

Czech Suppliers of Multinational Corporations – Benefits and Challenges¹

Introduction

This chapter provides a broader context for the evaluation of the CzechInvest's Supplier Development Program (SDP). This is done by analyzing: (i) the factors driving sourcing decisions of multinational corporations (MNCs), (ii) characteristics of Czech companies which successfully managed to become MNC suppliers, (iii) the nature and the benefits of the supplying relationship from the perspective of the Czech suppliers, (iv) the rationale for the existence of the SDP, and (v) the program's strengths and areas for improvement.

The analysis is based on the results of the enterprise survey conducted by FIAS in the Czech Republic during the summer and fall of 2003. The survey was designed to reflect the views of Czech companies, both suppliers and non-suppliers, as well as MNCs operating in the Czech Republic. Three hundred and ninety one Czech firms and hundred nineteen foreign enterprises were interviewed face-to-face by professional interviewers who visited respondents' workplaces. The focus of the survey was on manufacturing firms, i.e. those operating in sectors 15-36 according to the NACE classification. About one-fifth of respondents was located in the capital city of Prague while the rest was distributed across all regions of the country.

Determinants of MNC sourcing patterns

The purpose of interviewing MNCs was to shed some light on the factors driving their sourcing patterns and the decision making process. Only majority-owned foreign investment enterprises (i.e., those with the foreign share above 50 percent) were included in the survey. The interviewed firms represented almost all manufacturing industries, namely, fabricated metals (19 MNCs); publishing and printing (14); rubber (11); machinery (10); apparel (9); electrical machinery (9); food products (8); textiles (7); non-metallic mineral products (7); furniture (6); pulp and paper (4); wood products (3); chemicals (3); radio, TV and communications equipment (3); leather (2); basic metals (1); medical equipment (1); motor vehicles (1) and other transport equipment (1).

¹ This chapter was prepared by Beata Smarzynska and Mariana Spatareanu (DECRG-TR).

The survey results suggest that multinationals are actively engaged in local sourcing in the Czech Republic. Ninety percent of interviewed MNCs reported purchasing inputs from at least one Czech company.² The median MNC in the sample has a sourcing relationship with 10 Czech suppliers while an MNC in the top quartile with at least 30. As illustrated in Table 1, Czech companies are the most important supplier group, followed by other European suppliers (located in the EU or Eastern Europe) and other MNCs operating in the Czech Republic. There also appears to be a limited amount of sourcing from North America. Finally, it is worth noting that less than eight percent of MNCs make their purchases in Russia or the Commonwealth of Independent States (CIS). This situation is most likely driven by the difficulty of finding reliable suppliers in the CIS.

Table 1. Distribution of MNC suppliers

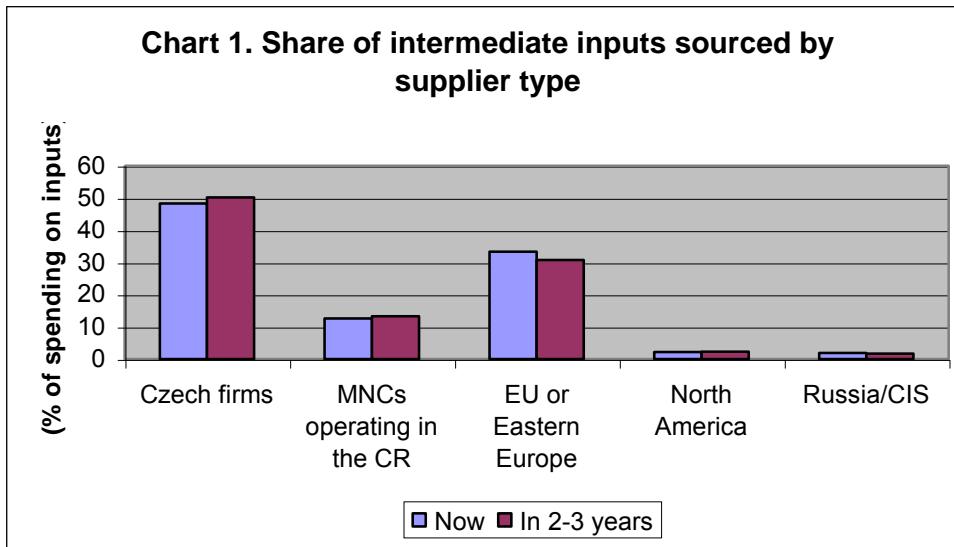
	No. of suppliers which are				
	Czech	MNCs operating in the CR	EU or Eastern Europe	North America	Russia/CIS
No of MNCs reporting each type of suppliers	107	56	85	18	9
MNC in the 25th percentile	5	2	2	1	1
median MNC (50th percentile)	10	4	5	1	2
MNC in the 75th percentile	30	10	10	4	2

When asked about the share of inputs purchased from each type of suppliers (in terms of value), MNCs indicated sourcing *on average* 48.3 percent of inputs from Czech enterprises, as compared to 33.3 and 12.6 percent from firms in the EU/Eastern Europe and MNCs located in the Czech Republic, respectively (see Chart 1 below).³ The share of inputs coming from the other regions appeared to be negligible. Since average figures do not always give an accurate impression, it is worthwhile to report some more statistics. Fifty-five out of 114 MNCs, which answered this question, reported buying at least half of their inputs from Czech suppliers. More than a tenth of respondents acquired all of their intermediates from Czech enterprises. Around forty percent of MNCs expected to purchase more inputs from Czech suppliers in the future. However, the anticipated increase is unlikely to be large (see Chart 1).⁴

² Note that the question specifically asked respondents not to include suppliers of services, such as catering or cleaning, etc.

³ Note that MNCs with no sourcing from a particular group of suppliers are included in that group's average.

⁴ Note that these figures are similar to those collected in other surveys. For instance, the Opinion Window survey commissioned by CzechInvest in 2002 found that MNCs in the Czech Republic sourced on average 32.2 percent of



The sourcing patterns of MNCs appear to be quite persistent. There is a large correlation (.9) between the share of local inputs sourced at present and that expected in the next 2 to 3 years. Having said that, the future increase in local sourcing is likely to come from MNCs which either do not purchase their intermediates locally or those with limited sourcing. Multinationals buying the majority of intermediates from Czech suppliers expect a slight decline in the coming years (see Table 2 for more details).

