Performance of Domestic and Foreign Firms in India, 1991-2004: A Comparative Analysis

Performance of Domestic and Foreign Firms in India, 1991-2004: A Comparative Analysis

Dissertation Submitted in partial fulfillment of the requirements for the degree of

Master of Philosophy in Applied Economics of the Jawaharlal Nehru University

Manikandan A.D

M.Phil Programme in Applied Economics
2004 – 2006

Centre for Development Studies

Thiruvananthapuram
June 2006

*I hereby affirm that the work for this dissertation, **"Performance of Domestic and Foreign Firms in India, 1991-2004: A Comparative Analysis"**, being submitted as part of the requirements of the Master of Philosophy in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself. I also affirm that it was not part of any other programme of study and has not been submitted to any other University for the award of any degree.*
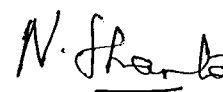
26-June, 2006

Manikandan A.D

Certified that this study is the bona fide work of Manikandan A.D, carried out under our supervision at the Centre for Development Studies.

[Supervisors]

Dr. Sunil Mani
(Fellow)

Dr. N. Shanta
(Fellow)

Dr. K. Narayanan Nair
Director
Centre for Development Studies

i

To
My Loving Parents &
Revered Guru Prof. A. A. Baby

Acknowledgments

ABSTRACT OF THE DISSERTATION
PERFORMANCE OF DOMESTIC AND FOREIGN FIRMS IN INDIA, 1991-2004: A COMPARATIVE ANALYSIS

MANIKANDAN A.D
M.PHIL PROGRAMME IN APPLIED ECONOMICS, JAWAHARLAL NEHRU UNIVERSITY
CENTRE FOR DEVELOPMENT STUDIES (2004-2006)

Governments across the developing world and indeed regional governments within countries too have been competing with each other to promote foreign direct investment (FDI) or multinational companies (MNCs). There are at least some reasons as to why governments are interested in promoting FDI. It is expected to result in non-debt creating financial flows to the host countries, it may promote exports of especially manufactured products from the host countries, and MNCs are a major source of state-of-the art technology to the local economies. Government of India too has been promoting FDI, especially since 1991, and this policy change is explicitly stated in the 'New Industrial Policy statement of 1991'. Although manufacturing activities of FDI firms have attracted considerable attention, empirical research in this area has remained relatively small due to non-availability of detailed information on such firms. Earlier studies focussed on issues such as quantum of FDI inflows, difference between approvals and actual inflows, relative-export performance of foreign and domestic companies, impact of FDI on the export potential of host economy, determinants of FDI, FDI and spillovers etc. However, there have been only few studies, which have looked in to the comparative performance between foreign firms and domestic firms in the post reform period. Kumar's (1994) study provides a detailed assessment of the actual performance of foreign companies in the Indian manufacturing sector during the pre liberalisation period. The changes in the industrial policy, the prominence of FDI in the globalised scenario, as well as the gap in the literature on the comparative performance of foreign and domestic firms have prompted us to carry out this study.

The studies outline is as follows, we have carried out a detailed assessment of the overall performance of foreign and domestic companies in India during the post-reform period (1991 – 2004). The exercise has been undertaken covering selected industries like Chemicals, Engineering, Tea, Textile, and Trading. We focus on three broad indicators of performance viz. finance, trade, and technology; to get an idea regarding the comparative performance of both foreign and domestic firms in the post reform period as well as to assess the impact of FDI inflows on the manufacturing sector. The performance analysis has been undertaken both at the aggregate i.e. clubbing all the five industries together as well as at disaggregated level. The study uses simple ratio analysis and statistical test of significance for comparing the performance of two groups. Around 250 foreign and around 4,350 domestic companies form the database for the analysis. The study follows RBI (2001) classification for identifying FDI firms. "An incorporated or unincorporated enterprise in which a direct investor, who is resident in another economy, owns 10 per cent or more of the ordinary shares or voting power". The study relies on the information furnished by "PROWESS" database published, by the Centre for Monitoring Indian Economy (CMIE). It is supplemented with relevant data on foreign companies, compiled from the successive surveys of the performance of FDI Companies conducted by the RBI.

The striking findings of the study are first there is no significant difference between foreign and domestic companies in case of financial and technology performance both at the aggregate as well as disaggregated level with the sole exception of chemical industry in the case of financial performance. Second, in case of trade performance there is a significant statistical difference between foreign and domestic companies at the aggregate level. At the disaggregated level no significant statistical difference is observed between the two groups, exception of tea. The results further indicate that in case of tea, textiles and trading the average R&D and technology intensities of foreign firms are higher than their domestic counterparts.

Contents

List of Tables

List of Tables in Appendix

CHAPTER-1

INTRODUCTION

1.1 Introduction

The emergence of global systems that drove the increasing the flow of Foreign Direct Investment (FDI) and has created new opportunities for growth and industrialisation in developing as well as regional economies all over the world. Studies show that there are 65,000 Multinational Enterprises (MNEs)[1], with around 8,50,000 foreign affiliates, who are the key actors behind these global production systems (UNCTAD, 2002). It is true that most of the developing countries have favoured MNEs by adopting changes in their government's policy towards FDI that is, 'friendly to foreign firms' (Kahai, 2004). This is because MNEs have actively participated in the economic activities especially, in manufacturing sector of most developing economies including, Newly Industrialised Countries. According to Kumar (1994), evidence shows that MNEs contributed 70 per cent of the manufacturing output of Zimbabwe, 44 per cent in Malaysia, 63 per cent in Singapore, 32 per cent in Brazil, and 36 per cent in Venezuela. This is because some countries especially, South east Asian countries have directed FDI to manufacturing sector with export-obligations and other incentives (Kumar, 2005) Other economies in which FDI have contributed significantly to the manufacturing sector are China, Korea, and Malaysia.

Nevertheless, it has been observed that none of the leading export items from India - involves much contribution by the multinational corporations (Lall, 1999)[2]. One major reason for this is India's stringent restrictive policy on foreign capital inflows

[1] As per the IMF Balance of Payments manual, "A direct investment enterprise is defined as an incorporated or unincorporated enterprise in which a direct investor, who is resident in another economy, owns 10 per cent or more of the ordinary shares or voting power (for an incorporate enterprise) or the equivalent (for an unincorporated).

[2] None of the leading exports from India involves much MNC participation. Export processing zones in India have attracted far less FDI than in the other countries. Thus the relevant form of FDI is relatively low (Lall, 1999)

especially, on FDI until the 1980s. In other words, India has become an important destination of capital inflows only very recently (Jha, 2003). This policy shift towards foreign capital inflows is to exploit the advantages of technology transfer, marketing expertise, introduction of modern management techniques, and export promotion' (Subrahmanian and Joseph, 1994, Government of India, 'New Industrial Policy Statement 1991' (henceforth NIPS 1991).

Given the importance that FDI plays in the new economic set up the present study analyses the overall performance of foreign and domestic companies on three broad performance indicators namely, financial, trade, and technology. Performance can be measured in different ways. According to Reserve Bank of India (2004), 'performance of the companies is realised by their growth in sales, profit and other selected financial ratios'. Trade performance can be measured using export and import intensities, and technology performance can be measured using R&D and technology import intensity. The analysis of performance is carried out at both the aggregate as well as disaggregated level. It has been noted that there are very few studies that have explored the performance of foreign and domestic companies (in a larger framework) for India during the period 1991-2004. The present study is an attempt to fill this gap.

The outline of this chapter is as follows section 1.2 present a detailed review of literature regarding FDI, section 1.3 discusses the significance of the study, section 1.4 presents the objectives of the study, section 1.5 describes the methodology, section 1.6 gives the basic data sources of the study, section 1.7 examines the limitations of the present study and the last section presents the chapterisation scheme of the study.

1.2 Review of Literature

1.2a Definition of Foreign Direct Investment (FDI)

FDI is an investment involving long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate)[3]. According to De Mello (1997) 'FDI is often thought of as a composite bundle of capital stocks, known-how, and technology'. More specifically, it is an important- and probably the dominant – channel of international transfer of technology'. MNEs, the main drivers of FDI, are powerful and effective vehicles for disseminating technology from developed to developing countries/LDCs and are often the only source of new and innovative technologies, which are usually not available in the arm's – length market (Japan Bank for International Cooperation, 2000).

1.2b Background of the Government Policy towards FDI

India has long had a restrictive policy regime on inward foreign direct investment inflows, with minuscule inflows in relation to the size of the economy. This has changed recently, however, and the government is making considerable efforts to attract foreign investors by relaxing many of its policies, tight controls and streamlining entry procedures (Lall, 1999). However, in the earlier periods, even the leading industrialists left no room for foreign venture capital in their most celebrated 1944 Bombay Plan (Chandra, 1991). There are two reasons why

---

[3]This general definition of FDI is based on OECD, Detailed Benchmark Definition of Foreign Direct Investment, third edition (OECD 1996) and International Monetary Fund, Balance of Payments Manual, fifth edition (IMF 1993). Reportedly, the Indian definition of FDI differs from that of the IMF as well as of the UN, World Investment Report. IMF's definition includes external commercial borrowing, reinvested earnings and subordinate debt, but World Investment Report excludes external commercial borrowings (Nagaraj 2003). A committee set up by the Reserve Bank of India in its report submitted in October 2002 had recommended the Indian definition brought on par with the global practice and nowadays India following international norms of FDI (Kumar, 2005).

government has not allowed FDI in India post independence period. First, there has been a strong nationwide agitation towards 'colonialism', which was started from the British regime. It is very clear from the following statements given by Advisory Planning Board of the Interim government in 1946-47; 'foreign vested interests once created would be difficult to dislodge' (Chaudhury, 1984, cited in Chandra, 1991). Second, Government of India followed a 'semi-socialist autarkic economy' (Srinivasan, 2005) path for development in which public sector was dominant over the private sector in order to achieve the 'strategic' mixed economy'. The Second Five-Year Plan (SFYP) or Mahalanobis Plan (1956-61) was a major attempt to achieve it. Moreover, government also adopted a stringent restrictive attitude towards FDI in the late 1960s (Kumar, 2005). Foreign Exchange Regulation Act (FERA) in 1973, stipulated that foreign firms have equity no more than forty per cent, with exemptions being given at government's discretion (Nagaraj, 2003). However, by the 1980s, Indian policy makers had accepted the need to liberalise the economy through a gradual relaxation of the foreign investment rules, which have strengthened after a severe macroeconomic crisis (Lall, 1999). It was universally recognised that India was passing through an all-pervading 'fiscal crisis'. As a result, government implemented a process of reform covering financial, external and industry sectors, with significant changes in policies and attitudes towards FDI as explicitly stated in 'NIPS 1991'. Nowadays, India seeks to consciously 'benchmark' its policies against those of the rapidly growing South- East Asian economies to attract a greater share of the world FDI inflows. However a distinction needs to be made between India's approved foreign investment inflows and actual foreign direct investment. As a result of liberalising her highly regulated FDI policy, which had been in place for more than three decades there has been an increase in inflow of foreign direct investment in India (Balasubramanyam et al. 2004).

1.2c Determinants of FDI in India

Studies show that a number of factors determine the FDI flows to India. Kumar (2005) has pointed out that FDI flow is usually associated with two broad factors. First, structural factors such as the quality of infrastructure, market size (income levels and population), extend of urbanisation, and geographical and cultural

proximity with major sources of capital. Second, policy factors such as tax rates including tax concession, investment incentives, and performance requirements. In addition, fiscal incentives, specialized infrastructure, and flexibility in the domestic regulations such as labour laws. On the other hand, Jha (2003) has pointed out very clearly that there are six major constraints working in India against FDI. First, Image and attitude: there is a perception among foreign investors that foreign businesses are still treated with suspicion and distrust in India. Second, Domestic Policy: while the FDI inflows policy is quite straightforward and getting increasingly liberalised (deregulations) for most sectors, once an investor establishes his presence, 'national' treatment means that this investor is subject to domestic regulations, which are perceived as being excessive. Third, Procedures: there is difficulty in getting approval or permission from central, state and local governments. This introduces substantial implementation lags. Fourth, Quality of Infrastructure: foreign investors are concerned about number of problems in particular electricity and transport. Fifth, State government level obstacles: differences in state policies, and practices especially, in providing better facilities viz., land records, power, water connections etc. although the levels of such barriers has come down in recently. Sixth, Delays in Legal Process: a highly structured legal system, dispute settlement and contract enforcement are time consuming activities in India. Such apprehensions deter the rapid flow of FDI. According to Lall (1999), export-oriented FDI depends upon a number of factors. A developing country today has to offer more than cheap labour a skilled and disciplined work force with advanced technical skills. This has to be supported by excellent infrastructure, low business transaction costs, and inputs at world market prices, national treatment for MNCs and stable transparent policies. Sachs and Bajpai (2000) have pointed out that there are several other factors that make India a far less attractive ground for direct investment. Some of the major determinants of FDI are as follows. Limited scale of export processing zones, no liberalisation in exit barriers, high corporate tax rates, high tariff rates by international standards, stringent labour laws, and financial sector reforms.

1.2d Greenfield Investment of FDI

Greenfield investment is the most important mode of FDI (World Investment Report, 2005). There has been a considerable change in the quantity of FDI inflow to the host economies. One obvious reason, is that an enormous expansion of FDI since 1985 has resulted from cross-border mergers and acquisitions. 'The difference between reported FDI inflows and reported M&A transactions- is known as 'greenfield' investment of FDI. But, in fact, this difference includes reinvested earnings by incumbent affiliates of MNEs and not just investment in newly-created affiliates or facilities, where the latter is the standard definition of 'greenfield' FDI' (Graham, 2005, pp.4) Table-1.1 shows that MNEs related mergers and acquisitions in India since liberalisation. There has been a considerable improvement in the acquisition of domestic companies from 1994-95 to 1999-2000. The share of acquisition in FDI is estimated as the largest contributory component. Acquisitions of the Indian companies by foreign investors increased from 7 to 74 from 1994-95 to 1999-2000. In other words, acquisitions increased nearly ten times during this period. At the same time, mergers of the domestic company with foreign companies range from 4 to 5 from 1993-94 to 1999-2000.

Table-1.1: MNE Related Mergers and Acquisitions in India for the Period 1993 - 2000

Years	Number of Mergers	Number of Acquisitions
1993-1994	4	9
1994-1995	-	7
1995-1996	-	12
1996-1997	2	46
1997-1998	4	61
1998-1999	2	30
1999-2000	5	74
Total	17	239

Source: Kumar (2000)

The value of acquisitions has improved considerably from US $ 11 million to US $ 930 million during the period 1995-96 to 2004-05, indicating that acquisition share in total FDI have been continuously growing for the last ten years with the sole

exception of 2000-01. In percentage terms acquisition share in total foreign direct investment flows rose from 0.51 per cent to 16.80 per cent during 1995-96-2004-05 (see Table-1.2). It implies that fresh foreign direct investment i.e. greenfields investment from abroad is declining continuously during the last ten years period. According to Kumar (2000) 'in tune with the worldwide trend, M&A (mergers and acquisitions) have become an important conduit for FDI inflows in India in recent years. In cumulative term's total funds for mergers and acquisitions was US $ 2,800 million out of total FDI inflows US $ 7,500 million during the three-tear period from 1997-1999. It has been noticed that first, acquisitions share is continuously growing e.g. share of acquisitions rose from US $ 11 million to US $ 930 million from 1995-96 to 2004-2005. Second, NRI investment has drastically come down (see Table-A1.1) NRI investment decreased from US$715 million to US$35 million during 1995-96-2004-05 (Reserve Bank of India, 2005). We can therefore infer from that the available evidence that Mergers and Acquisitions may in fact be conducive to promote FDI in India in recent years.

Table-1.2: MNEs Related Acquisition Shares During the Period 1995-96 to 2004-05

Year	Acquisitions shares (US $ millions)	Acquisition shares as Percentage of total FDI
1995-1996	11	0.52
1996-1997	125	4.43
1997-1998	360	10.12
1998-1999	400	16.24
1999-2000	490	22.74
2000-2001	362	8.98
2001-2002	881	14.37
2002-2003	916	18.19
2003-2004	735	15.73
2004-2005*	930	16.80

Source: Reserve Bank of India (2005, 2006) *Provisional

1.2e Trends in Foreign Direct Investment (FDI)

The available evidence suggests a trend in FDI inflows in terms of approvals and actual inflows increasing for the last twenty years (1980-2002) for India. According to Chandra (1991) study the cumulative value of all official FDI approvals for the period 1980-89 accounts to US$ 1 billion. Actual inflow of FDI increased from about US$ 8 million to US$ 425 million in this period 1980-89. At the same time, approved FDI rose from US $ 11.3 million to US$ 195.2 million from 1980 to 1989 (see Table-

A1.2). In June 2003, the government of India announced that adoption of international norms led to near doubling of FDI inflow figures from US$ 2,342 million to US$ 4,029 million in 2000-2001 and from US$ 3,906 million in 2001-2002 to US$ 6,131 million (Kumar, 2005). It shows that there is a considerable difference between approvals and actual FDI inflows although such difference has come down in recent times. Cumulative approved direct foreign investment during the period 1991-2002 was about US$ 76,606 million while cumulated amount of FDI inflows was about US$ 32,412 million (SIA, 2002). It shows that there has been a considerable improvement in India's FDI inflows since liberalisation (Mahambare and Balasubramanyam, 2004).

Table-1.3 presents the main channels of foreign direct investment in India for 2001-2002. It is interesting to note that one fifth of India's total FDI inflows (23.5 per cent) is from the United States in 2001, and it fell down to 18.55 per cent in 2002. At the same time Mauritius is the largest source of foreign investment inflows 45.18 per cent in 2002. Also Mauritius has become second largest source (16.70) of foreign investment approvals by end of 2002 (SIA, 2002) this is because of 'Double Taxation Avoidance Agreement (DTAA)' signed in 1990 between India and Mauritius, which helps foreign investors to minimise their tax liability given the tax haven status of Mauritius. Hence, investors from various countries, principally, the United States route their investments through Mauritius to take advantage of the tax treaty (Nagaraj 2003, Kumar 2005). It gives the impression that the U.S is the basic source for India's foreign direct investment.

Table-1.3: Top Investing Country-wise share of FDI Approvals and Inflows for the Period 2001-2002

Countries	Approvals in 2001 (in %)	Inflows in 2001 (in %)	Approvals in 2002 (in %)	Inflows in 2002 (in %)
Mauritius	13.81	47.37	16.70	45.18
USA	23.50	10.44	18.55	8.42
Japan	3.51	6.29	6.70	12.28
UK	23.85	-	16.32	10.54

Source: Secretariat for Industrial Assistance (SIA), (2002).

1.2f State and Sectoral wise Distribution of FDI

Break up of FDI in to regional and sector wise distribution, provides us with a picture of geographical distribution as well as concentration of FDI in the host

economies. One of the major consequences of the new policy regime is that there has been a significant change in the pattern of foreign direct investment in India, since 1991 from plantations, minerals and petroleum sectors towards the manufacturing sector (Balasubramanyam and Mahambare, 2004).

Table-1.4: State-wise Distribution of FDI Approvals 1991-2002

Rank	State-wise FDI Distribution	FDI Approved (in Per cent)
1	Maharashtra	17.37
2	Delhi	12.86
3	Karnataka	8.29
4	Tamil Nadu	7.37
5	Gujarat	6.50
6	Andhra Pradesh	4.62
7	Madhya Pradesh	3.48
8	West Bengal	3.14
9	Orissa	2.89
10	Uttar Pradesh	1.73

Source: Secretariat for Industrial Assistance (SIA), (2002).

Table-1.5: Sectoral Distribution of FDI Approvals and Inflows for All India - August 1991 to December 2002

Rank for Sector	Percentage of total FDI approved amount (in terms of Rupees)	Percentage of total FDI inflows amount (in terms of Rupees)
1. Fuels Power Oil Refinery	15.28 11.93	---
Total Fuels (power and refinery)	27.21	10.64
2. Telecommunications (radio, paging, cellular mobile, basic telephone services)	19.77	13.22
3. Electrical Equipments (including computer, software & electronics)	9.83	14.00
4. Transportation Industry	7.38	10.64
5. Services Sector (financial & non financial)	6.47	8.20
6. Metallurgical Industries	5.43	1.37
7. Chemical (other than fertiliser)	4.55	6.66
8. Food Processing Industries	3.33	4.00
9. Hotel & Tourism	1.75	0.84
10. Textiles	1.22	1.45

Source: Secretariat for Industrial Assistance (SIA) (2002).

There are very few states attracting more FDI in India. Maharashtra ranks first with a share of 17.37 per cent of the total approvals, followed by Delhi 12.86 per cent, Karnataka 8.29 percent, Tamil Nadu 7.37 per cent and Gujarat 6.50 per cent, during the period August 1991 - December 2002. These five states together account for more than 50 per cent of total foreign investment approvals (see Table-1.4). In the case of the sectoral distribution of foreign inflows in India, fuels (Power and Oil refinery) ranks occupy the first with 27.21 per cent of approvals, followed by telecommunications with 19.77 per cent. Transportation industry with 9.83 per cent and textiles industry occupies the 10th rank with a 1.22 per cent during the period August 1991 - 2002 December (see Table-1.5). Now we can therefore infer that the available evidence shows that the unequal distribution of FDI both at the state and sectoral levels in India.

1.2g Impact of FDI on Export Performance of Manufacturing Sector

The impact of FDI on export and the share in the manufacturing sector has been receiving much attention from the various scholars all over the world, for instance, Brazil, Mexico, Singapore, Malaysia etc. result from these countries show a high impact of FDI on manufacturing output. In India studies have examined impact of FDI on manufacturing industry for the pre and post liberalisation periods (Lall, 1985, Chandra, 1991, Subrahmanian and Joseph, 1994, Kumar 1994) However, there are four contradictory empirical evidences, which reflected impact of foreign companies on India's manufacturing industry. For instance, according to the Reserve Bank of India, sales of the manufacturing foreign controlled rupee companies (FCRCs) amounted to Rs 4800 crore in 1979-80; it can be projected backward to Rs 4200 crore in 1978-1979. But this estimate is five times larger than the estimate of Desai. According to him their sales was just over Rs 8068 million or just around 2 percent of total manufacturing output in 1978-1979. This estimate was different from Lall (1985). According to him the value-added by the manufacturing FCRCs in 1977-1978 was a mere 7 per cent of that for India's manufacturing sector (Desai, 1984 Lall, 1985, cited in Chandra, 1991). Kumar has mentioned that sales and profit before tax (PBT) of FCRCs went down from 27.17 per cent to 24.08 per cent and 45.72 per cent to 34.75 per cent in between from 1972-1973 to 1980-1981 (Kumar,

1994). Foreign share in sales again considerably varies and went down 31.1 per cent to 25.6 per cent in the period between 1980-1981 and 1990-1991 (Athreya and Kapur, 1999). It shows that the foreign share has come down in the last two decades. It has been observed that studies have failed to investigate the overall performance of foreign and domestic companies in India for the period 1991-2004.

