



**MULTIDISCIPLINARY
SOCIAL SCIENCES
(INTERNATIONAL
RELATIONS)
DOCTORATE SCHOOL**

COLLECTION OF THESIS

Anikó Dorner

Spillover Effects of Foreign Direct Investment in the Mexican Economy

Ph.D. thesis

Supervisor:

András Blahó Dr.
professor

Budapest 2008

World Economics Department

COLLECTION OF THESIS

Anikó Dorner

Spillover Effects of Foreign Direct Investment in the Mexican Economy

Ph.D. thesis

Supervisor:

András Blahó Dr.

professor

World Economics Department

COLLECTION OF THESIS

Anikó Dorner

Spillover Effects of Foreign Direct Investment in the Mexican Economy

Ph.D. thesis

Supervisor:

András Blahó Dr.

professor

© Anikó Dorner

Contents

| | |
|---|----|
| 1. Introduction of the research objectives ----- | 3 |
| 2. The methodology of the research ----- | 5 |
| 3. The conclusion of the thesis ----- | 7 |
| 3.1. Results of the research ----- | 7 |
| 3.2. Economic policy recommendations ----- | 16 |
| 3.3. Future research opportunities of the topic ----- | 18 |
| 4. Main references ----- | 19 |
| 5. Own publications related to the thesis ----- | 22 |

1. Introduction of the research objectives

The following statement is in harmony with the new growth theories, and it is agreed by the newest studies (Nourzad [2008]), too: One of the most advantageous impact of the foreign direct investments in the recipient country relates to the technology transfer. Especially, to its indirect form, the spillover, namely when the broadly mentioned knowledge, technology moves toward the local companies of the recipient country of the capital, thus, helping the recipient economy to develop.

The theoretical explanations about foreign direct investments (FDI) assumes that the transnationalized companies (TNC) shall have such a special asset value, that made them competitive against the local companies, despite their disadvantage in the beginning. The intangible asset is the superior knowledge and technology beyond the local companies. The basic interest of the TNCs is to keep the intangible assets and immaterial goods under their control as long as possible, however, the absorption of knowledge in the recipient country – even just in a minimum volume – is unavoidable. The flux of technology and knowledge can happen many ways in the recipient country, that result spillovers. For example, positive externalities can got induced by the relation between the local suppliers and TNCs; copying foreign technology; employing the workforce previously worked for TNCs; the international competition initiating productivity development at local firms. The absorption of knowledge and technology into the local economy units grows no offset for the foreign investor, namely there will be difference between the economic and social advantages realized by the TNC. This difference explains the investment subsidies paid by the recipient country of capital investment – from the point of TNC view. The TNC do not calculate with emergence of externalities in the cost-benefit analysis however its benefit will be lower than expected because of the spillover. Nevertheless, it is important from the point of recipient country view, that the fiscal, financial and other allowances offered for the investor as investment inciting policy instruments shall not exceed the real externalities and advantages. The competition among governments for investments leads to excessive raising of the bid that results subsidies exceeding the benefit from spillovers (Oman [2000])

First step is the limitation of the topic and the analyzed problem. Mexico is the chosen country, inward we will survey the existing case studies of the manufacturing industry. The question is whether there are real spillovers from the foreign branches to the local subsidiaries in knowledge, marketing, management and organization structure. What kind of factors helps

the come-off of spillovers in Mexico? Does it depend on the national structural factors and government participation in qualification and technology diffusion? How can the Mexican economic and investment policy incite the come-off of positive externalities?

This is a catch-up opportunity for Mexico to attract higher value added investments and, this way, directly induced technology transfer and spillover impacts. However, the recent spillover case studies shows that the come-off of the positive technological diffusion and knowledge transfer from the FDI in the recipient economy is more ambiguous than it was assumed before; moreover, the come-off of the positive and negative externalities is affected mostly by structural factors. It is hard to analyze the results of the spillover case studies as there are serious measuring, methodology and significance problems. In the beginning, the majority of the empirical surveys showed positive impact on productivity growth, but later studies mostly contained such results where the significance of productivity spillover was low, or there was indicated just negative indirect technology transfer.

The thesis steps on over the previous researches by analyzing the existing spillover studies in relation of an exact economy. The task is not simple: on one hand, the spillover studies on the Mexican economy covers different periods, on the other hand, they operate many times with different variables and focus, they try to detect different kinds of spillovers. However, the comparative analysis has grounds as the purpose is the above mentioned determination of factors fostering spillover in a given economy: Mexico. The study will not be finished here, but goes on surveying the Mexican investment inciting policy after clarifying the structural factors, especially for the Mexican government to realize as big economic benefit and positive externality as possible from the presence of TNCs.