Table 2. Expected Changes to Local Sourcing

Share of intermediates currently sourced from Czech firms (in percent)	Expected increase in 2-3 years (in percentage points)	No. of respondents
0	6.4	14
1-25	3.1	27
26-50	2.0	20
51-75	-2.1	17
76-100	-0.1	35
Total	1.5	113

The MNC decision to choose one type of supplier over another is driven by several factors. For example, the top reasons reported for cooperating with Czech suppliers included: low prices (71%), geographic proximity which allowed for a better relationship with a supplier (64%), savings on transport costs (56%) and savings on import duties (44%). On the other hand,

their inputs locally in 2000 and 34.7 percent in 2001. This share was expected to increase to 35.8 percent in 2002. Similarly, CzechInvest reported that 57 percent of MNCs indicated their ability to increase local content (CzechInvest Factsheet No. 3, January 2002).

sourcing from foreign firms located in the Czech Republic was primarily driven by the fact that these firms were global suppliers of the MNCs (45%), offered more competitive prices (45%), higher quality products (29%) or products not available from Czech firms (29%). As before, savings on transport costs (34%) and benefits of proximity (30%) mattered as well. Finally, importing inputs from abroad was primarily driven by: using company's global suppliers (46%), implementing the decision of the parent company (37%), unavailability of particular products from Czech firms (36%) or desire to purchase higher quality inputs (30%). The following conclusions can be drawn from these figures.

First, the fact that so many respondents rely on the company's global suppliers should not be viewed as a insurmountable obstacle for Czech firm to do business with MNCs. In eighty percent of cases, sourcing decisions are taken by the management of the MNC plant in the Czech Republic rather than foreign owners based abroad (the latter decision making process can be found only in 15% of firms). Thus, making initial contact with the buyer is possible without a trip to a foreign country, which underscores the usefulness of "meet the buyer nights" which bring together MNCs and Czech participants of the SDP. Moreover, becoming a global supplier of MNC often simply requires becoming an approved supplier (as a result of a technical audit, for example) rather than actually supplying all subsidiaries of a particular MNC worldwide.

Second, the fact that the decision to source inputs from suppliers other than Czech firms is in many cases due to lower quality of goods sold by domestic firms suggests that upgrading their products may unlock new opportunities for Czech companies in terms of supplying MNCs. However, one should keep in mind that even with upgraded products the scope for charging higher prices may be limited. This is reflected in the prominence of price considerations highlighted in the above questions as well as in the fact that cost reduction was often one of the key reasons for MNCs to enter the Czech Republic

When asked about the reasons for not sourcing more from Czech firms, MNCs pointed to the lack of suitable products (38%), the inability of Czech firms to make timely deliveries (19%), and lack of funding for investment necessary to become suppliers (16%). The second factor suggests the potential benefits from having a supplier development program, which by helping domestic firms streamline their production process would make them better positioned to achieve

on-time delivery targets.⁵ The third factor, however, could be only remedied by lessening SMEs credit constraints through other programs.

Another conclusion emerging from the survey is that given the high requirements imposed by MNCs on their suppliers, the SDP should continue to include only “winners.” The strength of the program lies in its focus on companies with high potential for improving their business operations and thus for becoming MNCs suppliers. This selectivity is possible thanks to the strong program management, which resist pressures to compromise the program standards by inviting unsuitable yet well-connected firms to participate. Stringent program selection criteria allow for providing participants with fairly sophisticated advice that, on one hand, is necessary for any company wishing to become an MNC supplier, and, on the other hand, would be unsuitable for or not appreciated by an average SME. While some parts of the model (e.g., workshops, ‘meet the buyer’ events or mentoring) would certainly be transferable to a regular SME support program, in order to assure its success the SDP must be kept as a separate activity.

The composition of inputs sourced by foreign customers again highlights the importance of having a high quality product and the necessity of frequent upgrading, both of which are essential to a successful performance as an MNC supplier. Almost half of all inputs purchased by MNCs consisted of parts and components or final products (on average 32.4 and 15.6 percent, respectively). Raw materials constituted 36 percent and packaging 14 percent. More than a quarter of MNCs reported that the complexity and/or quality of products bought from Czech suppliers increased during the past two years. In more than half of the cases, this change was due to suppliers making improvements independently of the MNCs. In the remaining cases, the improvement was a result of the foreign customer introducing higher requirements. Only in a handful of cases (15%), the respondents indicated that the change was a direct result of the assistance provided to the supplier.

While multinationals have high requirements vis-à-vis their suppliers, one-fifth of them also offered some type of support to the Czech companies they source from. Advance payment and financing was the most popular form of assistance, which is consistent with financial constraints being one of the obstacles to increasing sourcing from Czech firms, as indicated earlier. Employee training and help with quality control ranked second and third, which again

⁵ Indeed two out of five MNCs which reported the participation of their suppliers in the SDP saw an improvement in the suppliers’ performance resulting from the program.

reflects the importance of input quality in the MNC sourcing decision. Other types of assistance included: supplying inputs, lending/leasing machinery, providing production technology, financial planning, organization of production lines, business strategy and finding export markets.

While the incidence of direct assistance to suppliers is not very high, its impact should not be underestimated. The benefits of support provided by MNCs to their local suppliers has been documented in numerous case studies from around the world (see, for instance, Moran 2001). One example from the Czech Republic is illustrated in Box 1. Without doubt, such assistance contributes to the improved performance of the suppliers observed in the Czech Republic and other countries. We will come back to this point later on in the chapter.

Box 1. Example of assistance provided by an MNC customer

After a Czech company making castings of aluminum alloys for the automotive industry signed its first contract with a multinational customer, the staff from the multinational visited the Czech firm's premises for two days each month for an extended period of time to assist with the quality control system. Subsequently, the Czech firm applied these improvements to its other production lines (not serving this particular customer) thus reducing the number of defective items produced and improving the overall productivity.

