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Working Paper

## Foreign direct investment and trade in transition countries: Tracing links

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# Kieler Arbeitspapiere

# Kiel Working Papers

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**FOREIGN DIRECT INVESTMENT AND TRADE  
IN TRANSITION COUNTRIES:  
TRACING LINKS**

by  
Petra Naujoks and Klaus-Dieter Schmidt

January 1995



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586 224

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## Contents

I	Introduction.....	1
II	Research Hypotheses.....	2
III	Data Base.....	7
IV	Empirical Evidence.....	8
V	Conclusions.....	13
	List of References.....	16

## List of Tables

Table 1 - Typical Trading Patterns in the MNE's Delivery System.....	3
Table 2 - US and Japanese Multinationals' Intra-Firm Trade by Industries 1989.....	6
Table 3 - Number of Joint Ventures and Stock of FDI in Hungary by Sectors 1991 .....	9
Table 4 - Growth Dynamic of Joint Ventures in-Hungarian Foreign Trade 1988-1992.....	9
Table 5 - Role of Joint Ventures in Hungarian Foreign Trade by Commodity and Country Groups 1992.....	10
Table 6 - Growth Dynamic of Joint Ventures in Hungarian Foreign Trade by Commodity Groups 1992/91 .....	12
Table 7 - Growth Dynamic of Joint Ventures in Hungarian Foreign Trade by Country Groups 1992/91 .....	13

## Abstract

Several studies have emphasized the links between trade reorientation and industrial restructuring in transition countries. In these studies trade has usually been considered as transactions among unrelated enterprises in different countries. However, an important and steadily growing share of trade are transactions with multinational enterprises and their foreign affiliates. Foreign direct investment of multinationals is the missing link in explaining this type of trade.

The paper deals with the so-called intra-firm trade of multinationals operating in transition countries. It argues that trade within the internal networks of multinationals is the major route for international technology transfer. It summarizes shortly previous studies and takes a glance at the trade structure of Hungarian enterprises involved in a joint venture. Finally, it discusses the implications for corporate restructuring in transition countries.

## I Introduction<sup>1</sup>

Several studies have emphasized the links between trade reorientation and industrial restructuring in transformation countries (Landesmann, 1991; Hughes, Hare, 1991). In these studies trade has been usually considered as transactions among unrelated enterprises in different countries. However, an important and steadily growing share of world trade are transactions within multinational enterprises (MNEs) and their foreign affiliates (Helleiner, 1979; Helleiner, Lavergne, 1979; UNIDO, 1981; Zejan, 1989; Dunning, 1974; Lall, 1978, 1980; Siddharthan, Kumar, 1990; Bonturi, Fukasaka, 1993). As MNEs have started investing in transition countries, intra-firm trade (IFT) among parent companies and their subsidiaries becomes an important issue for these countries, too.

The shortcomings of traditional trade analyses in dealing with IFT have been recognized in the literature for a long time. It is well-known that IFT cannot be explained by orthodox theories which are ignoring market imperfections. MNEs are a response to market failures - and so is IFT. Market imperfections can be overcome at best by internalizing external transactions. That is what MNEs do by investing abroad. Foreign direct investment (FDI), therefore, is the missing link in explaining IFT. Both must be understood as a package - and both must be analyzed in a unified and comprehensive framework, too (Dunning, Norman, 1985).

As in IFT hierarchical relationships are important its nature can be assumed to be different from the so-called arm's-length trade in markets. In the literature it has been emphasized that IFT, e.g., can sustain transfer pricing, which occurs when the accounting price for IFT differs from the price that would prevail in arm's-length trade (Lall, 1973, 1979a; Vaitsos, 1974; Plasschaert, 1979). Thus, vertically integrated firms can avoid excessive taxation in the host country and thereby affect the distribution of gains from trade. Hymer and Rowthorn (1970) are right in saying that "multinational corporations render ineffective many traditional policy instruments, the capacity to tax, to restrict credit, to plan investment, etc., because of their international flexibility" (p. 28). This is the main reason why economists and policy makers in transition countries often consider large MNEs' investments as ambiguous.