2. Methodology of the research

In the first part of the thesis, the existing Hungarian and foreign literature gets processed. I undertake to summarize more fields in the basing of theoretical part. In first step I look for answer: why FDI. After all, I survey potential positive and negative impacts of the foreign direct investments in the capital importing country and its economic development. Next step, I will look through topic of international capital and technological flux considered in different economic theories. Then, next one is turn of theoretical summary of technological transfer (TT) and investment inciting policy.

I especially emphasize the TT literature, and its coherent, systematized and reviewable theoretical and practical summary exceeds the literature existing – and known by me – before.

After the understanding of the term of technological transfer, the channels and types of TT get introduced. This leads us to explain the term and classification of spillovers. The different spillover categories determined in the mentioned step are used in the comparative analysis of the second chapter. The possible TT sources are analyzed, the measurement difficulties are gathered, and there comes the turn to compose a spillover flowsheet. We will bother with negative spillovers, too. After the theoretical principals mentioned above, the model on factors affecting on spillover come-offs got composed, this model serves as analytical framework both for chapter II and III.

The analytical framework is composed from 3+1 main units. The three main units of factors affecting on spillover come-offs connect strongly local and foreign firms and their activity: A) factors connecting basically to the recipient country; B) factors related to the investor and the investment; C) interaction between them. The +1 complementary unit, at once the fourth pillar of the analytical framework: D) contains the industrial characteristics.

In the second part, there comes the comparative analysis of the existing spillover case studies (15 econometric and statistical models), thus, there is explanation about factors creating positive externalities in accordance to the 3+1 analytical model set in first chapter. The comparative analysis is based on processing of indirect information; it compares the results of different statistical and econometric surveys. Besides the analytical framework, we will recline much upon the classification of spillovers from first chapter. In the comparative analysis, the following aspects come up: the survey of used data bases, explanation of positive

and negative results, the endogeneity problem, methodology questions, and different spillover mechanisms.

The third main chapter surveys the role of Mexican investment inciting in realization of positive FDI impacts and economic development. Closer, we will examine the prevailing of factors (A-D) determined by the analysis of spillover case studies in Mexican investment subsidizing. In first step, we will look through the creation of conditions of the Mexican investment inciting, than the questions of current investment subsidizing policy. After all, the realization of factors determined by the 3+1 analytical framework are surveyed under microscopic view.

Methodologically, both the second and the third par build on the systematization developed in the theoretical chapter. In the closing chapter, there is the composition of economic recommendations, the new establishments, connections, and there is allusion on further researches related to the theme.

3. Conclusions of the thesis

3.1. Results of the research

The results of the research can be segmented to two main groups. In the first group (*3.1.1. The determined impact factors from existing Mexican spillover case studies*), the conclusion is explained from the comparative analysis of the spillover case studies, what emphasizes the factor of emerge of positive indirect technology transfer. Than, we will look through the prevailing of certain determinant factors in the Mexican investment inciting policy. (*3.1.2. The prevail of the preferential determinant factors in the Mexican investment inciting*)

3.1.1. The determined impact factors from existing Mexican spillover case studies

1.) Only five out of fifteen Mexican cases studies surveyed spillovers by setting them into focus. Kokko [1994, 1996] concluded from the data of '70s that one of the determinant structural factors is the absorption capacity of the local firms in the emergence of positive externalities from FDI, and that is related strongly to the technological complexity and the technological gap between Mexican and foreign companies. Blomström [1986] considers the FDI to have additive impacts in economic growth only, if technological gap is not too broad between local and foreign companies, and there is adequate absorption capacity in the local firms.

2.) Kokko [1994] support the conclusion of Blomström [1986]- Kokko's result shows higher chance for spillovers in the industries where: 1) the per capita license fee is low, 2) the capital intensity of foreign firm is low, and 3) there is low technological difference between Mexican and foreign companies. However, Kokko emphasizes that spillovers can rise in such industries where the technological gap is large between local and foreign companies, but in this case, the foreign presence can not be dominant. Namely, the crowding-out effect of competency can prevail only if there is both broad technological gap and high relative FDI characteristic in the industry.

