Outsourcing and FDI

With focus on China and India

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Abstract

Comparing China and India, China takes the leading position in terms of infrastructure thus being appropriate for production outsourcing whereas India boasts not only with educated labor force but also with financial and institutional infrastructure and experience and consequently attracting BPO and research development investments.

Yet, India is not utilizing its labor force sufficiently compared to China hence it is not using its comparative advantage, that is cheap workers, having an impact on the GDP per capita in those countries. Moreover, the Chinese trade to GDP ratio was measured to have risen by 38 percent in the period 1990-2005, valuing 70 percent in 2005, compared to India that had risen by 28 percent in the same period, showing the greater effects of increasing FDI in China.

Despite the relative specialization of China and India in manufacturing and service sectors, India is behind in terms of contribution of the sector in which it has a comparative advantage to its GDP and that finding eliminates the myth of the Indian economy service activities specialization.

The ownership structure of the export oriented enterprises in China and India was found to be quite similar since foreign investors held the major equities stakes in the companies. For example, Chinese foreign financed enterprises were found to account for about 60 percent of total imports and exports whereas in India foreign investors were responsible for half of the exported services (Li and Zhang 2008). And that means that vertical FDI and outsourcing were important drivers for the exports of the two countries.

A surprising fact is that in 2005, an investment survey showed that the main motivation of the foreign investor in China was not cheap labor rather than market size and growth, especially for the American firms, whereas the efficiency seeking investments were carried out by the Asian export-oriented investors.

Considering the ownership structure of the FDI and its implications it was found that the Chinese companies experienced positive technological spillover from joint ventures and negative from wholly-owned foreign subsidiaries.

Looking at India, despite the small share of the world FDI flows that India has attracted its FDI flows have increased in absolute terms by $22,713 or by 9,584 percent since 1990 which is undoubtedly a worth noting fact.

The foreign multinationals increased the Indian industry productivity by involving in foreign direct investment since they had the technology and the initiative (they were export-oriented) to greatly increase their productivity due to the high international competition. They did so, by transferring technology and production know-how to their suppliers and subcontractors.

The employment implications of outsourcing could best be expressed by looking at the American labor market where despite the negative employment growth in certain industries as a result of material outsourcing the overall employment was not significantly affected due to growth in other industries.
Additionally, employment implication of material and service outsourcing is decreased employment in the specific outsourced industries, more in the manufacturing than in the service sector, suggesting service orientation of the developed economies and unemployment growth in the primary manufacturing sectors.

After 1994 the Chinese FDI started declining its contribution share to the GDP leaving greater share to the trade as another important GDP contributor. In the same time the Indian FDI share has been increasing ever since the reforms suggesting insufficient trade growth and increasing dependency on foreign investors. Moreover, while FDI contributed to increasing international trade that was not enough to decrease the Indian trade deficit and contribute to greater Indian GDP growth as was the case in China.

In the same time, China is experiencing relatively steady increase in its merchandise trade balance whereas India owes most of its recent trade deficit to its merchandise trade balance. What it is interesting to find is the current trend of increasing Chinese trade deficit in the service sector while India is experiencing stable increase in its service trade balance.

In that way, the comparative advantages from a trade perspective of China and India can be confirmed as being manufacturing activities for China and service activities for India.

In relation to the income inequality implications of outsourcing, India and China were much more affected by the international demand for labor than the U.S. due to their higher export orientation. Therefore, the rising income inequalities in the U.S. were related to productivity improvements and focus of the American economy on high value-adding activities that required more qualified analytical professionals and that had much greater wages than the lower-educated social stratum.

From the other hand, due to the Chinese export orientation, and according to the factor price equalization assumption, the Chinese average wage rates have started steadily increasing after the reforms. Moreover, the Indian and Chinese wage premiums of the skilled employees were also starting to increase but the income inequalities between them and the lower-educated individuals were not as high as the American ones in the late 1990s due to pre trade income similarities of the various income groups.

Additionally, it was observed that in the recent years, the gap between the earnings of employees with secondary school and university degrees has widened and has reached 133 % in 2006 in wage terms, suggesting the Chinese high labor availability and low wage premiums of the low-skilled groups.

In India after the trade reforms, the same trend was present and the wage premiums of the tertiary-secondary gap have increased from 0.34 in 1983 to 0.50 in 2004 (measured in logarithmic scale).

Therefore, despite the fact that all working groups have benefited from the increasing international trade, the high-skilled occupational groups have benefited much more than the others.
1. Problem statement

The purpose of this thesis is to point out the determinants and specificities of foreign direct investment (FDI) and outsourcing in China and India. What attracted the foreign investors and multinational enterprises in those two countries is beneficial to find since the FDI and outsourcing are related to trade, international intra-firm trade and trade in intermediate goods and services, therefore also related to the economic growth of the countries.

Moreover, the implications of the increased outsourcing and investment processes are going to be researched, not only for the investment-receiving countries but for the investing countries as well. The direct implications of the investing and outsourcing activities such as technology spillover and employment issues are going to be analyzed first because they are mostly discussed by politicians and showed by the media sometimes incompletely and speculatively. Afterwards, in order to provide a thorough picture of the issue, the indirect implications of FDI and outsourcing related to income inequality and GDP growth are also going to be provided and analyzed.

To summarize, the purpose of this paper is to analyze the factors that attracted FDI and outsourcing firms in China and India and to give some recommendations to these countries’ officials how to attract multinationals and better utilize the investments in order to boost their countries’ economic growth.

1.1 Delimitations

In order to show the advantages of China and India attracting the FDIs, Dunning’s eclectic theory is going to be used. In relation to this theory, the main motivators for the different types of investments are going to be explained and related to the theory’s assumptions in the empirical part of the report.

Researching the vertical FDI and outsourcing a modification of the Heckscher–Ohlin (HO) trade model is going to be used. This model, developed by Bhagwati et al. 2004, theoretically illustrates the implications of free trade and worldwide factors of production tradability on countries’ economies. And despite, the fact that the model provides information for the optimal choice of factors of production, based on their relative wages, the primary focus of the analysis would not be merely the cost minimization objectives of the multinational companies. Instead, a broader picture is going to be provided showing the most important investment motivators of the foreign enterprises and the outsourcing companies. Additionally, Bhagwati et al. 2004 model is preferred over the original HO-model since it provides assumptions of outsourcing effects on the countries’ terms of trade.
And finally, the income implications of outsourcing could also have been explained with the Grossman-Rossi-Hansberg paradigm. Yet, what made this paradigm inappropriate for the objectives of this report is the exclusion of the assumption that certain parts and tasks of the value chain cannot be separated and outsourced (Grossman and Hansberg 2008) which is inconsistent with the reality since in most of the developed countries, and U.S in particular, high percentage of the labor force is occupied in the service industries where the majority of services, i.e. mostly hotel and restaurant services but also surgeries and educational activities, cannot be outsourced. Therefore, a broader approach is chosen to tackle the issue of income implications of outsourcing in relation to Bhagwati et al. 2004 model.

2. Theoretical part

2.1 What is foreign direct investment?

According to the Organization for Economic Cooperation and Development (OECD), which benchmark is going to be used throughout this report, in order and investment to be considered foreign direct investment rather than short-term equity investment it is essential that an enterprise has set up long-term relations with foreign company, provides it with technical assistance and financing, and most importantly, possesses control rights and equity stake (10% or more)\(^1\). Consequently foreign investing could be considered in case of investing in associate company or taking part in joint venture, setting up a subsidiary by means of mergers and acquisitions or simply building new production facilities.

2.2 Motives for foreign direct investment

Behrman (1972)\(^2\) identified four motives of companies involving in FDI: resource seeking, market seeking, efficiency seeking and strategic asset or capability seeking.

The resource seeking investors are motivated by their need for cheap resources including human, physical, technological or organizational resources (Panayides et al. 2002). These resource seeking investors would utilize these resources for the purpose of increasing the profitability of their home company. Moreover, multinationals purchase these resources from abroad, i.e. outsourcing, or involve in vertical FDI, that is going to be discussed later in the thesis.

The market seeking investment is motivated solely by entering new markets and increasing company’s profits. This type of investment is justified by large market size and purchasing power of the consumers.

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\(^1\) OECD 1996
What make it even more attractive than simple exporting are high transport costs, tariffs, required proximity to the consumer, i.e. hotels, etc. It is related to horizontal FDI.

The efficiency seeking investment, as the name suggests is motivated by production process efficiencies improvement. What can characterize this investment is that the investors are interested in forming partnerships with suppliers or even competitors, i.e. using same distribution network, in order to benefit from economies of scale, economies of scope and shared ownership, i.e. investment risk diversification.

And these types of business relations could easily be related to outsourcing despite the fact that outsourcing is not related to significant investments.

The last motive for foreign direct investment called strategic asset or capability seeking is quite similar to resource seeking investments, the main difference is, however, that the company wants to obtain certain foreign resource not only to improve its efficiency but also to improve the quality of its offering, provide new features to its product and significantly increase its market share.

In order to generalize, three main purposes of the foreign investment could be summarized—market, efficiency and resource seeking. Market seeking investment is related to horizontal FDI whereas the resource and strategic assets or capability seeking to vertical FDI and efficiency seeking to outsourcing.

The financial motivation for initiating market seeking investment is assessed by taking into account the monetary and opportunity costs of setting up subsidiaries abroad by looking at market size and purchasing power of the target segment (influenced by economic stability and growth and determined by country’s income distribution measured by the Gini coefficient). And the objective of efficiency and strategic assets seeking could be assessed by observing the financial benefits of taking control of cheaper factors of production that would increase company’s profitability and optimize the production process. Yet, the possession of factors of production with lower cost does not necessarily mean improved efficiency if there are not economies of scale present or the productivity of the new plants does not exceed the home plants in a sufficient amount.

2.3 Horizontal FDI

First, looking for the causes of involving in foreign market expansion overseas could be not merely the company’s profit maximization strategy but also the stagnant domestic demand resulting either from economic slowdown, i.e. the building industry, or from final position in the product lifecycle curve (maturity or decline) and new markets available to be entered, i.e. desire for western goods from the former communist states, for instance.

And due to those motives a company chooses whether to start exporting to a particular country or involve in foreign investment abroad—horizontal or vertical.

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1 [http://services.indiabizclub.com/info/types_of_service/foreign_direct_investment](http://services.indiabizclub.com/info/types_of_service/foreign_direct_investment)—definition of efficiency seeking FDI
Horizontal FDI main characteristics are that most of the output of foreign production affiliates is sold in the foreign country (Markusen 1995), that is market seeking investment, and the company replicates its productions practices in overseas markets. This option is likely to substitute exporting to the particular country and avoiding paying high transport costs and bypass any tariffs or custom fees. In that way the enterprise incurs additional plant fixed costs by giving up from the advantages of centralized production (economies of scale) and decreases its variable transport costs which were defined as proximity-concentration tradeoff (Helpman 2006). Nevertheless, companies should be aware of the variability of their demand since the companies with high operating leverage, that is the ratio of fixed to variable costs, small changes in sales volume result in large changes in net income (Horngren et al. 2009).

Horizontal investment was considered to be more relevant for industries producing generic products with low level of research and development costs since the fixed expenses could not entirely be spread over company’s domestic and foreign production and thereby taking advantage of economies of scale could not be achieved (Markusen 1995).

Finally, most of the horizontal direct investment was found to occur among countries with similar per capita incomes, similar relative factor endowments, and relatively low trade barriers (Markusen 1995) which means that the vertical foreign investment is most likely to be predominant in China and India since they are sufficiently differentiated economically from the developed countries that are the greatest world investors. In case that the company’s objectives are to gain market share in foreign market and to avoid transport and tariff costs it would be much less risky and capital intensively to license the production process to foreign firms instead of involving in horizontal FDI. What are the circumstances that determine company’s investment decisions?

An answer to this question could be given by using the Dunning’s eclectic theory. Presented in a Nobel symposium it provides assumptions for multinational companies’ motivation to choose to involve in investment abroad rather than choosing the less risky approach of licensing or franchising. John Dunning presents those assumptions in his paradigm that looks from multinationals internal perspective.

The hazard of the investment is justified by three major advantages of the market seeking company and the value of keeping them intact inside the company.

