

LINKING LOCAL AND GLOBAL: OPPORTUNITIES AND CHALLENGES FOR SMES – THE CASE OF THE AUTOMOTIVE INDUSTRY IN MEXICO

RELACIONANDO O LOCAL E O GLOBAL: OPORTUNIDADES E DESAFIOS PARA AS PMES – O CASO DA INDÚSTRIA AUTOMÓVEL NO MÉXICO

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Abstract: The focus of the article is on global-local interrelation in a globally integrated system of production, analysed through the Global Value Chain (GVC) framework. The unit of analysis is the small and medium enterprise (SME) as relevant unit when dealing with poverty reduction and distribution. The GVC allows to determine how the SMEs insert themselves in this system and what are the factors that cause a potential suboptimal insertion. The picture is further complicated by specific international agreements (for example, TRIPs and TRIMs) and market liberalization. The case of the automotive industry in Mexico exemplifies these risks and helps to better identify the potential role of governmental policies if a better insertion want to be guaranteed and a more equal development promoted.

Key words: GVC, SMEs, insertion, inequalities and policies.

Resumo: O foco do artigo é a inter-relação entre global e local em um sistema globalmente integrado de produção, analisado através do quadro da Cadeia de Valor Global (CVG). A unidade de análise é a pequena e média empresa (PME) como unidade relevante quando se trata de redução de pobreza e distribuição de renda. A Cadeia de Valor Global permite que se determine como as PMEs se inserem neste sistema e quais são os fatores que causam uma inserção abaixo do potencial ideal. O quadro se torna mais complicado por acordos internacionais específicos (por exemplo, os TRIPs e TRIMs) e liberalização do mercado. O caso da indústria automobilística no México exemplifica esses riscos e ajuda a identificar melhor o papel potencial das políticas governamentais para que se garanta uma melhor inserção e um desenvolvimento mais igualitário promovido.

Palavras-chave: CVG, PMEs, inserção, desigualdades e políticas.

INTRODUCTION

Rapid technological innovation, the telecommunication revolution, the widespread adoption of liberalization policies and the industrial reorganization are changing the environment in which firms operate. Particularly, "a more advanced and complex form of internationalisation which implies a degree of functional integration between internationally dispersed economic activities" has characterized the new global order (DICKEN, 1992, p. 1). This has relevant implications for many developing countries and a combination of the literature on Global Value Chain (GVC) combined with an example case study of the Mexican automotive industry attempts to address this issue.

The GVC approach examines how global production and distribution are interlinked. Additionally, it includes if and how firms in developing countries can reinforce their position. The international integrated system of production (IISP) and the links between firms in the South and in the North of the world bring opportunities or challenges in developing countries (PIETROBELLI & SVERRISON, 2004). Countries have the opportunity to sustain industrial growth and upgrading of economic activities by accessing new markets, technology and skills (KAPLINSKY & MORRIS, 2002). Firebaugh (1998) argues that countries with a higher rate of Foreign Direct Investment (FDI) present a faster economic growth. Nevertheless, the central objective of development is not just to promote growth but also to advance social goals such as poverty reduction and human development. Indeed, "people are the real wealth of the nations, and the main goal of development is to create an enabling environment for people to enjoy long, healthy, creative lives" (MALHOTRA, 2006).

Many factors impede an equal distribution of the gains due to the participation in the global system of production. There is a tendency towards increasing inequality in developing countries and also developed countries thus those who have lost from this process of a globalized system of production are not just the non-participants but also who has actively participated. It is fundamental to understand the extent to which the ties that bind North and South leading to greater opportunities for development (PIETROBELLI & SVERRISSON 2004). Within this context, Small and Medium Enterprises (SMEs) might represent the ideal unit of analysis for linking the functioning of the IISP and the promotion of development. SMEs and their relevance from an economic and social point of view allows a discussion of the implication of the IISP for industrialization and development, a case study of the Mexican automotive industry will illustrate this.

1. THE TIES THAT BIND: A GVC PERSPECTIVE FOR SMEs AND DEVELOPMENT

1.1 New structural features: the International Integrated System of Production

The IISP has become a central feature of a global system in which activities spread across national boundaries and are functionally integrated (GEREFFI, 1994). Transnationalization of production is increasing rapidly and Transnational Corporations (TNCs), particularly from the TRIAD (European Union, Japan and USA), play a key role (ALTENBURG, 2000). The IISP counts 82,053 TNCs with 807,363 foreign affiliates and they contribute to 57.2% of the world gross domestic product (GDP) (UNCTAD, 2009). Out of the 100 largest economies 51 are multinational companies and only 49 are countries (ANDERSON and CAVANAGH, 2000).

A suitable measure for analysing the degree of international integration is FDI which is an "overseas investment by companies to set up a new overseas subsidiary or acquire a controlling interest in another company" (GRIMWADE, 2000). FDI flow is increasing exponentially and since the early 1990s it has been

the major source of capital in developing countries (UNCTAD, 1999). The tendency is for TNCs to specialise in core competences and outsource the non-core activities in developing countries by fragmenting the production process (UNCTAD, 1999). In this way TNCs and domestic firms become interwoven "in intricate webs of contractual and non-contractual relations" (LALL, 2004, p.4). Although the increase in global trade, the premises of a spread development induced by globalization and liberalization have not taken place. The number of people living in absolute poverty remains stable whilst the distribution of income intra-country and inter-country has increasingly become more unequal. Economic growth and international trade are necessary but not sufficient conditions for development since many aspects still impede the spread of gains.

1.2 Global Value Chain and the understanding of inequality

GVC represents an appropriate analytical framework for understanding how the economic integration and the international fragmentation of production affects countries and firms including SMEs. "The *value chain* describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use" (KAPLINSKY & MORRIS, 2002, p.4). The value chain analysis permits the identification of key determinants and the nature of enterprise competitiveness through an evaluation of the core functions of firms and the process of outsourcing (OECD, 2007). Furthermore, the extension of the analysis at global level through the GVC framework can offer a deep understanding of modality of connection and participation of the producers from different countries in the global market (KAPLINSKY & MORRIS, 2002).

The GVC framework allows us to map the earnings and rewards along each link of the chain and the rents determined by the relationships and coordination of the activities along the chain (KAPLINSKY, 2004). Particularly, a firm's development and the distribution of returns are affected by rent opportunities and governance structure. "The concept of rent is used to describe a world where the parties who control a particular set of resources are able to insulate themselves from competition by taking advantage of, or by creating barriers to the entry of competitors" (Ibid., p.5). Intangible assets, supportive policies and anticompetitive practices are major source of rent opportunities (UNCTAD, 1997).

The value of the GVC lies, not only in the idea of an input-output structure (a production process made of a sequence of value adding activities), but also in the original concept of governance within this structure (SVERRISSON, 2004). Governance means coordinating the activities between different parties and managing relations between them (GEREFFI, 1999). Particularly, some actors influence the division of labour and the upgrade opportunities for other parties creating power asymmetries among participants (HUMPHREY, 2003).