The author had an important observation: the competition impact is not in linear relation with the foreign presence. Kokko consider the competition to have inciting effect on local firms' productivity if the foreign presence is relatively low. On the contrary, Jordaan [2005a] states

that the local companies' absorption capacity and their technological gap have no determinant influence on emerge of spillovers. The author reinterpreted the assumptions of corporate absorption capacity (Kokko[1994]). His point of view is that the small technological gap between the Mexican and the foreign companies will result negative externality because of the direct competition between the two entities. He assumes, the technological gap or the technological complexity can result both positive and negative externalities what depends on whether there is crowding-out effect exists or not. The contradiction between the Kokko's and Jordaan's view on local firms' absorption capacity can be resolved. Actually, both of them emphasize the primary role of competition impact related to absorption capability, and the positive externality depends on this in their theories. The two authors' disagreement is not in the assumption of absorption capacity but in the prevailing of crowding-out and the inciting impact of the competition.

3.) De Fuentes & Dutrénit [2007] assumes that mostly 1) the organizational capabilities and 2) the cognitive and innovative activities has extraordinary role in the rise of spillovers.

4.) Both Kokko [1994] and Jordaan [2005a] details the role of corporate size as a determinant factor. According to Jordaan, those small local companies were able to realize the advantages from spillover effects where there was no direct competition with foreign companies. However, there was crowding-out of big firms in the modern sector because of the competition. The essential of Kokko's explanation is very similar about the "non-enclave" industries. He expects positive externality in the non-enclave industries, where there is no firm size difference between Mexican and foreign firms besides other factors. The traditional industries are also non-enclave industries. Just like in case of the absorption capacity of the local companies, in relation with the corporate size, the positive externalities are linked to competition impacts by the authors.

5.) Kokko and Jordaan have similar opinion also about industrial characteristics. Kokko sees opportunity for realization of positive spillovers in the low technology intensive industries in Mexico. Jordaan states more or less the same when he claims higher probability for indirect technology diffusion in the traditional industries. As we can see, these observations are in contradiction with the explained assumptions of Robson – Townsend – Pawitt [1988], Kuemmerle [1999], Baldwin and Hanel [2003], Krugman [2003] and Narula and Dunning [2000]. (see I.4.6. Factors affecting on emerge of spillovers, p.74). Latter ones guess, there is chance for realization of higher scale of technological transfer in the technological intensive industries. Probably, the U-curve relation between FDI and spillover (Wang and Yu [2007]) is

in the linear past in case of Mexican labour intensive industries, thus, the crowding-out effect of competition is still valid. However, according to Blomström [1986], foreign companies' presence impact inducing structural changes was merely significant in the 'modern' sector. His cases study shows come-off of spillovers in such industries where the local firms own the best practice technology. Theoretically, there is bigger chance for emerge of spillovers in the technology-intensive industries in case of highly developed economies, than in traditional industries. In case of developing countries – just like Mexico – there are contradictory results in cases studies. As Mexico has dual economy, it is harder to realize positive externalities in the technology intensive industries of the local economy exactly because of the enclave character explained by Kokko.

6.) Aitken et al. [1994] examined the spillover factors from export market entrance based on the data of '80s, and the primary significance belonged to the geographical concentration among them. Jordaan [2005a] emphasizes also the positive externalities from geographical distance and the presence of foreign firms. The close distance between firms helps the flux of information, the crossing of ideas, and their development at the other firm. From view of either the relation or the demonstration impacts or the training or the labour mobility, the geographical distance has much to do with high level of realization of indirect technological diffusion in the Mexican economy. Among the spillover mechanisms, only the impact of competition can raise ambivalent results. The geographical concentration of manufacturing industries can result negative results, if the crowding-out effect of direct competition among Mexican and foreign neutralize the emerging positive externalities. So, Jordaan consider the spillovers both from absorption capacity and from geographical concentration to depend on competition impact.

7.) According to De Fuentes and Dutrénit [2007] study, the networking capability of the local firms can significantly help the emergence of positive externality. Work of Vera-Cruz and Dutrénit [2005] focused, too, the attention to the possible role of network effects, but this study did not surveyed the emerging mechanism of spillover from closer view. Romo [2003] got ambiguous results about the significance of supplier relations, but environment was not optimal in the period of analysis. Thus, according to the above mentioned observations, there might be importance of the role of local firms' networking capability ingenerating positive externalities.

8.) The existing Mexican spillover case studies have spent few attention for the way of market entrance of FDI, the way of subsidiaries' strategy, autonomy and market orientation, and R+D

activities. The foreign subsidiaries' export activity as determinant factor appears only as marginal topic in Aitken et al. [1994] study, and it is the same with role of foreign firms' capital intensity in Kokko [1994]. (table 8.)

