorganized sector, labour productivity in OAMEs segment is the lowest as compared to other segments. The labour productivity declined in all the segments of unorganized manufacturing during 1994-95 and 2000-01, but increased in all the three segments during 2000-01 to 2005-06. The compound annual growth rates thus calculated for all the three segments are well documented in Table 7. For the entire period 1994-95 to 2005-06, the labour productivity for the overall unorganized manufacturing sector showed a decline. All the segments within the unorganized manufacturing sector in Uttar Pradesh recorded negative growth for the entire period under study except the DMEs segment.

Taking cognizance of the fact that capital is a significant contributor to GVA and thus we calculated capital productivity too. The capital productivity declined during the entire period amongst all the three segments of unorganized manufacturing in Uttar Pradesh. Compared to 1994–95, we find that capital productivity in 2000–01 and also in 2005–06 were lower for all the segments,viz, OAMEs, NDMEs and DMEs. The rate of growth thus calculated also reflects a clear understanding that unorganized manufacturing sector though absorbing huge masses in its ambit but this sector is not growth oriented rather it is stagnating or rather declining in terms of labour productivity and capital productivity. The story is similar for all the three segments of unorganized manufacturing in Uttar Pradesh.

Table 6 also reveals capital intensity in the unorganized manufacturing sector in Uttar Pradesh which is very low. The capital intensity for the overall unorganized manufacturing sector was reported to be 1,55,053 in 1994–95, which declined to 1,48,156 in 2000–01 and further declined to 82,510 in 2005–06.

6. Conclusion

The findings of the paper suggest that the performance of

the unorganized manufacturing sector has been abysmal over the years. Over the study period lots of units got generated in Uttar Pradesh and lots of workers lost their full-time jobs and lots have swelled the category of parttime workers. What is striking is that female workers have really grown to huge numbers and feminization of the workforce has occurred in OAMEs segment and huge casualization has also been witnessed in Uttar Pradesh. The most disturbing fact is that an overwhelming proportion of workers have lost as full-time workers and for males all the categories have seen a fall as full-time workers. Clearly we can say that there is a tendency of part-time workers to increase in unorganized manufacturing sector, and this witnessed by all the three segments of the sector. Thus we can stoutly say that most of employment generation in Uttar Pradesh in unorganized manufacturing has taken place through casualization and feminization of workers. Therefore, it is imperative for policy formulators to plan accordingly so that these workers could be raised above the drudgery of being unprotected and increase the productivity of this segment through providing modern technology and investment support in Uttar Pradesh.

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No foreign policy - no matter how ingenious - has any chance of success if it is born in the minds of a few and carried in the hearts of none.

-Henry A. Kissinger

Feature

Work-related Variables and Work-Life Balance—A Study of Nurses in Government Hospitals of Himachal Pradesh

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The present study was designed to investigate the relationship between work-related variables and work-life balance (and its dimensions). The study sought to determine the most significant predictors of work-life balance of nurses. The study was conducted through a sample of 216 nurses employed in various government hospitals of Himachal Pradesh. The data thus collected have been analysed with the help of SPSS 17. In order to analyse the data, the statistical tools, viz., Pearson correlation coefficient and Independent sample t-test were used. The findings of the study demonstrated that there is significant correlation between various work-related variables and work-life balance (and its dimensions). Work-related variables, viz., task variety, work ambiguity, work autonomy and work role overload have a significant impact on the work-life balance of the respondents.

1. Introduction

The modern organizations in an effort to retain the existing talent are very seriously recognizing and designing effective policies for its employees. The employers need to understand that the work-life balance practices can influence organizational performance, cost savings, improved productivity and reduced the turnover (Tanushree, 2013). Therefore, the organizations need to be able to create high potential talent management programmes to retain its employees. Organizations may use work-family polices or work-life balance polices to maintain proper work-life balance of employees. Available literature on work-life balance indicates that organizations can help individuals and families to achieve a balance between their work, family and life commitments by introducing work life programmes and policies which benefit both employees and organizations. Avgar et al. (2011) found from their study that work-life balance practices reduce employee turnover intentions and decrease errors that could harm patients and staff. Sheokand and Priyanka (2013) also reported in their study that work-life balance practices motivate, retain and engage employees. Past studies on work-family policies suggest that family-friendly policies help the employees to balance work and family demands. Studies in the past also have suggested some important factors that need to be considered to make these policies successful. Kodz et al. (2002) identified a number of factors which put off individuals from taking up flexibilities which might improve their work-life balance including perceived impact on career prospects, incompatible organizational cultures, heavy workloads, lack of knowledge and impact on earnings. Hasan (2011) reported that for work-life balance practices to take true effect, it is important that the employees should feel confident and be encouraged to use the facilities. To increase the access of employees to work-life balance

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facilities, what is required is effective communication of policies, proper education and promotion of understanding about efficient work culture.

revealed that the most important factor influencing work/ non-work conflict is workload pressure. When employees are in organizations where working long hours are taken for granted, they do not leave on time, they often take

2. Literature Review

During the past decades a large number of studies have been conducted to examine the work–life balance of employees of various organizations. These studies have demonstrated the relationship between various work-related variables and work–life balance. Billing et al. (2012) conducted a study in order to analyse the moderating effect of decision latitude on the relationship between work–family conflict and psychological strain in five dissimilar countries. The findings of the study clearly revealed that employees in predominantly individualistic countries (e.g., Canada) are better able to deal with work–family conflict and do not experience as much psychological strain when they have sufficient decision latitude or job autonomy in performing the duties and responsibilities associated with their work roles.

Major, Fletcher, Davis and Germano (2008) demonstrated that supportive workplace relationships were linked to decreased work interference with family. Coworker support was associated with reduced work interference with family. It was also suggested that supportive supervisors may model and encourage supportive behaviours among co-workers. Thus, findings of the study suggested that supportive work-family culture may foster supportive leadership, which in turn fosters co-worker support.

Estes (2004) found that supervisor support is most broadly and positively related to mothers' well-being and aspects of parenting. Supervisor support is related to higher levels of personal control, lower levels of depression and the practice of warm and responsive parenting. The study demonstrated that aspects of parents' jobs that have implications for family life are not limited to work characteristics (such as autonomy or complexity), work hours or the scheduling of work shifts. Instead, conditions of work involving flexibility in time and place of work, leave for family needs (e.g., sick child leave) and supervisor support of working parents are all related to parenting and the family. These results also showed that both formal (e.g., sick child leaves) and informal (e.g., supervisor support) aspects of family-responsive workplaces have implications for family life.

Allan, Loudoun and Peetz (2005) through their study

work nome and work builds up while they are away, wey are likely to show the signs of work/non-work conflict: they are more dissatisfied with the balance between their work and personal lives, are often too tired to properly enjoy their time away from work, get told at home they are working too much, find their work responsibilities interfering with their social life and would prefer to be working fewer hours.

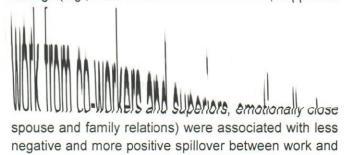
Foley and Hang-Yue (2005) examined the direct and moderating effects of perceived organizational support (POS) and gender on the relationship between work stressors and work–family conflict for a sample of Hong Kong Chinese employees. The study found that work stressors (including role ambiguity, role conflict and role overload) were positively related to family work conflict and work family conflict.

Anderson, Coffey and Byerly (2002) investigated the impact of formal and informal work-family practices on both work-to-family and family-to-work conflict. The results of the study showed that when employees have flexibility in their work schedule, they apparently experience less work-to-family conflict. Also, the findings of the study suggested that managerial support is key for the employees to successfully manage the integration of work with family and family with work. Support from managers help's employees in their efforts to balance work and family responsibilities.

Kim and Ling (2001) examined the sources and type of work-family conflict among married Singapore women entrepreneurs. The data for the study came from married Singapore women entrepreneurs. Results of the study indicated that the number of hours worked, work stressors (role conflict and worries about the financial health of the business) and work schedule inflexibility were positively related to work-family conflict.

Grzywacz and Marks (1999) in their study using a sample of employed adults from the National Survey of Midlife Development in the United States, results from principal components analysis indicated four distinct dimensions of work-family spillover: negative spillover from work to family, positive spillover from work to family, negative spillover from family to work and positive spillover from family to work. Results indicated that the more

resources that facilitate development in work or family settings (e.g., more decision latitude at work, support at



Galinsky and Stein (1990) examined the major work/ family problems faced by employees, how work/family programmes affect productivity, trends emerging among companies and how a subsample of leading scientific companies and universities are responding to work/family issues. The study identified seven major issues faced by employees, viz., childcare, eldercare, work time, relocation, job autonomy and job demands, supervisory relationship and supportive organizational culture. Time flexibility (flexitime, part-time work, parental leave) was founded as the first choice among employees to improve their ability to balance work and family responsibilities.

3. The Study

family.

Work and personal life is interconnected and interdependent. Working for long hours, inflexible schedules, less autonomy, low work support and dealing with the other pressures of the job can interfere and affect the personal life of employees. On the other hand, demands of personal life like children and aging parents, family chores and so on can contribute to absenteeism from work, stress and lack of concentration at work. Balancing work and life and reducing the conflict relationships between the two domains are very important. High levels of conflict between the demands from work and non-work domains can have negative effects in the workplace, on the individual and society. Keeping this in view, through the present study, an attempt has been made to investigate the relationship between various work-related variables and work-life balance of nurses working in government hospitals of Himachal Pradesh. Through this study an effort has been made to understand whether workrelated variables, viz., work autonomy, work ambiguity, task variety, work schedule flexibility, work support and work role overload have any relationship with work-life balance and its dimensions.

3.1 Objectives of the study

Keeping in mind the review of past studies, the present study was undertaken with the following objectives:

 To study the relationship between work-related variables and work-life balance of nurses employed in government hospitals of Himachal Pradesh. 2. To find out the most influential factors which



in government nospitals of Himachal Pradesh

3.2 Hypothesis

In order to achieve the objectives of the present study, the following hypothesis were formulated:

- H₁: There is no significant relationship between task variety and work–life balance of nurses.
- H₂: There is no significant relationship between work autonomy and work–life balance of nurses.
- H₃: There is no significant relationship between work ambiguity and work–life balance of nurses.
- H₄: There is no significant relationship between work support and work–life balance of nurses.
- H₅: There is no significant relationship between work role overload and work–life balance of nurses.
- H₆: There is no significant relationship between work schedule flexibility and work–life balance of nurses.

3.3 Research methodology

The study is mainly based on primary data which was collected through the respondents consisting of 216 nurses employed in various government hospitals of Himachal Pradesh. In order to get the required information, a welldesigned questionnaire was prepared and administered among respondents. Data was collected from six government hospitals of four districts of Himachal Pradesh, namely, Kangra, Mandi, Shimla and Solan. There are twelve districts in the state of Himachal Pradesh and for the present study four districts were selected on the basis of random sampling. The total number of government hospitals in these four districts is 26. However, we selected six hospitals on the basis of convenience and judgement sampling method. The total number of nurses working in six hospitals was 812. Questionnaires were distributed among 300 nurses on the basis of judgement sampling out of which 225 questionnaires were returned by the respondents yielding a response rate of 75 per cent . Out of these 225 questionnaire, 216 were considered for the analysis purpose, whereas 09 questionnaires received were omitted due reasons of incompleteness and irrelevance. The data thus collected have been analysed with the help of SPSS 17. The various statistical tools, viz., Pearson correlation coefficient and t-test, were used to analyse the data.