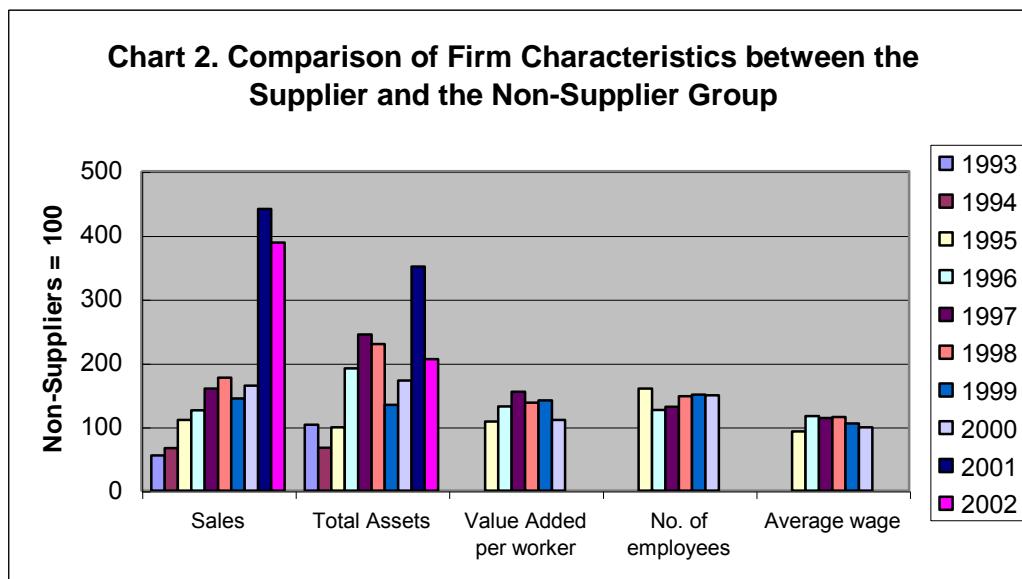
Source: interview with the company management conducted by the author in the Czech Republic in May 2003.

Suppliers profile

In this section we sketch a profile of MNC suppliers in order to better understand factors that helped Czech companies break into the supply chains of multinationals. To do so, we supplement the results of the firm survey with financial information on interviewed firms from a combination of sources.⁶ The additional financial information is available for about half of firms in the sample and encompasses: 79 Czech firms supplying MNCs located in the country and additional 65 Czech companies selling to both MNCs in the Czech Republic and abroad, which amounts to the total of 144 suppliers.

⁶ These include: Amadeus database compiled by Bureau van Dijk, the Meritum Software financial database, Albertina Data register 2002 and Kompas database 2002

As illustrated in Chart 2 below, suppliers differ from the non-supplier group in several respects.⁷ During the whole time period under consideration, 1993-2000, with the exception of the two initial years, suppliers appear to be larger in terms of the value of sales, assets and the number of employees. They also appear to be more productive as measured by the value added per worker. Suppliers tend to pay slightly higher wages but by the year 2000, the last year for which the data are available, the difference in wages disappears. Further, suppliers are more likely to have been exporters in the past and have managers speaking foreign languages. Moreover, managers appear to be familiar with their MNC customers as 31 percent of the managers in the supplying companies used to worked for the foreign company they now supply.



The above mentioned differences do not say much about the direction of causality. While it is likely that firms that are larger to begin with become suppliers, a more interesting question is what happens after an enterprise starts a business relationship with an MNC. To shed some light on this issue, Table 3 compares the average annual growth rates of firms in the two groups and indicates that MNC suppliers experience faster growth rates of sales, value added and employment. We will revisit these questions in the next section when we discuss the impact of the suppliers status on Czech firms.

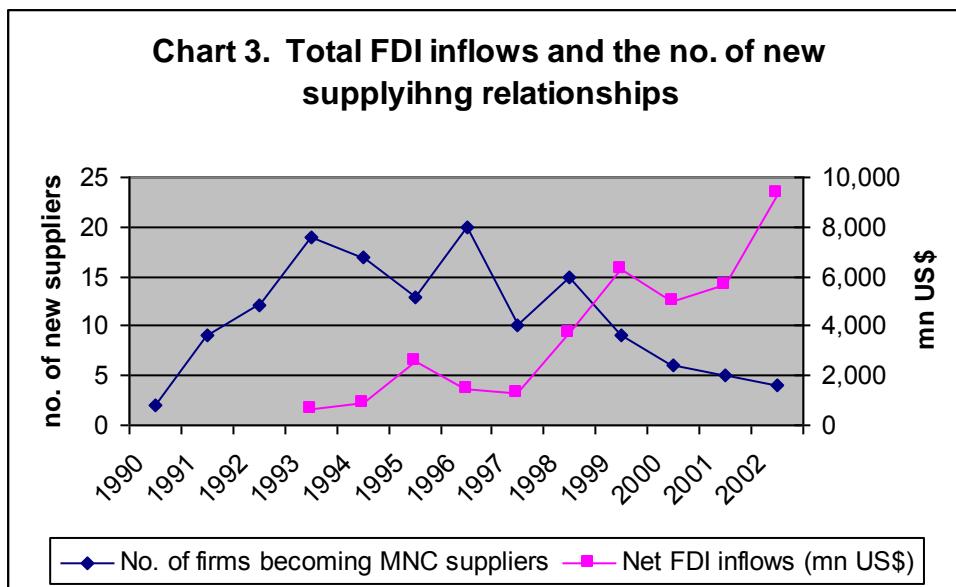
⁷ Respondents were asked about the year in which they first supplied an MNC and starting from that point they are classified as a supplier in the sample. The statistics pertain to Czech companies selling to MNCs operating in the Czech Republic and/or abroad.

Table 3. The average growth rates of Suppliers and Non-Suppliers

Growth rate of	Non-Suppliers	Suppliers
Sales	23%	40%
Value added	-5%	12%
Employment	-13%	4%

Supplier relationship with the MNCs

After reviewing the supplier profile, we turn our attention to the nature of the relationship between Czech firms and their multinational customers. As illustrated in Chart 3 below, FDI started to flow to the Czech Republic in the early 1990s with the flows increasing substantially since the mid-1990s. Thus it comes as no surprise that the supplying relationships between Czech firms and foreign MNCs located in the country began quite early in the transition process. About half of the suppliers in the sample reported making their first sale to an MNC before 1996.