Table 8: Factors determining the emergence of spillovers, emphasized by the Mexican case studies.

| | Determinant factors |
|---|---|
| A) characteristics of Mexico and the local firms | - absorption capacity (Blomström [1986], Kokko [1994], Jordaan [2005a], De Fuentes & Dutrénit [2007]); - networking capability (De Fuentes & Dutrénit [2007], Veracruz & Dutrénit [2005], Romo [2003], Aitken et al. [1994]); - organization and management knowledge (De Fuentes & Dutrénit [2007]); - learning and innovation capacity (De Fuentes & Dutrénit [2007]); - corporate size (Kokko [1994], Jordaan [2005a]) |
| B) Characteristics of FDI and foreign subsidiaries | - export activity (Aitken & mások [1994]) - capital intensity (Kokko [1994]) |
| C) interactions between Mexican and foreign companies | - geographical distance (Aitken et al. [1994], Jordaan [2005a], Jordaan [2005c]); - technological gap (Blomström [1986], Kokko [1994], Jordaan [2005a]) |
| D) Characteristics of industries | - low technological intensity (Kokko [1994], Jordaan [2005a]) - modern industry (Blomström [1986]) |

Source: Author

3.1.2. The prevail of the preferential determinant factors in the Mexican investment inciting

In the followings, we look through the consideration and ignoring of determinant factors composed from theoretical part and derived from the spillover case studies in the Mexican investment inciting policy.

9.)

A) The characteristics of the Mexican firms: absorption capacity, networking capability, organizational and management knowledge, cognitive and innovative activities, matter of corporate size in Mexican investment inciting.

None of the spillover factors mentioned above got emphasis in the BANCOMEXT investment inciting policy. Mexico did not indicate neither the R+D nor the high-tech investments attraction as objective, nevertheless, the national innovation capability indicators (UNCTAD [2005]) predestinate it, and it would need high impulses in this field. In the region, Brazil could realize the most advantages from TNCs' R+D investments. Latin America has a large lagging behind in R+D investment attraction in comparison with Asia. Until the R+D attraction takes 79% from the total promotion actions in the latter region, it is only 11% in the previous one.

In case of the ProMéxico agencies, there is primacy for R+D investments and high-tech projects, what can contribute to emerge of networks in research if the governmental devotion is adequate. It is desirable to realize the development strategy helping R+D attraction parallel with the objectives, what supports the completion of objectives. E.g. programs for increasing national innovation capacity and technological activity, development of human capital, intensifying the relation among knowledge centers, universities and foreign companies etc. These programs contribute to both local and corporate development in cognitive and innovative capability. We emphasize again, the spillover impact is not automatic, but the targeted measures can support the rise of positive externalities. Mexico has higher chance to compete for R+D investments if higher share of public expenditures will be spent for development of education, and R+D activities. Between 1996 and 2000, Only 0.3% of the national GDP was oriented to R+D, meanwhile, in the similarly developed countries spend at least 1% of their GDP, and the high developed countries, like Japan and Germany spend 3% of the GDP. In case of the human capital, Gruben [2000, pp.1-7] considers that the average time spent in education and the health indicators (infant mortality) shows poor situation in comparison with other developed countries, and inward Latin America, too. E.g. one third of the employed people has not enrolled to the first four years of elementary school (Quintin [2002]), 32 infant from 1000 can not survive his/her first year (Gruben [2000]). The low and uneven accumulation of human capital does not help the spillover generation impact of high-tech and R+D investments. First of all, there is need for urgent structural change in the health care and education systems. Many times the fiscal expenditures do not get to the targeted destination because of the red tape and the absence of controlling mechanisms.

ProMéxico emphasizes the FDI attraction priority on the level of strategic objectives, but in its practice it has initiated programs only in supporting the export activity of local firms. More precisely, each of the programs have had the priority of foreign sales of Mexican products. Itself it would not be matter (as it is desirable in economic sense), but it project a myopic investment inciting policy without vision. E.g. the Mexican SMEs can participate in trainings, seminars etc. about export procedures, get technical assistance (*ATEL – Asistencia Técnica en Línea*) in their production or export activities, get information about export opportunities (Exportanet – on-line database, Exportatel – call center) and about how to participate in international events to localize the foreign customers (ITC [2007])

Meanwhile, there is no program for the improvement of local supplying system, the development of Mexican firms' absorption capacity, the creation of forward and backward or

network relations, despite there is high respect of high quality availability of subcontractors, who are able to collaborate with their subsidiaries. Beside the export incentives among SMEs, there is an urgent need for development program on supplier network to support the realization of spillovers from FDI in Mexico. The ProMéxico activity on FDI attraction is run down simply with legislation and seminars about investment opportunities. There would be need such intensive, creative programs and technical and economic assistance and instruments in creation of input-output relations between Mexican and foreign firms just like in case of SME export activities. First, it would be a big help if the Mexican investment promotion agency would ease the information flux and contacts between foreign investors and potential local suppliers with an updated statistical database (even on-line). The other possible incentive for supplier relations is to select the group of possible subcontractors and to train them – what resulted big success in Czech Republic.

