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Contents

Trade orientation and productivity gains from international production: a study of overseas operations of United States TNCs

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The effect of trade policy regimes on national economic gains from international production in foreign direct investment receiving countries is an issue of obvious policy relevance and analytical interest, but one on which there has been a dearth of empirical research. This article aims at filling this gap by examining the determinants of productivity of international production, using a cross section of data on overseas operations of United States manufacturing affiliates in 44 countries. The findings support the proposition that, other things being equal, productivity gains from international production tend to be greater under a more open trade policy regime compared to a restrictive regime. There is also evidence of a significant negative effect of a stringent domestic tax regime on efficiency gains from international production.

Introduction

The role of transnational corporations (TNCs) in the growth process of host countries has been for long a topic of intense debate. An important issue arising from the debate is the role of the domestic trade policy regime in determining the net national gains from production undertaken by foreign affiliates. As an implication arising from the general theory of growth, Jagdish N. Bhagwati (1973) first noted the possibility that, under a restrictive trade regime, returns to international production may fall short of its social marginal cost. This proposition was further developed and integrated into the theory of capital mobility by Richard A. Brecher and Carlos F. Diaz-

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Alejandro (1977) and Richard A. Brecher and Ronald Findlay (1983). These authors demonstrated that the national income of the host country is likely to decline when foreign capital flows are attracted by artificially high rates of return induced by a restrictive trade regime. In his subsequent work, Bhagwati (1978, 1985, 1994) argued that this analytical finding may be a significant element in the explanation of the observed economic failure of import-substitution (IS) economies compared to export-promoting (EP) (or outward-oriented) economies.[1] Put simply, Bhagwati's hypothesis is that an outward-oriented trade regime has the potential to reap greater benefit from international production than an IS regime. This is because, in contrast with IS regimes, EP regimes encourage foreign direct investment (FDI) in activities in which host countries have comparative advantages and allow the foreign investors to operate in an environment that is relatively free from distortions.

Despite the strong assertion from theory, the relevance of the nature of trade orientation for host-country gains from FDI has attracted little attention, both within policy circles and among applied economists working on the impact of FDI on growth patterns. At the policy level, many countries still resort to trade restrictions with a view to enticing TNCs to relocate production in priority industries. And, at times, countries that embark on significant liberalization reforms tend to retain and even increase special protection to industries dominated by TNCs. In empirical studies of the determinants of growth patterns, the volume of FDI inflow is usually used as a source of disembodied technology, without distinguishing between FDI induced by domestic protection and that undertaken predominantly on export profitability considerations.

The mismatch between theory and practice may be because of the paucity of convincing empirical evidence on the real-world

[1] Bhagwati (1978) also postulates that the volume of FDI inflows to a given country should, other things being equal, be larger under export-promoting strategy because the size of the domestic market is not a limiting factor. Here we are not concerned with this volume effect of the trade regime on FDI. For empirical analyses of this aspect see Balasubramanyam and Salisu (1991) and Hufbauer et al. (1994).

relevance of the theoretical postulates. The first — and, to our knowledge, so far the only — empirical study of this subject is Balasubramanyam et al. (1996). This study examines the impact of FDI on economic growth by estimating a growth equation that incorporates FDI as an additional factor input for 46 developing countries. The impact of the trade regime is taken into account by estimating the equation separately for export-oriented (EO) and import-substituting (IS) countries identified on the basis of a binary classification of trade regimes. The results provide empirical support for the proposition that FDI inflows have a more significant and positive impact on GDP growth in EP countries than in IS countries. The study however suffers from some limitations. First, FDI participation is measured in terms of FDI inflows, based on flow data provided by the standard balance-of-payments accounts. As the authors have candidly acknowledged, this is not more than a rough proxy for the underlying phenomenon. FDI inflows as captured in balance-of-payments accounts generally understate capital spending of foreign affiliates[2] and the magnitude of the error tends to vary significantly across countries (Grubert and Mutti 1992). Second, as trade orientation is measured in terms of a binary variable (1 for EO economies and zero for others), inter-country differences in the *degree* of trade orientation are not appropriately captured in this analysis. Thirdly, and perhaps less importantly, the use of aggregate investment data has the limitation of ignoring differences in technology by the source of investment. There is evidence to suggest that source-country specific characteristics have significant implications for growth impact of FDI on the recipient country (Kokko 1994, Caves 1996).

The purpose of this article is to undertake an empirical inquiry into the relationship between trade orientation and national gains from international production using a rich, and yet hitherto unexploited, data set on overseas operations of United States TNCs which enables

[2] According to estimates done as part of the Harvard Multinational Enterprise Project in the early 1970s, for every dollar of capital transferred by parent companies to their overseas affiliates in developing countries, about four dollars more of capital were collected by the affiliates from other sources, including sources internal to the developing countries (Vernon 1971). Given the rapid globalization of company financing over the past two decades, perhaps this "non-FDI flow" component would have significantly increased since then.

us to avoid these pitfalls.[3] The trade policy regime affects national gains (and losses) from international production in a number of ways (Blomström, 1991; Caves 1996). In this study, we delineate one such source for deeper scrutiny, namely, productivity growth of international production itself.[4] Apart from the need for narrowing the focus for deeper empirical analysis, this subject choice is justified by the current policy emphasis on international production as a main vehicle for promoting productivity growth in developing countries.

The remainder of the article is structured as follows. Section 2 presents the analytical framework. Data sources and methods of data compilation are discussed in section 3. Section 4 presents summary data on inter-country differences in productivity and the key explanatory variables in order to provide the setting for interpreting the results. The results are presented and discussed in section 5. Section 6 concludes. The results provide strong support for the proposition that, *ceteris paribus*, an open trading regime enhances the productivity of FDI. The results also point to a significant negative effect of a stringent domestic tax regime on efficiency gains from international production.

Analytical framework

Consider a standard aggregate production function for the foreign affiliate:

$$Y = AF(K, L) \qquad (1)$$

where Y is output (value added), K is capital and L labor and A is total factor productivity. Total factor productivity in turn is given by

[3] Despite the rapid growth of FDI outflows from other countries in recent years, the United States is still the principal source country for FDI, accounting for over a quarter of the world stock of over $2.4 trillion. The size of the United States stock is more than the combined total of the second and third largest investors (United Kingdom and Japan, respectively) (UNCTAD, 1995).

[4] Such productivity gains are distributed between the home (investor) country via profit remittances and the host country via increased production, tax receipts and perhaps future productivity-related wage increases. Productivity growth of international production may also raise the quality of technology spillover from foreign affiliates to domestic firms in the host country (Blomström and Kokko, 1998).

$$A = A(t, Z) \qquad (2)$$

where, *Z* represents state of technology[5] available to the affiliate and *t* captures exogenous change in technology over time. It is assumed that the ability to absorb technology and adapt it to suit individual host country situation depends on the nature of trade and industry policy environment of the host country (j):

$$Z_j = Z(\tau_j) \qquad (3)$$

where τ is an index of outward orientation of the policy regime. Substituting (3) in (2) and differentiating with respect to time gives:

(4)

where a circumflex above a variable denotes the rate of growth and α_0 captures exogenous technological progress.

According to equation (4), the relevant measure of the dependent variable of our analysis is total factor productivity growth (*TFPG*), that part of output growth which is left unexplained by the growth of inputs.[6] The index used here to measure TFP is the Tornquist-Theil formulation (as modified by Caves et al., 1982, for fixed cross-sectional samples) which satisfies several desirable characteristics of index numbers. This is also perhaps the most intuitive formulation of total factor productivity. The measurement procedure and its desirable features and limitations are discussed in the appendix.

We also use the growth of labour productivity (value added per worker) (*LPG*) as an alternative indicator of productivity

[5] The term "technology" as used here encompasses production techniques as well as marketing and managerial know-how embodied in FDI.

[6] The vast empirical literature on the determinants of factor productivity spawned by the endogenous growth theory has made a clear case for distinguishing between the level effect and growth effect on the productivity of the explanatory variables under investigation (Barro and Sala-I-Martin, 1995). In this article, we focus solely on the growth effect because it is the most (if not the only) relevant aspects of productivity performance in relation to the issue at hand. The objective here is to examine the impact of trade orientation on inter-country differences in productivity *performance* of foreign affiliates.

performance. *LPG* is obviously a less precise measure compared to *TFPG*. In reality, workers may produce more not only because of an increase in efficiency, but also because they have more inputs (capital, in the two-factor case) to work with. Thus, *LPG* spuriously captures changes in capital per worker as part of measured productivity.[7] However, it is important to see the sensitivity of the results to the use of *LPG* in the place of *TFPG*, because the former is the most widely used (and oldest) indicator of factor productivity.

Measuring the restrictiveness of a trade policy regime (or the degree of outward orientation) is a controversial subject.[8] The data set used in this study permits us to measure this variable directly in terms of the export propensity — exports as a percentage of total output (*XOR*) — of foreign affiliates. The underlying assumption here is that foreign affiliates located in relatively more outward-oriented countries generally tend to be more export oriented than those located in countries with restrictive trade regimes. This assumption is largely consistent with the available evidence on the relationship between international production and trade patterns across countries. There is ample evidence that, given scale economies and the very small domestic markets of most developing countries, a foreign affiliate will locate there to serve the international market by exporting extensively, and that the choice of location depends crucially on the nature of the trade regime (Caves, 1996, p. 215; Hufbauer et al., 1994).[9]

An obvious limitation of *XOR* is that, under certain circumstances, the degree of export orientation of foreign affiliates may be influenced by various factors, which are not directly related

[7] Assuming the production function in equation (1) is linearly homogeneous in *K* and *L* and letting small letters denote per-worker quantities, labour productivity growth (*lpg*) can be written as total factor productivity growth (tfpg) plus growth in capital intensity (*kg*) weighted by the share of capital in output (s_k), that is $lpg = \text{tfpg} + s_k\, kg$.

[8] See Edwards (1998) and the works cited therein.

[9] As it has been correctly pointed out, foreign affiliates operating in export processing zones (EPZs) can be highly export oriented even under an otherwise very restrictive trade regime. However, we do not consider that this well-known feature of export-oriented FDI in developing countries limits the usefulness of *XOR* as a measure of trade orientation of international production. Setting up EPZs is an effective (though obviously a "second best") means of trade liberalization when it comes to opening up domestic manufacturing to international production.

to the trade regime. For instance, foreign affiliates located in countries with large domestic markets tend to be less export oriented than those located in countries with smaller domestic markets (Blomström and Lipsey, 1993). Also, foreign affiliates are better placed than local firms to redirect their sales in the event of domestic demand contraction (as is evident from the performance of foreign affiliates in Latin American countries during the debt crisis in the early 1980s) (Blomström and Lipsey, 1993). Specific performance criteria adopted by host country governments as part of the regulatory mechanism relating to foreign affiliates (e.g. linking profit remittance permits to export performance, as in the case of India) are another possible extraneous influence.

For these reasons, we use two alternative measures of outward orientation of the economy as a check on the results based on our preferred measure (export-sales ratio), which is specific to international production.[10] These are a binary index of openness (1 for open economies and zero otherwise) based on the policy criteria suggested by Jeffry D. Sachs and Andrew Warner (1995) and the black market premium on the official exchange rate. Sachs and Warner employ the following trade-policy related indicators to distinguish between closed and open economics: (i) non-tariff barrier coverage of intermediate and capital goods imports of 40 per cent or more; (ii) average tariff on intermediate and capital goods imports of 40 per cent or more; (iii) a black market exchange rate that is depreciated by 20 per cent or more relative to the official exchange rate; (iv) a socialist economic system; and (v) a state monopoly on major exports. Using the information provided in Sachs and Warner (1995), we designate a country as closed if it satisfies all five criteria for the duration of the entire period covered in this study (1983-1992).

As noted, the black market premium is one of the five criteria on which the Sachs-Warner index is based. In fact, in most cases, it was the "decisive variable" in the Sachs-Warner categorization of economies as closed or open (Sachs and Warner, 1995, p.106). However, we use this as an alternative indicator for the following

[10] Note that these two measures are economy-wide indicators of openness, whereas *XOR* is specific to international production taking place in the country in question.

reasons. First, despite some conceptual limitations as an indicator of policy-induced openness,[11] there is consistent evidence that restrictive trade regimes are generally characterised by high black market premium on the official exchange rate (Krueger, 1978; Michaely et al., 1991). It is therefore a good proxy for the overall extent of distortions in the external trade and payments regimes.

Secondly, it has been one of the few continuous measures of trade restrictiveness that has been found consistently to be statistically significant in the recent empirical literature on the relationship between openness and growth rate differentials across countries (Edwards, 1998; Harrison, 1996). Thirdly, this measure, like the export-sale ratio (or other indicators of openness derived from observed data), allows for "intermediate situations" of trade orientation, where by countries are neither totally open nor totally closed.

In order to appropriately delineate the impact of trade orientation on productivity, it is important to control for other possible influences on the latter. Guided by the theory and previous empirical work on the determinants of inter-country changes in productivity, we use four additional explanatory variables. These are scale of operation (*SCL*) proxied by total sales volume, the effective tax rate measured as the share of total taxes in total gross income (*TAX*), the share of electric and electronic equipment in total output (*ELSH*), and two intercept dummy variables to distinguish between industrial countries and high performing Asian economies from the other countries in the sample.

A potential cause of productivity growth is scale economies arising from the market size. Total sales volume of United States foreign affiliates is used as a proxy variable to control for this influence.

The openness of the trade regime does not necessarily go with a domestic tax regime that is conducive to research and development

[11] The black market premium may be endogenous to the policy regime and simply pick up the tightness of the black market. Moreover, it can be affected by interest rates and penalties for dealing in the black market (Srinivasan, 1995).

(R&D) activities of foreign affiliates. Countries with relatively open trade regimes could well have stringent tax regimes[12] that act as a potential deterrent to productivity improvement. The choice of the effective rate of taxation (*TAX*) as an explanatory variable is based on this consideration.[13] More specifically, the underlying hypothesis here is that higher corporate taxes, much like weak property rights, *ceteris paribus*, discourage long-term investment in productivity improvement by foreign affiliates (independently of the impact of such taxes on the entry decision and the initial level of investment).

A well-known feature of overseas operations of United States manufacturing TNCs is their heavy involvement in assembly activities (or "slicing product chain activities" according to Krugman, 1995) in electric and electronic industry. These activities, particularly in developing countries, are relatively labour intensive. Moreover, assembly processes generally involve limited technological adaptation/diffusion compared to normal production process (Grunwald and Flamm, 1985). Given these features, one may hypothesise inter-country differences in productivity growth in aggregate production of foreign affiliates to be negatively related to the differences in the degree of reliance on assembly activities. On these grounds, the share of electric and electronic products in total manufacturing output is included as an explanatory variable.

Given the tendency for convergence in growth rates over time generally found in previous studies,[14] the initial (base-year) level of productivity is chosen as an additional explanatory variable. Should there be convergence in TFP growth rates after allowing for the other explanatory variables, the coefficient on the initial level of productivity will be negative and statistically significant.

[12] Australia, New Zealand and Sweden are examples.

[13] It has been suggested to use a more general index of the climate of business activity as a superior alternative to *TAX*. Unfortunately, a significant number of countries in our sample are not covered by the available general indices. For instance, the Index of Economic Freedom (*IEF*) developed by the Heritage Foundation (which is perhaps the most comprehensive in terms of country coverage) covers only 25 of the 37 countries included in our analysis. Interestingly, for these 25 countries *IEF* (for 1997) and *TAX* are highly positively correlated (with a rank correlation coefficient of +0.91).

Finally, two dummy intercept variables — industrial country dummy (*DIC*) and high performing Asian economy dummy (*DHPAE*) — are included to allow for possible impact of the level of development of the host country on the productivity of international production.[15] These variables are expected to capture productivity implications of differences in the quality of public infrastructure, property rights regime and transparency/stability of related policies, all of which are positively related to the level of economic development. Ideally, one would like to capture these effects separately by using continuous measures, but this is not feasible because of the paucity of the required data.

In the empirical analysis we focus on inter-country variations in productivity growth. The estimating equation is:

$$A_i = \alpha_0 + \alpha_1 OPEN_i + \alpha_2 TAX_i + \alpha_3 SCL_i + \alpha_4 ELSH_i + \alpha_5 PRBY_i + \alpha_6 DIC + \alpha_7 DHPAE + \mu \qquad (5)$$

The variables (with the sign expected for the regression coefficient in bracket) are:

A	Productivity growth of foreign affiliates measured alternatively in terms of:	
	LPG	labour productivity growth; and
	TFPG	total factor productivity growth.
OPEN	Openness (outward orientation) measured in terms of:	
	XOR (+)	export-sales ratio;
	SWI (+)	Sachs-Warner binary index, which takes a value of 1 for open economies and zero otherwise; and
	BMP (-)	black market premium on the official exchange rate.
SCL (+)	Scale of operation proxied by the sales volume in logs.	
ELSH (-)	Share of electric and electronic equipment in total output.	
PRBY	Initial (base-year) level of productivity represented alternatively by:	
	LPB (-)	base-year level of labour productivity (in logs); and
	TFPB (-)	base-year level of total factor productivity (in logs).

[14] See Dollar and Wolf (1993); Barro and Sala-I-Martin (1995) and the works cited therein.

[15] In this dummy-variable treatment of the level of development of sample countries, all developing countries other than those belonging to the HPAE category are the "base" dummy. A further disaggregation of countries is not possible given the nature of the country sample.

DIC (+) A dummy variable, which takes a value of 1 for mature industrial countries and zero otherwise.

DHPAE (+) A dummy variable, which takes a value of 1 for high-performing Asian economies and zero otherwise.

μ A stochastic error term.

i A country subscript.

Data

The data series for *BMP* and *SWI* come from Sachs and Warner (1995). The construction of *DIC* and *DHPAE* is based on the country classification in table 1. All other data series were compiled from reports published in the *Survey of U.S. Direct Investment Abroad* conducted by the Bureau of Economic Analysis (BEA) of the United States Department of Commerce.[16] This is the most comprehensive and consistent source of data on international production by TNCs available for any home country. The use of data relating to TNCs from a single source (home) country has the advantage that the results are automatically controlled for differences in the nature of technology and access to technology, as well as other source-country specific factors impinging on international operations of TNCs (Pratten, 1976). In other words, this data set provides a near laboratory situation for examining the effects of host-country policy regimes on international production.

The data set cover production by majority-owned United States foreign affiliates in 44 countries (listed in table 1) over the period 1983-1992. During that period, the 44 countries on average accounted for over 90 per cent of the total overseas production (measured in value added terms) of majority-owned foreign affiliates and for over three-quarters of that of all affiliates of United States TNCs.

Output is measured in terms of value added. The data on the capital stock relate to net property, plant and equipment. Labour input is measured in terms of the number of employees.[17] The data

[16] Benchmark survey for 1989 and annual surveys for other years.

[17] It would be preferable to use gross output, together with material as a third input, in the TFP measure. Also, the ideal labour input measure is hours worked, preferably disaggregated into skill categories. However, the data required for these preferable variable choices are not available.

on output and capital stock by the BEA are in current dollars (estimates in host-country currency converted by the average market exchange rate, *MER*). We derived real dollar-denominated output and capital stock series by deflating the original series, respectively, with the implicit price deflator for United States gross domestic product originating in non-petroleum manufacturing industries and the subindex for investment goods in the United States producer price index.[18]

The data are for total manufacturing, defined to cover all product sectors classified under Division 3 of the Standard Industry Classification (SIC 3). It would have been preferable to have some industry breakdown on international production so that differences in productivity emanating from changes in the product mix could be captured. However, apart from allowing for possible productivity differentials arising from the dependence on electronics, a detailed commodity level analysis is not possible because data for many countries, in particular for developing ones, are too heavily suppressed at the individual industry level. In any case, the aggregation bias arising from the use of data for total manufacturing is likely to be less important when one works with data for investment flows from a single source country. Furthermore, the use of productivity growth (rather than the level of productivity) as the dependent variable would minimize the potential error arising from industry-specific fixed effects; differencing over time "washes-out" time-invariant components of productivity.

[18] Admittedly, this deflation procedure is somewhat crude — it is based on the assumption that *MERs* tend to maintain purchasing power parity between the currencies of the host countries and the dollar. Ideally, one would translate current-dollar data for each country back into local currency, and then deflate the resulting local currency estimates by appropriate country-specific price indices (Mataloni, 1997). Unfortunately, the data needed for this preferred procedure were not available for most developing countries in our sample. To see the sensitivity of our results to the choice between the two deflation procedures, we estimated total factor productivity growth (*TFPG*) for 18 of our countries (industrial countries listed in table 1 except Israel, Portugal and Switzerland) using the real output series derived by Mataloni, 1997, table 2) through the preferred procedure. A comparison of these estimates with those used in this study failed to show significant rank reversal among these 18 countries (rank $r = 0.92$). It is therefore unlikely that the use of the crude deflation procedure would have influenced significantly the results of our empirical analysis.

The data set is cross-sectional, with each country representing a single data point. All variables (except the initial level of productivity) are measured as period averages over 1982-1992. A well-known limitation of the use of inter-country cross-sectional data in econometric estimation is that they make it difficult to control for unobserved country specific differences. Long-term averages also tend to ignore changes that may have occurred over time in the same country. These limitations can be avoided by using a panel data set compiled by pooling cross-country and time-series data. Unfortunately, this preferred data choice is not possible in this case, given the nature of data availability. Complete data are available for the series needed for productivity measurement, namely, the capital stock (net property, plant and equipment), output (net of inputs) and employment (number of workers) for all the 44 countries. For other variables, data for some years have been suppressed for some countries for confidentiality reasons, and the use of averages of available data is the only available option. (There are 16 countries for which at least one data point is missing on any one of these remaining variables.)

Fortunately, the data suppression does not pose a severe problem for using period averages as the incidence of suppression has occurred fairly randomly, and for all variables data for at least four intermittent years are available to compute a meaningful period average. The other alternative would have been to construct a pooled time-series and cross-country data set for the 28 countries for which data are available on all variables covering the entire period. This is, however, an unsatisfactory compromise because the truncated sample does not give adequate coverage to developing countries, and within that country group to countries representing different policy regimes. The hypothesis at hand relates to economic behaviour in the medium to long-run. Thus, using a data set based on ten-year period averages is a reasonable compromise.

As noted, the data pertain to overseas production of majority-owned affiliates only. This does not, however, hinder the representativeness of our sample, given the general preference of United States TNCs to hold majority or full ownership in their affiliates abroad. Over 85 per cent of total sales of United States

TNCs worldwide (over 80 per cent when the focus is limited to developing countries) originate in majority-owned affiliates. At the individual country level, majority-owned affiliates account for less than 50 per cent of total sales only in two countries of our sample — Republic of Korea (40 per cent) and India (35 per cent) — which had implemented relatively stringent ownership limits on foreign companies during the time period examined.[19]

Productivity patterns

As a prelude to the presentation and discussion of econometric results, estimates of productivity are reported in table 1. Industrial countries are generally characterised by higher productivity growth (with lower inter-country dispersion) compared to developing countries. Among developing countries the high performing Asian economies (HPAEs) on average show productivity growth comparable to that of industrialized countries. But there are vast differences among countries within the HPAE group. Note in particular the very low rate for Malaysia and Singapore despite their high export orientation. A possible reason is the heavy concentration of international production in assembly activities in the electronics industry. The average share of electronics in total sales of United States TNCs in Malaysia is as high as 80 per cent, the highest rate of electronics dependence for any single country.

Measured total factor productivity growth across the sample is generally lower (mean = 4.14 per cent) and has a greater dispersion (coefficient of variation, CV = 1.34) compared to labour productivity growth (mean = 5.79 percent, CV = 1.14). However, the two measures are highly correlated, r = 0.90). A comparison of *XOR* and productivity growth (both *LPG* and *TFPG*) suggests a positive relationship; countries with greater export orientation have higher productivity growth (see figures 1 and 2). Now we turn to regression analysis, which deals with that relationship in greater detail.

[19] Figures reported in this paragraph are based on United States Bureau of Economic Analysis (1992).

Table 1. Overseas operations of Untied States manufacturing TNCs: estimates of productivity and related indicators

	Economy	Initial (1983) productivity level (Index, Canada = 100)		Productivity growth (Per cent)		Export orientation (Per cent)	Tax rate (Per cent)	Electronics in total sales (Per cent)
		*TFP*83	*LP*83	*LPG*	*TFPG*	*XOR*	*TAX*	*ELSH*
	Industrial countries	81.00	76.21	8.47	5.63	43.39	33.25	10.30
1	Australia	77.84	77.67	5.69	3.60	17.40	37.28	4.80
2	Austria	58.27	60.38	2.01	0.77	41.50	29.92	8.39
3	Belgium	86.02	76.67	9.99	6.21	68.80	27.12	6.69
4	Canada	100.00	100.00	2.72	1.29	39.36	37.76	12.66
5	Denmark	89.87	75.70	8.55	5.02	50.24	41.32	17.12
6	France	87.58	77.38	8.42	5.80	36.27	37.99	5.71
7	Germany	98.01	90.82	8.57	6.38	42.93	41.32	6.84
8	Greece	66.20	38.44	9.59	4.62	20.53	47.06	5.90
9	Ireland	122.66	150.94	8.44	6.36	87.75	5.72	7.93
10	Israel	61.22	63.74	12.09	10.17	56.08	14.18	54.83
11	Italy	88.75	74.11	10.87	6.96	27.77	34.77	7.76
12	Japan	94.52	103.33	7.80	6.05	17.06	54.09	11.81
13	Luxembourg	69.41	70.78	17.37	11.99	94.04	22.05	6.32
14	Netherlands	65.33	59.70	11.18	6.94	67.39	24.29	3.75
15	New Zealand	65.83	51.60	1.59	-1.94	5.29	76.92	5.22
16	Norway	102.72	95.03	5.81	4.46	37.68	26.09	4.61
17	Portugal	35.69	26.05	11.80	7.40	44.35	29.63	22.17
18	Spain	43.76	40.24	16.34	13.11	32.31	28.23	5.52
19	Sweden	98.41	91.45	6.28	5.40	38.38	16.22	2.62
20	Switzerland	118.94	113.64	8.05	2.06	54.14	37.33	10.07
21	United Kingdom	69.89	62.79	7.69	5.50	32.03	28.97	5.51
	High performing Asian economies	44.11	28.57	7.40	4.50	57.24	21.15	44.11
22	Hong Kong (China)	54.80	26.09	11.56	6.33	67.29	13.30	39.54
23	Indonesia	41.12	25.43	1.52	1.32	9.86	38.80	15.81
24	Republic of Korea	38.81	25.82	9.27	3.48	43.11	48.24	49.11
25	Malaysia	34.88	20.35	4.40	3.01	79.30	10.01	79.23
26	Singapore	72.82	59.52	3.11	2.34	87.10	5.10	44.64
27	Taiwan Prov. of China	37.66	23.81	17.62	11.48	49.40	16.38	41.44
28	Thailand	28.65	19.01	4.30	3.53	64.62	16.24	38.93
	Other developing economies	44.89	38.25	1.59	2.04	18.06	36.41	4.79
29	Argentina	45.72	42.36	2.66	2.59	20.91	54.52	2.75
30	Brazil	35.60	33.55	7.93	7.19	16.96	50.10	8.77
31	Chile	37.39	34.45	11.79	4.00	33.99	12.98	3.02
32	Colombia	60.91	52.51	1.92	3.30	5.15	33.05	1.85
33	Ecuador	46.94	34.01	-12.04	-14.26	12.28	88.00	10.41
34	Egypt	26.98	25.54	-12.24	-12.59	6.20	55.56	0.00
35	India	20.43	12.77	1.22	2.59	4.73	46.71	0.19
36	Jamaica	31.34	31.65	5.27	11.77	42.34	19.66	0.00
37	Mexico	13.36	12.24	10.89	12.93	29.88	36.99	8.68

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Table 1. Overseas operations of Untied States manufacturing TNCs: estimates of productivity and related indicators (concluded)

	Economy	Initial (1983) productivity level (Index, Canada = 100)		Productivity growth (Per cent)		Export orientation (Per cent)	Tax rate (Per cent)	Electronics in total sales (Per cent)
		TFP83	*LP83*	*LPG*	*TFPG*	*XOR*	*TAX*	*ELSH*
38	Nigeria	55.23	49.79	-5.51	-0.10	2.32	20.93	3.45
39	Panama	98.24	71.92	1.35	2.42	39.70	11.91	0.00
40	Peru	43.19	33.92	-2.36	-5.18	3.70	21.81	3.31
41	Philippines	12.84	9.21	11.94	13.15	35.68	31.91	27.13
42	South Africa	50.41	39.37	8.42	8.11	5.08	45.37	1.77
43	Trinidad & Tobago	87.22	81.14	-5.71	-4.87	27.27	19.66	0.00
44	Venezuela	52.40	47.59	-0.07	1.63	2.71	33.33	5.33
Summary statistics								
	Mean	54.83	62.00	4.14	5.79	36.38	32.47	13.67
	Maximum	122.66	150.94	13.15	17.62	94.04	88.00	79.23
	Minimum	128.40	92.07	-14.26	-12.24	2.32	5.10	0.00
	CV**	56.78	45.69	1.34	1.14	68.57	53.83	1.28

Source: authors' computations based on data sources described in the text.

Notes: * Except *TFP83* and *LP83*, other measures are period averages (1983-1992).
** Coefficient of variation.