It is interesting to note that many studies have discussed foreign direct investment companies (FDICs)/multinational companies activities (MNCs) on the export performance compared to their local firms in manufacturing sector in India during the post and pre-liberalisation periods. For instance, Subrahmanian et al. (1979), Lall and Kumar, (1981), Lall and Mohammad, (1983), Pant, (1993), Kumar, (1994), Subrahmanian and Joseph, (1994), Ganesh, (1997), Joseph, (2000), and Kumar, (2005). Evidence from the literature gives the impression that foreign controlled company's export performance is better than their domestic counterparts. On the other hand, some studies have disputed this argument. They said either domestic firms fare better or no significant difference between two groups. Pant (1993) has pointed out that 'there is no significant difference in the export efforts of domestic and foreign firms (with the sole exception of the Pharmaceutical industry)[4]. According to Morris (1994) there is a little importance to foreign investment in India's manufacturing sector

According to Subrahmanian and Joseph (1994) 'it is not foreign firms but their local rivals that do better on the export front in majority of the cases studied, second, the average export-output ratio of all sample foreign firms is significantly lower than the corresponding values of local firms' and third, it has been observed that there is inter-industry variation in the relative export performance of firms[5]. Kumar (1994) has pointed out that there is no further improvement in the case of export orientation of foreign companies than their local counterparts. That is weighting of export performance by industry's share in total exports of the sample firms makes no difference to the result. It will clearly indicate that foreign-controlled companies in India are largely local oriented. Lall (1999) has mentioned that 'the leading exports from India involves less MNCs participation and export processing zones of

---

[4] Pant (1993) has verified this bases on econometric exercise.

our country have attracted far less FDI, thereby, relevant form of foreign investment is low compared to other countries (pp.1784)'. Interestingly, Sharma (2000) has clearly pointed out that result from the analysis shows that foreign investment appears to have statistically no significant impact on India's export performance though the coefficient of FDI variable has a positive sign[6]. Most of the recent studies for instance, Joseph (2000) argued that the foreign collaborations has a positive effect on the decision to export, but foreign ownership is found to have no significant effect on the export and export decision.

While Siddharthan and Lall (2003) have pointed out that there is no evidence in literature that MNEs grow faster than local counterparts. According to Agarwal (2001) foreign firms have performed better than local firms in India for the five years period 1996-2000. In a recent study which analyzes the export orientation of over 4000 Indian enterprises in manufacturing industry during the period 1988-2001. Evidence shows that Indian affiliates of MNEs performing better than the local counterparts although with some variation across industries (Kumar and Pradhan, 2003, and Agarwal 2001, cited in Kumar, 2005).

1.2h Technology Spillovers and FDI

Although foreign direct investment or multinational companies are regarded by the host country governments as a leading channel of technology transfer, there is very little research on this issue According to Bell and Marin (2006) 'the usual perspective on technology spillovers from FDI sees the MNCs subsidiaries as a passive actor. It presumes that the technological superiority that spreads from subsidiaries to other firms in the host economy is initially created outside it by MNC parent companies and is delivered to subsidiaries via international technology transfer'. Dunning (1994) has mentioned that multinational companies have conducted most of the world's Research and Development (R&D) activities (early in the 1980s 75 to 80 per cent of privately undertaken R&D) in the world and knowledge transfer to the

---

[5] Subrahmanian, and Joseph (1994).
[6] Sharma's study is based on the simultaneous equation this is because of export performance is influenced by both foreign demand and domestic supply (2000).

12

foreign affiliates. But knowledge transfer might be through leaked-out. According to Sjoholm (1999) there are different ways of channelling technological spillovers. First, labour turnover from multinationals to domestic firms, technical assistance and support to suppliers and customers. Second, demonstration effects on domestic firms in issues such as choice of technology, export behaviour, managerial practices, etc. Kumar (2005) pointed out that for knowledge spillovers from foreign to domestic firms, the available evidence suggests that they are positive when the technology gap between foreign and local firms is not wide. When the technology gap is wide, the entry of firms may affect the productivity of domestic firms adversely. There are a number of studies examining technological spillovers from FDI. According to Sjoholm (1999), 'positive spillovers are found in Australia, Canada, and Mexico and no spillovers are found in Morocco and Venezuela'. We have seen the contradicting results in the case of relationship between FDI inflows and technological spillovers in the different countries. In India, there is no strong evidence to support the assumption that technological spillovers from FDI/MNCs and local firms. Some firms might have benefited from spillovers, but such benefits were modest in pre liberalisation period, though it goes up sharply in post liberalization period However, not all-domestic firms have gained equally from technology spillovers of FDI/multinational companies (Siddharthan and Lall, 2004). Although, excessive dependence on foreign technology not only have economic implications but may also have some other undesirable socio-cultural and political implications (Kumar, 1991).

1.2i Employment Effects and Labour Conditions in FDI

The employment creation by foreign direct investment in the host countries is one of the important macroeconomic impacts. Evidence from the literature indicates that FDI is helpful for creating additional employment in developing economies (Carlson, 1974, Vaitsos, 1974, Jenkins, 1990, Dunning, 1994, Kumar, 1994, Fu and Balasubramanyam, 2005). This is because multinationals relocate certain types of manufacturing operations away from their home bases, especially to developing countries, to make use of the abundant supply of low wage labour (Kumar, 1995). However this low wage arguments has been disputed by Jenkins (1990) according to

him there is considerable evidence indicating that, on average, transnational enterprise pay higher wages than local firms (Carlson, 1974, Vaitsos, 1974, Jenkins, 1990). As mentioned earlier, evidence shows that MNEs pay high wages in host economies for same job despite the availability of cheap labour from the host country. This may be conducive to the low price and it is one of the destructive arms used by foreign firms over domestic firms in case of competition. There is wage differential between domestic and foreign companies (MNEs) for same job, even though productivity seems to be the same. Thus increased productivity in no way gets associated with increase in industrial employment or betterment of worker's conditions, neither economically nor socially, rather it has a disruptive effect on social relations of labor (Guha, 1996). One thing, this is beyond doubt is that transnational corporations have modern technology so that they cannot absorb the millions of jobless persons in India (Sarangi, 2004).

It is surprising that only a few studies have explored the relationship between labour standards and FDI inflows. Till now, three studies (OECD, 1996, 2000, Rodrik, 1996, Kucera, 2002) has empirically examined that linkage. For instance, the Organisation for Economic Corporation and Development (OECD) (1996) found no statistical relationship between the observance of fundamental worker's rights and FDI inflows. Amnesty International (AI), a non-governmental organisation, it has expressed its concern and reported on the actions of MNEs in poor countries:

> 'Many transactional corporations operate in countries with repressive administrations where the rule of law is weak, where the independence of the judiciary is questionable, and where arbitrary arrest, detention, torture and extra-judiciary executions occur. The government may ban free trade union activity and deny its citizens freedom of association. Factory workers in plants from which companies' source their products may be subject to inhuman and degrading working conditions'. (Amnesty International, 2002, cited in Matthias, 2004).

1.2j Environmental Impacts of FDI

Most of recent studies have focussed on the following issues such as trends, determinants of FDI, the impact of FDI on the potential output and employment and so on. This section focuses environmental impact of FDI. Foreign direct investment

does not generally seem to promote 'eco-friendly' investment and may even inhibit it. This is because one of the main objectives of multinational corporations is to exploit natural resources of the host developing countries/LDCs. According to Dunning (1994) the extent to which an MNE is willing to transfer environment-related practices to another country, and how far it is prepared to adapt these practices to meet the particular needs of that country, depend upon what would be the benefit of it to the MNEs.

The location and usage of resources for the mass production is one of the main causes of environmental pollutions such as air, water, and voice pollutions. According to Sarangi (2004) 'these decades have witnessed many struggles against mining companies, both in the private and public sector in different parts of the country'. The struggle against bauxite mining in Orissa, against the Kudrumukh Iron mining in Karnataka, against coal mining in Jharkhand, against Uranium mining in Andhra Pradesh and other states in India, for better rehabilitation are a few examples of large scale mining by MNCs'. The available evidence suggests that there are 81 approvals and US$ 1,075 million in mining industry (SIA, 2002). The natural resources exploited by MNEs all over the world is an endless process, unless MNEs do have environment-related technology. Sharma (2000) argued, 'formerly widely used industrial location restrictions based on environmental considerations now remain only a limited extent in large cities.

To sum up the review of literature, there are two things to be noted. First, studies have failed to examine comprehensively the overall performance based on three broad dimensions namely, the financial performance, trade performance and technology performance of foreign and domestic companies in India since liberalisation. Second, studies have failed to investigate the embodied and disembodied technology import performance of foreign and domestic companies in India for the period 1991-2004. Some of the striking discussions in the review of literature are as follows.

Table-1.6: Summary of Main Discusions in the Review of Literature

Main Issues	Author	Study Period	Main Findings
Official Policy, Growth of foreign capital, importance of foreign capital in manufacturing.	Chandra, N.K (1991)	Period of the study 1948-1990 and data source: RBI Bulletin, and Centre for Monitoring Indian Economy (CMIE).	There are some reasons like political-social and economic have led the policy framework in the earlier decade. We have to protect public sector this is because it owns more 55 percent of output.
Government policy, FDI size, distribution, trends, collaborations shares of FDI in manufacturing industry, determinants, R&D, export behaviour, profitability etc.	Kumar,N (1994)	Period of the study 1964-1990 and data source: RBI Bull- etin, Department of Scientific &Industrial Research (RIS).	MNE's technology is relatively more capital intensive, though manufacturi- ng exports of FCEs not significantly different from their local counterparts. FCE's profitability is fare better than the local firms.
MNCs and changing spatial labour aspects.	Banerjee, S – Guha, (1996)	—	Labor productivity of MNCs have increased, this in no way gets associa -ted with increase in employment and betterment conditions of workers in industrial sector, neither economically nor socially.
FDI and its impacts on the export growth.	Sharma, K (2000)	Period of the study 1970-1998 and data source: 1999 and World Development Indicators,	Foreign investment appears to have statistically no significant impact on export performance although the coefficient of FDI is positive.
Export performs of foreign firms in the context of globalisation.	Joseph, K.J (2000)	1989-1990 to 1993 – 1994 and data source: CMIE, and (RIS).	Foreign collaboration has a positive effect on the decision to export, foreign ownership is found have no significant effect on the export.
Reforms in the 1990s, data on FDI and their limitations, FDI approval and its composition, Technology spillovers etc.	Nagaraj, R (2003)	Period of the study 1991-2000 and data source: Hand -book of Industrial Policy Statistics.	In the absence of suitable regulations, MNEs would like to retain an absolute control that may not be desirable for the host country.

Trends, inflows and state-wise distribution of FDI, and major constraints on FDI in India.	Jha, R (2003)	Period of the Study 1985-2002 and data source; RBI Bulletin, World investment Report 2002.	FDI becomes important in its own right if it makes contributions towards spillovers and technological progress, increase export markets, productivity.
Environmental Impacts of FDI.	Sarangi, D (2004)	—	MNC activities have affected adver -sely environment.
Evolution of government policy towards FDI, trends and patterns of FDI, Sectoral composition of FDI sources of FDI, M &As and greenfield, size of FDI, BoP and export, FDI and Indian software industry.	Kumar,N (2005)	Period of the study 1990-2001 and data source: RBI Bull- etin, RIS Data base, and UNCTAD.	Output generation has risen, its impact on direct investment and growth is mixed as some FDI inflows possibly crowd in the domestic investments while some others crowd it out.

Notes: UNCTAD = United Nations Conference on Trade and Development and RBI Bulletin = Reserve Bank of India Bulletin.

1.3 Significance of the Study

Governments across the developing world and indeed regional governments within countries too have been competing with each other to promote multinational enterprises (MNEs) that are usually associated with foreign direct investment (Kumar, 2005). There are at least three reasons as to why governments (developing as well as regional) are too interested in attracting FDI. First, it is expected to result in non-debt creating financial flows to the host countries (receiving countries). Second, it helps to improve exports, especially manufacturing products from the host countries, and third, MNEs are considered as major sources of technological transfer from developed countries to developing as well as regional economies. There is a small but growing literature in this area. Kumar (1994) has given a detailed assessment of the actual performance of foreign companies in India during the period up to the 1980s. Most of the recent studies on FDI in India have focussed on the following issues such as trends and determinants of FDI, the difference between approvals and actual inflows, and the relative-export performance of foreign and domestic companies, spillovers and FDI impact on export performance of host economies. However, a detailed assessment of the actual performance of

foreign and domestic companies in terms of finance, trade, and technology over a long enough period covering the phase of since liberalisation is found wanting. The present study is an attempt to fulfil this research gap.

1.4 Objectives of the Study

The main objective of the present study is to bring out the relative performance of foreign and domestic companies in India during the period 1991-2004. The following three objectives are used to compare the performance of foreign and domestic companies.

(i)   To compare the financial performance of foreign and domestic companies in the post reform period;

(ii)   To compare the trade performance between foreign and domestic companies during the post reform period; and

(iii)   To compare the technological performance between foreign and domestic companies in the post reform period.

Table-1.7: Selected Performance Dimensions of the Study*

Dimensions of Performance	Performance Indicators
A) Financial Performance	1) Return on Capital Employed (ROCE) 2) Return on Net worth (RONW) 3) Sales to Capital Employed (SCE)
B) Trade Performance	4) Export Intensity (EX) 5) Net Export Intensity (NEX) 6) Raw material Import Intensity (RM) 7) Import Intensity
C) Technology Performance	8) Research and Development Intensity (R&D) 9) Embodied Technology Import Intensity (ETII) 10) Disembodied Technology Import Intensity (DTII)

*For details see the methodology.

18

Table-1.8: Definitions of Selected Performance Indicators

Definitions of Performance Indicators	Performance Indicators
Net Profit/Capital Employed Net Profit/Net Worth Sales Value/Capital Employed	1) Return on Capital Employed (ROCE) 2) Return on Net worth (RONW) 3) Sales to Capital Employed (SCE)
Export Value/Sales Value Export Value – Import Value/ Sales Value Raw Material Import Value/ Sales Value Import Value/Sales Value	4) Export Intensity (EX) 5) Net Export Intensity (NEX) 6) Raw material Import Intensity (RM) 7) Import Intensity
Research and Development expenditures/Sales Value Import Value of Capital Goods /Sales Value Expenses for Know-how and Royalty /Sales Vale	8) Research and Development Intensity (R&D) 9) Embodied Technology Import Intensity (ETII) 10) Disembodied Technology Import Intensity (DTII)

Notes: capital employed = net fixed assets + net working capital +investment, and sales value = price* quantity
Net worth = Share capital + Reserves and Surplus, and Net profits = Gross profits – depreciation.

1.5 Methodology of the Study

In order to compare the relative performance of foreign and domestic firms in the post reform period we have looked in to three indicators of performance viz. finance, trade and technology. The analysis of performance has been carried out at both aggregate level as well as disaggregated level. At the disaggregated level the industries covered are chemicals, engineering, tea, textiles, and trading. The study covers the post-reform period from 1991-2004. The tools used for analysing the data are simple ratios and test of significance. Financial performance of domestic and foreign companies is analysed by computing simple financial ratios. Financial ratios are a good measure of financial performance. We have computed the following major financial ratios viz., (a) capital structure ratio, (b) liquidity ratio, (c) assets utilisation and turnover ratio, and (d) profitability and profits allocation ratio. For the two groups of companies' average financial ratios were calculated and the difference between the two averages were tested using standard statistical tools.

Four indicators have been employed to analyse the trade performance between domestic and foreign firms namely, export intensity, import intensity, net export intensity (net foreign exchange intensity) and raw material import intensity. Export intensity is defined as the ratio of firm level exports to its sales in a year. Export intensity reflects the firm's extent of interaction with foreign consumers and foreign markets, and the consequent learning from them. Import intensity is defined as the ratio of firm level imports to its sales in a year and raw material import intensity is defined as the value of raw material import by the firm to its sales value. The net export is the difference between value of export and value of import of a firm in a year.

The third indicator technology performance is analysed based on research intensity, as well as embodied and disembodied technology import intensity. Research intensity/R&D intensity (Research and Development intensity) is defined as the ratio of R&D expenditure of firms to its sales value in a year. It refers to the firm's attempt to develop, adapt and absorb new technologies. Technology import by the firms is measured using technology import intensity. It is defined as the ratio of firm's expenditure on technology import to its sales value. There are two types of technology intensities they are, embodied technology imported intensity (ETII) and disembodied technology-imported intensity (DTII). Firm's embodied technology import intensity is defined as the ratio of expenditure on capital goods imports to its sales value in a year. The disembodied technology import intensity is the expenditure incurred by a firm on royalty and know-how expenses to its sales value in a year (refer Table-1.8).

1.5a Selection of Firms

According to Reserve Bank of India Bulletin there are 232 foreign firms, accounting for 139 foreign companies in engineering, 57 in chemicals, 9 in tea, 14 in trading, 9 in textiles, and 4 foreign firms in rubber and rubber products (RBI, 2001). However, in the Prowess database there were 247 foreign firms, and the distribution of them across industries are as follows 125 in engineering, 80 chemicals, 1 in rubber and

rubber products, 7 in tea, 22 in textiles and 12 in trading. Thereby, we observe a small difference in the coverage of foreign firms as reported in the RBI Bulletin and "PROWESS" electronic database (see Table-1.9).

Table-1.9: Distribution of the Selected FDI Companies (Foreign Companies)

SI	Industry	No. of Foreign Companies (RBI Bulletin)[1]	No. of Foreign Companies (Prowess Database)[2]
1	Chemicals	57	80
2	Engineering	139	125
3	Rubber*	4	1
4	Tea	9	7
5	All Textiles	9	22
6	Trading	14	12
7	Total	232	247

Source: 1. Reserve Bank of India (2001), and 2. CMIE PROWESS database.
Notes: * Refers to Rubber instead of Rubber and Rubber Products.

Table-1.10: Distribution of Foreign and Domestic Companies in the Selected Industries

Industries	No. of Foreign Companies	No. of Domestic Companies	Total Companies
Chemicals	80 (6.22)	1,207 (93.78)	1,287 (100)
Engineering	125 (7.79)	1,479 (92.21)	1,604 (100)
Tea	7 (5.56)	119 (94.44)	126 (100)
All Textiles	22 (2.81)	760 (97.19)	782 (100)
Trading	12 (1.58)	749 (98.42)	761 (100)
Total	246 (5.33)	4,366 (94.67)	4,612 (100)

Source: CMIE Prowess Database (2005)
Notes: Figures in bracket indicate percentage.

Table-1.10 shows the distribution of foreign and domestic companies in selected industries according to CMIE "PROWESS" database. According to CMIE "PROWESS" database in 2005 there were a total of 4,612 companies, of which 246 companies (5% of total) were identified as foreign and 4,366 companies (94% of total) as domestic. It shows a highly unbalanced distribution of foreign firms compared with domestic firms. Industry-wise distribution of firms are as follows in engineering there were 125 foreign and 1,479 domestic companies in chemicals there were 80 foreign and 1,207 domestic companies, in tea there were 7 foreign and 119 domestic companies, in textiles there were

22 foreign and 760 domestic companies and in trading there were 12 foreign and 749 domestic companies. This reveals that domestic companies in each industry are more than ninety per cent. It is extremely difficult to explain why the database does not furnish information on all the firms covered by it. It could either be due to information being not provided by firms themselves to CMIE or because of a lag in the compilation of data.

1.5b Components of FDI in India

Government of India (GOI) had constituted a committee[7] on compilation of FDI to specifically look in to conceptual and methodological framework of classifying FDI in India. The committee was also asked to identify data gaps involved and make the necessary recommendations, which would help in strengthening the collection, compilation, and reporting of FDI data. The committee had suggested the inclusion of fourteen items in Indian FDI data under the three major heads are as follows.

1) Equity capital includes (a) equity capital of unincorporated entities; (b) non-cash acquisition against technology transfer, plant, and machinery, goodwill, business development and similar considerations; (c) control premium; and (d) non-competition fees.

2) Reinvested Earnings includes (a) reinvested earnings of incorporated entities; (b) reinvested earnings of unincorporated entities; and (c) reinvested earnings of indirectly held direct investment enterprises.

3) Other Capital includes (a) short-term and long-term inter-corporate borrowings; (b) trade credit; (c) suppliers credit; (d) financial leasing; (e) financial derivatives; (f) debt securities, and (g) land and buildings.

As the earlier classification on FDI data which was in existence up to 1999-2000 comprised mainly of capital alone, in line with international best practices, the coverage of FDI was expanded since 2000-2001 to include, besides equity capital, reinvested earnings (retained earnings of Foreign Direct Investment companies

---

[7] Government of India (GOI) Report of the Committee on Compilation of Foreign Direct Investment in India, October -2002. See also Nagaraj (2003), and Kumar (2005).

(henceforth FDI companies) and 'other capital' (inter-corporate debt transactions between related entities) (RBI, 2004).

1.6 Data source

The present study relies on secondary data compiled from two main sources. The basic data sources used in this study are "Finances of Foreign Direct Investment Companies" published by RBI, and "PROWESS" electronic database supplied by the Centre for Monitoring Indian Economy (CMIE). We have compiled the data set on FDI firms from the combined Statement on income, expenditure and appropriation accounts published by RBI based on the details furnished by foreign firms. The data provided by RBI covers entire industries and does not provide information at firm level. Therefore, data at individual firm level has been culled out from "PROWESS" electronics database.

1.7 Limitations of the Study

Admittedly the study has used a level of disaggregation, which is much less disaggregated than what one would have wished it to be. However, this limitation is very largely detected by the data set employed by us.

1.8 Chapterisation Scheme

The rest of the present study is organised as follows. Second, chapter examines the financial performances of foreign and domestic companies. The third chapter explores the trade performance of foreign and domestic companies. The fourth chapter deals with the technology performance. The fifth chapter concludes the study with some remarks on policy lessons.

Appendix-1

Definitions of Selected Industries in the Study

Chemicals industry consist of inorganic chemicals, alkalies, fertilizers, pesticides, paints & varnishes, dyes and pigments, drugs and pharmaceuticals, cosmetics, toiletries, soaps & detergents, organic chemicals, other chemicals, polymers, plastic products, petroleum products, tyres & tubes, rubber & rubber products.

Engineering industry consists of metals and metal products, machinery and transport equipment. Metals and Metal products include ferrous metals and non-ferrous metals. Machinery includes non-electrical machinery, electrical machinery and electronics, and transport equipment includes automobile and automobile ancillaries.

Tea industry is a part of beverage, which includes Tea, and coffee.

Service sector can be divided in to two, financial services and other services. Trading industry is a part of other services.

Textiles industry consists of cotton textiles, synthetic textiles and other textiles. Cotton textiles include cotton-blended yarn and cloth. Synthetic textiles consist of synthetic yarn and synthetic fabrics and other textiles include textile processing, readymade garments, silk textiles, woollen, jute products and miscellaneous textiles.