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1. The paper was presented at the ACE-Workshop "Corporate Restructuring, Trade Performance and Economic Policy in Central and Eastern Europe" held in Vienna from 18th - 20th November 1994.

Where there has been a good deal of the discussion concerning the possible disadvantages of IFT for host countries, less attention has been paid to the benefits. In our paper we try to shed some light on the factors influencing exports and imports of MNEs' foreign affiliates. We argue that by IFT enterprises in transition countries are creating an improved technical environment which otherwise could hardly be achieved.

Our paper is of a limited scope. It is meant as a pilot study which can provide a scheme for new research. Such type of research suffers from the lack of information. Usually IFT is not separately documented in statistics on trade, and statistics on FDI are in a poor state. In a first section we start with a brief summary of previous studies in this area in order to outline our research hypothesis. In the following section we present and comment our findings. We take a glance at the trade structure of Hungarian enterprises involved in a joint venture (JV) based on firm data. In the final section we discuss the implications of our research for corporate restructuring in transition countries.

## II Research Hypotheses

IFT represents, by definition, a replacement of external market transactions by internal transactions within MNEs. Therefore, trade and FDI are often considered as substitutes - exports of MNEs are replaced by production in foreign affiliates. This is true as far as foreign affiliates are producing goods mainly for the domestic market which otherwise might have been imported. But as a rule they are producing for export markets, too, and they are importing - either for sale in domestic markets or for investing, refining and finishing in their own plants. In principle, exports and imports might include all types of goods and services: raw materials, semi-processed and finished goods, capital equipment, technical know-how or contribution to overheads of related companies. From theoretical considerations we would expect that affiliates in transition countries are mainly

- exporting raw materials and final goods, and
- importing capital equipment, intermediate goods for refining and assembling, and various services as technical and managerial know-how, insurance or financing.

This typical trading pattern of affiliates can be listed in a matrix. This was done by Dunning (1974) characterizing trade flows among MNEs and their affiliates in LDCs. With some modifications this approach can be applied to transactions of MNEs in transformation countries, too. From the matrix we can learn in which way the MNEs' networks affect international trade (Table 1).



Table 1 - Typical Trading Patterns in the MNE's Delivery System

Transactions of foreign affiliates	Goods and services sold on/purchased from		
	domestic markets only	domestic and foreign markets	foreign markets only
<b>Sales</b>			
Raw materials	N	S	V
Semi-processed goods	N	V	V
Finished consumer goods	V	S	N
Capital equipment	N	V	N
Services	N	V	N
<b>Purchases</b>			
Raw materials	V	V	N
Semi-processed goods	V	S	V
Finished consumer goods	N	V	V
Capital equipment	N	S	S
Services	N	V	S

Notes:  
S = Substantial; V = Variable; N = Negligible.

The extent of each type of traded goods may vary considerably between the affiliates according to their pattern of specialization. Most of the affiliates will be engaged in vertical specialization, e.g., in producing raw materials and refining or assembling semi-processed products. But some will also be engaged in horizontal specialization - e.g. in manufacturing final goods. The type of specialization might depend mainly on comparative advantages of the host countries and on the type of market failures that may be involved in a possible arm's-length trade.

However, not all transactions of affiliates can be considered as IFT. By definition, IFT takes place only within the system the affiliate is part of. Frequently, trade takes also place among affiliates and unrelated companies. Although it is most likely that the affiliates' operations are guided by the strategy designed and implemented by the parent company, it is important to distinguish these two types of trade.

As mentioned above, IFT cannot be explained by traditional trade theory but only by hypotheses on FDI. Most of the earlier work on IFT referred either explicitly or implicitly to the factors determining foreign production in terms of ownership, locational and internalization advantages (OLI-paradigm). Helleiner (1979), one of the pioneers in analysing IFT, listed typical situations when MNEs seek to internalize foreign trade. This is likely if

- intermediated inputs are highly specific to the firms (e.g., in terms of quality, specification, technology);
- risks of intermediate input supply disruptions or price alterations are high;
- substantial marketing and after-sales requirements for finished product sales exist;
- weak tax or exchange control administrations increase the potential for global after-tax profit maximisation by means of transfer pricing (p. 171).