Figure 1. TFP growth (*TFPG*) and export orientation (*XOR*)

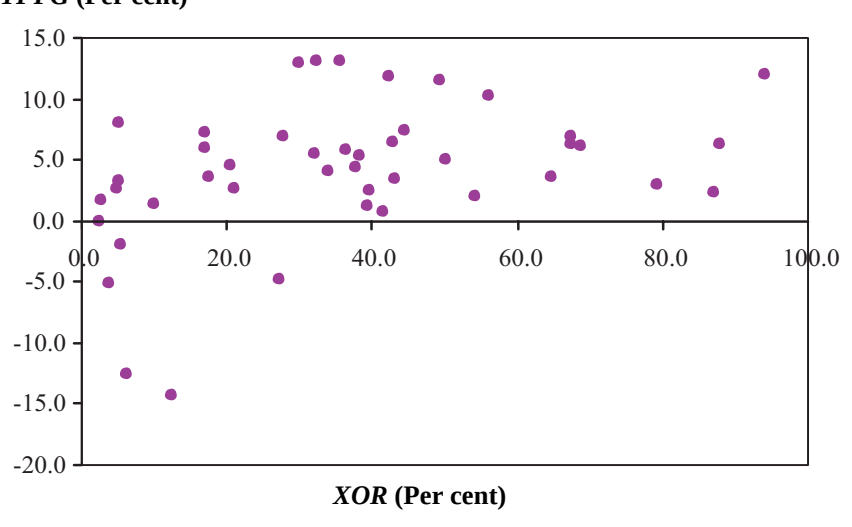
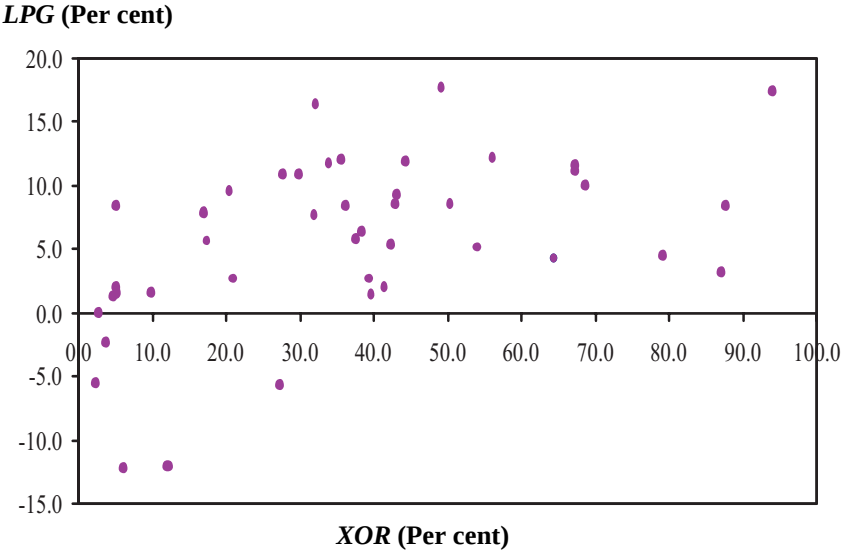


Figure 2. Labor productivity growth (*LPG*) and export orientation (*XOR*)



Determinants of productivity

The regression results for total factor productivity growth and labour productivity growth, with trade orientation measured in terms of the export-output ratio, are reported in table 2. Both equations pass the F test for overall statistical significance at the 1 per cent level, and perform well by the standard diagnostic tests relevant for cross-sectional regression analysis of this nature. In particular, they pass the tests for functional form specification, heteroskedasticity and normality at the 5 per cent level or better. The hypothesis that the contemporaneous independent variables are exogenous is not rejected in terms of the Wu-Hausman test for endogeneity. Moreover, pre-testing of the data set using the procedure suggested by Robert D. Cook (1977) for detecting influential observations indicated no evidence of the presence of outlier observations, a result which is consistent with the results from the normality and functional form tests.

Table 2. Determinants of productivity growth: regression results with trade orientation measured by export-sales ratio (*XOR*) (*N* = 44)

Variable	Equation 1	Equation 2
	TFPG	*LPG*
CON	0.006	-0.046
	(0.159)	(1.250)
XOR	0.094	0.163
	(2.317)**	(3.608)***
TAX	-0.124	-0.077
	(2.572)***	(1.465)*
TFP1983	-0.093	
	(3.1090)***	
LP1983		-0.101
		(3.145)***
SCL	0.015	0.018
	(3.948)***	(4.458)***
ELSH	0.001	0.001
	(0.898)	(1.367)
*DC*ELSH*	-0.002	-0.002
	(2.155)**	(2.644)***
Adj. R^2	0.427	0.493
F-Statistic	6.362***	7.971***
W-H [a] (*F*)	0.092##	0.263##
NORM [b] (X^2)	1.640##	0.214##
HET [c] (F)	0.462##	0.125##
RESET [d] (F)	5.325#	2.252#

Source: authors' estimates based on data series discussed in the text.

Notes: t-ratios of regression coefficients are given in brackets with statistical significance denoted as: *** 1 per cent, ** 5 per cent and * 10 per cent.
Null-hypothesis is not rejected at the 5 per cent level.
Null-hypothesis is not rejected at the 1 per cent level.

[a] Wu-Hausman test for endogeneity of regressors; based on the F-distribution.
[b] Jarque-Bera test for normality of the error term; distributed as X^2.
[c] White teat for heteroskedasticity; based on the F-distribution.
[d] Ramsey test for functional form misspecification; based on the F-distribution.

Regression estimates are remarkably resilient to the choice between total productivity growth and labour productivity growth as the measure of the independent variable. It seems that as factor proportions in international operations of foreign affiliates tend to remain largely unchanged both across countries and over time. The

choice between these two measures is not important in determining the nature of the results.[20]

The coefficient of *XOR* is significantly different from zero in both equations with the theoretically expected (positive) sign. Thus, there is strong statistical support for the hypothesis that countries with trade regimes characterised by greater outward orientation tend to experience higher productivity growth in national operations of TNCs. Through various experimental runs, we found that the result for *XOR* is robust to the presence (or deletion) of the three "conditional" variables (*TAX*, *ICD* and *ELSH*)[21] in the regression specification. A priori the direction of causation between productivity growth and export orientation can run either way. However, as already noted, in this particular exercise the standard Wu-Hausman test failed to find any statistical evidence that the regression estimates are affected by such endogeneity.

There is evidence of a significant negative effect of the degree of tax incidence on productivity gains. This result points to the importance of taking into account the nature of the domestic tax regime, in addition to the nature of the trade regime, in examining the effects of host-country policies on the operation on foreign affiliates. Relating to this point, it is important to note that the correlation between *TAX* and *XOR* (and the other two policy regime variable) are far from perfect (table 3), suggesting that higher trade orientation does not necessarily imply the presence of a tax regime that is conducive for international production.

The coefficient of the initial level of productivity is negative and statistically significant, suggesting the presence of productivity convergence among TNC operations. The estimated coefficient of

[20] Assuming the production function in equation (1) is linearly homogeneous in *K* and *L* and letting small letters denote per-worker quantities, labour productivity growth (*lpg*) can be written as total factor productivity growth (tfpg) plus growth in capital intensity (*kg*) weighted by the share of capital in output (s_k), that is $lpg = \text{tfpg} + s_k\, kg$.

[21] These are the variables that we have identified as "potentially" important in our specification, hence the terms "conditional" variables. The other two variables — *SCL* and *TFPG* (or *LPG*) — are variables that are usually included in this type of analysis. The discussion here is based on Levine and Renelt (1992).

Table 3. Correlation matrix

	TFPG	*LPG*	*TFP83*	*LP83*	*TAX*	*SCL*	*XOR*	*SW1*	*BMP*	*ELSH*
TFPG	1.00									
LPG	0.90	1.00								
TFP83	-0.04	0.04	1.00							
LP83	0.00	0.04	0.95	1.00						
TAX	-0.41	-0.35	-0.13	-0.14	1.00					
SCL	0.33	0.37	0.23	0.25	0.17	1.00				
XOR	0.40	0.49	0.27	0.28	-0.60	-0.05	1.00			
SWI	0.35	0.56	0.42	0.36	-0.28	0.32	0.58	1.00		
BMP	-0.31	-0.50	-0.41	-0.33	0.24	-0.40	-0.42	-0.74	1.00	
ELSH	0.17	0.25	-0.24	-0.29	-0.31	-0.07	0.51	0.32	-0.20	1.00

Source: authors' computations based on data sources described in the text.

this variable suggests that a country whose TFP level was one percentage point higher than that of the sample, on average, experiences 0.06 percentage point slower TFP growth in subsequent years. The estimated convergence coefficient here is fairly large in comparison to the economy-wide estimates from various cross-country growth regressions.[22] This result is plausible given the fact that foreign affiliates from a given home country operating in different countries have easy assess to a common pool of technology, managerial and marketing practices, which accelerate the convergence process.

The coefficient of *ELSH* has the expected (negative) sign, but is not statistically significant. However, when *ELSH* is used interactively with a dummy variable for developing countries (that is *DC***ELSH*, where *DC* takes value of one for developing countries and zero otherwise) the regression coefficient attains statistical significance at the 5 per cent level. This result is consistent with the fact that simple (labour intensive) assembly operations in electric and electronic equipment industry are predominantly located in developing countries. For industrial countries this broad industry category encompasses mostly capital and technology intensive

[22] See Edwards (1998) and Felipe (1999) for comprehensive surveys of this literature.

product lines, which are generally subject to rapid productivity improvement.[23] The result for *DC*ELSH* also helps explain the relatively low rates of productivity growth recorded by electronic assembly centres in Asia, in particular Malaysia and Singapore, despite their outward trade orientation and conducive tax regimes.

Note that the two country dummy variables (*DIC* and *DPHAE*) do not appear in the regression estimates reported in table 3. Despite their strong positive bivariate correlation with productivity growth (both *LPG* and *TFPG*), these variables turned out to be statistically insignificant over and above the other variables in explaining inter-country differences in productivity performance. The strong bivariate correlation seems to reflect spuriously the differences between three groups of countries (industrial countries, HPAES and other developing countries) in terms of the other relevant influences that are appropriately captured in the regression specification.

Alternative regression estimates based on the Sachs-Werner binary index of openness (*SWI*) and the black market premium (*BMP*) as alternative indicators of trade orientation are reported in tables 4. The results based on *BMP* are generally statistically more satisfactory (both in terms of the overall fit of the equation and the statistical significance of individual coefficients) than those based on *SWI*. This is understandable because a continuous variable naturally yields greater variability in the measurement than a binary variable. This difference notwithstanding, the results based on both openness indicators are largely consistent with those based on *XOR*. Without further discussion on individual regression coefficient, we can therefore safely conclude that our findings on the implications of trade orientation for host-country productivity gains from participation in international production (as well as the other related results) are remarkably robust to the particular measure of trade orientation used.

[23] Ideally the *ELSH* should have covered only assembly activities in electric and electronics industries, but disaggregated data are not available. Given the nature of data availability, the use of a dummy interaction variable (*DC*ELSH*) is obviously a "second-best" approach to the issue at hand.

Table 4. Determinants of productivity growth: regression results with trade orientation measured by Sachs-Warner Index (*SWI*) and Black Market Premium (*BMP*) (*N* = 44)

	Equation 1	Equation 2	Equation 3	Equation 4
	TFPG	*TFPG*	*LPG*	*LPG*
CON	*0.039*	*0.063*	*0.084*	*0.062*
	(1.145)	*(1.478)**	*(0.235)*	*(1.422)*
SWI	0.029		0.063	
	(1.435)*		(2.983)***	
BMP		-0.062		-0.138
		(1.773)**		(2.465)**
TAX	-0.167	-0.169	-0.137	-0.141
	(3.747)***	(3.767)***	(2.784)***	(2.776)***
TFP1983	-0.083	-0.079		
	(2.665)***	(2.534)**		
LPD1983			-0.078	-0.071
			(2.476)**	(2.211)**
SCL	0.013	0.012	0.013	0.013
	(3.036)***	(2.908)***	(2.855)***	(2.628)***
ELSH	0.001	0.001	0.001	0.002
	(0.991)	(1.531)*	(1.215)	(2.166)**
*DC*ELSH*	-0.002	-0.002	-0.002	-0.002
	(1.773)*	(2.106)**	(1.782)*	(2.370)**
Adj. R^2	0.379	0.368	0.447	0.411
F-Statistic	5.384***	5.181	6.805***	6.008
W-H [a] *(F)*	0.328##	0.173##	0.263##	0.607##
NORM [b] *(C^2)*	0.425##	1.723##	1.505##	1.345##
HET [c] *(F)*	1.236##	0.730##	2.094##	1.324##
RESET [d] *(F)*	4.649#	3.289#	4.011#	2.054##

Source: authors' estimates based on data series discussed in the text.

Notes: t-ratios of regression coefficients are given in brackets with statistical significance denoted as: *** 1 per cent, ** 5 per cent and * 10 per cent.
Null-hypothesis is not rejected at the 5 per cent level.
Null-hypothesis is not rejected at the 1 per cent level.

[a] Wu-Hausman test for endogeneity of regressors; based on the F-distribution.
[b] Jarque-Bera test for normality of the error term; distributed as X^2.
[c] White teat for heteroskedasticity; based on the F-distribution.
[d] Ramsey test for functional form misspecification; based on the F-distribution.

Implications and concluding remarks

In this article we have examined the impact of the nature of trade orientation of host countries on the productivity gains from international production through a study of overseas operations of manufacturing affiliates of United States TNCs. The analysis is based on a cross-section of data for 44 host countries (21 industrial and 23 developing countries) averaged over the 1983-1992 period. Total factor productivity and labour productivity were used as alternative measures of productivity growth. Particular emphasis was placed on the robustness of results to alternative measures of trade orientation.

Even allowing for margins of errors that are inherent in any empirical work of this nature, our results lend support to the hypothesis that outward orientation of the trade regime, *ceteris paribus*, enhances productivity gains from international production. Furthermore, there is evidence that countries with higher tax rates tend to exhibit lower productivity growth. The results are remarkably robust to the use of labour productivity or total factor productivity as measures of productivity growth and the use of alternative indicators of trade orientation.

We also find that the relative importance of assembly activities in total production of foreign affiliates tends to correlate negatively with inter-country differences in productivity growth in their international operations. Thus, the heavy reliance of domestic manufacturing on assembly activities in the electronics industry seems to provide some explanation for the much publicized low productivity growth syndrome of the East Asian miracle economies, in particular Singapore and Malaysia. This inference by no means implies that there are no national gains from this form of international production. It brings about other well-known positive gains, in particular in the forms of employment generation and foreign exchange earning.

There are two aspects of the influence of TNCs on manufacturing productivity in a given host country: the direct effects from their production activities, which are essentially a part of total production in the country; and the indirect (or spillover) effects on the operation of local firms. In this study we have focused on the

former aspect only. Indirect effects are not explicitly considered in this study, but it is reasonable to assume that higher direct productivity effects usually leads to the enhancement of positive spillover effects (through labour mobility and demonstration effects on management practices). Should this be the case, then the implications of the domestic policy regime for productivity gains from TNC participation in domestic manufacturing would be much greater than is suggested by the econometric evidence reported here.

The key policy implication arising from the findings is that, to maximize productivity gains from international production, trade and FDI liberalization should go hand in hand. Many developing countries still resort to trade restrictions with a view to enticing TNCs to relocate production in "priority" industries. Also, many countries that embark on significant liberalization reforms tend to retain and even increase special protection to industries dominated by TNCs. The findings suggest that such inconsistencies and contradictions in liberalization reform packages can thwart anticipated gains from reforms, and perhaps even generate immiserizing growth. They also lend support to the view that when economy-wide restrictive trade practices are difficult to dismantle (because of domestic political and/or ideological resistance), allowing TNCs to operate in export processing zones is a rational second-best policy choice.

As regards the implications for the economic analysis of international production, the findings cast doubts on the prevalent practice of using the volume of FDI inflow as a general measure of the transmission of disembodied technology. Our findings make a strong case for distinguishing between FDI inflows induced by domestic protection and those undertaken predominantly on export profitability considerations in analyzing the economic impact of international production on the host country. ■

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Appendix: Measurement of total factor productivity growth

The method used here for the measurement of total factor productivity growth is the Tornquist-Theil formulation. Under this formulation, which perhaps is the most intuitive formulation of total factor productivity, the level of total factor productivity is defined as:

$$TFP = \frac{Y}{\sum a_i x_i} \qquad (1)$$

where, Y is output measured by value added, X is the vector of inputs and a_i is the vector of input weights.

The choice of input weights (a in equation (1)) requires assumptions about the underlying technology. These parameters can either be estimated econometrically, or deduced from the data using index number theory. The econometric technique requires sufficient degrees of freedom, a luxury in most cases. Here, the index number approach is used due to the limited number of observations.

The input index is defined as:

$$\ln x_j^k = \frac{1}{2}\sum_{i=1}^{n}(s_{ij} + s_{ik})(\ln x_{ij} - \ln x_{ik}) \qquad (2)$$

where s_{ij} and x_{ij} are the expenditure share and quantity, respectively, of input i at observation j while n is the number of inputs. The subscript k denotes the point of reference, this being the binary comparison of point i with that of point k. The choice of this reference point and the subsequent normalization is non-trivial; here, the reference point chosen is the hypothetical firm whose input expenditure shares are the arithmetic mean of all the cross-sectional units and whose input quantities are the geometric mean of the respective quantities for the entire set of observations. Hence, the input share of this hypothetical firm is given as:

$$\ln x^* = \frac{1}{2}\sum_{i=1}^{n}(s_{fi} + \bar{s})(\ln x_{fi} - \frac{\ln x_i}{n}) \qquad (3)$$

A major advantage of using the Tornquist-Theil index in this exercise over other measures is that it does not require any estimation of the parameters in the production technology. These parameters are treated as subsumed in the expenditure and revenue data, this assumption being legitimate if firms pursue profit maximization and/or cost minimization (see Good et al., 1996, for an excellent survey of this literature). Another advantage of the index in its application in cross-sectional work is its transitivity, that is, it does not suffer from the problem of being sample dependent (Caves et al., 1982).

Given the nature of data availability we consider two inputs, capital and labour. Capital is measured as the end-of-period book real value of fixed capital. Labour is measured by the number of production workers employed. The more appropriate measure of labour input is of course hours worked, but data on this variable are not available. Data are also not available for adjusting the capital stock for capacity utilization or to introduce human capital as an additional variable.

Given these limitations in data, our measure of total factor productivity growth is admittedly crude (Nelson and Pack, 1999; Felipe, 1999). However, we do believe that biases resulting from these problems are likely to be less severe in the measurement of factor productivity growth of international production by TNCs from a single source country (United States) compared to a general application of the same procedure in economy-wide measurement. For instance, failure to identify human capital as a separate factor of production may be less problematic for international production given the fact that TNCs generally draw upon a common pool or technology and expertise. Moreover, significant inter-country variation in the degree of capacity utilisation is unlikely to be a significant factor in international production.

A third wave of FDI from developing countries: Latin American TNCs in the 1990s

Daniel Chudnovsky and Andrés López *

Since the early 1990s, a third wave of foreign direct investment from Latin American countries has emerged. Argentina, Chile and Mexico and, to a lesser extent, Brazil, are the most important home countries. The bulk of current Latin American outward foreign direct investment is market seeking and is concentrated in other Latin American countries. However, contrary to what happened during the first wave of foreign direct investment from developing countries in the 1960s and 1970s, which occurred under import substitution, Latin American transnational corporations must now operate in open economies. This has resulted in a far-reaching restructuring of Latin American conglomerates. Nonetheless, this is a fragile phenomenon because of the relatively small size of the firms involved, because they are mostly specialized in mature industries, and because of the relative technological underdevelopment of their home economies. This explains why, unlike in outward foreign direct investment from Asian developing countries, there are very few Latin American transnational firms operating in high-technology industries.

Introduction

Foreign direct investment (FDI) has been growing rapidly during the past few decades. Developed countries have been both the main outward investors, accounting for the bulk of the FDI stock worldwide, as well as the main recipients of FDI inflows. Although developing countries are mostly at the recipient end, FDI is also a two-way street for several of those countries. During the 1990s, a

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relatively small group of East Asian and Latin American economies received the bulk of FDI inflows, and they were also the main outward investors among developing countries.

During the 1960s and 1970s, the first wave of FDI by transnational corporations (TNCs) from developing countries took place. Latin American firms had a significant presence during this stage. In contrast, it was Asian firms that led the second wave of outward FDI from developing countries since the 1980s, while Latin American FDI lost ground (Dunning et al., 1997). In this second wave, outward FDI (especially that from the Republic of Korea and Taiwan Province of China) has not only been destined to other Asian countries, but to North America and Europe as well, and it has gradually evolved towards a greater presence in the high-technology industries.

Since the late 1980s, Latin America has re-emerged as a key host region for FDI. Mexico, Argentina, Chile and Brazil have received most FDI inflows. At the same time, the available information from balance-of-payment figures indicates that the same countries have also recorded significant FDI outflows during the 1990s, though as percentage of GDP they are only significant in the Chilean case (table 1). However, these figures underestimate the true magnitude of the internationalization process of Latin American firms; this is especially noticeable in the Mexican case. Scattered information from other sources shows that several firms headquartered in those countries have made important foreign investments and became regional — and, in a few cases, global actors — in their respective market segments. It can be estimated that, by 1997-1998, productive assets held abroad by these firms were at least $38 billion, and more likely they reached $45-50 billion. Furthermore, the stock figures as percentage of GDP shown below (table 1) indicate that, besides the outstanding Chilean case, outward FDI is also significant in Argentina and Mexico. Even if East Asian economies are still leading FDI outflows from developing countries, and some of them have become net exporters of FDI,[1] Latin American countries steadily increased their share within outward FDI during the 1990s (table 2).

[1] FDI outflows have been larger than inflows in Hong Kong (China), Taiwan Province of China and Republic of Korea during 1986-1998 (UNCTAD, 1999).

Table 1. FDI inflows and outflows in Latin America, 1984-1998

(Millions of dollar and percentage)

	Inflows				Outflows			
	Average		Per GDP		Average		Per GDP	
Country	1984-1989	1990-1994	1995-1998	1995-1998	1984-1989	1990-1994	1995-1998	1995-1998
Latin America and the Caribbean[a]	6 344	15 764	50 001	..	527	2 372	6 719	..
Argentina	653	2 982	6 780	2.5	31	578	2 230	0.8
Brazil	1 416	1 607	15 859	2.1	184	603	1 488	0.2
Chile	614	1 143	4 478	6.4	8	371	1 667	2.4
Mexico	2 436	6 264	10 445	2.9	128	395	568	0.2

Source: authors' estimates, based on UNCTAD data.

[a] Excluding Caribbean financial centres.

Table 2. FDI outflows from developing economies, 1984-1998

(Millions of dollar and percentage)

	Averages			Shares		
Economy	1984-1989	1990-1994	1995-1998	1984-1989	1990-1994	1995-1998
All developing economies[a]	7 551	24 305	52 374	100.0	100.0	100.0
South, East and South-East Asia	5 147	21 142	43 619	68.2	87.0	83.3
Hong Kong, China	1 833	10 535	23 675	24.3	43.3	45.2
Singapore	286	2 121	5 096	3.8	8.7	9.7
Korea, Republic of	137	1 513	4 357	1.8	6.2	8.3
Taiwan Province of China	1 999	3 139	3 961	26.5	12.9	7.6
Malaysia	233	1 098	3 143	3.1	4.5	6.0
China	581	2 429	2 069	7.7	10.0	4.0
Others	88	307	1319	1.0	1.3	2.5
Latin America and the Caribbean[a]	*527*	*2 372*	*6 719*	*7.0*	*9.8*	*12.8*
Argentina	31	578	2 230	0.4	2.4	4.3
Chile	8	371	1 667	0.1	1.5	3.2
Brazil	184	603	1 488	2.4	2.5	2.8
Mexico	128	395	568	1.7	1.6	1.1
Others	176	425	765	2.3	1.7	1.5

Source: authors' estimates, based on UNCTAD data.

[a] Excluding Caribbean financial centres.

This new wave of FDI by Latin American firms is not only significant in volume, but is also different in its nature, both from the first and from the second waves of developing countries FDI as they are described in the received literature. To follow in this tradition, this new wave is referred to here as the third wave.[2] Its specific features arise, on the one hand, from the distinctive history, structure, size, economic policy regime and development level of each of the respective home economies, and, on the other hand, from the different regional and international scenarios in which each of the three FDI waves has taken place.

In the third wave, a sequence can be observed in which the internationalization process gained momentum first in those Latin American countries that were early structural reformers and privatizers (as early as the 1980s). The transition to a more open and competitive economic environment meant a great challenge for domestic firms. Whereas many indigenous entrepreneurs were not able to upgrade their technological and managerial capacities accumulated during the import substituting industrialization process and either went bankrupt or sold their businesses, a limited number of domestic enterprises were able to meet the challenge in a different way. This group of firms went through processes of restructuring and modernization. As a result, they not only enhanced their managerial, productive and technological capacities, but also acquired new capacities that enabled them to keep up and, in some cases, to expand within the globalization process. These old and new assets have been instrumental for these firms to engage in outward FDI in the 1990s.

This scenario may help explain the early internationalization process of Chilean and Mexican firms, the momentum of Argentine FDI once the privatization process was over and the Southern Common Market (MERCOSUR) launched, and the still relatively lower importance of FDI for Brazilian firms. However, the size of the home economy and/or the changes in competitive conditions at

[2] This does not imply that the third wave is only a Latin American phenomenon. But there is insufficient information available to generalize the third wave to other countries, for example, in Asia.

the global level in certain industries are also complementary elements in explaining the overall rise and pattern of outward FDI by Latin American third-wave firms. In turn, the bulk of outward FDI from Latin American countries is concentrated in mature industries, and the main ownership advantages of the third-wave firms are not so in technological assets as in organizational, marketing and financial capacities. This is why the current outward FDI by Latin American firms are different in nature from those of the Asian-led second wave.

This article examines the main features of third-wave FDI from Latin American countries, and their likely consequences, both for the investing firms and for their home economies. This analysis is made on the basis of the findings of four national studies (Garrido, 1999; Kosacoff, 1999; López, 1999a, 1999b) prepared as part of a research project on the subject whose results were published in book form (Chudnovsky et al., 1999).[3]

The article is organized as follows: first, a brief summary of the literature on FDI and, especially, on FDI from developing countries, is presented. Then, the internationalization process of Latin American firms is examined, pointing out both the common features and the specific elements of each national case, analyzing the main investment strategies and examining the results of the third wave of FDI both for the firms and for their home economies. Policy suggestions and prospects are contained in the final section.

FDI from developing countries: a summary of the literature

The most comprehensive analytical framework for understanding the determinants, motivations and impacts of FDI, as well as the objectives and strategies of TNCs, is the eclectic or OLI paradigm (Dunning, 1988).

According to this paradigm, a firm will engage in FDI activities if three conditions are met:

[3] The research project received financial support from Techint Organisation. The personal interest of Paolo Rocca in this project is gratefully acknowledged.

- It possesses certain ownership (O) advantages *vis-à-vis* other firms in serving particular markets. These O advantages largely take the form of intangible assets (product innovations, production management, organizational and marketing systems, non-codifiable knowledge, human capital, etc.); they also include assets that arise as a result of the common governance of cross-border value-added activities.

- It is more advantageous for an enterprise to use its O advantages rather than to sell them, or to sell the right to use them, to other firms. These internalization (I) advantages may reflect either the greater organizational efficiency of hierarchies or their ability to exercise monopoly power over the assets under their governance.

- Host countries possess some location (L) advantages (natural and human resources, market size and growth prospects, tariff barriers, international transport or communications costs, technological assets, etc.) that make it more attractive to serve the market via FDI rather than through exports from the home country of the foreign firm.

Regarding the objectives of FDI, John H. Dunning (1988, 1994) distinguished four main types. Resource-seeking and market-seeking investments often represent the main motives for initial foreign entry. Investments aimed at increasing the efficiency of TNC activities, by integrating assets, production and markets, are efficiency-seeking investments. At present, FDI increasingly takes the form of strategic asset-seeking, whose main purpose is to acquire resources and capacities that may upgrade TNCs' core competencies in regional or global markets. These strategic assets may range from innovative capacity and organizational structures to accessing foreign distribution channels and a better appreciation of the needs of consumers in unfamiliar markets.

Whereas resource- and market-seeking investments are often made by stand-alone affiliates, efficiency-seeking FDI allows foreign affiliates to participate in their TNC systems through simple integration strategies (e.g. as suppliers of components for the parent company or other affiliates). Complex integration strategies in which

various functional activities (production, R&D, etc.) are located wherever they can be done best to fulfil a TNC's overall strategy usually require strategic asset-seeking investments (UNCTAD, 1994).

While this framework has mainly been devoted to explain FDI by TNCs from developed countries, there is a specific body of literature dealing with the phenomenon of outward FDI from developing countries and with third-world TNCs. Two main strands were developed within this literature. First, a microeconomic approach trying to explain the specific determinants and features of FDI operations by developing country firms. Second, the investment-development path (IDP).

Three main contributions can be mentioned as regards to the first approach: the work of Louis Wells (1983, 1986), based on the product-cycle model developed by Raymond Vernon (1966); the localized technical change model elaborated by Sanjaya Lall (1983a, 1983b); and the technological accumulation view (Cantwell and Tolentino, 1990).

According to Wells, third-world TNCs may have competitive advantages only in mature markets, in which technologies are widely diffused. Their specific advantages derive from the use of small-scale and labour-intensive technologies to produce standardized goods that compete on the basis of prices, as well as on the basis of the availability of cheap labour and low cost management adapted to developing country conditions. Even if third-world TNCs operate in market niches abandoned by conventional TNCs, Wells suggested that their advantages were very weak and could be overcome rapidly by local firms catching up with them.

In contrast, Lall asserted that the O advantages of third-world TNCs lie mainly in certain specific skills to be exploited through FDI — not only in developing countries, but also in developed countries, though the strength of local competition and differences in market/cultural conditions are bound to make this fairly exceptional. Since third-world TNCs cannot possess O advantages in frontier technologies, their competitive edge must lie in some special marketing, productive or technological knowledge:

- their technical knowledge can be localized around a set of techniques more adapted *vis-à-vis* those possessed by conventional TNCs to factor price and quality conditions in other developing countries;
- their products may be specific to developing countries conditions;
- they may master techniques that are more efficient at smaller scales than those used in developed countries;
- they may develop differentiated consumer products that compete with brand products of conventional TNCs;
- they may have the ability to function better in the environment of other developing countries (because of cultural, ethnic and linguistic factors).

These advantages may be strengthened by two additional factors: third-world TNCs may have access to cheap skilled manpower in their home countries, and they may belong to large, diversified conglomerate groups, which may give them advantages in terms of financial, managerial and technical resources (Lall, 1983a).

Since Lall suggested that the learning process and the development of competitive capacities by a firm depend mainly on the characteristics of its domestic environment, it was plausible to expect that different countries (with specific patterns of specialization, industrialization levels, social norms, technological infrastructure, public policies, etc.) may give birth to different types of third-world TNCs. Lall also suggested that third-world TNCs were inclined to materialize their FDI via joint ventures with developed country firms to get access to technologies and skills that were not readily available in their home countries.