GVC governance structure can be producer-driven or buyer-driven (GEREFFI, 1999). The former represents a chain in which large manufacturers coordinate the activities along the chain and organise the assembly whilst different tiers of subcontractors provide components (UNIDO, 2004). A buyer-driven chain refers instead to industries in which big retailers and marketers play the central role in deciding what has to be produced and the locations but are not involved in the production (SVERRISSON, 2004). Both chains are similar in the fact that “power resides squarely at the top and towards the end” and the governance of the chain is geared by profit maximization of the lead firms (SVERRISSON, 2004, p.19).

Governance can have different patterns depending on the coordination of the linkages among firms (GEREFFI et al., 2005). These patterns depend upon three variables: complexity of information exchanged between firms, the possibility to quite easily codify information and the capabilities of the suppliers to meet the requirements (GEREFFI et al., 2005). The interaction between these variables defines relationships with different degrees of coordination and power asymmetry between actors.

The understanding of the dynamic functioning of the chain helps to define who gains and who loses and it becomes a tool for uncovering the interconnections between firms and countries and for defining where there is a direct causality between the IISD and the exacerbating of inequalities between and within countries. The identification of these dynamics highlights the room for producer's initiatives and policy interventions if a better mode of insertion in the chain wants to be pursued and a more equal distribution promoted (KAPLINSKY, 2004).

1.3 SMEs and the insertion into the GVC

SMEs are a relevant unit of analysis for understanding the inequality caused by globalization because of their social and economic characteristics, but they also are the most vulnerable actors in the global market (CEGLI & DINI, 1999). For that reason, to what extent domestic firms benefit from an insertion into the IISD becomes a central issue.

The integration of SMEs into the GVC represent an opportunity to reap the benefits of globalization through linkages with lead firms and access to critical resources like finance, technology, skills and access to markets. “The challenge for developing countries is to ensure that such linkages occur” but also that “they contribute to the growth and competitiveness of SMEs and the development of the economy as a whole” (UNCTAD, 2005, p. 26). There might be different types of linkages between domestic firms and TNCs: backward with suppliers, forward with customers, with competitors and with technology partners (ALTENBURG, 2000). However, UNCTAD in the World Investment Report 2001 highlights the formation of backward linkages as main vehicle to transfer skills, technology and know-how from foreign enterprises to domestic firms. These linkages are also the

most common in developing countries and the analysis will concentrate on this category.

Intangible and tangible assets can be transferred to domestic SMEs through linkages between foreign affiliates and domestic suppliers (UNCTAD, 2001). The benefits of these linkages might be 10 to 20 times larger than those depending on trade liberalization alone (MORAN, 2002). The GVC approach assumes that international linkages necessarily and automatically contribute to technological transfer and innovation. Particularly important is the concept of upgrading which means the ability to change the nature of the activities in each link of the chain and the relationships among firms (UNCTAD, 2010). Upgrading involves, for example, an increase in efficiency of internal process, new products, move to another link of the chain and increase in value-added.

The main assumption in the GVC model is that “development requires linking up with the most significant “lead firms” in an industry” (GEREFFI, 1999, p.3). The local dimension is completely unconsidered and local upgrading initiatives are not contemplated because this depends solely upon the power structure in the chain (SVERRISSON, 2004). The lack of a local perspective represents a major shortcoming in the framework because host countries need a certain level of absorptive capacity to absorb and benefit from FDI. It is a fundamental condition to convert FDI into positive spillovers and to reduce the risk of SMEs being stuck in low value added activities (NGUYEN et al., 2009). Blomström, Lipsey, and Zejan (1996) in a study on developing countries illustrate that the more income per capita of a country the more the positive impact of FDI in the domestic economy. Particularly, FDI inflow increases when local capabilities are strengthened and at the same time, the stronger the local capabilities, the more the benefits created in the domestic economy (LALL & NARULA, 2006). It means that less industrialized countries are more likely to be stuck in low-value added activities of the value chain, including assembly and packaging, and spillovers might not spread in the local economy (UNCTAD, 2001). TNCs largely act as developmental enterprises but this is more common in industrialized countries (ALTENBURG, 2000) resulting in serious challenges for domestic SMEs in developing countries.

1.3.1 Risks of a suboptimal insertion

The insertion in the GVC can deliver higher returns and employment but the achievement of these gains depend on where the firm lies in the value chain (Nadvi, 2004). In some cases, GVC “never acquire roots in the periphery [and]... many local chains never reach the core” (SVERRISSON, 2004, p.25).

Generally, “less industrialized locations are assigned simpler tasks like assembly and packaging, while more skill- and technology- intensive functions are allocated to industrially more advanced locations” (UNCTAD, 2001, P.9). This matches the self-interest of many TNCs for including backward economies as cheap providers of basic inputs and it excludes most domestic SMEs from relevant

spillovers and upgrading opportunities (SVERRISSON, 2004). In some manufacturing industries firms spend more than half of the profit on inputs offering a strategic reason for outsourcing the manufacturing process in cheaper locations (UNCTAD, 2001). Domestic SMEs usually do not have any bargaining power and heavily depend on large firms. The relationship is far less beneficial for the supplier which might be forced to carry on a competition based on reduction of costs with serious risks for labour standards, wages and profits (ALTENBURG, 2000). The risk for SMEs is to get trapped in what is called 'immiserising growth' with increased economic activity but reduced returns (Ibid.).

The ability to build beneficial (for small local firms) SME-TNC linkages depends on the competitiveness of the SME, the strategy of the TNC and the existence of supportive public policies (UNCTAD, 2005). Regarding the requirement of competitiveness, many domestic suppliers offer costs advantages for TNCs because are unable to meet high quality and efficiency requirements. For that reason "foreign investment in high value-added activities [...] tends to be 'location-sticky'" (LALL & NARULA, 2006). The strategy pursued by TNCs is associated with the economic rationale for investing in the host country such as the search for markets, resources, efficiency and strategic assets (NARULA & DUNNING, 2000). The first three motives are the most common in developing countries as assets-exploiting strategies to increase rent opportunities (LALL & NARULA, 2006). The other important factor is the existence of supportive policies. UNCTAD (2005, p.31) highlights that "it is obvious that merely opening the door to FDI will not result in the country's economic development". Host countries should therefore promote policies for development with an explicit focus on SMEs and interventions should focus on the determinants mentioned above in order to optimize the SME insertion in the GVC. However, the room for policy intervention has been seriously compromised by the supranational political and economic context.

1.4 Supranational policy framework: new challenges

Government should drive a process of industrialization by promoting selective policies. It means targeting a sector and specific firms when dealing with GVC and the development opportunities of suppliers (LALL & NARULA, 2006). However, there are currently more restrictions due to international agreements and market liberalization (UNCTAD, 2006). Particularly, some effective industrial policies are not applicable anymore under the World Trade Organization (WTO) rules or are considered less relevant under the neo-liberal ideology. WTO rules include key multilateral trading agreements including the agreement on subsidies and countervailing measures (SCM), the agreement on Trade-related aspects of intellectual property rights (TRIPs) and the Trade-related investments measures (TRIMs).