In these cases the costs of market contracts are expected to be that high that firms tend to avoid or to reduce them by resorting to internal transactions.

Casson (1979) emphasized the high costs of contracts at arm's-length trade when future markets are involved as a strong incentive for internalization. He distinguished two cases: if the goods traded

- are produced by multi-stage processes requiring intertemporal co-ordination and
- comprise proprietary information requiring safeguard regulations.

In both cases the reasons for undertaking IFT are imperfections in the information markets which raise the cost of sales in open markets. As Lall (1978) pointed out, failures in information markets are often closely related to failures in commodity markets. This is usually the case when the commodities which should be produced abroad embody new information, but also when the foreign production base requires technical assistance or technical information, e.g., for ensuring adequate quality or strict delivery times. Technological leadership is one of the most important reasons for investing abroad as well as for internalizing trade.

Lall (1978) tested a number of hypotheses which he considers relevant to IFT:

- **Marketing requirements:** the need of controlling distribution facilities, the need of a great deal of specialized after-sales services, maintenance and updating, the need of transferring information to and from consumers, and the need of keeping direct representation to governments in order to influence policy or win large orders.
- **Product specificity:** the need of safeguarding uniqueness, high quality standards and suitability to demanding requirements.
- **Risk and uncertainty:** the need of avoiding disruptions in production, quality changes and other events which may influence sources of supply as prices change.

- Underutilized capacity and scale economies: the need of exhausting own facilities by supplying related affiliates rather than going to open markets.
- Exploiting cheap labour: the need of relocating parts of the production towards low wage areas in order to cut costs.
- Government policy in home as well as in host countries: the need of overcoming trade barriers as tariffs, quotas and local content regulations.
- Transfer pricing: the desire to evade high tax rates or to remit profits.

It should be noted that each of these arguments is a necessary, not a sufficient condition for IFT. Cheap labour, e.g., can also be exploited by non-equity forms of international investment co-operation such as contracting which excludes IFT by definition. In contrast, an equity arrangement does not necessarily exclude arm's-length transactions. Only if market imperfections, government interventions and high transaction costs exist, they exert a strong incentive replacing external transactions by internal transaction within MNEs by FDI and IFT.

From theoretical considerations and empirical studies we would expect that IFT is concentrated in high-tech industries like machinery, electrical engineering, electronics and transport equipment (Lall, 1978; Zejan, 1989; Siddharthan, Kumar, 1990; Bonturi, Fukasaka, 1993). Technical links are probably the most important determinants for IFT. They include, e.g., joint research and development work (Lall, 1980). Other links like communication of input specification and quality control assistance are probably weaker. Frequently, technology transfer may be small in scale, but its importance may be very large; for instance, it is needed to implement "unstandardized" technology (Ronstadt, 1977).

An examination of US and Japanese MNEs' trade with their foreign affiliates supports the hypothesis that FDI and ensuing IFT are dominant in R&D and skill-intensive industries where internalization advantages are high (Table 2). In these industries the production process often requires internal handling of firm-specific assets such as basic R&D. This can be achieved more easily within an organization than across markets (Nunnenkamp, Gundlach, Agarwal, 1994).

Table 2 - US and Japanese Multinationals' Intra-Firm Trade (a) by Industries 1989

	Exports shipped to foreign affiliates		Imports shipped from foreign affiliates	
	by US parents	by Japanese parents	by US parents	by Japanese parents
Manufactures	44.5	41.1	58.9	30.9
Chemicals	48.0	21.9	34.1	9.8
Food and beverages	16.2	19.0	28.0	14.7
Electric and electronic equipment	36.9	50.9 (b)	41.2	35.8 (b)
Machinery excluding electrical machinery	61.3	43.8 (c)	75.1	33.7 (c)
Transportation equipment	48.3	41.1	70.3	36.0
Wholesale and retail trade	9.2	24.4	9.8	28.3

(a) Intra-firm trade ratio, defined as the share of exports (imports) shipped to (from) affiliates in total exports (imports) of parents. - (b) Electrical machinery. - (c) General machinery.