Table-A1.1: Foreign Direct Investment Inflows (US $ million)

Year	Government (SIA/FIPB)	RBI	NRI	Acquisition shares	Equity capital*
1995-96	1249	169	715	11	-
1996-97	1922	135	639	125	-
1997-98	2754	202	241	360	-
1998-99	1851	179	62	400	-
1999-00	1410	171	84	490	-
2000-01	1456	454	67	362	61
2001-02	2221	767	35	881	191

Source: Reserve Bank of India (2005)
Notes: * Equity capital of unincorporated bodies.

Table-A1.2: FDI Approvals and Inflows 1980 – 2002

(US $ million)

Year	FDI Approvals	FDI inflows
1980[1]	11.3	8.0
1981	12.6	-
1982	159.5	-
1983	61.3	-
1984	99.2	62.0
1985	114.9	160.0
1986	99.8	208.0
1987	83.1	181.0
1988	172.3	287.0
1989	195.2	425.0
1990[2]	450.0	464.0[1]
1991[3]	218.3	143.6
1992	1485.5	258.0
1993	2890.5	582.9
1994	4522.5	1048.5
1995	10213.9	2172.0
1996	10510.9	3020.9
1997	15302.9	4579.1
1998	7800.9	3377.2
1999	6753.9	4016.1
2000	8613.8	4498.1
2001	5972.2	4281.1
2002	2320.8	4434.5
2003	-	4673.0[4]
2004	-	5535.0

Source: 1. Chandra (1991), 2. Morris (1994)

3. Secretariat for Industrial Assistance (2002) and 4. RBI (2005).

CHAPTER-2

FINANCIAL PERFORMANCE OF FOREIGN AND DOMESTIC COMPANIES

2.1 Introduction

A large number of studies have examined the impact of FDI on economic parameters such as, augmenting fixed investment, potential output and employment, spillovers and transfer of technology, and exports in the host country (Dunning, 1974, Subrahmanian et al. 1979, Kumar, 1991, Caves, 1996, Hasan, 2002, Kneller, 2005). However, most of the recent studies have failed to examine the overall financial performance of foreign and domestic companies in India. Subrahmanian and Mohanan Pillai (1979), and Kumar (1994), though, have provided that the financial performance of foreign companies in pre-reform period. For instance, according to Kumar (1994) 'foreign controlled enterprises (FCEs) perform better than local enterprises in terms of profitability'. We are back to Darwinian tradition, which holds that the more profitable pattern of enterprise(s) organisation should prevail ultimately: Where more profits of an enterprise results from placing plants under a common administrative control, multiplant enterprises will predominate, and single-plant (domestic) enterprises will merge or go out of business (Caves, 1996). It is obvious that multinational (multiplant) enterprises (MNEs) are potentially relevant in explaining the presence of foreign companies in the host countries. In this context, the rationale for the existence and prevalence of foreign companies is closely related to the technological activity, firm size, relationship between profitability and exports (Lall and Kumar, 1981). Financial performance of foreign companies compared to domestic companies, has long been a subject of academic debate. There is a dearth of studies that have failed to provide the overall financial performance of foreign and domestic companies in India during the period 1991-2004. The financial performance chapter is intended to fulfill this research gap.

The basic idea of doing a financial analysis is to assess objectively the performance of a firm/company on a number of aspects such as its resourcefulness and ability to earn a fair return on its investment, its ability to meet its current obligations

effectively, the true worth of its various assets, the extent and character of its liabilities, its ability to raise new funds and to withstand possible setbacks from internal and external sources. Financial performance can be measured in different ways. There are several financial ratios such as profitability, liquidity and structural ratios, which have been used for analysing financial performance of the firms. Earlier studies have looked at profits margin, return on net worth, quick assets ratio, sales, and advertising expenses of foreign and domestic firms (Lall and Streeten, (1977), Chandra, (1991), Kumar, (1991), and Morris, (1991).

2.2 Financial Performance of Foreign and Domestic Companies

In 1950 most large multinational corporations were, in fact, only barely multinational. But after 1970 this situation changed drastically. Increasingly, large multinationals have had subsidiary networks that have spanned all over the world. With a global network of subsidiaries set up, the question for most large multinationals had changed from what would be the most profitable area in which to expand next, to which of the existing areas could be relied upon to produce the highest returns (Tylor and Thrift, 1982). Research shows that the world's largest 500 MNEs do not earn excess profits over time (Dunning and Mucchielli, 2002). According to Ngoc and Ramstetter (2004) comparing foreign and local companies in terms of profits the result may be different or it may be mixed. To our knowledge, the recent studies have failed to examine carefully the overall performance of foreign and domestic companies.

The present study attempts to look at the financial performance of foreign and domestic companies in India since 1991 for the selected industries namely, chemicals industry, engineering industry, tea industry, textiles industry, and trading industry. As mentioned earlier, performance analysis is conducted at the aggregate and disaggregated levels as the result from the aggregate level may or may not coincide with the disaggregated level result. The conventional wisdom that MNCs appears to be more competitive this is because they have advantages including, advantages from intangible assets, managerial ability, skilled-labourers, and export orientations should ultimately be reflected in their financial performance.

2.2a Aggregate Level Financial Performance

According to Kumar (1994) foreign controlled enterprises (henceforth FCEs) have larger scales of operation and enjoy higher profits margins than their local counterparts. The behaviour of FCEs in terms of retention ratios, dependence on borrowed funds, and tax planning is different on account of extraneous influences. Their respective inventory management practices are also not very different from each other (Kumar, 1994). For our analysis we have used twelve financial ratios viz., ratio of net fixed assets to capital employed, ratio of net worth to capital employed, ratio of debt to equity, ratio of current assets to current liabilities, quick ratio, ratio of sales to capital employed, ratio of sales to gross fixed assets, ratio of gross value added to gross fixed assets, ratio of net profits to tangible net worth (ronw), return on capital employed (roce), ratio of profits retained and profits after tax (pat), and ratio of tax provision to profits before tax (pbt). There is a notion that foreign companies are more technologically and managerially competitive, and are hence are more profitable than domestic companies. In fact, the available evidence suggests that there is no significant statistical difference between foreign and domestic companies in the case of financial performance both at the aggregate and disaggregated level, with the sole exception of chemicals industry.

Table-2.1 presents the financial performance of foreign and domestic companies for the period 1991-2004 at the aggregate level. Evidence from the empirical analysis show that there is no significant statistical difference between foreign and domestic companies in the case of financial performance at the aggregate level. This is because financial indicators were found table statistically insignificant at the five per cent level with the exception of current ratio, quick ratio and ratio of profits retained to profits after tax (PAT). Interestingly, tax provision to profits before tax ratio was found negative and statistically significant at the five per cent level. Other financial ratios viz., ratio of net fixed assets to capital employed, ratio of return on net worth (ronw), ratio of return on capital employed (roce), ratio of sales to capital employed (sce), and other ratios were found statistically insignificant at the five per cent level. In other words, the capital structure ratios, liquidity ratios, assets utilisation and turnover ratios as well as few profitability ratios for instance, roce, and ronw were found statistically not significant at the five per cent level. We can therefore infer

that there is no significant statistical difference between foreign and domestic companies at the aggregate level in the case of financial performance. This result can be summarized in single point. In contrast to the conventional wisdom that foreign companies have higher profitability than their local counterparts, the available evidence shows that such preference is not a major factor.

Table-2.1: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies at the Aggregate Level

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	19.33	69.67	56.98	64.74
		(-0.30**)	(-0.88**)	(-0.42**)	(0.42**)
	Foreign	36.32	73.48	63.91	60.57
Net worth to Capital Employed	Domestic	54.72	67.23	55.81	62.50
		(0.97**)	(1.12**)	(-1.33**)	(-0.54**)
	Foreign	49.51	63.60	73.52	68.67
Debt-Equity	Domestic	2.16	1.56	3.82	2.07
		(0.76**)	(-0.36**)	(1.91**)	(-0.11**)
	Foreign	1.96	1.71	1.50	2.14
Current Ratio	Domestic	1.46	2.67	3.38	5.88
		(-1.13**)	(3.76*)	(4.51*)	(3.08*)
	Foreign	1.58	1.61	1.46	1.82
Quick Ratio	Domestic	0.52	0.90	0.92	2.19
		(-1.13**)	(2.52*)	(4.32*)	(1.49**)
	Foreign	0.62	0.49	0.61	0.90
Sales to Capital Employed	Domestic	258.62	190.55	166.42	200.39
		(0.19**)	(-1.38**)	(-0.47**)	(-0.88**)
	Foreign	246.04	214.04	177.27	267.96
Sales to Gross Fixed Assets	Domestic	496.70	845.36	867.3941	472.88
		(1.43**)	(1.41**)	(1.10**)	(1.70**)
	Foreign	315.24	282.38	270.24	245.59
Gross Value Added to Gross Fixed Assets	Domestic	61.13	96.13	38.71	125.46
		(-0.71**)	(0.94**)	(-1.19**)	(0.95**)
	Foreign	65.61	56.49	44.96	47.26
Return on Net worth	Domestic	12.37	8.28	14.31	-2.06
		(0.40**)	(0.82**)	(-0.64**)	(-0.30**)
	Foreign	9.30	-24.21	32.54	6.27
Return on Capital Employed	Domestic	16.48	21.28	12.69	7.47
		(-1.23**)	(-1.61**)	(-1.04**)	(-1.22**)
	Foreign	30.43	24.96	15.74	14.51
Profits Retained to Profits after Tax	Domestic	73.82	78.76	84.76	86.94
		(1.90**)	(1.74**)	(2.68*)	(2.34*)
	Foreign	60.74	65.73	74.93	78.74
Tax Provision to Profits Before Tax	Domestic	17.50	8.66	9.47	18.37
		(-4.03*)	(-6.24*)	(-3.37*)	(-1.50**)
	Foreign	25.53	17.22	14.09	25.15

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

2.2b Disaggregated Level Financial Performance

Chemicals Industry

The financial performance of foreign and domestic companies in chemicals industry is interesting because, it shows financial indicators were found significant at the five per cent level. Chemicals industry is one of the key industries of India. The Indian chemicals industry came to be established and developed basically for import substitution rather than for export promotion. In response to import – substitution stimuli, the period in the 1960s, witnessed an impressive growth of production capacity and product diversification in chemicals industry. The role of foreign collaboration in this process was quite significant (Subrahmanian et al. 1979).

According to Reserve Bank of India there are 57 FDI companies of which 40 companies are from the four countries namely, the United States, United Kingdom, Germany and Netherlands (Reserve Bank of India, 2001). The available evidence suggests that certain financial indicators namely, ratio of return on capital employed, ratio of sales to gross fixed assets and ratio of gross value added to gross fixed assets were found negative and statistically significant. The ratio of net worth to capital employed and ratio of sales to capital employed were also found statistically significant at the five per cent level.

Evidence shows that there is a significant difference between foreign and domestic companies in chemicals industry in the financial performance for the period 1991-2004. Evidence from the analysis gives the impression that foreign company's performance is far better than domestic companies in

Table-2.2: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies in Chemicals Industry

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	-63.88 (-0.85**)	80.88 (1.14**)	55.52 (-0.45**)	68.57 (1.47**)
	Foreign	58.40	71.14	69.57	28.02
Net worth to Capital Employed	Domestic	48.82 (0.13**)	65.28 (0.69**)	51.42 (-1.98*)	58.81 (-2.51*)
	Foreign	47.15	60.87	70.30	81.52
Debt-Equity	Domestic	2.14 (0.27**)	1.31 (1.39**)	2.90 (0.89**)	2.18 (1.49**)
	Foreign	1.99	1.06	1.64	0.97
Current Ratio	Domestic	1.45 (-0.72**)	3.00 (1.62**)	2.64 (2.38*)	4.98 (1.05**)
	Foreign	1.59	1.75	1.50	2.06
Quick Ratio	Domestic	0.47 (-0.25**)	0.96 (1.36**)	0.66 (0.61**)	3.59 (1.03**)
	Foreign	0.51	0.63	0.63	0.83
Sales to Capital Employed	Domestic	384.64 (0.64**)	160.31 (-2.77*)	130.49 (-1.18**)	937.90 (2.00*)
	Foreign	295.31	233.69	172.10	-684.20
Sales to Gross Fixed Assets	Domestic	264.27 (-1.93**)	195.91 (-2.17*)0	177.81 (-2.26*)	207.01 (-1.63**)
	Foreign	413.90	303.43	268.19	291.45
Gross Value Added to Gross Fixed Assets	Domestic	43.80 (-2.92*)	32.45 (-3.24*)	31.67 (-2.45*)	27.12 (-2.28*)
	Foreign	76.87	59.54	48.54	55.02
Return on Net worth	Domestic	17.23 (0.65**)	11.54 (0.98**)	46.98 (1.14**)	-25.14 (-1.66**)
	Foreign	13.55	-106.07	0.37	15.13
Return on Capital Employed	Domestic	30.00 (-0.55**)	17.00 (-2.79*)	9.41 (-2.13*)	6.62 (-2.29*)
	Foreign	33.75	27.65	20.69	17.77
Profits Retained to Profits after Tax	Domestic	75.40 (1.36**)	78.05 (1.12**)	83.95 (2.21*)	85.42 (1.85**)
	Foreign	69.85	73.67	72.53	70.41
Tax Provision to Profits Before Tax	Domestic	16.28 (-3.03*)	7.37 (-4.55*)	8.48 (-2.99*)	20.93 (-1.01**)
	Foreign	27.10	17.86	14.63	23.85

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

terms of financial performance especially in the case of profitability. Why do foreign companies appear to be performing better in chemicals industry? There are at least two reasons. First, they might have used the highly advanced technology; scientific management skills, skilled-laborers and they have global net works. Second, they have more locational advantages and third the presence of foreign companies in chemicals industry is very high compared to foreign companies in other industries.

The higher presence may affect their functioning. Hence, the available evidence shows chemicals industry to be the only one where foreign companies have indeed performed better than domestic companies. Here the result can be summarized in a single point. Foreign companies appears to be performing better than domestic companies in financial performance at the five per cent level.

Engineering industry

Engineering industry is one of the key industries in India. Engineering goods constitute a dynamic export expanding sector in India. It includes a wide variety of sub sectors ranging from capital goods to consumer goods. Engineering industry consists of metals and metal products, machinery and transport equipment. Metals and metal products constitute ferrous metals and non-ferrous metals; machinery constitutes non-electrical machinery, electrical machinery and electronics; and transport equipment covers automobile and automobile ancillaries. Some of the striking findings from the financial performance of foreign and domestic companies in engineering industry are as follows.

Engineering industry is one of the industries that have a larger share of sectoral FDI stock in India. Kumar (1994) has pointed out that 'within the manufacturing industry, the new investments were directed to the high technology intensive sectors namely, electrical goods, transport equipment, machinery and machine tools, and metal and metal products sectors which accounted for a large portion of FDI stock'. It has been observed that engineering industry uses advanced technology. The presence of foreign companies is also very high. That is, around 8.5 per cent of industry/total companies are foreign firms. This shows that engineering industry is one of the leading industries where foreign companies are mainly concentrated. According to Reserve Bank of India (2001) engineering industry consist of 139 foreign companies of which 27 are companies from United Kingdom, 33 companies are from the United States, 25 companies are from Germany, 18 companies are from Switzerland, 14 companies are from Japan and 22 companies are from Netherlands, Sweden, Mauritius and other countries (RBI Bulletin, 2001, pp.526). Thus, around 80 per cent of foreign companies are based in the U.S, U.K, Germany, Japan, and Switzerland.

Evidence shows that there is no significant difference between foreign and domestic companies in engineering industry in the case of financial performance. This is because of t-values of profitability, liquidity, structural and other ratios were found statistically not significant at the five per cent level (see Table-2.3). According to Lall and Kumar (1981), government policies adversely affected the development and competitiveness of the Indian industry. The official policy of restraining the growth of large enterprises and foreign affiliates encouraged a proliferation of medium and small-scale manufacturers, many of whom subsequently entered export markets. Such regulations has come down in a recent times.

Table-2.3: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies in Engineering Industry

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	50.77 (0.82**)	63.41 (-1.06**)	68.81 (0.44**)	66.17 (0.54**)
	Foreign	-5.80	67.84	57.45	54.51
Net worth to Capital Employed	Domestic	53.96 (0.82**)	65.78 (0.43**)	55.07 (-1.08**)	59.77 (-0.09**)
	Foreign	48.76	63.44	78.85	62.15
Debt-Equity	Domestic	2.31 (0.47**)	2.01 (-0.17**)	6.42 (1.67**)	2.41 (-0.00**)
	Foreign	2.13	2.18	1.19	2.41
Current Ratio	Domestic	1.52 (-0.91**)	1.94 (2.61*)	1.51 (2.86*)	2.70 (2.15*)
	Foreign	1.68	1.51	1.46	1.56
Quick Ratio	Domestic	0.59 (-1.03**)	0.67 (0.96**)	0.84 (2.73*)	0.78 (-0.09**)
	Foreign	0.76	0.41	0.62	0.80
Sales to Capital Employed	Domestic	152.61 (-0.74**)	196.14 (-0.73**)	179.78 (-0.24**)	212.39 (-0.11**)
	Foreign	226.44	208.39	190.09	216.88
Sales to Gross Fixed Assets	Domestic	303.75 (1.45**)	263.46 (0.84**)	245.09 (1.79**)	278.78 (1.27**)
	Foreign	266.33	244.76	201.80	226.70
Gross Value Added to Gross Fixed Assets	Domestic	58.90 (-0.04**)	48.58 (-1.19**)	40.22 (-0.59**)	262.47 (0.95**)
	Foreign	59.14	53.50	42.71	41.50
Return on Net worth	Domestic	11.18 (0.18**)	4.65 (-1.19**)	3.58 (-0.88**)	12.88 (0.70**)
	Foreign	1.48	60.26	15.97	3.73
Return on Capital Employed	Domestic	26.05 (1.14**)	19.06 (0.82**)	25.02 (0.36**)	29.07 (0.53**)
	Foreign	12.67	14.61	24.26	27.59
Profits Retained to Profits after Tax	Domestic	73.79 (1.46**)	79.61 (1.55**)	81.89 (0.67**)	86.18 (0.91**)
	Foreign	56.15	75.87	79.17	82.31
Tax Provision to Profits Before Tax	Domestic	17.99 (-2.36*)	10.73 (-3.81*)	11.72 (-1.43**)	17.54 (-0.60**)
	Foreign	24.49	18.15	14.78	21.04

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

Tea Industry

Table-2.4 presents that there is no significant difference between foreign and domestic companies in the tea industry as shown by insignificant t-values (in parentheses) so that we do not reject the null hypothesis. According to Reserve Bank of India (2001) 'the financial results of the 334 FDI companies indicated an improvement in sales registered an increase of 9.9 per cent in 1999-2000 as compared to 8.1 per cent growth in the previous year. Gross profits and profits after tax during the year increased by 16.4 per cent and 17.3 per cent, respectively, as compared to their negative growth in the previous year'. Interestingly, this study has noticed that average ratio of tax provision to profits before tax (pbt) of foreign companies was higher than domestic companies and in a number of cases ratios were found statistically significant. For instance, t-value of ratio of the tax provision to profits before tax is found negative and significant at the five per cent level in 2000. Moreover, ratio of tax provision to profits before tax was found statistically significant at the aggregate level, and in chemicals and engineering industries.

Dunning (1971) in 'eclectic' approach argued that the relationship between MNE's economic decisions and tax variables can be represented by a three-stage tree. In the first stage, external oriented firms decide whether to export or implement a new plant abroad based on the cost benefit analysis. In a second stage, when the decision to implement where to locate. Also in these cases, many authors have argued that productive process characteristics are more important in explaining location: that is the probability of either horizontal (market shares) or vertical expansion (raw material provisions) is more important than tax variables. In a third stage, when MNE (henceforth-multinational enterprises) are already located, tax variables may possibly affect MNE's economic decisions. There is some evidence that this influence may not be negligible especially on investment decisions and the financial structure of the firm, including the dividend policy (Pazienza and Gastaldi 2004). As mentioned above, for that MNEs are already located, tax variables may possibly affect economic decisions of MNEs. It means that the importance of tax variables can deter foreign direct investment flows for instance, in India. This is because of foreign investors principally, in the U.S, route their investments through Mauritius due to the Double Taxation Avoidance Agreement signed between India and Mauritius during the 1990s that enables foreign

investors to minimize their tax liability (Kumar, 2005). Thus, India has benefited much from this tax treaty.

Table-2.4: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies in Tea Industry

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	111.32 (-2.33**)	99.81 (-1.84**)	99.28 (-0.68**)	158.68 (-0.14**)
	Foreign	274.68	161.74	120.25	175.96
Net worth to Capital Employed	Domestic	72.11 (-1.33**)	90.60 (1.12**)	83.24 (-0.41**)	53.03 (-1.35*)
	Foreign	83.86	73.44	85.79	81.85
Debt-Equity	Domestic	0.62 (1.60**)	0.64 (-0.89**)	0.55 (1.33**)	0.83 (0.78**)
	Foreign	0.35	0.83	0.37	0.61
Current Ratio	Domestic	1.09 (-0.77**)	1.43 (0.04**)	1.75 (1.16**)	1.37 (0.81**)
	Foreign	1.18	1.41	1.38	1.13
Quick Ratio	Domestic	0.25 (-0.00**)	0.39 (0.18**)	0.54 (0.87**)	0.47 (0.06**)
	Foreign	0.25	0.36	0.41	0.46
Sales to Capital Employed	Domestic	213.17 (0.21**)	86.38 (-1.20**)	133.82 (-0.95**)	78.60 (-1.56**)
	Foreign	206.20	151.51	155.14	155.13
Sales to Gross Fixed Assets	Domestic	150.45 (2.55*)	107.20 (1.70**)	113.29 (0.20**)	90.08 (0.80**)
	Foreign	82.14	74.15	108.44	71.82
Gross Value Added to Gross Fixed Assets	Domestic	70.96 (1.54**)	52.09 (0.03**)	52.82 (-0.57**)	30.58 (-0.65**)
	Foreign	45.89	34.34	60.94	36.57
Return on Net worth	Domestic	44.95 (-1.36**)	8.53 (1.80**)	12.88 (-1.33**)	-4.29 (1.11**)
	Foreign	-4.00	16.52	3.76	26.91
Return on Capital Employed	Domestic	34.81 (-2.54*)	22.59 (1.11**)	16.94 (-1.70**)	-10.00 (-1.36**)
	Foreign	47.55	16.88	27.77	1.37
Profits Retained to Profits after Tax	Domestic	62.53 (2.94*)	59.60 (1.83**)	72.97 (1.16**)	87.53 (0.70**)
	Foreign	30.73	-19.00	62.85	72.90
Tax Provision to Profits Before Tax	Domestic	45.14 (-0.58**)	22.21 (-0.35**)	19.78 (-2.19**)	28.36 (0.77**)
	Foreign	47.76	25.46	31.41	12.61

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

Foreign companies are also expected to enjoy more profitability than local counterparts due to the monopolistic ownership of tangible and intangible assets in terms of brand good will, know -how etc. by foreign companies. Evidence shows that foreign companies fare better than local firms in terms of profitability (Kumar, 1994). In

contrast, result from the analysis shows that foreign companies are not significantly different from domestic companies in terms of financial performance in textiles industry during the period 1991-2004 (see Table-2.5). This is because profitability ratios such as ratio of return on capital employed (ROCE), and ratio of return on net worth (RONW) were found statistically not significant at the five per cent level.