SCM regulates the provision of subsidies and the countervailing of damages caused by imports that are subsidized in the country of origin (UNCTAD, 2006). The most serious consequence for developing countries is the inability to use

subsidies conditional on export performance. The TRIPs agreement establishes a system of protection of intellectual property rights including the extension of patent protection to 20 years and the restriction of the government's ability to regulate innovators (SHADLEN, 2005). This regulation implies benefits for the leading innovators but negative consequences for developing countries (LALL, 2003). Indeed, it "can raise the cost of formal technology transfer by allowing technology sellers to impose stricter restrictions and by preventing copying and "reverse engineering"" (LALL, 2004, p.5). Contrarily, aspects like technological transfer and technical cooperation which are of central interest for developing countries are vaguely mentioned in the agreement. It creates an asymmetric system of protection which is even more alarming considering that in 2001 five developed countries accounted for 83.6 per cent of the patents (UNCTAD, 2006). The TRIMs limit the use of adoption of performance requirements, including the local content requirement and the export performance, that aim at creating effective linkages between foreign investors and local producers (UNCTAD, 2006).

The challenge for policy makers in developing countries is complex since "the rules and commitments of the international trading regime restrict the *de jure* ability of developing nations to adopt national development policy" (UNCTAD, 2006, p.167). This "may force poor countries with weak industrial bases to become over-dependent on FDI to drive industrial development. This cannot meet a major part of industrialization needs...[it] threaten to freeze comparative advantages in areas where capabilities exist at the time of liberalization" (LALL & NARULA, 2006, pp. 14-15). This scenario is further complicated by the existence of less formal rules which affect developing countries autonomy like structural adjustment programmes, corporation's power to lobby governments and bilateral agreements (STIGLITZ, 2006). Even anticompetitive practices that create non-traditional barriers to entry are common (UNCTAD, 1997). The problem is when restrictive business practices are not illegal in the host country and government agrees to admit anticompetitive practices in order to attract FDI (Ibid.).

It is evident how the promise of development in developing countries is seriously compromised by a potential predatory behaviour of TNCs and a less favourable supranational policy framework. The new policy challenges and the risks of a suboptimal insertion for domestic SMEs are explored in the case of the automotive industry in Mexico.

2. SMEs – TNCs LINKAGES IN THE MEXICAN AUTOMOTIVE INDUSTRY

2.1 New Structural features: integration of Mexico in the global system of production

During the presidency of De la Madrid (1982-1988) Mexico began a process of structural adjustment shifting from a developmental state model to a strategy of liberalization, deregulation and privatization (MORENO-BRID *et al*, 2005). In 1986 Mexico joined the General Agreement on Tariffs and Trade (GATT).

The industrial strategy aimed at promoting exports and investments mainly through tax and credit incentives. In line with the process of structural transformation, during the presidency of Carlos Salinas de Gortari (1988-1994), a new Law of Foreign Investment was enacted which approved the liberalization of FDI, removal of performance requirements and tax incentive for imports for re-exportation (UNCTAD, 2006). In 1994, the NAFTA further reinforced the opening up of the Mexican economy and the article 102 states the purpose of the agreement which is to “eliminate barriers to trade in, and facilitate the cross-border movement of, goods and services between the territories of the Parties; [...] increase substantially investment opportunities in the territories of the Parties” (NAFTA, 1994).

As a consequence of integration in the IISF, Mexico became an important recipient of FDI (table I). In 2009 almost 50 percent of inflow FDI came from the US followed by Canada, Spain, United Kingdom and Netherlands (INEGI, 2009a). Exports (fig. 1) have been the sign of the Mexican economic success in manufacturing with a rate of growth of 20 per cent per year since 1985 (ALTENBURG *et al*, 1998). The country was classified as one of the ten winners in the global production system with an increase of 1.57 percent in the participation of manufactures exports between 1994 and 2001 (ECLAC, 2003). Despite the explosion in exports the expectation of growth were not completely fulfilled (MORENO-BRID *et al*, 2005). Mexico managed to maintain a small deficit and a low level of inflation, and succeeded in attracting FDI but less encouraging are the performance in terms of industrial development. The GDP has been stagnant, the balance of payment negative and the technological gap has not been reduced (ZEPEDA *et al.*, 2009).

Table I. FDI overview (millions of dollars and percentage)

FDI flows						As a percentage of gross fixed capital formation			
	1995-2005 (Annual average)	2006	2007	2008	2009	1995-2005	2007	2008	2009
Inward	17470	19946	27440	23683	12522	16.2	11.9	9.2	6.1
Outward	1997	5758	8256	1157	7598	1.9	3.6	0.4	3.7

FDI stocks						As a percentage of gross fixed capital formation			
	1995	2000	2007	2008	2009	1995	2007	2008	2009
Inward	41130	97170	273831	297001	309523	14.4	25.4	27.3	35.4
Outward	4181	8273	44703	45860	53458	1.5	4.1	4.2	6.1

Source: UNCTAD, 2010

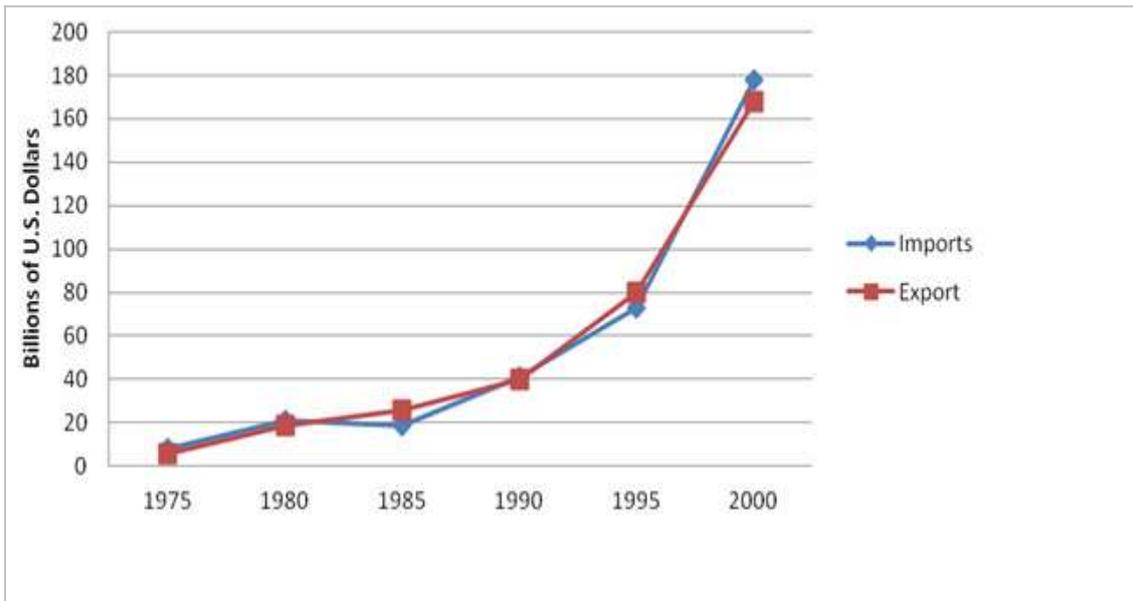


Fig.I. Mexico: Imports and Exports, 1975-2000.