John Cantwell and Paz Estrella Tolentino examined a different and more advanced stage of the internationalization process of third-world TNCs. They acknowledged that FDI from developing countries, especially from the newly industrializing economies in Asia, had evolved towards more complex manufacturing activities, and was increasingly destined towards developed countries. Their basic argument was that the gradual upgrading of the domestic industrial structure in some developing countries meant that the technological competence of third-world TNCs was steadily

expanding, as a consequence of a cumulative process in which they build upon their existing and past achievements. In turn, the upgrading of the technological capacity of third-world TNCs was reflected in the cumulative growth of their FDI. Hence, Cantwell and Tolentino showed that third-world TNCs may develop technological ownership advantages that are not based on techniques which have been "forgotten" in advanced countries, or which are adapted to some specific conditions of developing countries. On the contrary, many Asian firms have followed a technological path that is to some extent independent from foreign technology and depends strongly on their own unique learning experience; moreover, some of these firms have been able to become genuinely innovative.

In this respect, Cantwell and Tolentino acknowledged that Wells' ideas may be useful for the earlier stage of FDI from developing countries, when firms' technological capacities are limited mainly to the assimilation and adaptation of foreign technologies in accordance to the requirements of third world markets and production conditions. However, as home countries advance to higher stages of development, the notion of technological accumulation provides a better explanation for FDI, since, as the experience of some Asian economies shows, those activities are increasingly associated with a differentiated technological path which in some cases is based on formal in-house R&D.

The second main research strand on FDI from developing countries is the IDP model (Dunning, 1988; Dunning et al., 1997). It suggests that a country's outward and inward FDI are partly a function of its level of development, and that countries go through predictable stages as the home economy develops (although no causality is postulated by the proponents of this model).

In a nutshell, in the first stage of the IDP, a country (which is supposed to have low levels of per capita income and a very weak indigenous technological capacity) is presumed to attract no inward FDI (because it has weak L advantages) or engage in any outward FDI (because its domestic firms have weak O advantages). Countries in stage 2, which have begun to move along their industrialization path (mainly in labour-intensive activities) and have enlarged their domestic markets, begin to attract growing FDI inflows. In turn,

indigenous firms may begin to develop their own O advantages; and, although outward FDI remains low or negligible, some outward investment may emerge, mainly in market-seeking or resource-based activities in neighbouring countries. In stage 3, domestic technological capacities are upgraded, local consumers demand increasingly higher quality goods, and comparative advantages in labour-intensive activities begin to erode. During this stage, one of two things is likely to happen, depending on the Government's strategy towards international markets: if a strategy of economic self-sufficiency prevails, outward FDI will remain low, and restrictions on inward FDI will often be in place; but if an outward oriented strategy is chosen (as it was the case in several East Asian countries), not only inward FDI will often be welcomed (though this is not necessarily the case, as the experience of the Republic of Korea demonstrates), but also outward FDI may significantly increase because international specialization creates country-specific O advantages in innovatory activities, which may be exploited in other countries. Outward FDI geared to relocate labour-intensive activities to lower income countries may also appear. Developed countries are in stages 4 and 5 of the IDP. In these stages, as countries converge in the structure of their location-bound assets, their FDI positions are likely to become more evenly balanced (Dunning, 1988; Dunning and Narula, 1998).

The advocates of the IDP model are well aware that its predictive capacity is limited; for example, countries do not necessarily go through the five stages in a sequential manner and there are countries whose development levels do not correspond to their FDI net position due to country specific factors. This makes some adaptations necessary when the model is applied to a specific country. However, the framework is useful for a better understanding of the first and second waves of FDI from developing countries.

The first wave of FDI from developing economies[4] was characterized mainly by a focus on neighbouring and other developing countries which were at similar or earlier stages of development. The

[4] The main investors were from Argentina, Brazil, Colombia, Hong Kong (China), India, Malaysia, Mexico, Philippines, Republic of Korea, Singapore and Venezuela.

O advantages of the investing firms were primarily country-specific and were determined, especially in Latin America and India, in an import substituting industrialization context. Such a context encouraged small-scale production based on the efficient acquisition and adaptation of imported technologies that were at the end of their life cycles. Most FDI was market seeking and motivated by the existence of trade barriers in host countries. This means that FDI was directed towards countries with L advantages similar to those of home countries (Whitmore et al., 1989).

The decline of many of the first-wave investors was not only related to the poor economic performance of their home economies in the 1980s, but it was also due to the fact that in most cases their O advantages were not adapted to compete with conventional TNCs in a more liberalized and globalized economic environment.

Dunning et al. (1997), following the above-mentioned arguments by Cantwell and Tolentino, suggested that the second wave of FDI from developing countries, mainly associated with the newly industrialising economies in East Asia, has been the result of the improvement of the O advantages of indigenous firms as a consequence, among other things, of the continuous upgrading of the L advantages of their home countries. This process has been mainly due to economic development and restructuring, as those countries moved from stage 2 to stage 3 of their IDP, but it was accelerated by specific economic policies to foster industrial development and to encourage indigenous firms to invest abroad as a way to upgrade their O specific advantages. Firms from East Asian economies that are mainly in stage 3 of the IDP invest heavily in stage 1 and 2 countries to benefit from their L advantages derived from natural resources availability and/or cheap labour. They also invest in stage 4 and 5 countries, following market- and strategic asset-seeking strategies. According to Dunning et al. (1997), Asian TNCs, especially those from Republic of Korea and Taiwan Province of China, are thus increasingly similar to conventional TNCs and are assuming global perspectives in their business strategies.[5]

[5] It is important to bear in mind that these observations were made before the recent East Asian financial crisis. It is not yet known how much the crisis and the restructuring process to which it has led Asian TNCs.

The internationalization of Latin American firms

The recent evolution of home economies

Until the 1970s (Chile) and the 1980s (Argentina, Brazil and Mexico), the four Latin American countries analyzed in this article adopted inward-oriented strategies. During that stage, industrialization was more successful in Brazil and Mexico than in Argentina or Chile, both in quantitative and qualitative terms. After the so-called "lost decade" that followed the debt crisis of the early 1980s, macroeconomic performance in terms of inflation rates, economic growth and investment ratios improved in the 1990s, though progress this time was more significant in Argentina and Chile.

These trends have taken place in an environment of deep economic reforms such as trade and financial liberalization, the privatization of public enterprises and the deregulation of goods and services markets. The sequence and speed of the reform process have been different in each of the countries under study. Chile was the pioneer in the early 1970s, followed by Mexico in the mid-1980s. Argentina experienced trade and financial liberalization during 1977-1981, but this process was truncated by the debt crisis. In the late 1980s, some trade liberalization took place; but it was in the 1990s that the reform programme gained momentum. Brazil, where trade liberalization started in the early 1990s in a more gradual manner than in Argentina, has been the latecomer in the privatization process.

Argentina and Brazil have combined unilateral trade liberalization with regional integration in MERCOSUR (in which Paraguay and Uruguay are also partners), a regional integration agreement created in 1991 which became a customs union in 1995. In turn, Mexico signed the North American Free Trade Agreement (NAFTA) with the United States and Canada in 1994.

Some common trends are apparent in the four economies in the 1990s: greater reliance on foreign trade, financial and technological flows; less relative importance of the manufacturing sector in GDP as compared with the the 1970s and 1980s; a reduced presence of public enterprises; and a growing participation of TNCs,

especially in the more dynamic and/or technologically advanced sectors. According to the IDP model, these countries, which are mainly at the stage 3 of IDP, should not only be recipients of large amounts of FDI inflows. Growing FDI outflows should also be found in Argentina, Brazil, Chile and Mexico, taking into account specially the change from inward-oriented to more open economic regimes since the 1980s. This is indeed the case according to the evidence compiled in this article.

Evolution, strategies and specialization patterns of Latin American conglomerates

During the import substituting industrialization period, entrepreneurial leadership was shared by three main agents, though in different proportions in each country:

- State-owned firms, operating mainly in public utilities, mining, oil, banking and, within the manufacturing sector, in intermediate goods like steel or petrochemicals;
- affiliates of TNCs, doing business in several industries, but especially in the more dynamic or more technologically intensive ones like motor vehicles, capital goods, chemicals and electronics;
- domestically-owned private firms; among these, a number of economic groups or conglomerates progressively gained increased importance in the countries under study (Peres, 1998).

Most Latin American economic groups were established during the import substituting industrialization period, though in some instances they date from before, since some of them were founded at the beginning of the century. In addition, a number of new and, in some cases, powerful economic groups have emerged in the past two decades, a phenomenon that is mainly connected with the structural reforms implemented since the 1980s. (This is especially noticeable in Chile.)

In the 1980s, these business organizations gained significant domestic market positions in their diversified activities that often included backward and forward vertical integration linkages. They

grew in a context in which local production had no competition from imports and in which a number of promotional policies were in force that fostered the expansion of economic groups, since these organizations usually had preferential access to their benefits.

The implementation of the above-mentioned structural reform programmes changed in a decisive way both the market position and the business strategies of the economic groups. The share of economic groups in domestic sales decreased, while the presence of foreign affiliates was growing in most cases. In the 1990s, TNCs and the Latin American economic groups had the same share in the total sales of the leading 100 manufacturing firms in Latin America (almost 46 per cent in each case); by 1996, the TNCs' share had increased to 57 per cent, while that of Latin American firms decreased to 40 per cent. Scattered data suggest that the presence of economic groups *vis-à-vis* TNCs has been decreasing even more in the past years.

At the same time, economic groups have generally increased their specialization in traditional activities and/or in the production of industrial commodities. On the basis of 1996 data, Celso Garrido and Wilson Peres (1998) pointed out that Latin American economic groups had still a dominant presence in activities such as beverages, glass, petrochemicals, steel, textiles, cement, pulp and paper, textiles and agribusiness. They had a significant but not dominant presence in food products, machinery and equipment, household appliances and tobacco. In contrast, they had little or no presence in technology- or marketing-intensive products like automobiles, telecommunications equipment and chemicals. Nonetheless, no stable specialization pattern has yet been defined for locally-owned firms and especially for the economic groups in the countries under study. In industries like beverages, telecommunication services and electric power, economic groups have maintained their position through alliances with TNCs, but such alliances have in several cases ended up with acquisitions by TNC.[6] At the same time, several strategies can be identified for economic groups: offensive versus defensive; diversification versus. specialization. Within this process of redefining their business strategies, as seen below, many economic

[6] This has been the case of the Chilean economic group Enersis, which was acquired by the Spanish TNC Endesa.

groups have started or have strengthened their international operations through FDI.

In their restructuring processes, economic groups have generally paid more attention to changes in sales, management and financial routines than to product and technology upgrading. They have reduced and professionalized their management levels and have concentrated their activities into profit centres. To face import competition, they have reinforced contacts with local clients and have used their marketing networks to sell both locally made goods and imported ones (Garrido and Peres, 1998). At the same time, they have reformulated their financial practices to adapt to the new conditions in both domestic and international financial markets.

While a greater reliance on institutional investors and the adoption of modern management methods and organizational structures is visible in the firms under study, most economic groups are still under the founding families' control. However, strategic alliances with TNCs, access to international credit lines and entry into the United States capital market have been important factors in upgrading their governance methods and making them more transparent in their business operations.

Finally, it is important also to bear in mind that, even in this new phase of structural reforms, Governments, with the possible exception of that of Argentina, remained biased towards economic groups, though in a more attenuated form than during the import substituting industrialization phase. Some examples of this bias are preferential access during the privatization processes or restrictions on TNCs' participation in such processes (Brazil, Chile, Mexico), Government assistance to economic groups in financial problems (Chile, Mexico) and sectoral policies (Brazil, Chile).

The internationalization of Latin American firms

The internationalization of Latin American firms is an old phenomenon. The earliest case is that of Argentina, the first developing country whose firms undertook significant FDI. (The first case dates back to 1890, and by 1930 there were three large

Argentine firms well established in several Latin American countries; see Katz and Kosacoff, 1983.)

Not surprisingly, during import substituting industrialization, Latin American firms concentrated their operations in their respective domestic markets. However, certain O advantages regarding product design and adaptation and/or marketing or productive management that were suited for the needs of local clients were developed and exploited through FDI in other, generally less developed countries. Argentina was the leader in this import substituting industrialization based "first wave" of FDI in Latin America. In fact, in 1980, Argentina was the second largest outward investor among developing economies, behind Hong Kong (China), with an FDI stock of nearly $1 billion (UNCTAD, 1993).

The last episode of this first wave occurred in Brazil. Between the mid-1980s and early 1990s, a significant number of FDI operations in car components, compressors, steel and textiles were made by Brazilian firms, mainly in the United States and Europe. The O advantages that supported this FDI process were partly based on productive and marketing assets developed during the import substituting industrialization period. Some of the Brazilian firms that made FDI operations in skill-intensive industries in this period had been helped and fostered to engage in a technological upgrading path by Government policies that had been in place since the 1970s. However, most of these affiliates are no longer operative today, or the parent companies have been taken over by TNCs. In some cases — like that of Metal Leve — such takeovers do not reveal technological or productive weaknesses of the Brazilian firms; rather, they reflect their success, since they were bought, among other reasons, because of the strategic assets that they had developed. At the same time, this kind of acquisition reflects the new reality of competition in industries, in which a concentration process has been taking place at the global level during the 1990s. In this new scenario, it seems that — e.g. in the car components industry — there is not much room for big independent suppliers coming from developing countries.

As noted before, Latin American firms did not have a significant presence in the second wave of FDI from developing

countries. However, the internationalization process of Latin American firms acquired a new dimension in the 1990s. Argentina, Chile and Mexico and, to a lesser extent, Brazil, are the most relevant home countries, according to the relative weight of the stock of productive assets held abroad by domestic firms of each country. Only a few of these firms started their foreign investments in the first wave, though many have been operating for a long time in their home economies. Table 3 shows the Argentine, Brazilian, Chilean and Mexican firms with more significant FDI operations, the industries and countries of destination of their investments, their global sales and, when available, the percentage of foreign sales relative to their global sales. The key features of these FDI operations, as well as the country specific factors that have induced them, are shown in tables 4 and 5. The main findings are discussed below.

Home economies and their push factors

Although data problems do not permit a precise estimate, it is clear that Chile is the country in which the ratio of outward FDI to domestic GDP is the highest, while in Brazil it is the lowest. The size of the home economy provides a first explanation of this phenomenon. The small size of the Chilean economy is a push factor for domestic firms to exploit their O advantages and invest their often considerable financial surpluses abroad. In contrast, the large Brazilian domestic market is so attractive that engaging in outward FDI is less urgent for most firms.

However, as mentioned above, significant Brazilian FDI took place in the late 1980s and early 1990s. Not only was a considerable amount of investment made, but it also had interesting qualitative features. (Some of them were aimed at developed country markets, and there was a significant presence of skill intensive activities.) This process was later truncated. But if a comparison between Chile and Brazil had been made in 1991, the relative situation of both FDI processes would have been completely different, while the gap between the size of both home economies was similar. This suggests that other push factors need to be taken into account, besides the size of the home economy.

Table 3. Main Latin American firms with FDI operations

(Millions of dollar and percentage)

Firm	Country	Industry	Total sales (Million dollars)	Foreign sales (Million dollars)[a]	Foreign sales/total sales (Per cent)
Petrobras	Brazil	Oil	26 759	1508	5.6
Itaú	Brazil	Banking, construction materials	11 990	..	..
Garantía	Brazil	Beverages	8 000	..	..
YPF	Argentina	Oil	7 731	911	11.8
Techint	Argentina	Steel, engineering and construction, oil	7 000	2 885	41.2
Enersis	Chile	Electric energy	5 136	..	..
Companhia Vale do Rio Doce	Brazil	Steel	5 041	..	..
Odebrecht	Brazil	Engineering and construction	4 997	..	..
Alfa/Hylsamex	Mexico	Steel	3 917	67	1.7
Vitro	Mexico	Glass	3 778	643	17.0
Pérez Companc	Argentina	Oil, petrochemicals	3 758	177	4.7
Angelini	Chile	Forestry, pulp and paper, lumber	3 739	..	..
Cemex	Mexico	Cement	3 712	2 347	63.2
Carso	Mexico	Telecommunications	3 710	480	12.9
Socma	Argentina	Food, physical infrastructure, information services and telecommunications	3 582	425	11.9
Visa/Femsa	Mexico	Beverages	3 053	405	13.3
Luksic	Chile	Food, beverages, copper and aluminium manufactures, pension funds, banking	3 002	..	..
Brahma	Brazil	Beverages	2 469	125	5.0
Bimbo	Mexico	Food	2 345	413	17.6
Gerdau	Brazil	Steel	2 333	..	..
Desc/Agrobios	Mexico	Food	2 009	674	33.6
Televisa	Mexico	Media	1 758	96	5.5
Vasp	Brazil	Air transport	1 673	..	..
Said	Chile	Beverages, retailing and banking	1 416	..	..
Gruma	Mexico	Food	1 345	737	54.8
Andrade Gutierrez	Brazil	Engineering and construction	1 329	..	..
Amil	Brazil	Health care	1 300	..	..

/...

Table 3. Main Latin American firms with FDI operations (concluded)

(Millions of dollar and percentage)

Firm	Country	Industry	Total sales (Million dollars)	Foreign sales (Million dollars)[a]	Foreign sales/total sales (Per cent)
Fernández León	Chile	Electric energy, health care	1 272	..	..
IKPC	Brazil	Paper	1 214	..	..
Arcor	Argentina	Food	1 207	197	16.3
Matte	Chile	Forestry, pulp and paper, construction materials.	1 174	311	26.5
Hurtado Vicuña	Chile	Electric energy, insurances	1 160	..	..
Bemberg	Argentina	Beverages	1 040	340	32.7
La Moderna/Seminis	Mexico	Agrobiotechnology	916	685	74.8
Dina	Mexico	Transport equipment	890	615	69.2
Pathfinder	Chile	Forestry, lumber, food	841	..	..
Sancor	Argentina	Food	826	75	9.1
Errazuriz	Chile	Retailing	777	..	..
Arisco	Brazil	Food	773	..	..
Iochpe-Maxion	Brazil	Motor engines	764	..	..
Abumohor	Chile	Banking, social insurance, packaging	730	..	..
Randon Participacoes	Brazil	Transport equipment, autoparts	626	..	..
Chilgener	Chile	Electric energy, petroleum refinery and distribution	614	..	..
Sao Paulo Alpargatas	Brazil	Textiles	605	..	..
Impsa	Argentina	Engineering and construction, capital goods	562	162	28.8
Bagó	Argentina	Pharmaceutical products	562	111	19.8
Del Río	Chile	Retailing, banking	562	..	..
Larrain	Chile	Food and beverages	549	..	..
Sigdo Koppers	Chile	Metallurgy, electric energy	487	..	..
Bofill	Chile	Food	272	..	..
Geo	Mexico	Construction	258	..	..
Impsat	Argentina	Telecommunications	230	70	30.4
FV	Argentina	Construction materials	201	10	5.0
Posadas	Mexico	Hotel	183	18	9.8

Source: Chudnovsky, Kosacoff and López (1999).

[a] In some cases, it is not possible to distinguish sales by foreign affiliates from exports from the parent firm. As a result, the impact of FDI operations may be overestimated. (This may be the case especially with Mexican firms.)

Table 4. Main characteristics of outward FDI from Latin American countries in the 1990s

Country	Argentina	Brazil	Chile	Mexico
Outward FDI stock. 1997[a]	$8,600 million 2.7 per cent of GDP	$8,730 million 1.1 per cent of GDP	$13, 636 million[b] 17.7 per cent of GDP	$7,300-10,000 million 1.8-2.5 per cent of GDP
Typical firms	Economic groups without financial links, mostly family owned, specialized or with low diversi-fication.	Economic groups, some of them with financial linkages, mostly family owned and with medium to high levels of diversification. Some medium-sized family firms. Public enterprises.	Economic groups, many of them with financial linkages, "traditionals" (highly diversified and family-owned) as well as new ones (generally more specialized and with marked presence of institu-tional investors). Public enterprises.	Family-controlled economic groups, some of them with financial linkages, with different levels of diversification and vertical integration.
Main industries	*Main industries:* steel, oil, food *Others:* beverages, engineering and construction, pharmaceuticals, petrochemicals, telecommunications, information services, banking, construction materials.	*Main industries:* banking, engineering and construction, oil. *Others:* car components, textiles, steel, beverages, air transport, transport equipment, construction materials, paper, petrochemicals, health care.	*Main industries*: electric energy, food, beverages, forestry-lumber-cellulose-paper, banking, retailing *Others*: health care, pension funds, metallurgy (especially copper metallurgy), oil.	*Main industries*: cement, agricul-ture/biotechnology, food, beverages, banking. *Others:* glass, television, engineering and construction, hotel, telecommunications, transport equipment.
"Push" factors	Limited size of domestic market for the relevant products. High market shares in local markets. Limited availability of raw materials (oil, petrochemicals).	Domestic market stagnation. Limited availability of raw materials (oil). Technological and productive transforma-tions and regulatory framework in the consumer industry (car components/ automotive).	Limited size of domestic market for the relevant products. Reduced "country risk" which allows the access to international capital markets. Early beginning of structural reforms.	Limited size of domestic market for the relevant products. High market shares in local markets. Growth of competitive pressures in domestic markets. Access to inter-national capital markets after financial reform in 1990.

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Table 4. Main characteristics of outward FDI from Latin American countries in the 1990s (concluded)

Country	Argentina	Brazil	Chile	Mexico
Location of FDI	Latin America (neighbouring countries, especially Brazil, Andean countries, Mexico). *Others*: United States, Italy, Malaysia, Indonesia, Philippines.	MERCOSUR, rest of Latin America, United States, Portugal, Africa, United Kingdom, financial centres, West Asia, Malaysia, Singapore. *Manufacturing*: MERCOSUR (mainly Argentina), Portugal, Chile, Canada, Germany, France, United States.	Mainly South America (Argentina, Peru, Brazil, Colombia), Mexico, financial centres.	Main location: United States. There are significant investments in Latin America (Central America and Caribbean countries, Argentina, Colombia, Venezuela, Chile, Peru, Bolivia). *Others:* United Kingdom, Spain, Indonesia, Philippines, Canada.
Other characteristics	The history of the internationa-lization of Argentine firms dates back to export orientation in 1860-1930, as well as the import substitution stage (including medium-sized firms in the last stage).	Between the mid-1980s and the early 1990s there was a significant wave of FDI by Brazilian manufacturing firms (car components, textiles, compressors, packaging) in developed countries. In the 1990s, most of these operations have been closed (textiles, packaging) or the Brazilian firms have been sold to TNCs (car components, compressors).	The close linkages between access to international financial resources and the internationalization process of Chilean economic groups suggest that Chile has become a "recycling" centre for international financial funds.	The trend towards FDI by Mexican firms began in early 1990s and was reinforced when access to financial international resources was obtained.

[a] With the exception of Brazil, estimates are based on the stock of foreign assets owned by local firms, and not on the balance-of-payments concept of FDI.

[b] July 1997.

Table 5. The main features of the internationalization of Latin American firms in the 1990s

Motivations	Resource seeking (oil)[a]	Global-efficiency seeking	Market seeking, regional	Neighbouring countries
Firms/groups	YPF, Pérez Companc (Argentina), Petrobras (Brazil), Enap (Chile).	Techint (steel tubes; Argentina), Odebrecht (Brazil), CEMEX, La Moderna-Seminis (Mexico). At a lower level of significance, IMPSA (Argentina) and Andrade Gutierrez and Sabó (Brazil).	Impsat, Techint (flat steel), Arcor, Bagó (Argentina); Brahma, Gerdau, Iochpe, Randon and Vasp (Brazil); Chilgener, Enersis/Endesa, Luksic, Matte (Chile); Bimbo, Carso, Dina, Gruma, Geo, Posadas, Visa/Femsa, Vitro (Mexico).	Bemberg, FV, Socma, etc. (Argentina); Alpargatas Santista, Amil, Marcopolo, TAM, etc. (Brazil); Bofill, Errazuriz, Larrain, Pathfinder, Said, Sigdo Kopper, etc. (Chile); Desc (Mexico).
Goals	Increasing oil reserves. Augmenting the size of the corporation. Strengthening of regional/global competitive position. Access to technology and human resources. Search of strategic alliances and technological best practices.	Becoming a global player. Lower growth rate in the construction of new public works (Impsa, Odebrecht). Becoming a regional player.	Proximity to customers. Geographic diversification in order to disperse risks. Control of market outlets. Exploitation of regional markets (NAFTA, MERCOSUR). Avoidance of tariff and non-tariff barriers. Privatization in host markets.	Proximity to customers. Exploitation of integrated (NAFTA, MERCOSUR) and "ethnic" markets. Avoidance of tariff and non-tariff barriers. Privatization in host markets.
Ownership advantages	Management and marketing skills Common belonging to ARPEL, a "club" of oil Latin American public enterprises For Petrobras: Linkages of the Government of Brazil with host country Governments (Africa, West Asia, Latin America) Technical capabilities in offshore exploration.	Good knowledge of process and product technologies. In a few cases, endogenous innovative capabilities (Cemex, La Moderna-Seminis). Management and marketing skills. Financial management skills. Management of big public works (construction). Adaptation to cultural, geographic, economic, etc. conditions in host countries. Home country's government assistance or relationships with host country's Governments (construction).	Productive, management and marketing skills. Financial management skills. Technical, productive or marketing knowledge derived from domestic learning processes, which can be exploited in other countries. Good knowledge of process and product technologies. In a few cases, there are endogenous technological developments. Capabilities of adaptation of host country's tastes and exigencies (in the Mexican case, this includes the "ethnic" markets). Especially for Chilean firms: Capacities to compete in open and deregulated economies. Skills in rationalization and restructuring processes. Management of former public enterprises and knowledge of regulatory schemes in host markets.	Generally associated to management, financial and marketing skills; lesser importance of technological assets. Technical, productive or marketing knowledge derived from domestic learning processes, which can be exploited in other countries. Especially for Chilean firms: Capacities to compete in open and deregulated economies. Skills in rationalization and restructuring processes. Management of former public enterprises and knowledge of regulatory schemes in host markets.

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Table 5. The main features of the internationalization of Latin American firms in the 1990s (concluded)

Motivations	Resource seeking (oil)[a]	Global-efficiency seeking	Market seeking, regional	Neighbouring countries
Internalization advantages	Control over raw materials. Access to technology and human resources. Strategic capitalization of the firm (this is the case of the private firms in this group:YPF, Pérez Companc).	Market power. Provision of complementary goods and ervices. Geographical and productive specialization of their different facilities. Access to technology (La Moderna-Seminis)	Market power. Difficulties in the transfer of mainly tacit O advantages. Control of marketing channels. "Common governance" advantages. Regulatory exigencies in host markets.Customers requirements (car components).	Market power. Control of marketing channels. Regulatory exigencies in host markets. Customers requirements (car components).
Locational advantages	Raw materials. In developing countries: cultural/geographic proximity. In developed countries: technology and human resources.	Market size.Access to third markets (e.g. European Union). Regulations in host markets (especially in construction activities). Access to innovative firms and institutions and technological networks.	Market size. Cultural/geographic proximity. Previous knowledge of markets in lesser developed countries. Host country's markets with insufficient or low quality domestic provision. Regional integration schemes (MERCOSUR, NAFTA.Host country regulations. Structural reforms in host countries (trade liberalization, privatization, deregulation). Prevalence of competence and consumption patterns similar to those in force in home countries.	Market size. Cultural/geographic proximityRegional integration schemes (MERCOSUR, NAFTA. Structural reforms in host countries (trade liberalization, privatization, deregulation). Prevalence of competence and consumption patterns similar to those in force in home countries.
Forms of investments	Mainly joint ventures.	Mainly through acquisitions. Majority controlled joint ventures.	Mainly through acquisitions. Majority controlled joint ventures.	Acquisitions and greenfield investments. Joint ventures are less common.
Status of affiliates	Stand alone.	Simple and complex integration.Stand alone (construction).	Stand alone. There are trends towards simple integration in some cases.	Mainly stand alone.
Other features	Strategic-asset seeking (technology, human resources, strategic oil reserves). Market seeking in downstream (YPF, Petrobras). Petrobras and YPF operate with global strategies. There are public enterprises in this groups (Petrobras, ENAP).	Strategic asset seeking (marketing channels, market position, technological assets — especially in the case of La Moderna-Seminis).	There are some firms with efficiency seeking and strategic asset seeking strategies (marketing channels, market position).	There are trends towards efficiency seeking strategies at MERCOSUR.There are very few firms with strategic asset seeking strategies.

[a] There are some isolated cases of resource-seeking strategies in agribusiness and forestry. Investments in banking are often financial-resource seeking.

First, changes in the macroeconomic scenarios and in the economic policy regimes need to be considered in each country. A complex relationship between the *timing* of the reforms, the macroeconomic scenarios and the internationalization process of domestic firms seems to exist. Greater competition from imports or the entry or expansion of foreign firms have forced many local firms to engage in efficiency-seeking activities, upgrade product quality and introduce more sophisticated marketing and financial techniques. In this way, firms enhance their O advantages. (See the studies included in Peres, 1998, which present empirical evidence about the upgrading of the competencies and capacities of many Latin American economic groups in the 1990s.) At the same time, macroeconomic stability and the growing availability of international funds have made access to international money markets possible. Among other things, this access has facilitated the financing of outward FDI. This has been especially relevant for Chilean firms, whose credit rating has been higher than that of most of the other Latin American economic groups in the 1990s.[7]

Second, structural reforms generally included the privatization of public enterprises, which are obviously attractive for economic groups. Hence, their outward expansion may be delayed until these business opportunities are exhausted. Furthermore, the experience and competencies gained in domestic privatizations is a key ownership advantage to be exploited in foreign countries (as done by Chilean firms in the electric power industry, acquiring public enterprises in Argentina, Brazil, Peru, Colombia and other Latin American countries).[8] Finally, unilateral trade liberalization and regional integration are both a challenge and an opportunity for domestic firms. In this new scenario, to be able to preserve and expand their own market positions, many firms are increasingly convinced that they have to compete in regional and, in a few cases, even in global markets.

The fact that Chile and Mexico, the first Latin American countries to engage in structural reform programmes, were also the

[7] It has been suggested that Chile has become a "recycling" centre for international funds (Calderón and Griffith-Jones, 1995).