The very benefits were defined to arise from the following: ownership, location and internalization advantages.
The general characterization of the ownership advantage from macroeconomic perspective could be expressed as the tangible or intangible resources present in a country and available to the industries that contribute significantly to the companies’ competitive advantage.

An appropriate framework for assessing the ownership advantage of a firm in a selected country could be the Porter’s diamond of national competitive advantage discussing the main determinants of country’s success in certain type of industry.

According to Porter: “National prosperity is created not inherited. It does not grow out of a country’s natural endowments, its labor pool, or its interest rates, or its currency value, as classical economists insist.” Yet, in the real world FDI flows are mainly determined by those factors since they are elements that differentiate one country from another. Especially, in the case of China, they provide temporary and even midterm comparative advantage of the economy and the main reason is the Chinese government efforts to keep the exchange and tax rate at favorable level.

What Porter implies is that economies can prosper if focusing on high value-adding activities. For instance, if China’s government does not start developing industries focused on innovation it might face serious budget deficits due to the aging labor force and loss the overall competitiveness of the industry because of increasing wage rates triggered by limited birth rate and decreased labor supply.

In essence, the factor conditions that predetermine economic growth might change overtime that is why it is crucial that a focus is put on promoting growing competitiveness of the domestic industries. Porter concludes that countries’ economic prosperity depends mainly on their ability to innovate and this process is reinforced by four major fundamentals—factor conditions, demand conditions, related and supporting industries, firm strategy, structure and rivalry.

Here the factor conditions are not related to abundance of unskilled labor but to skilled employees and basic and technological infrastructure.

In the Porter’s theory the demand conditions are related to the nature of the home demand however in developing countries like India the domestic demand is not the element that can foster high-value industry but the world demand and that becomes increasingly possible because of the information technologies. The related and supporting industries’ definition provided is “the presence or absence in the nation of supplier industries and other related industries that are internationally competitive.” Such industries might be the result of investing activities in a particular country and might also be a motif for increasing such investments.

The Diamond’s factor Firm strategy, structure and rivalry is meant to describe certain companies characteristics such as the specificities of their tangible and intangible assets and how those assets are

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protected by the competition from the government legislations and institutions. There should also some financial and legal intermediaries should be present in order to facilitate the investment decisions.

In general, the Porter’s perspective is focused on the internal conditions that predetermine domestic industry international success, i.e. high rivalry in the home industry, however in this report it is assumed that the framework might also be used in order to show the benefits of countries that have contributed to industries prosperity that further attract foreign partners to invest in those industries and increase the overall world intra-industry competitiveness.

The macroeconomic holistic description of ownership advantage, however, does not clearly illustrate in firm’s perspective why some companies invest abroad whereas others prefer licensing.

By using the definition provided by Markusen (1995) one may grasp the precise characteristic of the ownership advantage in narrower company’s viewpoint.

“A firm’s ownership advantage could be a product or a production process to which other firms do not have access, such as patent, blueprint, or trade secret. It could be something intangible, like trademark or reputation for quality. Whatever its form, the ownership advantage confers some valuable market power or cost advantage of doing business abroad.”

An emphasis could be put on companies intangible assets since the hazards of losing those in case of licensing is greater than the tangible (factors of production resources) assets. In instance of licensing if inadequate legislation is existing in the host country the licensee firm could jeopardize the brand by using the licensed intangible process after the contract period and start exporting to the original home market becoming competition to the former partner. Additionally the licensee might not have the technical capabilities to carry out the process of developing, for instance, and the quality of the product and the overall brand integrity can be compromised. It comes as no surprise that the huge IT development firms are involve in direct investing activities instead of licensing, and this is not only because of quality and security (keeping the knowhow and previous developments inside the company) but also due to the easy transfer of intangible assets across the enterprise providing the advantages of economies of scale.

Finally, using intangible resources as a core business capability, for example in development and servicing companies, does not require high levels of investment compared to setting a production plant abroad.

Location advantage could be explained as the advantage that makes it profitable to produce the good in a foreign country rather than simply produce it at home and export it to the foreign market (Markusen 1995).

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The reasons for undertaking investment overseas, as already mentioned, could be avoiding tariffs, quotas or decreasing transport costs of generic goods and proximity to markets. However, these reasons might not be sufficient to explain choosing investment initiatives over licensing. The third aspect of Dunning’s paradigm-internalization should be looked at.

The internalization aspect is observed when the company exploits its product or process internally within the firm rather than at arm’s length through markets (Markusen 1995). The motivation to do that might arise in cases of unprofitable licensing resulting from high transaction cost between the trading parties- licensor and licensee.

The transaction costs are mainly determined by legislative environment and the specificity of the investment. The host country government efforts to assure the minimization of the hazards of the licensor might eliminate the opportunistic options of the licensee such as moral hazard- “licensee may divert selling effort to competing products of other firms or simply shrink” (Markusen 1995) or hold up problem which is mostly result of incomplete contracts and increased bargaining power of one of the parties. Moreover due to asymmetric information (that is one of the parties has more or different information than the others prior to contracting) in certain industries, usually the high-tech industry, might result in hidden characteristics of production process and hidden actions or intentions of the licensee. In general, the information asymmetries during contracting influence the transaction cost by affecting its main determinants- searching, contracting, exchange coordination, monitoring and adaptation costs (Kotler et. al 2009).

An evidence for the companies’ desire to protect their intellectual property intact by keeping all operations inside the company, even if that means to set up a subsidiary abroad, come the Pol Antrás’ findings for the specificity of the American intra-firm trade.

The author uses data for 23 manufacturing countries in which the U.S firms have subsidiaries and finds that “the share of intra-firm trade in total imports is significantly higher, the higher the capital intensity of the production in the exporting industry”\(^6\). In order to explain the phenomenon of choosing to involve in costly horizontal foreign direct investment instead of licensing Antrás focuses on the difficulties of signing complete contracts.

2.4 Vertical FDI

Vertical FDI is defined as fragmenting the production process geographically by stages of production (Markusen 1995) and could be associated with international outsourcing. In that way the different stages are transferred to the location where they are carried out most productively and where the factors of production, i.e. raw materials and labor, are least expensive.

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The theory developed by Helpman (1984) outlines the conditions that predetermine multinationals to involve in vertical direct investment. He states that if company allocates certain parts of its production processes abroad it should have the following features: “(I) there are differentiated products, economies of scale, and monopolistic competition; and (b) there exist input) that can serve product lines without being located in their plants.”

The common sense also brings to mind that if a company wants to maximize its profits and to take advantage of economies of scale it is more appropriate to search the cheapest suppliers and subcontractors worldwide and form some kind of long-term partnership with them instead of performing the task themselves and focus on the task that have absolute advantage on.

Yet, researching the subject, some clarification should be provided.

According the OECD benchmark foreign direct investment is present in case of control rights possessed by the investing party however the cross-country separation of the value chain, as it is in the multinational enterprises, could be achieved in some cases by forming partnerships with local companies and suppliers without involving in major investing activities although high transaction activities could appear. That is why it is appropriate to point out the difference between international outsourcing and vertical foreign investment.

There were found two forms of international outsourcing-offshore outsourcing and vertical FDI (Marchant and Kumar 2005). Despite that both kinds are aimed at fragmentation of the value chain and getting advantage of cheap factors of production abroad, only FDI requires that some control rights are present, i.e. a subsidiary is set up abroad producing some intermediate production parts. Thus it is clear that vertical FDI is related to international intra-firm trade whereas offshoring to intra-industry trade of intermediate goods and services. Furthermore, Bernard et al. (2006) quoted in Alfaro and Charlton 2007, using U.S. trade statistics found that intra-firm trade is higher between rich countries than between rich and poor countries implying that the activities transferred to China and India would be mostly vertical FDI rather than outsourcing.

This finding could be explained with the previously discussed Dunning’s theory and its internalization aspect, in particular. What seems to be the case is that the international investors prefer keeping the control over the entire production process due the risks that might occur in cases of outsourcing. And in order to provide some quantitative effects of these risks they will be analyzed in the context of the transaction costs delimitated in the subsequent section.

In the following figure 1 a summary of the offshoring options is provided by giving an example of companies in two different countries.

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In general most of the world's foreign direct investment was qualified to be horizontal or market seeking and most of the output of the foreign production affiliates to be sold in the foreign country (Markusen 1995). With the current tendencies of increasing standards of living in the developing countries that trend could be observed in the future as well. Meanwhile, the facts that one-third of the world trade has been found to be intra-firm trade and that in 1994 42.7 percent of the total volume of U.S imports has taken place within the boundaries of multinational firms (Antrás 2003) should also be taken into account. This indicates that the process of disintegration of the value chain facilitated by vertical foreign direct investment has a tendency to continue over time in order the intensified international competition to be met hence the vertical foreign direct investment is the consequence of the growth of the multinational enterprises and their aim to seek greater efficiencies and control rights.

There exist also complex integration strategies comprising both vertical and horizontal investments depending on the productivity of the companies. The two region model developed by Elhanan Helpman 1984, assuming higher production costs in North than in South, infers that the more productive the companies the higher the probability to engage in “pure” foreign direct investment in the South and from there exporting to the home market, and the least efficient the enterprise is the more likely it is to involve in exporting. And the companies with intermediate productivities were found to relocate the labor intensive production process in the South (offshoring) import them to the home country, assemble them and export them to other north country and to south.

### 2.4.1 Vertical FDI versus outsourcing

One of the earlier classifications of the term outsourcing was simply the purchases of manufactured physical inputs (Bhagwati et al.)⁸. Yet, nowadays the term is related not only to purchasing inputs but also to purchasing complementary services from outside firms. It could also be defined as vertical specialization across countries stimulating international trade in intermediate products (Falk and Wolfmayer 2008).

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⁸ Quoted in Mary A. Marchant and Sanjeev Kumar 2005, Review of Agricultural Economics-Volume 27, Number 3- Pages 379-386, “An overview of U.S foreign direct investment and outsourcing” p.3
If we take a look at the Porter’s value chain and observe the ever emerging outsourcing companies we could conclude that the current trends is towards decomposition of the value chain, both primary and supporting activities i.e. outbound logistics and customer services. This disintegration is facilitated by the technology development allowing not only production processes to be outsourced but also services. In that sense, the definition of service outsourcing set up by the World Trade Organization (WTO) and provided by Bhagwati et al. 2004 states that it is undertaken in arm’s-length principle where the buyer and the supplier stay in their respective countries.

This means that companies could involve in backward or vertical integration in the value chain focusing on the activities they have greatest efficiencies on and, most likely, disintegrate some activities to their suppliers or subcontractors. It is also possible that companies integrate horizontally which means that they involve in business relations with their competitors agreeing on common usage of resources or distribution networks, for instance.

The motives for outsourcing could be summarized by the Agency and Transaction cost theories. The Agency theory deals with the opportunistic risks coming from employees due to their conflicting interests with company’s objectives. In order to eliminate such conflicting interests an outsourcing decision might be taken to control for inefficiency by an outcome based contract (Olsen 2006). According to the transaction cost theory the offshoring choice is preferred only if the incomplete contracts and the attached to them searching, contracting, adapting and controlling costs (preventing from adverse selection and moral hazard of the subcontractors) are lower than the expected cost advantage (Olsen 2006).

**Material and service outsourcing**

The report’s central model that was established on the Heckscher–Ohlin (HO) model theoretically clarifies the outsourcing implications and is based on the classical two-country, two-factor and two-country models developed by Bhagwati et al. 1998 and redeveloped by Bhagwati et al. 2004. Furthermore, the model assumes diminishing returns to factors of production and trade between two countries (North and South) one of which is cheap labor abundant and the other is cheap labor scarce, and one good or one industry.

The Bhagwati et al. 2004 modification of the HO-model includes international trade with two-good and three-factor postulation which seems more realistic since in a country there is not only employees employed in the labor and capital intensive industries but also in the service industries. The Bhagwati et al. 2004 model’s assumptions are the following: free trade raises the overall income of each nation over what it would have had under autarky- in this report this is going to be measured by GDP growth rates; in the long run trade has no effect on the aggregate number of jobs- measured by employment statistics; changes in income distribution allows factor prices readjustment to maintain full employment and
therefore trade can cause changes in income distribution- the implication of this model assumption is witnessing of wage disparities between low and high skilled employees which is going to be measured by the countries’ Gini coefficients.