Source:INEGI, 2009a

The poor industrial performance is a consequence of the industrial policy adopted. From late 1980s the industrial strategy has been passive with a lack of intervention in relation to economic activities and horizontal with no sectoral orientation (MORTIMORE & VERGARA, 2006). Particularly, no effective measures for supporting SMEs insertion into the world market were included with serious economic and social consequences (ALTENBURG *et al*, 1998). Following the classification of the Mexican Economic Census 2004 (table II), SMEs constitute the backbone of the Mexican economy with 99.8 per cent of the total firms, and they provide the bulk of employment, 71.9 per cent of the population (table III) (INEGI, 2009).

Table II. Classification of firms by sector and size (number of employees)

	Manufacture	Trade	Services
Micro	0 - 10	0 - 10	0 - 10
Small	11 - 50	11 - 30	11 - 50
Medium	51 - 250	31 - 100	51 - 100

Source: INEGI, 2004

Table III. Economic Units and Employment by firms size

	Economic Units	Employment
SMEs	3728049	14577591
Large firms	7298	5677135
Total	3735347	20254726

Source: INEGI, 2009

In Mexico SMEs face many competitive problems and in the last 20 years 151 SME support programs have been designed and implemented in order to increase productivity, technology progress and human capital (LOPEZ-ACEVEDO & TINAJERO, 2010). In 1996, the Program of Industrial Policy and International Trade marked a shift in the manufacturing national strategy and the government took a proactive role in targeting production chains and the promotion of export-oriented SMEs (ALTENBURG *et al*, 1998). From 2001 there was an increase in programs for SMEs and programs like PAC-CIMO, CRECE, COMPITE and FIDECAP were implemented for training, business development services and supplier development (LOPEZ-ACEVEDO & TINAJERO, 2010). However, in many cases these programmes have not been funded, managed and evaluated properly (ibid.).

Considering the inefficiency of these programmes and inadequacy of market-based mechanisms for supporting SMEs development and upgrading, the passive industrial strategy in Mexico increased the gap between large (mainly foreign) and small firms (RUIZ-DURÁN & CARRILLO, 2007). A passive industrial strategy caused a lack of spill over in the domestic economy and as a result, despite the export level and FDI inflow, the economic growth has been moderate if compared for example, to China (figure II). Difference in paths depends on how countries manage the interaction with FDI as illustrated by the case of the manufacturing industry.

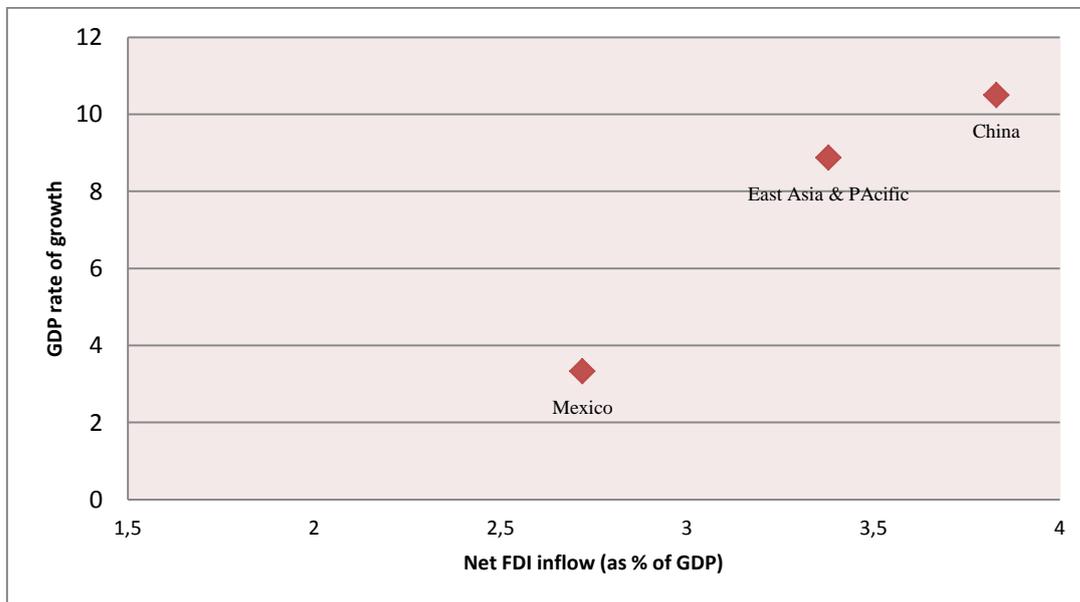


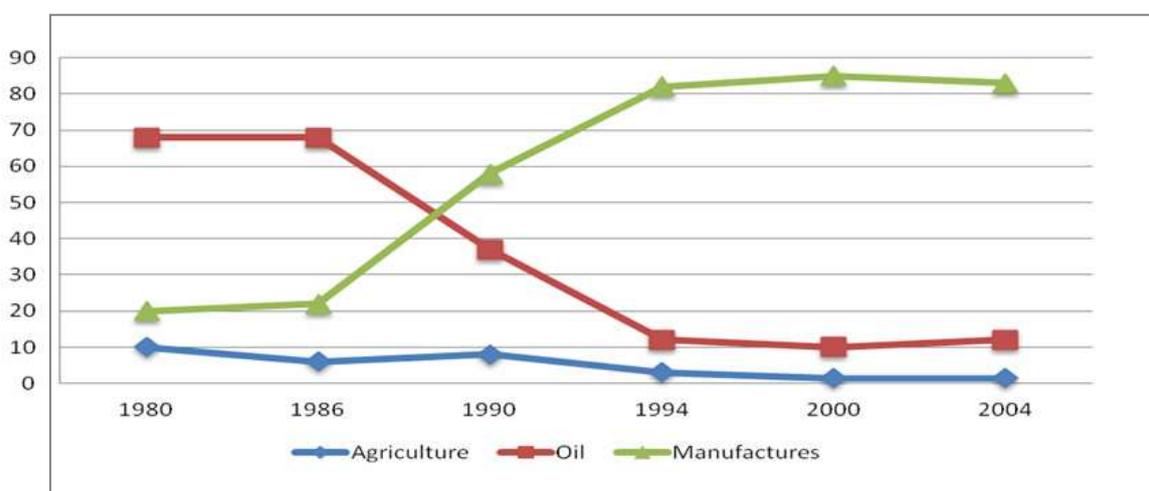
Fig. II. FDI vs Rate of Growth (average), 1990-2007

Source: WORLD BANK, 2010

2.2 Manufacturing industry

The aim of the structural transformation was mainly to create a competitive manufacturing industry through the promotion of exports (figure III)(RUIZ-DURÁN & CARRILLO, 2007). Mexico became the third exporter of manufactured goods to the US and, in 2009, the Mexican manufacturing sector accounted 435436 units and employed 4522799 (table VIII) (LALL, 2000).

Fig. III. Composition of Exports, Mexico 1980 – 2004



Source: MORENO-BRID *et al.*, 2005.

Table IV – Economic Units and Employment contribution by sector

	Economic Units	%	Employment	%
Manufacture	435436	12,0%	4522799	22,3%
Trade	1869120	50,0%	6183596	30,5%
Finance	1351477	36,2%	6957249	34,3%
Others	79314	1,8%	2591082	12,9%
Total	3735347		20254726	

Source: INEGI, 2009.