[8] Nearly 40 per cent of Chilean outward FDI was concentrated in electric power utilities by 1997.

first countries to enter the third wave of outward FDI from Latin America,[9] seems to provide broader support to the argument that a linkage exists between structural reforms and FDI outflows by Latin American firms in the 1990s. Indeed, outward FDI began to rise in Argentina in 1994, four years after the beginning of the structural reforms, while Brazil, the last of these four countries in adopting a programme of structural reforms, is still a relatively laggard in the third wave of FDI from Latin America.

When all these factors are taken into account, the relative lower importance of Brazilian FDI is better understood. Structural reforms have started later and applied in a more gradual manner than in the other countries. Large Brazilian firms have been mostly interested in the privatization process that took place in the second half of the 1990s. Given the persistence of macroeconomic problems, they have had less access to foreign financing, while domestic interest rates are high. At the same time, domestic firms were reluctant to accept the trade liberalization process as definitive, and were late in adopting regional or global strategies to face the new reality.

Besides the effects of size, structural reforms and regional and global competition, other specific push factors for investing abroad were present in some cases. Depletion or limited growth perspectives in domestic markets (this is more apparent in Chile), insufficient availability of raw materials in the home country and the fact that many firms have already acquired dominant positions in their domestic markets are among the most important push factors observed in the case studies.

The investing firms: countries and industries of destination

With the exception of some Brazilian economic groups, Techint, Enersis and the oil companies, the firms under study have annual sales of less than $4 billion. (This is similar to most Asian TNCs, except the leading Korean *chaebols*, whose sales are between

[9] FDI by Chilean and Mexican firms began to surge since the late 1980s and early 1990s, while in Argentina the same process began in 1994. In Brazil, as noted earlier, though outward FDI flows have increased in the 1990s, they are still not significant as percentage of GDP (table 1).

$30 and $60 billion). The sales of their affiliates abroad as a percentage of total sales vary considerably; but in certain cases, especially in Mexican firms, the coefficient is higher than 50 per cent.

The majority of foreign affiliates have been established by economic groups, though some Brazilian medium-sized enterprises made significant investments as well. The State-owned oil firms of both Chile and Brazil have also engaged in FDI. As mentioned before, although economic groups with international investments are generally managed as family firms, a trend towards a more professional management style and more transparent business methods is visible in those firms, especially in the Chilean case where institutional investors have a marked presence.

Though there are cases of investments in the United States, Canada, Europe, Japan and some developing economies in East Asia, the bulk of current Latin American FDI is directed towards Latin America, especially to neighbouring countries. Argentine and Chilean firms have significant investments in Brazil; Brazilian firms in Argentina; and Chilean firms invest heavily in Argentina and Peru. In the Mexican case, there are significant investments in Central America, in northern South America and in the United States (the latter operations are often meant to serve communities of Mexican origin in that country).

Investments meant to compete in developed countries' markets are rare (e.g. Techint, Carso, Cemex, La Moderna-Seminis, Odebrecht, Sabó). Furthermore, in some cases such attempts failed or were truncated for different reasons. Vitro, for example, had significant investments in the glass market in the United States, but has recently sold these due to financial problems. Brazilian car components firms in the United States and Europe have been mostly taken over by European TNCs. And Brazilian textile firms in Europe that, in most cases, had not been able to make significant inroads in that market have closed or sold their facilities.

The FDI specialization patterns of economic groups are similar to those displayed in their domestic activities. Affiliates are doing business abroad mainly in services, mature industries or

resource based activities. Some industries appeared in all or at least three of the countries under study (oil, banks, food and beverages, engineering and construction). Country specific advantages are shown in some industries (e.g. pharmaceuticals and steel in Argentina; textiles, steel, paper and air transport in Brazil; electric energy, forestry, paper, copper metallurgy and commerce in Chile; cement, glass, television and hotels in Mexico).

Some isolated cases of internationalization in skill-intensive industries can be found: pharmaceuticals, custom-made capital goods, telecommunications and information services in Argentina; car components and transport equipment in Brazil; and biotechnology, television, telecommunication services and transport equipment in Mexico. It is important, however, to emphasize that, unless these firms are able to participate (probably as second-layer enterprises) in networks dominated by TNCs, the possibilities of maintaining their market position in industries such as telecommunication services, car components, pharmaceuticals and biotechnology are quite low. In this sense, it is important to bear the following facts in mind:

- in skill-intensive branches in which Brazilian firms have made more advances in the internationalization process by investing in the United States and Europe during the 1980s (e.g. in car components), most domestic firms have been taken over by TNCs;
- the most interesting case among the third-wave firms, La Moderna-Seminis, has advanced in the biotechnology industry by acquiring innovative firms in developed countries rather than by endogenous efforts. The La Moderna-Seminis biotechnology business is now part of an alliance network led by Monsanto at the global level;
- Argentinean pharmaceutical firms with FDI have accumulated strong marketing capabilities which, jointly with their own R&D efforts, have allowed them to expand not only in their home country but also in the regional market; nonetheless, this development took place in a context in which Argentina did not recognize pharmaceutical product patents. Since, due to pressures from the United States, the patent legislation was changed and pharmaceutical patents are now recognized, domestic firms have begun to modify their strategies. They

have started to engage in alliances with TNCs: for, even if they possess a valuable asset (marketing capabilities), they have lost another key advantage (the possibility of copying drugs) and, at the same time, have reduced their R&D expenditures;

- IMPSAT, which has made significant inroads in the telecommunication services market in Latin America, sold 20 per cent of its stake to British Telecom in March 1999;
- Itron, an Argentine provider of information services, merged with Siemens in May 1999, to form a new society in which the German TNC has 60 per cent of the equity.

Firm strategies

The bulk of current Latin American FDI is market-seeking. But contrary to what had happened during the first wave, they operate now in open economies. This helps to explain why firms are often investing in the larger and more dynamic markets of the region and in some developed countries, rather than in protected and more underdeveloped countries, as was the case in the 1960s and 1970s.

Except in some isolated cases (agricultural raw materials in Argentina by Brazilian firms, Chilean investments in the Argentine forestry chain), resource-seeking investments are concentrated in the oil industry. However, greater oil reserves are not the sole objective of these investments. On the one hand, Latin American firms are attempting to make strategic asset-seeking investments to gain technological advantages and access skilled personnel, especially when they invest in industrialized countries. On the other hand, these investments are made to increase the market value of the firm and to strengthen its competitive position, therefore making the firm more attractive to eventual partners or acquirers.[10]

Taking into account the geographical scope of their operations, the enterprises under analysis can be classified in three groups: global, regional or restricted to neighbouring countries. As expected, few firms enter into the first group, though oil firms like

[10] The acquisition of the Argentine oil company YPF by the Spanish TNC Repsol for $15 billion in 1999 illustrates this alternative.

YPF and Petrobras have global strategies.[11] Regarding non-oil firms, it is important to distinguish manufacturing firms like Techint, Cemex and La Moderna-Seminis among global enterprises from engineering and construction enterprises like Odebrecht. While the former are trying to gain world leadership in specific market segments, the latter is global in the sense that its business horizon includes operations in several countries and even regions. In this sense, it is similar to the oil companies.

Among the global firms, the most relevant cases are Cemex (Mexico) and Techint (Argentina). While Cemex is the second largest world producer of cement, with plants in the United States, Europe and Asia, Techint accounts for 30 per cent of the world market in seamless pipes for the oil industry and operates a global network with a productive presence in Argentina, Mexico, Italy and Japan. Both firms have entered into a complex strategic game in which, to defend their positions in the domestic or regional markets, they have decided to invest in third markets to be able to counteract eventual threats in their market positions by their global competitors.

The search for a global position makes it unavoidable for these firms to combine market-seeking with efficiency-seeking investments and to search for more complex integration strategies among their affiliates. In this connection, firms in this first group have significant marketing and management capacities, they are in possession of modern product and process technologies (in some cases they also have significant innovation capacities), and they have good access to financial resources.

Regional enterprises are the largest and also a more heterogeneous group. A common feature in almost every firm within this group is that they try to consolidate leading positions in their respective regional markets (a strategy greatly favoured by integration schemes like MERCOSUR or NAFTA). Some cases of efficiency- and strategic asset-seeking strategies have been found among regional

[11] Though Petrobras has investments in a great number of countries, including the United States and Europe, these investments are more important in qualitative rather than in quantitative terms, since the weight of Petrobras foreign activities in the firm's total turnover is quite low.

enterprises, but they are less common than in the first group. Firms operating basically in neighbouring countries are also numerous. They share many of the features of regional firms. However, efficiency- or strategic asset-seeking are less relevant than in the latter group. They also exhibit a lower propensity *vis-à-vis* regional enterprises to look for local partners, perhaps due to the relatively low risk attached to their investments. In some cases, FDI in neighbouring countries can be considered as an eventual first phase in acquiring a regional outlook.

In most cases, the internationalization process took place through acquisitions of existing firms. In some instances, the acquired firm had some valuable strategic assets such as technology and human resources (both factors are present especially in investments in developed countries), an important market position or marketing networks. Stand-alone affiliates are predominant, though incipient trends towards simple or even complex integration strategies can be detected (especially, as mentioned before, in global and regional firms).

Finally, the evolutionary nature of the internationalization process needs to be underlined. This process often starts with exports and is followed by the establishment of sales of productive units. A learning curve is visible in which new challenges and opportunities are generated and the firms are gaining experience in foreign operations. Furthermore, outward FDI cannot be explained without paying attention to the previous development of the firm in the home market and the process of generating ownership advantages to be eventually exploited abroad.

OLI advantages

The ownership advantages of Latin American TNCs are mainly based in management capacities, good (and often tacit) knowledge of well-diffused technologies, efficient quality and production management, good marketing experience and access to financial resources. In the Chilean case, O advantages derived from the capacity to compete in open economies and to manage privatized firms seem to be more important than those acquired before the

structural reforms phase. In the other countries, the mix between old and new ownership advantages seems to be more balanced. In some cases, O advantages are also strongly based on the capacity to work in similar cultural environments and in the knowledge of tastes and specific conditions in certain markets, due to geographical, cultural, linguistic or "ethnic" proximity.[12]

As a rule, the O advantages of Latin American TNCs are not derived from endogenous advanced technological assets, as it is usually the case in TNCs. The kind of technological assets that allowed Brazilian firms, especially in car components, to make investments in Europe and the United States in the 1980s and early 1990s are not common among "third wave" firms. Nonetheless, two outstanding cases of O advantages partially based on technological capacities are Petrobras in petroleum extracting offshore technologies and (via the acquisition of innovating firms) La Moderna-Seminis.

Internalization advantages in this type of FDI are derived from the kind of O advantages possessed by the firms (mainly tacit and hence difficult to license) and from the need to gain market power at the global or regional level via FDI. At the same time, in some cases management control is the way to capture strategic assets like technology and human resources not accessible through other forms of international expansion.

Locational advantages vary accordingly to firm strategy. Raw material availability is decisive for resource seekers. Size and growth perspectives of the host market are the key drivers for market-seeking investments. For investments in industrialized countries, the existence of strategic assets seems to be an important L advantage. As mentioned, cultural and ethnic proximity is also significant L

[12] There are some cases in which O advantages are based on historical events concerning the origins of the respective economic group. These are the cases of Techint (Argentina), which acquired a facility in Italy which had been managed by the group founder before he emigrated to Argentina, and of Luksic (Chile) and Staroup (Brazil), which acquired former public enterprises in Croatia and Hungary, the countries from which the controlling families of those economic group had emigrated to Chile and Brazil, respectively. In fact, Staroup bought a firm which was owned by the family who controlled the group before it was expropriated by the socialist regime that preveiled in Hungary after World War II.

advantages in FDI in other developing countries and in Mexican investments in the United States.

The OLI advantages of this wave of Latin American FDI are quite different from those present in the first wave and in the Asian-led second wave. Hence, the theories of third-world TNCs, in spite of their intrinsic merits, are not sufficient, by themselves, to capture the nature of what we have termed the third wave of FDI from developing countries.

As discussed above, O advantages during the first wave usually rested on technology adaptation, were mostly country specific and the result of a protected environment in which import substituting industrialization took place. Such advantages were particularly useful for investments in neighbouring countries that had similar L advantages (i.e. barriers to imports) and that were less developed than the home country. Hence, Wells' and, especially, Lall's theses were apt in order to explain that stage of Latin American FDI.

Today, globalization, trade liberalization and the massive entry of FDI in Latin America make it very hard to compete on the basis of "tropicalized technologies" (as it could have been the case in the past). These forces tend to erode, though not to eliminate completely the idiosyncratic advantages of Latin American firms for doing business in regional markets. These advantages, in a context of deep changes in dominant organizational and productive practices around the world, are no longer sufficient either to survive in the domestic market or to maintain the internationalization process. Hence, firms have to incorporate new intangible assets, both firm- and country-specific, to compete in the new environment. On the basis of the capacities previously accumulated, these new assets have facilitated the competitive upgrading and the internationalization process of Latin American firms.

In this scenario, it is fairly evident that the third wave cannot be explained on the basis of Wells' theory. Regarding Lall's theses, they point out some important features of the first as well as of the third wave (e.g. the role of domestic conglomerates and the stress on the evolutionary nature of the technological learning process). Nonetheless, the FDI operations of the third wave have some key

features that distinguish them from those analyzed by Lall. One of them is the fact that technology adaptation is not the main O advantage of Latin American firms, but rather their organizational, financial and marketing capacities. Another key difference is the fact that Latin American markets are less idiosyncratic than in the past, which means that processes and products employed and sold by Latin American TNCs cannot be much different from those of conventional TNCs. Finally, nowadays most Latin American economic groups undertake an internationalization strategy via FDI as a mean to survive within the globalization process, since they face the dilemma of "to buy or to be bought". During the first wave, instead, FDI was a means to exploit fully O advantages in neighbouring markets that were protected from imports competition.

The third wave of FDI is also distinct from the Asian-led second wave. On the one hand, in the latter, many Asian firms invested abroad to reduce labour costs, a motivation not found in Latin American FDI. On the other hand, Asian economic groups, especially those from Republic of Korea and Taiwan Province of China, operate in skill-intensive industries, and some of them have significant endogenous innovation capacities that have allowed them to invest heavily in developed countries (Mirza, 1999). This is not the case for most Latin American FDI. Even those few Latin American firms operating in advanced technology activities do not seem to have entered yet into a path of technological accumulation as described by Cantwell and Tolentino (1990) to become genuine innovators. This feature introduces fragility in their internationalization process, to be discussed in the concluding section.

Impacts on investing firms and home countries

From the findings of the four national studies surveyed in this article, a clear consensus on the positive effects of FDI for the investing firms emerges. They have been able to improve their market position and expand their size, and often have also increased the volume and valued added of their exports. FDI has also allowed better access to international financial sources and has facilitated the restructuring processes of economic groups. At the same time, outward FDI has made it possible for firms to exploit in a better way

their tangible and especially intangible assets and to take more advantage of their core competencies in activities in which they are competitive.

The effects on the home countries are more difficult to assess. It is important to bear in mind that the literature on the subject is mostly on developed countries, although some studies have also been made on home economies of Asian TNCs (Whitmore et al., 1989). From this literature, and contrary to the past arguments on the negative effects of outward FDI on the level of domestic investment and especially employment, agreement seems to emerge that outward FDI is an unavoidable and positive phenomenon. Not only firms increasingly need outward FDI to be able to maintain and increase their competitiveness, but the home economies are also generally considered to be better off when a substantial number of domestic firms are able to compete in international markets with affiliates abroad. In view of these conclusions, it is not surprising to find that both the developed countries and developing Asian economies have specific policies to encourage outward FDI (see UNCTAD, 1995, for a review).

Latin American outward FDI has so far received less attention and, except in Chile, the effects on the home economies have hardly been analyzed. Our studies have begun to shed some light on this issue. However, since only little time has passed since the third FDI wave has started and proper data are scarce, the following are only preliminary observations.

In the case of Chile, there is a clear consensus among researchers that outward FDI is a positive factor not only for the firms but also for the home economy. For dynamic Chilean economic groups it makes more sense to invest their growing profits abroad in activities in which they have competitive advantages than to diversify further their business in their small home economy. However, since an important proportion of outward FDI is financed with funds borrowed in international financial markets, this is an initial negative impact on the balance of payments.

The Argentine and Mexican studies also point to some positive overall effects: increases in exports, entry into new markets, access

to information and technological assets, human resource development, etc. In the Argentine case, a comparison was made between economic groups and foreign affiliates operating in Argentina, suggesting that the former not only localize their decision-making processes in Argentina, but may also exhibit a greater propensity to export and to reinvest profits, take more advantage of locally developed technological assets and of indigenous human resources and rely more on domestic value-added chains.

In the case of Brazil, outward FDI, as mentioned before, is still of relatively little significance. Hence, its impact on the domestic economy as a whole is small. Nonetheless, it is interesting to highlight the fact that, in that country, in which in the past the Government tried on different occasions to restrict outward FDI due to balance-of-payments difficulties, the project of fostering the development of Brazilian TNCs gained momentum in 1999, though few concrete initiatives have been undertaken up to date in that direction.

While the studies underline the positive side of the third wave, they also show that outward FDI so far has not generated many externalities for the home economies, and, in fact, does not seem to have contributed yet significantly to the overall competitiveness of the home countries involved. Specific policies are required, then, if outward FDI from Latin American firms is meant to contribute significantly to their home economies.

Conclusions

For a growing number of Latin American firms (and especially for the economic groups), an internationalization strategy is becoming indispensable for their own survival and expansion in the current regional and global scenario. Instead of following a diversification path and invest in activities not related to their core competencies (as it was often the case during import substituting industrialization), by investing abroad domestic firms can better exploit their intangible assets and achieve scale economies from them. As competitiveness is defined in many industries by global parameters, FDI becomes a valuable tool for firms to protect and expand their market positions, to increase the value-added in their exports, to obtain valuable technological assets and to upgrade the skills of their human resources.

In this connection, the current wave of Latin American FDI cannot be separated from the trade liberalization and restructuring process of the respective home economies. Hence, it is not surprising to find that Chile and Mexico are the early movers in the third FDI wave, that Argentine firms have followed the same path a few years later and that Brazil has been a laggard. The sequence in which the firms from the four countries have engaged in outward FDI operations is to some extent a mirror of the sequence in which each of those countries have adopted structural reforms programmes.

The changes in the rules of the game in their home economies have induced a modification in the O advantages endowment of leading firms. The intangible assets accumulated during import substituting industrialization were insufficient to meet the challenge of a more open and deregulated environment. Nowadays, firms need new capacities, both at the productive and technological level as well as at the marketing and finance level, to be able to compete in a more efficient way. As part of their restructuring processes, a concentration in the activities in which they have core competencies and where they can better compete with TNCs is visible in most cases. Hence, it is not surprising to find economic groups mostly operating in mature industries, generally resource based, and in some services activities.

Nonetheless, other push factors, such as the size of the home economy, are also important to explain the different volumes of outward FDI by each of the countries under analysis. Changes in competitive conditions in certain industries have also pushed some firms to engage in outward FDI in order to become regional or even global players.

The internationalization process becomes, then, an important component of the firms' restructuring process. In so far as investing abroad has made a consolidation of their specialization patterns possible and has given access to assets like markets, technologies and human resources, a feedback process sets in. Competitiveness gains (which are the main objective of the restructuring process) may be consolidated through FDI. While not all experiences with outward FDI have been successful, failures seem to have been the exception to the rule in the 1990s.

Given these conditions, it is plausible to assume that a growing number of Latin American firms will enter into an internationalization path to be able to maintain their competitive positions in a global environment. This situation can be summarized in the dilemma faced by many domestic firms "to buy or to be bought", in a scenario in which TNCs have shown a growing propensity to invest in Latin America.

What are then the perspectives of the internationalization process of Latin American firms? The third wave seems to be built on more solid pillars compared to the first wave, especially due to the fact that the O advantages of the investing firms are no longer idiosyncratic, adapted to protected and underdeveloped markets. Nonetheless, there are two main weaknesses in this new phenomenon, which are related not only to the type of firms involved in FDI operations and to the prospects of the industries in which they are specialized, but also to the relative underdevelopment of their home economies.

The relative small size of the Latin American firms as compared with traditional TNCs and even with some East Asian firms with outward FDI is a major constrain for a sustainable internationalization path. The costs of obtaining financial, technological and human resources are greater than those faced by their competitors based in industrialized countries and in some Asian developing economies. Hence, it becomes difficult for many Latin American firms to compete internationally, especially in those industries in which competition is globalized or where technological change is rapid. This may explain the fact that many of the third-wave firms that had made successful investments abroad have been bought or merged with TNCs from developed countries (YPF, Enersis, Itron), while others engaged in strategic alliances with leading international corporations in their respective market segments (IMPSAT, La Moderna).

When it comes to the specialization pattern of internationalized Latin American firms, it looks more sustainable in food, beverages and industrial commodities than in the other industries. Though brands and marketing strategies are increasingly global in food and beverages, the possession of local brands and

distribution networks are key assets in domestic and regional competition. This is clearly illustrated in the beer market where TNCs have generally entered in the region through minority partnerships or licensing agreements, and Latin American based firms have kept strong positions. In industrial commodities like steel, aluminium, cement, paper and pulp, and petrochemicals, TNCs are increasingly leaving a number of market segments to their competitors from developing countries. Hence, in these areas Latin American firms have good growth prospects.

On the other hand, in the few cases in which the firms under study competed in knowledge-intensive goods, a sustainable internationalization process is more uncertain. Scale economies are significant in the production and commercialization of the standardised segments of these goods. They are less important in certain niches facing diversified demand, like customized software and biotechnology. However, in all knowledge intensive products, a systematic endogenous innovation effort is a must for catching up and keeping up with the moving technological frontier. A similar situation exists in consumer durables like cars and electronic appliances. Brand competition through a flow of new products is the name of the game. This implies large design and marketing costs that only large TNCs are able to afford. Multimedia services are an area in which a specialization pattern also seems to be difficult to sustain.

Hence, although the firms and the environment in which they are doing business in this third FDI wave are quite different compared with the import substituting industrialization phase, the industries in which they seem to be able to keep a solid competitive position are essentially the same. In fact, technology and skill-intensive activities are even less frequent than in the past.

In comparison, Asian firms are generally more internationalized than Latin American enterprises. They have made more inroads in technology and skill-intensive activities than their Latin American counterparts, in accordance with the technological accumulation path and the outward orientation of the economic regimes of Asian newly industrializing economies.

In this connection, our findings lend some support to the "FDI development path" hypothesis suggested by Dunning (1988), as regards the linkage between development styles, public policies and amounts and types of outward FDI. The growth of FDI outflows from Latin American countries is explained not only by their level of development, but also by the adoption of more outward oriented economic strategies since the 1980s. The absence of industrial, educational and technological policies like those implemented in the more advanced Asian countries also explains why there are few FDI operations by Latin American firms in high-technology or skill-intensive industries.

The significant financial, technological and human resources constrains for a sustainable internationalization process by Latin American enterprises are to some extent a consequence of the many weaknesses that characterize their home economies. Their domestic capital markets are small and mostly geared towards short-term finance. Their educational systems do seldom produce the kind of manpower and management personnel required for competition in open economies. Their scientific and technological institutions suffer from a lack of funds, motivated skilled personnel and modern equipment and libraries. The infrastructure (telecommunications, transport, energy), though improving, still requires substantial investments. The network of specialized suppliers that characterizes modern industrial economies is generally missing or underdeveloped.

These considerations highlight the fact that, while the second-wave TNCs of the Republic of Korea and Taiwan Province of China may be in a transition to became conventional TNCs (as suggested by Dunning et al., 1997), it is by no means clear that the third-wave firms are following the same path. In this sense, the deficiencies of the internationalization path of Latin American *vis-à-vis* East Asian firms replicate those of the respective home economies.

Overcoming the structural problems of Latin American economies implies not only time but also systematic efforts and well designed public policies, including in areas such as education, workforce training, science and technology and financial markets. In the meantime, Latin American economic groups have partly solved

some of these structural problems by adopting a conglomerate form of business organization. Furthermore, by engaging in outward FDI, these enterprises may obtain some of the mentioned resources in other countries or from other firms through strategic alliances with TNCs.

As shown in some of the global companies under study, they are indeed obtaining such resources when making strategic asset-seeking investments. This is possible if, at the same time, they upgrade and professionalize their management, make more transparent their governance mechanisms and build an in-house capacity to be able to absorb those strategic assets and transform them into O advantages. Partnerships with TNCs are certainly a means used by several Latin American firms to upgrade their technologies and carry out outward FDI. However, it is a risky process in which they may not become more than junior partners or, at worst, they may finish by being taken over by a TNC.

Hence, these microeconomic responses are only second best solutions to the fragility of Latin American FDI. In so far as some of the structural problems of the home economies are solved, not only more externalities will be generated by outward FDI, but domestic enterprises will also obtain more benefits from the resources they are obtaining in other countries or in their partnerships with the TNCs.

It is apparent that the internationalization process of Latin American firms was mainly a spontaneous process, i.e. without specific policies to foster it. It is thus important to formulate strategies to facilitate their internationalization process as part of a policy set aimed at strengthening the competitiveness of Latin American enterprises. A key part of these strategies is to enhance the created assets available for Latin American firms in their own home economies. This means a greater availability of skilled human resources, efficient domestic capital markets, competitive local suppliers, and adequate technological and communication infrastructure among other key elements. Initiatives such as the development of clusters at regional and local levels, the creation of venture capital funds and enterprise incubators, the encouragement of intramural R&D and the strengthening of the linkages between private firms and public research laboratories and universities are

also relevant elements for this kind of strategy. In this way, not only will domestic firms acquire better O advantages to compete both in the home and foreign markets, but the home economies will also reap more spillovers and social benefits from outward (and also from inward) FDI. At the same time, both firms and home economies will enhance their productive specialization patterns, advancing towards knowledge-intensive industries.

The main problem is then to convince policy makers, entrepreneurs, workers and citizens that without solid domestic firms embedded in dynamic productive and innovation systems and with a growing international presence, it is difficult to take advantage of globalization, and it is even more difficult to neutralize its negative consequences. It is to be hoped that the findings of this article may to some extent contribute to solving this problem. ■

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Economic determinants and institutional frameworks: FDI in economies in transition

Carlo Altomonte*

This article uses a newly developed database of foreign direct investment in the economies in transition in Central and Eastern Europe, and panel data techniques to show that, at the industry level, a consistent modelling of foreign direct investment flows needs to take into account not only the traditional determinants considered in the literature, including the recent developments on gravity models, but also variables linked to the institutional environment in which such investment is undertaken. The inclusion of variables affecting the risk, uncertainty and timing of foreign direct investment is in line with the main findings of the real option theory of investments. The design of an efficient, transparent and enforceable legal and institutional framework is shown to be a crucial determinant of foreign direct investment by modifying investors' expectations. The article concludes with policy implications.

Introduction

The transition process to a market economy undertaken by the formerly centrally planned economies of Central and Eastern Europe (CEE)[1] should have created, at least in principle, ideal conditions for the attraction of transnational corporations (TNCs).

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[1] The countries of Central and Eastern Europe (CEE) examined here comprise the ten countries that have started negotiations for accession to the European Union (EU): Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

Nevertheless, after a decade, the process of east-west market integration has failed to be as straightforward as the early economic predictions might have implied. Foreign direct investment (FDI) inflows into CEE were 9 per cent of the flows directed to all developing countries in 1998, and only about 2 per cent of world FDI flows (table 1).

Table 1. FDI inflows in the CEE, 1986-1998

(Millions of dollars and percentage)

FDI inflows	1986-1991	1992	1993	1994	1995	1996	1997	1998
Bulgaria	10	42	40	105	90	109	505	401
Czech Republic	99	1003	568	862	2559	1428	1301	2540
Estonia		82	162	215	202	150	267	581
Hungary	430	1471	2339	1146	4453	1982	2085	1935
Latvia		29	45	215	180	382	521	274
Lithuania		10	30	31	73	152	355	926
Poland	84	678	1715	1875	3659	4498	4908	5129
Romania	7	80	94	342	420	265	1229	2063
Slovakia	29	100	168	245	195	251	177	466
Slovenia	12	111	113	128	176	186	321	165
CEE's share of developing countries FDI inflows (percentage)	*2.3*	*8.7*	*6.7*	*5.1*	*11.3*	*6.9*	*6.8*	*8.7*
CEE as a share of world FDI inflows (percentage)	*0.4*	*2.5*	*2.4*	*2.0*	*3.7*	*2.6*	*2.5*	*2.2*

Source: UNCTAD (1999).

However, a closer examination shows that the impact of FDI has been relatively important, since FDI inflows accounted on average for 9 per cent of the gross fixed capital formation (GFCF) of the CEE in 1998, a figure comparable to that of many developing countries. The relevance of FDI flows for the host countries is certainly not homogeneous: the above mentioned ratio ranges from 3 per cent for Slovakia, to 41 per cent for Latvia in 1998, while for Hungary and Poland, FDI inflows account for almost a fifth of GFCF (UNCTAD, 1999). The pattern of TNC operations in CEE displays a rather complex picture: most surveys have, implicitly or explicitly, recognized the heterogeneity of FDI in that region in terms of project

characteristics and investment determinants at the industry and country levels.[2]

Various economic theories developed in the past decade have attempted to understand the different patterns of FDI in CEE (Artisien et al., 1993; Motta and Norman, 1993; Vannini, 1995), but none of them have yet been tested empirically. And survey studies have not fully developed, neither tested, possible links between their findings and economic theory.

This article attempts to develop those links using econometric estimations of FDI determinants in CEE derived from the investment theory literature, with a particular focus on industry-specific factors. Section 2 describes the data set used, together with the derivation of some "empirical regularities" of the theoretical model. Section 3 briefly summarizes the main findings of the traditional FDI literature, while section 4 reviews the latest developments in the investment literature (real option theory) applied to the case of international production of goods. Sections 5 and 6, respectively, test the formal econometric model and present the results. Section 7 concludes with a summary of the findings, their policy implications and a brief presentation of some future lines of research.

Descriptions of the data set

The data set consists of 2,500 investment operations undertaken by TNCs in CEE during the period 1989-1996.[3] For each single operation, the database records the country of origin and destination of the investment, the year, the industry (NACE - Nomenclature of Economic Activities in the European Union at two, three and four-digit levels) and, for most operations, the number of employees of foreign affiliates.