Starting the analysis by looking at the countries’ income implication, figure 2 shows that the profit for the outsourcing capital intensive country was found to be expressed by the triangle E0RE’ since the wage cost has decreased from W0 to W’ while the workers used have increased from L0 to L’. In other words the economy uses more workers and is it is possible to produce more with the same amount of wage expense. It was suggested by Bhagwati et al. 2004 that the country uses more labor which could be explained with lower initial labor productivity abroad and that some of the domestic workers were kept in order to coordinate the outsourced processes, and pays lower wages.

The number of employed workers decrease by the square W0EORW’ that is alleged to be transferred to country’s capital stock and the capital holders gain is displayed by the area W0E0E’W’.

Figure 2 Low skilled workers’ wage effect of outsourcing

The quintessence of this model is that the net gain of outsourcing is greater than the net loss for the country. This could also be the case of the outsourcing country is high skilled labor plentiful and some low skilled jobs were outsourced and in that case the total employment rate decline in the economy would be insignificant and would be observed only in the sectors that were being affected.

The outsourcing as already stated is used to minimize production costs and get greater efficiencies but according to Andrews 2004 (quoted in Bhagwati et al. 2004) it should not be differentiated from purchase of goods and services from abroad since it is basically the same. For instance, companies would carry out make or buy analysis in order determine which value adding process to abandon and purchase from different
producers. The only difference might arise from the ownership of the outsourcing entity which determines whether the enterprise has set foreign subsidiaries abroad or has directly purchased the intermediate products from foreign producer. The question that naturally arises is why politicians do nowadays focus that much on international outsourcing since from an economic point of view it is the same whether a service or a product is going to be produced at home or oversees since the only thing that matters is the production competitiveness of the industry which inevitably brings economic growth of the whole economy.

The main issue of outsourcing, though, is not that the different parties lose in the long run but that their gains differ.

In order to clarify the issue of country’s domestic income increase it could be beneficial to show the mechanism used for cost minimization which suggests that the different factor proportions to produce the same quantity of output in different industries, expressed by the isoquants 1/PM and 1/PF in figure 3, are measured. Additionally, the isoquants are tangent to one isocost line (the different input combinations resulting in the same cost).

This figure is a representation of the Lerner diagram that depicts production expenses minimization in a capital intensive, i.e. machine producing, and labor intensive, i.e. food producing sectors (Krugman and Obstfeld 2009). And since perfect competition⁹ is assumed by the theory costs are specified to equal prices and those prices determine the optimal factor choices for the capital and labor intensive industries and the position of the isoquants.

The cone of diversification in figure 3 depicts the optimal production choices taking into account the goods rather than factor prices. It shows that the production in a country is not completely specialized in producing labor or capital intensive products.

Figure 3 Optimal choices of production factors

Source: Krugman and Obstfeld 2009, International Economics, p.26

The reasoning for using the market price as an output determinant comes not only from the perfect competition assumption of equal cost and price but also from the Stolper –Samuelson theorem which states that in case of incomplete specialization in a country an increase of the market price of a product would increase the return on the production factor, i.e. capital, relatively more used for the production of that good and also decrease the return of the lowly-utilized factor (Krugman and Obstfeld 2009). In other words, international trade reduces the real wage of the scarce factor expressed in terms of any good (McCulloch 2005).

Considering at the distribution of the countries increased GDP the model assumes that since the production increases, the high skilled workers are more demanded, the high-skilled wage is higher so the low-skilled wage decreases vis-à-vis the high-skilled wage, though it might increase in real terms. However, if we assume that outsourcing country is large as it is stated by Bhagwati et al. 2004 that it could influence the very terms of trade and suggest not necessarily positive results of the outsourcing process. One major distortion outlined by Bhagwati et al. 2004 describes effect of outsourcing on increasing output. Depending on the particular sector’s output that increased the outcomes of outsourcing could be different. In case that the exporting sector output has risen the demand would decline accordingly. And from the supply-demand relation it is also evident that the output price would decrease hence the country would have to produce more in order to be able to afford to purchase the same amount of imports as it used to consume. In that way, a large country would be worse off of increasing outsourcing benefiting solely its export sector. Yet Bhagwati et al. 2004 also explains the effects of outsourcing on the domestically producing, import competing sector. It is suggested that if outsourcing is used in order to minimize the production costs of the domestic import competing sector the foreign imports would decrease and in that way not only is the population going to experience greater purchasing power but also the trade balance would improve. However, under those assumptions it is difficult to measure the exact effect on the outsourcing economy since in most of the cases both export and domestically oriented sectors benefit from outsourcing.

Furthermore, looking at the major outsourcing country the U.S. it could be assumed that the outsourcing processes benefited primary the export oriented sectors since its trade balance is negative (UNCTAD 2011) implying that the domestic import substituting sectors have not benefited from the outsourcing processes enough and the consumers preferred the foreign goods.

Most triggering attention implication of outsourcing expressed by Bhagwati et al. is that if one out of three sector industries is entirely or partially outsourced abroad, i.e. the American textile industry, the factor prices would remain relatively the same since they can by utilized to the other sector, i.e. the laid off fabric and factory workers could be prequalified or employed in the service industry. After increasing the supply of workers from the outsourced industries the minimal wage might slightly decrease in order full employment to be sustained. In that way the production cost of the two remaining local industry would decrease they
would become more competitive and increase their production. In that way the consumers would benefit from lower prices not just of the domestic industries but also from the outsourced industries and the overall country’s productivity, competitiveness and production would increase leading to increased gross domestic product.

Since the price of the outsourced sector decreases and its factor of production cost decreases relative to the other two sectors factors of production the holders of those factors would experience increased purchasing power.

Therefore, it is inferred that under the different model assumptions the overall income of the outsourcing country is suggested to increase and also the country’s possessors of scarce resources or skills to benefit more than the people in possession of widely available skills and resources which is line with the simple supply and demand relationship. And finally, under the HO-model a country economy is going to use its most available factors of production and in that way increase their return compared to the return in the countries not specialized in these sectors.

2.5 Implications of FDI- Technology spillover

The vertical FDI is associated with multinational firms which are in possession of significant amount of intangible assets (Markusen 1995), such as research and development firms, that are appropriate to be used across borders and in that way minimize their total costs and not only achieve economies of scale but potentially benefit the foreign industry they enter.

In order to start analyzing the microeconomic perspective, the specific implications of FDI for the local firms should be examined. The most significant one was associated with the technology transfer resulting from the interaction with the multinational enterprises entering their home market, yet not always found to be positive for the domestic companies.

In general there were found two kinds of spillover consequences from multinationals foreign investments either horizontal direct effect by means of acquisitions or partnerships or indirect vertical spillover (Banri et al. 2010).

In Banry et al. 2010 it was stated that the vertical technology spillover resulted in a positive total factor productivity growth in the developed countries while it led to decreased productivity in the developing countries. This was augmented by the inability of the local companies to keep up with the increasing technological spinoffs and their significantly high technological gap with the foreign market entrants experienced declining sales and production efficiencies.
One way of the so-called “technology spillover” to take place in a foreign country is by means of acquisition of foreign companies by multinationals that facilitate reorganization of the production processes, provide the plant with new technology and improve the overall total factor productivity of the industry. However, in this way of technology transfer the domestic companies are not able to take direct advantage of this process.

Plausible ways that those domestic companies take advantage of the foreign technological edge could be through vertical integration or by supplier-buyer relations or the so-called vertical linkages, through demonstration effect that stimulates the local firms to update their technologies by demonstrating its advantages, or through the labor turnover effect where former employees of multinational companies bring to their new employers their technology operation skills and know how (Saggi 2005).

3. Empirical evidence

3.1 FDI in China and India

Since in the theoretical part the Markusen’s statement was provided saying that the greater part of the world’s FDI is horizontal in nature, it is relevant to show the importance of this type of investment for the Chinese and Indian economy.

The market seeking FDI might be observed in the following table 1 which comes as a confirmation for its quantitative significance over the efficiency seeking investment for the industrialized countries but not for the developing countries.

Table 1 Regional FDI inflows in dollars

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrialized countries</td>
<td>46,481</td>
<td>42,044</td>
<td>172,261</td>
<td>224,776</td>
<td>1,284,177</td>
<td>421,584</td>
</tr>
<tr>
<td>North Africa</td>
<td>132</td>
<td>1,422</td>
<td>1,135</td>
<td>806</td>
<td>2,600</td>
<td>2,215</td>
</tr>
<tr>
<td>Central Africa</td>
<td>184</td>
<td>841</td>
<td>-364</td>
<td>296</td>
<td>902</td>
<td>n.a.</td>
</tr>
<tr>
<td>Western Africa</td>
<td>-507</td>
<td>473</td>
<td>892</td>
<td>1,653</td>
<td>744</td>
<td>413</td>
</tr>
<tr>
<td>East and Southern Africa</td>
<td>305</td>
<td>168</td>
<td>514</td>
<td>953</td>
<td>1,807</td>
<td>721</td>
</tr>
<tr>
<td>Western Asia and Europe</td>
<td>-3,340</td>
<td>955</td>
<td>2,687</td>
<td>167</td>
<td>3,563</td>
<td>7,076</td>
</tr>
<tr>
<td>Latin America</td>
<td>6,434</td>
<td>5,734</td>
<td>819</td>
<td>30,993</td>
<td>78,708</td>
<td>35,688</td>
</tr>
<tr>
<td>South and East Asia</td>
<td>2,480</td>
<td>4,387</td>
<td>16,897</td>
<td>65,328</td>
<td>135,990</td>
<td>80,521</td>
</tr>
<tr>
<td>Total</td>
<td>52,160</td>
<td>65,884</td>
<td>194,841</td>
<td>324,422</td>
<td>1,508,488</td>
<td>648,217</td>
</tr>
</tbody>
</table>


As it is seen from the table the major part of the FDI flows were accepted by the developed countries which implies that due to their factor endowments, legislation and disposable income similarities the type of FDI was market rather than efficiency seeking.
Furthermore, since the Chinese and Indian consumers did not have high purchasing power the foreign multinationals had greater incentive to focus on the vertical FDI and exporting the intermediate goods in their home countries rather than initiating market seeking investment.

Another determinant that can explain the difference between horizontal FDI and offshoring in China and Indian could be the risky environment in these countries. The so called “coherent business climate” was stated by Bartels and Lederer 2009 as companies’ motivator to do business abroad and it covers not only the political, economic and social volatility in a country but also the legislative environment setting and profit repatriation regulations.

Yet, what is more important than the mere political willingness to stimulate FDI inflows is the already developed physical infrastructure. For instance, according to The Global Competitiveness Report 2009\textsuperscript{10} the Indian quality of roads index was 3.1 (1 to 7 scale) compared to the Chinese one which was estimated to value 4.2 for the same year. As it is known, the outsourcing of production processes necessitates high quality roads in order the goods to be transported from A to B most efficiently. That is why it is not surprising that the Chinese government has put emphasis on developing transportation system to connect the major producing cities with the exporting ports.

According to the same report, China also takes the leading position compared to India in terms of quality of electric supply ranking 5.0 as opposed to 3.2 for India.

The relatively uncomplicated procedures for starting a business in China compared to India are one of the prerequisites for the higher amounts of labor intensive investments in China.

In order to determine what attracts companies to outsource production in certain countries a valuable tool is going to be used- the offshore location attractiveness index developed by Kearney 2004. It measures the countries’ characteristic based on their financial structure, business environment and people skills and availability that attract different types of FDIs and foreign partners.

According to the above mentioned index the Indian outsourcing environment was much more preferable for the investors compared with Chinese one. The index for financial structure was 3.72 for India and 3.32 for China; the index for business environment was 1.31 for India and .93 for China and finally the index for people skills and availability was 2.09 and 1.36 for China.

The leadership position of India is justified by its experience in business process outsourcing (BPO) activities, its labor pool consisting 2 million English speaking graduates every year (Kearney 2004) and legislative environment protecting the intangible assets. From the other hand, the red tape, the IP piracy and the linguistic competencies of the labor force were among the factors stated as decreasing China’s outsourcing attracting capabilities (Kearney 2004).