Despite the success in exports Mexico did not perform well in terms of Manufacturing Value Added (MVA) (UNCTAD, 2003). This demonstrates that exports are not a sufficient condition for growth and that “part of this failure owes to the fact that Mexico manufactured exports have become increasingly dependent on imports, and hence are characterized by reduced local content and weak linkages with domestic suppliers” (MORENO-BRID *et al.*, 2005, p. 22). Indeed, 70% of the exports involve the assembly of imported inputs that enter Mexico due to preferential tax schemes such as PITEX and ALTEX which reduce the cost of inputs by 30% (DUSSEL, 2003). Moreover, the lack of linkages with

domestic SMEs increases the amount of value added that goes to TNCs (MALHOTRA, 2006). As a result, Mexico's share in world exports increased about fivefold in the 1990s whilst its MVA share did not even doubled (figure IV). The link between exports and MVA is not as strong as, for example, in China where industrial policies have been implemented to increase the local content of exports (figure V) (LALL, 2004).

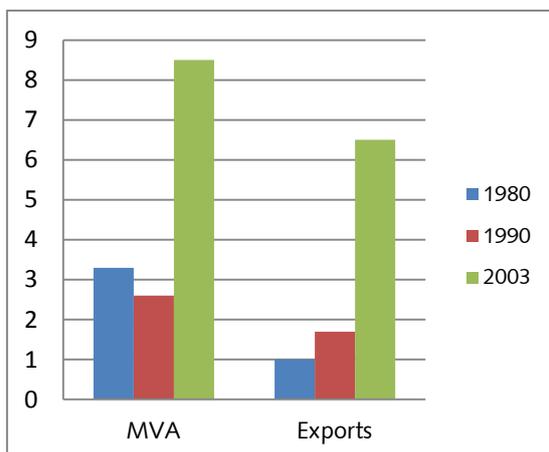


Fig. IV. China: share in world export of manufactures and MVA, 1980-2003 (percentage)

Source: UNIDO 1996, 2006; LALL, 2004.

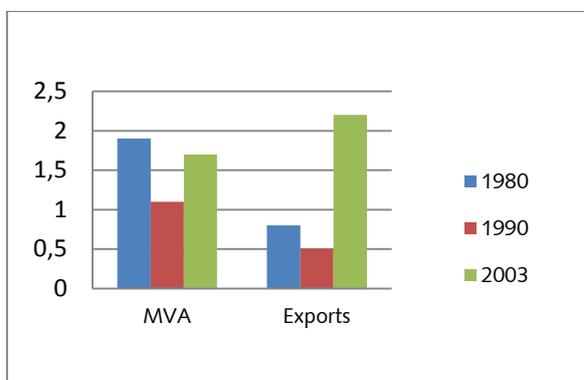


Fig. V - Mexico: share in world export of manufactures and MVA, 1980-2003 (percentage)

Source: UNIDO 1996, 2006; LALL, 2004.

TNCs account, not only for most of the MVA but also for most of the exports. As a result, export competitiveness has not benefited the whole economy because the export sector is not integrated in the economy (DUSSEL, 1999). Indeed, empirical evidence suggests that exports grew at 18 per cent a year between 1994 and 2002, whilst the GDP at only 3 per cent (MATTAR, MORENO-BRID and PERES, 2003). The growth divergence between trade and income per capita is also impressive (figure VI).

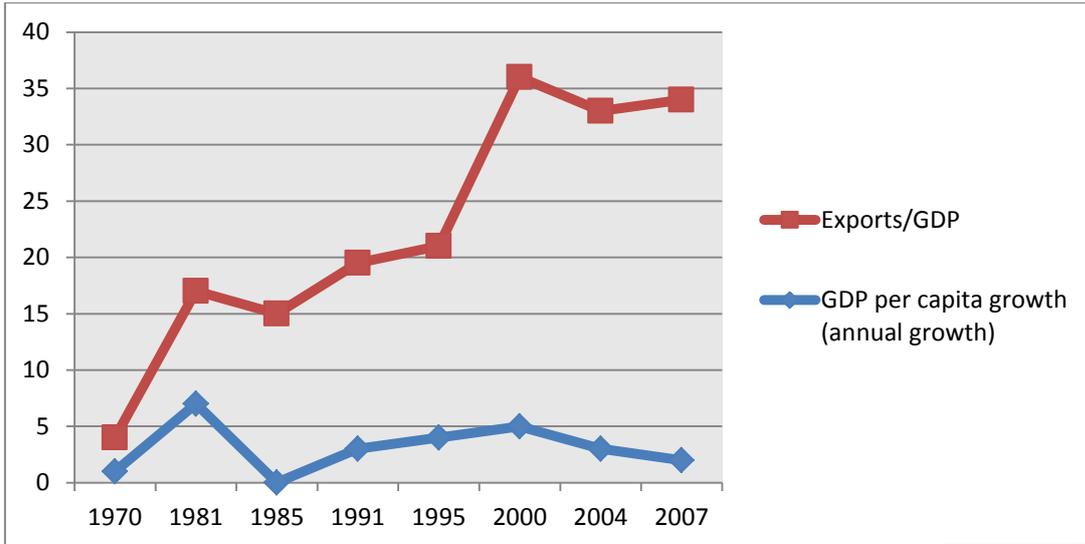


Fig. VI. Trade and income divergence (percentage), 1970 – 2007

Source: WORLD BANK, 2010.

2.2.1 The driver of the Mexican success: the automotive industry

Mexico's export-drive was concentrated in just a few sectors with auto parts and electronics accounting for 58% of the total exports in the period 1994-2003 (MORENO-BRID *et al*, 2005). Of the total inflow of FDI from 1994 to 2004, 9% went to the automobile industry. Mexico is the 10th automobile producer in the world (in terms of units produced); this sector accounts for 17.6 % of the manufacturing exports and 3% of the GDP. In 2007 and 2008 the production reached 2 million units of which 21% is devoted to the internal market and 79% to exports, mainly to the US (about 70 per cent). The industry accounts for 11% of employment in manufacturing (OICA, 2007).

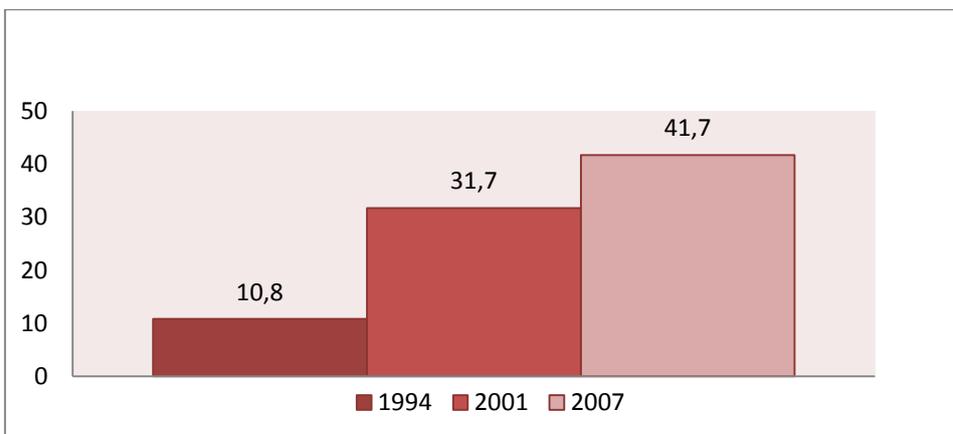


Fig. VII. Value of Automobile Exports (billion \$), 1994-2007.