[2] For a comparison of the results of different surveys on FDI in CEE up to 1994, see European Bank for Reconstruction and Development, *Transition Report 1994*, table 9.4, p. 130. For more recent surveys, see Meyer (1995), Lankes and Venables (1996) and Konings and Janssens (forthcoming).

[3] The database PECODB has been developed by the ISLA Centre of Research of Bocconi University, Milan, Italy, under the direction of Sergio Alessandrini and with the financial assistance of DGIII-Industry of the European Communities.

The data set shows that FDI in Central and Eastern Europe is a complex phenomenon, involving different home and host country policies and firm strategies.[4] By and large, one can identify three main stylized facts arising from the operations of TNCs in the area.[5]

- *TNCs operate in different sectors, implying different investment strategies*. The manufacturing sector accounted for 62 per cent of foreign initiatives in CEE. Using the K. Pavitt (1984) classification of industries, the database shows that, out of the total FDI undertaken in CEE in the manufacturing sector, almost 43 per cent of the operations were undertaken in industries for which economies of scale are important, and hence market size is a significant determinant of FDI flows (market-seeking FDI).[6] Another 43 per cent of the operations are in traditional industries, mostly producing consumer goods with a significant labour content. Those operations suggest the presence of mainly efficiency-seeking FDI, i.e. investments aimed at exploiting local relative advantages, in particular labour. The remaining 14 per cent are undertaken by firms operating in specialized and high technology industries. As far as the services sector is concerned (35 per cent of the total number of operations are in this area), the importance of FDI is due to the large number of projects in telecommunications and electricity distribution.

- *The timing of reforms is important*. Poland, Hungary and the Czech Republic account for the majority of FDI inflows in CEE. These countries have been widely recognized as the leaders in terms of liberalizing reforms in the region (EBRD, various issues). They have implemented policies that have created a balanced and solid macroeconomic environment, which includes extensive deregulation, openness and reforms of the industrial and financial industries and labour market. The link

[4] The following analysis is based on the results of the research "EU foreign direct investments in Central and Eastern Europe", and in particular on Altomonte (2000).

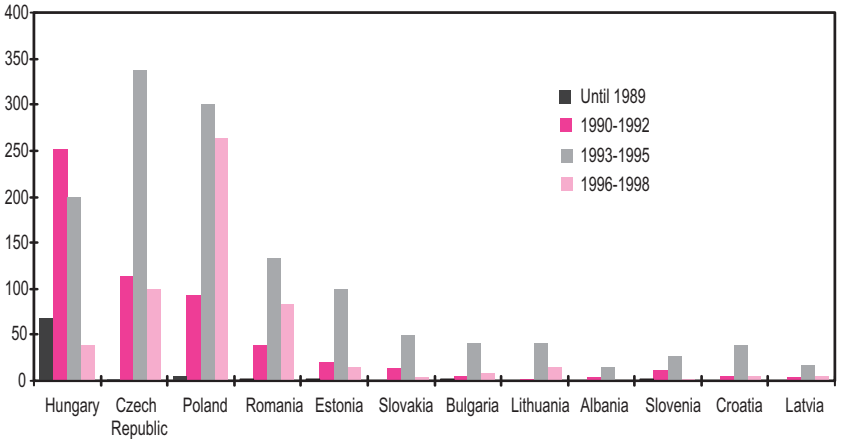
[5] Given the research design of this article, the analysis is based on the number of investments undertaken in CEE, rather than on the value of FDI. This choice, although yielding some slight differences at the macroeconomic level (compare figure 1, based on number of investment operations, with table 1, reporting FDI values), allows for a better control of FDI microeconomic determinants.

between economic reforms and FDI inflows is reflected in the timing of FDI inflows (figure 1).

In particular, Hungary was the first COMECON country to allow foreign participation in joint ventures in 1972. In 1988, Hungary moved to a rules-oriented system of FDI that was later (1991) also adopted by the Czech Republic and Poland. Hungary's early move to a transition economy attracted up to 110 FDI projects until 1990, while there were only 10 in Poland and 2 in the Czech Republic (figure 2). Hungary then lost its leadership, respectively, to the Czech Republic in 1993 and Poland after 1995, once these countries implemented economic reforms. In the case of Poland, for example, the effects of liberalization policies on FDI were somewhat delayed until 1992, when the macroeconomic stabilization programme begun to show results. FDI inflows increased immediately after the Privatization Law of 1990. In 1993-1994, the total number of projects in that country was greater than in Hungary.[7]

Figure 1. Western European operations in CEE, by host country and year, 1987-1998

(Total number of FDI operations)



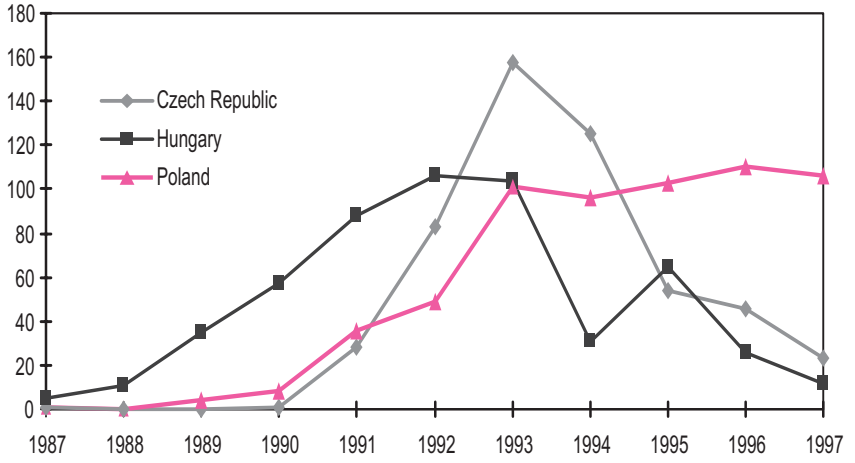
Source: Database PECODB, ISLA-Bocconi.

[6] For an in depth analysis of different TNC strategies, see Dunning (1992).

[7] For further empirical evidence on the relationship between the timing of reforms and FDI, see Altomonte (1996), Lankes and Venables (1996) and Brunetti, Kisunko and Weder (1997).

Figure 2. Western European FDI projects in the Czech Republic, Hungary and Poland, 1987-1997

(Total number of FDI operations)



Source: Database PECODB, ISLA-Bocconi.

- *Geographical proximity matters for Western European FDI.* In terms of the number of investments, German, Italian and Austrian entrepreneurs have been the most active investors, followed by France, the United Kingdom, the Netherlands, Sweden and Finland. However, the patterns of these investments are not homogeneous across the recipient countries, and a number of clusters can be identified (table 2). The "north-European" cluster, represented by the FDI operations of Sweden and Finland in the Baltic States, the concentration of German FDI in the core CEE countries, and the tendency for Italian FDI to be relatively more concentrated in the Balkan region are clear examples of these clusters.

The traditional FDI economic determinants

The traditional model of international production has become known as the eclectic or OLI paradigm, from the initials of the set of three variables (ownership, localization and internalization advantages) that are considered as determinants of FDI (Dunning,

Table 2. The clustering of FDI operations in CEE, 1990-1996 [a]

(Percentage share of total number of operations in host country)

Home country	*Bulgaria*	*Romania*	*Slovenia*	*Czech Republic*	*Slovakia*	*Hungary*	*Poland*	*Estonia*	*Latvia*	*Lithuania*	*Total*
Germany	14.0	13.8	17.4	27.4	15.3	20.7	20.8	6.2	8.9	16.8	20.0
Austria	7.9	4.9	18.8	11.5	14.4	17.6	5.2	1.0	4.4	2.1	9.7
Italy	14.9	20.7	31.9	6.3	21.6	18.3	10.8	1.5	0.0	2.1	12.7
Netherlands	3.5	7.8	1.4	6.3	5.4	4.0	5.6	2.1	2.2	1.1	5.1
France	7.9	10.4	5.8	9.2	8.1	7.3	8.1	1.0	0.0	3.2	7.7
United Kingdom	7.9	3.7	5.8	5.7	5.4	4.0	5.0	3.6	8.9	7.4	4.9
Finland	0.0	0.3	0.0	0.3	0.0	1.1	1.9	36.4	15.6	6.3	3.1
Sweden	0.9	2.9	0.0	2.4	3.6	2.2	6.2	17.9	20.0	11.6	4.7
Total EU-15	**77.2**	**77.2**	**87.0**	**76.2**	**76.6**	**79.4**	**72.3**	**76.4**	**71.1**	**65.3**	**75.9**
United States	13.2	11.2	5.8	13.4	12.6	11.3	16.8	19.0	24.4	23.2	14.1
Japan	1.8	0.3	1.4	2.3	1.8	2.2	1.4	0.0	0.0	0.0	1.5
Rep. of Korea	2.6	2.0	1.4	0.5	2.7	1.8	1.3	0.0	0.0	1.1	1.2
Switzerland	5.3	4.3	2.9	5.1	2.7	2.8	3.4	1.5	0.0	4.2	3.8

Source: Database PECODB, ISLA-Bocconi.

[a] The Western European clusters (highlighted in grey) were the top five destinations for each home country.

1992). The eclectic paradigm has been employed largely as a general tool of reference for explaining the pattern of FDI. J. Markusen (1995) reinterpreted John Dunning's model within the neo-classical theory of trade and investment. In his framework, TNCs arise endogenously as the result of combinations of transport costs, factor endowments and countries' size. Ownership advantages, through the notion of knowledge-capital, play a crucial role in supporting TNCs: thanks to superior knowledge, these firms are able to generate cost advantages in terms of lower fixed costs (with respect to traditional exporting firms) in each market in which they operate. Internalization advantages within the Markusen framework are created given the characteristics of knowledge capital: the property of knowledge that makes it easily transferred to foreign location makes it easily dissipated; hence TNCs find it more profitable to establish an affiliate over a rent-dissipating licensing contract.

Empirical implications of this framework have been derived in the literature by applying "gravity models" of international trade to the theory of international production. Gravity models,[8] originally conceived to explain bilateral trade flows, predict that trade between two countries' "masses" (sizes) are weakened by the "distance" (transport costs) between them. As a result, they are particularly suited to be employed as testing tools for the Markusen model. Following the literature,[9] one can hypothesize that FDI flows are dependent on:

H1: the *size of the market* of the host country;
H2: the *potential demand* of the local consumers;
H3: the geographical *distance* between markets.

At a first glance, the hypotheses developed by the gravity models seem to be consistent with previous hypotheses, in that they stress the importance of the distance between the host and home countries and the market-seeking component of FDI.

[8] The original gravity model literature originated with Tinbergen (1962) and Linnemann (1966). More recent contributions include Bergstrand (1985, 1989) and Matyas (1997).

[9] Brainard (1997) and Eaton and Tamura (1996) provided some preliminary application of gravity models to FDI theory. Brenton and Di Mauro (1998) applied this analysis to the case of FDI flows into the CEE.

Within the OLI framework, the literature has explored the issue of relative labour costs, also considered as a potential determinant of FDI. Although there is mixed evidence for the significance of labour costs for the geographical distribution of FDI,[10] this hypothesis may be consistent with the finding of a relatively important efficiency-seeking component in the FDI flows directed to the CEE, as outlined in section 2. Hence the hypothesis that FDI is a function of:

H4: the relative comparative advantage of a host country as regards the *cost of labour.*

Modelling the institutional framework for FDI

Traditional FDI determinants do not take into account the relationship between the timing of reforms and FDI. The OLI framework includes as a location advantage a general variable measuring the "political stability" of a host country. However, empirical tests of the influence of a host country's political stability have failed to give conclusive evidence about the presence and direction of causality. Different proxies for "political stability" have been tested in the literature with respect to the patterns of FDI flows, from "the number of riots" to "assassinations per thousands of inhabitants". These exercises were not able to find a clear-cut answer to an eventual causality nexus between a not-too-well defined concept of political stability and FDI flows.[11]

In order to overcome this drawback, it seems relevant to include here the theory of real options, one of the most recent developments in investment theory that has not yet been applied to FDI. The general idea behind the theory of real options is that each investment operation can be modelled as a purchase by the investor

[10] Kravis and Lipsey (1982) found the labour cost component to be the least important coefficient in their study of the location of production for export by the affiliates of United States TNCs. Yamawaki (1993) found a statistically significant negative correlation between real labour costs and the geographical distribution of Japanese investments in Europe during the 1980s, but a positive one on an analogous exercise with a different data set (Yamawaki and Thiran, 1995).

[11] See Brunetti and Weder (1997) for a good survey.

of a financial call option, where a premium is paid for the right to buy an asset after a given time and price (exercise price). The predetermined price is different from the spot market price of the asset (strike price). Analogously, the firm, in its investment decision, pays a price (the cost of setting up the project) that gives it the right to use the capital (exercise price) now or in the future, in return for an asset worth a strike price. In this approach, the calculus of profitability of each single investment operation cannot be done by simply applying the net present value rule to the future expected cash flows of the operation, but has to consider that: there is uncertainty over the future rewards from the investment; there can be some leeway about the timing of an investment; and the investment is partially or completely irreversible (Dixit and Pindyck, 1994; Abel et al., 1995; Pennings and Sleuwaegen, 1998).

Given these characteristics, an investment decision is taken on the basis of the economic agent's expectations and beliefs about the future behaviour of the economic variables, which cannot be predicted with certainty. As a result, investors might want to adopt a "wait-and-see" strategy, postponing their investment from period *t* to period *t+1* in order to get more information, refine their expectations and reduce uncertainty.[12] This, of course, entails an opportunity cost of waiting in terms of possible missed opportunities should the economic variables in period *t+1* be such that the investor would have made profits had the investment been undertaken at time *t*. In addition, the investor has to take into account in the decision process the fact that the initial cost of the investment is at least partially sunk, i.e. the investor cannot entirely recover it, should there be a change of mind. In real option theory language, if the value of the "wait-and-see option" is higher than the net present value of the investment, then the FDI decision is postponed.

Looking at the OLI paradigm with this theoretical framework in mind, the traditional FDI determinants can generate ambiguous

[12] Uncertainty in this model is measured in two ways: an investors' expected uncertainty, i.e. the probability that the individual assigns a positive outcome to the future evolution of the economic variables, and the underlying volatility in the distribution of the same economic variables.

effects due to the different ways of discounting the future expected cash flows (net present value rule versus real option methodology). In particular:

- *Ownership advantages*. The cost of waiting when undertaking an investment project varies with the industry and with firm-specific characteristics. In particular, if a TNC's ownership advantage is easily replicable, or if the industry structure is such that it supports only a limited number of profitable firms,[13] the opportunity cost of waiting and postponing an investment is high (the value of the wait-and-see option is low); hence, it is likely that, notwithstanding the uncertainty, the investment will be undertaken. However, on the contrary, if a TNC's ownership advantage is unique and not easily replicable, or the market structure does not support first mover advantages, the TNC could, in an uncertain environment, find it more convenient to postpone an investment (the wait-and-see option is more valuable). This is in contradiction with the eclectic paradigm, which associates higher ownership advantages analogous to the immediate undertaking of FDI.

- *Internalization advantages.* Within the real option framework, the full reversibility of an investment operation generates no incentive in postponing it, since, in any case (should the uncertainty be resolved with a negative outcome for the firm), all costs incurred can be recuperated. On the contrary, the greater the irreversibility of an investment, the greater is the value of the wait-and-see option (since uncertainty is discounted at higher rates), and hence the possibility that the investment is postponed. The OLI paradigm states that, the higher the internalization advantages, the higher the convenience of undertaking FDI. This is in contradiction with the previous finding, since internalization advantages are by definition associated to high transaction costs: if this is the case, it is then very difficult to revert through the market the costs generated in exploiting these advantages should the uncertainty

[13] The industrial economics literature refers to this case as the "strategic" moves of TNCs in order to exploit "first mover advantages"; see Veugelers (1995).

be resolved with a negative outcome for the investing firm. Hence, higher internalization advantages can lead to higher irreversibility of the costs incurred in the investment operation and, hence, by increasing the value of the wait-and-see option, can induce the postponement of the FDI decision rather than its undertaking, in contradiction with the predictions of the eclectic paradigm.

As a result, a model based only on the theoretical construct of the OLI framework risks yielding a biased set of FDI determinants, given the potential contradictions previously outlined. This might be the case particularly when dealing with CEE, a group of countries characterized by significant expected uncertainty and relatively high macroeconomic volatility.

On the contrary, the theory of real option defines an economic model in which the variables capable of reducing both the level of expected uncertainty of an investor and the overall macroeconomic volatility of a host country are crucial in the determination of FDI. Clearly, those variables are related to the OLI *localization advantages*, but are not limited to the political stability of the host economy (and the risk of expropriation of the sunk capital). Instead, they are part of a more general set that can be identified in the institutional framework in the host country, such as the regulatory environment of foreign operations, which guarantees the respect of a minimum set of rules in terms of competition, transparency and enforceability of laws. An efficient institutional framework is likely to send a signal to foreign investors that reduces their expected uncertainty. Incidentally, it can also improve, via a more efficient functioning of the markets, the economic performance of the host economies, thus fostering in different ways FDI.[14]

When applying the framework of the real option theory to the case of FDI in CEE, it fits nicely with the empirical evidence of a link between the timing of reform and the undertaking of FDI, since progress in the transition, improving the local institutional framework in the directions previously outlined, is likely to send a signal of

[14] "Reduction or elimination of unnecessary uncertainty may be the best kind of public policy to stimulate investment", Dixit and Pindyck (1994, p. 14).

"certainty" to investors. According to the real option theory, within a more certain environment the opportunity cost of waiting is *ceteris paribus* increased, hence FDI is more likely to be undertaken rather than postponed.[15] As a result, according to the real option theory, it is likely that FDI inflows in the area will depend on:

H5: the *expected uncertainty* of investors, related to the efficiency, transparency and enforceability of the institutional framework of the host economies;
H6: the underlying *macroeconomic volatility* of the economy;
H7: the degree of *irreversibility* of an investment.

The empirical proof of these issues is shown in sections 5 and 6.

The econometric model

The proposed econometric model rests on a set of panel data recording the number of investments in each industry *i* over host country *j* at time *t* (cross-sectional, time-series model). The total number of observations is 2,340, covering 39 industries *i*, over 6 years *t*, in 10 host countries *j*.[16] As a result, the panel data set is balanced. The dependent variable INV_{ijt}, measures the number of investments undertaken by a TNC in industry *i* at time *t* for each host country *j*. However, given the relevant number cells where there is no or just one FDI project,[17] the underlying Poisson theoretical distribution has been strongly biased. Since a probit model is a better fit, a binary formulation of the dependent variable is used in which INV_{ijt} takes the following values:

$$\mathbf{INV_{ijt}} = \begin{cases} 1 & \text{if an FDI operation is registered in industry } i \text{ of country } j \text{ in year t} \\ 0 & \text{otherwise.} \end{cases}$$

[15] Lankes and Venables (1996) show some explicit evidence of the link between deferral of planned FDI projects and transition progresses.

[16] The countries are Bulgaria, the Czech Republic, Hungary, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

[17] The fact that in a given industry/country in a given year there are no investments is in any case a significant piece of information.

As a result, a random-effects probit model on the specified panel will be estimated. The estimation technique is based on a generalized estimating equations (GEE) approach applied to a generalized linear model (GLM).[18] Consider the following GLM:

$$g\,(\mathrm{E}\,(y_{ijt})\,) = \mathbf{x}_{ijt}\,\beta, \qquad y \sim \mathrm{F} \text{ with parameters } \theta_{ijt,}$$

where y_{ijt} is the dependent variable, $\mathbf{x}_{ijt}$ the vector of regressors and b is the vector of coefficients to be estimated. The function $g(\cdot)$ is called the *link function*, while F is the *distributional family* of *y*. Given the assumptions of the model, the link function is defined as $\Phi^{-1}(\cdot)$ (i.e. the inverse Gaussian cumulative), while the distributional family F is assumed to be binomial. In this case, the GLM is used for the estimation of a standard probit model.[19]

Finally, in order to exploit the data set over the entire span of the independent variables chosen, only manufacturing FDI (the classification of sunk costs available covers only this sector) is measured, and even this is restricted to Western European FDI, in order to avoid the bias in the measurement of distance introduced by the fact that for non-EU TNCs (in particular, United States TNCs) it is not possible to distinguish whether the investment originated in the parent company or in the EU affiliates.[20]

[18] The GEE approach used follows in particular Liang and Zeger (1986).

[19] The identity link and the Gaussian distributional family would produce a standard OLS-type model. However, with respect to the standard GLM approach, in this case, the peculiar (panel) nature of the data set has to be taken into account via the imposition of a specific structure on the within-groups' (industries, in the case considered) correlation matrix. In other words, one has to drop the standard hypothesis that the correlation of observations within different groups is zero, that is, the observations are homogeneous (drawn from the same population). Instead, an exchangeable correlation structure is imposed on the within-groups correlation matrix, that is, a constant correlation of observations within different groups (i.e. industries in the case considered). As a result, the chosen link function, distribution family and correlation structure yield a random-effects probit regression model, which will be estimated through the maximization of an appropriate likelihood function.

[20] These restrictions on the data used for the estimation end up in employing roughly 65 per cent of the total available operations recorded by the database. Altomonte and Resmini (1999) analyzed the spread of FDI in CEE finding different localization dynamics between services FDI (concentrated in the capital cities) and manufacturing ones (more homogeneously distributed), without, however, significant differences in the FDI determinants at the host country level.

In terms of independent variables, according to the working hypothesis mentioned above, they will be constructed as follows:[21]

- The market-seeking component of FDI can be measured through the traditional variables entering gravity models, i.e. the population of the host country over time, $\mathbf{POP}_{jt}$, as a proxy for the size of the market of the host country and the per-capita gross domestic product $\mathbf{GDPPC}_{jt}$ (measured in nominal dollars) as a proxy for the potential demand of the local consumers. Both variables should exhibit a positive sign.

- Geographical distance is measured as the distance (in kilometres) between the capital cities of the host countries and an EU "average" location, since the model has no home country specification.[22] The determination of the average location is weighted for each home country by the number of FDI projects undertaken in CEE. The introduction of a weighting in the average should yield more realistic measures of distance (in terms of impact on FDI) with respect to a generic, non-weighted "average" EU location. This variable, expressed as $\mathbf{DIST}_{j}$, is derived as the distance (in kilometres) that corresponds to the quickest road link between the two destinations (as derived by standard route mapping computer software). In other words, it tends to measure highway distances rather than line distances, in order to give a more realistic measure of transport costs. According to J. Markusen (1995), this variable should be significant with a positive sign.

- Efficiency-seeking considerations are proxied by the relative comparative advantage of host countries, as measured by the difference between the weighted[23] average of the gross monthly

[21] For a matter of homogeneity, all macroeconomic data related to CEE are, unless specified, derived from the OECD-CCET (Centre for Cooperation with the Economies in Transition) publication *Short Term Statistics*, various issues.

[22] Altomonte and Resmini (1999) found evidence of a "hub and spoke" pattern in the location of FDI in CEE (i.e. in the early days of transition western TNCs located in the capital cities and only subsequently moved to other regions of the host economies).

[23] A weighted EU average wage, using data for each Western European country, with the same weights used for the distance variable is employed.

earnings in manufacturing of the EU[24] and the corresponding figure for each Central and Eastern European country, on a yearly basis (both expressed in euros). The variable is indicated as $\mathbf{WAGE}_{jt}$, and the expected sign is positive (the higher the difference, the higher the convenience of an efficiency-seeking FDI). As it can be seen from annex 2, labour costs enter into the determination of the operations risk (ORI) index. However, the correlation between this variable and the difference in wages in this data set is negligible (table 3).

In order to measure the relationship between investors' expectations, the host country's institutional framework and FDI, two different measures are employed. First, a subjective index of transition (ORI), directly related to the degree to which complex operating conditions affect production and profits earned in the local currency by a foreign firm, is derived.[25] This index is constructed from interviews with a panel of economic consultants and business people; it measures the business operations' climate as expressed by the degree to which nationals are given preferential treatment and the general quality of the business climate, including bureaucratic and political continuity and the degree of enforceability of contracts. As a result, the index is, by construction, a subjective measure of transition: it is a good proxy for measuring the extent to which the local institutional framework affects investors' expectations, and hence the undertaking of FDI. This host country variable varies over time (i.e. it is expressed as $\mathbf{ORI}_{jt}$). Table 4 depicts the evolution of the ORI indicator over time and across host countries, showing also the coefficient of correlation of ORI with FDI inflows. The expected sign of the ORI variable is positive.

It is worth noting that, in general, transition indicators, such as those of EBRD or the World Bank, are strongly significant as

[24] The EU data are derived from Eurostat (1998). Both EU and CEE data are related to the average earnings of skilled and non-skilled workers.

[25] The index is calculated by BERI S.A, *Business Risk Guide*. Annex 2 explains the methodology of calculation. The indexes calculated by BERI S.A. have already been used in the literature as indexes of transition, although not within the real option theory framework; see among others Singh and Jun (1995) and Resmini (1999).

Table 3. Summary statistics and correlation coefficients

Summary statistics

Variable	Number of Observations	Mean	Standard deviation	Minimum	Maximum	*Unit of measure*
INV	2340	0.2512821	0.4338431	0	1	*Binary variable*
GDPPC	2184	2600.036	2002.645	204	9372	*Dollar millions, nominal*
WAGE	2145	1624.948	258.8819	748.12	2184.731	*ECU*
POP	2340	10.556	11.06843	1.5	38.6	*Millions*
ORI	2340	39.48333	4.369349	30	48	*Index 0-100*
LEGAL	2340	44.01667	7.400887	28	60	*Index 0-100*
DIST	2340	1444.766	376.8767	883.8901	1941.25	*Km*
PROD	2223	83.62302	66.67861	2.572893	366.9163	*Standard deviation*
SIZE	2340	333.014	276.631	28	6551	*Average number of employees*

Correlation coefficients

Observations = 2067

	GDPPC	POP	DIST	WAGE	ORI	PROD	SIZE	LEGL
GDPPC	1.0000							
POP	-0.1420	1.0000						
DIST	0.6032	- 0.0321	1.0000					
WAGE	0.2321	- 0.0115	0.3307	1.0000				
ORI	0.6829	-0.2423	- 0.7685	- 0.1555	1.0000			
PROD	- 0.4957	0.2392	0.2344	0.0391		- 0.3862	1.0000	
SIZE	.0010	0.0004	- 0.0018	- 0.0003		0.0010	- 0.0004	1.0000
LEGAL	0.7483	- 0.2819	- 0.8637	- 0.2036	0.8472	- 0.3821	0.0014	1.0000

Table 4. The ORI index (0-100) of business expectations and FDI inflows

(Variations of the index across countries and over time, and coefficient of correlation with FDI inflows)

Country	1990	1991	1992	1993	1994	1995	*Correlation coefficient*
Czech Republic	44	44	44	43	46	48	0.88
Hungary	43	43	43	43	42	46	0.96
Poland	34	35	35	37	40	44	0.97
Slovenia	44	39	40	43	44	46	0.87
Estonia	45	40	38	34	37	40	0.08
Slovakia	44	44	44	41	41	39	-0.80
Latvia	45	38	34	34	37	39	0.88
Lithuania	45	38	34	34	37	39	0.87
Romania	30	35	36	33	33	35	-0.22
Bulgaria	39	39	39	33	32	34	*-0.57*

Source: BERI S.A. for the ORI index, and author's calculations. FDI inflows are from UNCTAD, various years.

predictors of FDI inflows.[26] Of course, this finding raises some criticism about the effective independence of this measure from other variables that might eventually be responsible for the determination of FDI. For example, transition indicators could simply measure the extent of the privatization process. This, once coupled with a particular type of business of a TNC, might generate a high opportunity cost of waiting, especially if other competitors are trying to establish first-mover advantages in the area. In order to control for this problem, the degree and extent of the privatization process in the ORI index is but one of several components, as can be seen in annex 2.

When looking closely at the hypotheses derived by the real option theory, it is clear that they link the expectations of investors to the efficiency, transparency and enforceability of the institutional

[26] The previously quoted studies exploring the link between FDI and the timing of reforms all "suffered" by this excessive weight given to the variables measuring the level of transition.

framework, rather than the rules and laws. "FDI requires an ability to exercise corporate governance without arbitrary bureaucratic interference and a transparent and fair regulatory and legal environment" (EBRD, 1998, p. 81). As a result, in order to have a sort of benchmark for ORI, the model is tested with an "objective" index of transition, measuring the degree and the extent of the legislative framework in each country, in particular with respect to the repatriation of capital and the practices on dividends, royalties and other compensations, on the basis of a comparison with the legal framework of a modern market economy. The legal variable, expressed as $\mathbf{LEGAL}_{jt}$, does not therefore include investors' expectations, nor subjective judgements on the quality of the local institutional framework.[27] The sign of the variable should be positive. However, if the theoretical model previously sketched is correct, the variable should not be significant. In fact, as also pointed out by UNCTAD (1998), the effectiveness of the mere liberalization process is nowadays weakened as a FDI determinant, as more and more countries adopt it.[28] Instead, the capability of a single country to act as a host to FDI is likely determined by the efficiency and transparency of its institutional framework, thanks to the effects this has on investors' expectations.

Apart from the measures of transition presented, the underlying macroeconomic volatility of the local environment (another factor significantly influencing the undertaking of an investment according to real option theory) is controlled via the standard deviation of the production indices of the manufacturing sector of each host country over time. In order to take into account structural movements of the index, the yearly standard deviation has been weighted for the total standard deviation of the production index of the country over the time span considered (1990-1995). This index will be defined as $\mathbf{PROD}_{jt}$ and, in accordance to the theoretical predictions, it should be significant with a negative sign.

[27] Also, this index is calculated by BERI S.A, *Business Risk Guide*. Annex 2 explains the methodology of the calculation.

[28] "Policy liberalization is a necessary but not a sufficient determinant of FDI and other determinants have to come into play for investment to flow into the country", see UNCTAD (1998, chapter IV, p. 96).

The relationship between the undertaking of a FDI project and its irreversibility can be expressed through an index measuring the level of sunk costs for each industry or activity. An endogenous measure, as suggested by S. Davies and B. Lyons (1996), consisting of a set of four dummies for industries classified according to their advertising or R&D intensity is used. The dummy variable is denoted **SUNK-n$_i$**, where n = 1, ..., 4 measures an increasing degree of irreversibility of the investment (1 being industries with no R&D and no advertising intensity, 4 being industries with both, see annex 1).