3.4 Reliability

Work-Life Balance: In the present study, the work interference with personal life (WIPL) scale had a reliability of α = .92, the personal life interference with work (PLIW) subscale had a reliability of α = .83, and the work/personal life enhancement (WPLE) subscale had a reliability of α = .89. Work-life balance was assessed with 15-item scale adapted from an instrument developed and reported by Fisher-McAuley, Stanton, Jolton and Gavin (2003). Their original scale consisted of 19 items designed to assess three dimensions of work-life balance: WIPL, PLIW and WPLE. The scale used in the present study is the scale reported by Hyman (2005), where the original 19 items have been reduced to 15 items, but retains all three dimensions. The respondents were asked to indicate the frequency with which they have felt in a particular way during the past three months using a seven-point time-related scale (e.g., 1 = Not at all, 4 = Sometimes, and 7 = All the time). Scoring was done as 7, 6, 5, 4, 3, 2, 1 (7 = Not at all, 4 = Sometimes and 1 = All the time) for the dimensions of work interference with personal life (except item 7, which was reverse coded) and personal life interference with work. Higher scores indicated low interference, and lower levels of interference were interpreted as higher levels of work-life balance. For the dimension work/personal life enhancement, scoring was 1,2,3,4,5,6,7 (1 = Not at all, 4 = Sometimes and 7 = All the time) as the items were positively worded. The overall work-life balance score was computed by adding the score on three dimensions.

Work Autonomy: The scale of Van Valdhoven and Meijman (1994) was used to measure work autonomy of the respondents. The scale included 11 items, asking respondents to indicate the extent to which they could control their work situation, for example, 'Do you have influence on the pace of work?' Items were answered on a five-point response scale, ranging from 0 (Never) to 4 (Always). In the present study, the scale had a reliability of $\alpha = .87$.

Task Variety: The task variety of the respondents was measured by using the scale of Van Valdhoven and Meijman (1994). The scale included 6 items, asking respondents to indicate the extent to which their work requires the use of different skills and talent, for example, 'Is your work varied?' Items were answered on a five-point response scale, ranging from 0 (Never) to 4 (Always). Item one was reverse coded. Internal consistency reliability (C'onbach's Alpha) for this scale was reported as α = .73.

Work Ambiguity: The scale of Van Valdhoven and Meijman (1994) was used to measure work ambiguity of the respondents. The scale included 5 items, asking respondents to indicate the extent to which they are clear about the expectations or responsibilities associated with their positions, for example, 'Do you know exactly for what you are responsible and which areas are not your responsibility?' Items were answered on a five-point response scale, ranging from 0 (Never) to 4 (Always). The internal consistency reliability coefficient for this scale was reported as $\alpha = .80$ in the present study.

Social Support: The scale of Caplan et al. (1975) was used to measure the work support. In this study, perception of support from supervisor and co-workers were measured. The overall work support was measured by adding up the scores on supervisor support and co-worker support. There were four items in each of the two sub-scales. Respondents were asked to state the extent of support they received from each source on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). In the analysis, internal consistency reliability coefficient (Cronbach's Alpha) for the support from supervisor was reported as $\alpha = .87$ and from co-worker was reported as $\alpha = .93$.

Role Overload: Role overload was assessed by using a three-item scale developed by Beehr et al. (1976), where a five point Likert-type scale ranging from 'Strongly agree' to 'Strongly disagree' was used. Scoring was 5 (Strongly disagree) to 1 (Strongly agree). Internal consistency reliability (Cronbach's Alpha) was α =.43 for the scale. Item 2 was reverse coded.

Work Schedule Flexibility: The scale of Staines and Pleck (1986) was used to measure work schedule flexibility. The responses were taken on a five-point Likert type scale ranging from 1 'not at all difficult' to 5 'very difficult'. Scoring was 5 (Not at all difficult) to 1 (Very difficult). The items used were 'How hard/difficult do you think it would be to get the days you worked changed permanently if you wanted them changed?', 'How hard/difficult do you think it would be to get the hours you begin and end work changed permanently if you wanted them changed?' The scale had a reliability of α = .95 in the present study.

4. Results and Discussion

4.1 Demographic profile of the respondents

The demographic profile of the respondents is presented in Table 1. The average age of the nurses worked out in the

study was 39.5 years (S.D. = 4.31). In terms of marital status, 75 per cent of respondents were married and 25 per cent were single, widowed or divorced.

Table 1: Demographic Profile of the Respondents

Marital Sta	tus Age			
Married	Single/Widowed/Divorced	Min.	Max.	Mean
163 (75.5)	53 (24.5)	25	57	39.56

Note: Figures in parenthesis shows percentages.

4.2 Relationship between work-related variables and work-life balance

In order to find out the relationship between work-related variables, work-life balance and its dimensions for nurses employed in government hospitals of Himachal Pradesh, Pearson correlation coefficient was employed and the results are shown in Table 2. From the table, it is clear that except work schedule flexibility (WSF) all the other work-related variables were correlated with work-life balance. Five of the variables, namely, Task variety (TVAR, r = .37**, p < 0.01), Work autonomy (WAUT, r = .42**, p < 0.01), Work ambiguity (WAMB, r = .54**, p < 0.01), Work support (WS, r = .40**, p < 0.01) and Work role overload (WRO, r = -.24", p < 0.01) were significantly correlated with work-life balance. However, Work schedule flexibility (WSF, r = .17, p = n.s.) was not found to be associated with work-life balance of nurses. Hence, H1, i.e., 'there is no significant relationship between task variety and work life balance of nurses', H2 'there is no significant relationship between work autonomy and work life balance of nurses', H3 'there is no significant relationship between

Table 2: Correlation Coefficient between Work-related Variables and Work-Life Balance

Work-Related Variables	Work-life balance	
TVAR***		
WAUT***	.42**	
WAMB"	.54**	
WS'''	40"	
WRO***	24"	
WSF**	.11	

Note: "Correlation is significant at the 0.01 level (2-tailed). Correlation is significant at the 0.05 level (2-tailed).

work ambiguity and work life balance of nurses', H4 'there is no significant relationship between work support and work life balance of nurses', H5 'there is no significant relationship between work role overload and work life balance of nurses' is rejected and H6 'there is no significant relationship between work schedule flexibility and work life balance of nurses' was accepted.

While correlations indicated potential tendencies of significant effects of work-related variables on work-life balance of nurses, more stringent test of hypotheses were conducted using multiple regression technique. This technique was used to create a model that determined the specific independent variables that contributed significantly towards the prediction of dependent variables. All the six work-related variables were entered together to determine the regression model (Table 3). The model explained 40 per cent of the variability in work-life balance of nurses, R² = .40 (F = 23.70, p < 0.05).

Table 3: Predicting Work-Life Balance among Nurses: Multiple Regression Analysis

	Beta (β)	T	Sig.
Constant		8.356	.000
TVAR	.170	2.772	.007
WAUT	.143	2.278	.024
WAMB	.372	5.615	.000
WS	.055	.817	.415
WRO	185	-3.403	.001
WSF	.086	.600	.111

Based on the standardized coefficients of each of the independent variable, the impact of each variable on the dependent variable was assessed. From the analysis it is clear that 'Work ambiguity' ($\beta = .37$) and 'Work role overload' ($\alpha = -.18$) were the most influential factors in explaining the work-life balance of nurses. 'Task variety' ($\beta = .17$) and 'Work autonomy' ($\beta = .14$) followed the importance. In addition, the direction of variables was consistent with the prior expectations. As shown in Table 4, R2 work-life balance as the dependent variable was .40, which indicated that approximately 40 per cent of the variation in the worklife balance of the nurses could be explained by all the six factors combined. The significant F ratio (F = 23.70, p < 0.05) indicates that the results of the regression model could have hardly occurred by chance. Hence,

[&]quot;TVAR- Task Variety, WAUT- Work Autonomy, WAMB- Work Ambiguity, WS- Work Support, WRO - Work Role Overload, WSF- Work Schedule Flexibility.

H1, H2, H3 and H5, viz., 'there is no significant relationship between task variety and work life balance of nurses', there is no significant relationship between work autonomy and work life balance of nurses', 'there is no significant relationship between work ambiguity and work life balance of nurses' and 'there is no significant relationship between work role over and and work life balance of nurses' was rejected; however, H4, i.e., there is no significant relationship between work support and work life balance of nursesand H6, i.e., there is no significant relationship between work schedule flexibility and work life balance of nurses was supported. The results imply that work-related variables, namely, task variety, work autonomy, work ambiguity and work role overload have a significant impact on the work-life balance of nurses.

Table 4: Regression Model Summary

R Square	F	Sig.
.40	23.70	.000

5. Conclusion and Implications

The study found significant and positive correlation between task variety and work-life balance of nurses employed in government hospitals of Himachal Pradesh. The finding of the present study corroborates with the study by Grzywacz and Butler (2005) who reported that individuals with the jobs high in variety experienced higher levels of work-family facilitation. The present study also reported a significant correlation between work autonomy and work-life balance. This finding is in consistency with the findings of Billing et al. (2012) who reported that employees are better able to deal with work-family conflict when they have sufficient decision latitude or job autonomy in performing the duties and responsibilities associated with their work roles. Work ambiguity was also found to be significantly correlated with work-life balance, implying that more the employee is clear about duties and responsibilities associated with their work, the higher is the work-life balance. The result is in agreement with the findings of the study by Foley and Hang-Yue (2005) in which role ambiguity was reported to be positively related to family work conflict and work family conflict.

The study also revealed that the work support is significantly and positively correlated with work-life balance. The results are supported by Grzywacz and

Marks (1999) which indicated that more resources that facilitate development in work or family settings (e.g., support at work from co-workers and superiors) were associated with less negative and more positive spillover between work and family. Further, the study found a significant and negative correlation between work role overload and work-life balance. The result is supported by an observation made by Allan, Loudoun and Peetz (2005) in which it was reported that when employees are in organizations where working long hours are taken for granted, they do not leave on time. they often take work home and work builds up while they are away, they are likely to show the signs of work/non-work conflict: they are more dissatisfied with the balance between their work and personal lives, are often too tired to properly enjoy their time away from work, get told at home they are working too much, find their work responsibilities interfering with their social life and would prefer to be working fewer hours. The work role overload was a significant predictor of the two dimension of work-family conflict (work interference with family and family interference with work). From the multiple regression analysis, the study also identified work ambiguity and work role overload as the most influential predictors of work-life balance of nurses.

Through this analysis it can be inferred that the work-related variables have association with work-life balance and these variables can cause imbalance between work and life. Work environment constitutes an important factor in the acquisition and retention of health care professionals on the one hand and on the other the characteristics of the work environment affects the quality of care both directly and indirectly. Therefore, a workplace environment that fosters supportive relationships is important for all the organizations to create a healthy and supportive work environment. The work environment, therefore, plays a critical role in ensuring both the supply of a health workforce and the enhancement, effectiveness and motivation of that workforce (Wiskow et al., 2010). Therefore, a workplace environment that fosters supportive relationships is important for all the organizations to create a healthy and supportive work environment. The management of the government hospitals of Himachal Pradesh need to initiate such work life balance policies and programmes which is beneficial for employees and organizations both.

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If you want to attract more investment, foreign investent, more talent, more business, I think having some level of certainty that the business environment respects, those who have been your partners for a long time, is important

-Louis R. Chenevert

Feature

Supply Chain in the Fish Processing Sector in Kerala: An Empirical Analysis

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Fish is generally accepted as a solution to the problem of proteincalorie malnutrition faced by the fast-growing population of the world. This study has been structured to capture the process and flow of the supply chain in the fishery sector. Supply and value chain analysis framework was developed to present the real picture of this sector. The study observed that the marine fish marketing in Kerala relies upon various marketing channels for different types of fishery products. The present analysis identified the various costs incurred with the structural innovation. Gravity model is used to examine the market-wise flow of marine product exports from India.