Source: AMIA, 2007.

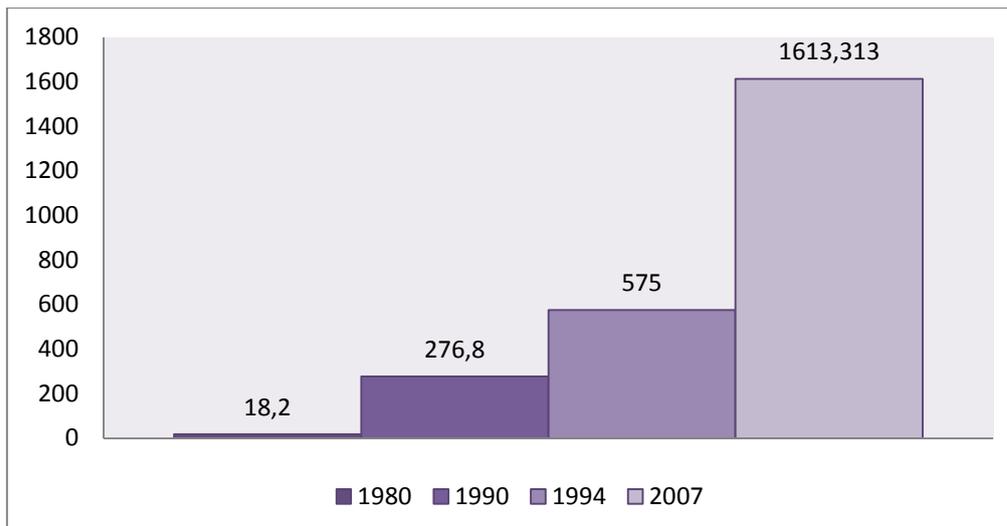


Fig. VIII. Exports in the automotive industry (thousand of units), 1980-2007.

Source: AMIA, 2007.

The NAFTA agreement certainly played a central role in promoting exports and to “consolidate the integration of the Mexican automobile industry [...] to the benefit of the United States auto TNCs” (MORTIMORE, 1998a, p. 110). Barriers to trade were eliminated. During the period 1993-1996 US tariffs on vehicles fell from 2.7 to 0.6 facilitating export to the US and giving a boost to the automotive export platform (USITC, 1997). As a result, “thanks to NAFTA, Mexico’s car industry is now an integral part of that in the United States” (ECONOMIST, 1997, p.18). The boom of the automotive industry is quite impressive in terms of value (fig. VIII) and units (fig. VIII).

The limits on imports to Mexico were eliminated thus facilitating imports by TNCs. The NAFTA agreement established that “intraregional tariffs increase with the degree of value added from outside the NAFTA region” (ALTENBURG, 2000, p.33). However, although the local content rules did not recognize country of ownership (BARRAGÁN & USHER, 2009). Unfortunately for domestic firms, a foreign owned firm (also 100% foreign owned like *maquiladoras*) but established in Mexico is considered local (CHAMBERS & SMITH, 2002). Therefore, international car producers move to Mexico and bring their global supplier in order to increase the local content (ALTENBURG et al., 1998).

2.3 A GVC perspective

The automotive industry is producer-driven with TNCs organized mainly in clusters (UNCTAD, 2002). The geographical spread of the production has been accompanied by excessive investments in the automotive sector which led to an excessive capacity and a stagnant market (HUMPHREY & MEMEDOVIC, 2003). These characteristics of the sector and the process of liberalization caused the crisis of inward-oriented firms whilst benefited export-oriented ones. The former were mainly local SMEs and the latter large TNCs (ALTENBURG *et al*, 1998). As relevant

determinants of the insertion in the GVC three factors need to be explored: TNCs strategy, linkages between large and small firms and requirements of competitiveness.

The automotive industry is still concentrated in the hands of few multinationals accounting for three quarters of the market (MORTIMORE, 1998). The overinvestment and the competition between the TRIAD producers led to further concentration (HUMPHREY & MEMEDOVIC, 2003). In 2001 13 firms accounted for 87% of the vehicle production. As a result of competition, assembler or original equipment manufacturers (OEM) are involved in a "prevailing cutthroat competition for market share" and costs reduction (OECD, 2007, p. 25). In Mexico the main motive for investing is efficiency-seeking because it represents "an important site for low-skilled, [and] labour-intensive production" with local wages that are the equivalent of 11.8% of US monthly wage (LYNCH, 1998, p. 21). The principle strategy is the creation of export platform through greenfield investments and following a *maquiladora* scheme with assembly plants for manufacturing exports (MORTIMORE, 2003b).

Due to an acute competition the search for economies of scale becomes fundamental and the sophistication of vehicles as well (HUMPHREY & MEMEDOVIC, 2003). Producers let their international suppliers (first-tier) to follow them to Mexico creating clusters of TNCs. Lack of competent suppliers forces first-tier global supplier to import most of the inputs to the extent that only 23% of auto parts is sourced by local firms (ibid). Strong relations are thus created between exporting firms and foreign suppliers with the consequence that even the production of components becomes concentrated.

Not only do TNCs have advantages in terms of access to finance, economies of scale, scope, marketing, brand management and market share but they also put in place anticompetitive strategies. For example, many American automakers tend to switch suppliers to engage in predatory purchasing practices (STURGEON *et al.*, 2008). Additionally, the figure on the market shares (with the exclusion of joint ventures) underestimates the real concentration because many TNCs have shareholdings in smaller firms and for example, Renault owns half of Nissan. In Mexico global and first-tier suppliers also sell to new customers "at a price that was significantly less than the pre-Mexico price [...]. the end result was that many Mexican operations began to accrue profits above what their manufacturing activities actually deserved" (PWC, 2006, p. 4). As a result, TNCs manage to build high barriers to entry and gain a higher return.

2.3.1 TNCs and SMEs: lack of backward linkages

UNCTAD (1995) argues that efficiency-seeking strategy is the one with more positive impact on host countries industrial development. However, in Mexico 70% of the autoparts industry is controlled by foreign-owned firms and the creation of export platform excludes domestic SMEs from the production system and from consistent spill over (ECLAC, 2001).