\textsuperscript{10} http://www.sourcingline.com/outourcing-location/india/
The conclusion of the information provided so far is that China takes the leading position in terms of infrastructure thus being appropriate for production outsourcing whereas India boasts not only with educated labor force but also with financial and institutional infrastructure and experience and consequently attracting BPO and research development investments.

The allowance of free movement of capital, as a symbol of the rising globalization processes, might have adverse effects for countries with corrupted economic fundamental, i.e. the Asian crisis and the devaluation of the East Asian currencies. Yet it also increases the productivity of the multinational enterprises since they require fast transfer of capital from less efficient production facilities to more productive ones passing a couple of borders in most cases.

This being said, the multinationals investing in the developing countries either invest in short term securities or just want to take advantage of the less-restrictive labor and capital regulations there. For instance, the strict labor laws, as a constituent part of the general country’s legislative setting, might become obstacles for a country towards attracting FDI inflows since the investor would not be able to take advantage of hiring and firing flexibility that is required to keep their competitive advantage. Likewise, the World Bank rigidity of employment index for India (0-100 scale) was found to be higher -30.0 than the Chinese one-31.0 in 2010.

And despite the fact that the U.S has the lowest rigidity of employment index the difference between the two countries could have played an important role of drawing foreign investments into the primary and semi-specialized industries into these countries where due to the high international competition the contribution margins are low and every cost minimization option is appraised by the multinational enterprises. Hence, the rigidity of employment was not an important factor as the low wage rates in those countries to attracting FDI, but this index could be one of the reasons for the Chinese FDI attractiveness in comparison with the India.

An explanation for the higher values of FDI in China compared to India could also come from the eased procedures for setting up a business and the performance of the investments depending on the wage rates, skills and availability of workers (Porter’s diamond -Firm, structure and rivalry).

Yet, because of the higher risk to do business in China resulting of the unfavorable legislative environment most of the investors prefer wholly-owned enterprises in order to protect their intangible assets.

---

Table 2 Investors’ perception of risk in China and India

<table>
<thead>
<tr>
<th>Rank</th>
<th>High risk variable</th>
<th>Percentage of investors perceiving high risk</th>
<th>China</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Legal, regulatory environment</td>
<td>73</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Corruption, lack of transparency</td>
<td>66</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>IPPRs, piracy</td>
<td>56</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>FOREX, capital controls</td>
<td>51</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1 Intellectual Property Protection Rights. 2 Foreign exchange.


When comparing China and India in terms of their foreign investment objectives it was found by Lo and Liu 2009 that the countries do not differentiate in terms of the specificities of the FDI flows. Excluding the efficiency seeking native Chinese investments, China’s FDI-GDP ratio was found not to exceed the Indian one greatly suggesting similar market sizes of the countries. I.e. in the 1990 on average it was found to equal 2.0 percent versus 1.9 for India (Lo and Liu 2008).

That finding is quite reasonable since the population number of the two countries and its average purchasing power were quite similar in the 1990s. Yet in the 2000 the similarity between the market sizes of the two countries has started to disappear. The gross domestic product per capita of China in 2008 was reported to surpass the Indian one by 2.2 (in PPP thousand dollars) despite their relative equality in the 1990s (Qureshi and Wan 2008). And the reasons for this difference could be found in the structure of the production and labor force participation.

In China larger part of population works for the industry and service sectors- 27.2 percent and 33.2 percent respectively compared to India where in those sectors were still employed only 48 percent of the labor force- 14 percent in the industry and 34 percent in the service sectors (CIA 2011). Therefore the 52 percent of the Indian labor force occupied in the low-income giving agricultural sector influences the overall Indian purchasing power per capita and minimizes the foreign market seeking investment opportunities.

As stated above larger part of the Chinese labor force is employed in the industry, or in the manufacturing in particular, that do not involve high skills whereas the processes outsourced to India- R&D processes, call and service centers require a higher level of education hence lower utilization of the labor force. Moreover, in 2004 about 24 percent of the Indian age group 15-24 was illiterate while the Chinese illiteracy rate in the same age range was 1 percent in 2006 (Rowthorn 2006) suggesting high wage disparities between the different income groups and minimum contribution of the illiterate share of the population to the Indian gross domestic product.
To summarize, it should be noted that India is not utilizing its labor force sufficiently compared to China hence it is not using its comparative advantage, that is cheap workers, having an impact on the GDP per capita in those countries as it could be seen in the following figure 4.

![Figure 4 GDP per capita in US dollars at current prices and current exchange rate](image)

Source: Author’s calculations and UNCTAD 2011 data

Comparing the countries from export orientation it could be observed that China is also taking the leadership position. The Chinese trade to GDP ratio was measured to have risen by 38 percent in the period 1990-2005, valuing 70 percent in 2005, compared to India that had risen by 28 percent in the same period (Qureshi and Wan 2008). And these findings imply not only governmental efforts and reforms towards trade liberalization but also an important implication for the countries themselves. Since China is more export oriented it might also be more vulnerable to foreign demand contractions as observed in the current financial crisis. Yet, it is also likely due to the high export orientation that China continues increasing its economy and surpasses the American economy in the near future, according to some analysts.

Now focusing on the direction of the Chinese and Indian exports, a trend was observed in the 1990-2006 period indicating the different developing paths that those countries were undertaking. The Chinese share of exports to the developed countries was found to have increased by 17 percent in the period reaching 52 percent of all exports in 2006. In the same time the Indian export share to the developing countries was found to have decreased in the period by 11 percent (Qureshi and Wan 2008). Moreover, since the Chinese imports have also increased in the period 1991-1996 by 16 percent and from 2000 to 2006 by 26 percent (UNCTAD 2011) it could be confirmed that the China is becoming a world factory, as suggested by Qureshi and Wan 2008, benefiting from its cheap factors of production, depreciated currency and favorable legislative environment.

Since the data of the Chinese imports could be interpreted in several ways, it should be assumed that the increased value is not triggered by domestic demand increase rather than raw materials and machines.
required for the exporting firm. For instance, in 2010 China was the third largest importing country of American products with total value of 82 billion dollars\(^\text{12}\) and computer accessories, parts, and peripherals being the most imported items that were required for the production processes.

These data indicate the ongoing Chinese production specialization and the Indian primary industry overall lack of competitiveness or general country focus on low value-adding activities. This suggestion might seem puzzling taking into account the Indian IT specialization. However, since the IT and BPO sectors constituted insignificant fraction in the Indian economy–1.4 percent of Indian GDP in 2008\(^\text{13}\), the overall specialization of the Indian economy is much lower compared to the Chinese one.

Shifting the focus to the export type of the two countries one can speculate on the objectives of the foreign investments flows into the two countries since both countries were attracting mostly export oriented investments. Therefore, the efficiency seeking vertical FDI and outsourcing activities were most important for the two countries, as it is going to be shown later on. Yet, before that it is relevant to empirically show the relative countries’ export specialization.

The specialization of India in providing outsourcing services compared to China can be observed from the following figure 5 showing the export share of services relative to manufacturing exports.

Figure 5 Exports of services to goods ratios

What can be inferred by the figure above is the Indian specialization of exporting services compared to China. And that is due to the ever-increasing development of technologies that allow the value chain of the multinationals to be separated and the professional capabilities of the Indian professionals to be utilized.

\(^{12}\) [http://www.suite101.com/content/top-us-trade-partners-in-2010-a365363](http://www.suite101.com/content/top-us-trade-partners-in-2010-a365363)

\(^{13}\) [http://timesofindia.indiatimes.com/](http://timesofindia.indiatimes.com/)
In order to be more specific and show the significance of the manufacturing and service activities for the Chinese and Indian economy, some comparative data for the Chinese and Indian merchandise and services production as a percentage of GDP is provided in figure 7. And for the figure can be seen the high Chinese manufacturing sector contribution to GDP, i.e. 43% in 2003, and lower contribution of the Indian sector to GDP, i.e. 30 percent in 2002. This suggests that despite the relative specialization of China and India in manufacturing and service sectors, India is behind in terms of contribution of the sector in which it has a comparative advantage (discussed in the Indian FDI section) to its GDP. Therefore, the optimal strategy for the Indian economy would be further development of its service sector, and increasing its contribution to GDP.

Figure 6 Contribution to GDP from services and manufacturing production in percentage in China a) and in India b)

![Graphs showing contribution to GDP from services and manufacturing production in China and India](image)

Source: Author’s calculations and UNCTAD 2011
Note: Manufacturing is a subsection of Industry and Services exclude wholesale, retail trade, restaurants and hotels and transport, storage and communication

Yet, what remains unclear so far is that the Indian specialization in providing services could be dedicated to the low development of its manufacturing industry compared to the Chinese industry. As a matter of fact, the Chinese average export of services through 1990 to 2009 was equal to $47.111 million compared to $29.696 for India and surpassing the Indian service export in every single year (UNCTAD 2011). That is on average for the 1990-2009 time span the Chinese service exports were exceeding the Indian by 59 percent. Moreover, for the same period on average the Chinese material exports were equal to $437,249 million compared to the Indian that were equal to $63, 501 million. This means that the Chinese manufacturing exports were 589 percent greater than the Indian implying that India is not that specialized in providing services vis-à-vis China but it was less behind in the service sector compared the manufacturing one.

The ownership structure of the export oriented enterprises in China and India was found to be quite similar since foreign investors held the major equities stakes in the companies. For example, Chinese foreign financed enterprises were found to account for about 60 percent of total imports and exports whereas in India
foreign investors were responsible for half of the exported services (Li and Zhang 2008). And that means that vertical FDI and outsourcing were important drivers for the exports of the two countries.

3.1.1. FDI implications

The greatest implication from FDI was the capital inflows that stimulated the growth of the industries. This implication was most noteworthy for China since due to its central planning system and inefficient allocation of capital the industries were not able to develop. Besides, foreign management ensured that the production process was optimized and the redundant labor was laid off. Moreover, the productivity increase of the industries was mostly influenced by the so called “technological spillover” or the technological transfer from the foreign companies to their Chinese and Indian subsidiaries.

3.2 FDI in China

The political deeds that allowed FDI were initiated in 1978 as part of market-oriented reforms (Prasad and Wei 2005). The setting up of the so called special economic zones was the first driver for foreign nationals to start investing in China. In these zones foreign investment was stimulated with tax incentive, i.e. “tax vacations”, and some basic infrastructure was built. And due to those reforms the China’s share of the world trade was reported to have increased tremendously, from one percent in the 1990s to six percent in 2004, compared to India which share have grown from 0.5 percent to 1 percent in the same period (Qureshi and Wan 2008).

Looking at table 3 it could be seen that despite the Indian larger share of the world trade in the base year the Chinese government efficient reforms have made the country outdo India by 4 percent in 2002.

Table 3 China and India’s share of world trade

<table>
<thead>
<tr>
<th></th>
<th>Base year</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1.5</td>
<td>4.8</td>
</tr>
<tr>
<td>India</td>
<td>2.2</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Note: The base year for China is 1953 and for India it is 1948

Before looking at the FDI origin countries it is important to remark that some portion of the measured FDI does not originate from foreign investors but from local Chinese entrepreneurs taking advantage of the foreign investors’ tax incentives by carrying their investments from abroad. The so called “round tripping” problem (Prasad and Wei 2005) does not allow to precisely measure the flows of foreign investment in China.
An important point that also should be made is that the investments originating from Asia comprise the larger share of total FDI flows in China. For example, in the 2001-2004 period Hong Kong, Japan, Taiwan, Singapore and Korea accounted for 60 percent of the investments while the EU and US’s shares have decreased from 22 percent in 1999-2000 to 15 percent in 2003 (Prasad and Wei 2004) affirming the dominance of the Asian FDI flows over the Western countries’ flows. Additionally, it was found by Zhang (2005) that most of the Asian FDI was export motivated or efficiency seeking while the FDI originating from the OECD states often was meant to capture the domestic market (Banri et al. 2010).