Starting in 1999, however, the growing volume of FDI inflows does not seem to have been accompanied by an increase in the number of firms becoming MNC suppliers. This pattern may be due to the following factors. First, the chart depicts only the number of firms receiving their *first* contract ever from an MNC customer and thus it does not capture the likely situation of firms increasing the number of foreign customers by obtaining contracts from MNCs newly entering the country. Second, FDI inflows in the last several years were dominated by non-manufacturing sectors (mainly transport, communications, financial intermediation, etc) which

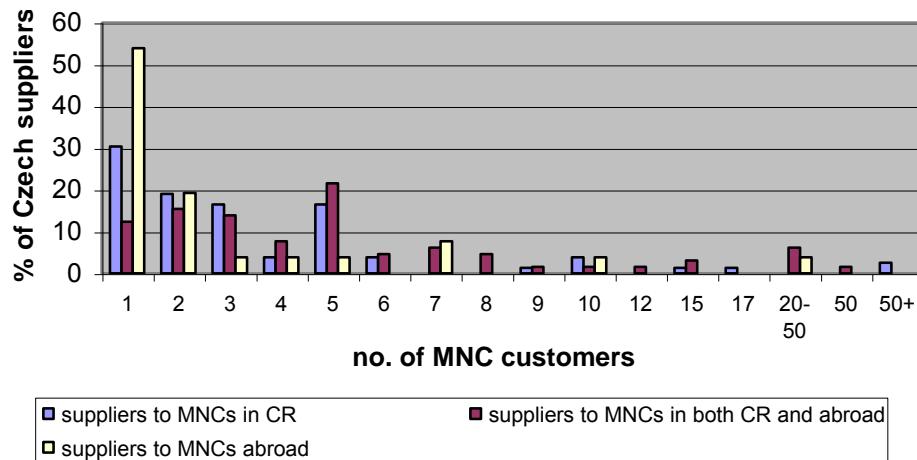
tend to source less in general. For instance, while during 1993-2002 sixty-nine percent of all FDI inflows went into non-manufacturing, this proportion was equal to 71 and 82 percent in 2001 and 2002, respectively. Furthermore, our sample includes only manufacturing firms and thus does capture suppliers of services.

The survey results also indicate that MNCs are interested in long term relationships with their local suppliers. Czech firms making sales to MNCs reported having contracts ranging from one month to ten years in length. A comparison of the average length of a contract received from MNCs operating in the Czech Republic with that from MNCs located abroad suggests that foreign investors operating in the Czech Republic have a longer horizon in mind when establishing a relationship with a local supplier.

Multinationals tend to be important customers of their Czech suppliers. On average, domestic firms supplying MNCs located in the country sell forty percent of their output to the foreign companies. More than one-fifth of the suppliers sell their whole production to the MNC customer(s), while more than two-fifths supply more than half of their output. As illustrated in Chart 4 below, most suppliers selling to MNCs in the Czech Republic or both in the Czech Republic and abroad tend to have more than one MNC customer. This is true of 70 percent of suppliers in the former group and 87 percent in the latter. The picture is remarkably different in the case of Czech firms making sales to MNCs located abroad. In this group, more than half of firms relies solely on one buyer.

The diversification visible particularly in the case of enterprises supplying MNCs in the Czech Republic is quite important as it mitigates the risk of an adverse shock experienced by a particular multinational being transmitted to its supplier. Moreover, it improves the negotiating position of Czech firms vis-à-vis their foreign customers. The diversification may also reflect the reputation effect of becoming an MNC supplier. Once a Czech company is deemed to be a suitable supplier of a well known international company, it may be better positioned to break into the supply chains of other multinationals. Moreover, it is often the case that once a Czech company becomes an approved supplier to a particular MNC operating in the country, it will have the opportunity to supply affiliates of the MNC located in other countries. This is true of one-third of suppliers in the sample.

Chart 4. Number of MNC clients by supplier type



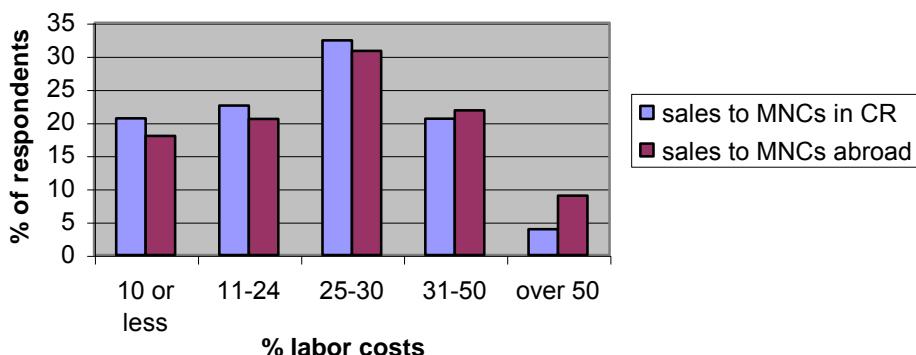
Czech companies supply MNCs mainly with final products, rather than parts and components. Final products accounted for all of the revenue from sales to MNCs in more than half of the firms interviewed and over fifty percent of the revenue in three-quarters of suppliers. Only for 14 percent of the suppliers, parts and components accounted for all sales to MNCs and for one-fifth of the suppliers it constituted more than fifty percent of sales. There is little evidence of Czech companies supplying packaging or raw materials to their MNC clients. This picture somewhat contrasts with the breakdown presented by MNCs respondents, described in the earlier section, which indicated greater reliance of multinationals on obtaining raw materials, parts and components from local sources. The difference most likely stems from the fact that the survey sample included only Czech suppliers operating in the manufacturing sector, while the breakdown given by MNCs also encompassed their purchases from extractive industries and suppliers of other raw materials.

As highlighted before, the key factor that allows Czech companies to become MNC suppliers is having a suitable high quality product. This view is supported by the fact that eighty percent of survey respondents sell the same product to both MNC and local customers, and only five percent of respondents sell an improved product to MNCs and its basic version to local customers. Only twenty-one percent of firms reported developing the product specifically for the MNC customer and in only 5.5 percent of cases the foreign customer helped in the development process. For a quarter of all firms the product was developed in house, and only in four percent

of the companies it is based on technology licensed from abroad. In summary, the survey indicates that in most cases a potential supplier needs to have at its disposal a product that is suitable for and of interest to the MNCs. It is less frequently the case that suppliers engage in developing new lines specifically for an MNC customer. Even if they do so, they rely mainly on their own development ability suggesting that only firms with a good in-house R&D department would be chosen for such a task.

Products supplied to MNCs by Czech companies tend to be labor-intensive. In 57 percent of cases, labor costs accounted for more than a quarter of total cost of goods sold to multinationals in the Czech Republic. The corresponding number for goods purchased by multinational abroad was slightly higher at 62 percent (for a more detailed breakdown see Chart 5 below). Relatively high labor intensity of products supplied to multinationals suggests that as wages in the Czech Republic continue to rise, local suppliers will be facing increasing competitive pressures. As the business climate in the successor states of the Soviet Union improves, companies located there and thus benefiting from lower labor cost may start competing for contracts from MNCs operating in the Czech Republic. Thus, to stay competitive in the business of supplying MNCs in the medium term Czech firms will need to move up the value added chain by, for instance, undertaking more of design and R&D activities and/or by offering flexible production arrangements and thus capitalizing on their proximity to the MNC customers. For a case study of a flexible production arrangement see Box 2.