We think that it is important to place this current policy 'favour' towards FDI firms in the context of what is happening with regard to the development and upgrading of the host country competitiveness and industrial development in general. Although, there is a tendency to categorize economies within a dichotomy of either inward-looking, import/ substituting policy orientation or outward-looking, export oriented policy stance this may be an oversimplification, since in the reality there tends to be a hybrid policy orientation (Portelli, 2004). In earlier decades, India's economic policies and strategies were based on inward looking, import/substituting policy orientations. In contrast, there has been a considerable improvement in the environment for manufacturing and exporting. This is resulted from the paradigm shift of policy orientations in 1990s. Hence the host country's investment environment makes a big difference to profitability of foreign companies.

Textiles Industry

Evidence shows that the percentage share of FDI stock (Rs in billion) in textiles industry in the manufacturing industry is decreasing continuously from 7.2 per cent to 1.2 per cent over the period, although, its absolute value increased from Rs. billion 0.2 to Rs. billion 35 from 1964 to 1991-2003 (Balasubramanyam et al. 2004, pp.52). This is because of the rapid growth of manufacturing industry. There are at least two reasons why foreign companies appears to be not performing well. First, it has been observed that the presence of foreign companies is low in textiles industry. That is, foreign companies account for 22 out of 782 companies. Second, according to Reserve Bank of India (2001) gross profits of FDI companies from textiles industry was decreased from 9051 lakhs in 1998-1999 to 6514 lakhs in 1999-2000.

Table-2.5: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies in Textiles Industry

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	55.41 (-1.27**)	81.98 (-0.57**)	61.34 (-0.24**)	71.31 (-0.80**)
	Foreign	95.83	89.69	68.06	88.40
Net worth to Capital Employed	Domestic	60.74 (0.87**)	60.95 (-0.62**)	67.77 (0.19**)	80.15 (0.76**)
	Foreign	44.55	65.01	62.12	52.01
Debt-Equity	Domestic	2.15 (1.22**)	1.54 (-0.37**)	2.51 (-0.13**)	2.01 (-0.55**)
	Foreign	1.57	1.85	2.64	3.32
Current Ratio	Domestic	1.40 (1.07**)	2.17 (2.97*)	1.92 (2.33*)	4.77 (0.96**)
	Foreign	1.11	1.28	1.25	2.83
Quick Ratio	Domestic	0.44 (0.75**)	0.72 (2.57*)	0.53 (0.27**)	1.03 (-0.68**)
	Foreign	0.21	0.40	0.49	1.87
Sales to Capital Employed	Domestic	169.48 (0.05**)	160.63 (3.54*)	119.03 (0.93**)	180.81 (2.52*)
	Foreign	164.35	93.00	77.82	108.78
Sales to Gross Fixed Assets	Domestic	354.33 (2.16*)	234.49 (1.16**)	174.65 (0.04**)	173.05 (1.27**)
	Foreign	169.07	150.01	171.09	108.16
Gross Value Added to Gross Fixed Assets	Domestic	64.34 (0.87**)	42.21 (0.08**)	23.46 (-0.09**)	22.16 (-0.45**)
	Foreign	49.07	40.73	24.57	25.70
Return on Net worth	Domestic	12.04 (-0.66**)	10.27 (-0.67**)	-12.82 (0.39**)	4.96 (-0.64**)
	Foreign	23.55	14.49	-21.22	18.16
Return on Capital Employed	Domestic	20.64 (-1.16**)	15.92 (-0.72**)	9.86 (1.64**)	-3.16 (-1.59**)
	Foreign	27.99	19.18	-0.50	17.67
Profits Retained to Profits after Tax	Domestic	71.21 (0.37**)	77.92 (0.97**)	89.62 (0.81**)	87.94 (1.33**)
	Foreign	66.05	-10.14	60.95	80.70
Tax Provision to Profits Before Tax	Domestic	12.33 (-0.67**)	2.78 (-1.21**)	5.35 (1.94**)	17.36 (0.63**)
	Foreign	17.92	7.21	-1.26	14.30

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

Trading Industry

The service sector can be divided in to the two kinds of services: first, financial services and second, other services. The trading industry is a part of other services. Studies have failed to investigate the overall financial performance of trading industry. It has been observed that there are 12 foreign companies out of 761 companies undertaking trade activity. In other words, foreign firms are around 1.6 per cent of total companies. It shows that the presence of foreign firms is very low.

The available evidence shows that there is no significant statistical difference between foreign and domestic companies during the period 1992-2004 in the case of financial performance. This is because ratios including profitability ratios viz., roce, and ronw and other ratios with the sole exception of liquidity ratios were found statistically not significant at 5 per cent level (Table-2.6).

As we mentioned earlier, foreign companies have tendency of employing more capital. This is because their investment on fixed assets like machinery and machinery equipment and other tangible assets viz., land, building, furniture etc. is higher than local companies. Capital employed is defined as 'net fixed plus net current assets'. Net current asset is defined in two ways: '(a) the conventional one of total current assets minus short-term loans and 'other' current liabilities, and (b) an alternative one of total current assets minus 'other' current liabilities only. The point at issue is whether short-term loans (of under one year) which are 'rolled over' from period to period - as most bank loans and other short-terms credits are which should not really be counted as long- term loans. If they are, and so are included under long-term liabilities, the value of net current assets, and so of total capital employed, is correspondingly increased (Lall and Streeten, 1977)[8].

Interestingly, it has been observed that the sales of trading industry was very high. For instance, averages of sales to capital employed ratio and sales to gross fixed assets ratio of foreign and domestic companies were very high although mean difference was found statistically not significant at the five per cent level. According to Reserve Bank of India (2001) sales of foreign companies in trading industry was 1,45,359 lakhs in 1999-2000 as compared 1,40,974 lakhs in 1998-99 while gross profits 8,431 lakhs in 1999-2000 as compared to 6,709 lakhs in 1998-1999 (RBI Bulletin, 2001). Yet, evidence from the study found that there is no significant difference between the two groups of companies.

---

[8] For more details see Lall and Streeten (1977).

Table-2.6: Mean and t-values of Selected Financial Ratios of Foreign and Domestic Companies in Trading Industry

Industry/Year	Company	1992	1996	2000	2004
Net Fixed Assets to Capital Employed	Domestic	56.71 (-1.47**)	29.38 (-1.46**)	8.49 (-0.88**)	37.15 (-0.69**)
	Foreign	116.63	73.25	54.97	49.96
Net worth to Capital Employed	Domestic	62.75 (0.73**)	85.46 (0.92**)	43.71 (-0.08**)	53.24 (-0.54**)
	Foreign	55.52	75.02	49.79	70.81
Debt-Equity	Domestic	2.01 (0.73**)	0.95 (-0.51**)	0.84 (-1.58**)	1.00 (-1.13**)
	Foreign	1.60	1.12	3.11	7.24
Current Ratio	Domestic	1.58 (1.07**)	5.24 (2.20*)	10.74 (2.84*)	18.97 (2.48*)
	Foreign	1.36	2.39	1.52	1.51
Quick Ratio	Domestic	0.65 (0.36**)	1.96 (3.35*)	2.68 (3.77*)	4.50 (3.04*)
	Foreign	0.59	0.66	0.66	0.94
Sales to Capital Employed	Domestic	769.16 (1.73**)	333.68 (-0.31**)	316.80 (0.67**)	262.21 (-0.97**)
	Foreign	316.13	380.69	242.65	1699.10
Sales to Gross Fixed Assets	Domestic	4183.39 (1.48**)	6196.81 (1.38**)	6368.91 (1.00**)	2347.49 (1.63**)
	Foreign	682.62	875.34	1295.85	495.13
Gross Value Added to Gross Fixed Assets	Domestic	174.02 (0.85**)	627.87 (1.15**)	88.97 (0.28**)	205.28 (0.93**)
	Foreign	111.17	114.76	66.86	97.34
Return on Net worth	Domestic	5.80 (-0.83**)	10.11 (-0.62**)	-3.89 (-1.07**)	2.63 (1.04**)
	Foreign	14.55	16.05	33.37	-18.86
Return on Capital Employed	Domestic	-200.82 (-1.04**)	34.05 (0.33**)	4.82 (-0.57**)	-27.60 (-1.36**)
	Foreign	32.20	28.05	12.08	13.12
Profits Retained to Profits after Tax	Domestic	80.80 (1.21**)	83.14 (0.51**)	89.52 (1.48**)	91.25 (-1.99**)
	Foreign	69.46	74.98	74.69	96.79
Tax Provision to Profits Before Tax	Domestic	25.16 (0.67**)	14.49 (-0.02**)	10.63 (-1.05**)	13.98 (-1.18**)
	Foreign	19.28	14.67	19.49	107.63

Mean (percentage), t-values are in parentheses, level of significance at 5 per cent, * represents significant and ** means not significant/insignificant.

2.3 Conclusion

There has been a considerable change in policies and attitudes towards FDI on the part of most developing countries in the recent years. This change in attitudes is due to a number of reasons; a steep reduction in alternative sources of finance such as bank credit in the wake of the debt crisis, the demonstrable success of the East-Asian

countries based in part on FDI, and growth in knowledge and understanding of the nature and operations of multinational companies, the principal purveyors of FDI (Balasubramanyam et al. 2004). Most of the recent studies have failed to examine the overall financial performance of foreign and domestic companies in India since liberalisation. The second chapter has thus looked into the overall performance of foreign and the domestic companies in India for the period 1991-2004. Some of the major findings of this chapter tabulated below.

Table-2.7: The Major Findings of this Chapter: Financial Performance

Industries	Results
Aggregate Level	DCs and FCs not significant ROCE: not significant RONW: not significant
Disaggregated Level 　　Chemicals Industry	DCs <FCs significant ROCE: significant RONW: not significant
Engineering Industry	DCs and FCs not significant ROCE: not significant RONW: not significant
Tea Industry	DCs and FCs not significant ROCE: not significant RONW: not significant
Textiles Industry	DCs and FCs not significant ROCE: not significant RONW: not significant
Trading Industry	DCs and FCs not significant ROCE: not significant RONW: not significant

DCs represents domestic companies, and FCs represents foreign companies (Level of significant at 5 the per cent)

The evidence from the financial performance analysis gives the information that there is no significant difference between foreign and domestic companies at the aggregate and disaggregated level at the five per cent level with the sole exception of chemicals industry for the period 1991-2004. This is because financial ratios especially profitability ratios viz., ratio of return on capital employed and ratio of

return on net worth were found statistically not significant at the five per cent level with the sole exception of chemicals industry. It shows that 'monopolistic' advantages in terms of intangible assets of foreign companies do not seem generally to promote the financial performance. Some important other findings of this chapter are highlighted as follows.

1) Current and quick ratios were found statistically significant at the aggregate level and disaggregated level industries like textiles, trading, and engineering.

2) Ratio of sales to gross fixed assets was found statistically significant at the aggregate level, and disaggregated level industries such as chemicals, tea, textiles, and trading.

3) Ratio of tax provision to profits before tax was found statistically significant at the aggregate level and disaggregated level industries like chemicals, engineering and tea.

Let us now conclude with the Table-2.7. It presents that there is no significant statistical difference between foreign and domestic companies in the financial performance at the aggregate and disaggregated level with the sole exception of chemicals industry. Finally, contrary to the hypothesis that foreign companies will perform better than domestic companies, the available evidence suggests that there is no significant difference between the two groups of companies.

CHAPTER-3

TRADE PERFORMANCE OF FOREIGN AND DOMESTIC COMPANIES

3.1 Introduction

In the last chapter we have discussed the financial performance of foreign and domestic companies during the period 1991-2004. The trade performance analysis forms third chapter of this study. Trade performance is measured using four indicators viz., export intensity, import intensity, net export intensity and raw material import intensity of foreign and domestic companies for the period 1991-2004. Multinational corporations have developed distinct advantages that can be put to the service of world development. Their ability to tap financial, physical and the human resources around the world and to combine them in an economically feasible and commercially profitable activities, the capacity to develop new technology and skills and their productive and managerial ability to transform resources into specific outputs have proved outstanding (United Nations, 1970). For instance, whereas world production has grown by an annual average of 1.5 per cent in the period 1991 to 2001, trade has risen by 6.0 per cent and FDI by 23 per cent. In the same period, 49 least developed countries attracted less than 1.0 per cent of FDI inflows. Yet the ratio of FDI inflows to Gross Domestic Product (GDP) in these countries amounted to 2.2 per cent in this period, while the world average was 1.9 per cent, higher and signifying relevance of FDI to least-developed countries (Busse, 2004).

It has been observed that there is nothing new about international business. From time immemorial many firms have traded outside their national boundaries. In the 1950 and 1960s, however, the expansion of international trading was particularly rapid; the value of world trade rose at an average annual rate of 6.5 per cent in the period 1953-1960 and 7.6 per cent between 1960 and 1967. Within these overall trends, considerable rate of expansion of industrial production came from the industrialized countries (Economic Intelligence, 1971). Despite the failure of the rich countries to grant any new tariff preferences to the less developed countries (LDCs)

in the 1960s, export earnings from manufactures by LDC's grew by more than 10 per cent per year during the decade. This phenomenon seems related to the expansion of the multinational firm. For example, between 1965 and 1968 annual exports from less developed countries (LDC's) by foreign affiliates of U.S manufacturing firms rose from US$ 700 million to US$ 1.4 billion. Between 1957 and 1966 exports of manufactures from Latin America rose annually from US$ 709 million to US$ 1,613 million (Cohen, 1973). It shows the significant role of multinational enterprises in manufacturing exports of the host economies.

The period 1986-2000 saw an enormous growth of activity of multinational enterprises as measured by flows of foreign direct investment. Foreign inflows grew much faster than either trade or income. Whereas, worldwide real gross domestic product (GDP) increased at the rate of 2.5 per cent per year between 1985–1999 and worldwide exports by 5.6 per cent, worldwide real inflows of FDI increased by 17.7 per cent. This compares strikingly with pre- 1985 data, when real GDP of world, export, and foreign inflows were following closer trends. Between 1970-1984, real FDI grew at an average yearly rate of 4.26 per cent, worldwide real GDP by 3.1 per cent and world exports by 5.2 per cent. Since 2001, the rise of world FDI was reversed and real world inflows were back to their 1998 level (Venables and Navaretti, 2004).

Studies show that there are 5,00,000 to 8,50,000 affiliates established by some 60,000 to 70,000 parent firms all over the world (UNCTAD, 1999, 2002 and 2003). Out of that, the largest 500 companies in the world accounted for over US$14 trillion of total sales (revenue) and the average revenue for a firm in the top 500 was US$28 billion (Rugman, 2005). Sales of 500 firms have taken place not only in home countries but also from host countries. According to Vernon (1971) 'multinationals have characteristics like faster growth of sales in the host countries than at home countries'. Research shows that the world's highest 500 MNEs do not earn excess profits over time. But many of the largest MNEs have total revenues greater than the gross national product of middle-to small-sized economies (Dunning and Mucchielli, 2002).

Foreign affiliates active in export markets can be significantly affected by host country's trade regime (UNCTAD, 2001). Foreign affiliates have played a considerable role in the exports of manufactured goods from developing countries e.g. Latin American countries like Brazil, Argentina, Mexico and East-Asian countries viz., South Korea, Singapore, Taiwan (Cohen, 1975). He finds that the foreign firms have negligible economic benefits when compared to local firms producing and exporting same products. It is true that MNCs affect the host countries exporting activity. According to Saxena (1987) MNCs activities may affect the host country's manufacturing exports through influencing technology, effect of distribution, government revenue effect and instability effect.

3.2 Trade Performance of Foreign and Domestic Companies

Most of the recent studies show that MNEs played an important role in manufacturing industry in various countries including developing and developed countries. For instance, in 1968, 40 per cent of all manufacturing exports of Latin America was contributed by U.S multinationals (Ledogar, 1979). The impact of FDI towards manufacturing exports was tested by scholars in different countries. China (Fu et al. 2005), America (Vernon, 1971), Brazil (Cohen, 1973), Willmore, 1976, 1986, 1992), India (Leipziger, 1976), India (Subrahmanian and Pillai, M., 1979), India (Lall and Kumar, 1983), India (Kumar1994), and Mexico (Lopez, 2005).

Transnational corporations control approximately 30 per cent of total manufacturing output of the Central American Common Markets. Moreover, MNEs accounted for 70 per cent of the manufacturing output in Zimbabwe, 63 per cent in Singapore, 44 per cent in Malaysia, 36 per cent in Venezuela and 32 per cent in Brazil (UNCTC, 1988, cited in Kumar, 1990)[9]. It is sometimes hypothesized that foreign controlled firms have good international connections, greater propensity to engage in foreign trade or better access to the world market than the local owned firms (Willmore, 1976). According to Morrison (1976) the available evidence supports the view that domestic market size and economic development are important determinants of the

---

[9] See Kumar, (1994).

44

performance of manufacturing firms. The devaluation of the currency is a major reason for investment by foreign affiliates for example, Thailand, Malaysia, Mexico, India[10] and so on (UNCTAD, 1998).

In Hungary, firms with foreign links increased their exports in all industries by 32 per cent over the 1992-1993 period, while domestic firms' exports dropped by 8 per cent. In 1992-1993, 22 per cent of foreign affiliate's sales-income came from exports only, compared to 13 per cent for all Hungarian enterprises. Exports per employee are more than four times as high in foreign affiliates as in domestic firms and twice as high when it comes to manufacturing. In the case of Poland, the largest foreign firms were even more export-oriented, with an export share of 22 per cent. In some industries like automotive production, equipments of communication, the export share of foreign firms was much higher (by value) 89 and 84 per cent respectively (UNCTAD, 1995).

However, it can be criticized that the MNCs' greatest contribution is not in the area of export earnings. Authors, Johnson (1971), and May (1970), for example, who argue that because of comparative cost advantages and greater capacities in the areas of marketing, management and technological capability, the MNC's will out-perform their local rivals in exporting their products and thus in generating foreign exchange earnings (Muller, and Morgenstern 1971). In Mexico, results suggest that in terms of profitability, growth and export performances of Mexican firms were competing successfully compared to MNCs during the period 1966-73.

In Sri Lanka, since the late 1960s, the country has actively encouraged the participation of multinationals in the export expansion process. This is because of the largest market-oriented economic policy reforms initiated in 1977.So much so manufactured goods have emerged as the most important element of export structure of the country (Cable and Prasaud, 1987). We are aware that there appears to be no significant difference in the area of export orientation between multinational enterprises (MNEs) and domestic firms in Sri Lanka (Athukorala P., Jayasuriya, S., Oczkowski, E., 1995).

---

[2] See Lall and Kumar, (1981).

The difference in the contribution of foreign affiliates to international trade from the host countries can be treated as the impact of foreign direct investment. That is, investors of foreign countries/foreign affiliates have different types of objectives viz., exports maximisation, sales maximisation of products in the host country's market (which would not play a larger role in international trade). In other instances, production within host countries by foreign transnational firms may represent a small proportion of domestic output, which is because local restrictions limit foreign involvement (UNCTAD, 1991). For instance, the ratio of foreign direct investment to gross domestic is only 0.5 per cent in India compared to 3.6 per cent of China in 2000, the gap in the FDI/GDP ratio narrows to 1.7 to 2.0 for India and Chins respectively using new definition of FDI (Kumar, 2005).

In India, since late 1970s, there are few authors like Leipziger (1976) Subrahmanian and Mohanan Pillai (1979), Lall and Kumar (1981), Lall and Mohammad (1983), Saxena (1987), Kumar (1990), Pant (1993), Kumar (1994), Subrahmanian and Joseph (1994), Ganesh (1997) Joseph (2000), and Kumar (2005) have long made significant contributions and propelled academic debate on trade performance between foreign and domestic companies. These studies though have failed to explore the overall trade performance of foreign and domestic companies in India since 1991. Also there is no consensus among the scholars in the case of the overall impact and the performance of MNCs in India. The contribution that MNCs make to the growth, employment, the market competitiveness, technology transfer for developing/LDCs has been a subject of debate, especially, MNCs impact on export of manufactured products in the last three or four decade. According to Lall (1983) 'foreign ownership has a positive impact on export performance'. In contrast, empirical evidence from India did not provide any considerable proof to support a positive/direct relationship between foreign ownership and export performance. More specifically, for such firms the actual export performance was found to be poorer than local or indigenous counterparts (Subrahmanian and Mohanan Pillai, 1979). Joseph (2000) pointed out that 'foreign ownership is found to have no significant effect on the export. The domestic engineering companies have made the domestic market much more attractive than that of international market. Indigenous

46

companies are non-competitive in international markets, either because they are inefficient or undersized, or because they are operating with out technologies that handicap their expansion (Lall and Kumar, 1981). However, here it is important to indicate that the number of foreign collaborations approved by the government of India for the products under the category of engineering goods up to 1967 accounted for more than 66.0 per cent of the total collaboration agreements in manufacturing sector. In fact, there are three industries such as machinery, machine tools and electrical equipment industries, which are the top three industries for importing technology. The second survey on foreign collaboration for 1964-70 showed restrictive clauses (such as permission of collaborator for exports, prohibition of exports to certain countries, the prohibition of certain types of products and so on) in 60 per cent of the agreements and export constraints in 76 per cent of the clauses (Subrahmanian and Mohanan Pillai, 1979). Multinationals played a significant role in India's foreign trade. For example, the share of multinational exports 41.09 per cent during 1979-1980. Also total exports by the sampled multinational firms from engineering goods industry was the highest 47.36 per cent, textiles industry is 7.46 per cent, chemicals industry was 0.19 per cent and tea industry was 5.15 per cent (Saxena, 1987). Pant (1993) clearly pointed out that there is no consensus on the relative export performance of foreign and domestic firms and he has concluded his study by saying that there is no significant difference in the export efforts of the domestic and foreign companies with the sole exception of pharmaceutical industry. The long history of academic debate in economic literature has shown that considerable controversy exists over whether MNCs have in fact promoted manufactured exports from developing countries (Lall et al, 1983). Here it is important to indicate that, most studies have looked into the case of export promotion impact of MNCs rather than trade impacts like import, foreign net earnings, imported raw material etc. It is not surprising that the recent and growing literature in this area is mainly concentrating on comparison export comparison of local and foreign-controlled firms. There is also a serious methodological problem. Such comparisons generally do not take account of other factors including, size of exports, exports of different products and so on at the firm or industry level, which may account for different export propensities of foreign and local firms. Newfarmer

and Marsh (1981) is an exception to the simple comparison approach and they have econometrically examined the performance of export of MNCs (Lall and Mohammad, 1983, Athukorala et.al, 1995).