There is possibility achieve development in organizational and management knowledge of Mexican firms by the previously mentioned improvement of supplier-, customer- and network relations through the demonstration effect and the labour mobility.

There must be positive impact from the cooperation with the international subsidiaries and the support of intensifying of input-output relation on the increase of corporate size of the local firms. The long-term cooperation can result more commissions, and connections into the international production chain.

10.)

B) FDI and foreign company characteristics: prevail of export activity and capital intensity as priorities in the investment inciting.

The spillover case studies did not bother too much with the strategy of foreign companies – determined in the analytical model of factors, among the 3+1 (A-D) criteria, only two factors were barely mentioned: their capital intensity and export activity.

Both the project and the corporate type selections belong to the possible strategies of investment inciting. The BANCOMEXT and the ProMéxico considered the support of export-oriented foreign investments as priority in Mexican investment promotion. This has tight relation with the fact, that recently most of the foreign investments toward Mexico can be classified to the efficiency seeking investments which produce mostly for export.

The investments with the objective to improve the efficiency actually serve the export base of TNC international integrated production systems. There is the most sophisticated level in the

car manufacturing and in the electro-technology platform industries in Mexico. The clothing industry export base achieved less sophisticated level in the Latin American country. Basically, the efficiency seeking FDI moving to Mexico is green field, export-maquiladora system investment. The export-oriented maquiladora-industry can show significant success in the export indicators and export competitiveness. Its negative impact (as no emerge of positive externality) is that the dynamics of export industries have not been transformed to other parts of the economy. The productivity impact of export maquila industry is very limited, it did not meet the expectations in corporate development. The enormous export success did not mirrored in the higher added value manufacturing, neither in the integration of the Mexican companies into the foreign companies' production chains. The export bases did not result export clusters, agglomerations.

The Mexican government preferred the 100% foreign ownership in creation of maquilas during the period of BANCOMEXT investment subsidizing period, while the ProMéxico targeted the technology intensive project as strategic priority. Both the first and the second case mean indirect preference of capital intensive investments.

Mexico set its priorities of project types in targeted investment subsidies, but there were no unambiguously determined priorities in selection of corporate types – in case of attraction of the most important leading TNCs. Because of the passive, general and horizontal approach the chance was let to go in case of win the entrance of one of the most important leader TNC of car-manufacturer, Toyota in its expansion period in the American continent. (Mortimore és Vergara [2005]) If Mexico would have a targeted strategy in corporate types (as car manufacturing is a determinant industry in Mexico), it would apply active investment inciting in case of attracting one of the most important brand.

11.)

C) The interaction between Mexican and foreign firms: forward and backward relations, geographical distance, prevail of technological gap in investment inciting.

The forward and backward strategies got no importance in targeted strategy neither in BANCOMEXT nor in ProMéxico. Generally, the cooperation of Mexican firms with TNCs did not result the expected impact, their integration into global production chains. The only positive example is the car manufacturing industry for the supplier relations between Mexican and foreign subsidiaries. With the learning-by-doing method of demonstration the Mexican automotive spare part producers could meet the TNC expectations in quality and design, thus

there is a successful example for long-term supplier-contract relation. Probably, the successful example of car manufacturing resulted that such a not modern but currently already traditional industry in Mexico could get among the priorities of ProMéxico. In the electro-technology industry, which is more or less successful in export, there is only minimal forward and backward relation built in. There are some more examples in the clothing industry, but the subcontractors are foreign companies, not Mexican firms.

Above, we detailed the economic management and investment subsidizing steps necessary to be done for input-output relations running between local and foreign firms, and the forward and backward relations.

In case of geographical concentration, still before the BANCOMEXT investment promotion, the government concentrated the operation of maquiladora programs to the northern border regions. The primary reason was to improve the too high unemployment situation and use the favorable geographical position of the region, but Mexican economic management contributed to the creation of conditions of geographical agglomeration infrastructure, namely helping this way the emerge of a manufacturing cluster. Among the strategic objectives of the ProMéxico investment inciting institution, there is no objective for setting industrial parks, geographical clusters, agglomeration. In turn, their setting means significant volume for potential spillover either in electro-technology, or in car manufacturing, or in modern services (back office, call centers etc.)