Chart 5. Share of labor costs in the production costs of goods supplied to MNCs



As mentioned above, in order to remain competitive MNC suppliers it is crucial for Czech firms to move up the value chain, and indeed there is already some evidence of this happening. For instance, almost half of the suppliers in the sample reported that over time they increased the complexity and/or value added of the products they supply to MNCs operating in the country. An even more prominent effect (60%) was registered among firms supplying both MNCs operating in the Czech Republic and those located abroad.

Box 2. Vilniaus Baldu Kombinatas

VBK had been established as a small workshop over a hundred years ago and since then it has become one of the largest furniture producers in Lithuania. The company produces both home and office furniture. It has its own retail network selling about 7 percent of output. Since the Lithuanian furniture market is too small to support a company of the size of VBK, the firm has to rely on exports. About 93 percent of VBK production is exported to Sweden, Germany, Belgium, Great Britain, Canada, US and France. About 90 percent of output is sold to the Swedish company IKEA, which in 1999 named the VBK its best supplier in the Baltics.

The relationship between VBK and IKEA began in 1998 and the cooperation between the two companies has been very close ever since. IKEA has provided support to VBK in terms of technology, production organization and personnel training. VBK is connected to the IKEA's computer system through which invoices as well as payment and delivery information are being processed. Currently, VBK is upgrading its computer system so that in the future it will be able to receive daily information on sales of its products in IKEA stores abroad. Thanks to the upgraded system, orders will be placed daily rather than every few weeks as is currently the case.

While relying so strongly on one customer may be perceived as a risky strategy, VBK is not very concerned as it is one of the top 25 IKEA suppliers (out of 2000 companies producing for the Swedish concern). Moreover, closer technological integration with IKEA will make VBK more competitive vis-a-vis other IKEA suppliers. VBK is the only company in Lithuania to be so closely integrated in the IKEA system.

Source: Smarzynska (2001).

When asked to rank the constraints preventing them from becoming MNC suppliers, Czech firms pointed to the lack of ISO certifications, inadequate information about potential customers, absence of credit, the lack of brand reputation followed by insufficient marketing skills and not enough access to new technologies. Interestingly, insufficient product quality and high price of the product ranked last. This discrepancy between the views of potential suppliers and the perceptions of MNCs indicates potential benefits of having a supplier development program, which by bringing together MNCs and potential suppliers would increase the latter group's awareness of what is expected of them should they want to do business with foreign enterprises.

Benefits to Czech suppliers from doing business with MNCs

In this section, we argue that doing business with MNCs can bring benefits to Czech companies. These benefits may accrue through direct assistance provided by MNCs and, more importantly, in an indirect manner through the stringent requirements for product quality, timeliness of delivery, etc. that a multinational customer imposes on local suppliers. While the direct assistance plays a significant role, it is not as prevalent as one may think. About 18 percent of respondents who supply MNCs in the home country (and possibly abroad) reported receiving assistance from their multinational customers. This figure increased to 22 percent when firms selling to MNCs abroad (but not in the Czech Republic) were included. For comparison, in a recent survey thirty-six percent of Latvian MNC suppliers indicated that they had received assistance from their customers (FIAS 2003). This difference is likely to be explained by the higher sophistication of Czech firms relative to Latvian enterprises.

The assistance provided by multinationals takes various forms. Given the fact that credit constraints faced by Czech companies were mentioned by MNCs as one of the factors preventing them from sourcing more inputs locally, it is not surprising that advance payment and financing tops the list of support received by MNC suppliers from their customers (see Table 4). It is closely followed by leasing of machinery and employee training. Further, Czech suppliers report receiving assistance with quality control, business strategy, purchasing inputs and production technology. While there is some evidence of technology transfer taking place (through leasing of machinery, direct assistance with production technology or technology licensing), the picture is consistent with the earlier observation that most Czech companies acquire their production technology on their own. Thus the knowledge transfer is more likely to pertain to general business practices rather than specific technologies. It takes the form of employee training, assistance with quality control, organization of production lines or inventory management. Providing employee training seems to take place quite frequently, as one-fifth of suppliers stated that their staff was invited for training to the premises of the multinational customer. While fees are charged for some forms of support, most of it is free. It is also worth emphasizing that a quarter of the respondents reported that the expertise and know-how acquired through their relationship with MNC customers helped them in export markets.

Table 4. Assistance received from MNC customers

	No. of firms reporting receiving assistance (out of 37 companies reporting assistance)	of which assistance for a fee
advance payment and financing	14	5
leasing/lending of machinery	13	7
employee training	9	2
quality control	7	1
business strategy	6	0
supplying inputs	5	2
production technology	5	0
organization of production lines	4	1
finding export markets	4	1
obtaining license for a new technology	3	2
financial planning	2	0
maintenance of machinery	2	1
inventory management	1	1

Doing business with MNCs may also bring reputational benefits to local suppliers. For instance, having a contract from a well known foreign enterprise may increase the creditworthiness of the Czech supplier. This indeed seems to be the case. One third of respondents to this question reported that being an MNC supplier helped them obtain a loan from a Czech bank. And one-fifth of companies had an easier time securing financing from a foreign bank operating in the Czech Republic thanks to their supplier status (see Table 4). This particular benefit from being an MNC supplier should not be underestimated given the fact that access to financing is probably one of the main constraints facing Czech enterprises.

Table 5. Impact of supplying relationship on easing credit constraints

	No. of companies	% of respondents*
Czech suppliers reporting that being a supplier helped them obtain		
a loan from a Czech bank	46	32.2
a loan from a foreign bank operating in the CR	23	18.7
financing abroad	7	6.5
no. of Czech suppliers reporting obtaining		
financing from the MNC customer	19	16.2

* percentage of respondents giving 'yes' or 'no' answer; those saying 'don't know' or 'not applicable' were excluded from the calculations

Multinationals tend to be demanding customers. They have high standards in terms of rapid reductions in the share of faulty products and increases in productivity which over time translate into lower purchase prices. They conduct thorough technical audits of potential suppliers and in most cases require ISO certifications. The figures are suggestive: 49 percent of the suppliers surveyed have ISO certifications as compared to 38 percent of the non-suppliers.