1. Introduction

The fisheries sector in India is contributing significantly to the agricultural export of the country and thereby helping poverty alleviation and generating employment to millions of people in the coastal area. The agro climatic conditions and vast resource potential in the Exclusive Economic Zone of India make it a leading marine fish producing and exporting country in the world. The state of Kerala which is endowed with a rich fish fauna contributes a substantial proportion of the total production and export of marine product of the country. Increased fish and fishery productivity generates a higher income and creates income generating opportunities for fisher folk to come out from the vicious circle of poverty. The share of total fish production exported increased significantly from 25 per cent in the mid-1970s to nearly 40 per cent in 2011, reflecting the sector's growing degree of integration in the global economy (FAO, 2012). Net exports from the developing world are projected to continue through 2020, though at a lower level than present. This is mainly due to rising domestic demand within developing countries for fish because of population growth, income growth and urbanization (Delgado et al., 2003). In recent year's liberalization policies, technological innovations, improvements in processing, packaging and transportation, as well as changes in distribution and marketing have further accelerated this trend, while facilitating the emergence of complex supply chains in which goods often cross national borders several times before final consumption (Sumaila et al., 2014). This paper analyses the supply chain, value chain and the price spread in the fish export processing sector in Kerala.

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2. Data and Methodology

The data requisite for the empirical analysis are collected from both primary and secondary sources. Primary data

is collected by conducting a survey of seafood export processing sector in Kerala. Secondary data used for this study were collected from the published and unpublished sources of Marine Products Exports Development Authority (Kochi), Exports Inspection Agency (Kochi), Marine Census of CMFRI, Exports Inspection Council, CIFT, Fisheries College, and School of Marine and Industrial Fisheries. This paper presents the estimation of gravity model covering the period of 24 years from 1980 to 2014. In the model trade flows between two countries i and j are explained by factors that indicate total potential supply of country i, total potential demand of country j and the resistance factors to trade flow between i and j. The gravity model is then obtained by the equality of supply and demand. Then the gravity equation is obtained by using market equilibrium clearance.

3. Analysis of Marine Export from India-Gravity Model

The gravity model has been extensively used for analysing the performances of international trade in recent years and can be applied to quantify the trade flows empirically. Timbergen was the first who applied the gravity model to analyse international trade flows in 1962 and many others have followed it up to set up a series of econometric model to analyse bilateral trade flows.

The gravity model estimated in this study has the following form:

Tij = A yiyj/Dij, Log (EVij) = C + a log GDPi + b log GDPj + c log Dij + Ui, LogEVij = Log of Marine Exports from i to j (i = India j = import markets), C = Constant, Log GDPi = log of India's Gross Domestic Product at constant prices, Log GDPj = log of importing countries Gross Domestic Product at Constant Prices (log of Average Gross Domestic Product at Constant Prices (USA, Japan, EU)), Log Dij = log of distance between exporting and importing nations, Ui = Error term

The result of the gravity model is given in Table 1 and it shows that the growth in GDP has a positive impact on marine fisheries export trend from India. In the model, the coefficient of the GDP at constant price is positive and highly statistically significant. The distance variable is significant and has the anticipated negative sign, which indicates that India tends to trade, with its neighbouring countries during the period of food safety regulations. This variable is expected to have negative effect on trade, as transport cost increase with the distance between countries. This negative coefficient shows the decline in Indian export and upward trend in the domestic consumption.

Table 1: Gravity Analysis for Marine Exports from India and Importing Countries

Dependent Variable: Log of Marine Products Exports from i to j

ndependent Variable	Coefficient	Standard Error	
Constant	-54.1485 (-6.43005)*	8.421165	
Log GDPi	0.710515 (1.676091)***	0.423912	
Log GDPj (Average)	3.95464 (3.732296)*	1.059573	
Log Dij	-0.13551(-0.89161)	0.151977	

Source: Computed from MPEDA Government of Kerala, Kochi., World Bank Database, 1980-2014

Note: * statistically significant at 1 per cent

The result of the gravity model with respect to importing countries reveals that growth in GDP of India and importing countries has a positive influence on the marine fisheries export from India. *Log GDPj* of importing countries is significant at 1 per cent level. However *Log GDPi* of India is significant only at 10 per cent level. The value of R^2 and adjusted R^2 are found to be high.

4. Supply Chain and Value Chains in the Fisheries Sector

The term *supply chain* is often used interchangeably with the term *value chain*. Supply chain shows the flow of fish and fishery products from their source to the ultimate user. Supply chain comprises a series of activities in which

^{**} Statistically significant at 5 per cent level

^{***} Statistically significant at 10 per cent level

products are simply transferred from starting point to an end point. Supply chain involves purchasing, manufacturing, transportation, customer service and waste management. All the parameters in the value chain are as same as in the supply chain, but in the value chain certain values are getting added in each stage. i.e., grading, sorting, packaging or cold storage and repack the products.

Willems et al., (2005) examined the strategies of suppliers from the buyers' perspective and the costs of intervention to assist the various developing country stakeholders to comply with international agro-food standards. Raising the efficiency of supply chains can

help meet the simultaneous challenge of reducing the costs of food to consumers, enhancing sustainability, food safety and nutrition, and increasing the revenue of supply chain participant, including smallholders. (Lem et al., 2014). Food safety forces supply chain actors to collaborate to obtain transparency in the supply chains that will guarantee a safe product for consumption.

Representative fisheries and aquaculture supply chain and value chains are summarized in Figure 1. Value chain is the whole process involved in transferring fish from its point of production, whether by capture or culture, upto its point of consumption.

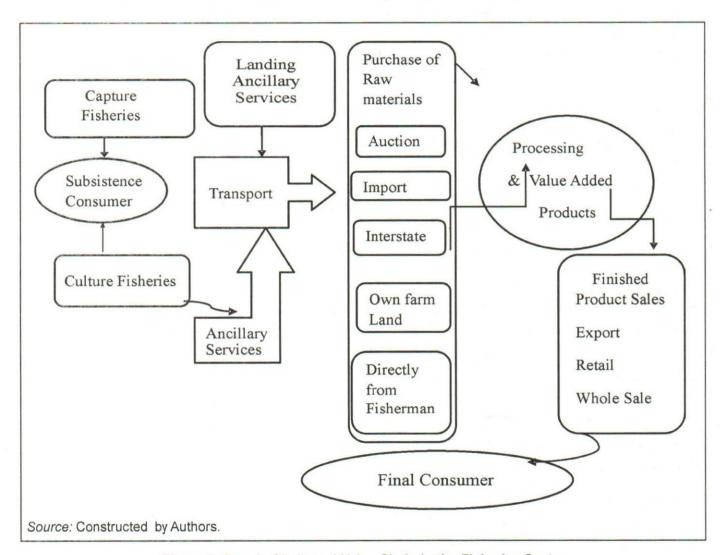


Figure 1. Supply Chain and Value Chain in the Fisheries Sector

Ancillary Services

E.g., Boat Builders, mechanics, fuel sellers, ice makers, gear makers, hatcheries, feed merchants, power companies, etc.

There is bonding relationship between different actors and agencies found along this chain. In the domestic supply chain fish and fishery products are available as either capture fisheries or culture fisheries. During 2012–13, the share of inland fish production to the total fish production of Kerala state was 22 per cent (Economic Review, 2014). A subsistence consumer purchased fish and fishery products from capture or culture fisheries. As per the population census 2011, the fisher folk population in Kerala is 10.02 lakh covering 7.71 lakh in coastal area and 2.31 lakh in inland sector. It is also estimated that about 74,100 people are engaged in fishery-allied activities. The main players in the ancillary services are boat builders, mechanics, fuel sellers, ice makers, gear makers,

hatcheries, feed merchants and power companies.

The main sources of raw materials for seafood export processing units are obtained directly from the fishermen or the farmer, participating in the auction, from their own farmland, supplier agents, interstate agents and importers from other countries. After the purchase of raw materials processors add value through processing and convert the raw materials, into value added products. Finished fish and fishery products are either sold through export or distributed in the retail or whole sale domestic supermarkets and finally reaches, to the ultimate consumer. Table 2 depicts the sources of raw materials, purchased by the seafood processing export units.

Table 2: Sources of Raw Materials Received by Processing Units (Percent)

Directly from Fishermen Agent/Farmers	Participating in Auction	Own Farm Land	Agent	Export from Other Countries	Other State
40	90	15	85	8	35

Source: Survey Data.

The fishermen agent receives fish from the fisherman and grade each type of fish based on the freshness and quality of the fish. Auctioneer is the link between the fishermen agent and the supplier agent. Fishermen agent deals with varieties of fish whereas the supplier agent deals with particular type of products which is demanded by the fish processors. Even though our domestic fish marketing is transparent, artificial scarcity of raw material may fetch higher price which will be more beneficial to the auctioneer and supplier. The study observed that among the supply chain actors, living conditions of the fishermen are the lowest in the supply chain. Recently buyers i.e., importers are the price makers due to economics of information. Buyers have the awareness regarding the price of raw materials and other expenditure met by the exporter and has good bargaining power in the international market with the help of their agents. Agents in between the exporter and importer are the real profit makers without any sacrificing cost. All other supply chain actors are really engaged in these fish and frozen surroundings, their hardship, exploitation and pertinent management maximizes their net revenue. As fish is a most perishable commodity, an appropriate waste management system has to be developed to maintain hygiene and ensure proper sanitary conditions.

Table 3: Cost for Food Safety and Quality Issues in the Supply Chain

Type of Costs	Fish Export Processing Industry
Direct costs	Implementation of standards and advanced technology
	Auditing of standards
	Training and education dtaff
234	Food safety/quality staff
	Export health certificate
	Quality system
Indirect costs	Laboratory
	External laboratory costs
	Maintenance of systems
	Visit of importers
	Relationship management
	Reputation problem
Risk	Rejection of shipment
	Political and economic changes
	Changing quality standards
	Trial and error
Hidden costs	Loss of opportunities to sell products
	lack of knowledge innovation and reliable information
	Loss during transport
	Strike of chain actors

Source: Survey data.

Table 3 shows the different types of cost for food safety and quality issues in the supply chain. Among fish processors, large differences exist with regard to costs. In particular, small-scale producers are not able to invest in technology, quality systems, laboratories, specialized staff, and training and education and depend on traders or cooperatives. Qualitatively, the costs of compliance with food safety can be summarized to unavoidable direct costs, which are tied mainly to heavy investments and higher operating costs. The more intangible hidden costs are reported to be substantial. These include costs encountered due to lack of information, innovation, and learning.

4.1 Impact of intermediaries in the supply chain

The marine fish market in India can be divided into two categories, domestic and export market. The scarcity of raw material reflects an increase in price of marine fish products in the supply chain system. The study observed that fishermen's share in consumer's rupee ranges from 45 to 85 per cent and vary according to the type of the fishery products. The main marketing channels for export oriented items like shrimps, cephalopods and fish are shown below:

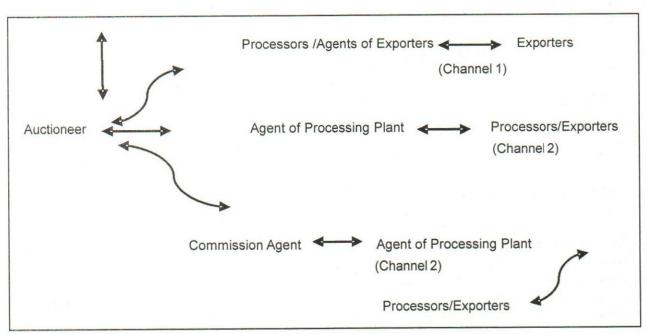


Figure 2. Fisherman

Intermediaries in the supply chain of seafood industry have a dominant role in marine fish marketing (Kulkarni, 2005). The main supply chain intermediaries between fishermen and exporters are auctioneers, commission agents, agents of processing plant and agents of exporters.

4.2 Main functions of supply chain actors

Auctioneers: Marine fish products are sold through auctioning in majority of the coastal landing centres in Kerala. These auctioneers work on commission basis and about 1 to 6 per cent of the catch value is charged as commission from the fishermen. The commission per cent age may vary according to the grading and nature of the fishery products. Auctioneers provide financial assistance to fishermen for their day-to-day operations which automatically create dependency syndrome within the

fishermen. This may be one of the reasons why fishermen are not able to come out from the vicious circle of poverty. The idea pinpointed by Ragner Nurkse's balanced growth theory states that 'A country is poor because it is poor' can be rightly used as 'fishermen are poor because they are poor'.