A control variable has been introduced in order to take into account the firm-level dimension of the data set, since the model operates at the industry level via the aggregation of single investment operations. The control variable employed is the average size of the firms in each industry or activity, measured in terms of number of employees. The variable is **SIZE$_i$**.

Finally, year dummies denoted as **YEAR$_t$** are included to avoid a bias in the coefficient due to simple time series correlation in the data.

Hence, the complete random-effects probit panel model to be estimated is:

$\mathbf{INV}_{ijt}$.=	$\boldsymbol{\beta}_{ij}$ +	random intercept (industry effect)
	$\boldsymbol{\alpha}_1 \mathbf{GDPPC}_{jt} + \boldsymbol{\alpha}_2 \mathbf{POP}_{jt} + \boldsymbol{\alpha}_3 \mathbf{DIST}_j$ +	"gravity model" variables,
	$\boldsymbol{\alpha}_4 \Delta\mathbf{WAGE}_{jt}$ +	efficiency-seeking FDI,
	$\boldsymbol{\alpha}_5 \mathbf{ORI}_{jt} + \boldsymbol{\alpha}_6 \mathbf{LEGAL}_{jt} + \boldsymbol{\alpha}_7 \mathbf{PROD}_{jt}$ +	
	$\boldsymbol{\alpha}_8 \mathbf{SUNK\text{-}n}_i$ +	"real option theory" variables,
	$\boldsymbol{\alpha}_9 \mathbf{SIZE}_i$ +	control variable,
	$\boldsymbol{\alpha}_{10} \mathbf{YEAR}_t$ +	time dummies,
	$\boldsymbol{\upsilon}_{ijt}$	error component;

where: i = 1, ..., 39 NACE 2 and 3-digits industries in manufacturing (see annex 1);

j = 1, ..., 10 host countries (see annex 1); t = 1990, ..., 1995

$\boldsymbol{\upsilon}_{ijt} \sim i.i.d.\ (0, \boldsymbol{\sigma}_i^2)$; $\boldsymbol{\alpha}_k$ random coefficients.

The intercept $\boldsymbol{\beta}_{ij}$ captures the industry-specific unobserved heterogeneity, according to the standard modelling of random-effects,

by an unknown fixed industry-effect and a random industry-specific error component.

The time period considered is from 1990 to 1995 inclusive, with the exclusion of 1995 in the set of time dummies in order to avoid collinearity. The host countries are the ten countries of CEE which have applied for accession to the EU (annex 1). For industries, both the NACE 2 and 3-digits classification are used, in particular, the NACE 3-digits classification as proposed by Davies and Lyons (1996), based on the NACE-1970 revision, which classifies one hundred industries according to the degree of irreversibility of the investment. The NACE-1990 revision is used, which aggregates industries in the Davies and Lyons classification. They are now analogous to the NACE 2-digits level with a total of 39 industries. For a detailed classification, see annex 1.

Econometric results

Table 5 displays the results of the regression run using the general model previously developed, controlling for the robustness of the estimates.[29] Since all that is known about the random-effects estimator is its asymptotic properties, rather than reporting an F-statistic for the overall significance of the regressors, the model reports a Chi-squared statistic, whose value indicates a significant joint set of coefficients. The main findings can be summarized as follows:

- *Gravity model*. Among the variables derived from the gravity model, the local demand, measured by the levels of per capita GDP and the population proxy for the size of the market are, as expected, significant with a positive sign, even though per capita GDP displays a coefficient very close to zero. The market-seeking component seems to be a crucial determinant for the FDI of Western European firms in CEE. Distance,

[29] The procedure chosen imposes the Hubert/White/Sandwich estimator of variance in place of the traditional one. In panel data regressions, this alternative produces consistent standard errors even if the residuals across groups are not identically distributed, or the correlations within groups are not specified, as in the hypothesis.

instead, does not enter significantly into the determination of FDI flows. This is consistent with the importance of market-seeking strategies, for which distance is not necessarily a key determinant. As a result, when controlling for industry-specific effects, the gravity model approach does not seem to be totally appropriate for explaining FDI in transition economies.

- *Efficiency-seeking FDI.* The efficiency-seeking hypothesis is supported by the significance, with the expected positive sign, of the variable (WAGE) measuring the relative comparative advantage of CEE in its cost of labour. The relevance of this finding is however somehow reduced by the lack of significance

Table 5. Estimation results

(Robust standard errors in brackets)

Dependent variable INV	General model	Model 2
Number of observations	*2067*	*2067*
GDPPC	**0.00027*** **	**0.000267*** **
	(0.0000586)	**(0.0000594)**
POP	**0.0367741*** **	**0.0369947*** **
	(0.004868)	**(0.004895)**
DIST	0.0001032	0.0000915
	(0.0002342)	(0.0002356)
WAGE	**0.0049628*** **	**0.0049249*** **
	(0.0009093)	**(0.0009212)**
ORI	**0.0806804*** **	**0.806728*** **
	(0.0157962)	**(0.0158059)**
LEGAL	0.0123562	0.01214
	(0.0150212)	(0.015118)
PROD	**- 0.001083***	**- 0.0010875***
	(0.0006755)	**(0.0006747)**
SIZE	0.0000905	0.0000965
	(0.0000782)	(0.000061)
Davies and Lyons (1996)	No	-
Pavitt (1984)	-	**Yes**
Year dummies	**Yes**	**Yes**
β_{ij}	**Yes**	**Yes**
Chi-square	**188.40 *** **	**187.82 *** **
N = 39		

* Significant at the 10 per cent level.
*** Significant at the 1 per cent level.
Note: Coefficients of probit models express probabilities.

of the variable measuring geographical distance: there is no support for investment strategies driven mainly by the joint exploitation of low labour and transport costs, through the re-importing of semi-finished product in the home market. Rather, within market-seeking strategies, the comparative advantage of host countries in labour costs plays a role in the determination of FDI flows.

- *Institutional framework.* The inclusion of the variables related to the real option theory yields interesting results. In accordance with the hypothesis, the ORI variable, measuring subjective investors' expectations as derived from the local institutional environment, displays the highest coefficient recorded among the significant variables.[30] The hypothesis related to the role of a host country's institutional framework on the determination of FDI is therefore confirmed: any progress in the transition that ameliorates the "quality" of the local institutional environment reduces the investors' expected uncertainty, increases as such the opportunity cost of waiting for more information to come, and fosters as a result the undertaking of FDI. Instead, consistently with the previous discussion, the variable measuring the mere content and extent of the local institutional environment in which FDI operate (LEGAL) is not significant. Finally, the variable measuring the underlying degree of uncertainty of the economy (PROD) is negative, in line with the predictions of the real option theory, but not strongly significant (10 per cent level) once the time effect in considered in the model, probably because the macroeconomic risk factor in CEE is associated with the evolution of the transition process, something already captured by the time dummies.

- *Irreversibility of the investment.* Using the general specification of the model (table 5, first column, general model), the hypothesis that different degrees of irreversibility of investments affect FDI flows does not seem to be confirmed (the dummy variables measuring the irreversibility of the

[30] Recall that the value of the coefficients in probit models expresses the impact of changes in the regressors **x** in the probability of the event $y = 1$ to occur.

investment were never significant). However, using another endogenous measure of sunk costs via different industry classification dummies, (i.e. the Pavitt technological dummies),[31] the irreversibility of the investment resulted to affect significantly the probability of undertaking a FDI, in line with the theoretical hypothesis previously sketched (table 5, second column, model 2). Given the overall significance of the constant β measuring industry specific effects, it can be stated that industry differences characterized by varying sunk costs are relevant in determining FDI.

Finally, the control variable is not significant in the tests, while the time dummies are significant. Once the time effect is controlled, the significance for the variable measuring investors' expectations (ORI) is increased, and the model, in general, is better specified.

Conclusions and future research

This article has provided some support for the idea that the orthodox neo-classical theories of FDI, even in their latest formulations, are able to predict FDI flows only to a certain extent. The theory of real options, when applied to FDI, can be considered as a fruitful extension of the current theoretical framework, since it is able to consistently combine the existing interactions between irreversibility, uncertainty and the choice of timing of the operations.

One should, however, be aware that, notwithstanding this refinement, relatively simple empirical models cannot be taken as a general tool of interpretation of the extremely complex and multi-faceted phenomenon of FDI. The analysis shows that a thorough specification of the patterns of FDI flows has to take into account the host and home country dimensions, the industry characteristics and firm-level strategies, all considered together as different "layers", or aspects, of the investors' investment decision.

[31] Pavitt (1984) classified the different NACE 2-digits industries of activity in Economies of Scale, Traditional, High-Tech and Specialized, with different degrees of irreversibility. See annex 1 for a precise definition.

At the empirical level, the model presented here can be improved with a better specification of the industry, country and firm-specific effects. The endogenous measures used to highlight industry-specific effects should be refined by employing exogenous measures of irreversibility, such as, for example, investment in research and development as a percentage of a TNC's turnover. The issue of country specificity should be taken into account via a formulation of the model that allows for a more thorough measure of the distance between the home and host country. Finally, firm-specific effects, related to corporate governance aspects of TNCs, should be included in the model, since it has been shown in the literature that different ways of privatization tend to yield different results in terms of firms' performance.

In terms of policy implications, the evidence presented here has shown that, once explicit uncertainty is modelled, the variables related to the general economic and social environment of the host country become at least as important in the determination of FDI patterns as the "classic" economic variables, in general related to the macroeconomic environment and indicated in the literature as the main FDI determinants.

This implies that, with respect to the traditional policy mix of host countries, driven mainly by macroeconomic reforms that guarantee stability and economic growth, part of the efforts of governments should go in the directions of building an institutional framework which is perceived by investors as efficient, transparent and enforceable. As suggested by UNCTAD (1998, p. 288) and confirmed by the empirical evidence here, it is likely that, "as regards policy factors, the stabilization of the legal environment is the single most important factor expected to boost FDI flows in the future". ■

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Annex 1. NACE 2 and 3 digits classification of sunk costs

(Total: 39 industries)

No advertising and no R&D - Sunk1

151 and 152 (production and transformation of meat and fish); 156 (grains); 158 (fabrication of bread, tea, coffee and other alimentary products); 17 (textiles); 18 (clothing); 19 (leather); 20 (wood); 21 (paper and pulp); 22 (publishing and press); 252 and 262 (plastics and ceramics); 26 (other non-metallic products); 27 (metallurgy); 28 (metals); 292 (general machinery); 351 (ship building); 361 and 362 (furniture); 366 (other general manufacturing).

Advertising intensive - Sunk2

153 and 155 (vegetables, milk and dairy products); 157 (pet food); 159 (drink and beverages); 16 (tobacco); 363 and 365 (musical instruments and toys).

R&D intensive - Sunk3

241 and 242 (basic chemicals and agro-chemicals); 246 and 247 (other chemical products and synthetic fibres); 251 (rubber products); 291 (mechanical machinery); 294 and 295 (machine tools); 30 (office machines); 31 (electrical appliances, excluding domestic); 321 (electronics); 331 and 332 (medical and precision instruments); 343 (car components); 352 and 354 (railways; motorcycles).

Advertising and R&D intensive - Sunk4

243, 244 and 245 (paintings, pharmaceuticals and soaps and detergents); 293 (agricultural machines); 297 (domestic appliances); 322 and 323 (communication equipment); 334 and 335 (optics, photography, clocks); 341 (car production).

Economies of scale industries - ES

21 (paper and pulp); 22 (publishing and press); 241 and 242 (basic chemicals and agro-chemicals); 245 (soaps and detergents); 246 and 247 (other chemical products and synthetic fibres); 251 (rubber products); 26 (other non-metallic products); 27 (metallurgy); 297 (domestic appliances); 31 (electrical appliances, excluding domestic); 321 (electronics); 322 and 323 (communication equipment); 341 (car production); 343 (car components); 351 (ship building); 352 and 354 (railways; motorcycles).

Traditional industries - TR

151 and 152 (production and transformation of meat and fish); 153 and 155 (vegetables, milk and dairy products); 156 and 157 (grains and pet food); 158 and 159 (fabrication of bread, tea, coffee and other alimentary products including drink and beverages); 16 (tobacco); 17 (textiles); 18 (clothing); 19 (leather); 20 (wood); 28 (metals); 361 and 362 (furniture); 363 and 365 (musical instruments and toys); 366 (other general manufacturing).

Specialized industries - SP

243 (paintings); 252 (plastic products); 291 (mechanical machinery); 292 (general machinery); 293 (agricultural machines); 294 and 295 (machine tools); 334 and 335 (optics, photography, clocks).

High-tech industries - HT

244 (pharmaceuticals); 30 (office machines and computers); 331 and 332 (medical and precision instruments).

Sources: Davies and Lyons (1996), Pavitt (1984).

Annex 2. Operations risk index (ORI)

The objective of ORI is to gauge the business operations climate. Two variables were measured:

- the degree to which nationals are given preferential treatment; and
- the general quality of the business climate, including bureaucratic and political continuity.

Definition of the index

A permanent panel of ±105 experts around the world rated present conditions for the 15 criteria that measure a country's business environment from 0 (unacceptable conditions) to 4 (superior conditions). The criteria are weighted to emphasize critical success factors, and this expands the 15 criteria to a weighted total of 25. A rating of 4 on each criterion gives a perfect environment of 100. As a result, the ORI variables range from 0 to 100. The quality of the panel members is key to the concept. Executives in companies, banks, governments and institutions volunteered their ratings. All had extensive international experience. Geographic distribution was worldwide. A version of the Delphi method was used. Data were from a permanent panel. The first reply prepared by a panel member required research and care in matching the rating with the definitions of the criteria. Panellists were supplied with their previous replies, and the overall panel average per criterion was an input for decisions on current ratings.

Criteria and weights

The following have been used for over twenty years. ORI ratings are comparable since 1974.

Criteria	Weight	Criteria	Weight
Policy continuity	3	Labour cost/productivity	2
Attitude: foreign investors and profits	1.5	Professional services and contractors	0.5
Degree of privatization	1.5	Communications and transportation	1
Monetary inflation	1.5	Local management and partners	1
Balance of payments	1.5	Short-term credit	2
Bureaucratic delays	1	Long-term loans and venture capital	2
Economic growth	2.5		
Currency convertibility	2.5		
Enforceability of contracts	1.5		

Legal framework index (LEGAL)

Each of the six criteria is rated from 5 (best case) to zero (worst case) and weighted by either four or three. The weighted total of 20 times 5 equals the perfect legal framework.

Laws as written	Weight	Actual practices	Weight
Dividend, profit and salary remittances	4	Practices on dividends, royalties and other periodic compensation	4
Remuneration for non-dividend cash flow services	3	Practices on repatriation of capital	3
Repatriation of capital	3	Hedging opportunities against a devaluing currency	3

Source: BERI S.A., *Business Risk Guide*.

RESEARCH NOTE

Foreign direct investment in Africa: policies also matter

Jacques Morisset *

Africa has not been very successful in attracting foreign direct investment over the past few decades. When these countries were able to attract transnational corporations, it was principally the result of their (abundant) natural resources and the size of their domestic market. Still, this note demonstrates that a few Sub-Saharan African countries have generated the interest of international investors by improving their business environment, suggesting that they can become competitive internationally and attract foreign direct investment on a sustainable basis. This conclusion does not differ from the successful experience of countries such as Ireland and Singapore.

Introduction

For many observers, the capacity of African countries to attract foreign direct investment (FDI) is principally determined by their natural resources and the size of their local markets. Over the years, Nigeria and Angola have been two of the most successful countries because of their comparative location advantage in oil despite their unstable political and economic environments.

The apparent lack of interest of transnational corporations (TNCs) in African countries that have attempted to implement policy reforms has also contributed to support this argument. The

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balkanization of African countries is frequently used as an argument that this continent has been much less favoured than Asia and Latin America over the past decade. It has been argued that the reforms in many African countries have been incomplete and thus have not fully convinced foreign investors to develop activities that are not dependent on natural resources and aimed at regional and global markets. True, it takes time for a country to modify its image, especially when the State has a long tradition of policy intervention, and when the reforms have been mostly symbolic with the adoption of new texts that have not yet been translated into actions.

This note will identify which African countries have been able to attract FDI by improving their business climate. These countries show that pro-active policies and reform-oriented governments can generate FDI interest. This conclusion does not differ from the one reached for countries such as Singapore or Ireland. It simply makes the point that African countries can also be successful in attracting FDI that is not based on natural resources or aimed at the local market, but rather at regional and global markets, by implementing policy reforms. An econometric analysis of 29 African countries and a detailed review of two successful ones — Mali and Mozambique — will illustrate which policy factors have played a significant role in the improvement of their business climate — at least in the views of foreign investors.

Why? Determinants of FDI in Africa

Although there has been a considerable number of analytical and empirical studies on FDI inflows,[1] there has been a limited consensus on which factors play an unambiguous role in explaining the location decision of TNCs. It is generally accepted that market size and access to natural resources are crucial determinants in their decision processes.

Not surprisingly, the African countries that have been able to attract most FDI have been those with the largest tangible assets such as natural and mineral resources as well as large domestic markets.

[1] See for example, Wheeler and Mody (1992); Singh and Jun (1995); UNCTAD (1998).

About 65 per cent of total FDI inflows to Africa concentrated in South Africa, Nigeria, and Cote d'Ivoire in 1996/1997, which also accounted for about two-third of the sub-continent's GDP during the same period (table 1). The role of market size can be further evidenced by the

Table 1. FDI inflows and GDP: ranking of 29 African countries, average 1996-1997

(Millions of dollars)

Country	Net FDI Inflows	GDP
South Africa	2313.5	129 094
Nigeria	1566.0	36 540
Cote d'Ivoire	305.1	10 251
Angola	265.5	7 396
Tanzania	154.0	6 707
Uganda	148.0	6 555
Namibia	109.9	3 453
Ghana	101.3	6 762
Senegal	92.2	4 542
Mozambique	68.3	1 944
Zimbabwe	66.5	8 512
Zambia	64.0	4 051
Mali	61.6	2 532
Mauritius	46.7	4 151
Cameroon	40.0	9 115
Benin	31.5	2 137
Guinea	20.6	3 998
Chad	16.5	1 603
Kenya	16.2	9 899
Madagascar	12.1	3 552
Congo, Republic	8.5	2 298
Central African Republic	5.5	954
Ethiopia	5.0	6 330
Rwanda	2.4	1 771
Congo, Democratic Rep. Of.	1.5	6 904
Malawi	1.5	2 424
Burundi	1.0	1 137
Niger	1.0	1 858
Sierra Leone	1.0	940

Source: World Bank (1999).

almost perfect positive correlation between FDI inflows and GDP for a group of 29 African countries during 1996 and 1997 (the correlation coefficient equals 0.99).[2]

The role of natural resources in the location decision of TNCs is apparent through the sectoral allocation of FDI inflows within the region. Traditionally, about 60 per cent of FDI in Africa is allocated to oil and natural resources (UNCTAD, 1999). This is corroborated by the coefficient correlation between FDI inflows and the total value of natural resources in each country,[3] which appears close to unity (i.e. 0.94) for the group of 29 African countries during 1996-1997. The Africa region possesses not only large reserves of oil, gold, diamonds and copper but also more than half of the world's cobalt and manganese, one third of bauxite and more than 80 per cent of chromium and platinum. The sub-continent is also among the main exporters of agricultural products such as cocoa, coffee and sugar.

The strong reliance of African countries on their natural resources and market size has been well evidenced by many studies.[4] It might be more pertinent to look at which countries have been most successful in attracting FDI over the past few years, when they could not rely on the natural resources and the size of their domestic market. To do so, we propose to normalize the value of total FDI inflows by GDP and the total value of natural resources in each country. For simplicity, we label this indicator as the business climate for FDI (FDIBC):

$$FDIBC_i = FDI_i / (GDP_i * NR_i)^a \qquad (1)$$

where FDI is defined as the FDI inflows in country i, GDP as the gross domestic product and NR the value of natural resources (all of them expressed in dollars). Equation (1) assumes that the elasticities of FDI inflows to changes in GDP and natural resources are both

[2] The link between FDI inflows and size could be further explored, as, for example, one may argue that there may exist a non-linear relationship between these two variables. This goes, however, beyond the scope of this note.

[3] The total value of natural resources in each country is estimated as the sum of the primary and the secondary sectors, minus manufacturing. Source: World Bank (1999).

[4] See for example, Pigato (1999) for a review.

equal to unity (a = 1), which seem consistent with the estimated elasticities that will be reported later in the paper for the group of African countries surveyed in this note.[5]

Our indicator captures the attraction of African countries for FDI when they can rely on everything except for their natural resources and market size. Therefore, it reflects not only policy and political variables but also a series of structural factors such as infrastructure, transport costs and human capital. By indicating the attraction of the FDI business climate for each country, it complements the data collected in investors' surveys and cross-country ranking such as *The Africa Competitiveness Report* published by the World Economic Forum. One has to keep in mind, however, that our indicator reflects existing rather than potential data/information and, thus, might be a poor predicator of future FDI flows.

The ranking of 29 African countries according to the indicator proposed above is presented in table 2 (first column). In 1995-1997, the most attractive country was Namibia, followed by Mali, Mozambique, Zambia, Chad and Senegal.[6] The least attractive were Congo, Sierra Leone and Ethiopia. Preliminary findings for 1998 indicate that there have not been many changes in the ranking, with Mozambique and Namibia still on the top of the list.[7] A rapid comparison across regions reveals that Singapore had a FDI business indicator index twice as high as the best African country in 1995/ 1997. However, Ireland and Hungary were ranked about the same level as Senegal and Mauritius. This result may appear surprising at first sight, but one can observe that the flows of FDI were about the same in Senegal and Ireland, when compare to their respective GDP

[5] The assumption that both elasticities equal unity is valid for the group of African countries covered in this note. However, if the sample is widened to include industrial countries for example, this assumption does not hold because of the large differences in GDP level between countries (for example, United States and Burundi).

[6] The good ranking of Chad and Zambia reflects that the first country offers great oil reserves (not reflected in our indicator of natural resources) that have attracted companies interested to explore those possibilities; Zambia has followed a relatively aggressive privatization programme and liberalization policy.

[7] The 1998 ranking is incomplete because the data on FDI inflows are still missing for a few countries.

Table 2. Business climate for FDI: ranking of 29 African countries, average 1995-1997

Country	FDI/business climate [a]	ICRG political risk [b]	Institutional Investor [c]
Namibia	1	1	NA
Mali	2	12	13
Mozambique	3	11	18
Zambia	4	3	14
Chad	5	NA	NA
Senegal	6	13	6
Angola	7	18	20
Benin	8	NA	12
Mauritius	9	NA	1
Cote d'Ivoire	10	8	8
Tanzania, United Republic	11	5	10
Uganda	12	15	11
Central African Republic	13	NA	NA
Ghana	14	7	4
Madagascar	15	9	NA
Burundi	16	NA	NA
Rwanda	17	NA	NA
Zimbabwe	18	4	3
Congo, Rep.	19	14	19
Nigeria	20	17	15
Niger	21	20	NA
Guinea	22	19	17
Malawi	23	6	7
Cameroon	24	16	9
Kenya	25	5	5
South Africa	26	2	2
Ethiopia	27	10	15
Sierra Leone	28	21	22
Congo, Dem. Rep.	29	22	21

Sources: author's own calculations; Pigato (1999).

[a] The business climate index is defined as net FDI inflows normalized by GDP and the total value of natural resources in each host country.

[b] Political risk rating based on the opinion of banks, TNCs and other institutional investors indicating corruption, political and judicial institutions.

[c] Institutional Investor rating measures a country's creditworthiness, which is mostly determined by economic and financial variables.

in 1997 (about 3.8 per cent) and Ireland has, in dollars, more natural resources than Senegal. It may also reveal some of the limits of our indicator when the differences in GDP are too big across countries — the assumption that FDI is perfectly elastic to changes in GDP might not be robust across region or countries with large differences in GDP levels.

Our ranking can be compared with those obtained in some well known surveys such as the International Country Risk Guide (ICRG) and the Institutional Investors (II) ratings that are reported in the second and third columns of table 2.[8] If the ranking appears quite similar for a few countries,[9] there exist significant differences both at the top and bottom of the table. While South Africa, Zimbabwe, Kenya and Malawi appear in the bottom half of our ranking, they are on the top of the list for the two other indicators. On the other hand, Mali and Mozambique have not been ranked very high by the ICRG and II indexes but are among the most attractive countries according to our indicator.[10]

In our opinion, these differences can be explained the by more global concept captured by our indicator, which aims at reflecting the FDI that cannot be explained by the size of the local market and the availability of natural resources. As mentioned earlier, it reflects not only the policy and political environment in a host country but also a series of factors such as the geographical location, infrastructure and the stock of human capital. The ICRG and II indexes capture only two of these multiple elements: the political and financial risks

[8] Unfortunately, the Competitiveness Indicator developed by the World Economic Forum is not available for most of the countries covered in this note. However, Namibia and Mauritius were also well ranked in their 1998 ranking, but South Africa was perceived as much more competitive, while Mozambique much less than reported in this note.

[9] For example, Namibia has been traditionally perceived as a secure country, with satisfactory macroeconomic indicators, a good and reliable judiciary system and access to the large South African market. Similarly, the weak performance of Sierra Leone and Congo has been well publicized with their unstable political climate and multiple economic problems.

[10] In fact, the coefficient correlation between our indicator and the ICRG and II indexes is negative for the period 1996-1997 (see more details in the next section).

in each country. Another major difference is that these indexes are built with investors' surveys, mainly international banks, and thus are more subjective and forward-looking than our indicator that is constructed by using actual FDI flows and economic data. These differences can be illustrated by the cases of Zimbabwe and South Africa. Although Zimbabwe appears to be a country with low political (fourth out of 24 countries) and financial (third) risks, the fact of the matter is that most foreign investors have been reluctant to invest there. Their prudence may be explained by the weak growth performance over the past few years and numerous barriers against FDI, especially when Zimbabwe is compared to market-oriented neighbours such as Zambia, Uganda and Mozambique. Those obstacles are not captured by the ICRG or II index. The South African economy has benefited from large inflows of FDI in the recent years, but they have been mainly due to the privatization process, the return of companies based in neighbouring countries during the apartheid period and the interest of investors in the large domestic market (about three times greater than the second largest African country, i.e. Nigeria). Those factors are not related directly to the business climate, which remains quite problematic. The trade liberalization process remains timid with the exclusion of some important industries and relatively long transition periods. The economic growth performance in recent years has proved to be too modest to convince foreign investors, which is reflected in our indicator but not clearly in the ICRG or II index.

It might be useful to examine the variations in the business climate, as a source of attraction for FDI, for the group of 29 African countries over the past decade (table 3). At the end of the 1980s, the most attractive countries were Zambia, Mauritius, Chad and Benin. Then, in the early 1990s, Benin, Namibia, Chad, Zambia and Mozambique were ranked as the most performing countries. In the last few years, Namibia, Mali and Mozambique appeared on the top of the list. Overall, we found that the ranking has been relatively stable over time with about the same strong and weak performers, suggesting that it takes time to establish a good or bad reputation.

A few countries have shown significant changes in their business climate over the past decade. Foreign investors have recognized the progress achieved by countries such as Mali (from 26

Table 3. Comparison over time of the business climate for FDI in Africa

Rank	Average 1986-1990	Average 1991-1994	Average 1995-1997
1	Zambia	Benin	Namibia
2	Mauritius	Namibia	Mali
3	Chad	Chad	Mozambique
4	Benin	Zambia	Zambia
5	Rwanda	Mozambique	Chad
6	Niger	Angola	Senegal
7	Congo	Mauritius	Angola
8	Central African Rep.	Senegal	Benin
9	Guinea	Ghana	Mauritius
10	Namibia	Uganda	Cote d'Ivoire
11	Madagascar	Madagascar	Tanzania, United Rep.
12	Angola	Nigeria	Uganda
13	Mozambique	Guinea	Central African Rep.
14	Senegal	Rwanda	Ghana
15	Nigeria	Tanzania, United Rep.	Madagascar
16	Cote d'Ivoire	Congo	Burundi
17	Kenya	Mali	Rwanda
18	Burundi	Zimbabwe	Zimbabwe
19	Ghana	Malawi	Congo
20	Ethiopia	Burundi	Nigeria
21	Malawi	Kenya	Niger
22	Uganda	Cote d'Ivoire	Guinea
23	South Africa	Ethiopia	Malawi
24	Mali	South Africa	Cameroon
25	Congo, Dem. Rep.	Congo, Dem. Rep.	Kenya
26	Cameroon	Cameroon	South Africa
27	Zimbabwe	Niger	Ethiopia
28	Sierra Leone	Central African Rep.	Sierra Leone
29	Tanzania, United Rep.	Sierra Leone	Congo, Dem. Rep.

in 1986-1990 to 5 in 1995-1997), Uganda (from 24 to 13) and Mozambique (from 13 to 3) where FDI inflows jumped about 600 per cent, 100 per cent and 90 per cent, respectively, between 1993-1994 and 1995-1997. On the other hand, several countries have seen a severe deterioration of their investment environment: Rwanda (from 6 to 18), Niger (from 7 to 22), and Congo Republic (from 8 to 20). Those countries went through unstable political events during these years, with a strong and negative impact on foreign investment.

What makes a business climate attractive in Africa?

At first sight, there are no apparent patterns that emerge from the ranking presented in the previous section. It could have been a priori argued that the small, non-oil exporting and landlocked countries would have made the strongest effort to improve their business climate to attract foreign investors. There are two — complementary — approaches that can be followed to attempt to define what the successful countries have been doing right. First, an econometric analysis can help to identify the main factors. Second a description of the policy reforms implemented in a few successful countries may be practical. These two approaches are presented below.