Comparison of the conduct and performance of foreign controlled enterprises (FCEs) and local controlled enterprises (LCEs) suggests that the degree of import dependence of FCEs is not significantly different from that of local firms. Foreign controlled firms also do not export a significantly different proportion of sales than that of local counterparts. More specifically, the empirical results did not reveal any significant difference in the industry characteristics of exports of FCEs and LCEs (Kumar, 1994). According to Subrahmanian and Joseph (1994) evidence shows that 30 pair out of 50 sample pairs, that is 60 per cent of the total sample pairs, foreign firms show poor performance relative to local firms. Also the average value of the ratio of export to output (export-intensity) of all foreign firms taken together appears to be lower than that of average for local firms. The difference between the overall average export-output ratio of foreign firms (10.1 per cent) and local firms (11.2 per cent) is found statistically significant.

According to Ganesh (1997) foreign firm's market share and export orientation is directly related. For instance, his study Group-4 stands for 33-100 per cent market share of the foreign firms and their total sales is Rs. 247 billion, total exports is Rs. 28.7 billion and total imports is Rs. 20 billion, export propensity is 11.6 per cent. Group 2, which represents zero to ten per cent of market share of foreign firms. Their sales was Rs.1,618 billion), total export value Rs. 1,20.9 billion, and total imports Rs. 332.3 billion and its export propensity was 7.5 per cent. Group 3, which belongs to 10-33 per cent of market share of foreign firms and their sales was total Rs. 525 billion, total exports Rs. 51.4 billion, and total imports Rs.62.76 billion, though, its export propensity is 9.8 per cent. The argument may be summarized in the following table.

Table-3.1: Relationship between Foreign Dominance and Financial/Trade Indicators

FDI Firms Market Share/Category	Total Sales (Rs. bn)	Total Exports (Rs. bn)	Total Imports (Rs. bn)	Export/Sales (Per cent)
0	1010	64.7	113.4	6.4
0-10	1618	120.9	332.3	7.5
10-33	525	51.4	62.76	9.8
33-100	247	28.7	20.0	11.6
Average	850.00	66.43	132.12	8.83

Source: Ganesh (1997).

Table-3.1 presents that market concentration and export propensity is directly related. Not only that market concentration and total exports and total imports have been seem to be inversely related. Whichever firms were in the group-4 have showed higher export propensities, their markets share is high. Joseph (2000) used panel data set for the largest 485 firms from the Indian manufacturing sector and found that foreign collaboration has a positive effect on the decision to export, foreign ownership is found to have no significant effect on the export. The result of the selection-corrected estimates of export intensity has shown the following; foreign ownership is found to have negative effect on export intensity.

To conclude, three main arguments have been proposed by writers based on empirical tests for various countries. Willmore (1976, 1986 and 1992), Reidel (1975), and Lall and Mohammad (1983) using the matched pairs, ANOVA and OLS methods, conclude that foreign firms' performance is better than domestic firms especially, in export. Second group, Jenkins (1979), Cohen (1975), Chen (1983) and Subrahmanian and Mohanan Pillai (1979) using z-test, no significant test and matched pairs methods, argued that domestic companies appears to be performing better than foreign firms. Third group, like Newfarmer and Marsh (1981), Fairchild (1977), Carvalho (1977), Morgenstern and Muller (1976), Cohen (1975), Gershenberg and Ryan (1978), Athukorala et al. (1995), Kumar (1990), Pant (1993), and Subrahmanian and Joseph (1994) using regression, matched pairs, no significant

test, t-test, logit and OLS methods, find that there is no significant difference between MNCs and domestic companies (refer Table-3.2).

3.2a Aggregate Level Trade Performance

The role of multinational companies in the promotion of host country's trade especially export promotion of manufactured goods from the developing economies has for long been a subject of wide academic interest and debates. There are a number of studies, which have extensively discussed the impact of foreign firms on the export of Indian economy. However, studies have failed to investigate the overall trade performance of foreign and domestic companies in India during the period 1991-2004. As we earlier mentioned, there are a number of studies but almost all studies have discussed the role of FDI in India's exports and comparison of foreign and domestic companies in terms of export and import intensities, for example, Subrahmanian and Mohanan (P) (1978), Lall et al. (1981), Lall and Mohammad (1983), Pant (1993), Kumar (1994), Subrahmanian et al. (1994), Sharma (2000), Joseph (2000), and Kumar (2005). The present study intends to look into the overall trade performance of foreign and domestic companies in India since 1991. The performance analysis is conducted at the aggregate and disaggregated level using four trade-related indicators namely, export intensity, import intensity, net export intensity and raw material import intensity. The net export intensity is defined as the ratio of the firms net export value to its sales value in a year. The net export value of the firms or net foreign exchange value is the difference between the firm's export value and its import value in a year.

Table-3.2: Methods and Results of the Selected Studies on Export Performance[1]

Author	Year	Country	Methods	Results*
Cohen	1975	Singapore	No Significant Test	FF < DF
Cohen	1975	South Korea	No Significant Test	FF > DF
Cohen	1975	Taiwan	No Significant Test	FF and DF not different
Riedel	1975	Taiwan	ANOVA	FF>DF in1 of 6 industries
Willmore	1976	Costa Rica	Matched Pairs	FF>DF
Morgenstern & Muller	1976	Latin America	Regression	FF and DF not different
Fairchild	1977	Mexico	Matched Pairs	FF and DF not different
Carvalho	1977	Mexico & C. America etc.	Matched Pairs	FF and DF not different
Gershenberg & Ryan	1978	Uganda	t – test	FF and DF not different
Subrahmanian & Pillai, P.M.,	1979	India	Matched Pairs	DF>FF
Jenkins	1979	Mexico	z –test	DF>FF in 2 of 4 industries
Newfarmer & Marsh	1981	Brazil	Regression	FF and DF not different
Chen	1983	Hong Kong	ANOVA	FF> DF in 1 of 4 and DF> FF in 2 of 4 industries
Chen	1983	Malaysia	Matched Pairs	FF & DF not different
Lall & Sharif	1983	India	OLS	FF>DF
Willmore	1986	Brazil	Matched Pairs	FF>DF
Kumar	1990	India	OLS	FF and DF not different
Willmore	1992	Brazil	Logit & OLS	FF>DF
Pant	1993	India	Logit & OLS	FF and DF not different
Subrahmanian & Joseph	1994	India	Logit & OLS	FF and DF not ** different
Athukorala, et al.	1995	Sri Lanka	Selection corrected export function	DCMNEs[a] and DF not different
Joseph	2000	India	Fixed effect model	FO is found to have no significant effect on Export

[1] See also Jenkins (1990) and Joseph (2000), [a] Developed country multinational enterprises (DCMNEs).

* Difference is significant at the 5 per cent level, ** Coefficient of foreign ownership is found to have negative (not statistically significant) effect on export, and FO = foreign ownership.

Table-3.3 presents the aggregate level trade performance. Evidence shows that there is a significant difference between foreign and domestic companies at the five per cent level. Most of the recent studies in India show that there is no significant difference between foreign and the domestic companies (Kumar 1990, Pant, 1993, Subrahmanian et al. 1994, and Joseph, 2000). However, evidence from the analysis gives the impression that there is a significant statistical difference between foreign and domestic companies at the aggregate level especially, since 1998.

Table-3.3: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies at the Aggregate Level

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.0602 (-1.48**)	0.1483 (0.30**)	-0.0881 (-0.82**)
	Foreign	0.0790	0.1367	-0.0576
1992	Domestic	0.0731	0.1326	-0.0595
	Foreign	(-0.86**) 0.0847	(-0.77**) 0.2124	(0.65**) -0.1277
1993	Domestic	0.0843	0.1925	-0.1082
	Foreign	(-1.54**) 0.1100	(-0.84**) 0.3702	(0.74**) -0.2602
1994	Domestic	0.0976 (-1.42**)	0.2950 (-0.72**)	-0.1973 (0.60**)
	Foreign	0.1220	0.4260	-0.3039
1995	Domestic	0.1064	0.2897	-0.1833
	Foreign	(-1.05**) 0.1235	(-1.64**) 2.6852	(1.62**) -2.5617
1996	Domestic	0.1082	1.2012	-1.0930
	Foreign	(-1.75**) 0.1384	(1.23**) 0.2658	(-1.27**) -0.1273
1997	Domestic	0.1331	3.5749	-3.4403
	Foreign	(-0.88**) 0.1528	(0.98**) 0.2328	(-0.99**) -0.0789
1998	Domestic	0.1298	0.1058	0.0250
	Foreign	(-1.23**) 0.1506	(-2.81*) 0.2397	(2.49*) -0.0878
1999	Domestic	0.1244	0.0965	0.0293
	Foreign	(-1.20**) 0.1440	(-5.85*) 0.1767	(3.48*) -0.0323
2000	Domestic	0.1246	0.0923	0.0342
	Foreign	(-0.26**) 0.1285	(-4.74*) 0.1505	(3.42*) -0.0206
2001	Domestic	0.1322	0.0891	0.0457
	Foreign	(-0.27**) 0.1362	(-2.83*) 0.1849	(2.58*) -0.0481
2002	Domestic	0.1280	0.0837	0.0482
	Foreign	(-1.34**) 0.1493	(-5.95*) 0.1419	(2.46*) 0.0088
2003	Domestic	0.1419	0.1004	0.0449
	Foreign	(-0.05**) 0.1427	(-2.88*) 0.1518	(2.44*) -0.0077
2004	Domestic	0.1445	0.1017	0.0476
	Foreign	(0.43**) 0.1382	(-4.93*) 0.1575	(4.12*) -0.0164

Mean (not in percentage), t-values are in parentheses, level of significance at the 5 per cent, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity, * significant and not/insignificant.

Interestingly, export intensity was insignificant but net export was statistically significant this is because average of import intensity of foreign companies was very high compared to domestic companies. So much so, net export intensity of foreign

companies appears to be lower than domestic companies. In other words, net export intensity of domestic firms was higher is due to the low import intensity compared to its export intensity.

3.2b The Disaggregated Level Trade Performance

The disaggregated level analysis represents five industries such as chemicals industry, engineering industry, tea industry, textiles industry and trading industry. Performance of trade is measured using four indicators viz., export intensity, import intensity, net export intensity and raw material import intensity of foreign and domestic companies for the last fourteen-year period 1991-2004. Evidence suggests that there is no significant difference between foreign and domestic companies at disaggregated level (exception of tea).

Chemicals Industry

Table-3.4 shows the trade performance of foreign and domestic companies of chemicals industry during the period 1991-2004. It has been observed that there is no significant difference between foreign and the domestic companies in chemicals industry since 1991 in the case of trade performance at the five per cent level. Although, t-values of net export intensity were found statistically significant for the last three years in 2001, 2003 and 2004. Interestingly, chemicals industry is one of the highly advanced technology using industries this is because both foreign and domestic companies using advanced technology. For instance, disembodied technology import intensity was found statistically significant at the aggregate and disaggregated level. Average export intensity of domestic companies are higher than foreign companies. It implies that the domestic firms have more export value than foreign companies especially, for the period 1994-2004, although net export intensity was found statistically insignificant. We can therefore infer that the available evidence shows that there is no significant difference between foreign and domestic companies in chemicals industry. Here, it is necessary to indicate that there is inter-industry variation in terms of performance dimensions. For instance, foreign companies appears to be performing better than domestic companies in the case of financial performance although the available evidence suggests that there is

no significant difference between foreign and domestic companies in the case of trade performance.

Table-3.4: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies in Chemicals Industry

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.0400	0.1174	-0.0774
	Foreign	(-1.53**) 0.0607	(1.03**) 0.0972	(-1.88**) -0.0375
1992	Domestic	0.0566	0.1314	-0.0748
	Foreign	(-0.32**) 0.0615	(1.28**) 0.0944	(-1.32**) -0.0339
1993	Domestic	0.0668	0.1383	-0.0715
	Foreign	(-0.62**) 0.0791	(0.56**) 0.1217	(-0.81**) -0.0436
1994	Domestic	0.0823	0.3347	-0.2523
	Foreign	(0.26**) 0.0760	(1.33**) 0.1622	(-1.25**) -0.0862
1995	Domestic	0.0969	0.3616	-0.2657
	Foreign	(0.51**) 0.0846	(-0.92**) 1.8755	(0.93**) -1.7909
1996	Domestic	0.1005	2.7652	-2.6647
	Foreign	(0.09**) 0.0984	(1.02**) 0.3389	(-1.02**) -0.2405
1997	Domestic	0.1081	0.2343	-0.1261
	Foreign	(-0.71**) 0.1275	(0.74**) 0.1670	(-0.94**) -0.0394
1998	Domestic	0.1202	0.1335	-0.0132
	Foreign	(0.30**) 0.1128	(-2.21*) 0.1861	(1.92**) -0.0733
1999	Domestic	0.1218	0.1206	0.0012
	Foreign	(0.07**) 0.1199	(-0.79**) 0.1351	(0.52**) -0.0150
2000	Domestic	0.1259	0.1128	0.0163
	Foreign	(0.93**) 0.1042	(-0.72**) 0.1256	(1.41**) -0.0211
2001	Domestic	0.1345	0.1047	0.0316
	Foreign	(1.33**) 0.1039	(-1.78**) 0.1363	(2.36*) -0.0321
2002	Domestic	0.1438	0.0984	0.0484
	Foreign	(0.79**) 0.1229	(-1.22**) 0.1179	(1.45**) 0.0060
2003	Domestic	0.1555	0.1088	0.0499
	Foreign	(1.92**) 0.1112	(-1.20**) 0.1523	(2.13*) -0.0409
2004	Domestic	0.1612	0.1207	0.0454
	Foreign	(1.91**) 0.1156	(-0.93**) 0.1390	(2.38*) -0.0236

Mean (not in percentage), t-values are in parentheses, level of significance at the 5 per cent, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity, * significant, and **not/insignificant.

Engineering Industry

Table-3.5 presents the trade performance of foreign and domestic companies for the period 1991-2004 in engineering industry. Evidence shows that there is no significant difference between foreign and domestic companies in the trade performance. This is

Table-3.5: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies in Engineering Industry

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.0483	0.2092	-0.1609
	Foreign	(-0.95**) 0.0633	(0.75**) 0.1526	(-0.94**) -0.0892
1992	Domestic	0.0512	0.1746	-0.1233
	Foreign	(-1.05**) 0.0665	(-0.69**) 0.3099	(0.61**) -0.2433
1993	Domestic	0.0559	0.1521	-0.0962
	Foreign	(-1.72**) 0.0934	(-1.09**) 0.5622	(1.03**) -0.4697
1994	Domestic	0.0688	0.1119	-0.0431
	Foreign	(-1.72**) 0.1040	(-1.85**) 0.2543	(1.53**) -0.1502
1995	Domestic	0.0651	0.1758	-0.1107
	Foreign	(-2.10*) 0.1066	(-1.43**) 3.8314	(1.41**) -3.7247
1996	Domestic	0.0663	0.6787	-0.6123
	Foreign	(-2.35*) 0.1156	(1.42**) 0.1974	(-1.56**) -0.0818
1997	Domestic	0.1093	9.7744	-9.6645
	Foreign	(-0.53**) 0.1319	(0.98**) 0.2813	(-0.99**) -0.1495
1998	Domestic	0.0804	0.1107	-0.0292
	Foreign	(-2.63*) 0.1390	(-2.05*) 0.2897	(1.51**) -0.1503
1999	Domestic	0.0779	0.1064	-0.0264
	Foreign	(-2.62*) 0.1311	(-4.45*) 0.2024	(1.85**) -0.0707
2000	Domestic	0.0822	0.1012	-0.0170
	Foreign	(-1.88) 0.1190	(-3.92*) 0.1774	(1.96**) -0.0576
2001	Domestic	0.0936	0.1006	-0.0042
	Foreign	(-1.48**) 0.1202	(-2.05*) 0.2294	(1.61**) -0.1085
2002	Domestic	0.0977	0.0912	0.0113
	Foreign	(-2.00**) 0.1370	(-5.11*) 0.1649	(1.98*) -0.0256
2003	Domestic	0.1155	0.0987	0.0206
	Foreign	(-0.66**) 0.1286	(-4.32*) 0.1647	(2.84*) -0.0341
2004	Domestic	0.1140	0.1085	0.0116
	Foreign	(-1.30**) 0.1406	(-4.17*) 0.1756	(2.22*) -0.0333

Mean (not in percentage), t-values are in parentheses, level of significance at the 5 per cent, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity, * significant and ** not/insignificant.

because of net export intensities were found statistically not significant at the five per cent level. However, export intensities were found statistically significant at the five per cent level since 1998. Interestingly, engineering industry uses advanced technology. Foreign companies as a whole spend more on import of technology including importing of the capital goods, basic components, intermediate goods etc (Lopez, 2005). As a result, import intensity was negative and found statistically significant at the five per cent level. A few studies that have been conducted on Indian R&D (Desai, 1980, Bhagwati and Srinivasan, 1975) have strongly suggested that most technological activities appears to be directing at the domestic market. If this is so, export propensities should be negatively related to R&D activity, since innovation will show greater market success at home and, given the structure of incentives, will detract from efforts to sell abroad (Lall et al.1981). According to Subrahmanian et al. (1978) the domestic companies with relatively low degree of foreign collaborations appears to have performed relatively better than firms with a high degree of foreign collaboration in the export performance. The export performance index of foreign subsidiaries was found to be lowest (0.0348) whereas that of domestic firms with no foreign collaboration was found to be higher (0.1017). This may coincide with that of the results in chemicals industry, where average export intensity of the domestic companies was higher than foreign companies. In contrast, average export intensity of foreign companies was higher than domestic companies at the aggregate level also in engineering industry. Most of the recent studies have discussed impact of foreign ownership and collaboration on the export performance of India (Sharma, 2000, Joseph, 2000). Foreign companies would have performed better than local firms if multinational companies were establed in the host countries after learning more about the economic, social, cultural, political, legal and ruling situations. This implies FDI inflows, and, after some period, MNCs may start to export (UNCTAD, 1996, and Vettas and Rob. 2003, cited in Lopez, 2005). In addition, the marketing networks of MNCs are often more concentrated in marketing at international level than the marketing networks of non-MNCs and the possession of more sophisticated international networks makes it easier for foreign companies to exploit international trade opportunities than the non-MNCs (Ramstetter et al. 2004). O'Brien and Warr (1989) have noted a distinct technology gap between foreign and local firms, MNCs that utilized advanced technology have to source their inputs from elsewhere due to the lower and unreliable quality of products produced by local firms.

Tea Industry

Table-3.6 gives the trade performance of foreign and domestic companies in tea industry since 1991. The available data shows that foreign firms are more than 5 per cent of total companies of tea industry. Evidence gives the impression that foreign firms fare better performance than domestic companies for the period 1991-2004. This

Table-3.6: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies in Tea Industry

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.0608 (-2.62*)	0.0126 (-3.06*)	0.0482 (-2.21**)
	Foreign	0.2581	0.0623	0.1957
1992	Domestic	0.0618 (-2.86*)	0.0203 (-2.92*)	0.0415 (-2.42*)
	Foreign	0.2783	0.0626	0.2158
1993	Domestic	0.1251 (-2.07**)	0.0136 (-2.87*)	0.1115 (-1.77**)
	Foreign	0.3097	0.0474	0.2623
1994	Domestic	0.0977 (-2.75*)	0.0113 (-3.31*)	0.0864 (-2.43*)
	Foreign	0.3035	0.0558	0.2477
1995	Domestic	0.0697 (-2.64*)	0.0083 (-4.24*)	0.0613 (-2.15**)
	Foreign	0.2645	0.0528	0.2117
1996	Domestic	0.0575 (-2.97*)	0.0174 (-2.49*)	0.0401 (-2.66*)
	Foreign	0.2441	0.0578	0.1863
1997	Domestic	0.0740 (-2.29**)	0.0093 (-2.09**)	0.0647 (-2.16**)
	Foreign	0.2302	0.0411	0.1891
1998	Domestic	0.0544 (-2.60*)	0.0102 (-1.50**)	0.0441 (-2.84*)
	Foreign	0.2255	0.0639	0.1616
1999	Domestic	0.0509 (-2.24**)	0.0097 (-2.23**)	0.0411 (-2.14**)
	Foreign	0.1830	0.0383	0.1446
2000	Domestic	0.0391 (-2.41*)	0.0142 (-1.89**)	0.0249 (-2.37*)
	Foreign	0.1808	0.0454	0.1355
2001	Domestic	0.0383 (-2.49*)	0.0136 (-1.69**)	0.0247 (-2.69*)
	Foreign	0.1904	0.0466	0.1438
2002	Domestic	0.0552 (-1.93**)	0.0092 (-2.00**)	0.0460 (-1.86**)
	Foreign	0.1969	0.0377	0.1592
2003	Domestic	0.0601 (-1.89**)	0.0100 (-1.34**)	0.0501 (-1.93**)
	Foreign	0.1925	0.0257	0.1668
2004	Domestic	0.0628 (-1.38**)	0.0108 -1.79**)	0.0520 (-1.30**)
	Foreign	0.1496	0.0246	0.1250

Mean (not in percentage), t-values are in parentheses, significance at the 5 per cent level, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity, * significant and ** not/insignificant.

is because foreign company's export, import, and net export intensities were found negative and statistically significant at the five per cent level. This result raises two points. First, in contrast to the conventional wisdom, foreign companies appear to be performing poorly than domestic companies. Second, why foreign companies appear to be performing better than domestic companies in tea industry only?

Textiles Industry

Table-3.7 shows that there is no significant difference between foreign and domestic companies in textiles industry at the five per cent level during the period 1991-2004.This is because t-values of export, import and net export intensities were found statistically not significant. The presence of foreign companies in terms of number of companies is low. Foreign companies are around 3 per cent of total domestic companies. The result from the textiles industry is similar to the results from the aggregate level, engineering industry and chemicals industry. It has been observed that few t-values from the export and import intensities were found statistically significant at the five per cent level.

Trading Industry

Trading industry is a part of service sector industry. The trade performances of foreign and domestic companies were found statistically not significant during the period 1991-2004 in trading industry. This is because export, import and net export intensities were found not significant statistically at the five per cent level. We may therefore infer that the available evidence suggests that there is no significant difference between foreign and domestic companies in the case of the trade performance (see Table-3.8). It is striking that there is no significant difference between foreign and the domestic companies at the aggregate and disaggregated level with the sole exception of tea industry.