Since firms in the automotive industry spend more than half of revenues on inputs, the tendency is to outsource more processes and the first tier supplier subcontract to other firms (UNCTAD, 2001). This process might lead to the creation of a pyramid of five tiers: Assemblers, global and first-tier suppliers, second-tier suppliers, third-tier suppliers and aftermarket suppliers (ALTENBURG, 2000). In 2006 the nine assemblers were: Ford, GM, Nissan, Toyota, Honda, Volkswagen, Renault, Chrysler and BMW (AMIA, 2007). The pyramid assumes a peculiar shape since strong ties are created between assembler and global suppliers (ALTENBURG, 2000). The latter are the international suppliers that provide the most sophisticated components and become specialized and dependent on TNCs purchases (UNCTAD, 2010). These ties are so strong that even “when the globally preferred supplier is unable or unwilling to establish a local production facility, the assembler’s second preference is to use another of its global suppliers” (UNIDO, 2003). In 2003 there were already 1350 registered auto suppliers and 281 constituted first tier ones (BANCOMEXT, 2004). Among the first tier suppliers only nine are domestic: VITRO, Grupo Industrial Saltillo, san luis RASSINI, IndustriasdeHuleGalgo, GrupoCarso, GrupoProeza, Grupo DESC, Grupo Alfa and Grupo QUIMMCO (BARRAGÁN & USHER, 2009). In the 1997, for example, Volkswagen started the production of the New Beetle model mainly for export to OECD countries (PRIES, 1999). The pyramid of suppliers was mainly composed of European firms and just for the New Beetle “144 suppliers [...] are based in Europe, while only 26 are 100% Mexican, most of the latter providing only simple items” (ALTENBURG, 2000, p.21).

The organization of the design function in the automotive industry is another relevant issue since the tendency is the creation of international and centralized design centres (HUMPHREY & MEMEDOVIC, 2003). Currently the main design centres are in Detroit (Ford, General Motors, Chrysler, Toyota and Nissan), USA; Cologne (Ford), Rüsselsheim (Opel, General Motors), Wolfsburg (Volkswagen) and Stuttgart (Daimler-Benz), Germany; Paris (Renault), France; Tokyo (Nissan and Honda), Japan (STURGEON *et al.*, 2008). The creation of such common platforms and the strong ties between assembler and global supplier creates a block from which spillovers and linkages cannot easily be created. Even technological partnering does not take place (ALTENBURG, 2000). Indeed, “the entire production system has not been oriented towards innovation, thus there is no need for inter-firm alliances” (Ibid. p.27). Moreover, all Mexican firms rely on foreign Research & Development (R&D) since there are no R&D departments inside the country (OECD, 2007).

UNCTAD (2010) states that in second and third tiers “no local SME [...] has been able to leverage its link to GVCs as a springboard for its own internationalization” (ibid, p. 11). For example, it is indicated as the TNC with the higher degree of local purchases and the higher probability of spillovers (BARRAGÁN & USHER, 2009). In 2000 Volkswagen purchased 60% of its inputs from 258 local suppliers and helped 200 of them to acquire certifications like ISO 9000 and VDA 6.1. However, most of the first tier suppliers have German origins even if considered local because of the NAFTA local content definition. Moreover, the firms that got a quality certification are other TNCs or joint venture with

Mexican firms, not independent local firms. Therefore, even Volkswagen works in collaboration only with global or 1 tier suppliers and it has not developed linkages with domestic SMEs.

2.3.2 SMEs:systematic uncompetitiveness

In the automotive industry the system of standards and the codification possibilities do not facilitate the creation of modular linkages. There are two main reasons. Firstly, from a technical point of view the “rising vehicle complexity has continued to overwhelm efforts to fully codify vehicle designs or the design process” (STURGEON *et al.*, 2008, p. 15). Secondly, the concentration of the market gives TNCs an immense power. Sturgeon, Van Biesebroeck and Gereffi (2008, p.308) state that “as the competence to design complex parts and sub-systems has shifted from automakers to suppliers, the need for co-design has meant that captive and pure market GVC linkages have become harder to maintain”. This is partly the truth since tightlinkages between assembler, global and first tier supplier are constituted due to the complexity of information, the tacit component of information (design and testing process) and the need for capable suppliers. This dynamic qualifies relational linkages. However, captive linkages cannot be excluded in relation to lower tiers that are stuck in low-value added activities and are kept far from any upgrade opportunities.

TNCs strategy and the characteristics of the sector, not only create few linkages, but they don't even contribute to SMEs competitiveness. SMEs are dominant in second or lower tiers which are, not only far from any linkages, but also inserted in the GVC in a way that did not create desirable impact since it has fuelled what is called the “low road to competitiveness” (SENGENBERGER &PYKE, 1992). TNCs, like Toyota and Nissan, are driven solely by the possibility to reduce costs and “the benefits generated from these kinds of TNC activities based on efficiency-seeking strategies *accrue primarily to the TNCs themselves and not the host countries*” (MORTIMORE &VERGARA, 2006). Design and management functions are concentrated in the hands of assembler and global buyers and low tier suppliers are involved in vehicle assembly and production of low-tech components. Cooperation between the 1-tier suppliers and lower tiers is focused on production with no involvement of process and product development (OECD, 2007). SMEs do not play a role as suppliers since “much of Mexico's exports are in fact intrafirm trade by corporations that operate NAFTA wide, relocating certain labor-intensive parts of the production chain to Mexico” (ALTENBURG *et al.*, 1998, p. 16). Therefore, the links with the local economy are then reduced, if not eliminated (RUIZ-DURÁN &CARRILLO, 2007).

The process of liberalization seriously impacted the domestic firms (MORTIMORE, 2004). Subsidies, taxes, protectionist measures and performance requirements have been phased out and the Mexican export platform did not go “beyond its role in assembly activities” (MORENO-BRID *et al.*, 2005, p. 13). An intense competition and overinvestment push price down and require higher capabilities which many SMEs do not possess (UNIDO, 2004). SMEs do not possess

any absorptive capacity (initial level of technology, human capital, institutions and financial) essential for knowledge and technological spillovers (UNCTAD, 2007). Local SMEs become thus more vulnerable and dependent from TNCs that are free to move to cheaper locations (UNCTAD, 2010). In 2000, for example, the 23 % of the *maquiladoras* plants closed and half of them moved to other countries, mainly to China (RUIZ-DURÁN & CARRILLO, 2007). The economic dependence of SMEs from large producers manifested itself during the economic crisis in 2008 (UNCTAD, 2010). FDI to Mexico dropped by 40 per cent from 2007 to 2008 (ECLAC, 2008). The production collapsed by 43,2 % in the first trimester in 2009 mainly because 70% of the production was exported to the US (AMIA, 2007).

There is increasing international recognition that free market policies have been disappointing in Mexico since exports and FDI have not promoted development (POLASKI, 2004). Mexico missed the opportunity to create spill over and technological transfer with negative consequences on labour productivity, wages and creation of jobs (HUMPHREY & MEMEDOVIC, 2003). This is reflected in the persistent and disappointing social inequalities in the Mexican society where, for example, the divergence between exports and employment growth and between wages and manufacturing productivity increased in the last decade. The identification of losers and winner in the automotive industry helps to understand how the main causes of failure have been the limited backward linkages between TNCs and domestic SMEs, and the limited growth of value added in the manufacturing sector. The evidence suggests the need for a review of national development strategies in order to avoid some of Mexico's mistakes. Many restrictions on trade imposed by a process of liberalization and the NAFTA should be avoided and instead selective policies promoted. National policies should be adopted to effectively use FDI from a development perspective and to avoid the risk of "latecomers being mired in low growth traps from which market forces cannot extract them" (LALL, 2004, p.25).

3. POLICY CONCLUSIONS

In order to target SMEs and strategies for increasing the local value-added and for improving trade balance interventions should be implemented at the level of SMEs competitiveness, TNC strategy and explicit supportive policies for linkages formation.