Commission Agents: The commission agent purchase raw material through auctions or directly from the fishermen. They receive commission from agents of the processors, agents of exporters or wholesalers. They get around 6 per cent of the purchased value as commission from the concerned agents. They work as money lenders and also assist the fishermen in procuring diesel, ice and spare parts. They arrange for packing and transfer of the fishery product to the concerned centres. The commission

agent purchases the fish at 10 to 15 per cent less than the auction price.

Agent of Processors/ Exporters: They receive fish from the commission agents or from auction. Their commission varies between Rs 2 to 3 per kg. They sort fish in grades as per the quality standards requirement of the exporters/ processors. They transfer fish to their processing or preprocessing units and negotiate price with the processor/ exporters.

Exporter: The exporter or the manufacturer receives fish and fishery products as raw materials from the agents. Quality control technologist of the concerned processing unit test the raw material through sampling method process using the Hazard Analysis and Critical Control Point procedures and ensure the quality of the raw materials. If the test result is positive, they accept the raw material and go ahead with other processing activities. The company performs the export procedures to dispatch the raw material and negotiate the price directly with importers or indirectly through importers agent and this negotiated price with the importer may vary with season or quality and it range between 30 and 75 per cent of the export value. The agent of importer receives around 5 per cent of the negotiated value.

4.3 Efficiency in the supply chain mechanism

Transformation of production and consumption patterns of fisheries sector will impact the long-term economic growth and contribute to the reduction in inequalities among the various fisheries clusters (Ancy and Raju, 2014). The survey observed that the marine fish marketing in Kerala rely upon various marketing channels for different types of fish and fishery products. In each channel, there exist a number of intermediaries between the fishermen and the ultimate consumer, depending upon the volume of landing, sorting, storing, grading and transportation. These factors determines the cost of marketing, which finally decides the price spread or Gross Marketing Margin(GMM), Per cent age Share of Fishermen in Consumer Rupee (PSFCR) and Per cent age share of Marketing Margin in Consumer Rupee (PMMCR).

The GMM or price spread is the difference between the price received by the producer and the price paid by the consumer for any given commodity at any point of time in a market. Price spread is significant in the marine fish export marketing due to freezing cost, additional processing and value addition measures involved. The PSFCR is an important indicator of the marketing efficiency.

It indicates the per cent age share received by the fishermen. The higher the share fishermen receive, the more efficient is the supply chain system due to lesser involvement of the intermediaries. The PMMCR is another important indicator of the efficiency of supply chain system. It indicates the proportion of consumer's rupee that meets the cost of marketing, profit margins by the traders and other expenses involved in the marketing channel by the intermediaries. A high marketing margin indicates more number of intermediaries involved in the system and points out less efficient supply chain mechanism.

An efficient supply chain mechanism occurs when the primary producer get maximum benefit, incurring minimum marketing cost (Sathiadhas et al. 2012). The efficiency of the marketing can be calculated by the following equation:

1. The GMM

GMM = RP - LP

The PSFCR

PSFCR = LP/RP x 100

The PMMCR

PMMCR = (RP-LP)/RPx 100

Where RP is the retail price

LP is the landing centre price

The observed data of price spread, PSFCR, PMMCR of shrimp, cephalopods and fish are shown in the Table. 4.

Table 4: Price Spread of Different Species of Marine Fish in Kerala (1Kg/Unit)

Type	LP Rs/Kg	RP Rs/Kg	GMM	PSFCR	PMMCR
Shrimp	375	625	250	60	40
Cephalopods	130	225	95	57	42
Fish	65	175	110	37	63

Source: Survey data.

Shrimp price spread is greater than other varieties of fishery products and at the same time PSFCR share is greater in shrimp as its demand is high in the importing countries. Fish products have higher PMMCR and it shows that huge margin is taken by intermediaries and indicates less efficiency in the supply chain system.

Price spread varies with grades of fish products and due to the higher processing and transportation cost incurred by the intermediaries. Price spread is an important indicator of the efficiency of marketing system. The marine fish pricing mechanism entirely depended upon the cartels formed by intermediaries and traders. Higher price spread indicates that more number of intermediaries are involved in the supply chain and it also revealed a less efficient supply chain mechanism. Kerala has comparatively better supply chain system than other states. The supply of fish is highly inelastic in nature and this may lead to a price hike in future.

5. Conclusion

Fish and fishery product exports can be an engine of economic growth in India and Kerala. An efficient supply chain mechanism is essential for minimizing the manipulation by intermediaries in the fish and fishery marketing channels. The food safety and quality issues related to market requirements lead to more competiveness in the fishery trade due to lack of supply and value chain management. It is also necessary to create a proper institutional support mechanism for fishing and marketing activities as well as creation of adequate infrastructural facilities for storage and processing for improving the efficiency of trade. The main objective of both value and supply chains is to maximize their net revenue. Supply chain and value chain issues pertains to low level of mechanization, use of unscientific method of fishing, low productivity, varying quality, safety and hygiene and are affected by the structure of the seafood export processing industry.

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Money is like manure. You have to spread it around or it smells.

-J. Paul Getty

Feature

Measurement of Organizational Resilience— An Approach

MOHIT KUMAR KOLAY

Following the definition of modulus of resilience in engineering, organizational resilience has been measured here by the extent of successful change over time to reflect the strength of any organization to withstand 'sudden blows'. Three factors have been considered to reflect organizational resilience viz., 1) extent of successful overall change in different asset bases like the suppliers, customers, technology, and organizational system, 2) continuity of such change over time, and 3) organizational size. A model has been developed incorporating suitable surrogate measures to reflect the extent of changes in different areas. Suitable weightings have been assigned to reflect the extent of overall change. Return on investment criteria has been used to judge the relative success of overall change. The measurement concept has been applied to two food processing organizations in the Pacific Islands country with the last overthrowing the government as the example of sudden blow. The continuity of change has been assessed over a twelve-year period. Two organizations have been found to differ in their level of resilience, one being 5.2 times more resilient than the other.

1. Introduction

The operational environment of today's organizations has been really dynamic, open economy, deregulation in different sectors in many countries, and the emergence of global competition led to waves of mergers and failures as firms scrambled to reorient themselves. In the midst of environmental changes, survival or selection goes to those organization species with the characteristics needed to exploit the environment. Those are successful who not only adapt to the environmental change, but also use their resources and skills to create new environmental conditions by introducing new products or services never offered previously. Besides technical innovations from among the professionals, balanced administrative innovations on the revision of strategies, structures, and cultural norms tend to begin near the top of the hierarchy and trickle down to drive the organization towards the path of success in the midst of everchanging scenario. Interaction of radical business process reengineering and incremental total quality management approaches to change management could be the success stories in such changing scenario as evidenced in the literature (Burdett, 1994; Gould, 1996; Jarvenpaa and Stoddard, 1998).

But what happens to business organizations when there is a sudden change, and turmoil in the environment or the country? For example, massive earthquake in Latur district of Maharashtra on 30 September 1993, when 20,000 people died immediately and another 30,000 were injured, or 11 September terrorist attacks of Twin Towers in the USA, when more than 3,000 people died, and more importantly, a panic was created in the whole country, or the political upheaval in a small multi-racial country like Fiji or Solomon Islands, when the elected government is taken over at gunpoint, all policies of the local government are changed, mass exodus of skilled manpower takes

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place from the country, confidence of employees, creditors, bankers and investors is all tarnished with the country's economy shattered, we can call such a jerk as a sudden blow to the country's economy and business organizations that can never be anticipated and planned. Technological change slashes the effective economic life of infrastructures, and brings upon quantum jump in the level of productivity, but still we can foresee and forecast such. changes. Changes in the economic policies, and tax reforms of the new government are expected with the changing political and economic scenario of the country. Emergence of new competitors in the market place with the opening up of the economy or otherwise is the business uncertainty for which successful organizations know how to plan for provisions of competitive advantages in their products and services. But who knows tomorrow morning there would be a massive earthquake, terrorist attack or political turbulence in the country and crises would emerge on all fronts of business organizations, the economy or the society. What makes some organizations robust, and resilient, some of them can absorb the shock, and bounce back, others fail miserably. How do business organizations build their resilience potential to prepare themselves to face such turmoil?

What makes organizations succeed despite disaster, organizational resilience literature is beginning to fill this gap and to focus on the characteristics of organizations that survive and thrive (Corey and Deitch, 2011; Kendra and Wachtendorf, 2003; Seville et al., 2008). McManus (2008) defines organizational resilience as a function of an organization's overall situation awareness, management of keystone vulnerabilities and adaptive capacity in a complex, dynamic and interconnected environment. Resilience is a multidimensional sociotechnical phenomenon that addresses how people as individuals or groups manage uncertainty. Resilience is characterized using notions of bouncing back (Hale and Heijer, 2006), robustness (Tierney, 2003), absorption (Berkes, 2007) and surviving and thriving (Seville, 2009). Hollnagel et al. (2008) go further and identify a set of four abilities that define the quality of resilience: i) the ability to respond to various disturbances and to regular and irregular threats, ii) the ability to flexibly monitor what is going on, iii) the ability to anticipate disruptions, and iv) the ability to learn from experience. Kendra and Wachtendorf (2001) argue that the idea of resilience as adaptive behaviour is increasingly being applied to the business environment to help explain how organizations manage the balance between stability and change. In response to the 11th September terrorist attacks, Kendra and Wachtendorf (2003) view that adaptive behavior was not dependent on either specific physical facilities or specific technological systems, but on how organizations drew on their culture and the capabilities of their staff, as opposed to their structures and technology, to develop adaptive responses to emerging situations. An organization's adaptive capacity then, is their ability to continuously design and develop solutions to match or exceed the needs of their environment as changes in that environment emerge. An organization's ability to adapt being at the heart to display resilient characteristics, Vogus and Sutcliffe (2008) and Woods and Wreathall (2008) distinguish two types of adaptive capacity. First-order adaptive capacity is displayed when organizations respond or bounce back using existing predetermined planning and capabilities. In practice, this is shown through disciplines such as business continuity and risk management. In contrast, second-order adaptive capacity emerges when organizations develop new capabilities to respond dynamically to situations that are outside of their design (Woods and Wreathall, 2008). What is important is the organization culture and capabilities of the staff that are nurtured over time to enable the organization to use their resilience potential to face the sudden blow situation. The traditional tools and techniques of change management are important but they need to be practiced over the years to inculcate the culture of change in the organization to deal with such an overnight crisis situation. No time would be there to plan for need-based change in response. The ability to change in terms of organizational flexibility has to be nurtured and developed over the years to withstand such an impact. Organizations need to prepare themselves over time and develop a culture of continuous change and set themselves in their inertia of motion. They must develop an inner force over time to become tough to withstand sudden blows.

2. Organizational resilience measurement derived from Structural resilience

We know that in engineering, the capacity of any structure to withstand an impact load without being permanently deformed depends upon the strain energy per unit volume that the material may absorb without yielding, i.e., the modulus of resilience of the material used. Taking the cue from such a phenomenon of the capacity to withstand impact loading of structures, organizational resilience may be viewed as its capacity to withstand sudden change in

the environment, and continue to survive and grow. We know the concept of strain energy as the increase in energy associated with the deformation of members. It is equal to the work done by a slowly increasing load applied to the structural member. Likewise, organizations can plan and initiate changes over time as a matter of day-to-day planning, and learn and develop how to manage such changes successfully in its various functional and strategic areas, and become resilient over time. The learning value of such changes and the change culture that is being developed over time in the organization speak of strain energy of organizations. More the area under the stress-strain diagram of structural member, higher is the modulus

of resilience of the material. In the same way, more the number of year organizations continue to initiate and manage change successfully, higher would be the organizational resilience. It is the continuity of change and the change culture inculcated into the organization that adds on to its capacity an inner strength to make it resilient. With increase in volume of a structural member, its capacity to withstand impact load increases, likewise, the organizational resilience increases with increase in organizational size. Such an analogy between resilience of structures and organizational resilience is presented in Figure 1.