Table-3.7: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies in Textiles Industry

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.1230 (-0.68**)	0.1134 (-0.78**)	0.0096 (0.76**)
	Foreign	0.1937	0.3207	-0.1270
1992	Domestic	0.1570 (-0.78**)	0.0863 (-0.89**)	0.0706 (-0.26**)
	Foreign	0.2495	0.1544	0.0951
1993	Domestic	0.1599 (-1.41**)	0.4290 (0.68**)	-0.2691 (-1.42**)
	Foreign	0.3175	0.2545	0.0630
1994	Domestic	0.1765 (-2.11**)	0.6979 (-1.14**)	-0.5214 (1.06**)
	Foreign	0.3996	3.1326	-2.733
1995	Domestic	0.1999 (-2.10**)	0.5163 (-0.06**)	-0.3164 (-0.54**)
	Foreign	0.4013	0.5361	-0.1347
1996	Domestic	0.2121 (-2.33*)	0.3918 (-0.64**)	-0.1798 (-0.28**)
	Foreign	0.4562	0.5543	-0.0981
1997	Domestic	0.2257 (-2.14*)	0.2046 (-0.74**)	0.0268 (-0.64**)
	Foreign	0.4083	0.3011	0.1203
1998	Domestic	0.2491 (-1.67**)	0.0808 (-2.77*)	0.1715 (0.01**)
	Foreign	0.3891	0.2315	0.1698
1999	Domestic	0.2390 (-1.31**)	0.0709 (-3.46*)	0.1713 (0.85**)
	Foreign	0.3567	0.2514	0.1052
2000	Domestic	0.2277 (-0.99**)	0.0738 (-1.45**)	0.1553 (-0.43**)
	Foreign	0.3113	0.1319	0.1910
2001	Domestic	0.2351 (-1.72**)	0.0736 (-2.54*)	0.1669 (-0.58**)
	Foreign	0.3823	0.1653	0.2181
2002	Domestic	0.2064 (-1.89**)	0.0769 (-1.80**)	0.1356 (-1.19**)
	Foreign	0.3683	0.1383	0.2300
2003	Domestic	0.2152 (-1.82**)	0.1219 (-0.22**)	0.0988 (-1.47**)
	Foreign	0.3672	0.1359	0.2313
2004	Domestic	0.2172 (-0.44**)	0.0728 (-2.62*)	0.1484 (0.94**)
	Foreign	0.2475	0.1786	0.0879

Mean (not in percentage), t-values are in parentheses level of significance at the 5 per cent, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity, * significant and ** not/insignificant.

Table-3.8: Mean and t-values of Selected Trade Indicators of Foreign and Domestic Companies in Trading Industry

Industry/Year	Company	Ex/S	Im/S	Ne/S
1991	Domestic	0.0274 (-1.37**)	0.0419 (0.05**)	-0.0145 (-1.14**)
	Foreign	0.1010	0.0409	0.0601
1992	Domestic	0.0335 (-1.08**)	0.0340 (-0.26**)	-0.0005 (-0.75**)
	Foreign	0.0774	0.0404	0.0369
1993	Domestic	0.1006 (-0.14**)	0.0436 (-1.03**)	0.0570 (0.44**)
	Foreign	0.1085	0.0803	0.0282
1994	Domestic	0.0889 (-0.10**)	0.0514 (-1.05**)	0.0375 (0.62**)
	Foreign	0.0937	0.1039	-0.0102
1995	Domestic	0.1000 0.64**	0.0549 (-0.70**)	0.0451 (0.88**)
	Foreign	0.0718	0.0759	-0.0041
1996	Domestic	0.0832 (0.22**)	0.0664 (-1.67**)	0.0167 (1.43**)
	Foreign	0.0739	0.1899	-0.1160
1997	Domestic	0.1189 (1.08**)	0.1043 (-0.46**)	0.0146 (0.95**)
	Foreign	0.0733	0.1324	-0.0590
1998	Domestic	0.0988 (0.80**)	0.0699 (-1.26**)	0.0289 (1.39**)
	Foreign	0.0669	0.1285	-0.0616
1999	Domestic	0.0811 (0.65**)	0.0544 (-1.81**)	0.0267 (2.45*)
	Foreign	0.0617	0.1300	-0.0682
2000	Domestic	0.0840 (0.28**)	0.0545 (-1.53**)	0.0295 (1.96**)
	Foreign	0.0737	0.1142	-0.0405
2001	Domestic	0.0799 (0.06**)	0.0526 (-1.56**)	0.0276 (1.72**)
	Foreign	0.0779	0.1366	-0.0586
2002	Domestic	0.0677 (0.72**)	0.0515 (-1.52**)	0.0169 (1.96**)
	Foreign	0.0511	0.1262	-0.0751
2003	Domestic	0.0798 (0.52**)	0.0661 (-1.14**)	0.0139 (1.62**)
	Foreign	0.0651	0.1127	-0.0476
2004	Domestic	0.0797 (0.65**)	0.0955 (-0.75**)	-0.0124 (1.02**)
	Foreign	0.0560	0.1361	-0.0800

Mean (not in percentage), t-values are in parentheses, level of significance at the 5 per cent, Ex/S = Export Intensity, Im/S = Import Intensity and Ne/S = Net Export Intensity., * significant and ** not/insignificant.

Table-3.9 presents the raw material imports intensity at the aggregate and disaggregated level. The raw material import intensity is defined as the ratio of the firms' expenditure on importing raw material to its sales value in a year. As mentioned earlier, foreign companies as a whole spend more for buying raw materials from abroad. So much so, import intensity of foreign companies was higher than domestic for instance, import intensity was found statistically significant at the aggregate level, and industries like

Table-3.9: Mean and t-values of Raw Material Import at the Aggregate and Disaggregated Level

Industry/Year	Company	ImR/S Aggregate Level	ImR/S Chemical[1]	ImR/S Engineering[2]
2000	Domestic	0.0342	0.0815	0.0676
	Foreign	(3.42*) -0.0206	(-0.38**) 0.0900	(-2.60*) 0.1014
2001	Domestic	0.1233	0.1728 (0.94**)	0.1629 (0.40**)
	Foreign	(0.39**) 0.1075	0.0996	0.1263
2002	Domestic	0.0679	0.0930	0.0766
	Foreign	(-3.81*) 0.1013	(-0.21**) 0.0965	(-3.57*) 0.1214
2003	Domestic	0.0667	0.0944	0.0761
	Foreign	(-2.26*) 0.1373	(-1.20**) 0.1215	(-1.68**) 0.1745
2004	Domestic	0.0693	0.0997	0.0810
	Foreign	(-3.93*) 0.1033	(-0.23**) 0.1036	(-3.17*) 0.1201

Industry/Year	Company	ImR/S Textiles Industry	ImR/S Trading Industry
2000	Domestic	0.0377	0.0020
	Foreign	(-0.78**) 0.0641	(-1.16**) 0.0199
2001	Domestic	0.0563	0.0051
	Foreign	(-1.65**) 0.1050	(-1.31**) 0.0205
2002	Domestic	0.0588	0.0061
	Foreign	(-0.77**) 0.0794	(-1.24**) 0.0185
2003	Domestic	0.0469	0.0094
	Foreign	(-1.16**) 0.0763	(-1.10**) 0.0245
2004	Domestic	0.0426	0.0069
	Foreign	(-1.57**) 0.0797	(-1.00**) 0.0231

Mean (not in percentage), t-values are in parentheses, level of significance at the 5 per cent, and ImR/S = Imported Raw material Intensity. Tea industry excluded from the table because of lack of the sufficient data, * significant and ** not/insignificant, [1] Chemicals industry and [2] Engineering industry.

engineering, and tea. According to Lopez (2005) 'there are two possible bi-directional links between FDI and imports. First, if imports are evidence that a market exists for a commodity, FDI might be attracted to the host country to produce that product locally. In other words, a rise in imports in the host country justifies investment and production by multinationals; thus, imports stimulate FDI inflows. Second, as soon as MNCs establish in the host country, they import certain types of supplies (basic components and intermediate goods produced by the head quarters) to satisfy the quality standards required by the international market; therefore, FDI inflows increase the demand for imports11. The facility of Free Trade Zone (FTZ) is more helpful to multinationals to enjoy minimum customs formalities and the duty-free import of raw materials, parts of component, machinery and equipment etc. in the production process of them (Driffield, Clarke, and Noor, 2004).

We have used raw material import intensity as one of the trade performance indicators. It is calculated at the aggregate and disaggregated level during the period 2000-2004. This is because of lack of sufficient data. Table- 3.9 shows that there is a significant statistical difference between foreign and domestic companies in the case of raw material import intensity at the aggregate level and in engineering industry at the five per cent level. At the same time, evidence shows that there is no significant statistical difference between foreign and domestic companies in the case of raw material import intensity at the disaggregated level industries such as chemicals, textiles and trading.

3.3 Conclusion

There has been a considerable change in policies and attitudes towards FDI in the developing economies over the last two decades, in the context of widespread storm for economic liberalisation, demonstrable and miracle changes in the East-Asian economies, Newly Industrialized economies were forced to change their attitudes towards inward-looking orientation and the 'self-reliance, and optimism about foreign investment led growth and efforts for greater participation in international

---

11 See Lo'pez (2005).

62

trade were administered (Portelli, 2004). For instance, Latin American countries like Mexico, Brazil, Argentina etc. experienced strong growth in both trade and foreign direct investment during the 1990s (Zignago and Castilho, 2004). The available evidence suggests that multinational enterprises are too trade oriented, especially in the industrialised and most internationalized countries (for instance, Lipsey and Weiss, 1981, Swedenborg, 1979, 1985, Pearce, 1990, cited in Narula, 1996).

The role of FDI in exports is increasing over the decades, especially in the developing countries such as China, Korea, Taiwan, Malaysia, Singapore, and Indonesia. Evidence shows that multinational enterprises in exports of Thailand's have increased over the years. Sibunruang (1986) pointed out that the role of foreign firms in export propensity rose over time from 10 per cent to 33 per cent in 1984. In a recent study, Sibunruang and Brimble (1992) estimated around 777 companies controlled 30-40 per cent of Thailand's total manufacturing export and the sample excluded non-promoted exporters (Brimble, 2003). It presents the impact of multinational companies on the export performance of the host economies.

In this background, we have analysed the trade performance of foreign and domestic companies in India during the period 1991-2004. Trade performance is measured using four indicators viz., export intensity, import intensity, net foreign exchange/export intensity and raw material import intensity. The performance analysis is conducted both at the aggregate and disaggregated level. The result shows that there is a significant difference between foreign and domestic companies at the aggregate level in the net export intensity performance at the five per cent level in India since 1998. But, we found that there is no significant difference between foreign and domestic companies in chemicals industry, engineering industry, textiles industry and trading industry in the trade performance at the five per cent level. However, we that found there is a significant difference between foreign and domestic companies in tea industry at the five per cent level in the case of trade performance. Some of the major findings are as follows.

Table-3.10: The Major Findings of this Chapter: Trade Performance

Industries	Results
Aggregate Level	DC > FC significant EX: not significant NEX: significant
Disaggregated Level Chemicals Industry	DCs and FCs not significant EX: not significant NEX: not significant
Engineering Industry	DCs and FCs not significant EX: not significant NEX: not significant
Tea Industry	DCs < FCs significant EX: significant NEX: significant
Textiles Industry	DCs and FCs not significant EX: not significant NEX: not significant
Trading Industry	DCs and FCs not significant EX: not significant NEX: not significant

DCs represents domestic companies, and FCs represents foreign companies (Level of significant at the 5 per cent)

We tried to test mean difference of both foreign and domestic companies whether any significant difference in the trade performance indicators using test of significance. Some of the striking findings of the study are highlighted in Table-3.10 above. Finally, we wish to point out that at least few micro-results, which are highlighted as follows.

1) Export intensity was found negative at the aggregate level, industries such as engineering industry, tea industry and textiles industry. It suggests that foreign companies appear to be enjoying higher exports as compared to domestic companies, yet mean difference is not significant.

2) Import intensity was found negative at the aggregate, and disaggregated level industries like engineering, tea, and textiles. We can therefore infer that

the available evidence suggests that foreign companies as a whole more spend more for import of semi-finished goods, capital goods and so on as compared to domestic companies.

3) Raw material import intensity was found statistically significant at the aggregate level, and disaggregated level industry like engineering. It has been observed that raw material import intensity statistically in significant in industries like chemicals, textiles and trading. This result suggests that there is a significant difference between foreign and domestic companies in the case of raw material imports.

Table-3.2 (pp. 51) presents the second group, Jenkins (1979) in Mexico; Cohen (1975) in Singapore; Chen (1983) in Hong Kong and Subrahmanian and Mohanan Pillai (1979) in India using z-test, no significant test, ANOVA, and matched pairs methods and argued that the domestic firms appears to be performing better than foreign firms. In fact, available evidence from this study gives the impression that the domestic companies fare better than foreign companies in the case of trade performance at the aggregate level in India since 1998 at the five per cent level.

CHAPTER- 4

TECHNOLOGICAL PERFORMANCE OF FOREIGN AND DOMESTIC COMPANIES

4.1 Introduction

In the last chapter we have discussed the trade performance of the domestic and foreign companies both at the aggregate and disaggregated level for the period 1991-2004. This chapter provides a discussion on the technology performance of foreign and domestic companies from various industries namely, chemicals industry, engineering industry, tea industry, textiles industry and trading industry. Technology transfer from MNCs to the host countries is one of the important consequences of FDI. This is widely acknowledged by academic scholars all over the world (Dunning, 1994, Lall and Urata, 2003, Wei and Balasubramanyam, 2004, Bell and Marin, 2006). Innovation and learning are, Cohen and Levinthal (1989) argued, the 'two faces of R&D', both indispensable to technological and economic development'. They are particularly important for a late-starter like Japan (after the Meiji Restoration of 1867or after the defeat of World War II), because the acquisition of advanced technology from abroad was essential to help it build technology capabilities of its own (Goto and Odagiri, 2003).

Most of the ftrecent studies highlighted the characteristics of multinational companies such as size, age and the skilled-level of their labour force. But more importantly, this showed that they typically have different access to technology. MNCs conduct a large share of the world's R&D and they possess the bulk of the world's stock of advanced commercial technologies. Also, most of the R&D is conducted within the parent or headquarters of a company and results are primarily transferred to own affiliates of the host countries (Okamoto and Sjoholm, 2005, Bell and Marin, 2006).

Technology can be considered to consist of both codifiable and non-codifiable elements (Narula, 1991). The codifiable element consists of tangible assets that represent the necessary 'hardware' (e.g. machinery and equipment) to transform

inputs to a specified output/and the particular tangible knowledge or software that is required to undertake the transformation process. Such tangible knowledge is tangible technology through manuals computer packages, and other means. Codifiable technology is readily transferable and represents technology that, given perfect markets for information, would be transferred through licensing or some other contractual arrangement. Second being, the element of technology that is non-codifiable, it represents intangible knowledge and is embodied primarily in skilled labour. The embodiment expresses itself in accumulated knowledge that takes the form of technical competence in some areas such as marketing know-how, product and process design and adaptive knowledge. The non-codifiable technology represents the essence of ownership advantage (United Nations, 1993).

This chapter is organised as follows. Section 4.1 presents introduction, section 4.2 will focus the technological performance of foreign and domestic companies at the aggregate and disaggregated levels, and the last section 4.3 summarizes the major findings of this chapter.

4.2 Technological Performance of Foreign and Domestic Companies

Evidence from the debate surrounding the role of multinationals and domestic companies in the case of technology capabilities. It is true that multinationals have 'superiority' in the R&D expenditures compared to local companies. For instance, U.S multinationals contributed more than 75 per cent of all technology receipts during the period 1986-1990, while for Germany the figure was higher than 90 per cent (UNCTC, 1992, cited in Perez, 1998). The international transfer of technology may out in different ways: international trade in capital goods, manufactures, licensing to independent foreign firms or to foreign subsidiaries and foreign direct investment (Perez, 1998). In addition, multinationals to be important in industries and firms that have higher levels of R&D relative to its sales, produce new and technically complex products (Markusen, 2002). It has been noted that with the increasing globalisation of international business, the high technology sector has become a major segment of foreign trade (Bhalla and Ramu, 1996). According to

Rasaih (2004), in Brazil, foreign firms have enjoyed higher overall technological and process technological intensities than local firms although R&D intensity was found statistically not significant. In India, multinational enterprises reveal a lower R&D intensity compared to local firms in India (Kumar, 2005). However, most of recent studies have failed to address the overall technology performance of foreign and domestic companies based in technology intensity viz., embodied technology and disembodied technology import intensities.

According to Zhang (2001d) multinationals have brought modern technologies to China, which would not have been available in the absence of FDI and raised efficiency with which existing technologies are used. A central objective of China's foreign direct investment policy is to obtain modern technology through MNCs. China provides special preferences and incentives to MNCs for the transfers technology in areas such as transportation, communication, energy, metals, construction materials, machinery, pharmaceuticals, chemicals, electronics, and medical equipments although, Technology transfer in these industries were very much limited before the early 1990s (Zhang, 2001b). China has adopted a new FDI policy of an 'exchange market for technology' and gradually opened domestic market to MNCs (Zhang, 2004). The attraction of FDI, nowadays is nothing but attraction of 'a composite bundle of capital, technology and know-how' (Salisu, Sapsford and Balasubramanyam, 1996, De Mello, 1997).

We shall highlight just four features of technology and innovation activity, which are especially relevant to an understanding of the dynamics of MNEs activity. First, there has been a marked acceleration in all forms of expenditure on technology creation over the last decade especially in developed countries namely, United States of America, Japan, Germany, etc. Second, technology has become more expensive. The R&D of many biotechnology, pharmaceutical, industrial electronics and telecommunications companies is now measured in US$ billions rather than US$ millions. Third, technology is becoming less industry/activity specific and more systematic in its application (Stopford and Baden, 1992, cited in Dunning, 1993). At the same time, advances in product and process development are needed to draw upon multiple technologies. Increasingly, the competitive advantages of

firms seem to be shifting from the ownership of technological capacity per se to the ability to manage and coordinate such capacity. Finally, technology advances have spread both across value added chains, and between different stages of the same chain (Dunning, 1993).

Kawai and Urata (2003) pointed out clearly that foreign trade has been an important source of foreign technologies for developing countries through the importation of intermediate and investment goods that embodied new technology. Reverse engineering is one way of assimilating technology from such imports, for countries that have the capability to carry out this complex task. An expansion of imports may lead to improvements in technical efficiency in domestic firms in different ways. First, to survive increased competitive pressure, firms must introduce new technologies, products, management methods and so on. It has been observed that import of technology in the form of license and patents are an important way of obtaining foreign technology. The pattern of technology trade as measured by royalties and license fees paid abroad represents intensity of disembodied technology import of the firms.

Most of the recent studies show foreign direct investment as the main source of new technology especially in newly industrialised countries (NICs) viz., Taiwan, Malaysia, Korea, Singapore, Thailand, Indonesia etc (Kim, 2003, Aw, 2003, Rasiah, 2003, Brimble, 2003). In particular, this means that the 'Tiger' economies used to access and absorb new foreign technologies over time- this process and this was the very lifeblood of industrial success (Lall and Urata, 2003). It has been observed that there is a positive relationship between technology transfer and MNCs activities because either multinational company would develop their own technology or they will import technology in terms of capital goods and know-how. The strength of foreign firms depends upon their capability of technology. For instance, world's most of the research and development activities is under the control of multinationals (Graham, 2005). In this background, the study intends to analyse the technology performance of foreign and domestic companies in India since liberalisation.

4.2a Aggregate Level Technology Performance

This section discusses technological performance of foreign and domestic companies at the aggregate industry level during the period 1991-2004. The performance of technology is measured using technology indicators such as, research and development intensity (R& D), embodied technology import intensity (ETII) and disembodied technology import intensity (DTII). Evidence from the literature gives the impression that foreign companies as a whole appear to be performing better than domestic companies in the case of R&D and technology intensity. Interestingly, the available evidence suggests that there is no significant statistical difference between foreign and domestic companies at the aggregate and disaggregated level in the technology performance with the sole exception of DTII.

Interestingly, expenditure of foreign companies on research and development activities was higher than domestic companies but t-values were found statistically not significant at five per cent level. Technology intensity can be divided into two intensities namely embodied technology import intensity and disembodied technology import intensity. The ETII represents the firm's spending on import of capital goods to its sales value in a year. The DTII represents the firm's expenditure on the know-how and royalty to its sales in a year. The available evidence shows that there is no significant difference between foreign and domestic companies in the technology performance due to the R&D intensity, and technology intensity was found statistically insignificant though DTII is found significant.

Table-4.1: Mean and t-values of Selected Technology Indicators of Domestic and Foreign Companies at the Aggregate Level

Industry/Year	Company	R&D Intensity	ETI Intensity	DTI Intensity
1991	Domestic	0.019	6.530	0.159
	Foreign	(-1.40**) 0.043	(1.39**) 2.095	(-1.19**) 0.229
1992	Domestic	0.068	1.986	4.234
	Foreign	(-0.95**) 0.096	(-0.44**) 2.869	(0.48**) 2.316
1993	Domestic	0.134	7.234	1.379
	Foreign	(-3.23*) 0.289	(-0.73**) 20.633	(0.92**) 0.612
1994	Domestic	0.241	18.45	0.729
	Foreign	(-0.88**) 0.306	(-0.48**) 26.91	(0.31**) 0.602
1995	Domestic	0.238	16.2	0.240
	Foreign	(-1.21**) 0317	(-1.62**) 241.1	(-1.06**) 8.253
1996	Domestic	0.269	81.239	1.464
	Foreign	(-1.27**) 0.362	(1.41**) 7.840	(0.76**) 0.663
1997	Domestic	0.464	299.918	24.920
	Foreign	(0.10**) 0.441	(1.01**) 3.792	(0.99**) 0.339
1998	Domestic	0.922	1.347	0.120
	Foreign	(0.96**) 0.431	(-2.89*) 3.610	(-4.90*) 0.418
1999	Domestic	0.614	1.055	0.094
	Foreign	(0.64**) 0.357	(-2.42*) 2.209	(-4.72*) 0.414
2000	Domestic	0.280 (-0.22**)	0.802 (-1.36**)	0.081 (-4.25*)
	Foreign	0.303	1.210	0.363
2001	Domestic	0.231 (-1.52**)	0.586 (-2.08*) 1.119	0.055 (-5.08*)
	Foreign	0.329		0.363
2002	Domestic	0.241 (-1.69**)	0.553 (-0.95**)	0.056 (-3.99*)
	Foreign	0.335	0.737	0.395
2003	Domestic	0.263 (-1.10**)	0.727 (-0.41**)	1.138 (0.68**)
	Foreign	0.950	0.810	0.404
2004	Domestic	0.288 (-0.00**)	0.693 (-1.86**)	0.068 (-2.07*)
	Foreign	0.289	1.285	0.473

Mean (in percentage), average of domestic companies, t-values are in parentheses (level of significance at the 5 per cent), and average of foreign companies, R&D = Research and Development Intensity, ETII and DTII = Embodied and Disembodied Technology Import Intensities, * significant and ** not/insignificant.