3.1 Promotion of SMEs competitiveness

"The Washington Consensus failed to include policies for [...] microeconomic improvements in the areas of competition, technology and enterprise" (Ibid., p. 14) which are fundamental policies for avoiding the low road of competitiveness. In this regard, one key factor is the availability and competence of suppliers and the development of absorptive capacities (UNCTAD, 2001). A major intervention should be on human capital including better quality and higher

enrolment rates at schools. However, there is a difference between capacity and capability and a local effort is needed to master the tacit component and adapt it to the local production through, for example, R&D expenditure and investment in public research laboratories (LALL, 2000). The article 8 of the SCM accepts these interventions opening room for a subsidies system without breaking WTO rules even if with more financial constraints on developing countries (UNCTAD, 2006).

Another fundamental issue is the promotion of general programmes for overcoming SMEs constraints due to their small size, like lowering transaction costs, addressing market failures and promoting cluster formation (LALL, 2000). With regards to transaction costs regulations, like the cost of quality certification, that discriminate small firms should be addressed by designing differentiated regulations. Market failures can be addressed through institutional interventions that aim at providing training, access to finance, market information and links with relevant institutions (CEGLIE & DINI, 1999). Another important factor is the link between industrial sector and public institutions, like universities and research institutions, to favour access to information, skilled labours and innovation. The direct promotion of cluster of firms might help both in the lowering of transaction costs and market failures. Indeed, agglomerations breed externalities, like economies of scale, and joint action between firms and institutions (SCHMITZ, 1999). SMEs face multiple problems that can be addressed only through an integrated approach. Therefore, the interventions mentioned above should be part of a unique and coordinated package instead of isolated programmes.

3.2 Regulation of TNCs strategies

Selectivity in policies should be guaranteed even when considering strategies for attracting FDI. FDI liberalization has to be accompanied with "measures aimed at ensuring the proper functioning of markets, including, in particular, measures to regulate and control anticompetitive practices by firms" (UNCTAD, 1997, p.210). Competition policy is one of those. However, domestic competition laws that limit the monopoly power of TNCs, like limitation of merger opportunities, are restricted by WTO rules (MALHOTRA, 2006). This requires international cooperation between countries (especially developing countries) in order to overcome differences in competition-law regime and the protection that countries guarantee to their national companies. Bilateral competition agreements with the major trading partners might be a solution. One potential way forward would be the establishment of an International Competition Authority "to control the anti-competitive conduct of the world's large multinational corporations [...] as well as to control their propensity to grow by takeovers and mergers" (SINGH, 2002, p.22). Another important issue is the possibility to regulate measures that impose costs on local firms but benefit TNCs by aligning private incentives and social benefits (STIGLITZ, 2006). Therefore, government in developed countries should embrace and regulated Corporate Social Responsibility (CSR).

3.3 Industrial policies

Whilst the measures included in the previous sections enable the framework for linkages formation, also explicit policies for linkages promotion can be explored. Policies might be designed to selectively attract TNCs that would promote technology spill over and transfer technology to local suppliers (ALTENBURG, 2000). After the identification of the potential insertion of domestic firms and the kind of support firms need to upgrade, it is possible to evaluate the feasibility of investments in endogenous capabilities. Consequently, only firms with a real potential should be targeted and supported to build a relation with TNCs. It implies for governments to target the right groups and define policy responses making "sure from the beginning that large corporations are involved in and committed to supplier development programs" (Ibid. p.40). This strategy should include the development of strategic private-public cooperation "with the aim of uncovering where the most significant obstacles to restructuring lie and what type of interventions are most likely to remove them" (RODRIK, 2004, p.3). A joint promotion strategy includes the participation of the relevant institutions and firms including banks, trade unions, civil society organizations and government agencies (UNCTAD, 2001).

Regarding specific measure for linkages promotion, prior to the era of liberalization they were promoted through local content requirements. "There is, however, flexibility within the existing international policy framework" and policy makers should take advantages of it (UNCTAD, 2001, p. 17). Only few measures are permitted like "skill formation, technology support, innovation financing, FDI promotion and targeting...and all general subsidies that do not affect trade performance" (LALL, 2004, p. 27). In general, the main resistance are towards policies to promote specific industry and there is a better tolerance for policies that aim at creating the right conditions for industrialization (HAQUE, 2007). Local content requirements measures can be replaced with policy measures such as rules of origins, screw-driver regulations and anti-dumping which were broadly adopted by developed countries. Even economic incentives can be put in place in order to intensify linkages and technological spillovers in the same way as Mexico created tax incentives for imports. However, these measures are not widely used in less-developed countries because many of them bear upon the financial budget of government or due to TNCs pressure on governments.

CONCLUSION

The IISP has become under the control of big corporations due to their economic and political power. IISP makes much easier to attract TNCs and "build upon that rather than to develop local capabilities to match those of affiliates" (LALL, 2004, p. 25). This scenario implies challenges for domestic suppliers that enter in unequal relations with large firms. The analysis of the automotive industry in Mexico shows the risk of over-dependence on FDI and the possibility for

domestic SMEs to remain stuck “as providers of the low-level labour services” (LALL, 2004, p.27). The liberalization of the market and an export-led strategy can freeze comparative advantages at the time of liberalization with no potential for upgrading (UNCTAD, 2006). GVC framework proved to be really helpful for identifying how the IISD affected Mexico and how the distributional mechanism created losers and winners. Government intervention results necessary if development has to be promoted and together with the importance of local effort should complement the GVC approach. It means combining the macro perspective of the internationalist literature (GEREFFI and KAPLINSKY) and the micro approach of the industrialist (HUMPHREY and SCHMITZ, 2002). Two final considerations are relevant in order to promote development and to effectively implement the policies recommended in the previous chapters. Firstly, there is the risk that targeting strategies, competition laws or industrial strategies might discourage TNCs from investing or force them to move elsewhere. This raises the issues that as the economic and political power is wielded at international level governments should adapt to this shift. Multilateral agreements among developing countries represent a valid perspective for the future by keeping as an example the Declaration for the “Establishment of a New International Economic Order” during the 1970s. Secondly, all the policies mentioned in the previous chapter require strong institutional and administrative competences by governments. The risk is that the power of TNCs and the existence of a corporatist system favour a system in which large companies are able to bribe “to get all manner of favours” including a favourable regulatory environment (STIGLITZ, 2006, p.193). Therefore, in order to support the promotion of CSR, competition laws and targeting strategies it is fundamental the role of the civil society that can contribute to create broader space for industrial policies rowing against the current international system. Drawing from Gramsci’s thinking civil society is where the current order is grounded and a new order can be founded because “civil society is both shaper and shaped, an agent of stabilization and reproduction, and a potential agent of transformation” (COX, 1999, p. 5). Even if hegemonic forces aim at co-opting these movements, the same technologies that facilitated the process of globalization, like internet, can contribute to the organization of civil society and a network able to guarantee social control, transparency and civic engagement. The current challenge is therefore to bridge the losing people in the global system by creating a common understanding of the dynamics and consequences of globalization and building a common strategy and a counter hegemonic bloc.

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