The absence of reliable statistical data on most African countries precludes a rigorous econometric analysis. However, as a starting point, we proceeded with panel data and cross-country analyses of the 29 countries presented earlier in which we tested a number of explanatory variables. The selection of these variables was done on the basis of the existing literature and the following equation was chosen:

$$FDIBC_{it} = a_0 + a_1 g_{it} + a_2 IR_{it} + a_3 T_{it} + a_4 TM_{it} + a_5 UP_{it} \quad (2)$$

with:

$FDIBC_{it}$ = business climate for FDI in country i at time t
g = GDP growth
IR = illiteracy rate (percentage of people aged 15 and above)
T = trade/GDP
TM = telephone mainlines (per 1,000 people)
UP = ratio of urban to total population

Contrary to most econometric studies, we do not try to explain FDI inflows but rather the FDI that does not arise from market size and the natural resources available in the host country. Therefore, the dependent variable used in the regression is our business climate indicator as defined by equation (1). As discussed earlier, we assume that FDI inflows respond to a change in GDP or natural resources with perfect elasticity. To check the robustness of this assumption,

we have also estimated the same equation but with FDI inflows as a dependent variable and GDP and natural resources as explanatory variables. We found the respective elasticities of 0.91 and 0.92 and 1.4 and 1.2 in our panel and cross-country regressions (see table 4, third column).[11]

A brief explanation might be necessary for our selection of explanatory variables, which has been partly driven by the availability of data in the World Bank's database.[12] The economic growth rate should influence positively the business climate for FDI as it reflects an improvement in economic performance. Most recent studies have also evidenced that the degree of openness, as measured by the trade share in GDP, should influence positively foreign investors through trade liberalization and higher competitiveness. The illiteracy rate should be inversely related to the availability of relatively skilled labour — a major factor in the location decision of TNCs. The number of telephone lines per 1,000 people is viewed as an indicator of infrastructure and communication development. Finally, the recent literature has argued that investors can be lured by concentration of other companies or customers, since it reduces their transport costs and there are evident economies of scale in the development of backward and forward linkages. This argument might be partially captured by the share of urban population (as a percentage of total population). Note we will also test the relationship between our indicator of business climate and the political and financial risks indicators reported in the preceding section.

We estimated equation (2) for the panel data of 29 countries over the period 1990-1997. Alternatively, we proceeded with cross-country regressions using the average values of the selected variable

[11] Wheeler and Mody (1992) found that market size had a positive influence on capital expenditures by manufacturing affiliates of United States TNCs between 1982 and 1988, with an elasticity of 1.57. Elasticity for the highest income countries was 1.86, while that for the lowest-income countries was 0.74.

[12] For a good review of determinants of FDI in the African context, see Srinivasan (1999). Note that we tested additional explanatory variables to those reported in the text such as income per capita and a dummy variable for landlocked countries. However, those do not appear to influence significantly the business climate index.

during the same period. The panel data regression includes fixed-term effects because the results from testing the homogeneity of such effects indicate that the changes in the FDI business climate include critical time-correlated elements common to all countries.

The estimated results of our panel regression indicate that GDP growth rate and trade openness have been positively and significantly correlated with the investment climate in Africa (table 4).[13] The positive impact of trade openness seems to confirm the arguments that trade liberalization leads to a more general reduction

Table 4. Econometric results: sensitivity of business climate to policy variables

(T-statistics in parenthesis)

	Panel data [a]		Cross Country	
Dependant variable	FDI business climate	FDI inflows	FDI business climate	FDI inflows
Economic growth	0.123		0.101	0.587
	(1.90)		*(1.71)*	*(1.96)*
Trade openness	0.163	2.812	0.172	1.812
	(2.43)	(3.23)	*(1.94)*	*(1.50)*
Illiteracy rate	-0.209	1.097	0.139	0.489
	(-0.39)	(1.09)	*(1.33)*	*(0.80)*
Telephone lines	-0.0404	-0.407	0.0129	-0.144
	(-0.51)	(-0.42)	*(0.15)*	*(-0.46)*
Urban population	-0.978	-0.228	-0.0937	-0.525
	(-1.21)	(-1.26)	*(-0.49)*	*(-0.63)*
GDP		0.91		1.415
		(3.97)		(*4.28)*
Natural resources		0.92		1.214
		(7.04)		(*3.89)*
Adj R^2	0.08	0.433	0.04	0.56
Number of observations	236	236	29	29

[a] Fixed-term effects were used for our panel data regressions.

[13] Our findings are consistent with the results obtained by Elbadawi and Mwega (1997) in a recent regression analysis of FDI in Africa.

in administrative barriers and improve the business environment in the host economy — countries with low trade barriers also tend to have low barriers to FDI — as well as conveys the right signal to the international business community (Lall, 2000). In a more specific context, free trade zones have been much successful in attracting FDI with stable, growing economic environment and trade liberalization (Madani, 1999). In contrast, the illiteracy rate, the number of telephone lines and the share of urban population do not appear to have been major determinants in the business climate for FDI in the region. Those results corroborate those obtained in the cross-country regression. Note that we also tested the impact of political and financial risks (as measured by ICRG and II), but these did not appear significant in the business climate in our (cross-country) regressions. These findings are not surprising in view of the significant differences in the rankings presented in table 2, but contradict somewhat the results obtained in other studies. For example, Zdenek Drabek and Warren Payne (1999) found a highly positive correlation between the ICRG index and FDI for a sample of countries, including both industrial and developing countries. The inclusion of only four African countries in their sample may explain the difference between their and our estimated results.[14]

The above results are indicative but should be interpreted with caution because of several statistical and econometric problems. There are numerous data shortcomings in most African countries.[15] For example, it would be interesting to separate how much of the FDI inflows were the result of privatization receipts; but the data were not consistent and available for the surveyed countries over a sufficient period of time. Also, the variables used in the regressions may capture imperfectly the relationship with the business climate; for example the number of telephone lines does not always reflect the quality and costs of the telecommunication infrastructure in each country. The same problems can be associated with the illiteracy rate and the urban population. The estimated effects of the GDP

[14] A closer look at the data indicates that the variations in the ICRG index are not large across African countries, which are all at the bottom of the ranking. The influence of the political climate as investors' decision may only occur when there are significant differences across countries, which is the case in the Drabek-Payne sample as it includes countries such as Denmark and Sierra Leone.

[15] As indicated in the previous footnote, we tested additional variables.

growth and trade openness might be biased because of causality problems since changes in the business climate may determine and be determined by the GDP growth rate. Foreign companies may simultaneously follow or push the trade liberalization effort in a country.

To circumvent these statistical and analytical shortcomings, one could use more sophisticated econometric techniques or alternative indicators. Instead, we propose to examine more closely the experience of two individual economies — Mali and Mozambique — that have shown major improvements in their business climate during the 1990s, as reported in table 3.[16] If, in terms of FDI growth, the performance of Mali appears less impressive, it has to be taken into account that the its geographical position (landlocked and not close to the South African market) is not as favourable as that of Mozambique.

What have Mali and Mozambique been doing right? This can be hard to summarize because establishing an attractive business climate for FDI is a multi-dimensional effort. Yet, a few major actions can be identified (see table 5 for details and chronology). First, it appears that these two countries have established a stable macroeconomic environment, at least by regional standards, for a prolonged period of time. The political climate also became secure after a period of high instability. Both countries used aggressive trade liberalization and privatization programmes (especially Mozambique) to attract foreign investors. The Governments approved important pieces of legislation, including new Mining (1991) and Investment (1995) Codes in Mali[17] and a new Industrial Free Zone regime in Mozambique (1994). Moreover, the adoption of international treaties related to FDI helped to increase the Governments' visibility in the international business community as well as provided additional insurance to potential foreign investors. Last but not least, the Presidents have played an important role in promoting their countries abroad, both in the case of Mali and Mozambique.

[16] It has to be noted that preliminary indications shows that if Mozambique remained the economy with the most attractive business climate in 1998, Mali declined to seventh place in 1998 from fourth in 1996/1997.

[17] See also UNCTAD and ICC (forthcoming).

Table 5. Major actions in Mali and Mozambique

Area	Mali	Mozambique
Macro-economic stability	The macroeconomic indicators improved dramatically, as real GDP growth reached approximately 7 per cent in 1997, up from 0.6 per cent in 1990. Average annual inflation, as measured by the consumer price index for Bamako, was reduced from 12.4 per cent in 1995, to 4 per cent in 1998. Both the external account deficit and fiscal deficit were reduced, and a prudent credit policy was pursued.	The economic growth rate jumped from 4.0 per cent in 1990 to 13.3 per cent in 1997. Inflation was reduced from 70 per cent in 1994 to single digits by 1997.
Trade liberalization	The trade openness ratio increased from 49 per cent in 1990 to 60 per cent in 1997, with a reduction in tariffs and the elimination of several non-tariff barriers.	The trade openness ratio increased from 53 per cent in 1990 to 63 per cent in 1997. In 1996, the Government rationalized and lowered the tariff structure, averaging around 14 per cent.
Privatization	After a slow start, privatization receipts reached $22 million in 1997, including the sale of several enterprises in the financial and manufacturing sectors.	Mozambique's privatization programme is one of the most active in Africa as well: more than 900 state enterprises have been privatized, including the entire banking sector and a number of state manufacturing firms. The privatization receipts reached $37 millions in 1997.
Focus on one/ few major projects	Investment projects in the mining sector (gold) were realized by Rand Gold and Ashanti, facilitated by the reform of the Mining Code in 1991.	The development of the new $1.3 billion MOZAL aluminium smelter facility.
Political stability	In March 1991, a series of clashes between the people and the army culminated in the arrest of the President. In January 1992, the Alliance pour la democratie au Mali (ADEMA), leading a coalition of opposition parties, established electoral dominance, while its candidate was elected President. He was recently reelected in May 1997 for another five-year term.	The General Peace Agreement in 1992 between FRELIMO and RENAMO and the general elections that followed in 1994 were important steps towards national reconciliation and stability. FRELIMO won the first national election. The opposition, RENAMO, retains almost 45 per cent of the seats in parliament.
Implementation of new laws and accession to inter-national agree-ments related to FDI	• Mining Code (1991) • Investment Code (1995) • Multilateral Investment Guarantee Agency (1992) • Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1994)	• Industrial Free Zone (1994) • Multilateral Investment Guarantee Agency (1994) • World Intellectual Property Organization (1996) • Convention on the Settlement of Investment Disputes between States and Nationals and States (1995)

Another interesting element is that FDI inflows were triggered by the implementation of a few large projects such as the MOZAL project in Mozambique. True, those projects were initially triggered by the presence of natural resources, but they have contributed to put these two countries on the radar screen of international investors. The same argument obviously applies to privatization.[18] As an illustration of this multiplier effect, it suffices to look at the investment projects financed by the International Finance Corporation (IFC) — the private arm of the World Bank Group — in Mozambique and Mali over the past few years. Those investments range from projects in banking to printing and tourism, for a total commitment of $65 million and $134 million in Mali and Mozambique, respectively, as of June 1998. Interestingly, the IFC's portfolio in Mozambique was the largest in Africa, while that in Mali ranked in sixth position, greater than that in Nigeria, Cameroon or Ghana. We believe that the IFC's portfolio allocation illustrates well the interest of the international private community in these two countries and the progress that they have achieved in their business climate.[19]

It is also revealing to compare Mali and Mozambique with countries such as Kenya and Cameroon, which have been much less successful in attracting FDI in spite of larger local markets and abundant natural resources (table 1). The business indicator for these two last countries shows that they have not been attractive, twenty-fifth and twenty-fourth, respectively in 1996/1997. Indeed, these countries have not been able to focus on any of the actions that have been identified as key elements of the recent success of Mali and Mozambique. Their macroeconomic performance has been below the regional average, their privatization and trade liberalization efforts rather timid, there has been no major foreign investment projects, and only a few legislative changes have been implemented in recent years. Last but not least, these two countries have established a reputation of high corruption and lack of transparency.

[18] One of the positive externalities of the MOZAL project in Mozambique has been its impact on the Government's commitment to reduce administrative barriers. For fuller details, see Wells and Buehrer (2000).

[19] It would be worth exploring further if the IFC investments have been perceived as signals by other private investors that the business climate has been improving in the host country.

A final word of caution might be necessary. Both countries, Mali and Mozambique, have been through a spectacular recovery during the 1990s, after several years of internal disrupt and (dis)investments by foreign companies. The large FDI inflows observed in the past few years might therefore benefit from a catch-up effect in which it was relatively easy to attract investment projects during the initial recovery but that maintaining such a pace would be increasingly more difficult over time. Only a sustained effort in improving the business climate will continue to attract (foreign) investors. And, in both countries, there is still much room for improvement in areas such as infrastructure, transport costs and human capital.

Conclusions

Countries that can offer a large domestic market and/or natural resources have inevitably attracted foreign investors in Africa. South Africa, Nigeria, Ivory Cost, and Angola have been traditionally the main recipients of FDI within the region.

Over the past decade, several African countries have attempted to improve their business climate in an effort to attract foreign companies. Establishing a competitive business climate is a difficult task because it takes time — not only to implement policies but also to convince potential investors. In the case of Africa, it is even more difficult because most countries are not even on the radar screen of most companies. In 1997, we found that Mozambique, Namibia, Senegal and Mali were perceived as the countries with the most attractive investment environments. Those countries were also able to attract substantial FDI inflows, more than countries that have bigger local market (Kenya, Cameroon, Congo) and/or natural resources (Congo, Zimbabwe).

To improve the climate for FDI, an econometric analysis indicates that strong economic growth and aggressive trade liberalization can be used to fuel the interest of foreign investors. Similarly, a closer look at the experience of Mali and Mozambique — two countries that have shown a spectacular improvement in their business climate during the 1990s — reveals that the implementation

of a few visible actions is essential in the strategy of attracting FDI. Beyond macroeconomic and political stability, those countries focused on a few strategic actions such as:

- opening the economy through a trade liberalization reform;
- launching an attractive privatization programme;
- modernizing mining and investment codes;
- adopting international agreements related to FDI;
- developing a few priority projects that have a multiplier effects on other investment projects; and
- mounting an image building effort with the participation of high political figures, including the President.

Interestingly, these actions do not differ significantly from those that have been identified behind the success of other small countries with limited natural resources such as Ireland and Singapore about twenty years ago. ■

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VIEW

How to establish a multilateral framework for investment?

Marinus W. Sikkel *

The negotiators of the MAI experienced that the political context of negotiations can change dramatically. During the years of preparation and the initial years of negotiation, the MAI negotiations were seen as just another technical exercise somewhere in the international economic rule-making machinery. In little more than a year the MAI was highly politicized. Any future negotiation in this field (if at all they are felt to be desirable) should take into account the key lessons learned: take the concerns about globalization seriously; integrate expertise from different fields; involve all stakeholders, and transparency is a must.

Introduction

Economic background

International investment is one of the main manifestations and causes of globalization. According to United Nations Conference on Trade and Development (UNCTAD) (2000a), foreign direct investment (FDI) climbed in 1999, for the ninth consecutive year, to a record level of $865 billion. Total assets of the 690,000 foreign affiliates of some 63,000 transnational corporations (TNCs) are $18

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trillion. Their estimated sales of $14 trillion top the value of wordwide exports of $7 trillion. Sales of foreign affiliates have grown faster than world GDP and world exports of goods and services.

Investment rules

As in the field of trade, governments have tried to support and develop FDI by concluding treaties. In the first place, there is a large network of bilateral investment treaties (BITs). Since the early 1960s, these were concluded mainly between developed and developing countries, but since the 1980s they were concluded increasingly also amongst developing countries. In the second place, there are regional efforts, such as the Organisation for Economic Co-operation and Development (OECD) Codes of Liberalisation of Capital Movements and of Current Invisible Operations of 1961, the North American Free Trade Agreement (NAFTA) between Canada, Mexico and the United States and the 1994 non-binding investment principles of Asia Pacific Economic Cooperation (APEC). The Energy Charter Treaty is an example of a sectoral agreement. At the multilateral level, three of the 1994 Uruguay Round agreements — the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Investment Measures (TRIMs) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) — address topics directly or indirectly related to investment.[1] However, unlike in the trade field, there is no comprehensive multilateral agreement covering the investment field.

The issue

This article does not discuss the desirability of multilateral investment rules. Rather, it addresses the question of *how* to establish a multilateral framework for investment, if governments should desire to adopt such a framework. The second section examines why a recent effort at OECD could not be concluded successfully. The third section tries to establish the lessons that can be drawn from that experience. The final section explains how, based on that experience, any future effort should be undertaken.

[1] For a detailed overview of existing investment treaties, see UNCTAD (1996, 2000b).

Why could the MAI not be concluded?

Something small and technical can turn into something big and political in a very short period of time

Six years of unnoticed technical work

The appreciation of the importance and impact of investment has fluctuated noticeably over time. In OECD, the 1961 Capital Liberalisation Codes can be seen as the expression of the will of the member States to stimulate capital flows. The 1976 Guidelines for Multinational Enterprises (OECD, 1997a),[2] however, while being part of a larger package aiming at stimulating FDI, can be seen as an answer of the OECD member States to the growing concern about negative side-effects of such flows. In the late 1980s and early 1990s, FDI was seen widely as something positive and desirable. It could provide *inter alia* growth, employment, tax income, access to the world market and modern technology. Many countries, including developing ones that were hesitant in earlier periods, were trying actively to attract FDI. Most changes in FDI legislation went in the direction of liberalization, many BITs were concluded, the Multilateral Investment Guarantee Agency (MIGA) was established.

In this overall climate the OECD countries tried to negotiate a binding national treatment instrument. This turned out to be difficult, one of the problems being that the United States felt that the scope of that instrument was too limited to attract sufficient support in the United States Congress. It was therefore decided in 1991 to study the advantages and feasibility of a so-called "wider investment instrument". In a report to the OECD Council at the Ministerial level in June 1994, the Committees charged with the study concluded that there was a strong case for developing a new multilateral investment agreement with legally binding obligations and enforcement procedures. The Ministers endorsed "a new phase of work aimed at elaborating a multilateral investment agreement, with a report to Ministers in 1995" (OECD, 1994). Five working

[2] See also OECD website at http://www.oecd.org/daf/investment/guidelines/ index.htm.

groups were set up to develop the framework for the multilateral investment agreement (MIA), as it was called at that time. The groups dealt with liberalization obligations under existing OECD instruments, liberalization obligations in new areas, investment protection, dispute settlement, the involvement of non-members and institutional matters. Their work resulted in a report to the Ministerial Council of the OECD in May 1995, which stated that the time was ripe to negotiate a multilateral agreement on investment (MAI) in OECD. The Council took note of the report and agreed to start negotiations immediately in OECD, aimed at reaching an agreement in 1997.

Between September 1995 and April 1997, the negotiations made remarkable progress. The Negotiating Group, its three drafting groups and five expert groups drafted large "building blocks" of the agreement. Although "nothing was agreed until everything was agreed", it was clear that some 90 per cent of the text was ready to be finalized. Decisions had to be taken on the outstanding issues. The main element that was still missing was the list of country specific reservations with regard to the admission of investments. This was the main reason why the Negotiating Group had to ask for a one-year extension of its mandate. At that moment, almost six years of technical work had passed almost completely unnoticed by those not directly involved.

This is not to say that the negotiations were secret. In the months before the 1995 Ministerial Council articles appeared in *The Wall Street Journal* (Aaron, 1995) and the *Financial Times* (de Jonquières and Buchan, 1995). The start of the negotiations was mentioned in the communiqué of the 1995 OECD Ministerial (OECD, 1995) and in the Netherlands by a press release of the leading Dutch press agency (ANP, 1995). Later articles in international and newspapers in the Netherlands followed (Lalkens, 1995; Robin, 1997). The Government of the Netherlands informed its parliament in 1995,[3] 1996[4] and 1997[5] about the progress of the negotiations. This

[3] Dutch Parliamentary Papers, 1995-1996, 24 400 XIII, nr. 21, Second Chamber.

[4] Letter to parliament by A. van Dok-van Weele, BEB/DHZ/IINV 96031797, 31 May 1996.

[5] Letter to parliament by A. van Dok-van Weele, BEB/DHI/IO 97037214, 18 June 1997.

information provoked hardly any reaction. Most people were not interested at all — this was just another technical exercise somewhere in the international economic rule making machinery.

Highly politicized in little more than a year[6]

In early 1996, local groups in Canada and the United States that had been active in the debate about NAFTA began to take note of the MAI negotiations. They started to collect information and sought to get involved in the negotiations. Initially, they tried to do so through their established contacts in the field of environmental policy making. Thus, when the Environment Ministers of the OECD consulted non-governmental organizations (NGOs) prior to a meeting of the Environmental Policy Committee, they were confronted with questions about the potential impact of the MAI on national and international environmental regulations. This led, eventually, to a discussion on the environment in the Negotiating Group in October 1996, more than a year after the negotiations had started. Meanwhile, environmental and other NGOs had been building up pressure both at the OECD and in national capitals. At the OECD, NGOs (which had been consulted regularly in the framework of OECD Committees) began to ask for similar consultations with the MAI Negotiating Group. The Negotiating Group decided it did not want to meet with NGOs, but it did agree to an informal meeting between the bureau of the Negotiating Group and selected NGOs in December 1996. After that meeting the situation evolved quickly. Although the negotiators tried to respond to the concerns raised, *inter alia* by developing the so-called three-anchor approach,[7] the NGO campaign against the MAI further intensified throughout 1997. The intensive use by NGOs of the Internet proved to be a very effective instrument to involve groups

[6] For a more detailed description, see Huner (1998).

[7] The first anchor would be the preamble, which should reaffirm parties' commitment to the International Labour Organization (ILO), the relevant principles of the Rio Declaration and to other relevant multilateral agreements. The second anchor would be a provision built on NAFTA Article 1114, stating that environmental and social standards as contained in national laws and regulations should not be lowered in order to attract an investment. The main debate here has been whether or not this should be a binding provision; NAFTA 1114 only says that such lowering of standards is "inappropriate". The third anchor was investor performance: this would have to be ensured by associating the existing OECD Guidelines for Multinational Enterprises.

with other interests and in countries all over the world. The NGOs also started to get the attention of a non-specialized public. For example, in April 1997, a Canadian columnist wrote an article stating: "While we've been sleeping, a group of bureaucrats from the world's richest countries [...] has been meeting in airless rooms in Paris to plot the overthrow of their own democratically-elected governments" (Railey, 1997). The fact that the original deadline of May 1997 for concluding the negotiations was not met provided the NGOs with a window of opportunity. They used it so effectively that, eventually, the Negotiating Group had to accept that a direct dialogue between NGOs and the negotiators was inevitable. Thus, in little more than one year the character of the negotiations changed from technical and unnoticed by the outside world to highly visible and politicized.

The meeting of the Negotiating Group with NGOs on 27 October 1997 would prove to be a turning point. Some 50 national and international NGOs took part, representing a wide range of interests and a wide range of intensity of opposition to the MAI. They managed to agree on a joint position (OECD, 1997b) and on a single moderator on their behalf.[8] They also succeeded in convincing many Negotiating Group members that a few draft provisions, particularly those on expropriation and on performance requirements, could be interpreted in unexpected ways. And most of all the meeting was an enormous boost for the morale and self-confidence of the NGOs as witnessed by their press release (International Non-Governmental Organisations, 1997):

> "Our presence today should put the OECD on notice. NGOs and citizens' groups will be scrutinising every move in the negotiation of this agreement. The MAI needs radical reform before it is acceptable. [...] We will be looking for meaningful responses for the proposals we present today. If not, the OECD should prepare itself for a vigorous challenge to the MAI from many quarters."

[8] The Negotiating Group had requested that because it seemed the only way to conduct an efficient and productive meeting.

The rest is history

Although everyone in the Negotiating Group agreed on the usefulness of the NGO hearings, this did not bring any consensus on how to deal with the unresolved issues in the MAI. The remaining issues were indeed difficult ones. In his conclusion of a special high level meeting in February 1998 (OECD 1998a), the Chairperson mentioned three areas: labour and the environment, liberalization and exceptions and extraterritoriality. Labour and the environment included the issue of not lowering environmental or labour standards to attract FDI, the relation between the exercise of normal regulatory powers of a government and expropriation and investors' responsibilities in this field. Under liberalization and exceptions, the discussion focussed on the treatment of measures taken for reasons of national security, public order, regional economic integration organizations, culture, subsidies and government procurement. Extraterritoriality comprised issues arising from conflicting requirements, secondary investment boycotts and illegal expropriations. Apart from these three areas, there were also differences regarding the dispute settlement mechanism and other relatively less important issues.

Although these issues may have constituted a small part of everything covered by the MAI, it would have taken strong political will to overcome the remaining difficulties. However, in early 1998 it became ever clearer that the political will to strike a deal on the outstanding issues did not exist. Because of the strong resistance against, and the weak support for, the MAI, approval by the United States Congress was far from secure. There were also signals from France that it would be difficult for them to sell the MAI politically. In France, it was not so much the environment, labour or the position of developing countries that played the key role. There, the artistic and intellectual community had discovered the MAI as yet another United States-inspired instrument of ultraliberalizm posing a threat to artistic and literary freedom and cultural diversity in France. This led to protest by influential politicians, thus giving the MAI opponents a much greater influence than in other countries.

The Chairperson of the Negotiating Group made a final attempt in March to bridge the gap by proposing packages of

compromise texts, including provisions on labour and environment. He did not succeed. Although there was praise all around for this credible effort, the Europeans saw too many NAFTA-inspired texts, and the United States opposed making the "not lowering of standards" clause binding.

At the OECD Ministerial meeting in April 1998, Ministers decided "on a period of assessment and further consultation between the negotiating parties and with the interested parts of their societies [...] the next meeting of the Negotiating Group will be held in October 1998" (OECD 1998a). On 14 October 1998, Prime Minister Jospin announced that France had decided to withdraw from the negotiations, leaving the other negotiators no other option but to stop the negotiations.

The MAI was not the real problem

Concerns about globalization

The MAI was not the real problem; it was just a good focal point for concerns about globalization in general. With the strong upsurge of FDI, the appreciation of the phenomenon started to change again. While most governments were still positive about FDI and were actively trying to attract it, NGOs started to discuss the possible negative effects of globalization in general. A general uneasiness was emerging about a process that has many and important consequences for the daily lives of many people and which, at the same time, is perceived by some as being out of control. Market forces are seen as anonymous, calculating, not sensitive to anything except profit and shareholder interests, and beyond the control of labour unions and national governments. Whereas governments are still organized on a national (or, at best, regional) level, business is increasingly organized on a global level and no longer linked to any country in particular. Thus, fears about "the power of the multinationals" which were not really heard since the 1970s started to re-emerge.

An important element of those fears is the power of TNCs to locate (and relocate) activities. People working for an enterprise, any enterprise, purely national or transnational, fear that management

can take the decision to close the plant where they are working only to reopen it elsewhere. This is particularly hard if the reasons quoted for the relocation are cheaper or more flexible labour abroad. Of course, these are not the usual reasons for undertaking FDI in other countries, but when they are, they lead to concerns about a country's employment and, by extension, about globalization. The fact that the loss of jobs in one country may lead to the creation of perhaps even more jobs in another country may be of interest to economists, but it is poor consolation for those who have just lost their jobs. For labour unions, there is also the fear that their bargaining power will be undermined if employers use relocation as a threat in wage negotiations. Added to that is the concern that labour conditions in countries that do not respect fundamental labour rights may be the cause of the loss of jobs in countries that do respect those rights. Whether or not this concern is motivated by genuine anxiety about the position of workers in other countries, by self-interest of the unions, or by some mix of these motives is irrelevant in this context. The result in all cases is resistance to globalization.

An analogous argument is made regarding environmental degradation. TNCs could play one government off against another by promising to invest in the country with the lowest environmental standards, or the weakest implementation of such standards. Alternatively a TNC might threaten to leave a country that wants to raise the level of environmental protection. Here again research does not demonstrate that TNCs see the level of environmental protection as a decisive element in their investment decisions (OECD, 1998c, p. 71). But in the eyes of some, the track record of TNCs in developing countries, e.g. in the field of mining or logging, is such that suspicion is warranted.

Environmental concerns are certainly not only related to FDI. Economic growth as such, independent from its source, is also seen as the cause of growing pollution. Whether tropical timber is harvested and then sold in the world market by foreign or local enterprises, does not change the objections of the defenders of tropical forests. If products made in one country in a way considered to be environmentally unfriendly cannot be stopped at the border of another country, because of rules imposed by the WTO, the result is once again a distaste for globalization.

At the end this very incomplete list of concerns about globalization, the cultural aspect should not be forgotten. Many forms of globalization, not only trade and investment, but also travel, communication, films, music and others, are seen as leading to the loss of local culture and values and the predominance of the "western" or "American" culture. Needless to say that this is strongly resented by different groups in society ranging from religious authorities to artists, and from students to publishers. That this latter group may also have a commercial interest in keeping out competition only adds to their enthusiasm in protesting against globalization.

Private versus public interest

The MAI was also a good focal point for the debate about the balance between private and public interest. This is an old debate that can perhaps be illustrated best by the case of expropriation. Many countries have laws and regulations concerning expropriation and apply them regularly. It is quite common that a local government that wants to construct a road, and cannot acquire the land necessary for such construction on a voluntary basis, resorts to expropriation. The expropriated landowners would normally have the right to go to court and start a case about the legality of the expropriations and the amount of compensation offered to them. The judge(s) would have to decide whether the public interest (the construction of the road) outweighs the private interest (retaining the property) and, if that is the case, what the amount of compensation should be. Over time, an important body of jurisprudence about such matters has been built up in many countries that guides the judges in their decisions. Whereas all this may seem to be quite simple and straightforward, it is not. The mere fact that there are still cases concerning expropriation demonstrates that there are still differences in opinion about the conditions under which governments may take property belonging to individual persons or enterprises.

The situation is further complicated by dynamic developments in this field. Governments see new reasons to take measures that may be conceived by those subjected to such measures as tantamount to expropriation. A recent example in the Netherlands is the action by the Government to limit pig farming. The intensive pig farming

methods used were becoming a cause of concern and the Government wanted pig farmers to take responsibility for the environment, look after animal welfare and help to reduce the risk of diseases as far as possible. An important element of the pig farming policy is the Pig Production Restructuring Act of 1 September 1998. That Act aims at the reduction of the manure surplus and at the reduction of pig herd numbers. To achieve the last objective, the Act introduced "pig production rights". This gave the Government control over the average number of pigs that could be kept in a farm each year. The introduction of those rights served to reduce herd numbers by as much as 25 per cent in all. Farmers were supposed to give up those rights without compensation. That provision triggered strong resistance by the farmers and their organizations. At first they started a judicial procedure in which they claimed that the reduction amounts to expropriation and that compensation should be paid. Although this procedure had not yet been finally settled at the time of writing this article, the court decided in an intermediary decision that the Act is not in conformity with the European Convention on Human Rights (ECHR) and that compensation should be paid. In a second procedure, the court decided that the implementation of that part of the Act concerning the reduction of pig herds has to be suspended until compensation is paid, or until it is finally decided whether or not the Act is in conformity with the ECHR.