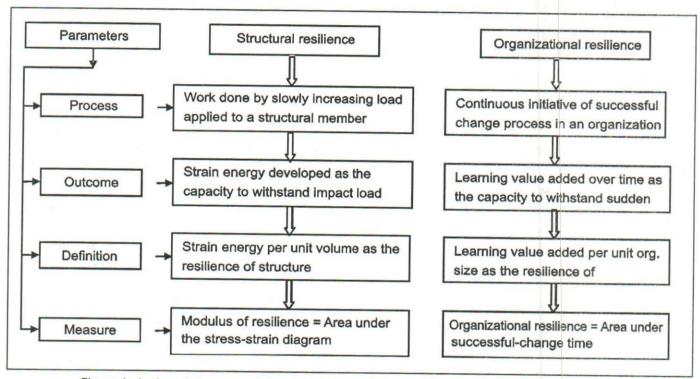


Figure 1: Analogy between modulus of resilience of structures versus organizational resilience

Using such an analogy, a suitable measure of organizational resilience has been developed here in this paper. First let us discuss about measure of organizational changes in different areas. Organizations might be developing new products and services over time, enter into new markets to sell its existing and new products to its old and new customers. To turn out its new or existing products, it might be purchasing new inputs of raw materials and supplies from existing and new set of suppliers. The organization might go in for a new technology to replace the old or to add on to its capacity. With change

in size and complexity, organizations might go in for new system of planning and control, and automate their offices. In fact, organizations could initiate different degrees of change to effectively manage different areas of its asset bases like

- Customers at output front,
- Suppliers at input front,
- Technology in the form of the plant base, and
- Information resource in the form of the organizational system.

Besides initiating the change in different areas as above, the organization itself in terms of its employees and the management might change. But that is the other side of the coin. The relative stability of the human resource portfolio with extra ounces of fresh blood at times would only govern the extent of changes initiated in different areas of their decisions and actions, and the success or failure of their efforts.

The next question arises how to reflect the extent of changes initiated relevant to different areas. At the output front for customers, developing a new product and making it a success by gradually increasing its sales replacing the old ones is indeed a challenge. But expanding new customer base in new areas and in new sectors even for existing products needs a great effort. Thus, to reflect the magnitude of change in a pragmatic manner, the following two hypotheses could be made:

- Higher the per cent of sales in new products, higher is the change.
- Higher the per cent of sales to new customers, higher is the change.

However, the change could pertain to either new products, or new customers, or to both new products as well as new customers. Recognizing that the newness in products would be demanding different degrees of attention than the newness in customers, the extent of total change in customer base could be aggregated with suitable weightings as necessary in a specific case as reflected in the Table 1.

Likewise for suppliers area, introducing new inputs in the conversion process would need a great care and adjustment to fulfill the production target as well as to satisfy customers. Again, developing and nurturing new vendors and ensuring quality and reliability of supplies from them need no doubt effort and attention. Thus, the extent of change in the suppliers area could be reflected using the following two hypotheses:

- Higher the per cent of purchases of new inputs, higher is the change
- Higher the per cent of purchases from new suppliers, higher is the change

Here also the change could be a combination of new inputs and new suppliers, and considering newness in items of inputs and that in suppliers would need different degrees of attention, the extent of total change in suppliers base could be aggregated with suitable weightings as reflected in the Table-1.

Besides the changes related to customers and suppliers, there could be significant change in the technology base of any organization, the total dimension of the quantity and quality of such a change could be reflected using the following hypothesis:

 Higher the per cent growth in gross fixed assets related to plant, higher is the change Based on above, the extent of change in the technology area is reflected in the Table-1.

Table 1: Measure of organizational change

Areas of change	Measure of change				
Customers	i) Per cent of sales (s _i), i = 1, for new products to existing customers				
	ii) Per cent of sales (s _i), i = 2 for existing products to new customers				
	iii) Per cent of sales (s _i), i = 3 for new products to new customers				
	iv) Total change in customers area (tc _j , j = c for customers), where tc _c = $\sum sw_i \times s_i / \sum sw_i$, sw _i being the respective weightings				
Suppliers	i) Per cent of purchases (p _i), i = 1 for new inputs from existing suppliers				
	ii) Per cent of purchases (p _i), i = 2 for existing inputs from new suppliers				
	iii) Per cent of purchases (p _i), i = 3 for new inputs from new suppliers				
with the second	iv) Total change in suppliers area (tc _j , j = s for suppliers), where tc _s = $\sum pw_i \times p_i / \sum pw_i$, pw _i being the respective weightings				
Technology	i) Per cent growth in gross fixed assets - plant (p _i)				
	ii) Total change in technology area (tc_j , $j = y$ for technology area), where, $tc_y = p_t$				
System	i) Per cent growth in gross fixed assets - office (o,)				
	ii) Total change in system area (tc_i , $j = m$ for system area), where, $tc_m = 0$,				

In addition to change in the plant base, there could be changes in the organizational system and procedure, the extent of such a change could be assessed making a similar hypothesis as in the case of technology area as under:

 Higher the per cent growth in gross fixed assets related to office, higher is the change.

Based on the above, the extent of change in organizational system area is shown in the Table-1.

Once the extent of change is available for all the relevant four areas as above, then the extent of overall change in the organization (OTC,) is given by

$$OTC_t = \sum W_i \times TC_{it} / \sum W_i$$
,

where TCjt being the extent of change during period (t) for area (j), where j = c for customers, j = s for suppliers, j = y for technology, and j = m for organizational system, and W_i being the respective weightings.

The organizational change might yield positive or negative results during different periods. No doubt, we learn from our past mistakes, and change associated with negative results might be important at times, but it is definitely frustrating for its employees, and the management too. On the other hand, successful change gives them extra ounce of energy and motivation to face further change in future. Thus, we might hypothesize, better the performance, higher would be the motivation for sustained efforts for facing the change. Considering the return on investment as the single best indicator of organizational performance, then the extent of overall successful change (OSC,) during period (t) is given by

where $ROI_t = roi_t / roi_t$, roi_t refers to return on investment for the period (t), t = 1 being the chosen base period.

The next question arises how to build up the measure of organizational resilience from the extent of overall successful change. Like the measure of resilience of structural members, if we plot the measure of successful change (OSCt) over the periods (t), the area under the curve could be the reflection of organizational resilience (OR).

If we choose the length of each period (t) from (1) to (n) as same as it is usually the case based on yearly data, the area under the curve will converge to $OR = [\Sigma OSC,/n] \times n = \text{mean value of successful change}$

over the periods (OSC) x number of periods (n) of successful change initiated.

In other words, higher the average pace of successful change over the periods, more would be the capacity to sustain sudden change, i.e., $OR \propto OSC$

Again, more the number of periods of experience, more would be the capacity to sustain sudden change, i.e., $OR \mu n$

And combining the above two, we get, $OR \propto OSC \times n$

However, the modulus of resilience refers to strain energy per unit volume, and the total capacity depends upon the volume of the structure. Likewise, larger the organizational size (z), more would be the capacity to absorb shock from sudden change. The relative market share could be used as an indicator of organizational size.

Incorporating the above, organizational resilience (OR) is given by $OR \propto (OSC \times n \times z)$, i.e., in proportional terms we can express:

Organizational resilience = [average pace of successful change * number of periods of successful change*organizational size]

3. Organizational Resilience Measured

Two food processing units in the South Pacific Island country, Bula Pacific Limited (BPL), and Vinaka International Limited (VIL) have been considered for the purpose of study here in this paper. Both units belong to the private sector, engaged in processing of different types of fish like tuna, mackerel, salmon and meat like beef, chicken, mutton, pork in their processing plant, and pack them in tin cans of various sizes for sale in the domestic and overseas markets. They have been in this line of business for about three decades now. Both are in the medium scale having comparable basic technology, manpower, and the level of turnover. BPL has been concentrating more on the domestic and south pacific region, and has been the leading supplier in the area. VIL on the other hand has been focusing more on the overseas markets like Australia, New Zealand, the USA, and the UK, besides its sizeable hold in the regional market. Bula and Vinaka are household names and everyone in the Islands believes they have been making good money in the business, and are quite strong

But since the coup took place in the Islands, people of the Islands have been surprised to see BPL crumbling

down. BPL businesses have been slashed to less than 50 per cent with more than 30 per cent employees laid off, many key persons left for greener pastures elsewhere, and Bula tin cans are losing grounds even in supermarkets of the Islands. VIL, on the other hand, has been able to face the crisis quite squarely by maintaining its trend of sales and profitability with a nominal drop of 3 per cent in sales, and 1 per cent in return on investment during the last year after the coup. How VIL could sustain the 'sudden blow' like the acute economic and social crisis in the country following the coup?

With a closer look at the figures of the two organizations since the last twelve years from 2001 to 2012, we see in case of BPL, other than minor variation in sizes of tin cans, and delivering to a couple of new supermarkets in the south pacific region, hardly it has undergone any change. With lion share of control in the local supply of raw fish and meat market, BPL has been procuring more or less the same quality of the same variety of raw fish and meat from more or less the same set of local suppliers

during the last twelve years to produce the same popular brands of fish and meat cans. In fact, it might be seen from the figures of Table 3, new customers accounts for only 1.35 per cent of its annual sales, and new products for 0.37 per cent, and two together hardly for 1.72 per cent on an average during the last twelve years. Similarly, on the suppliers side, new suppliers amount to 0.46 per cent of its annual purchases, and new items of supplies to 0.13 per cent, and two together to hardly 0.59 per cent on an average. In the technology front, it has been more or less using the same infrastructures with usual repairs and renewals from time to time. In fact, the addition in fixed assets of 5.1 per cent per year reflects mostly additional capacity to meet the increasing demand of the domestic and regional market. So is the situation in systems and procedures of its different functional and strategic areas, hardly there has been any change with a nominal growth in the relevant investments of 1.43 per cent per year. In such a 'hardly any change' scenario, it has been enjoying the benefits of increasing demand in the local and regional market with blessings from the local government and continued to grow its

Table 2: Overall successful change of Bula Pacific Limited (BPL)

Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Custom	ers area											
S ₁	0.00	0.00	0.50	0.00	0.00	0.00	0.60	0.00	0.00	0.00	1.00	0.00
S ₂	1.50	1.80	2.00	1.60	1.00	0.00	1.25	0.80	0.00	0.50	2.00	1.50
S ₃	0.00	0.00	0.50	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.80	0.00
tc _c	0.25	0.30	0.75	0.27	0.17	0.00	0.91	0.13	0.00	0.08	1.07	0.25
Supplier	s area											
P ₁	0.00	0.00	0.20	0.00	0.00	0.18	0.30	0.00	0.00	0.00	0.40	0.00
P ₂	1.00	0.00	0.00	0.00	1.50	0.00	0.80	0.00	0.00	0.00	1.75	0.00
P ₃	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.30	0.00
tcs	0.17	0.00	0.07	0.00	0.25	0.06	0.33	0.00	0.00	0.00	0.58	0.00
Technolo	ogy area							205	14			
tc _y	5.25	4.00	4.85	5.00	5.15	4.95	5.30	5.45	5.15	5.50	5.60	5.50
Organiza	ational syst	tem area					-					
tc _m	2.00	1.15	1.25	0.85	1.00	1.50	2.00	1.85	2.15	1.10	1.25	1.05
Overall	change											
OTC,	1.92	1.36	1.73	1.53	1.64	1.63	2.14	1.86	1.83	1.67	2.13	1.70
roi _t	11.15	11.00	12.25	11.70	11.00	10.85	11.95	12.00	10.90	11.58	11.05	10.80
ROL	1.00	0.99	1.10	1.05	0.99	0.97	1.07	1.08	0.98	1.04	0.99	0.97

business at 5 per cent per year on an average with an average annual return of 11.4 per cent over the last twelve years as in the Table 2.