Source: Nunnenkamp, Gundlach, Agarwal (1994) based on Bonturi, Fukasaka (1993).

However, there are pronounced differences in the trade pattern between US and Japanese MNEs. The most conspicuous difference is the IFT ratio for US parents being higher in import than in export whereas for Japanese parents the opposite is true. This can be explained by the different strategies of production sharing: US MNEs obviously rely more heavily on global sourcing from their foreign affiliates while Japanese MNEs more on shipping parts and components for assembling and refining to their affiliates (Bonturi, Fukasaka, 1993).

As a rough guideline Nunnenkamp, Gundlach and Agarwal (1994) suggested distinguishing three categories of industries with different trade patterns:

- For highly complex manufactures where transactions are related to the handling of intangible assets or R&D intensive goods and services, an equity arrangement and, as a consequence, a high share in IFT is likely to occur.
- For less complex manufactures the form of international co-operation is open and hence both a high share in IFT and arm's-length trade is possible.
- For manufacturers of standardized goods a non-equity involvement can be expected. The resulting trade flows are more likely to be of an inter-industry type than intra-firm type.

From this one can hypothesize that most IFT is of intra-industry type. This may contradict the Heckscher-Ohlin-Samuelson (H-O-S) framework which is considered to provide a reasonable explanation of the transition countries' exports and imports. The H-O-S-model predicts that a country's exports will contain a high proportion of its abundant production factors while its imports will contain a high proportion of scarce production factors. If the H-O-S-assumptions hold, one would expect that the overwhelming part of east-west trade is (still) of inter-industry type. This type of trade, however, mostly takes place in form of arm's-length trade among unrelated firms.

The bridge between traditional trade theory and the internalization paradigm can be possibly built by what is called in the literature on FDI: optimal sequencing and timing. Many MNEs investing in transition countries presumably pursue a long-term strategy. They start with trading and sourcing activities which are usually of inter-industry character. Later, as soon as possible, they begin to produce for supplying the host countries' markets. In the long-term perspective foreign affiliates should also be used as a base for export. This will be accompanied by a shift towards intra-industry trade. At the highest level of multinationality, trade takes place mainly among different horizontally integrated affiliates, rather than between parents and affiliates.

### III Data Base

The main obstacle for tracing the links between FDI and IFT is the poor data base. Trade statistics do not differentiate between IFT and arm's-length trade. Data on IFT are, if at all, available only by surveys compiled by national authorities, research institutes or other institutions. These data exist only for a few countries and are often not very detailed. In addition, their interpretation frequently poses serious problems as there are the distinction of IFT and arm's-length trade, the classification of traded goods or the under- or over-invoicing of transactions by transfer-pricing. The picture that can be derived from these data is inevitably impressionistic. Clearly, much more information would be necessary before general conclusions about the links between FDI and trade could be drawn.

Our analysis relies on data from Hungarian firms which have established a JV with a foreign partner. The data were compiled by KOPINT-DATORG and published by Hamar (1993). They cover nearly 9 000 JV firms out of 45 000 Hungarian firms (1991). The reporting period reaches from 1988 to 1992. In 1992 JV firms accounted for one third of overall foreign trade.

Our data base includes exports and imports by product and by country groups. The main constraint is that they do not allow to distinguish between IFT and arm's-length trade. The importance of IFT can only be derived indirectly - e.g. by the outstanding and increasing export and import orientation of JV firms, by the product and market structure of their foreign trade turnover and possibly the greater trade orientation towards western industrialized countries.

As the data have been available only on a highly aggregated level, it has been difficult to examine them by applying statistical test procedures as regression analysis. Insofar, our paper can give no definite answer to the question, whether intra-firm behaviour is different from arm's-length trade.

Further work must concentrate:

- first, on widening the scope of the study by including more countries, and
- second, on a deeper investigation of the factors behind JV firms' exports and imports.