Now shifting the focus to the industries that attracted most FDI inflows it was found that the manufacturing industry has increased its attractiveness in the 1998-2004 period from 56.3 percent to 70.9 percent (Prasad and Wei 2004). In addition, breaking down the manufacturing industry by sector it was found by the same researchers that the electronics and communications equipment sector is the one with most worth noting growth.
A plausible explanation for the onetime decline in FDI inflows after 2002 could be explained by the American recession from 2000s, yet the continued increase after 2003 of the special use and electronics and communication equipment postulates the trend of growing FDI inflows into more sophisticated industries. From the graph it could also be inferred the comparatively low FDI attracting position of the textile sector suggesting greater returns seeking investments.

The types of FDI in China were identified as being mostly equity joint ventures, contractual joint ventures and wholly-owned foreign enterprises, or green field investments (Ali and Guo 2005). The equity joint venture dominance was justified by two causes- as a result of the Chinese foreign ownership legislation requiring a certain percentage of the company to be Chinese owned and due to the investors’ concerns for their market entry and relying on local partner having knowledge for the local conditions. However, since the country’s membership in the World Trade Organization in December 2001 (WTO) the joint ventures were started being substituted by foreign-owned subsidiaries. In that sense, Kamal and Lovely 2006, confirm that statement by analyzing data for changes in registration type after the China’ WTO accession. They also find that joined ventures with affiliations with central or provincial institutions were not susceptible to changing their current status due to the decreased risk of losing the foreign intellectual property and therefore decreasing value of a potential buyout.

In relation to the ownership advantage of the foreign investors is that they not only possessed the technology but also some financial resources in order to expand their production in case there was some indication for increasing demand. Conversely, it was reported that the Chinese domestic saving were inefficiently allocated, preventing the growth of the home firms (Huang 2002, quoted in Walmsley et al. 2002). In addition, the restriction for buying foreign intermediate products for domestic use was stated by Walmsley et
al. 2002 to have put the local automobile industry in an uncompetitive position relative to the foreign affiliates located in China. In case that that policy was not present, one might speculate that foreign investors would have chosen another mode of entry in the automotive industry such as subcontracting that could have benefited them by economies of scale and low investment risk.

The main focus of multinationals was the primary industries due to the cheap labor force abundance present there. The areas that FDI was mostly carried out were in the eastern coastal provinces and that is explained by the special economic zones set up there and the better infrastructure present. In addition, due to the western objective of gaining market access it was evident that the most investments were carried out in the big cities such as Shanghai, Beijing and Shenzhen (Ali and Guo 2005).

It was found that Chinese market growth of eight percent per year since 1980 has a relationship with market seeking FDI. Liu et al. (1997), quoted in (Ali and Guo 2005) has concluded that in the period 1978-1992 the economic growth was the fourth factor contributing to investment inflows into China.

Another determinant of the FDI inflows into China was found to be the cultural similarity and geographical proximity between some of the investors and the locations they are investing in. For instance, the Taiwanese investors were in investing in the neighboring Fujian province whereas the Hong Kong investors were investing in Guangdong province (Ali and Guo 2005).

In Dunning’s paradigm context a survey was carried out by Shaukat Ali and Wei Guo investigating the location advantages of China that attracted the foreign investors. The general finding of this survey was that the market size and economic growth of the province attracted most foreign investors and this comes as no surprise since horizontal foreign direct investment in most cases is market seeking whereas vertical FDI or outsourcing is used to take advantage of cheap factors of production and in the case of China it is related to forming partnerships with local producer rather than investments.

Additionally, it was stated that the market size was the most important factor, especially for the American firms, whereas the efficiency seeking investments were carried out by the Asian export oriented investors. The respondents were large and medium size companies, four American, four from Hong Kong, three from Taiwan and Germany, two from Japan and Netherlands and one from France, Switzerland, Korea and Poland.
Now, focusing on the efficiency seeking investment it should be pointed out that in explaining the reasons for the Chinese specialization in manufacturing the low wage cost could not be stated as the single factor since other countries like Vietnam, Laos and India offer even lower wage cost.

As stated by Ahya et al. and quoted in Qureshi and Wan 2008, the factors that also contribute to growing labor intensive outsourcing are infrastructure, favorable investment climate and flexible labor markets.

The issues that enterprises were facing in those areas could be indicative for the Chinese legislative, political and industry structure used as an important fundament in the Porter’s model of country’s comparative advantage.

According to the World Bank characterization of the investment policies in China before its WTO accession they were classified as follows: industrial promotion, spatial gradualism, strong fiscal incentives, complicated investment regime, and fierce competition among sub-national governments.

Furthermore, despite the financial incentives mostly expressed by tax deductions and the competition between the local authorities to attract foreign multinationals, the investors were facing some serious issues related to the security and return on their investment.

Table 4 Responses of foreign investors to FDI motives survey in 2005

<table>
<thead>
<tr>
<th>FDI Determinants</th>
<th>No of responses A</th>
<th>Mean Score</th>
<th>No of responses Part B</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Market size and growth</td>
<td>0 2 7 8 5</td>
<td>3.73</td>
<td>0 2 6 6 5</td>
<td>3.23</td>
</tr>
<tr>
<td>2 Cheap labor cost</td>
<td>2 3 7 6 4</td>
<td>3.32</td>
<td>2 2 7 6 2</td>
<td>2.77</td>
</tr>
<tr>
<td>3 Exchange rate</td>
<td>6 7 5 3 1</td>
<td>2.36</td>
<td>6 7 4 1 1</td>
<td>1.86</td>
</tr>
<tr>
<td>4 High investment return</td>
<td>2 6 5 5 4</td>
<td>3.14</td>
<td>2 4 6 5 2</td>
<td>2.64</td>
</tr>
<tr>
<td>5 Government incentive policies</td>
<td>1 3 7 5 6</td>
<td>3.55</td>
<td>1 2 7 5 4</td>
<td>3.0</td>
</tr>
<tr>
<td>6 Political stability</td>
<td>5 7 5 3 2</td>
<td>2.55</td>
<td>5 6 5 2 1</td>
<td>2.05</td>
</tr>
<tr>
<td>7 Part of company’s globalization strategy</td>
<td>2 3 5 7 5</td>
<td>3.45</td>
<td>2 3 6 5 3</td>
<td>2.77</td>
</tr>
<tr>
<td>8 Serving as an export platform</td>
<td>5 7 4 3 3</td>
<td>2.64</td>
<td>4 6 4 3 2</td>
<td>2.27</td>
</tr>
<tr>
<td>9 Chinese connections</td>
<td>6 7 4 2 3</td>
<td>2.5</td>
<td>6 7 3 2 1</td>
<td>1.91</td>
</tr>
<tr>
<td>10 China’s advanced technology</td>
<td>9 11 1 1 0</td>
<td>1.73</td>
<td>9 1 0 0 0</td>
<td>1.32</td>
</tr>
<tr>
<td>11 China’s weak Indus. infrastructure</td>
<td>5 7 6 3 1</td>
<td>2.45</td>
<td>5 6 4 3 1</td>
<td>2.09</td>
</tr>
</tbody>
</table>

5= most important, 4=very important, 3= important, 2=not important, 1=not important at all

Table 5 Problems in Chinese investment environment

<table>
<thead>
<tr>
<th>The obstacles/problems:</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political stability</td>
<td>8</td>
</tr>
<tr>
<td>Unsatisfactory foreign trade policy</td>
<td>6</td>
</tr>
<tr>
<td>Regulations not strictly implemented</td>
<td>9</td>
</tr>
<tr>
<td>Unsatisfactory banking system</td>
<td>7</td>
</tr>
<tr>
<td>Foreign capital limit</td>
<td>5</td>
</tr>
<tr>
<td>Too complicated application process</td>
<td>4</td>
</tr>
<tr>
<td>Incomplete legal system</td>
<td>9</td>
</tr>
<tr>
<td>The development of business related industry</td>
<td>5</td>
</tr>
<tr>
<td>Low productivity</td>
<td>4</td>
</tr>
</tbody>
</table>

As it is evident from the table the low comparative productivity is not as important issue for the investors and is probably outweighed by the low labor costs. However, the major problem was the incomplete legal system and the insufficient law enforcement and protection of patent rights. This factor is among others what differentiates India and China and what predetermines the opposite focus on their industries-China producing mostly intermediate goods whereas India focusing on its research and development processes and its service industry in general.

3.2.1 FDI- Technology spillover in China

Due to the open-door policy of the Chinese government and the foreign investment carried out in China it was found that in the period 1979-94 the overall productivity of the economy has grown by 3.9 percent compared with the pre-reform period of 1953-78 when it has increased merely by 1.1 percent (Hu and Khan 1997).

Considering the ownership structure of the FDI and its implications it was found by Abraham et al. (2010) that the Chinese companies experienced positive technological spillover from joint ventures and negative from wholly-owned foreign subsidiaries (Banri et al. 2010). Additionally, in a previous study carried out by Tong and Hu 2003 positive FDI spillovers were found by measuring the correlation by developed countries in a specific industry and the total factor productivity (TFP).

The TFP was found to be greater in industries with investment from the developed countries and not from Hong Kong, Taiwan and Macao which was explained in the case study by similar factor productivities of the last mentioned countries with the Chinese industries.

The positive effects of such “technological spillover” were appraised by the Chinese government and that is one of the major reasons for the law that requires certain percentage of the foreign company to be set up in partnership with local Chinese company, however that law was abandoned after China’s accession to the world trade organization WTO in 2001.

3.3. FDI in India

Similarly to China, India’s government has created regulations in order to foster the economic growth of the country. It has started doing so in the late 1960s stimulating software exports and restricting imports and investments regardless whether they were market or efficiency seeking in order to protect the domestic production (Bhattacharya and Vickery 2008). In that way the government limited the growth and competitiveness of the IT industry since foreign investment in it was not allowed.

Later on the new governments reassessed the positive impact of world market integration of the industry and instead of restrictive measures some simulating actions were undertook to ensure that the competitiveness gained from the factor endowments described earlier is going to be kept and developed.
In 1986 a new IT industry policy was established followed by world market policy and the establishment of Software Technology Park from India (STPI) scheme in 1988. And most importantly the forum National Taskforce on Information Technology and Software was set up in 1998 and its purpose was to eliminate the obstacles to developing the Indian IT industry (Bhattacharya and Vickery 2008).

Nonetheless, since this part of the analysis deals with the horizontal FDI some information is going to be provided about the Indian industries attracting most FDI inflows. It should also be noted that the Indian IT sector is going to be considered as a sector attracting vertical FDI or in other words is subject to international outsourcing. This assumption is based on the theoretical framework provided earlier and implying that the outsourcing activities arise in industries possessing high intangible to tangible assets ratio. Hence, the IT and BPO sectors are going to be dealt with afterwards.

The share of the India FDI inflows has increased from 0.11 percent in 1990 to 1.2514 from the world’s total FDI flows in 2007.

Figure 9 Countries’ share of Indian FDI in 2007 in million dollars

Source: Jatinder Singh 2010, "Economic reforms and foreign direct investment in India: policy, trends and patterns", IUP, p. 64

The main reason for the leading position of Mauritius was its favorable taxation environment that benefited the foreign multinationals that wanted to preserve the profits obtained by outsourcing activities to them. Yet, the genuine FDI investors in India were coming from the U.S., Europe, Japan and Singapore.

Looking at the sector distribution of the FDI inflows it could be observed from figure 10 that the increase was highest in the electrical equipment and followed by the transportation sector. That phenomenon could be easily explained by the availability of engineering specialists in India, table 6, as a factor of production for these industries.

14 Jatinder Singh 2010, "Economic reforms and foreign direct investment in India: policy, trends and patterns", IUP
Furthermore, as it is seen from Table 6 the drivers for the investments in the power and utilities sector or simply the electrical equipment sector were defined to be both labor skills and market size. This implies that the demand for power infrastructure triggered by the IT outsourcing processes has led to increased investment in that particular sector.

Table 7 FDI drivers in India

<table>
<thead>
<tr>
<th>FDI Drivers By Importance</th>
<th>Respondents by Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All sectors</td>
</tr>
<tr>
<td>Market Size</td>
<td>33%</td>
</tr>
<tr>
<td>Labour Skills</td>
<td>26%</td>
</tr>
<tr>
<td>Wages</td>
<td>18%</td>
</tr>
<tr>
<td>Incentives</td>
<td>13%</td>
</tr>
<tr>
<td>Infrastructure (opportunities)</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Virmani 2004, “Foreign direct investment reform”, p.17
As it is also seen from the table the labor skills of the Indian labor force the greatest investment motive for the high tech investors meaning that this sector is subject to efficiency and asset seeking investment which is mostly related to vertical FDI or outsourcing.