On the other hand, VIL management learnt a lot from the earlier two coups. They know they would not have that much support and favour of the local government if

crisis arises. Exploiting the increased demand for tin fish and meat in the local and regional market could have been more attractive, however, keeping the long-term development point of view, they concentrated on improving the quality of tinned food and explored ways and means to meet tighter quality and hygiene standards to enter overseas markets in the developed countries. In fact, 10.38 per cent of its annual sales have been for new customers always on an average even on the existing products. Besides, exploring new customers in the overseas markets, they have been analyzing the needs of the market quite well, and presented tinned fish and meat on a variety of different oil, spices, and sauces to tap the target markets in both local and overseas. To bring in a new taste in the same tinned fish and meat has been the advertising slogan of VIL even in the local Islands market. In fact, 12.08 per cent of its annual sales on an average point out to the new product area as in the Table 3. For its basic raw material like fish and meat on the input side, they did not depend entirely on local suppliers. To improve reliability in supplies and to meet the everincreasing quality standards of export market in developed countries, they continued to explore new varieties and grades of fish and meat from different suppliers in Australia,

New Zealand, and in the South Pacific region. In fact, they have been very vigilant on the quality of basic inputs and rating of suppliers on a continuous basis, and thus calling for 36.6 per cent total change on an average per year with 17.37 per cent for new items, and 19.23 per cent for new suppliers as may be seen from the Table 3. On the technology front, the basic fish and meat processing plant has been more or less the same with additional capacity of 5-6 per cent per year as in the case of BPL. However, VIL has been improving continuously on the control area of adding various oil, spices, sauces, and flavour, besides significant additions in quality control area of its inputs and at different stages of processing plant to meet tighter quality targets, thereby making the total growth rate in plant base of 11.44 per cent per year on an average as compared to 5.14 per cent of BPL. In addition to investments in process control, it has been continuously upgrading its systems and procedures in all areas of business, be it maintenance, purchasing, marketing, finance and accounts or personnel with an average annual growth rate of 8.37 per cent in the related investments. In such a 'changing scenario', it has been struggling over the years to keep pace with financial results of BPL. In fact, it has been growing more

Table 3: Overall successful change of Vinaka International Limited (VIL)

Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Custom	ers area						19.6	3.6 %	A James			
S ₁	6.50	7.10	7.50	7.30	7.90	7.80	8.10	7.90	8.00	8.20	8.40	8.50
S ₂	8.30	8.80	9.20	9.80	10.20	10.50	9.70	10.20	11.50	12.00	11.90	12.50
S ₃	3.20	3.40	3.80	3.60	4.00	4.20	4.50	4.30	4.70	5.30	5.10	5.60
tc。	5.15	5.53	5.93	5.87	6.33	6.45	6.57	6.48	6.93	7.38	7.33	7.72
Supplier	s area											
P ₁	8.40	8.30	8.70	9.50	9.80	10.40	10.70	11.90	11.60	12.30	13.40	14.20
P ₂	10.50	10.80	10.70	11.50	12.40	10.40	13.40	12.80	14.20	14.50	14.10	16.30
P ₃	5.00	4.90	5.10	, 5.80	6.10	5.90	6.50	7.30	7.60	8.20	8.00	8.80
tcs	7.05	7.02	7.23	7.98	8.38	8.15	9.05	9.75	10.03	10.62	10.82	11.85
Technolo	ogy area				191							
tc _y	8.50	10.20	10.50	10.00	13.20	15.20	9.50	10.20	10.50	11.20	13.80	14.50
Organiza	ational syst	tem area										
tc _m	5.60	5.80	6.20	5.90	6.20	5.90	8.80	9.50	10.60	12.30	11.20	12.40
Overall	change								- 17			
OTC,	6.58	7.14	7.47	7.44	8.53	8.93	8.48	8.98	9.52	10.38	10.79	11.62
roi _t	10.50	10.65	11.02	10.95	10.25	11.03	10.65	11.01	10.80	11.35	11.85	12.02
ROI	1.00	1.01	1.05	1.04	0.98	1.05	1.01	1.05	1.03	1.08	1.13	1.15
OSC,	6.58	7.21	7.84	7.24	8.36	9.38	8.57	9.43	9.81	11.21	12.19	13.36

or less at the same rate of 5 per cent in sales with average rate of return of 11.01 per cent being marginally below the average mark of 11.35 per cent for BPL.

No doubt, there have been significant changes over the last twelve years in VIL as compared to hardly anything in BPL. But the question arises how to reflect the extent of total change, and the resultant strength. Development of new product is much more difficult, consequently bringing home much more enriching experience than dealing with new customers for existing products. So is the situation to make trials in the processing plant with new items of supplies rather than managing with new suppliers for existing items of supplies. Recognizing such a phenomenon, the following weighting scheme has been chosen to reflect the overall change in the area of customers and suppliers.

Per cent sales of new products (to existing customers): Per cent sales of (existing products) to new customers: Per cent sales of new products to new customers = 2:1:3.

And, Per cent purchases of new items (from existing suppliers): Per cent purchases of (existing items) from new suppliers: Per cent purchases of new items from new suppliers = 2:1:3.

Based on the above, the reflection of overall change in the customers area averages out to 6.47 per cent for VIL as compared to insignificant figure of 0.35 per cent for BPL. So is the situation in the suppliers area with comparative overall average change of 8.99 per cent for VIL as against 0.12 per cent for BPL as shown in their respective tables.

Considering the overall change in the area of customers and suppliers as above, and changes in other two areas of technology and organizational system as directly reflected by their respective relevant growth rate in gross fixed assets with equal weighting to each of the above four areas, the overall change over the last twelve years has been assessed with an average of 8.82 per cent for VIL and hardly 1.76 per cent for BPL as shown in their respective tables. Taking into account the return on investment indices (relative to the chosen base year of 2001), the extent of overall successful change over the years as assessed above is reflected in the Figure 2 with an average of 9.31 per cent for VIL as against 1.80 per cent for BPL.

The above pace of change relates to twelve-year period for both VIL and BPL. Moreover, the size of the two units may be considered more or less similar,

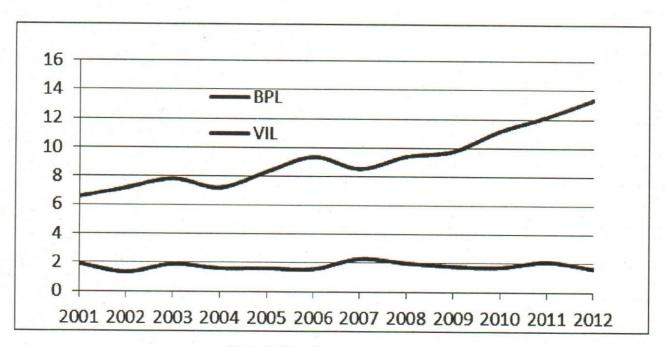


Figure 2: Overall successful change

particularly when their physical plant capacity, and the volume of business have been more or less in tune with each other. Taking into account the same period of change

and the same size of the two organizations, their extent of resilience may be reflected as proportional to 9.31:1.80, i.e., VIL as 5.2 times more resilient than BPL.

If we analyse the changes in the two organizations over the last twelve-year period, the plant capacity of VIL has been increased more or less in the same proportion as that of BPL. However, significant improvement has been made in the quality control and systems areas of VIL. The differential growth rate of 13.24 per cent in relevant investments in these two areas might appear quite substantial, but in terms of monetary figures, it has not been even \$10,000 difference in investments per year between the two organizations. Nevertheless, it is not the monetary figure of investments in physical assets which have been more or less of the same order for the two organizations when we take into account their comparatively much more investments in land and buildings. What makes the difference is not the quality of processing alone, but the quality and condition of human assets in VIL. What is important is efforts of the people of VIL to initiate and manage improvements in quality and systems areas, and their learning value from the same. Making trial for new products with varied input from a new supplier for a new customer in a different market on a continuous basis over the years and making it a success is a matter of great employee satisfaction that reinforces VIL and its employees with an ongoing change culture, and make them resilient to face the sudden crisis situation yet again the coup of last year.

4. Conclusions

As organizations continue to change and introduce newness in its asset bases like suppliers, customers, technology, and system, and manage them successfully, the change culture inculcated over the years builds up the resilience to withstand sudden blows. On one side we see BPL continued to expand its business in the local and the south pacific region but without introducing hardly anything new. That proved themselves really fragile when the sudden blow like the coup in the last year makes the economy on the verge of collapse, they are on the road to downhill. On the other hand, VIL learnt a lesson from the earlier coup and stretched themselves quite far with something new every year in their products, process, inputs and business to inculcate change culture. This made them much tough and resilient to face the coup guite squarely. Performance of organizations in financial terms may not be enough, the periodic measurement of organizational resilience will force corporate managers to initiate and plan for changes every year and measure their effectiveness towards growth and development of their organizational asset bases. Weightings attached to different areas of change have been based on the best judgement in the case study here, however, this can be improved by using relative importance of changes in different areas based on opportunity costs principle. Measurement of organizational resilience and its reporting, no doubt, would go in a long way to reduce the burden of national liability in such a situation of sudden blow.

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An Investment in knowledge pays the best interest

-Benjamin Franklin

Feature

Cultural Archetype Brand from Indian Craftsmen for Socially Responsible Citizenship

RITU MALHOTRA AND BALAMURUGAN A.

The objective of this paper is to explore the dimensions of consumer imagination and archetypal representation, their inter-relationship and application of the dimensions with the case of well-known Indian retailer Fabindia. The paper attempts to address the dimensions of cultural archetypal brand paradigm that can sustain customer loyalty in the scenario of globalization by uniquely positioning itself as a socially responsible brand, thereby gaining competitive advantage. It focuses in the area of social marketing and firm's stakeholder based community model of inclusive capitalism keeping in view preservation of traditional heritage of handicrafts blended with creating sustainable employment opportunities to Indian rural artisans, weavers, local communities.

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1. Introduction

In academia and practice, the archetypal branding paradigm has recently risen to prominence. In spite of the fact that archetypes are gaining an increasing importance, the concept of archetypal branding paradigm has hitherto received insufficient investigation. Several scholars in their research on brand marketing have indicated that in the present scenario of globalization, archetype paradigm has attracted increasing attention (Randazzo, 1993; Vander Veen, 1994; Mark and Pearson, 2001; Tsai, 2006). In this era, there is a constant emphasis on relating archetypal branding with different brands of products because approach of the management needs to be appreciative and supportive as archetypal branding attaches a symbolic meaning that will enable consumers to build cross-cultural identities beyond boundaries (Mark and Pearson, 2001). Especially the emerging economies which exhibit unique characteristics that sets it apart from developed economies.

Unlike the developed economies, emerging economies have a constant spectrum of purchase skewed towards quality and quantity than the status. The rise in the average income level and the move from rural to urban lifestyles in these markets give ample resource exploitation for marketers (D'Andrea, Marcotte and Morrison, 2010). Contrastingly, the research on status-consumption in emerging economies like Turkey finds that consumption strategies differ among the different customer segments and are focused towards indigenizing Western cultures (Üstüner and Holt, 2010). Further, the study on the emerging new type of middle class in developing economies identifies a new socio-economic segment different from the traditional middle-class segment, driven by self-identification and unique aspirations to differentiate themselves (Heiman, Freeman and Liechty, 2012). This new market emergence has been both a challenge and opportunity to firms that operate from developing economies. And hence has attracted significant contribution from marketers and researchers (Hoskisson, Eden, Lau and Eright, 2000). The emergence of multinational enterprises in developing economies, termed as the 'second-wave' globalization, has called for a different strategizing and innovation with internalization (Bonaglia, Goldstein and Mathews, 2007).