About the technological gap, non of the institutions promoting investments set a strategy to follow, or defined priorities. The geographical concentration of maquiladora industry can give interesting conclusions on technological gap. The Mexican firms could not integrate into the maquila production system at the northern border. As we referred to the exemption of car manufacturing, in most of the cases, no customer or supplier relation emerged between the local and the foreign firms, the maquiladoras mostly developed isolated from the rest of the Mexican economy. This focus the attention on the matter that, beside parallel with the actions on geographical concentration, it is essential to have programs supporting the integration of local firms, just not to result enclave-like production.

12.)

D) Industrial characteristics: prevail of technological intensity in the Mexican investment inciting policy.

The first question to be answered is the preference if industries inward the targeted investment inciting policy, then there is the technology intensity dilemma at the project type priorities. In the BANCOMEXT period of investment inciting, Mexico gave priority for too much industries at once that made impossible to make efficient and concentrated investment subsidizing. In case of project types, there was priority only on importance of export production, but nothing about technological content of investments.

Contrarily, the investment promotion strategy of ProMéxico defined unambiguously the preferential industries, project types and functions. By industries, the electro technology, the computer technology, the air and space transportation, and – among the traditional industries – the car manufacturing got preferred. Except the car manufacturing, all of them covers high-tech intensive industries. By function, the R+D intensive and the new type services got priority among investments. Just like in the industrial selection, in the latter case, the higher added value projects dominate. By projects, the traditionally export-oriented and the high-tech investments got priority. According to these priorities, it can be stated that the modern, technology intensive projects have high majority in the new strategy of Mexico. To realize significant spillover from high-tech investments, there is need for well qualified workforce and the development of human capital. There must be priority for education and health care in the Mexican development policy. But the reforms in the two policy fields mentioned can prevail and have results only in medium or long term.

The car manufacturing and car spare part production can be classified as less technology intensive industries, but these appear also as priority in case of Mexico beside the export-oriented investments. So, not only the modern, but also the relatively low-tech investments can contribute to emerge of externalities. Here we turn back again to Jordaan and Kokko's contradictive conclusions about technology intensity and competition impact. Our opinion is that there are grounds of both investment promotions if it is goes with broad horizon. It is important, too, to attract lower-tech investments if the given economy can gain profit, and the limits of that project type and its development potential is clear. Both the relative high- and relative low-tech investments can gain the biggest spillover for an economy, if there is human capital with adequate qualification.

Generally, it can be established that positive changes can be approached in the new investment promotion strategy, and the spillover factors get higher priority. The objectives defined in ProMéxico show higher coherence with the Mexican development policy (actually as its part) than the previous investment inciting. The newly defined priorities and the launched programs are in harmony with the SME subsidizing a export policy. Among the 12 factors indicated in the spillover case studies, there was only three mentioned in BANCOMEXT period among the objectives, but in the new investment subsidizing five is mentioned directly and three indirectly. Of course everything depends on transplantation of the preferential priorities into practice, and the initiation shall not end with the planning. We suppose equal importance for export inciting of SMEs and attraction of FDI based on the adequate economic priorities.

3.2. Economic policy recommendations

It is given from the special structure of the research that most of the economic policy recommendations focus on the benefits of recipient country realizing from FDI, meanwhile the future research options relate to the generation of spillover case studies.

The following impact factors defined in the comparative analysis are recommended to enforce in the investment inciting policy:

- a) It is important to emphasize, that the come-off of spillover is not automatic. The realization of technology transfer depend so much on the characteristics of foreign investment just like on the characteristics of the recipient country and on the interactions between the two entities.
- b) The advantages can be realized from the indirect technological diffusion only if the local companies of the recipient country are able to absorb the foreign technology and knowledge. There is primary role for HR development and the improvement of local firms' competitiveness in the Mexican economy.
- c) The investment subsidizing must be considered as an organic part of national development strategy and industrial policy. It must include both the actions focused on investors, and the support of local firms. In first step, it must be defined what is the national development strategy and, in harmony with this, the role of FDI inciting policy must be also determined.
- d) In the targeted investment inciting, there is huge importance of industrial priorities set in harmony with the national development policy. Just like in case of industrial priorities, there

is need to choose such project types (job creating, export oriented, high-tech content etc.), corporate types (leader TNCs, brand diversifying company etc.), functions (manufacturing, logistics, trade, R+D, call centers, back office etc.) from foreign investments which fit the best to the country, and, beside, the donor country preferences must be set, too.