#### **IV Empirical Evidence**

In recent years JVs have become an important factor for the Hungarian economy (Table 3). Remarkably, every fifth company in Hungary is a JV. The most are to be found in trade, but the total amount of FDI in this branch is relatively low as the average size of these companies is comparably small. Smaller by number, but with a significantly higher amount of FDI is the foreign participation in manufacturing where more than half of total FDI is concentrated. Thus the single projects with foreign participation are to be scaled considerably larger there.

An important difference of JVs against national companies is their higher foreign trade orientation (Table 4). Between 1988 and 1992 the growth rates of JVs' exports and imports exceeded each year the national average. It is likely that this phenomenon is mainly due to the strong connections between JV firms and their foreign parent companies abroad. Either because they use the internal structure of the MNEs for shipments of raw materials, intermediate or finished products or because they use the outstanding experience of MNEs in serving export markets, which enables them to open up foreign markets. The initially small share of JVs' foreign trade in 1988 could notably increase to almost one third in total Hungarian exports and imports.

Table 3 - Number of Joint Ventures and Stock of FDI in Hungary by Sectors 1991

	All Companies	Joint Ventures	Share of Joint Ventures in Total Companies	Total FDI
	Units		p.c.	bn Ft.
Industry	10 808	2 129	20	119
Construction	6 046	800	13	13
Agriculture	3 127	141	5	1
Transportation	1 229	195	16	2
Trade	15 092	4 117	27	34
Water Supply	491	8	2	0
Material Service	6 091	1 053	17	36
Health, Soc.	1 687	435	26	3
Public Service	419	65	16	0
Total	44 990	8 943	20	208

Source: Kopint-Datorg (Hamar).

Table 4 - Growth Dynamic of Joint Ventures in Hungarian Foreign Trade 1988-1992 (Increase against previous year in percent)

	All Companies	Joint Ventures	Note: Share of Joint Ventures' Exports/ Imports in Total Exports/Imports
	Exports		p.c.
1988	12.7	n.a.	6.5
1989	17.5	41.8	7.9
1990	4.7	49.9	11.3
1991	24.2	173.3	24.8
1992	10.4	35.3	30.4
Imports			
1988	4.1	n.a.	3.7
1989	14.1	94.0	6.3
1990	3.9	50.6	9.1
1991	53.8	360.7	27.2
1992	2.7	24.0	32.8

Source: Kopint-Datorg (Hamar).

Having a look at the commodity groups JVs are engaged in, the expected pattern can almost be confirmed (Table 5). JVs are mainly importing materials, semi-finished goods and spare parts for refining, assembling and finishing. Probably, a lot of these imports are of intra-firm character, especially if the intermediate products are highly firm-specific. In this case production sharing requires close assistance and controlling such as monitoring of quality and timing of delivery.

Table 5 - Role of Joint Ventures in Hungarian Foreign Trade by Commodity and Country Groups 1992

Commodity Groups	JVs' Exports			Share of JVs' Exports in Total Exports	JVs' Imports			Share of JVs' Imports in Total Imports
	Total	of which to			Total	of which from		
		Developed Countries	Ex-socialist Countries	Developed Countries		Ex-socialist Countries		
		bn Ft.			p.c.	bn Ft.		
Energy and Electricity	0.3	0.3	0.0	1.3	5.5	1.2	4.4	4.3
Materials, Semi-finished Goods and Spare Parts	72.1	55.4	12.2	24.5	108.1	94.5	11.1	33.6
Machines/Equipment, Transport and other Investment Goods	45.0	27.2	10.8	44.4	72.0	67.3	1.3	39.6
Consumer Goods	96.2	81.5	11.3	43.4	80.2	70.2	5.8	41.1
Food	42.8	22.5	19.3	21.2	22.6	12.7	1.9	43.7
Total	256.7	186.8	53.7	30.4	268.1	215.8	24.4	32.8

Source: Foreign Trade Statistics, Kopint-Datorg (Hamar).



The import of machines and equipment as well as other investment goods is another important base plank of JVs' purchases from the parent company. That way MNEs provide the technology required for new production lines and thus give important support for modernizing industries. Almost 40 p.c. of all imported investment goods fall upon JVs. Finally, there is also a high share of the JVs' imports in the food industry. This is surely due to the mushrooming western trading chains which started to establish highly demanded branded goods as well as due to quickly growing fast-food chains which require strongly standardized inputs according to mostly secret formulas. In almost each commodity group the major part of imports come from developed countries which gives support to the hypothesis that to a great extent these transactions are IFT.