4.2b Disaggregated Level Technology Performance

Chemicals Industry

It has been observed that local firms direct their R&D activity towards absorption of imported knowledge to provide a back up to their outward expansion. MNEs affiliates, on other hand, either focus on customization of their parents' technology for the local market (Kumar and Agarwal, 2000, cited in Kumar, 2005). Table-4.2 shows the technology performance of foreign and domestic companies in the chemicals industry during the period 1991-2004. Interestingly, evidence shows that there is no significant statistical difference between foreign and domestic companies in the case of technology performance due to the R&D intensity and embodied technology import intensity being statistically not significant at the five per cent level. It shows that there is a significant difference between foreign and domestic companies in disembodied technology import intensity in chemicals industry for the last seven-year period 1999 to 2004. Moreover, foreign companies as a whole spend more income for research and development, import of capital goods, know-how and royalty and patents than domestic companies, even though mean differences were found not to be significant statistically. It has been observed that foreign and domestic companies were found statistically significant only in the case of disembodied technology import intensity.

Evidence from technology performance analysis gives the information that there is a similarity between the result from the aggregate level and disaggregated level. This is because of R&D and ETII were found not statistically significant at the aggregate and disaggregated level although the DTII was found statistically significant at the aggregate and disaggregated level especially since 1998. It implies that the presence of MNCs in India lead to higher imports of technology especially, in terms of know-how, patents and spending more for royalty.

Technological ability of the firms may affect the market structure. Multinational firms have advanced technology and it represents their market power. According to

Jenkins (1987) importing technology, which is not available locally hence, supplements local resource and could also bring capital, which displace local capital and

Table-4.2: Mean and t-values of Selected Technology Indicators of Foreign and Domestic Companies in Chemicals Industry

Industry/Year	Company	R&D Intensity	ETI Intensity	DTI Intensity
1991	Domestic	0.02 (-1.70**)	1.89 (1.54**)	0.25 (1.98*)
	Foreign	0.07	0.69	0.01
1992	Domestic	0.08 (-1.27**)	1.52 (1.93**)	2.14 (0.61**)
	Foreign	0.16	0.20	0.90
1993	Domestic	0.20 (-1.69**)	2.00 (0.64**)	0.86 (1.94**)
	Foreign	0.34	1.21	0.13
1994	Domestic	0.36 (-0.04**)	16.00 (1.26**)	1.78 (0.63**)
	Foreign	0.37	3.45	0.93
1995	Domestic	0.32 (-0.84**)	17.48 (-0.95**)	0.45 (-0.23**)
	Foreign	0.42	172.76	0.52
1996	Domestic	0.50 (0.72**)	183.14 (1.04**)	3.67 (0.98**)
	Foreign	0.40	15.66	0.49
1997	Domestic	0.53 (0.64**)	9.50 (0.81**)	0.52 (0.69**)
	Foreign	0.43	2.90	0.22
1998	Domestic	2.35 (1.16**)	1.01 (-2.10**)	0.13 (-1.33**)
	Foreign	0.53	4.17	0.21
1999	Domestic	1.65 (0.93**)	0.72 (-0.96**)	0.11 (-2.00**)
	Foreign	0.50	1.36	0.30
2000	Domestic	0.60 (0.82**)	0.98 (0.57**) 0.69	0.12 (-1.29**)
	Foreign	0.36		0.20
2001	Domestic	0.40 (-0.56**)	0.36 (-1.03**)	0.05 (-2.48*)
	Foreign	0.49	0.78	0.16
2002	Domestic	0.40 (-0.62**)	0.31 (-0.74**)	0.03 (-2.53*)
	Foreign	0.48	0.45	0.24
2003	Domestic	0.45 (-0.95**)	1.05 (1.85**)	0.03 (-2.72*)
	Foreign	2.28	0.28	0.15
2004	Domestic	0.54 (2.24**)	0.56 (-0.06**)	0.03 (-2.55*)
	Foreign	0.32	0.58	0.12

Mean (in percentage), average of domestic companies, t-values are in parentheses (level of significance at the 5 per cent), and average of foreign companies, R&D = Research and Development Intensity, ETII and DTII = Embodied and Disembodied Technology Import Intensities, * significant and ** not/insignificant.

entrepreneurship. This has led to a concern over the denationalization (that is, the extension of control by foreign subsidiaries) of local industry, which is seen as a reflection of the market power of transnational corporations rather than their inherently greater efficiency compared to local counterparts. Technology capability of firm's can determine the market structure. The available evidence suggests that the 'monopolistic' advantages of foreign companies so far is due to imports of the capital goods and know-how from headquarters or parent companies (see Table-4.2). We can therefore infer that evidence show that technology capabilities of foreign companies deter functioning of domestic market. It is interesting that the results from the aggregate level and chemicals industry are the same in the case of technology performance of foreign and domestic companies for the period 1991-2004.

Engineering Industry

Table-4.3 shows that the performance of foreign and domestic companies in the case of technology since 1991 in engineering industry. The presence of foreign firms in engineering industry is very high for instance, around 8.5 per cent of total companies are foreign companies in engineering industry. Evidence gives the information that there is no significant statistical difference between foreign and domestic companies for the period 1991-2004 in the case of technology performance. This is because R&D intensity and embodied technology import intensity (ETII) were found statistically insignificant at 5 five per cent level although disembodied technology import intensity was found statistically significant at the five per cent level.

There are many ways to categorize products by technology. The simplest and most common one is to distinguish between high and low technology activities, based on their research and development activities, or intensities, patenting, or proportion of scientists and engineers in R&D (Lall, 1999). Result shows that technology intensity especially, the disembodied technology import intensity is found statistically significant at the five per cent level. Other two intensities viz., R&D and embodied technology import intensities were found insignificant statistically for the period 1991-2004. Although averages of R&D and technology intensity of foreign companies were higher than local firms even though restrictive policy on licensing

and other restrictions may have possibly affected foreign company's performance and their technology transfer. As a result, in the areas of rapid technical change, even progressive Indian enterprises fell behind international frontiers.

Table-4.3: Mean and t-values of Foreign and Domestic Companies in Engineering Industry

Industry/Year	Country	R&D Intensity	ETI Intensity	DTI Intensity
1991	Domestic	0.03	10.64	0.19
	Foreign	(-0.42**) 0.04	(1.29**) 1.97	(-2.52*) 0.41
1992	Domestic	0.10 (0.53**)	1.00 (-1.08**)	8.45 (0.53**)
	Foreign	0.07	4.42	3.75
1993	Domestic	0.14	5.27	0.80
	Foreign	(-1.94**) 0.27	(-0.92**) 35.46	(-0.33**) 1.00
1994	Domestic	0.31	2.00	0.29
	Foreign	(0.13**) 0.29	(-1.26**) 6.32	(-2.21*) 0.54
1995	Domestic	0.32	4.89	0.18
	Foreign	(0.45**) 0.27	(-1.40**) 343.99	(-1.05**) 15.07
1996	Domestic	0.22 (-1.05**)	47.61 (1.60**)	0.82 (0.52**)
	Foreign	0.29	2.21	0.62
1997	Domestic	0.81 (0.83**)	832.32 (0.99**)	70.17 (0.99**)
	Foreign	0.35	3.18	0.48
1998	Domestic	0.43	1.30	0.21
	Foreign	(0.07**) 0.42	(-2.04*) 3.46	(-3.62*) 0.62
1999	Domestic	0.21	1.00	0.15
	Foreign	(-2.04*) 0.34	(-2.15*) 2.21	(-4.40*) 0.50
2000	Domestic	0.21	0.74	0.10
	Foreign	(-1.54**) 0.34	(-1.96**) 1.67	(-5.48*) 0.45
2001	Domestic	0.26	0.69	0.10
	Foreign	(-0.50**) 0.30	(-1.75**) 1.17	(-4.35*) 0.58
2002	Domestic	0.30	0.70	0.11
	Foreign	(-0.23**) 0.31	(-0.89**) 1.02	(-3.23*) 0.61
2003	Domestic	0.28	0.67	0.17
	Foreign	(-1.11**) 0.37	(-1.86**) 1.24	(-1.91**) 0.68
2004	Domestic	0.31	0.63	0.15
	Foreign	(-0.47**) 0.34	(-2.31*) 1.40	(-1.82**) 0.85

Mean (in percentage), average of domestic companies, t-values are in parentheses (level of significance at the 5 per cent), and average of foreign companies, R&D = Research and Development Intensity, ETII and DTII = Embodied and Disembodied Technology Import Intensities, * significant and ** not/insignificant.

Many factors affect national/industrial competitiveness. Even a country richly endowed with natural resource or labor resource cannot compete in international market if it can't use its resources properly with appropriate technology. However, the country needs the capability to absorb and adapt foreign technology. The technological capability of the country is determined by mainly two factors namely, educated and well-trained workers and the research and development activity. Although formal education may not constitute technological capability without technical training or experience, it provides the base on which technical skills are developed. On the other hand, the number of researchers in the country's population can serve as a good indicator of technological capability. For instance, the average for developing countries was 334 in 1997 as compared to 3161 for developed countries (Urata and Kawai, 2003).

Evidence from engineering industry shows that there is no difference between foreign and domestic companies in the case of R&D activities at the five per cent level. In contrast, there is a significant difference between foreign and domestic companies in the case of disembodied technology import intensity for the period 1991-2004. It implies that foreign companies as a whole have more absorption and adaptive capability for technology development process especially, in DTII as compared to domestic companies.

Tea Industry

Table-4.4 shows the technology performance of foreign and domestic companies of tea industry during the period 1991-2004. Here, performance analysis is conducted in terms of average because of lack of data on R&D, capital goods import etc. Evidence gives the impression that foreign company's mean of R&D intensity, embodied technology and disembodied technology import intensities were higher than domestic companies. That is, foreign companies' as a whole spend more for the research and development activities and import of technology in terms of capital goods and know-how from the parent or headquarters companies.

Table-4.4: Mean of Selected Technology Indicators of Foreign and Domestic Companies in Tea Industry

Selected Technological Indicators/Year	R&D Intensity		ETI Intensity		DTI Intensity	
Company	DCs	FCs	DCs	FCs	DCs	FCs
1991	0.04	0.00	0.00	0.04	0.00	0.00
1992	0.01	0.00	0.02	0.07	0.00	0.00
1993	0.05	0.00	0.06	0.05	0.00	0.00
1994	0.04	0.08	0.03	0.00	0.00	0.02
1995	0.03	0.09	0.06	0.25	0.00	0.03
1996	0.02	0.21	0.77	0.66	0.00	0.03
1997	0.04	0.13	0.01	0.01	0.00	0.03
1998	0.03	0.10	0.01	0.17	0.00	0.02
1999	0.03	0.07	0.01	0.01	0.00	0.02
2000	0.03	0.04	0.00	0.01	0.00	0.02
2001	0.04	0.07	0.03	0.06	0.00	0.00
2002	0.04	0.07	0.01	0.04	0.00	0.00
2003	0.03	0.05	0.01	0.04	0.00	0.00
2004	0.08	0.05	0.09	0.13	0.00	0.00

Mean (in per cent), DCs and FCs = Domestic and Foreign companies, ETII and DTII = Embodied and Disembodied Technology Import Intensities.

Table-4.5: Mean of Selected Technology Indicators of Foreign and Domestic Companies in Textiles Industry

Selected Technological Indicators/Year	R&D Intensity		ETI Intensity		DTI Intensity	
Company	DCs	FCs	DCs	FCs	DCs	FCs
1991	0.01	0.00	7.25	13.85	0.01	0.02
1992	0.01	0.03	5.60	5.83	0.04	0.02
1993	0.06	0.31	22.44	9.59	3.99	0.05
1994	0.05	0.46	61.17	302.84	0.37	0.15
1995	0.07	0.30	43.06	34.55	0.14	0.67
1996	0.16	0.81	31.26	21.86	0.05	2.32
1997	0.05	1.39	14.01	14.69	0.04	0.21
1998	0.06	0.48	2.65	5.35	0.02	0.21
1999	0.05	0.02	2.15	7.70	0.03	0.11
2000	0.07	0.02	1.10	1.40	0.02	0.02
2001	0.06	0.10	1.14	3.12	0.02	0.12
2002	0.06	0.11	0.92	0.78	0.03	0.01
2003	0.12	0.19	0.71	0.84	5.54	0.01
2004	0.04	0.11	1.44	4.29	0.01	0.00

Mean (in per cent), DCs and FCs = Domestic and Foreign companies, ETII and DTII = Embodied and Disembodied Technology Import Intensities.

Textiles Industry

Table-4.5 shows the technological performance of foreign and domestic companies in textile industry for the period 1991-2004. Evidence shows that foreign company's mean of R&D intensity, embodied and disembodied technology import intensities

were higher than domestic companies in textiles industry. Interestingly, we can see that average values of embodied technology import intensity of foreign companies are very much higher than domestic companies. It has been observed that average values of embodied technology import intensity, disembodied technology import intensity and R&D intensity of foreign companies and domestic companies were low compared to each other. For instance, since 2000 average of technology indicators of foreign and domestic companies appear to be declining as compared to their averages in previous years.

Trading Industry

Table-4.6 shows that technology performance of foreign and domestic companies in trading industry during the period 1991-2004. Evidence gives the impression that foreign companies fare better than domestic companies in terms of the R&D intensity, embodied and disembodied technology import intensities compared to domestic companies. This is because average of R&D intensity, embodied and disembodied technology import intensities were higher than domestic companies.

Table-4.6: Mean of Selected Technology Indicators of Foreign and Domestic Companies in Trading Industry

Selected Technological Indicators/Year	R&D Intensity		ETI Intensity		DTI Intensity	
Company	DCs	FCs	DCs	FCs	DCs	FCs
1991	0.02	0.00	0.37	0.02	0.04	0.00
1992	0.03	0.00	0.09	0.01	0.02	0.13
1993	0.03	0.02	0.25	0.03	0.02	0.28
1994	0.01	0.02	0.32	0.02	0.03	0.22
1995	0.04	0.32	0.70	0.05	0.04	0.05
1996	0.01	0.33	1.31	0.08	0.03	0.01
1997	0.01	0.05	4.56	0.12	0.01	0.02
1998	0.02	0.03	0.16	0.04	0.02	0.04
1999	0.01	0.38	0.33	0.01	0.02	0.94
2000	0.01	0.17	0.07	0.00	0.03	1.14
2001	0.02	0.13	0.04	0.12	0.02	0.02
2002	0.01	0.12	0.30	0.01	0.02	0.02
2003	0.00	0.19	0.20	0.08	0.02	0.04
2004	0.00	0.03	0.09	0.13	0.03	0.02

Mean (in per cent), DCs and FCs =Domestic and Foreign companies, ETII and DTII = Embodied and Disembodied Technology Import Intensities.

It is important to indicate that foreign company's average of R&D intensity and the technology intensity including, embodied and disembodied technology import intensities were higher than domestic companies in tea, textiles, and trading industry. Also, it has been observed that there is no significant statistical difference

between foreign and domestic companies in the R&D and ETII and there is a significant difference between two groups of companies at the aggregate level and disaggregated level industries like chemicals and engineering.

Now we can raise the question why domestic firms do not have better performance over foreign companies? According to Fikkert (1994) study taking 305 Indian private sector firms showed that firms having foreign equity participation have an insignificant direct effect in R&D but they tend to depend significantly more on foreign technology purchases which in turn reduces R&D intensity. In contrast, indigenous R&D expenditure has improved significantly over the years (Fikkert, 1994; cited in Kumar, 2005). Foreign firms will have potential to develop technology because they have highly skilled engineers, managerial staffs, brilliant scientists, huge profits and so on. Moreover, foreign firm's parent/headquarters are situated in developed countries. Their socio-cultural, political, legal, economic and technological developments are entirely different as compared to developing countries. It cannot, in other words, simply be assumed to be a neutral factor, which can be transferred to completely different environment to raise productivity and welfare (Lall and Streeten, 1997). The lesson from the analysis is that the government must give more priorities to research and development and should give more importance to FDI/MNCs if it smoothly transfers technology. That is, foreign direct investment policy must be 'technology selective' or 'technology ensuring' from the developing country's point of view. Also, foreign direct investment policy must direct foreign investors to the productive sector with the export obligations. We must make FDI corruption-free, as bureaucrat's intervention and regulatory burden at the national level are found to have a negative impact on FDI flows. Moreover, government must grant different fiscal and financial concessions/incentives to foreign investors (Wei, 2004). This is because of MNCs have advantages over local firms in using technologies. They have mastered and used the technologies elsewhere; and might have created the technology in the first place (Lall, 2003).

4.3 Conclusion

Evidence shows that R&D intensity and embodied technology import intensity were found not significant statistically at the aggregate and disaggregated level. But, there is a significant difference statistically between foreign and domestic companies in the case of disembodied technology import intensity at the five per cent level. It

shows that the import of technology in terms of capital goods and know-how of foreign companies fare better than local counterparts. At the same time, evidence shows that there is no significant difference between foreign and domestic companies in the case of technology performance in chemicals and engineering industries. It is due to the fact that R&D intensity and embodied technology import intensity were found statistically not significant at the five per cent level although disembodied technology import intensity was found statistically significant at the five per cent level in chemicals and engineering industries. This contrast conventional wisdom that MNCs are technologically superior (Bell and Marin, 2006) than domestic companies. In fact, the available evidence shows that there is no significant statistical difference between foreign and domestic companies at the aggregate and the disaggregated level. But foreign companies appears to be performing better than domestic companies in technology performance in tea, textiles and trading industries as average R&D intensity and embodied and disembodied technology import intensities of foreign companies were higher than domestic companies. Some of the important findings of this study are given below.

Table-4.7: The Major Findings of this Chapter: Technology Performance

Industries	Results
Aggregate Level	DCs and FCs not significant
R&D Intensity	DCs and FCs not significant
ETII	DCs and FCs not significant
DTII	DCs and FCs significant
Disaggregated Level Chemicals Industry	DCs and FCs not significant
R&D Intensity	DCs and FCs not significant
ETII	DCs and FCs not significant
DTII	DCs and FCs significant
Engineering Industry	DCs and FCs not significant
R&D Intensity	DCs and FCs not significant
ETII	DCs and FCs not significant
DTII	DCs and FCs significant

DCs represents domestic companies, and FCs represents foreign companies (Level of significant at the 5 per cent)

1) Disembodied technology import intensity was found statistically significant at the aggregate, and disaggregated level industries viz., chemicals and engineering industries.

2) Average of R&D intensity and embodied and disembodied technology import intensities of foreign companies appear to be higher than domestic companies in tea industry, textiles industry and trading industry.

CHAPTER-5

SUMMARY AND CONCLUSION

5.1 Introduction

Governments across the developing world and regional governments within countries have been competing with each other to promote foreign direct investment (FDI) and multinational companies (MNCs) in their own regions. As a result, there has been a considerable change in policies and attitudes towards FDI in developing countries. Why developing countries are interested in promoting FDI? The existing literature provides a few reasons. According to Balasubramanyam and Mahambare (2004) 'a steep reduction in alternative sources of finance such as bank credit in the wake of the debt crisis, the demonstrable successes of East Asian countries and growth in knowledge and understanding the nature and operations of MNCs, the principal purveyors of FDI'. Also, it is expected to result in non-debt creating financial flows to the host countries, it may promote export especially of manufactured products of the host economies and MNCs are a major source of state-of-the art technology to the local economy. A developing country like India too has been attracting FDI and her paradigm shift of policy changes towards FDI is explicitly stated with the New Industrial Policy of 1991. This is because a significant number of policy-makers and academicians in our country think that a free flow of foreign capital is a necessary factor for efficient modernisation of Indian industries. Most of the recent studies have focussed on the issues such as FDI trends, the difference between approvals and actual inflows, the relative-export performance of foreign and domestic firms, impact of foreign direct investment on export potential of the host economies, and the determinant of FDI and technology spillovers. But these studies are not enough to say the overall performance of foreign companies as compared to domestic companies in India. However, a detailed assessment of the overall performance of these two groups of companies over a long enough period covering the phase of liberalisation and in a larger framework is found wanting. So much so, the present study intends to look on the three broad dimensions of foreign and domestic companies in India – (i) the financial performance of foreign and domestic companies; (ii) the trade performance of foreign and domestic companies

and (iii) the technological performance of foreign and domestic companies in India for the period 1991-2004. For the two groups of companies, we have calculated to average ratios of financial, trade and technology indicators and the difference between the two sets of companies in terms of performance indicators are tested using test of significance.

5.2 Financial Performance

Financial performance measured using three ratios namely, profitability ratios, liquidity ratios and structural ratios. Most of recent studies have focussed on the profitability of foreign and domestic companies. For instance, the available evidence from the literature gives the impression that foreign companies fare better than domestic companies in the case of profitability (Lall and Streeten, 1977 and Kumar, 1994). On other hand, Joseph and Subrahmanian (1994) have argued that domestic companies appears to be performing better than foreign companies.

In contrast, empirical evidence from the present study shows that there is no significant statistical difference between foreign and domestic companies at the aggregate and disaggregated levels with the sole exception of chemicals industry. This result rejects the two hypotheses, first hypothesis is that foreign companies fare better than domestic companies and second, hypothesis is that domestic companies appears to be better than foreign companies. However, this study found that there is no significant statistical difference between foreign and domestic companies in the case of financial performance especially, in the profitability between two groups of companies both at the aggregate and disaggregated level with the sole exception of chemicals industry.

5.3 Trade Performance

The impact of foreign direct investment in the promotion of exports of manufactured products from developing countries, especially trade performance of multinationals as compared to local counterparts have long been a subject of policy interest and academic debate. Thus, a review of the major findings in India reveals that the empirical evidence available so far is fragmentary and no clear-cut

consensus is arrived at on the relatively greater export intensity of the firms whether under foreign ownership-control or domestic ownership. The available evidence shows that there is a significant statistical difference between foreign and domestic companies in the trade performance at the aggregate level. In other words, domestic companies fare better than foreign companies at the aggregate level especially, since 1998 although there is no significant difference between foreign and domestic firms at the disaggregated level with the sole exception of tea industry. Table-3.2 (pp.49) presents the second group, Jenkins (1979) in Mexico; Cohen (1975) in Singapore; Chen (1983) in Hong Kong and Subrahmanian and Mohanan Pillai (1979) in India, using z-test, no significant test, ANOVA, and matched pairs methods and argued that the domestic firms appears to be performing better than foreign firms. In fact, available evidence from the present study gives the results that the domestic companies fare better than foreign companies in the case of trade performance at the aggregate level in India during the period 1998-2004.

5.4 Technology Performance

Technology performance forms the fourth chapter, which dealt the performance of foreign and domestic companies in technology at the aggregate and disaggregated level during the period 1991-2004. The available studies suggests that foreign companies as a whole more technologically 'superior' than domestic companies (Bell and Marin, 2006). This is because MNCs conduct a large share of the world's R&D and they possess the bulk of the world's stock of advanced commercial technologies. Also, most of the R&D is conducted within the parent or headquarters of a company and results are primarily transferred to own affiliates of the host countries (Okamoto and Sjoholm, 2003).