e) Beside the traditional, export-oriented (efficiency seeking) investments, namely the deepening of the integration with the local companies, it is important to move toward the investments representing high added value in case of Mexico, as it is not, and can not be the national objective to compete with such countries in the relative labour cost, like China and India.

f) The inciting instruments should be focused mostly on such activities that results bigger spillovers: the creation of input-output relations between foreign and local firms, the inciting of forward and backward linkages, supporting the information flux and communication among universities, local and foreign firms.

g) In case of Mexico, it would be preferable to realize geographical clusters, agglomerations parallel with inciting the networking effects for not to remain enclave-like, separated industries, but be able to get integrated. It is not enough to concentrate on geographical integration understood traditionally, but there is need for new, modern services (call centers, back offices etc.)

h) There are high development disparities inward Mexico: thus the regional element in the investment inciting can be efficient if it is harmonized with the central, national inciting policy and strengthen it.

i) To attract the any type of high technology intensive, R+D investments, it is necessary to develop intensively the education and healthcare.

j) In most of the cases, the fiscal incentives are proved to be inefficient. The offered instruments should not exceed the expected advantages.

k) The social role of the government must be specially emphasized in the collaboration with TNCs. One of the most important elements of the maquiladora-system is question of job environment and trade union representation, and, beside, the admittance of rights.

l) The protection of property rights must get priority, and also the reduction of corruption.

m) There shall be higher attention on execution and monitoring of strategies, feedback mechanisms than on planning.

3.3. Future research opportunities of the topic

About the possible research directions of the thesis, first of all, the widening of analysis framework of the spillover effects can come into consideration. In case of Mexico, deeper survey of network impacts and the geographical concentration would be desirable, with multi-variable statistical model based on either econometric or with questionnaire methodology. The survey of relation between technological gap and competition effect could help on understanding better the spillover contradictions if this survey would be based on current data or longer period data. More corporate level panel analyses would surely help on discovering the spillover topic, or maybe determination of new factors.

It would worth to analyze the Mexican investment inciting policy in relation with the realization of development policy. It is very desirable to monitor the realization of investment subsidizing defined in the ProMéxico. In the followings it is worth to extend the number of countries under survey (e.g. the most competitive Latin-American economies Chile, Brasil, Argentina) in both the spillover effects and the investment inciting policy helping their realization.

4. Main references

- Aitken, B. – Hanson, G.H. - Harrison, A. [1994]:** Spillovers, Foreign Investment, and Export Behavior. *Journal of International Economics*, Vol. 43, pp. 103-32.
- Baldwin, J. R. - Hanel, P. [2003]:** *Innovation and Knowledge Creation in an Open Economy: Canadian Industry and International Implications*, Cambridge University Press, Cambridge.
- Blomström, M. – Persson, H. [1983]:** Foreign Investment and Spillover Efficiency in an Underdeveloped Economy: Evidence from the Mexican Manufacturing Industry. *World Development*, Vol. 11, pp. 493 – 501.
- Blomström, M. [1986a]:** Foreign Investment and Productive Efficiency: The Case of Mexico. *Journal of Industrial Economics*, Vol. 15, pp. 97-110.
- Blomström, M. – Wolff, E. N. [1994]:** Multinational Corporations and Productivity Convergence in Mexico. *National Bureau of Economic Research – Working Paper*, No. 3141.
- Blomström, M. – Kokko, A. – Zejan, M. [2000]:** *Foreign Direct Investment: firm and host country strategies*. Macmillan Press, London.
- CEPAL [2005]:** *La inversión extranjera en América Latina y el Caribe*. Santiago de Chile, pp. 51-93.
- De Fuentes, C. – Dutrénit, G. [2007]:** *The correlation between large firms' knowledge spillovers and SMEs' absorptive capacities: Evidence for the machining industry in Mexico*
- http://www.merit.unu.edu/MEIDE/papers/2007/DE%20FUENTES_DUTRENIT_The%20correlation%20between%20large%20firms%20knowledge%20spillovers%20and%20SMEs%20absorptive%20capacities.pdf
- utolsó letöltés: 2008. szept. 05. , 00:58 perc
- Grether, J-M. [1999]:** Determinants of technological diffusion in Mexican manufacturing: a plant level analysis. *World Development*, Vol. 27.7, p. 1287-1298.
- Jordaan, J. A. [2005a]:** *Estimating FDI-Induced Externalities when FDI is Endogenous: A Comparison between OLS and IV Estimates of FDI-Induced Externalities in Mexico*.