It is also important to pay attention at the Indian FDI growth after the reforms. From table 8 could be seen that the Indian FDI compared to the world has increased by 1.14 percent compared to the world inflow growth of 784 percent from 1990 to 2007. This enormous difference might be interpreted as the inability of the Indian economy to attract the world increasing FDI inflows. This finding could also be used as an evidence of the Markusen’s suggestion that most horizontal FDI is targeted to developed countries.

Table 8 Share of India of World’s total FDI inflow measure in dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>India</th>
<th>World</th>
<th>India’s Share in World FDI (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>237</td>
<td>207,278</td>
<td>0.11</td>
</tr>
<tr>
<td>1995</td>
<td>2,151</td>
<td>341,041</td>
<td>0.63</td>
</tr>
<tr>
<td>2000</td>
<td>3,585</td>
<td>1,398,183</td>
<td>0.26</td>
</tr>
<tr>
<td>2005</td>
<td>7,606</td>
<td>958,697</td>
<td>0.79</td>
</tr>
<tr>
<td>2007</td>
<td>22,950</td>
<td>1,833,324</td>
<td>1.25</td>
</tr>
</tbody>
</table>


Despite the small share of the world FDI flows that India has attracted its FDI flows have increased in absolute terms by $22,713 or by 9,584 percent since 1990 which is undoubtedly a worth noting fact. For comparison the sum of the FDI flows into the developing economies excluding China have grown from $31,609 in 1990 to $481,409 (UNCTAD 2011) which is an increase of 1,423 percent which is much lower percent than the sole Indian inflows growth. And also the Indian growth percentage is higher than the world’s percentage growth that is 784 percent.

This staggering numbers could not merely be explained by the higher initial values of some of the countries in 1990s, i.e. in Brazil $989 million, but also by the modest growth of the most of the countries, i.e. Korea, Lebanon, Taiwan, Macao etc. (UNCTAD 2011). This implies that India, though receiving less FDI than China, is a country that is quickly attracting FDI flows after its initial very low attractiveness in the 1990s. As a matter of fact, even the Chinese inward FDI growth was less impressive than the Indian measured in percentage. The Chinese FDI flows in 1990 were $3,487 million and in 2007 they are measure to value $83,521 million which is an increase of 2,295 percent.
And finally, what can be inferred by the table is that India has increased its share from the world FDI quite substantially and the period when largest growth was observed was 2005-2007 when the FDI flows increased by 202 percent. In order to perceive the development of the inward FDI into India figure 11 could be observed.

Figure 11 FDI inflows to India

3.3.1 Indian vertical FDI

The Indian vertical FDI can be observed mostly in the IT and BPO sector since those sectors were facing insignificant domestic demand and horizontal FDI could not have been justified by any means. Instead, those sectors owed their rapid development to the efficiency seeking and export oriented investments. In order to show which Indian service sectors increased their exports in comparison to the Chinese, figure 12 can be observed. And from the figure it could be seen that the exports of Indian computer and information services (mostly related to vertical FDI) and financial services (related to BPO) have increased significantly in the 1997-2008 period. Yet, what it is even more intriguing is that the Chinese computer and information services export growth. Moreover, in 2008 the Chinese computer and information service exports were greater in amount than the Indian communication and financial service exports, which suggests that China is slowly becoming an Indian competitor in the international service market.
It is relevant to observe the growth of these sectors measured by their employment rise (see figure 13) in order to measure their direct impact on the Indian economy. What is meant by that is that in the Indian economy a phenomenon called “jobless growth” was observed and stated to pose some serious risk to the Indian economy (Bhattacharya and Sakthivel 2002).

The problem can simply be described by the increasing willingness of investors to outsource business activities in India resulting in higher GDP due to increasing FDI inflows and service exports but lower employment growth due to insufficient supply of qualified employees and resulting in increasing wage premium of the highly qualified employees as shown in the income inequality section.

Figure 14 Employment in the Indian IT-BPO sector

Source: Author’s calculations and NASSCOM 2009 data
What can be observed by figure 13 is the relative higher employment in the IT and service exports compared to the business process outsourcing exports and also the emergence of domestic demand for business and IT services.

What should be pointed out is that IT and service sectors are more prone to be foreign owned due to the risk involved when dealing with intangible assets (discussed in the theoretical transaction cost section) compared to the business process outsourcing where some back office operations like accounting are subcontracted to local companies.

This means that from employment growth perspective the vertical FDI has increased more than the business process outsourcing and has contributed more to the Indian service sector progress.

### 3.3.2 FDI- Technology spillover in India

In order to benefit from technology transfer in the 1980s a condition for allowing FDI inflow into the country was set up requiring the foreign companies facilitate some degree of technological spillover (Pant and Mondal 2010).

A case study of India by Pant and Mondal 2010 has found that the foreign firms facilitated greater technological spillover due to their export orientation compared with local firms purchasing technology and also that the degree of technology adoption depended on the competition level in the particular industry.

In order to measure the spillover Pant and Mondal 2010 used total factor productivity (TFP) as a proxy for technology spillover and the decrease of the dispersion of this productivity was considered as technological improvements in a particular industry. And the logic behind this formulation could be interpreted in the following way- since TFP is the portion of output not explained by the amount of inputs used in production (Comin 2006) the technology and production organization of the employees would enable a company to be more productive, meaning to produce more cheaply than the competitors, hence if this efficiency is observed in the entire industry including suppliers, subcontractors and competitors and not only in the foreign owned companies than that would mean that the multinationals have transferred some of its technology and production know how to the entire industry they operate in and technology spillover have occurred.

The industries investigated were the most prominent FDI receivers according to the researchers- industrial machinery, electrical goods, transport equipment and chemical industry.

Without going into further detail into the model estimation and calculations the results obtained were the following: the licensing to the Indian firms did not enable them to benefit from technology transfer while foreign ventures provided the specific industries with technology spillover that was even greater than the transfer resulting from mere purchase of foreign technology.
Table 9 Foreign presence and technology imports variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPILL1</td>
<td>-0.5698558</td>
<td>-2.94***</td>
</tr>
<tr>
<td>SPILL2</td>
<td>0.0185784</td>
<td>0.21</td>
</tr>
</tbody>
</table>

As it could be seen from table 9 the variable SPILL1, measuring the foreign company’s share of total sales in a particular industry, show significant and negative results pointing towards high presence of foreign enterprises and negative dispersion in the industry meaning concentration of the production, increased total factor productivity and technological spillover. To the contrary, the variable SPILL2, representing the transfer of technology due to licensing production and measured by the ratios of licensing fees to sales turnover, shows insignificant and positive values.

A reasonable explanation for those results is that the foreign multinationals preferred to transfer their technology in the limits of their enterprise in order to control it and keep the intangible assets intact.

To conclude, foreign multinationals increased the Indian industry productivity by involving in foreign direct investment since they had the technology and the initiative (they were export oriented) to greatly increase their productivity due to the high international competition. They did so, by transferring technology and production know how to their suppliers and subcontractors.

From the other hand, the licensing companied did not affect the industry technology level not because they were not in possession of the technology but because they had not any incentive to do so due to the low competition in the Indian market.

3.4 Consequences of FDI and Outsourcing

In this section, the direct effects of vertical FDI and outsourcing on the sending countries are going to be examined first. These effects include loss of employment in the specific outsourced material and service sectors.

Afterwards, the indirect implications of FDI and outsourcing are going to be studied. And what FDI and outsourcing mostly affect is the international intra-firm trade (vertical FDI) and international trade of intermediate goods and services (outsourcing) due to the separation of the value chains of the most multinational enterprises.

Furthermore, the international trade effects on the national incomes of countries and the income distribution between the different employees’ groups is also going to be examined in the concluding part of the thesis.
3.4.1 Employment implications of material outsourcing

In the European Union outsourcing was measured as a ratio of imported materials for manufacturing activities to the gross output of the industry and it was reported that it has increased from 7.7 percent to 8.8 percent and also that the outsourcing processes to the developing countries have reached 9 percent per year in the 1995-2000 period (Falk and Wolfmayer 2005).

Some classification by industries was prepared in order not only the intensity of outsourcing in the different industries to be presented but also the effect of outsourcing on the different industries to be in investigated.

Table 10 European countries outsourcing by industry 1995-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>world</td>
<td>high-wage</td>
<td>low-wage</td>
</tr>
<tr>
<td>Shares in gross output as percent</td>
<td>1.97</td>
<td>1.57</td>
<td>3.70</td>
</tr>
<tr>
<td>Average annual percentage change</td>
<td>0.58</td>
<td>-1.21</td>
<td>-0.36</td>
</tr>
<tr>
<td>Difference in percentage points</td>
<td>0.01</td>
<td>0.35</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Source: Falk and Wolfmayer 2005, “Employment effects of trade in intermediate inputs with the EU member states and Asia”, Austrian Institute of Economic Research WIFO p. 449

Note that the summarized data exhibits the patterns of intra-industry trade of intermediate products that were used as proxy for identification of outsourced processes.

As it is evident from the table that the outsourcing to low wage countries is carried out in the leather, textile, apparel and basic metal industries. Also some high skill intensive sectors were outsourced- office machinery and communication equipment. From the other hand, offshoring to high-wage countries was carried out in industries requiring great expertise as is predominant in the chemical, basic metal and the transport equipment industries.

The countries investigated were the low wage EU member states and also China, Hong Kong, South Korea, Malaysia, Singapore, Taiwan, Thailand, Philippines, Brunei, Myanmar, Vietnam, Laos, Cambodia, Indonesia and India. The outsourcers or high wage countries were the EU 15 and the highly industrialized OECD member states, i.e. Japan and USA.
The most intensively subcontracting states in the EU were studied in order the implication of outsourcing on employment to be examined.

Table 11 Manufactured intermediate inputs and international outsourcing in selected European countries 1995-2000

<table>
<thead>
<tr>
<th>Country</th>
<th>Total inputs</th>
<th>Manufactured intermediate inputs from</th>
<th>Imports from</th>
<th>Shares of gross output as percent 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>World</td>
<td>High-wage countries</td>
<td>Low-wage countries</td>
<td>Shares of total inputs as percent 2000</td>
</tr>
<tr>
<td>Austria</td>
<td>20.06</td>
<td>14.03</td>
<td>11.70</td>
<td>2.33</td>
</tr>
<tr>
<td>Denmark</td>
<td>16.15</td>
<td>8.20</td>
<td>6.99</td>
<td>1.21</td>
</tr>
<tr>
<td>Finland</td>
<td>22.26</td>
<td>8.27</td>
<td>6.07</td>
<td>2.20</td>
</tr>
<tr>
<td>Germany</td>
<td>21.20</td>
<td>8.44</td>
<td>6.35</td>
<td>2.89</td>
</tr>
<tr>
<td>Italy</td>
<td>16.74</td>
<td>8.28</td>
<td>6.40</td>
<td>1.88</td>
</tr>
<tr>
<td>Netherlands</td>
<td>23.06</td>
<td>11.64</td>
<td>8.77</td>
<td>2.27</td>
</tr>
<tr>
<td>Sweden</td>
<td>16.51</td>
<td>9.02</td>
<td>7.95</td>
<td>1.04</td>
</tr>
</tbody>
</table>

As it could be seen the overall outsourcing figures were highest values in Austria and Netherlands and the greatest growth in the period was taking place in Austria, Germany and Finland.

Table 12 illustrates the negative impact of outsourcing to low wage countries of intermediate processes on particular industry employment.

The results show pattern of dropping employment in low-skills industries due to outsourcing to low wage countries irrespective of the degree of outsourcing of the industry. However, in industries with high industry average of outsourcing to high wage countries, the impact on employment is positive for the high skills industries.
So far, it was found that in the period 1995-2005 the EU material outsourcing to the low wage countries resulted in unemployment increase of 0.26 percent per year (Falk and Wolfmayer 2005). However, in order to provide a more objective view of the problem a broader perspective should be considered.