Literature has identified issues confronted by the emerging-market firms while entering the global market as opposed to developed-market firms in the dynamic market environment. Banerjee, Prabhu and Chandy (2015) consider technology front, economic openness and institutional context as three predominant factors that the emerging-market firms have to deal with when entering the international souk. The world underwent dramatic change in communication and transportation technology in the 1980s and 1990s, when the emerging-market firms entered the developed market, thus, resulting in smoother business liaison with developed economies during this transition of economic liberalization (Ghemawat, 2011). However, the developing-market firms had to face intense competition with the technologically advanced market firms of developed nations (Luo and Tung, 2007) as opposed to developed-nation firms that had entered the then relatively less competitive international market decades earlier (Wan and Hoskisson, 2003). Further, in terms of economic openness while entering the global market, the developedmarket firms operated in a competitive and open economy as against the shielded closed economies of developingmarketing firms that acted as a relative disadvantage (Hitt, Dacin, Levitas, Arregle and Borza, 2000). The other challenge which the developing nation market firms faced was the inherent institutional weaknesses, such as low capital investments, poor quality of labour and lack of market information (Khanna and Palepu, 2000) in contrast to the developed-market firms. Thus, these three changes in market scape distinguish the environment in which a developing-market firm operates, thereby making it more challenging in comparison to developed-market firms.

In 2001, Jim O'Neill coined BRIC as an acronym for developing economies of Brazil, Russia, India and China. These countries contributed to 40 per cent of world population. He theorized that India and China would grow to become the world's leading supplier of manufactured goods and services. Both India and China are strong contenders within the BRICS nations owing to strong

economic growth prospects in both countries. However, India is a special case within BRICS given the robustness of its private sector and it would be of interest to explore the historical view of the Indian economy.

The history of Indian civilization lends its root from the Indus valley civilization and the Indo-Aryan culture. The Indus valley civilization dating back to 3300 BC extended from north-east Afghanistan to Pakistan and north-west India. It was one of the early civilizations of the world. Trade activities in the Indian subcontinent took several dimensions including that of maritime, spice and silk trade routes. The maritime trade route and the spice route became popular during the middle ages and every nation along its path vies to control these routes. The aim of these nations was to protect the interest of the indigenous merchants and their trade. The culture of these nations has been deeply entrenched in this philosophy of protection of its trade secrets. In emerging countries like India and China which are largely agrarian societies, the continuing practice of protecting trade has given rise to middle man practices which are deeply enrooted. Both the producer and consumer in these economies play a high level of trust in the middle man for fulfilling their needs and enabling market expansion. It is therefore imperative that the role of the middle man needs to be recognized in these emerging economies. The case in point here being developing economies, both availability and cost of financing are steep so the local SMEs have limited choice which is consequential to the entrepreneurial culture in these SMEs. Thus, the state of SMEs in developing economies is different from that of developed economy. And it is a challenge for the business ecosystem built around the SMEs of the developing countries to adapt in the constantly changing market-scape.

The world markets are witnessing active competition among several product brands. Today, in the international marketplace, branding strategy adopted by different firms is playing a key role towards the success of the brand. According to Kapferer (1997), branding a product does not simply mean attaching the product with any brand name. 'Brands are a direct consequence of the strategy of market segmentation and product differentiation' (Kapferer, 1997). Customer loyalty needs to be addressed from varied socio-cultural backgrounds beyond borders, so archetypal branding is considered suitable for developing identity by relating a brand to the basic characteristics of human psychology (Tsai, 2006). The findings of a study undertaken by Pitt et al. (2007)

view of the authors, the meaning of a product can be communicated very quickly and simply by evoking a story or a concept that calls forth viewer's instinctual recognition of some fundamental and recognizable truth. Holt (2004) believed that iconic brands can only be built if managers apply tacit cultural strategies. For instance, Hall (2008) explored the evolution and function of the wristwatch as a contemporary cultural icon. The philosophy synchronizes with Jungian theory based on the psychoanalytic interpretation of dreams and myths. Mark and Pearson (2001) considered archetypes as the 'softwares' of the psyche.

Greenwood and Hinings (1988) argued that particular interpretive schemes coupled with associated arrangements constitute a design archetype that may be institutionally specific. When firms innovate, they formulate strategies—even though some firms deliberately attempt to refrain from doing so-create structures, cultures and capabilities, and set incentives and coordination systems in place. These elements are not normally present at inception but evolve over time. Together, they constitute an 'archetype' as is entitled by organization theorists (Greenwood and Hinings, 1993). The findings by Greenwood and Hinings (1993) gave reasonable support to the ideas that archetypes exist as intellectual constructs within institutional sectors, and organizations tend to seek towards organizing their structures and systems in terms of those archetypes.

The study of Tsai (2006) demonstrated that brand archetypal symbolism is represented through the consumer imagination. According to Schau (2000), 'the total sensation, feelings and thoughts that the consumer has about the product furnish cognitive and affective resources, which the consumer imagination processes and to which it assigns meaning and value. The processed resources are evaluated and selected, and subsequently used for constructing self, social and cultural identities.'

3.2 Indian retailer of handloom and handicraft products: Fabindia Overseas Private Limited (Fabindia)

The cultural archetypal brand in the context of this research setting is Fabindia, as it was intriguing to observe the sustained growth of the brand that pertains to the traditional industry as well as to witness its success in making traditional handloom garments fashionable in urban India. Several articles in business press illuminated on the promotion of Inclusive Capitalism of Fabindia through its model of community

owned companies (CoC). From the available literature of Producer-oriented Base of Pyramid (BoP) interventions, it is evident that Fabindia has established itself as a case illustration for scholars in the recent past (Ramachandran, Pant and Pani, 2012). The CoC model of Fabindia constituted companies that add values by acting as intermediaries amid Fabindia and rural producers. The companies comprise of communities who operate from rural areas and minimum 26 per cent of these companies' shareholders are people who have expertise in making handloom garments.

John Bissell, Founder of Fabindia, stated: 'In addition to making profits, our aims are constant development of new hand-woven products, a fair, equitable and helpful relationship with our producers, and the maintenance of quality on which our reputation rests.' From the official sources of the organization and Business Today (2010), the information gathered reveals that in 1960 Fabindia began its journey as an exporter of Indian textiles and today approximately 40,000 artisan families have business dealings with the company. The domestic business came much later. In 1976, the first store was set up in Delhi followed by one in Bangalore three years later, and it was the first store outside Delhi. Fabindia expanded its wings to different parts of India, and so by 2007 there were 54 retail stores all over the country. Apart from India, the company also opened retail stores in Dubai and Rome with the assistance of 7,000 artisans. Today, almost 95 per cent of its turnover comes from domestic sales. With expansion, the company also diversified its product base by including non-textile items and organic food along with textile products. The company needed a vigorous management of its supply chain so that goods could be delivered at affordable prices with proper management of time and less variance in quality. In order to fulfil the required need, innovation in supply chain management is imperative. Overall, Fabindia aimed at building reliable partnerships with artisan groups. According to Fabindia, it aspires to create a retail experience which entails an 'element of surprise'. Fabindia desires to surprise its customers with new designs every time they visit any store across India. For accomplishing this 'delight' factor, over the past years the stock-keeping units (SKUs) of Fabindia developed unique products with variance in the design, colour and size and the portfolio of products expanded to over 150,000. Till now, Fabindia provides employment to approximately 40,000 families as well as contributes effectively towards wealth creation.

The Managing Director of Fabindia, William Bissell, who is now 48 years old, has been awarded the Entrepreneur with Social Impact award for building up a profitable retail brand that received worldwide recognition. Apart from this, Fabindia and Bissell have provided livelihood to more than 22,000 local artisans by making them shareholders of the company. In Forbes India Magazine of 2012, Bissell also said, 'In two to three years, all our employees and suppliers will be shareholders in Fabindia.' Fabindia is a private company that provides the largest platform for handmade products that are made with the assistance of traditional techniques and skills, and the products are natural and based on contemporary designs.

Hence, the preceding discussions about Fabindia lead to the emergence of eight noteworthy dimensions that have been listed here: creation of link between rural producers and urban markets, preserving India's traditional crafts, natural products, handloom fabric, contemporary design and aesthetics, maintenance of quality products, hand-based processes, socially responsible citizenship. The theory building based on the established concepts and arguments in the existing body of literature and published sources lead to the formulation of the framework (Figure 1).

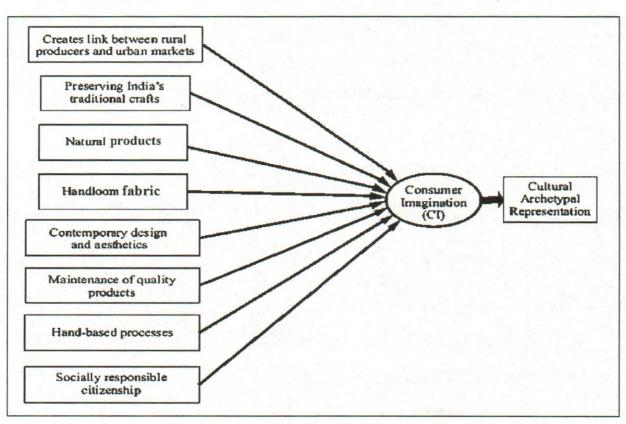


Figure 1: Relationship between Variables Examined

Although there is an abundance of literature on archetype in psychology (Jung, 1938, 1964) and related fields, most of this literature deals with conceptual understanding and applications in the context of organizations design and change (Greenwood and Hinings, 1988, 1993). However, the efforts of marketing theorists and practitioners to understand the relevance of archetypal representation in iconic branding with the dynamics of globalization may be entering a new phase. There appears to be a growing attraction to the uncovering of archetypal

brands, iconic brands, cultural brands, heritage brands or configurations and more attention is now given to their transformation and development (for example, Mark and Pearson, 2001; Tsai, 2006; Lim and Yoon, 2008; Urde, 2007; Ko and Lee, 2011).

An attempt has been made in this review to address the dimensions of a cultural archetypal brand and factors influencing the firm's sustained growth through its unique CoC model in the context of developing economy. The brand has not only enabled in fostering preservation of

India's traditional handicrafts, but has also created a tacit interconnectedness of rural sector with modern urban markets, thereby stimulating the sensibility of socially responsible citizenship and helping the rural sector in sustaining livelihood through the customers of Fabindia.

4. Research Implications

4.1 Theoretical implications

The literature review stated about the varied ways through which the archetypal representation and symbolic meaning of a brand gets manifested in consumer's imagination. The research paper emphasizes on the conceptual framework taken from the literature and further corroborates it to the specific case of cultural archetypal brand for investigating the branding dimensions of cultural archetype (CA), consumer imagination (CI) and archetypal representation (AR) as well as for examining the interrelation among these dimensions. The paper explores dimensions that symbolizes the cultural archetype of brand and identifies pertinent brand variables. To be precise, it examines the relation between CI on one hand and the eight dimensions on the other. This paper attempts to establish the congruence between CI and AR that can be affected directly or indirectly by the dimensions that are proposed. But the eight dimensions need to be assessed for analysing consumers' attitude towards these dimensions. In addition to this, developing economies, like India, are proposed to be brought more into focus through this paper. After the validation, the results may be compared with the scenario in other developed or developing economies.

4.2 Managerial implications

Practitioners are likely to get reasonable insight from the paper. In relation to planning the strategies of branding—archetypal branding and iconic branding—are today the key factors in the changed scenario of globalization, which is marked by mergers and alliances at global scale and rise in global business. Subsequent to this, the study also points towards culture specificity of reactions from consumers while it comes to assessing factors of archetypal branding especially for the model of inclusive capitalism as demonstrated in the case. Therefore, marketers need to keep the factor of culture specificity in mind while designing branding strategies. For instance, dimension like socially responsible citizenship may have greater relevance for loyal customers as it serves immense

value. In addition to this, it is always an uphill task for marketers to ensure that consumers show loyalty towards all products of the company and not just some of their products. On top of that, as the number of competing companies increase with the inclusion of more and more organizations producing similar products of the same quality and design, consumers are tending to lean towards those suppliers who cater best to their necessities. In such a situation, cultural archetype in branding may have the potential to drastically minimize consumer's tendency of switching from one company to another.