The exports of JVs are highly dominated by consumer goods. These are, on the one hand, for sure those final goods having been sent to the affiliates for assembling and finishing and finally being reimported by the country of origin. On the other hand, they also contain to a considerable extent exports to ex-socialist countries. Here MNEs use their affiliates to open up other eastern European markets.

More than two fifths of total Hungarian exports of consumer goods are effected by JVs. This underlines their great importance in Hungarian foreign trade. The same high share of JVs' exports in total Hungarian exports is reached in machines, equipments and other investment goods. Here the same pattern can be observed: most of these exports go to developed countries, probably to a great extent as IFT. But another part shows the ex-socialist countries as destination. In this case MNEs obviously try to establish a bridgehead to other eastern European countries and use the affiliates as an export base to serve those markets.

A considerably high amount of JVs' exports is reached by materials, semi-finished goods and spare parts. As most of these goods are purchased by developed countries it is likely that to a great extent they include processed parts having been sent to the affiliates in a more crude state in order to refine them and to send them back as components. These could be, e.g., dashboards, accessories and other fittings whose production has thus been removed from the domestic production base.

Unfortunately, the available data do not allow to derive neither the share of IFT in JVs' exports and imports nor a more detailed classification of the commodity groups which would enable us to estimate the skill-intensity of the traded products. But the high share of intra-industry trade in machinery, equipment, transport and other investment goods supports the hypothesis that IFT is mostly concentrated in human-capital-inten-

sive industries where highly complex manufactures require a technology transfer embodied in IFT.

The important role of JVs in market reorientation is revealed by the growth rates of exports and imports having been livelier than the national average in almost every product group (Table 6). Especially in exporting machines and other kinds of investment goods JV companies seem to achieve a competitive advantage. They were able to double their exports from 1991 to 1992, whereas the national average nearly remained the same.

Table 6 - Growth Dynamic of Joint Ventures in Hungarian Foreign Trade by Commodity Groups 1992/91 (Percent)

Commodity Groups	Exports		Imports	
	Joint Venture	All Companies	Joint Ventures	All Companies
Energy and Electricity	204.1	68.4	510.9	27.9
Materials, Semi-finished Goods and Spare Parts	37.3	-4.4	19.8	1.2
Machines/Equipment, Transport and other Investment Goods	104.6	1.3	16.5	4.1
Consumer Goods	30.4	30.4	26.4	5.4
Food Industry	4.1	5.1	38.6	4.2
Total	35.3	10.4	24.0	2.7

Source: Kopint-Datorg (Hamar).

The higher dynamic of JV firms in trading materials, semi-finished goods, and spare parts confirms our hypothesis that these firms use the connections to their parent companies abroad for exchanging intermediate goods. The trade of national companies within this product group is rather sluggish.

The high growth rate of trade in energy and electricity is a little confusing because of its very small basic amount. Nevertheless the exceeding growth rate of JVs' trade in this group is conspicuous. This might give a hint to JVs being more open for new trading-forms. Energy and electricity are traditionally not that much traded internationally and new forms of cross-border activities of power companies are just emerging.

Astonishingly, the higher growth rates of JVs' foreign trade compared to the national average not only hold for trade with developed countries. Even trade of JVs with ex-socialist and developing countries is expanding above average (Table 7). This is amazing because it should have been expected that JVs would have a comparative advan-

tage in trade with developed countries whereas national companies are thought to have lively connections to their eastern European partners. But as it seems this is not necessarily the case. The experience in international trade, which JVs attain through their parent companies, seems to influence the growth of foreign trade activities more than initial connections. Beyond that the increasing inclination of MNEs to use JVs in one eastern European country as a possibility to open up other eastern European markets results in these high growth rates.