Looking at the American labor market, figure 14, one can see that despite the decrease in employment in the industries subject to outsourcing, i.e. consumables and textiles manufacturing also shown to be subject to EU outsourcing, the employment loss was more than outweighed by an increase in the service sector and most prominently in the construction sector that increased by 4.5 percent in the 1994-2005 period.

---

**Table 12 Outsourcing effect on employment**

<table>
<thead>
<tr>
<th></th>
<th>Median of log change of employment in high/medium skill industries (NACE 29-35)</th>
<th>employment in low skill intensive industries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total employment</td>
<td></td>
</tr>
<tr>
<td>Total outsourcing</td>
<td>+0.004</td>
<td></td>
</tr>
<tr>
<td>Degree of outsourcing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-below ind. average</td>
<td>+0.074</td>
<td>+0.121</td>
</tr>
<tr>
<td>high-above ind. average</td>
<td>-0.086</td>
<td>-0.140</td>
</tr>
<tr>
<td>Total</td>
<td>+0.004</td>
<td>-0.019</td>
</tr>
<tr>
<td>Difference between high and low outsourcing industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kruskal-Wallis test, p-value</td>
<td>0.007</td>
<td>0.770</td>
</tr>
<tr>
<td>Outsourcing in low wage countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of outsourcing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-below ind. average</td>
<td>-0.085</td>
<td>-0.118</td>
</tr>
<tr>
<td>high-above ind. average</td>
<td>-0.006</td>
<td>-0.045</td>
</tr>
<tr>
<td>Total</td>
<td>-0.080</td>
<td>-0.163</td>
</tr>
<tr>
<td>Difference between high and low outsourcing industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kruskal-Wallis test, p-value</td>
<td>0.007</td>
<td>0.779</td>
</tr>
</tbody>
</table>

Source: Falk and Wolfmayer 2005, “Employment effects of trade in intermediate inputs with the EU member states and Asia”, Austrian Institute of Economic Research WIFO p. 450
What can be concluded so far is that despite the negative employment growth in certain industries as a result of material outsourcing the overall employment was not significantly affected due to growth in other industries. What seems to be the case is that the American economy is focusing on high-end service providing, excluding construction, where it has a comparative advantage.

Moreover, since those service industries are being developed it is logical that over time they are going to become more productive and demand more employees and consequently the qualified employees working in the professional and management services, for instance, are going to become better off.

In the same time, some of the workers laid off from the manufacturing industries could not find employment in the other industries, as it was also in the case of Europe, since they did not have the proper qualification for them and since the low skills demanding construction industry grew by 4.5 percent whereas the percentage of the decline in employment in the manufacturing industries was 6.6. That being said, some of the manufacturing employees had either to prequalify or to accept to work for lower wage than what they have used to get in the service sector.

In that sense, the issues related to income inequality between the different work groups are going to be discussed in the income inequality implications section.

Additionally, a more indirect approach to observing the employment implications of material and service outsourcing could be chosen. And it could be carried out by looking at the trade balances of the outsourcing countries. The logic behind this is that if a country involves in manufacturing or service outsourcing its manufacturing or service trade balance might deteriorate since the countries are going to purchase the goods from this sector from abroad and cancel some of the domestic production. Yet, this analysis would provide a very generic picture of the situation since not all manufacturing industries would experience the same degree of outsourcing; however this type of study is going to be undertaken with the single purpose of investigating which type of outsourcing has affected the manufacturing and service trade balance more.
As it could be seen from figure 15 the American merchandise trade balance started to increasingly deteriorate meaning that the U.S. economy has been purchasing more merchandise products than it has exported. This suggests that the American economy has shifted its focus from producing low-value merchandising to higher value service providing activities. And this finding is consistent with the results provided previously, showing the increase of the service sector employment manufacturing sector unemployment. Moreover, according to the research conducted by Mendonca and Auguste 2009 for the McKinsey Global Institute, the American total trade deficit was translated to an implicit net job deficit of about 3.8 million work positions (2.7 of the employment in 2005) compared to 200,000 jobs lost in 1992, or 0.2 percent of the employment in 1992. What it is more relevant for this part of the analysis, however, is the above mentioned authors’ finding that in the period 1992-2005 the U.S manufacturing and agriculture lost 4.1 million jobs or 25 percent of the industry workforce while the service industry has increased its employment by 1.4 million jobs in 1992 (1.4 percent of the service employment) and by additional 300,000 positions in 2005.

### 3.4.2 Employment implications of service outsourcing

Another trend observed in the trade between the EU and the Asian states is the service outsourcing enabled by the ever increasing information technologies development. The services susceptible to overseas outsourcing are software development, call centers and financial centers. Just like the material outsourcing to the low wage EU and Asian countries it was found to have resulted in job losses in the outsourcing former EU-15 countries.

The model developed by Falk and Wolfmayer 2006 looked at the effects of the outsourcing by first measuring the phenomenon from a narrow view- looking at the services purchased from the same service industry and from a wider view by calculating the business services imports. The countries investigated were the same as the previous material outsourcing study carried out by the authors- EU 5 countries-Austria, Finland, Italy and Netherlands and also the central and eastern new EU
members, the low wage Asian countries mentioned previously in the report and the OECD high wage countries.

Table 13 International outsourcing of the service sectors in selected European countries 1995-200

<table>
<thead>
<tr>
<th>Import services inputs from any other sector</th>
<th>Import services inputs from the same sector</th>
<th>Import business services inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>World High-wage Low-wage World High-wage Low-wage World High-wage Low-wage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares in gross output as percent, 2000</td>
<td>3.36</td>
<td>2.01</td>
</tr>
<tr>
<td>Finland</td>
<td>2.07</td>
<td>1.99</td>
</tr>
<tr>
<td>Germany</td>
<td>2.61</td>
<td>2.36</td>
</tr>
<tr>
<td>Italy</td>
<td>2.21</td>
<td>2.08</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.07</td>
<td>3.06</td>
</tr>
<tr>
<td>EU25</td>
<td>2.66</td>
<td>2.45</td>
</tr>
</tbody>
</table>

Source: Falk and Wolfmayer 2006, “Services and materials outsourcing to low-wage countries and employment: empirical evidence from EU countries” WIFO, p. 44

As it is from the table the service outsourcing was mostly observed in the Netherlands and Austria taking 3.9 percent and 3.4 percent out of their gross output.

The average growth of service outsourcing for five countries was found to amount 6.4 percent per year in the period, however it was found to be low in amount compared to material outsourcing and predominantly carried out to high and not low wage countries (Falk and Wolfmayer 2006).

The data obtained from Falk and Wolfmayer’s research paper show that outsourcing to the low wage countries has decreased the employment rate in the service industries of the outsourcing countries by 0.2 percent and the result of outsourcing to high wage countries has increased the employment rate by 0.1 percent. And since the service outsourcing to the high wage countries was predominant, the overall impact of this process was insignificant compared to the material outsourcing.

Additionally the research provides an thought-provoking finding, and namely that the employment growth is higher the more business services, i.e. financial services, are outsourced into low wage countries like India and Eastern Europe meaning that the developed countries are increasingly focusing on higher value adding activities that leads not only to productivity growth but also to greater employment in the country as well. That could be explained by the output growth (also pointed out by Falk and Wolfmayer as major determinant of employment rates) triggered by increased efficiency in the industry and influenced by some internal, i.e. political, and external factors, i.e. demand, tariffs.
The conclusion of the section concerning the employment implications of material and service outsourcing is that outsourcing decreased the employment in the specific outsourced industries, more in the manufacturing than in the service sector, suggesting service orientation of the developed economies and unemployment growth in the primary manufacturing sectors.

3.4.3 Trade and GDP growth implications of FDI and outsourcing

To show the implications of FDI on the national gross domestic product the increase in trade is going to be investigated since the purpose of most of the vertical FDI inflows into China and India is export. In the same time, since trade is one of the determinants of GDP growth the relation between trade increase and GDP growth is also going to be examined. These relations are expression of the assumption that the foreign capital has stimulated investment since domestic Chinese and Indian savings and government investments were insufficient to stimulate capital accumulation in the industries and in that way to increase the trade competitiveness of the two countries.

But before starting to concentrate at the international trade contribution to GDP, the direct contribution of FDI to the GDP of the two countries is going to be examined in order later on to compare the direct and indirect consequences of FDI.

Figure 16 GDP per year in thousand dollars a) and annual FDI contribution to GDP in percent b)

![Graph showing GDP per year and FDI contribution to GDP for China and India](image)

Source: Author’s calculations and UNCTAD 2011

As it could be seen from figure 16 along with increasing GDP gap between the two countries the FDI contributions to the GDP of the two countries has also started to differ. In the initial years after the reforms the FDI in China and Indian has become an important means of obtaining foreign reserves that later on stimulated the infrastructure development and trade growth.
Yet, after 1994 the Chinese FDI started declining its contribution share to the GDP leaving greater share to the trade as another important GDP contributor. In the same time the Indian FDI share has been increasing ever since the reforms suggesting insufficient trade growth. And in order to examine the issue of trade increase the following section is going to be dedicated to countries’ trade analysis.

As mentioned, the trade increase, as a major consequence of production growth, is expressed as a driver for increasing GDP. Yet, the other factors for increasing GDP as domestic consumption and government spending are not going to be dealt with in the following data analysis since they are dependent to some extent on the foreign capital provided and income increase due to the productivity and production increase from the FDIs.

Figure 17 Inward FDI in thousand dollars a) and exports of merchandise and services in China and India in thousands of dollars b)

As seen from figure 17 both inward FDI and export of merchandise and services increase for China and India and can be deemed that there is some relations between the two. More specifically by 2009 the Chinese FDI has increased by 2,624 percent and the Indian by 14,524 percent since 1990 that can be explained by very low initial values. Moreover, the Chinese and Indian exports have increased by 1859 and 1023 percent respectively (UNCTAD 2011).

What cannot be seen from the figure, however, is that the Chinese GDP has increased in the same period by 1062 percent while the Indian has increased by just 277 percent. And in order to investigate this disparity the author’s decision is to examine the trade balance (net exports) contribution to countries’ GDP. And the argumentation for this is that since FDI stimulated international trade, it should be investigated whether the...
specialization of the two countries in either manufacturing or service sector has contributed to their national incomes, expressed by the GDP value, and how much.

Figure 18 Total net exports (exports-imports) in million dollars a) and net exports contribution to GDP (NE/GDP) b)

![Graph showing net exports and contribution to GDP for China and India](image)

Source: Author’s calculations and UNCTAD 2011 data

What figure 18 a) shows is that while China is increasing its trade surplus after the reforms, caused by trade promotion and domestic savings, India is having a serious trade deficit. Moreover, fig. b) shows the negative contribution of net exports to Indian GDP, i.e. -4 percent in 2006, and the positive contribution of 6 percent in the same year to the Chinese GDP.

It should be noted, that the decline of the net exports in the 2000-2004 coincides with a recession in the American economy, which is the greater trade partner of the two countries, suggests the high elasticity of substitution of the Chinese and Indian exports.

What can be concluded so far is that while FDI contributed to increasing international trade that was not enough to decrease the Indian trade deficit and contribute to greater Indian GDP growth as was the case in China.

In general, the Chinese and Indian international trade did not contribute much to the GDP of the two countries in the examined period. The maximum that the net exports contributed to the GDP was 7 percent in 2007 for the Chinese national income which, of course, should not be undervalued comparing China with U.S which is running a trade deficit but is the largest exporting country in the world and also the greatest exporter in the world.

And an interpretation of this could be made by focusing on the countries comparative advantage and currency value. For instance, the Chinese undervalued currency and country’s comparative advantage of
producing and assembling semi and fully manufactured goods cheaply could explain why U.S. is running a trade deficit with China and China a trade surplus with U.S.

From the other hand, by looking at the Indian case it can be observed that despite the low value of the Indian rupee the country is still running in a trade deficit. Therefore, the Indian ineffective production cannot be outweighed by its low valued currency and the Indian consumers prefer to purchase certain goods from abroad. And in order to figure out where the countries’ deficit is mostly observed, in the manufacturing or service sectors some data are going to be provided.

Figure 19 Merchandise a) and Service b) trade balance in thousand dollars at current prices and exchange rate

![Graph showing trade balance](image)

Source: Author’s calculations and UNCTAD 2011 data

What can be inferred by the figure is that China is experiencing relatively steady increase in its merchandise trade balance whereas India owes most of its recent trade deficit to its merchandise trade balance. What it is interesting to find is that the current trend of increasing Chinese trade deficit in the service sector while India is having a stable increase in its service trade balance.