Moreover, 59 percent of the suppliers reported acquiring ISO certifications in order to do business with MNCs.⁸ Complying with such requirements takes time and effort and often necessitates additional investment. While being an MNC supplier is not an easy life, the tough requirements give the company an incentive to improve itself and thus in the long run increases its chances of survival in the globalized economy when competitive pressures are on the rise.

In the previous section, we demonstrated some differences in firm characteristics between MNC suppliers and other firms; now we return to this issue and ask whether suppliers are more productive than other companies. We are particularly interested in knowing whether suppliers learn and thus improve their productivity as a result of doing business with MNCs. As described in detail in the Appendix, we use econometric techniques which allow us to distinguish between the learning effect and the possibility that companies that were more productive to begin with are more likely to become suppliers.

The results, presented in the upper panel of Appendix Table 6, shed some light on characteristics of domestic firms supplying MNCs. They suggest that larger firms are more likely to supply multinationals. There is also some indication that the same is true for firms with higher value added per worker, but this effect is not statistically significant. Manager's ability to write contracts in a foreign language also increases the probability that a given firm does business with MNCs. On the other hand, neither firm's age nor its *de novo* status seem to matter for the supplying relationship.

More importantly for this study, we find that, controlling for the non-random selection of suppliers, firms having a relationship with MNCs tend to be more productive. The magnitude of the effect is large. Controlling for the inputs used, the value added of a supplier tends to be on average twice that of its counterpart in the non-supplier group. However, these figure should be treated only as indicative since several caveats, described in the Appendix, apply to the regression results.⁹ Nevertheless they provide some evidence of benefits that may accrue to Czech firms from doing business with multinationals operating in the country.

⁸ The dynamic expansion in the number of Czech firms holding ISO certifications documented in Newton (2003) may be to a large extent driven by the efforts of local firms to become MNC suppliers.

⁹ A more detailed analysis of this question is beyond the scope of this study but will be undertaken in the subsequent work.

Is There A Justification for A Government Financed Supplier Development Program?

The results presented in the earlier section suggest that Czech firms learn from their relationship with foreign customers which is reflected in their increased productivity. To the extent that multinationals do not extract the full value of the resulting productivity increase through direct payment or lower prices of intermediates sourced, there exist positive externalities associated with contacts between Czech firms and their multinational customers. The existence of such externalities in turn provides a justification for a government funded program assisting Czech firms in obtaining contracts from MNCs. The case for government assistance in this area is also supported by recent empirical research which provides evidence of technology spillovers taking place through interactions between MNCs and their local suppliers (see Box 3).

An additional benefit of the program is that by increasing the potential for local sourcing, the program contributes to rooting of MNCs in the Czech Republic. The international experience indicates that the process of developing networks of local suppliers in a host country requires time and effort on the part of multinationals. Thus foreign investors which have developed strong linkages to the host country economy are less likely to leave as the move would be associated with the cost of building new supplier networks (UNCTAD 2001, p. 130).

While some critics (see Newton 2003) argue that the limited size of the program has a negligible effect on the economy, its purpose is not necessarily to reach all the potential suppliers, given the existing financial constraints. Moreover, as emphasized before, most Czech firms are not advanced enough to fully benefit from the program. The fact that the program cannot possibly cover all potential suppliers is not necessarily bad as it leaves room for MNCs themselves to engage in such activities. It is worth stressing, however, that MNCs are likely to underprovide such services thus the existence of the program is needed and justified on economic grounds.

Box 3. Empirical evidence on FDI spillovers

Productivity spillovers from FDI take place when the entry or presence of multinational corporations increases productivity of domestic firms in a host country and the multinationals do not fully internalize the value of these benefits. Spillovers may take place when domestic firms improve their efficiency by copying technologies of foreign affiliates operating in the local market either based on observation or by hiring workers trained by the affiliates. Another kind

of spillovers occurs if multinational entry leads to more severe competition in the host country market and forces domestic firms to use their existing resources more efficiently or to search for new technologies (Blomström and Kokko, 1998). While the knowledge spillovers present a rationale for government action to subsidize FDI inflows, this is not the case when the improved productivity of domestic firms is due to increased competition, as inducing greater competition may be achieved by other means (import liberalization, anti-trust policies, etc.).

When domestic firms benefit from the presence of foreign companies in their sector, we refer to this phenomenon as horizontal spillovers. To the extent that domestic firms compete with multinationals, the latter have an incentive to prevent technology leakage and spillovers from taking place. This can be achieved this through formal protection of their intellectual property, trade secrecy, paying higher wages or locating in countries or industries where domestic firms have limited imitative capacities to begin with. Recent economic research based on firm-level panel data, which examines whether productivity of domestic firms is correlated with the extent of foreign presence in their sector or region, however, casts doubt on the existence of horizontal spillovers from FDI in developing countries. For instance, Aitken and Harrison's analysis (1999) of Venezuelan data, the work by Djankov and Hoekman (2000) on the Czech Republic and Koning's (2001) study of firms in Bulgaria, Romania and Poland in the early 1990s either fail to find a significant effect or produce the evidence of negative horizontal spillovers. An exception is a study by Javorcik and Spatareanu (2003) which finds positive intra-industry spillovers in Romania. The picture is more optimistic in the case of industrialized countries as demonstrated by Haskel, Pereira and Slaughter (2002) and Keller and Yeaple (2003) who give convincing evidence of positive FDI spillovers taking place in the UK and the US, respectively.

While MNCs may want to prevent knowledge leakage to domestic firms they compete against, they may have an incentive to transfer knowledge to their domestic suppliers in upstream sectors. The phenomenon, referred to as vertical spillovers can take place through: (i) direct knowledge transfer from foreign customers to domestic suppliers; (ii) higher requirements regarding product quality and on-time delivery introduced by multinationals, which provide incentive to domestic suppliers to upgrade their production management or technology; (iii) indirect knowledge transfer through movement of labor; (iv) increased demand for intermediate products due to multinational entry, which allows local suppliers to reap the benefits of scale economies. The evidence consistent with the presence of such inter-sectoral spillovers has been found by Schoors and van der Tol (2001) in Hungary, Blalock (2001) in Indonesia, Javorcik (forthcoming) in Lithuania and Javorcik and Spatareanu (2003) in Romania. The magnitude of the effect is economically meaningful as a one-standard-deviation increase in the foreign presence in the sourcing sectors is associated with a 15 percent rise in output of each domestic firm in the supplying industry in Lithuania (Javorcik, forthcoming).