Table 7 - Growth Dynamic of Joint Ventures in Hungarian Foreign Trade by Country Groups 1992/91 (Percent)

Country Groups	Exports		Imports	
	Joint Ventures	All Companies	Joint Ventures	All Companies
Developed	39.7	15.7	45.1	7.5
Developing	33.6	-30.0	-54.1	-45.4
Ex-socialist	32.0	9.2	31.9	8.0

Source: Kopint-Datorg (Hamar).

## V Conclusions

Generally speaking, enterprises in transition countries see their best chance for prosperity in enterprise restructuring and trade re-orientation, but they also face great difficulties in these tasks. They have to make enormous efforts to improve in terms of product quality and product design, marketing and sales promotion, delivery and guaranty times; they have to raise productivity by installing new machinery, reducing product lines, introducing new organizational concepts as lean production and just-in-time production, implementing more flexible producing units and cutting overstaffing; and, above all, they have to find new customers in domestic and foreign markets. Given their lack of technological know-how, financial resources and management capacities it will be very crucial to achieve the targets. Therefore, many enterprises are relying on strong partners from western countries.

Enterprises in search of a co-operator have two options: they can choose either between a subcontracting arrangement requiring no or only little capital investment as licensing and outward processing or an equity arrangement. Frequently, subcontracting is a promising form of co-operation. It often opens the way to gain entry into competitive sourcing and distribution networks (Naujoks, Schmidt, 1994). Given the factors determining subcontracting - wage cost differentials, transportation costs, proximity to

western markets - enterprises in transformation countries are encouraged to establish such production sharing arrangements.

However, there obviously exist limits for subcontracting arrangements. Statistics suggest that they concentrate on two main product groups, namely textiles and clothing on the one side and parts and components of machinery and transport equipment on the other side. They are less common in the field of skill-intensive and R&D-intensive products - because of the need to sustain high standards of quality, to maintain an uninterrupted flow of supply and to safeguard firm-specific knowledge under ownership control. Therefore, an equity engagement is the appropriate form of co-operation in these fields.

Literature postulates that equity engagements mainly occur in response to internalizing the gains arising from the possession of certain monopolistic advantages. One of the most important advantages of western MNEs is technological superiority. It provides them with a powerful edge on their potential partners in eastern countries. According to the product cycle hypothesis this edge is best exploited first by exports and later, when standardization makes it technically feasible and economically profitable, by allocating production internationally (Dunning, 1977). However, the form of this transfer depends on the type of technology. In general, MNEs in high-tech sectors tend to exploit commercially valuable technologies mainly internally by FDI. In these sectors foreign production is often linked to other operations of the MNEs such as applied research activities, procurement production, sourcing, or marketing and sales promotion. In low-tech sectors, and especially for transferring older technologies, licensing or subcontracting are more common (Lall, 1979).

Enterprises in transition countries should recognize that the major route for international technology transfer are intra-firm trade flows - trade within the networks of MNEs. The main obstacles for MNEs to sell their intangible assets are market imperfections. These imperfections raise the costs for open market sales and lead MNEs to resort to intra-firm transactions. Therefore, only a JV with western companies might open the access to advanced technologies and thereby to international markets.

Our paper provides some evidence that activities of MNEs operating in transition countries make an important contribution to increasing and diversifying trade. Furthermore, the FDI/ IFT nexus seems to be relatively strong in R&D- and skill-intensive industries. These industries are more export- than import-intensive, and the value added content of their exports is high compared to labour-intensive industries. Insofar, the benefits from the operations of western MNEs for the transition countries are evident.

The crucial issue of IFT is the distribution of gains. MNEs with operations in different countries throughout the world are concerned to maximize their rate of return at the global level. Governments and enterprises in transition countries, on the other hand, are concerned to maximize gains within their own boundaries. The problem with the story is that there is no sufficient solution to this conflict. In a world of perfect capital markets ruled by the "law of one price" this problem would not exist. Insofar, transfer pricing always indicates that markets are not perfect (Schmidt, 1994). Markets in transition countries are often regulated to a great extent, e.g. by restrictions on profit repatriation. Therefore, streamlining capital market regulations, customs duties and tax rates should be the guidelines for constructive solutions.

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