Extension of his PhD thesis on externality effects from FDI in Mexico, Department of Geography and Environment, London School of Economics.

Jordaan, J. A. [2005b]: *Determinants of FDI-Induced Externalities: New Empirical Evidence for Mexican Manufacturing Industries*. One of the chapters of his PhD thesis on externality effects from FDI in Mexico, Department of Geography and Environment, London School of Economics.

Khawar, M. [2003]: Productivity and Foreign Direct Investment-Evidence from Mexico. *Journal of Economic Studies*, Vol. 30, pp. 66-76.

Kokko, A. [1994]: Technology, Markets Characteristics, and Spillovers. *Journal of Development Economics*, Vol. 43, pp. 279–93.

Kokko, A. - Blomström, M. [1995]: Policies to Encourage Inflows of Technology through Foreign Multinationals. *World Development*, Vol. 23, No. 3, pp. 459-68.

Kokko, A. [1996]: Productivity Spillovers from Competition between Local Firms and Foreign Affiliates. *Journal of Independent Development*, Vol. 43.

Kokko, A. – Tansini, R. – Zejan, M. [1996]: Local Technological Capability and Spillovers from FDI in the Uruguayan Manufacturing Sector. *Journal of Development Studies*, Vol. 34, pp. 602-611.

Kuemmerle, W. [1999]: The drivers of FDI into R&D: an empirical investigation. *Journal of International Business Studies*, Vol. 30, No. 1, pp. 1-24.

Narula, R. - Dunning, J. [2000]: Industrial Development, Globalisation and Multinational Enterprises: New Realities for Developing Countries. *Oxford Development Studies*, Vol. 28, No. 2, pp. 141–67.

Nourzad, F. [2008]: Openness and the Efficiency of FDI: A Panel Stochastic Production Frontier Study. *International Advanced Economic Research*, Vol. 14, pp. 25- 35.

Oman, C. [2000]: *Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI*. OECD, Paris.

Ramírez, M. D. [2000]: Foreign Direct Investment in Mexico: A Cointegration Analysis. *Journal of Development Studies*, Vol. 37, No. 1, pp. 138-162.

Robson, M. – Townsend, J. - Pavitt, K. [1988]: Sectoral Patterns of Production and Use of Innovations in the UK: 1945–1983, *Research Policy*, Vol.17, No.1, pp. 1–4.

- Romo Murillo, D. [2003]:** Derramas tecnológicas de la inversión extranjera en la industria Mexicana. *Comercio Exterior*, Vol. 53 (3), p. 230-43.
- UNCTAD [2007]:** *World Investment Report 2007. Transnational Corporations, Extractive Industries and Development*. UN, New York – Geneva, pp. xv-xix.
- UNCTAD [2005]:** *Prospects for Foreign Direct Investment and the Strategies of Transnational Corporations, 2005-2008*. UN, New York – Geneva
- Vera-Cruz, A. - Dutrénit, G. [2005]:** Spillovers from MNCs through worker mobility and technological and managerial capabilities of SMEs in Mexico. *Innovation, Management, Policy and Practice*, special issue, Vol 7 (2).
- Wang, Ch. – Yu, L. [2007]:** Do spillover benefits grow with rising foreign direct investment? An Empirical Examination of the case of China. *Applied Economics*, Vol. 39, pp. 397–405.

5. Own publication related to the thesis

Author's publication related to the thesis issued til 1st September 2008. :

Book: – Szentés Tamás és munkaközössége: *Fejlődés – versenyképesség – globalizáció II.*, Akadémiai Kiadó [2006], Budapest, pp. 165-186.

Journal:

In English:

– **Transnational Companies and Competitiveness, Comparative Case Study of Hungary and Mexico.** *Society and Economy*, Akadémiai Kiadó, Budapest [2005], Vol. 27., Nr. 1., pp. 151-170.

In Hungarian:

– **Mexikó a transznacionális vállalatok szemszögéből.** *Fejlesztés és Finanszírozás*, MFB Rt. Stratégiai Tanácsadó Testület/ Ecoforum Kft., 2003/3, pp. 53-59.

In Spanish:

– **La Política de Incentivos de la Inversión Extranjera Directa: en caso de Europa Central y Este.** *Serie de Divulgación Académica: Investigación en Ciencias Administrativas*, Octavo Número – *Revista Electrónica del ICEA*, de la Universidad Autónoma del Estado de Hidalgo, 2007, pp.1-11.