5. Research Limitations and Conclusion

The scope of this paper is limited to the examination of the ways in which the archetypal representation is affected by dimensions influencing consumer imagination. Variables such as specific country context or country of origin are kept apart from consumer imagination, the latter being the main focal point in the scope of the paper. Upon considering those variables, the framework at hand might be different. However, mediated and lived customer experience (Mooy and Robben, 2002) has not been considered in the purview of this research, although both the concepts support the case-in-point. Besides, for an even better analysis of the effect of consumer imagination on archetypal representation, it could be examined in other cultural settings such as the developed markets of Europe or even emerging economies like that of China. Furthermore, this research is proposed to be in alliance with the industries of services and products such as retail, hospitality or automobile. In future, the framework could be designed in such a manner that the limitations of this paper are erased.

The power of archetypes in branding is especially important for managers, more so from the global companies. Therefore, the rigorous studies in archetypal branding should take place to pinpoint the inevitability of iconic brands in today's changed scenario of services and goods for local as well as foreign companies.

Throughout this paper the main concern has been to analyse the ways in which consumer's imagination is influenced by the pertinent dimensions that are resulting in the formation of cultural archetype. This literature review aims at describing the concept of archetypal branding and in assessing its importance in product evaluation by consumers. Similarly, the framework is developed in such a manner that it relates

to the eight dimensions of consumer imagination with archetypal representation.

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Productivity is the deliberate, strategic investment of your time, talent, intelligence, energy, resources, and opportunities in a manner calculated to move you measurably closer to meaningful goals.

-Dan S. Kennedy

DATA BASE

FDI Inflows and Outflows during 2013–15: Selected Countries

RAJESH SUND

Introduction

According to UNCTAD World Investment Report 2016, global foreign direct investment (FDI) flows have jumped by 38 per cent to \$1,762 billion in 2015, their highest level since the global economic and financial crisis of 2008–2009. These M&A were driven partly by large corporate reconfigurations by multinational enterprises, including shifting their headquarters, for strategic reasons and for tax inversion purposes. Discounting these corporate reconfigurations, global FDI flows registered a more moderate increase of about 15 per cent last year.

Inward FDI flows to developed economies almost doubled to \$962 billion. As a result, their share in world FDI inflows leapt from 41 per cent in 2014 to 55 per cent in 2015, reversing a five-year trend during which developing and transition regions had become the main recipients of global FDI. Developing Asia received record annual inflows, with FDI surpassing half a trillion dollars, and remained the largest recipient region.

The United States remained the largest investor in the world, followed by Japan. The CAGR for FDI inflows of the United States was 34.2 per cent for years 2013–2015 due to increase in the inflows in year 2015 by US\$168,393 million but on the other hand the growth rate of FDI outflows declined by 2.6 per cent, therefore the per centage of FDI outflows as gross fixed capital formation also declined from 9.7 per cent in 2013 to 8.5 per cent in 2015.

Europe became the world's largest investing region in 2015 with FDI outflows of \$576 billion. Switzerland ranked the top position with growth rate of 932.09 per cent arnong three countries, which is followed by Germany and France, respectively. In the case of FDI outflows, Germany is on the top position with growth rate of 52.86 per cent in 2015. Among the Asian countries, India, Philippines and Hong Kong were the three nations which showed a considerable increase in the FDI inflows over the three-year time period of 2013–2015.

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As a result of rising FDI in India, total inflows to South Asia increased by about 22 per cent to \$50 billion—surpassing FDI into West Asia. India became the fourth largest recipient of FDI in developing Asia and the tenth largest in the world, with inflows reaching \$44 billion. New liberalization steps enacted since the inauguration of the new government have contributed to attracting FDI from all quarters. Outward FDI from India, the dominant investor in the sub-region, dropped by more than one-third to \$7.5 billion—which resulted in an overall 36 per cent decline of outflows from South Asia to \$8 billion. The decline in commodity prices and problems of overcapacity in industries such as steel has negatively affected some of the largest Indian conglomerates' motivation and ability to invest abroad.

Outward FDI from Asian economies like China and Thailand increased over time. China remained the third largest investing country worldwide. Firms from China have become the largest holders of FDI stock in less developed countries, ahead of the United States. Among BRICS economies, which represented roughly a third of FDI flows to developing and transition economies, Brazil and the Russian Federation were in recession. Growth was slow in South Africa, slowing in China and relatively stable in India. In turn, depreciating national currencies weighed on profits when expressed in dollars, which put downward pressure on reinvested earnings.

Foreign direct investment flows to BRICS countries declined by 6 per cent in 2015, to \$256 billion. Increasing investment to China and India could not fully compensate for the decline in FDI flows in the other countries in the group. The five BRICS countries are home to 41 per cent of the world population and account for 23 per cent of world GDP between them but received 15 per cent of global FDI flows in 2015. They held \$2.4 trillion FDI stock in 2015—9 per cent of the world total. China, India and South Africa also have significant and growing investment further afield in Africa and other parts of Asia.

It can be seen from the tables that the inflows increased for India from US\$ 28,199.4 million in 2013 to US\$ 44,208.0 million in 2015; similarly, FDI inflows as per centage of gross fixed capital formation also increased from 4.8 to 7 per cent in year 2015. Foreign direct investment inflows of India increased from US\$ 28,199.4 million in 2013 to US\$ 44,208.0 million in 2015. India became the fourth largest recipient of investment in developing Asia and tenth largest in the world. The CAGR of FDI inflows for the years 2013–2015 was 25.21 per cent

and CAGR for outflows was 111.39 per cent, there was an increase of US\$ 5,822.7 million from the year 2013 to 2015 which led to increase in the FDI outflows as per centage of gross fixed capital formation from 0.3 in 2013 to 1.2 per cent in 2015.

In India, the large increase of announced greenfield investments in manufacturing industries may provide further impetus to FDI into the country. India undertook various liberalization measures, such as (a) increasing the foreign direct investment (FDI) cap from 26 per cent to 49 per cent in the insurance sector and in pension funds: (b) permitting FDI up to 100 per cent under the automatic route for manufacturing of medical devices; (c) increasing the thresholds of Inward FDI projects that require prior approval from Rs 20 billion to Rs 50 billion; (d) abolishing the sub-ceilings between various forms of foreign investment such as FDI, portfolio, non-resident Indians' investments and venture capital; and (e) permitting partly paid shares and warrants as eligible capital instruments for the purpose of India's FDI policy. In November 2015, the country also introduced a comprehensive FDI liberalization strategy and relaxed FDI rules in 15 'major sectors', including agriculture, civil aviation, construction, defence, manufacturing and mining.

Table 1: Foreign Direct Investment Inflows (Million Dollars)

S. No.	Countries	2013	2014	2015
1	France	42,892.29	15,191.12	42,882.62
2	Germany	11,670.84	879.62	31,719.31
3	Switzerland	646.24	6,635.19	68,838.01
4	USA	211,501.00	106,614.00	379,894.00
5	China	123,911.00	128,500.00	135,610.00
6	India	28,199.45	34,582.10	44,208.02
7	Philippines	2,429.50	6,812.75	5,234.03
8	Singapore	66,066.89	68,495.56	65,262.40
9	Thailand	16,651.85	3,536.53	10,844.64
10	Indonesia	18,816.66	21,865.66	15,508.16
11	Hong Kong	74,546.29	114,054.67	174,892.12
12	Japan	2,303.72	2,089.76	-2,250.04
13	South Africa	8,300.10	5,770.64	1,772.4
14	Russia	53,397.14	29,151.66	9,824.93
15	Brazil	53,059.74	73,085.51	64,647.88

Table 2: Foreign Direct Investment Inflows as Percentage of Gross Fixed Capital Formation (Million Dollars)

S. No.	Countries	2013	2014	2015
1	France	6.90	2.47	8.22
2	Germany	1.58	0.11	4.72
3	Switzerland	0.40	3.99	43.60
4	USA	6.64	3.16	10.78
5	China	2.92	2.80	2.97
6	India	4.79	5.50	7.04
7	Philippines	4.35	11.51	8.25
8	Singapore	78.79	84.22	87.39
9	Thailand	15.60	3.52	11.00
10	Indonesia	6.44	7.54	5.44
11	Hong Kong	112.16	166.55	249.47
12	Japan	0.22	0.21	-0.25
13	South Africa	11.31	8.14	2.82
14	Russia	11.84	6.72	3.37
15	Brazil	10.11	14.88	20.09

Table 4: Foreign Direct Investment Outflows as a Percentage of Gross Fixed Capital Formation (Million Dollars)

S. No.	Countries	2013	2014	2015
1	France	4.02	6.98	6.72
2	Germany	5.45	13.67	14.02
3	Switzerland	23.93	-2.00	44.51
4	USA	9.67	9.37	8.52
5	China	2.54	2.69	2.79
6	India	0.28	1.87	1.20
7	Philippines	6.53	11.41	8.83
8	Singapore	47.22	48.11	47.52
9	Thailand	11.18	4.39	7.89
10	Indonesia	2.27	2.44	2.19
11	Hong Kong	121.90	182.70	78.66
12	Japan	12.78	11.23	14.40
13	South Africa	9.06	10.81	8.53
14	Russia	15.68	14.80	9.11
15	Brazil	-0.22	0.45	0.95

Table 3: Foreign Direct Investment Outflows (Million Dollars)

S. No.	Countries	2013	2014	2015
1	France	24,997.35	42,869.09	35,068.7
2	Germany	40,362.00	10,6246.13	94,312.82
3	Switzerland	38,556.96	3,326.64	70,277.07
4	USA	307,927.00	316,549.00	299,969.00
5	China	107,843.71	123,119.86	127,560.00
6	India	1,678.74	11,783.50	7,501.43
7	Philippines	3,646.95	6,753.92	5,601.94
8	Singapore	39,591.94	39,131.29	35,485.04
9	Thailand	11,934.32	4,409.37	7,776.24
10	Indonesia	6,646.60	7,077.32	6,249.62
11	Hong Kong	81,025.14	125,109.23	55,143.29
12	Japan	135,748.77	113,594.79	128,653.84
13	South Africa	6,648.95	7,669.43	5,348.89
14	Russia	70,684.77	64,202.54	26,558.11
15	Brazil	-1,179.92	2,230.21	3,071.67

Table 5: Value of Announced Greenfield FDI Projects, by Source (Million Dollars)

S. No.	Countries	2013	2014	2015	
1	France	35,060	48,396	39,600	
2	Germany	59,889	53,513	45,937	
3	USA	138,313	124,077	115,860	
4	China	36,552	64,101	59,823	
5	India	17,741	13,389	14,955 1,919 26,374	
6	Philippines	1,020	2,023		
7	Singapore	15,348	16,560		
8	Thailand	5,781	3,973	14,116	
9	Indonesia	Indonesia	358	1,215	702
10	Hong Kong	55,788	12,158	17,796	
11	Japan	64,580	52,301	56,434	
12	South Africa	7,204	5,694	2,762	
13	Russia	19,160	4,707	13,751	
14	Brazil	9,357	1,638	1,994	
15	Malaysia	4,344	9,522	8,146	

Table 6: Value of Announced Greenfield FDI Projects, by Destination (Million Dollars)

S. No.	Countries	2013	2014	2015
1	France	11,009	7,526	9,308
2	Germany	12,579	10,135	12,356
3	USA	72,635	59,730	68,127
4	China	90,009	76,571	59,407
5	India	24,405	25,495	63,440
6	Philippines	4,623	7,418	8,739
7	Singapore	9,267	12,118	8,261
8	Thailand	9,267	12,118	8,261
9	Indonesia	18,291	17,183	38,536
10	Hong Kong	7,114	5,323	4,310
11	Japan	11,157	8,623	8,904
12	South Africa	7,217	3,597	4,885
13	Russia	14,153	12,928	12,229
14	Brazil	30,492	18,324	17,948
15	Malaysia	9,983	19,230	13,609

Source: UNCTAD World Investment Report, 2016.