Program Evaluation and Policy Recommendations

Having established the case for the existence of the Supplier Development Program, this section focuses on the strengths of the initiative followed by some suggestions for improvement. We end with a discussion of challenges lying ahead.

Overall the program appears to be well designed, managed and executed. Its strong points are the following:

- The key to the program's success has been its focus on enrolling successful companies which exhibit significant potential for becoming MNC suppliers. Only such companies are able to take full advantage of the opportunities offered by the SDP and thus facilitate increased sourcing on the part of MNCs in the future.
- The program organizers should be commended for conducting the selection of program participants in a transparent manner and striking a fine balance between selecting the best performing companies and companies with the highest potential for improvement.
- Another strong point of the program is the follow-up which indicates to the participants that the need for improvement never ends. Some of the SDP alumni are transitioned to the EBRD TAM project, while others participate in various events, organized by the CzechInvest, bringing together domestic and foreign firms.
- The existence of the MNC Steering Committee as well as the involvement of multinationals' purchasing managers assures interest and active participation on the part of MNCs and provides suggestions for tailoring the program to their needs as potential customers of program participants.
- Another strength of the program lies in the well executed publicity campaign. For instance, the Supplier of the Year Award has made the business community aware of the program's existence and contributed to an increase in the number of applicants and thus the quality of companies selected. An additional benefit of the public attention received by the SDP is making less advanced companies aware of adjustments they need to make in order to become MNC suppliers.
- Interactions with MNCs whether as part of the workshop series or 'Meet the Buyer' events appear to be very much appreciated by program participants. Learning about expectations of MNCs vis-à-vis their suppliers directly from a potential customer is a powerful pedagogical tool. Moreover, while many program participants realize that they will not receive orders on the spot, exchanging business cards with MNC representatives 'helps them get their foot in a door' and may be helpful in getting attention from prospective customers.

- Benefits of the program accrue to all participants regardless of whether or not they are selected for the second stage of the program. The business review process, while being an important evaluation tool, also provides a useful diagnostic that companies can employ in mapping out areas for improvement. In some cases, a business review points to the issues the company management was previously unaware of, which is a beneficial exercise in itself.
- Finally, the implementation of the program has very much benefited from the financing and know-how provided by the EU.

However, there are several areas in which the program could be improved:

- To assure the continuation and the future success of the program it is crucial to transfer the knowledge and know-how pertaining to the program design, technical details of its implementation, methods of obtaining financing, etc. to the local staff of CzechInvest. Unfortunately, there is little indication that such transfer has been taking place.
- One of the most challenging areas of the SDP is finding the right balance between the theoretical and the practical assistance provided to participants. Given the fact that the business reviews already follow a somewhat stringent and theory-based outline, care should be taken to assure that all program participants will have the chance to interact with and learn from the business practitioners. Moreover, it is crucial that the same mentors or coaches with business experience participate during the full duration of the program. High turnover rate among mentors can have adverse effects on the outcomes. Finally, EU mentors should be encouraged to familiarize themselves beforehand with the business environment in the Czech Republic.
- One of the major factors preventing even successful domestic firms from becoming MNC suppliers or intensifying their relationships with MNCs is the lack of credit. While the program cannot directly solve this problem, it could assist participants in obtaining practical skills necessary in applying for financing, such as preparation of a business plan. Rather than a theoretical workshop on this topic, a hands-on exercise in which the company's management is assisted by a mentor/consultant in preparation of an actual business plan would be highly desirable.

- Another potentially useful tool could be a workshop in which domestic firms which have been successful in obtaining orders from MNCs share their experiences in this area. Anecdotal evidence suggests that Czech firms often tend to underprice their goods or services and only with experience realize that it was not necessary to do so.
- It might also be beneficial to provide program participants and alumni with a list of MNCs planning to enter the Czech Republic so that they can be contacted directly by potential suppliers even before they establish their presence in the country.
- While the organizers have done a tremendous job in informing potential participants about the existence of the program, reaching, for instance, 53 percent of companies surveyed in the sample, it would be desirable to continue these efforts to reach an even larger percentage of the companies eligible for the program. Moreover, the fact that 29 percent of the firms surveyed were aware of the SDP but were not interested in applying stresses the need for more information on the benefits of the program to be conveyed to potential participants.

The future is likely to bring many challenges to the program management:

- To assure a fair evaluation of the program it is necessary to manage expectations of both SDP participants and the public. While there is no doubt about the benefits of the program, it is unlikely to result in sustainable supply contracts between MNCs and SMEs in the short run. Thus the true benefits of the program are most likely to be visible only after several years. Further, the extent of such benefits will be a direct result of the effort exerted by the participants. As one program alumnus put it “the SDP helped us see ourselves from a different perspective, but the rest is up to us.” This last point reinforces the need for stringent selection criteria.
- As the program extends to include mature sectors, its direct impact may diminish as in industries with lower profit margins and well developed supplier relationships it may be tougher for Czech firms to penetrate and dislodge existing networks of established suppliers.
- To facilitate the effectiveness of the program it is necessary to keep the SDP distinct and separate from the SME program that CzechInvest has taken over, which may require resisting some political pressures.

- Another challenge likely to face the program management in the near future is handling criticisms from various sources, alleging that the SDP is an “elitist” program which “favors” MNCs, etc.
- The final challenge is obtaining financing necessary to continue this worthwhile effort. Securing help of an experienced expatriate consultant familiar with EU rules and requirements could be a great advantage in the efforts to tap into the EU financing available to the Czech Republic.