Thus, a review of the findings in the case of India reveals that the empirical evidence available so far is not clear and no conclusion can be arrived at on the relatively greater R&D intensity of the firms under foreign ownership as against domestic ownership. Evidence from the literature gives the information that MNCs/F DI has a positive impact on R&D activity of local firms. However, the present study found there is no significant statistical difference between foreign and domestic companies

at the aggregate level and chemicals and engineering industries in the case of technology performance. On other hand evidence shows that there is a significant statistical difference between foreign and domestic companies in the case of disembodied technology import intensity at the aggregate and disaggregated level. In contrast to conventional wisdom, which states that foreign companies have technological superiority and higher expenses on R&D activities, we find that this hypothesis is not valid at the aggregate level and disaggregated level in industries like chemicals and engineering.

5.5 Conclusion

Let us now conclude with the major results of this study. Firstly, there is no significant difference statistically between foreign and domestic companies in the financial, and technology performances at the aggregate level. Second, evidence shows that there is no significant statistical difference between foreign and domestic companies in the case of financial, trade, and technology performances at the disaggregated level. But the available evidence gives the information that there is significant statistical difference between foreign and domestic firms in the trade performance at the aggregate level. Now we can raise the question where we do stand? Or what can India do? Whether India must accelerate FDI inflows or not?

Here we wish give a few policy suggestions. First, FDI policies mush ensure both the quality and quantity of inflows to the country by adopting more priorities and incentives based mechanisms including, special concessions to foreign companies if they are willing to undertake technology transfer. The policy can take different directions. Firstly, the trade performance of foreign companies appears to be poorer. This is because none of the leading exports from India involves much foreign company's participation. Hence, FDI also accounts for a relatively very small share of manufactured exports in India. The policy of FDI does not seem generally to promote exports of foreign companies and may even inhibit it. Therefore, India's FDI policy must give more incentives to foreign firms if they are willing to accept export-obligations. Secondly, technology performance of foreign companies appears

to be poor. This is because research and development activities and embodied technology imports especially, capital goods imports of foreign companies seem to be lacking. Therefore, FDI policy should aim at providing more incentives to upgrade R&D activities of foreign companies in India and also we must reduce trade barriers including, tariffs and customs duties on importing capital goods by foreign companies. In addition to these, national treatment for foreign companies and stable, transparent policies can help the course. But the ultimate issue is that the results should be ultimately reflected in their overall performance, which is found lacking by our present study.

5.6 Issues for Further Research

This study could be extended at the disaggregated level by comparing a more meaningful classification of the industrial sector.

BIBLIOGRAPHY

Agarwala, P.N., 1991. The Role and Impact of Multinationals. Allied Publishers Limited, New Delhi, India.

Ahluwalia, I.J., 1991. Productivity and Growth in Indian Manufacturing. Oxford University Press, New Delhi, India.

Athreye, S., Kapur, S., 1999. Foreign-Controlled Manufacturing Firms in India: Long-Term Trends. Economic and Political Weekly, M149-M 151 (November-27).

Athukorala, P., and Jayasuriya, S., Oczkowski, E., 1995. Multinational Firms and Export Performance in Developing Countries: Some Analytical Issues and New Empirical Evidence. Journal of Development Economics 46, 109-122.

Aw, B.Y., 2004. Technology acquisition and development in Taiwan. In: Lall, S., Urata, S. (Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Bajpai, N., Sachs, J.D., 2000. Foreign Direct Investment in India: Issues and Problems. Harvard Institute for International Development, Development Discussion Paper 759, Harvard University (March).

Balasubramanyam, V.N., Mahambare, V., 2004. Foreign Direct Investment in India. In: Balasubramanyam, V.N., Wei, Y.A. (Eds.), Foreign Direct Investment: Six Country Case Studies. Edward Elgar Publishing Limited, U.K.

Balasubramanyam, V.N., Salisu, M., Sapsford, D., 1996. Foreign Direct Investment and Growth in EP and IS Countries. Economic Journal 106, 92-105.

Balasubramanyam, V.N., Sapsford, D., 2004. Foreign direct investment and wages. In: Chen, John-ren. (Ed.), International Institutions and Multinational Enterprises: Global Players – Global Markets. Edward Elgar Publishing Limited, U.K.

Bell, M., Marin, A., 2006. Technology Spillovers from Foreign Direct Investment (FDI): the Active Role of MNC Subsidiaries in Argentina in the 1990s. Journal of Development Studies 42 (4), 678-697.

Bhalla, V.K., Ramu, S.S., 1996. International Business: Environment and Management. Anmol Publications PVT LTD, New Delhi, India.

Brimble, P., 2004. Foreign direct investment, technology and competitiveness in Thailand. In: Lall, S., Urata, S. (Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Busse, M., 2004. Multinational Enterprises, core labour standards and the role of international institutions. In: Chen, John-ren. (Ed.), International Institutions and Multinational Enterprises: Global Players – Global Markets. Edward Elgar Publishing Limited, U.K.

Carlson, S., 1974. Wage Determination and Collective Bargaining. In: Dunning, J.H. (Ed.), Economic Analysis and the Multinational Enterprise. London George Allen & Unwin Ltd. Ruskin House, Museum Street.

Carvalho, L., 1977. Comparative Performance of Foreign and Domestic Firms in Latin America. Ph.D. Thesis, Cornell University.

Caves, E.R., 1996. Multinational Enterprise and Economic Analysis. Cambridge University Press.

Chandra, N.K., 1991. Growth of Foreign Capital and Its Importance in Indian Manufacturing. Economic and Political Weekly, 679-690 (March).

Chen, E., 1983. Multinational Corporations, Technology and Employment. Macmillan, London, U.K.

Chen, John-ren., 2004. International institutions and corporate governance. In: Chen, John-ren. (Ed.), International Institutions and Multinational Enterprises: Global Players and Global Markets. Edward Elgar, U.K, pp.1-19.

Cohen, B.I., 1973. Comparative Behaviour of Foreign and Domestic Export Firms in A Developing Economy. Review of Economics and Statistics 55 (2), 190-197.

Cohen, B.I., 1975. Multinational Firms and Asian Exports. New-Heaven, CT, Yale University Press.

De Mello, L.R., 1997. Foreign Direct Investment in Developing Countries and Growth: A Selective Survey. Journal of Development Studies 34 (1), 1-34.

Dunning, J.H., 1974. Economic Analysis and the Multinational Enterprise. London George Allen &Unwin Ltd.

Dunning, J.H., 1994. Multinational Enterprises and The Global Economy. Addison Wesley Publishing Company.

Dunning, J.H., 2000. Regions, Globalisation, and the Knowledge-Based Economy. Oxford University Press.

Fairchild, L., 1977. Performance and Technology of United States and National Firms in Mexico. Journal of Development Studies 14 (1), 14-34.

Fu, X., Balasubramanyam, V.N., 2005. Exports, Foreign Direct Investment and Employment: The Case of China. Blackwell Publishing Ltd. 607-625.

Ganesh, S., 1997. Who Is Afraid of Foreign Firms? Current Trends in FDI in India. Economic and Political Weekly, 1265-1273 (May-31).

Goto, A., Odagiri, H., 2004. Building technological capabilities with or without inward direct investment: the case of Japan. In: Lall, S., Urata, S. (Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Government of India, 1991. New Industrial Policy Statement 1991. New Delhi, India.

Government of India, 2002. Report of the Committee on Compilation on Foreign Direct Investment in India, 1-40.

Government of India, 2002. Secretariat for Industrial Assistance Newsletter. Ministry of Commerce and Industry, New Delhi, India.

Graham, E.M., 2005. Introduction: Foreign Direct Investment in Developing Countries – Where Do We Now Stand? In: Graham, E.M. (Ed.), Multinationals and Foreign Investment in Economic Development. Palgrave Macmillan & International Economic Association (IEA) Conference, Vol. No.141.

Greshenberg, I., Ryan, T., 1978. Does Parentage Matter? An Analysis of Transactional and Other Firms: An East-African Case. Journal of Developing Areas 93 (1), 3-10.

Guha, S.B., 1996. Dividing Space and Labor, Spatial Dynamics of Multinational Corporations. Economic and Political Weekly, L-21-L-24 (February-24).

Gupta, S., 2005. Multinationals and Foreign Direct Investment in India and China. In: Graham., E.M. (Ed.), Multinationals and Foreign Investment in Economic Development. Palgrave Macmillan & International Economic Association (IEA) Conference, Vol. No. 141.

Hasan, R., 2002. The impact of imported and domestic technologies on the productivity of firms: panel data evidence from Indian manufacturing firms. Journal of Development Economics 69, 23-49.

Jalan, B., 2002. India's Economy in the New Millennium: Selected Essays. UBS Publishers' Distributors, New Delhi, India.

Jenkins, R., 1987. Transnational Corporations and Uneven Development: The Internationalization of Capital and The Third World. Methusen, London.

Jenkins, R., 1990. Comparing Foreign Subsidiaries and Local Firms in LDCs: Theoretical Issues and Empirical Evidence. The Journal of Development Studies 26 (2), 205 -228.

Jha, R., 2003. Recent Trends in FDI Flows and Prospects for India. Australia South Asia Research Centre, Australian National University, Australia.

Joseph, K.J., 2000. Globalisation, Foreign Firms and Export Performance, New Empirical Evidence from Indian Industry. Development Review 1 (1), 3-23.

Kahai, S., 2004. The Role of Foreign Direct Investment and its Determinants. In: Kehal, H.S. (Ed.), Foreign Investment in Developing Countries. Palgrave Macmillan, New York.

Kawai,H., Urata, S., 2004. Competitiveness and technology: an international comparison. In: Lall, S.,Urata, S.(Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Kehal, H.S., Samtani, H.H., Sawhney, J.S., 2004. Introduction. In: Kehal, H.S. (Ed.), Foreign Investment in Developing Countries. Palgrave Macmillan, New York.

Keller, W., 2002. Geographic Localization of International Technology Diffusion. The American Economic Review 92 (1), 120-142 (March).

Kim, L., 2004. The dynamics of technology development: lessons from the Korea experience. In:Lall, S., Urata, S.(Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Knott, G., 1998. Financial Management. Macmillan Business, U.K.

Kumar, N., 1990. Multinational Enterprises in India, Industrial Distribution, Characteristics, and Performance. Routledge, London.

Kumar, N., 1991. Cost of Imported Technology and Local Technologies, Implications for Technology Policy. Economic and Political Weekly, 103-106 (January-13).

Kumar, N., 1994. Multinational Enterprises and Industrial Organisation, The Case of India. Sage publications, New Delhi, India.

Kumar, N., 2000. Mergers and Acquisitions by MNEs, Patterns and implications. Economic and Political Weekly, 2851-2858 (August-5).

Kumar, N., 2005. Liberalisation, Foreign Direct Investment Flows and Development, Indian Experience in the 1990s. Economic and Political Weekly, 459-1469 (April-2).

Lall, S., 1981. Firm-Level Export Performance in an Inward-Looking Economy: The Indian Engineering Industry. World Development 9 (5), 453-463.

Lall, S., 1993. Multinational Enterprises and Developing Countries: Some Issues for Research in the 1990s. In: Eden, L., Potter, E.H. (Eds.), Multinationals in the Global Political Economy. St. Martin's Press, pp.122-128.

Lall, S., 1999. India's Manufactured Exports: Comparative Structure and Prospects. World Development 27 (10), 1769-1786.

Lall, S., 2003. Foreign direct investment, technology development and competitiveness issues and evidence. In: Lall, S., Urata,S.(Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Lall, S., Mohammad, S., 1983. Foreign Ownership and Export Performance in Large Corporate Sector of India. Journal of Development Studies 20 (1), 56-67.

Leipziger, D.M., 1976. Production Characteristics in Foreign Enclave and Domestic Manufacturing: The Case of India. World Development 4 (4), 321-325.

Lopez, P.P., 2005.Foreign Direct Investment, Exports and Imports in Mexico. The World Economy, 28 (8), 1157-1172 (August).

Macchielli, J.L., Dunning, H.J., 2002. Multinational Firms: The Global and Local Dilemma. Routledge, New York.

Markusen, J.R., 2002. Multinational Firms and the Theory of International Trade. The MIT Press, Massachusetts.

Morgenstern, R.D., Muller, R.E., 1976. Multinational Versus Local Corporations in LDC's: An Econometric Analysis of Export Performance in Latin America. Southern Economic Journal 42 (3), 399-406.

Morris, S., 1991. Multinational Affiliates in India, Why are They Different from Indian Firms. Economic and Political Weekly, 1395-1398 (June 1-8).

Morris, S., 1994. Prospects for FDI and Multinational Activity in the 1990s. Economic and Political Weekly, 1141-1146 (May-7).

Morrison, T.K., 1976. International Sub contracting Improved Prospects in Manufactured Exports for Small and Very Poor LDCs. World Development 4 (4), 327-332.

Multinational Enterprises: Global Players and Global Markets. Edward Elgar Publishing Limited, U.K.

Nagaraj, R., 2003. Foreign Direct Investment in India in the 1990s: Trends and Issues. Economic and Political Weekly, 1701-1712 (April-26).

Narula, R., 1996. Multinational Investment and Economic Structure, Globalisation and Competitiveness. Routledge, London.

Navaretti, G.B., Venables, A.J., 2004. Multinational Firms in the World Economy. Princeton University Press.

Newfarmer, R., Marsh, L., 1981. Industrial Independence and Development: A Study of International Linkage and Industrial Performance in Brazil. University of Notre, Dame, mimeo.

Ngoc, P.M., Ramstetter, E.D., 2004. Foreign Multinationals and Local Firms in Vietnam's Economic Transition. Asian Economic Journal 18 (4), 371-404.

Okamoto, Y., Sjoholm, F., 2003. Technology development in Indonesia. In: Lall, S., Urata, S. (Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Okamoto, Y., Sjoholm, F., 2005. FDI and the Dynamics of Productivity in Indonesian Manufacturing. The Journal of Development Studies 41 (1), 160-182.

Pailwar, V.K., 2004. Foreign Direct Investment, Resource Availability and Efficiency in India. In: Kehal, H.S. (Ed.), Foreign Investment in Developing Countries. Palgrave, Macmillan, U.K.

Pant, M., 1993. Export Performance, Transactional Corporations and the Manufacturing Sector: A Case Study of India. Indian Economic Review 28 (1), 41-54 (January-June).

Pazienza, M.G., Gastaldi, F., 2004. Do multinational enterprise pay less tax? Empirical evidence for Italy. In: Chen, John-ren. (Ed.), International Institutions and Multinational Enterprises: Global Players and Global Markets. Edward Elgar Publishing Limited, U.K.

Perez, T., 1998. Multinational Enterprises and Technological Spillovers. Harwood Academic Publishers, Australia.

Pisu, M., Kneller, R., Girma, S., 2005. Exports Versus FDI: An Empirical Test. Review of World Economics 141 (2), 193-218.

Portelli, B., 2004. Coordination failures and the role of foreign direct investment in least developed countries: exploring the dynamics of a virtuous process for industrial upgrading. In: Chen, John-ren. (Ed.), International Institutions and Multinational Enterprises: Global Players and Global Markets. Edward Elgar Publishing Limited, U.K.

Pradhan, R.P., 2005. FDI in the Globalization Era: Chinese and Indian Experiences. National Institute of Bank Management, Journal of Social and Management Sciences 34 (4), 323-343.

Rajan, R.S., 2004. Measures to Attract FDI, Investment Promotion, Incentives, and Policy Interventions. Economic and Political Weekly, 12-16 (January-3).

Rasiah, R., 2003. Industrial technology transition in Malaysia. In: Lall, S.,Urata, S.(Eds.), Competitiveness, FDI and Technological Activity in East Asia. Edward Elgar Publishing Limited, U.K.

Reserve Bank of India, 1999. Finances of Foreign Direct Investment Companies, 1993-94. Reserve Bank of India Bulletin LIII (1), 245-358 (March).

Reserve Bank of India, 1999. Finances of Foreign Direct Investment Companies, 1993-94. Reserve Bank of India Bulletin LIII (6), 731-785 (June).

Reserve Bank of India, 2000. Finances of Foreign Direct Investment Companies, 1993-94. Reserve Bank of India Bulletin LIV (1), 105-168 (February).

Reserve Bank of India, 2001. Finances of Foreign Direct Investment Companies, 1993-94. Reserve Bank of India Bulletin LV (2), 129-198 (February).

Reserve Bank of India, 2001. Finances of Foreign Direct Investment Companies, 1993-94. Reserve Bank of India Bulletin LV (5), 525-588 (May).

Reserve Bank of India, 2004. Foreign Investment Inflows. Reserve Bank of India Bulletin LVIII (1), S355-S356 (April).

Reserve Bank of India, 2005. Reserve Bank of India Annual Report 2004-2005. Reserve Bank of India 81-84.

Riedel, J., 1975. The Nature and Developments of Export-Oriented Direct Foreign Investment in Developing Country: A Case Study of Taiwan. Weltwirtshaftliches, Archive III (3), 505-528.

Rugman, A.M., 2005. The Regional Multinationals, MNEs and "Global" Strategic Management. Cambridge University Press.

Sarangi, D., 2004. Mining 'Development' and MNCs. Economic and Political Weekly, 1648-1652 (April-24).

Saxena, U., 1987. Role of Multinationals in India's Foreign Trade. Ashish Publishing House, New Delhi, India.

Sharma, K., 2000. Export Growth in India: Has FDI Played A Role? Center Discussion Paper 816, Yale University.

Siddharthan, N.S., Lal, K., 2003. Liberalisation and Growth of Firms in India. Economic and Political Weekly, 1983-1988 (May-17).

Siddharthan, N.S., Lal, K., 2004. Liberalisation, MNE and Productivity of Indian Enterprises. Economic and Political Weekly, 448-452 (January-31).

Sjoholm, F., 1999. Technology Gap, Competition and Spillovers from Direct Foreign Investment: Evidence from Establishment Data. The Journal of Development Studies 36 (1), 53-73 (October).

Srinivasan, T.N., 2005. Status of Indian Economic Reforms: A Hiatus or a Pause Before Acceleration? Paper Presented at Conference on 'Kerala in the Global Economy: Opportunities and Challenges'. Organised by Stanford Centre for International Development, Asian School of Business, Kerala Global Support Network, and TIE Kerala, Technopark Campus, Trivandrum, 1-40.

Srivastava, V., 1996. Liberalization, Productivity and Competition: A Panel Study of Indian Manufacturing. Oxford University Press, New Delhi, India.

Subrahmanian, K.K., Joseph, K.J., 1994. Foreign Control and Export Intensity of Firms in Indian Industry. Centre for Development Studies Working Paper No.258.

Subrahmanian, K.K., Pillai, P.M., 1979. Multinationals and Indian Exports (A Study of Foreign Collaborations and Export Performance in Selected Indian Industries. Allied Publishers, New Delhi, India.

The Economist Intelligence Unit, 1971. The growth and Spread of Multinationals Companies. QER Special No.5, London, U.K.

Thrift, N., Tylor, M., 1982. The Geography of Multinationals. Croom Helm, London, U.K.

United Nations Conference on Trade and Development (UNCTAD), 1991. World Investment Report. The Triad in Foreign Direct Investment. (New York: United Nations, 1991).

United Nations Conference on Trade and Development (UNCTAD), 1995. World Investment Report. Transnational Corporations and Competitiveness. (New York: United Nations, 1995).

United Nations Conference on Trade and Development (UNCTAD), 1998. World Investment Report. Trends and Determinants. (New York: United Nations, 1998).

United Nations Conference on Trade and Development (UNCTAD), 1999. World Investment Report. Foreign Direct Investment and the Challenge of Development. (New York: United Nations, 1999).

United Nations Conference on Trade and Development (UNCTAD), 2001. World Investment Report: Promoting Linkages. (New York: United Nations, 2001). http://www.unctad.org/wir/index.htm

United Nations Conference on Trade and Development (UNCTAD), 2002. World Investment Report. Transnational Corporations and Export Competitiveness. (New York: United Nations, 2002).

United Nations Conference on Trade and Development (UNCTAD), 2003. World Investment Report. FDI Policies for Development: National and International Perspective. (New York: United Nations, 2003).

United Nations Conference on Trade and Development (UNCTAD), 2004. World Investment Report. The Shift Towards Services, Definitions and Sources. New York: United Nations, 2004).

United Nations Conference on Trade and Development (UNCTAD), 2005 . World Investment Report. Transnational Corporations and the Internationalization of R&D. (New York: United Nations, 2005), 50-52.

United Nations Department of Economic and Social Affairs (UNDESA), 1970. Multinational Corporations in World Development. Praeger Publishers, New York, and Washington

United Nations, 1990. Transnational Corporations, Services and the Uruguay Round. United Nations, New York.

Vachani, S., 1991. Multinationals in India: Strategic Product Choices. Oxford, & IBH Publishing Co. PVT LTD.

Vaitsos, C.V., 1974. Income Distribution and Welfare Considerations. In: Dunning, J.H. (Eds.), Economic Analysis and the Multinational Enterprise. London George Allen & Unwin Ltd. Ruskin House, Museum Street, Chapter-12, 300-340.

Vernon, R., 1971. Sovereignty at Bay: The Multinational Spread of U.S Enterprises. Penguin Books.

Viswanathan, R., 2003. Industrial Finance. Macmillan, New Delhi, India. 38-73.

Wei, Y.A., 2004. Foreign Direct Investment in China. In: Balasubramanyam.V.N., Wei, Y.A. (Eds.), Foreign Direct Investment: Six Country Case Studies. Edward Elgar Publishing Limited, U.K.

Willmore, L., 1976. Direct Foreign Investment in Central American Manufacturing. World Development 4 (6), 499-517.

Willmore, L., 1986. The Comparative Performance of Foreign and Domestic Firms in Brazil. World Development 14 (4), 489-502.

Willmore, L., 1992. Transnational and Foreign Trade: Evidence from Brazil. Journal of Development Studies Vol.28, 314-335 (January).

World Commission on the Social Dimension of Globalisation, 2004. A Fair Globalisation: Creating Opportunities for All.

Zhang, K.H., 2001b. What Explains the Boom of Foreign Direct Investment in China. Economia Internazionale/International Economics, 54 (2), 1-24.

Zhang, K.H., 2001d. How Does FDI Affect Economic Growth in China. Economics of Transition. 9 (3), 673-693.

Zhang, K.H., 2004. Maximizing Benefits from Foreign Direct Investment and Minimizing it Costs: What Can We Learn from China. In: Kehal, H.S. (Ed.), Foreign Investment in Developing Countries. Palgrave Macmillan, New York.

Zignago, S., Castilho, M., 2005. Foreign Direct Investment, Trade and Regional Integration in Mercosur. In: Graham, E.M. (Ed.), Multinationals and Foreign Investment in Economic Development. IEA Conference Vol.No.141.