In that way, the comparative advantages from a trade perspective of China and India can be confirmed as being manufacturing activities for China and service activities for India.

3.4.4 Income implications

After showing the effects of increased international trade on countries’ national incomes it is appropriate to examine which workers’ groups benefited most from it.

The factors that can be pointed out for income inequality increase over the last decades along with outsourcing are free trade, technology development, immigration and decline of the unions (Mendonca and Auguste 2009). And while free trade and technology development affect the demand for labor the immigration and labor force growth affect the supply of labor, though their relative impact is difficult and complex to estimate.
What can be estimated though are the income disparities between the different workers’ groups in the sending and receiving outsourcing countries and the increasing return to their skill prerequisites. This fact was explained theoretically by the modification of HO- model provided in the theoretical part of the thesis and it can simply be clarified by the statement that the factors of production used most intensively in a country, i.e. skilled labor, would increase their compensation compared with the factors used not that intensively, i.e. workers in repetitive manufacturing sectors.

That is why, the motivation of the following analysis is to investigate how the relative demand for skilled workers in USA, China and India and the employment implications of outsourcing, discussed earlier, have affected the income disparities and wage premium in those three countries.

It should also be specified, that the wage premium statistics are not going to be considered as solely dependent on the demand for specific type of workers but also as a function of workers’ productivity. For example, even if there is a scarce supply of textile workers, as it is the case in some Chinese regions in the recent years, the employers would be able to increase the wage rate up to certain point corresponding to the employees’ productivity, implying higher elasticity of substitution for the low-skilled laborers compared to the white-color employees.

In USA, that is the most active outsourcing countries, the income inequality measured by the Gini coefficient has greatly increased especially after the launching of the open-door policies in China and India in 1980s.

Figure 20 Households income inequality change

Source: Jones Jr. and Weinber 2000, “The changing shape of the nation’s income distribution”, U.S. Census Bureau

Yet, what should be made clear is that the Unites States was not as dependent on international trade as India and China were. What that means is that, since the American economy was more closed than the Indian and
the Chinese measured by trade to GDP ratio, its labor market was less affected by the FDI and outsourcing, see figure 21.

Therefore, the employment implication of international trade was not a key factor for increasing inequalities between different the American work groups. Meanwhile, trade was increasing its contribution to the Chinese and Indian GDPs implying greater dependence of their labor markets on the international demand for certain skills and capabilities.

That it is why, it is logical to assume, that the American income disparities were more influenced by the domestic demand and supply of labor. In addition, the wage premiums of the employees were subject to the technological development and the increasing productivities of the employees occupied in the IT and managing sectors, for instance.

The increasing wage gap observed in the US in the 1979-1995 accounted for 13.4% decrease of the real wages of employees with 12 years of education while the annual earnings of people having 16 or more years of education been reported to have risen by 3.4% (Feenstra and Hanson 2001). Moreover, the trend of increasing income distribution gap has continued in the recent years and the Gini coefficient has risen from 40.8 in 1997 to 45 in 2007 (CIA 2011).

Yet, one might speculate that this income gap would have been even larger if it was not for the high share of American employees working for the service sectors unlikely to be outsourced due to location advantage. In that sense, according to Agrawal and Farrell 2003 70 percent of the occupations in the U.S. were found to be in the service industries, i.e. retailing, restaurants and hotels, tourism and personal care that required both the producer and consumer to be present in the same place and that is why they cannot be outsourced (Bhagwati et al 2004) which is an empirical proof of the “non-transferability” or “non-tradability” assumptions of Baldwin 2006 of certain professions.

An important justification for the for the increasing income disparities, apart from the domestic supply and demand for labor discussed earlier, throughout time is the shift of the American economy to higher value adding services enabled by technology development and material outsourcing. I.e. in 2010 est. the employment in the manufacturing sector was 20.3% out of the labor force while the more sophisticated managerial, professional and technical sector was employing 37.3% of the labor force (CIA 2011) implying
the greater specialization and effectiveness of the industry because the tasks requiring higher education level were performed domestically whereas the low-skilled were outsourced overseas. And as HO-model implies the abundant factor of production would gain more than the scarce factor in free trade expressed by wage premiums of the skilled workers. For example the return to education in US has increased in period after 1980s that is a period of increasing international trade specialization and integration and the difference between low and high skill workers earnings have increased significantly. It is important to note that those wage increases have been facilitated by substantial productivity growth, yet the workers group that benefited mostly from this increase was the high-skilled employees that were in a greater demand and relatively shorter supply compared to the low-skilled laborers but in a greater supply in the US compared to the developing countries as China and India, in particular. I.e., the Chinese and Indian labor forces were still largely used in the agricultural and industry sectors, accounting 27.2% and 39.5% for China in 2008est respectively, and 52% of the Indian labor force was engaged in agricultural activities and 14% in 2009st in the industry sector (CIA 2011).

Figure 22 American wage premiums of high school and college graduates 1915-2005

Analyzing the Chinese wage differential, see figure 23, it could be concluded that it does not substantially differ from the American one. Yet, what is different is that the difference between the university graduates and the employees with lower qualification started occurring most visibly after 1998 whereas this difference started occurring much earlier in the United States. And a plausible explanation for this difference is that the American economy was involved in international trade much earlier than the Chinese economy. What this implies is that despite the increase of the average income of all work categories the benefits from international trade and outsourcing, in particular, benefited the most productive and scarce factors of production and namely the highly educated analytical employees.
As a verification of the benefits of outsourcing and international trade in general comes the date exhibited in figure 24 showing in the substantial increase in the average urban wage in China. It should be noted that in the end of the 1970s there was not observed any significant increase but in the beginning of the 1990s along with the increasing foreign investments and demand for labor the average wage started to increase in noteworthy amount.

The situation for India does not much differ in terms of wage premiums, see figure 25, but the difference there is that the increasing demand, expressed as increased employment growth in table 14, for educated employees due to the emerging specialization of the Indian economy towards exporting services, i.e. BPO, software development, requiring workers with higher education.

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To conclude, due to the increasing employment of educated workers, their increasing wage premium and still large share of the Indian population occupied in the agriculture, the income disparities are likely to increase in the future. That it is why it is important that the Indian government put more efforts into developing the primary manufacturing industry in order to utilize greater part of the labor force and minimize the income disparities in the short term and increase the amount of university students to minimize the disparities in the long term.

In general, the consequences of FDI and outsourcing for the Chinese and India laborers were increasing wages for in the employees occupied in the receiving FDI sectors and increasing wage premiums of the educated workers. In the same time, the income disparities in the American economy are implying two things: decreased wage rate of the low skilled workers due to world factor price equalization, facilitated by the increasing trade, and increased income of the high skilled workers’ group which is consistent with the
assumption for higher returns of the factor used mostly in an economy and it is also an implication of the higher productivity and demand for the highly-qualified employees.

4. Conclusion

Using the Eclectic theory, it could be concluded that in relation to the companies’ ownership advantage, the risky environment and low protection of the intellectual property the Chinese economy lost the opportunity to attract research and development companies as India did. Moreover, due to the Indian English-speaking and educated labor force the service industry attracted most efficiency and strategic resource seeking foreign investors. As a matter of fact, the Indian trade was primary in services. Yet, despite the benefits arising from international trade in services such as increasing of the high-value adding economy and the salaries of the individuals occupied in the sector, a large percentage of the labor force was still occupied in the agricultural sector where the productivity and average income were still very low. And due to this finding, some recommendations to the Indian official are going to be given.

First, since large part of the population was still illiterate the government efforts should be focused on providing widely-available professional education in order to provide the underdeveloped industry with valuable factors of production. Additionally, efforts should be made towards modernizing the industry and increasing its contribution to the gross domestic product. This is due the fact that it might be able to employ greater part of the labor force and increase the average Indian annual earnings.

In order to make the industry growth, the government has a couple of options. First, it could provide tax incentives to foreign investors, as China did, to invest in infrastructure. Second it could increase the government spending in infrastructure. And due to its current account deficit, the government officials might be eager to transfer some funds intended for developing of the service industry infrastructure, i.e. telecommunication networks etc., to the less developed manufacturing sector.

Looking at location advantages, discussed by Dunning, it was found that the companies searching for location advantage, such as proximity to consumers, have appreciated the Chinese market growth since in 2005 the main motive in an investors survey was not the cheap labor but the market size and growth. It seems that the Chinese advantage of offering cheap labor has started to lose its attractiveness with the increase of the minimum wage rate. What started attracting investors was the increasing purchasing power of the Chinese consumers. Yet, some steps should be made in order to further increase this purchasing power. And one of them is slowly shifting the focus on providing higher value-adding activities. In that sense, the quality of the education provided in Chinese universities should be improved and the linguistic abilities of the graduates should be enhanced.
Additionally, the Chinese officials could also change the focus of the economy towards domestic consumption rather than export orientation. That would have made it more resistant to sudden fluctuations in demand, as in the current financial crises, and dramatic increases in unemployment would be avoided. In order to increase the domestic focus of the Chinese economy, one method suggested by the World Trade Organization could be mentioned. The Chinese Yuan could be appreciated in order to reach its real value. And despite the fact that the Chinese economy would lose some of its cost competitiveness, the Chinese workers would be able to spend more money in factual terms and increase the overall purchasing power of the Chinese people. This would lead to increasing role of the service industry and larger part of the population would be employed in it instead in the low-income giving primary industry sectors.

And finally, in relation to the internalization advantages of the foreign investors, it was revealed that the two countries did not differ in terms ownership of the export oriented investments. That means that the investors have appreciated the arm’s length principle of the international trade in goods and services and have preferred to keep the control over the entire value chain instead of subcontracting some of the activities to foreign suppliers. Yet, an interesting trend was observed in India where the business process outsourcing was carried out most notably. And this trend is setting up firms by foreigners in order to serve multinational companies. And the beginning of these activities was given by international companies building their own service centers in India. After a while, the economies of scales related to mass production (in this case to mass service provision) have started being increasingly exploited.

In relation to the thesis’s model explaining the implications of vertical FDI and outsourcing, it could be stated that its assumptions were found to hold true in the empirical part of the report. The FDI influenced the international trade of the researched countries and indeed increased the countries national incomes. What was found intriguing was that, due to the lower utilization of the Indian labor force and lower investment flows, the Indian gross domestic product per capita was not increasing in the same extent as the Chinese one. Additionally it was found that in the short term the outsourcing activities resulted in loss of employment especially in the manufacturing sectors. However, it was also shown that the American labor market was unaffected by the outsourcing activities since the other, mostly service providing sectors grew during the observed period. Hence, the full-employment assumption of the model was also fulfilled. Yet, the observed increasing income disparities between the different American social strata could not be entirely explained by the change of the occupation of the laid off manufacturing workers as the model assumed. The factors that also contributed to the income inequalities were found to be more related to the domestic demand for workers, due to the comparatively low openness of the American economy.
Likewise, since the highly-educated American workers were receiving higher wage premiums, it is logical to assume that the productivity was the driving factor that increased their wages and since the workers with lower professional qualification were also having lower productivity, hence the income disparities are expected to rise in the future as well.

Additionally, due to the American economy focus on providing services (the U.S. service trade balance was found positive), it could be assumed that the manufacturing labor market distortions would play lower role in future and consequently affect the nation’s income inequalities less than it was speculate by the media.

And finally, what could be recommended to the U.S. government officials in relation to GDP growth and income inequalities is to allow further outsourcing activities of the American multinationals in order the competitiveness of the American industry to be sustained. Additionally, the domestic sectors should also take advantage of outsourcing activities since in this way these sectors are going to be become more competitive on the home market and consequently the trade balance is likely to improve.

Moreover, while trying to keep some manufacturing positions at home and bailing out the inefficient car producing companies, the American officials are losing the possibility to transfer these funds towards higher value-adding activities by promoting higher education and stimulating the growth of the IT and R&D sectors.

In conclusion, the only way towards higher country income is through growth of the high-value adding activities that a country has a comparative advantage on and removing the impediments of international trade in goods and services.
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