Bibliography

- Aitken, Brian J. and Ann E. Harrison. 1999. "Do Domestic Firms Benefit from Direct Foreign Investment? Evidence from Venezuela," *American Economic Review*. 89(3): 605-618.
- Blalock, Garrick. 2001. "Technology from Foreign Direct Investment: Strategic Transfer through Supply Chains." Mimeo, Haas School of Business, University of California, Berkeley.
- Blomström, Magnus and Ari Kokko. 1998. "Multinational Corporations and Spillovers," *Journal of Economic Surveys*, 12(2): 1-31.
- Djankov, Simeon and Bernard Hoekman. 2000. "Foreign Investment and Productivity Growth in Czech Enterprises," *World Bank Economic Review*, 14(1): 49-64.
- FIAS, 2003. "Developing Knowledge Intensive Sectors, Technology Transfers, and the Role of FDI," mimeo, Foreign Investment Advisory Services, the World Bank, Washington, DC.
- Haskel, Jonathan E., Sonia C. Pereira and Matthew J. Slaughter. 2002. "Does Inward Foreign Direct Investment Boost the Productivity of Domestic Firms?" NBER Working Paper 8724.
- Javorcik, Beata Smarzynska.. "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages," *American Economic Review*, forthcoming.
- Javorcik, Beata Smarzynska and Mariana Spatareanu. 2003. "To Share or Not To Share: Does Local Participation Matter for FDI Spillovers?" World Bank Policy Research Working Paper No. 3118.
- Keller, Wolfgang and Stephen Yeaple. 2003. "Multinational Enterprises, International Trade and Productivity Growth: Firm Level Evidence from the United States," NBER Working Paper 9504.
- Konings, Jozef. 2001. "The Effects of Foreign Direct Investment on Domestic Firms," *Economics of Transition*, 9(3): 619- 633
- Moran, Theodore. 2001. *Parental Supervision: the new paradigm for foreign direct investment and development*. Institute for International Economics, Washington, DC.
- Newton Holding, a.s.. 2003. "How Important Are Global Strategies and Local Linkages of Multinational Corporations?", <http://www.newton.cz/macroeconomics>.
- Schoors, Koen and Bartoldus van der Tol. 2001. "The productivity effect of foreign ownership on domestic firms in Hungary," mimeo, University of Gent.
- Smarzynska, Beata. 2001. "International Trade And Foreign Direct Investment In Lithuania: An On-Going Restructuring Process," background paper for Lithuania CEM (2002).
- UNCTC. 2001. World Investment Report. Promoting Linkages. New York and Geneva: United Nations.

Appendix

This appendix presents methodological details of the econometric analysis focusing on whether MNC suppliers acquire new knowledge and skills and thus improve their productivity as a result of doing business with MNCs. Since it is likely that more productive and larger firms are better positioned to become MNC suppliers, it is crucial to control for the initial conditions in the analysis. Ignoring the issue of self-selection would bias the regression results and lead to an overestimation of the magnitude of the effect. To account for self-selection, we estimate a two-stage model consisting of: (i) a selection equation which aims to capture factors determining whether or not a company becomes a supplier; and (ii) a production function.

The dependent variable in the selection equation (Supplier_{it}) takes on the value of one if firm i is a supplier to MNCs operating in the Czech Republic at time t , and zero otherwise.¹⁰ On the right hand side, we include the following control variables. First, since it is plausible that larger firms are better positioned to obtain contracts with MNCs we control for firm size, as measured by the value of total assets, in the first year of the sample, 1996. Second, to account for the possibility that more productive firms become suppliers, we include the value added per worker as a proxy for the firm's initial productivity.¹¹ We also control for the firm age since newer firms may be less well positioned to sign deals with MNCs. All of these variable enter in the logarithmic form. We also experiment with including a dummy for *de novo* firms, that is firms that were established as private entities, in order to distinguish them from formerly state-owned companies which were privatized. Furthermore, we control for manager's ability to use foreign languages (proxied by a dummy equal to one if the manager is able to write business contracts in one or more foreign languages), since this is a characteristic that is likely to be appreciated by potential foreign customers. Finally, we add year fixed effects to capture the fact that in earlier years there were fewer multinationals to do business with and regional fixed effect to control for the possibility that it may be easier to become a supplier in regions which attract more MNCs.

In the second stage, we estimate a production function with the logarithm of the value added being the dependent variable. On the right hand side, we include controls for the capital

¹⁰ More specifically, the supplier dummy is defined to be equal to one in all years after (and including) the first year during which a firm reported making sales to MNCs, and zero otherwise.

¹¹ Ideally we would like to use variables pertaining to the period before any of the firms considered became suppliers. However, due to data constraints we are forced to rely on the 1996 figures as proxies.

stock and the number of employees as well as the supplier dummy.¹² We also control for unobserved industry characteristics using fixed effects for three-digit industries (NACE classification) and year dummies. A positive coefficient on the supplier dummy will suggest that MNC suppliers have a higher value added than other firms controlling for the amounts of inputs used. The regression results are presented in Table 6 below.

Table 6. Are MNC Suppliers More Productive? Selection Model

Selection Equation Dependent Variable = MNC supplier at time t				
In Value Added per Worker (1996)	0.037 [0.025]	0.038 [0.025]	0.034 [0.025]	0.044 [0.027]
In Total Assets (1996)	0.264*** [0.091]	0.262*** [0.091]	0.260*** [0.091]	0.242*** [0.091]
In Age		0.149 [0.106]		
de Novo Firm			0.144 [0.151]	
Manager's Language Skills				0.589*** [0.156]
Intercept	-5.026*** [1.721]	-5.405*** [1.749]	-5.016*** [1.720]	-4.972*** [1.736]
Dependent Variable = lnValue Added				
In Employment (t)	0.501*** [0.038]	0.494*** [0.039]	0.501*** [0.038]	0.504*** [0.041]
In Capital (t)	0.124*** [0.026]	0.130*** [0.026]	0.123*** [0.026]	0.132*** [0.028]
Supplier (t)	0.694*** [0.076]	0.688*** [0.078]	0.697*** [0.075]	0.704*** [0.091]
Intercept	12.202*** [0.467]	12.138*** [0.471]	12.234*** [0.468]	12.076*** [0.502]
Observations	311	311	311	295
Wald Chi2	847.64	844.42	848.35	785.15
Prob>Chi2	0.0	0.0	0.0	00.0

All regressions include regional and year fixed effects in the selection equation and three-digit industry and year fixed effects in the second stage. Standard errors are reported in brackets. ***, **, * denote significant at the 1, 5 and 10 percent level, respectively.

The regression results, particularly the magnitudes of the effects, should be treated only as indicative since a serious caveat applies to the regression results. The dataset covers a short

¹² Capital stock is defined as the value of fixed assets. Both capital and number of employees enter in the logarithmic form.

time period and thus we are unable to compare the performance of suppliers before and after signing a contract with an MNC. Instead we rely on firm characteristics pertaining to the first year in the sample, 1996, which while performing well in the regression analysis is an imperfect proxy.