Whatever the final result, the start of this case demonstrates that, in a purely national context, a legal and political battle about the balance between public and private interest can be fought. No foreign investors, no investment treaty rights, no international arbitration is involved. (And, ironically, the one treaty that is involved is a human rights treaty.)

Nevertheless the issue is to a certain extent similar to that of the Ethyl case. In that case the Government of Canada had banned the import and inter-provincial trade of MMT, a fuel additive believed to present serious health risks. The United States-based Ethyl Corporation, the only producer of this additive in Canada, considered that the Canadian measure amounted to an indirect expropriation, mainly because it was impossible to continue producing MMT if it was no longer possible to sell it in other provinces. Using its rights

under NAFTA, Ethyl invoked the investor-state dispute settlement mechanism to challenge the measures of the Government of Canada and claimed $250 million in compensation.

A striking difference between the two cases is that nobody had any objection regarding the right of the pig farmers to bring their case to an independent (national) court, while many observers strongly objected to the right of Ethyl Corporation to bring its case to an (international) dispute settlement. The difference between a national and an international procedure is of course relevant. However, the objections against the Ethyl case were often against the fact than a TNC had the right to sue a foreign government without the consent of its own government. "Under the MAI as currently drafted, little or no public policy filter would stand between the special interests of a company that felt it had suffered loss or damage as a result of an 'alleged breach of an obligation' under the MAI" (WWF, 1997, p. 9). There were also objections against the fact that "arbitration consists of a few trade experts" (Friends of the Earth, 1998, p. 10), again implying displeasure with a lack of political control. "[The MAI should] eliminate the investor-state dispute resolution mechanism and put into place democratic and transparent mechanisms" (OECD, 1997b, p. 4). These arguments seem to undervalue the importance of an independent judiciary accessible without political interference.

Translation in the MAI context

The concerns described above could easily be translated to concerns about the MAI. NGOs concerned about "the power of the multinationls" would of course object to an agreement that would create additional rights for TNCs. They would have preferred an agreement that would have created additional opportunities to regulate the behaviour of TNCs. Thus, they contended that an agreement with only rights and no obligations for TNCs was unacceptable. The MAI should, according to NGOs, "require multinational investors to observe binding agreements incorporating environment, labour, health, safety and human rights standards to ensure that they do not use the MAI to exploit weak regulatory regimes. Ensure that an enforceable agreement on investor responsibilities takes precedent over any agreement on investor rights" (OECD 1997b, p. 4).

The lack of control by governments was demonstrated above by reference to the Ethyl case. Although Canada was expected to win the dispute, it eventually went for a settlement which reportedly involved the sum of $13 million and a public recognition that "there is no new scientific evidence to modify the conclusions drawn by Health Canada in 1994 that MMT poses no health risk".[9] This settlement was invoked by NGOs to demonstrate the need for clarity in the MAI as to what expropriation really means. Above all, NGOs insisted that the MAI should state clearly that the expropriation clause can never be interpreted to prevent governments from adopting rules and regulations on environmental protection.

The fear that TNCs might use their power to get lower labour or environmental standards or that governments might be tempted or forced not to raise their standards, or not to implement existing ones, was translated into the argument that the MAI would stimulate a "race to the bottom". The three anchor approach described earlier was dismissed as insufficient, although the not lowering standards clause was perhaps more far reaching than any other international instrument available. Accordingly, some NGOs recommended to adopt binding requirements in the MAI that TNCs and governments should operate in ways that respect the core labour standards of the International Labour Organization (ILO) (Filbri and Pennartz, 1998, p. 37).

With regard to the position of developing countries, there was an interesting collision of ideas. From the "power of the multinationals" point of view, developing countries are potential victims of TNCs, which could abuse their power more easily in those weak countries than in industrialized ones. Taking also into account that developing countries were not participating in the negotiations, this led to the objection that the MAI was a serious threat to the sovereignty of developing countries. From the "race to the bottom" point of view, however, NGOs feared that the governments of some developing countries might lack the willingness and/or the ability to enact or implement sound labour or environmental legislation. This led to the suggestion that "International Investors Should be Required

[9] Ethyl Corporation, "Ethyl welcomes Government of Canada decision", Press Release, 20 July 1998, mimeo.

to follow the stronger of either home or host country environmental and labor standards wherever a corporation and its affiliates operate" (Friends of the Earth 1998, p. 33). Thus the MAI should ensure that minimum standards in these fields are respected in all countries of the world, even by those countries that are not willing to ratify the ILO conventions covering the so-called core labour standards. That this would amount to extra-territorial legislation and that this would certainly not be appreciated by developing countries, which would view this as an infringement of their sovereignty, was not of concern to NGOs.

The sensitivity about cultural domination played an important role in the negotiations long before unrest in civil society about the MAI started. Canada had fought long and hard over a clause in NAFTA that would have provided Canada with the possibility to protect its culture against the strong influence of its big neighbour. Understandably, the Canadians asked for a similar cultural exception clause in the MAI. While they could count on warm support from France and some other countries, the majority in the Negotiating Group was opposed to a sweeping exception. The Netherlands, for example, while desiring to continue to be able to promote its language in film making, theatrical performances and book publishing, was of the opinion that this could be achieved by less drastic means than a general exception. This issue, just one of five major issues in the negotiations, turned out to be the decisive stumbling block. The assessment of the MAI by France showed that culture, combined with the threat against national sovereignty, much more than labour, environment or the position of developing countries, was the insurmountable problem that forced France to withdraw from the negotiations.

To summarize the debate: when the negotiations started in the early 1990s, this happened in a climate of positive appreciation of globalization, in which the consolidation and strengthening of an instrument to promote FDI was deemed desirable. Probably some NGOs would not have liked such an instrument, even at that time. However, they did not know about the negotiations and did not make much use of the Internet at that time. In the mid-1990s, this climate had changed dramatically. Vocal groups in civil society saw

globalization as something negative, or at least as something with important negative side effects. An instrument to promote FDI was, under those circumstances, a very undesirable thing. By then, these groups knew about the MAI and used the Internet to gather support against it.

Why was resistance so strong?

Four reasons can be mentioned here:

- In the first place there was time pressure. By the time the NGO movement had gathered momentum in its battle against the MAI, the original deadline of April 1997 had already expired. The OECD Ministers had given their negotiators just one additional year to solve the remaining problems. This meant that, when the meeting between the Negotiating Group and NGOs took place in October 1997, the negotiations were almost in their final phase. It was no surprise therefore that the most urgent claim of the NGOs at that time was "to suspend the MAI negotiations and extend the 1998 deadline to allow sufficient time for meaningful public input and participation in all countries"(OECD, 1997b, p. 4). Since the NGOs, rightfully, estimated that the Negotiating Group after four years of preparation and two years of negotiation had every intention to fulfil its mandate at the time set for it by Ministers, they felt, probably correctly again, that they had to pull hard the emergency brake of this high speed train.

- In the second place, there was the complexity of the issue. Globalization as such is not an issue that can be analyzed easily. What are the consequences of globalization for the different parties involved? What are the consequences in the short and long term? What would have happened if no globalization had taken place? What is the role of FDI in this process? How does it influence growth, employment, the balance of payments, transfer of technology, labour standards and the environment? And how does an investment agreement like the MAI influence investment? What is the content of the MAI and how should its provisions be interpreted? Here the NGOs had a point. The

consolidated text of the MAI (OECD, 1998d) had no less than 144 pages, not counting numerous country specific reservations. The text contained many square brackets and footnotes. Even among negotiators, no common view had yet emerged about the correct interpretation of all clauses. How could one expect that newcomers in this field would be able to understand the ins and outs of the text and its consequences for the world? Many NGOs interpreted the text in a manner that had nothing to do with what the negotiators had in mind. Although some NGOs learned fast and produced thorough analyses of the text and its possible consequences, it should be no surprise that a complex text, with an uncertain influence on a phenomenon that in itself is complex and not fully understood, led to a strong desire to get a better explanation before that text would get the status of a binding treaty.

- In the third place, there was the impression of secrecy. To some extent the NGOs had a point as well. The MAI negotiations, like most negotiations, were conducted behind closed doors. In any negotiation there has to be a certain level of confidentiality if one wants the negotiation to be successful. Normally negotiations are not started by putting all the cards on the table, nor can they be conducted effectively by making every move public. To reach a mutually acceptable result, certainly in negotiations involving 29 countries, confidential exchanges of options and possibilities are a necessary instrument. Having said that, it must be noted that the MAI negotiations were one of the most open of its kind. As mentioned earlier, the start of the negotiations was publicly announced. Press briefings by the Chairperson of the Negotiating Group and the Secretariat of the OECD were given after every meeting of the Negotiating Group. Ambassadors in Paris of non-OECD countries were briefed after every meeting. So-called outreach seminars were organized in every continent to inform non-participating countries about the contents and progress of the negotiations. Although all the Negotiating Group documents were classified "confidential", so-called "sanitized" versions (i.e. with country names removed) of the records of Negotiating Group meetings were

made available. Later, it was also decided that "sanitized" versions of the text might just as well be published. When pressure from NGOs began to rise, a consultation process both in Paris and in capitals (with of course differences between the different OECD countries) was set up. Internet sites were opened, letters from the public were answered, negotiators participated in seminars and hearings organized by NGOs, and parliaments were briefed. In more than one country, parliaments changed from their previous lack of interest to close scrutiny of the negotiations. Notwithstanding all these efforts, the reproach of secrecy never disappeared.

- In the last place, and probably the most important element, there was a collision of ideologies. As pointed out earlier, the MAI served as a focal point for concerns about globalization in general. Friends of the Earth (1998, p. 5) put it as follows:

  "[T]he MAI would also likely interfere with long-term efforts to reorient the world's economy in a more environmentally friendly, sustainable direction. A sustainable future will require word-wide use of natural resources to be reduced below the earth's carrying capacity and redistributed equitably to all the world's people. The MAI is dedicated to an entirely different vision of the future: the right of multinational corporations to enter all markets and bid against local people for access to resources and consumers. As the MAI gives corporate investors access to restricted economies, the supply of natural resources hooked into international markets would grow, leading to more resources being consumed rather than less, more efficiently. The MAI's open access regime would also allow rich countries to live beyond their borders, consuming more than their share of land, wood, mineral and other resources. Because breaking this cycle will require more control on international investment, not less, the MAI is hopelessly flawed from an ecological point of view".

Many NGOs seem to have approached the issue as if it involved the alternative of free markets or institutional frameworks. This is a false alternative in the sense that there are no real defenders

of the position that there should be completely free markets. What the MAI tried to establish was more liberalization, without denying governments their sovereign right to regulate their economies in a non-discriminatory manner. Of course, markets are dependent on clear regulations and on instruments to enforce these regulations. The real point was whether additional rules on, for example, labour standards should be included in the MAI or should be agreed in other fora, such as the ILO. Nevertheless, opponents of the MAI often depicted the MAI and its proponents as ultra liberals trying to get rid of any form of government regulation. Needless to say that, in a situation with such strong ideological overtones, denying such allegations did not convince the opponents.

Why was support so weak?

Strong resistance against a proposal does not necessarily lead to its rejection, provided there is equally strong support for that proposal. In an open and democratic procedure, a compromise can be found that would be acceptable for all involved. In the case of the MAI, politicians had an easy task. On the one hand, they found a big and very diverse group of opponents of the proposal, and on the other hand they found backing from a number of government ministries and some support from business. Not only in France, but also in countries such as the United States, this led to the conclusion that no political capital should be spent in an effort to save the MAI.

Why was there only limited support from business? In the first place, business did not see many problems with regard to investment in the OECD area. For European investors, whose investments are predominantly made within the European Union (EU), the existing EU rules provided adequate protection, market opening and dispute settlement procedures. North American investors already had NAFTA. With regard to the treatment of established investors regarding subjects like expropriation or transfer of currency, no real problems existed. Dispute settlement might not always have been quick or inexpensive, but in general there was a lot of trust in the instruments available at present. There were some problems relating to market access, government procurement, aid, subsidies and other government instruments to support enterprises, which were not always

available on a non-discriminatory basis to foreign investors. There were differences in the degree of openness among OECD member States.

It would have been of interest for enterprises if the MAI had solved those problems. However, although the MAI did address these issues, it did not provide an immediate solution for them. The MAI provided only a standstill (and perhaps also a rollback) mechanism, whereby a country that at present did not allow FDI in certain industries could list those industries in its schedule of country specific reservations. This meant that, although the obligations of the MAI would be applicable in principle, they would not, in practice, be applied to that industry as long as it remained on the list of reservations. Thus, there was no immediate solution for the market access limitation. Of course, the OECD in the framework of its Codes has used the standstill and rollback mechanism very successfully. But the advantage of such a system over a longer period of time (i.e. the advantages of a rule-based system in general and of the detailed elaboration of, for example, rules on the transfer of funds) are of an almost ideological nature. Thus, it was to be expected that from the outset there would be little support for the MAI from the corporate sector, which would have liked to see some immediate benefits from this new instrument, and that there would be resistance from organizations that had a different ideology.

Indeed, international business did support the MAI negotiations, but certainly not with the same enthusiasm with which NGOs attacked it. And the corporate sector's initial support only weakened when negotiations progressed and went in a direction that was not seen as positive by enterprises. First, it became clear that an almost total exclusion of taxation was inevitable. Then, there was the debate on binding clauses regarding labour and environmental standards. Next came the proposals for the annexing (and updating) of the Guidelines for Multinational Enterprises to the MAI. By then, business, mostly in the United States, started to change its view of the MAI. It changed from something that, at least in theory — and, perhaps in the longer term, also in practice — would have been of value to it into something that in the short term was seen as a liability. The resulting erosion of support for the MAI was certainly noted by

politicians. This may have been as strong a reason for the demise of the MAI as the opposition from the NGOs.

Lessons learned

- *Take concerns seriously.* Globalization is a phenomenon with many aspects. Its positive and negative sides evoke strong sentiments in different quarters of society. Many questions about its effects in the short and the long term have not yet been fully answered. Individual persons are sometimes strongly affected by it. Groups that are interested in topics as diverse as the environment, the position of developing countries, human rights, labour standards, consumer protection, gender problems or animal rights see a link between their topics and globalization. Some are opposed to globalization and growth as such, many see that globalization offers opportunities as well, provided it is adequately managed. Although different groups have different and sometimes even conflicting concerns, they are united in a growing uneasiness about globalization. They have demonstrated willingness and an ability to make their views heard, and politicians have been sensitive to the concerns of those groups. It follows that any organization interested in globalization in general and in investment rules in particular should take those concerns very seriously if it hopes to have rules approved by parliaments and supported by civil society.

- *An integrated approach is necessary.* Since different concerns have to be addressed, expertise from different quarters has to be used. Both at the national and at the international levels, experts in the field of investment and finance, development, environment, labour standards, human rights and any other field considered relevant by interested groups should be consulted. Not only government experts, but also academics and NGOs can provide valuable input. In national administrations, all interested ministries or departments should be involved in the development of national positions. At the international level, the involvement of both developing and developed countries must be ensured.

- *NGOs have become important players.* NGOs were the first to voice uneasiness about globalization. In a way they overtook traditional players like political parties and organized labour as the first interlocutors of government agencies. Of course, ministers ultimately only have to answer to parliaments, but the initiative for critical questions was on more than one occasion taken by NGOs. Although NGOs are many and diverse, they managed to reach co-ordinated positions and stage co-ordinated actions. They also used a certain division of labour: radical groups created a sense of urgency, and more established groups provided studies and arguments using the openings made by groups operating on the fringe.

- *Transparency is a must.* Confidentiality is important in complex international negotiations, but it should be used wisely. Secrecy, or even just the impression of secrecy, is a time bomb in today's information society. On the one hand, openness can provide important guidance for negotiators. The additional inputs from different groups in society shed more light on the priorities to be given to the subjects under negotiation and on the scope of contentious issues. Using their additional analytical capacity, one can understand better the problems at hand and find better solutions. Accepting to be challenged on both principles and content of an agreement and actively participating in the ensuing debates will lead to better end-results. The Internet plays a crucial role in providing transparency. One of the reasons why the campaign by NGOs was so effective was their intensive use of the Internet. Exchange of information and ideas can take place on a global scale. An analysis made in Canada can lead to parliamentary questions in Australia and the answers given there may give rise to a letter campaign in European countries. Governments can benefit from this instrument by studying the information available and by posting their own views as well.

How to establish a framework?

Like in 1991, the start could be a feasibility study. However, unlike in 1991, that study should not only address technical issues,

but also politically sensitive issues, such as the relation between investment protection and the right to regulate; the relation between investment, labour standards and the protection of the environment; the position of developing countries; and the balance of rights and duties of investors. It would probably be too ambitious to try to cover all these subjects in one study. Preliminary studies will be necessary, e.g. regarding the relation between investment and the environment. What is the short term and long term impact of different types of investments on the environment? What is the specific role of foreign investment in this respect? What can be done to maximize the benefits of foreign investment and to minimize its possible negative effects? What could be the role of an investment treaty and what would the relation be between such a treaty, national rules and other international treaties? It is likely that such studies will not lead to unanimous conclusions, neither on the facts nor on the desirable policies. Thus, political choices will have to be made on whether to proceed, and if so, how.

Since political choices about sensitive issues will have to be made it is absolutely necessary to assure political support for the process from the outset. Parliaments will have to be informed well before the start of any negotiation and should receive regular progress reports after that.

To ensure that informed policy choices can be made and to create the necessary support by civil society it is vital that all interested parties can participate actively in the preparatory process. Thus, not only governments, but also business representatives, labour unions, NGOs and academics from both developed and developing countries should be involved. This may not be all that easy to organize. In the MAI negotiations, business was regularly consulted through the standing OECD Business and Industry Advisory Committee (BIAC). A similar committee (TUAC) was used for consulting trade unions. NGOs were invited on a self-selection basis. There were sometimes doubts as to how representative these organizations were. Were the BIAC's views really those of international business? The only worldwide business organization, the International Chamber of Commerce (ICC), was never a strong supporter of the MAI. The ICC's view was that a multilateral investment agreement in an era of

globalization should necessarily be worldwide. Thus, the ICC saw the WTO as the relevant organization for such an agreement. The MAI would at best be a useful intermediate step towards a WTO agreement. There were also doubts as to the extent to which BIAC represented the views of a large number of companies in a large number of countries. Could BIAC, or indeed the ICC, represent the views of small and medium-sized enterprises? With regard to labour, problems may arise when governments that do not recognize independent trade unions in their country would be asked to consult such unions in an international context.

However, the possible problems regarding business and labour representation are, to a large extent, alleviated by the fact that there are well established organizations that represent those interests in international fora. This is not the case for the NGOs. There are thousands of them, they are very different in size, they may be single-issue or interested in many issues, they may be in existence for decades or months, they may have acquired extensive knowledge about certain subjects or be completely ignorant, they may want to assume responsibilities or may just be interested in blocking certain developments. Notwithstanding all these differences it turned out to be quite feasible to organize efficient meetings with NGOs during the MAI negotiations, both at the national and international levels. Valuable input, in meetings or otherwise, might just as well come from a small, young, radical, single-issue organization as from an organization like the World Wildlife Fund for Nature (WWF). Thus, it seems advisable to continue the pragmatic self-selection approach employed this far. Of course, when it comes to political decisions, governments and parliaments may also want to take into account the political importance they attach to the different participants in the process. And in order to make participation of all interested parties possible, transparency must be ensured. Using the Internet is an important, though in itself not a sufficient condition to achieve that.

The question of where studies, discussions and ultimately negotiations themselves have to take place seems to be a bit premature to answer at this time. OECD, WTO, World Bank, United Nations Environmental Programme (UNEP), UNCTAD, ILO and other organizations all have a role to play. The OECD as an interdisciplinary

organization is well placed to contribute to some of the issues mentioned above. UNCTAD is very experienced with regard to the position of developing countries. The ILO is the guardian of international labour rules. Contributions from these and other organizations can all underpin the political decision to start negotiations on a framework for investment. The choice of forum for such negotiations will depend on their scope and content. There may be one comprehensive negotiation, or there may be several parallel negotiations. Elements of a framework may deemed to be ripe for negotiation in one organization, while other elements can be studied further in other organizations. This is something that will have to be decided at a later moment.

What is more important is that a start is made now. Globalization is here to stay and it is important to agree on how to manage it. ■

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BOOK REVIEWS

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This volume is based on a workshop held at the Strathclyde Graduate Business School on 15 and 16 May 1998. The workshop reflected a long-standing interest of the editors in the interface between corporate strategies of transnational corporations (TNCs) and economic policies of governments. Specific issues of interest include how globalization imperatives of TNCs conflict with or complement the goal of national governments to upgrade domestic value-added activities and how the initiatives of national governments influence the strategic initiatives of TNCs, e.g. in terms of where economic activities are located.

To be sure, there has been a proliferation of writings on the meaning of global corporate management, as well as on the purported impacts of globalization or regionalization of economic activity on the specific location of such activity. However, relatively few studies have focused explicitly on the dynamic interaction between TNCs and national governments as joint determinants of patterns of international production, as well as the private and social benefits of foreign direct investment (FDI). In this regard, the volume offers some relatively fresh insights into the globalization phenomenon, although perhaps not as many as one might have hoped for, or expected, given the exceptional quality of the contributors.

The introductory chapter, written by the editors, sets out the main theme of the volume. There are two broad and opposing forces conditioning the influence of globalization on the location of economic activity. The first is associated with increased

organizational flexibility that in turn contributes to a greater likelihood of decentralization of value-added activities. The second is the existence of agglomeration economies, especially in the generation and exploitation of knowledge, which leads to an increased centralization of value-added activities. Both public and private-sector decision makers must optimize their decisions within the context of these environmental developments.

Chapters 2-6 elaborate on the theoretical and practical relevance of the globalization phenomenon. Specifically, in chapter 2, John H. Dunning addresses the question: "To what extent, and in what ways, does the globalization of economic activity require a reappraisal of existing paradigms and theories of international production?" He first provides an excellent review and synthesis of the leading theories of international production. He then notes several developments that may not be adequately embedded in existing theories of international production. The most prominent development is the growing importance of local technological capabilities as a pull factor for FDI. Dunning concludes that the dominant paradigms of international production can accommodate this development, although the relevant models must be appropriately broadened.

Julian Birkinshaw, in chapter 3, describes and interprets some of the recent changes he has observed in the strategy and organization of large TNCs. Birkinshaw distinguishes corporations from enterprises, with the distinction reflecting an emphasis on strategic initiatives being implemented at the corporate rather than at the enterprise level. He highlights three environmental changes as being especially important: a *de facto* increase in the geographical dispersal of value-added activities; competitive pressures that are pushing corporations to make better use of their geographically dispersed activities; and a recognition by corporations of the need to develop more flexible configurations to become more responsive to changing market demands. These changes are not entirely new. Rather, they are more acute today than in earlier periods. An important behavioural response of corporations to these changes is the increasing use of internal competition among affiliates for charters to carry out specific value-added activities.

Chapters 4 (by Neil Hood and Ewen Peters) and 5 (by Stephen Young, Jonathan Slow and Neil Hood) further develop a perspective on the globalization environment. Specifically, Hood and Peters focus on the growing importance of FDI in services, especially financial services. They identify and discuss the supply and demand forces that are leading to sub-regional growth in lower value-added services and better integration of highly specialist expertise in existing metropolitan locations. Several case studies presented highlight the clustering of high value-added activities in the major business service centres. Young, Slow and Hood also focus on the drivers of globalization. Several brief case studies of Scottish firms identify the importance of chief executive officers in determining whether or not, and how, companies seek to exploit globalization opportunities. In chapter 6, Stephen Kobrin rounds off the general discussion of the environment surrounding globalization by highlighting the information revolution as the central transformative phenomenon of globalization. He looks at the Indian software industry as a case study of the impact of the information revolution on developing countries, and he concludes that the software industry has not served as an effective engine of economic development for the broader Indian economy. Rather, it is an island of economic prosperity, while the broader economy remains largely disconnected to the wealth-creating effects of globalization.

Chapters 7-10 contain case studies of individual countries or regions. Peter Buckley and Stephen Young, in chapter 7, evaluate FDI in Egypt. Using case studies, they highlight features of the Egyptian economy that have led to unreliability in delivery and high transaction costs, and which in turn have discouraged inward FDI, as well as export orientation on the part of foreign affiliates in Egypt. They also identify a set of domestic policy reforms that can be expected to make Egypt a more attractive place for FDI. Chapter 8 by Daniel Chudnovsky focuses on Argentina. Based upon surveys of leading foreign affiliates, the chapter contains an analysis of the quantity and nature of recent FDI inflows to Argentina. Both the main motivation for inward FDI, as well as the economic impacts of FDI, are closely intertwined with the country's other efforts at economic liberalization, including the privatization of State-owned enterprises. While foreign ownership has led to improved efficiency through

reorganized production and personnel training, technology spillovers to the domestic economy have not increased notably. Chudnovsky suggests several broad policy prescriptions to enhance the domestic economic benefits of FDI. Chapter 9 by Hafiz Mirza looks at the emergence of East Asian developing-country TNCs. The linkage between this emergence and the development and integration of the region is explored. The eclectic nature of developing-country TNCs is identified, as is their increasing economic role in the region compared to Triad-based TNCs. Finally, chapter 10 by Terutomo Ozawa examines the interactions between industrial clusters and the internationalization process of small and medium-sized enterprises in Japan. The latter, hitherto, has been driven largely by the expansion of Japan's large world-class corporations. However, continued outward FDI from Japan is contributing to slower growth of small and medium-sized domestic enterprises, and is requiring them to make a transition from traditional subcontracting to venture businesses in niche markets.

Chapters 11 through 15 deal, in one way or another, with public policies designed to encourage FDI activity, as well as to promote the economic benefits of FDI. Thomas Brewer and Stephen Young, in chapter 11, focus on the status of, and prospects for, multilateral investment rules. They discuss the patchwork nature of the current multilateral system of rules on international investment and highlight pressing issues that need to be addressed in a multilateral context. They offer a pessimistic conclusion about the likelihood of the World Trade Organization becoming a global rule-maker on investment issues in the foreseeable future. Chapter 12 by Lynn Mytelka explores the effects of high levels of inward and outward FDI on the learning environment for firms in the European Union. Of particular interest are two detailed case studies of the automobile and electronics industries focusing, in particular, upon local linkages and innovative capabilities that are identifiable with foreign capital flows. She finds little benefit to local businesses along these dimensions, and extends her findings to a condemnation of the locational tournaments by governments for FDI. Chapter 13 by Michael Enright describes the similarities and differences among the cluster-based strategies for regional economic development that have emerged in nations and regions around the world. He reviews and

crititicizes the common elements of cluster-based development strategies, and suggests that cluster-development programmes should be tailored to the local economic environment and social reality if they are likely to be durably successful. In chapter 14, Ewen Peters focuses on public sector initiatives in Scotland to encourage the upgrading of TNC plants in the electronics industry. The chapter highlights a new role for public agencies as project partners with the management of foreign affiliates. Such partnerships can help the latter evolve into strategic business units within the TNC. The authors caution, however, that even where centres of development excellence emerge, local linkages may remain underdeveloped. Nick Phelps, Kevin Morgan and Crispian Fuller, in chapter 15, examine the role of institutional support for inward investors in Wales. They identify the success that a single port-of-call for foreign investors has had in attracting inward FDI. Wales had had success in utilizing a hierarchical institutional framework for dealing with FDI. The authors, therefore, express some concern about the recent devolution of policy responsibility in this regard.

The relatively large number and eclectic coverage of the various chapters makes welcome the conclusions offered by Stephen Young and Neil Hood in the final chapter. The volume does offer several relatively consistent conclusions. One is that the globalization process is not revolutionary in terms of its impacts on business behaviour. While TNCs do appear to be "slicing" their value-added activities more finely on a global basis, the distinction between home and host country remains relevant, especially for value-added activities crucial to innovation. Second, national and regional governments have become more active in promoting inward FDI, often as part of a strategy to develop industrial clusters. Success in attracting FDI is identifiable, although governments may often suffer from the winner's curse of success too. Specifically, the contribution of inward FDI to the development of local linkages and innovative capabilities in host markets is modest, at best. This broad finding of the various case studies was most striking to me given the econometric work that Globerman (and many others) have done that identifies strong productivity spillover effects from inward FDI. Since the available econometric evidence does suggest weaker spillovers in developing countries, the findings of the chapters that focus on developing

countries are not overly surprising. However, the extension of these conclusions to Europe offers a challenge to the conventional wisdom. One has to caution the reader that the small and select focus of the case studies may render specific findings idiosyncratic.

The consensus caution that governments may be engaging in uneconomic competition for inward FDI is clearly relevant, although it is unclear how such competition can or should be restrained in a prisoner's-dilemma type of framework in which individual governments find themselves. In particular, it is unclear that a multilateral rules-based regime for FDI can, or should, constrain the actions of governments to attract FDI. The general agreement of several authors that appropriate government policies can leverage greater economic benefits from inward FDI is unarguable. Unfortunately, beyond some very general bromides, the volume does not produce much new evidence on optimal policy regimes to leverage the potential cluster-building impacts of inward FDI.

In summary, the volume does shed light on the two broad questions it sets out to address. Specifically, governments can (within limits) influence the priorities and initiatives of TNCs, although there may be far too much inter-government competition to do so from a global benefit-cost perspective. Furthermore, the initiatives of TNCs can complement government economic priorities, although the magnitude of the net benefits to host countries and regions varies from case to case. Moreover, one should not expect TNCs to play a transformational role in upgrading the capabilities of many regions of the world to participate in the "new economy". While these insights are not breathtaking, they are useful cautions against adopting either extremely optimistic or pessimistic perspectives on the potential impacts of either TNCs or governments on the economic welfare of regions in the new millenium.

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Birth of the Multinational: 2000 Years of Ancient Business History – from Ashur to Augustus

Karl Moore and David Lewis

(Copenhagen, Copenhagen Business School Press, 1999),
341 pages

Many practitioners in business like to believe that they live in a world of dramatic change: one in which new technologies, new behavioural patterns and new organizational forms are being developed, and which themselves result in further change. Every generation likes to view its discoveries, insights and contributions as new, breaking free of past traditions and practices. Business literature and research are no different. In the last few years, with the growing popularity of business books and publications, we have not only experienced the "guru of the month" phenomenon, but also the sense that we are living in a totally new set of business conditions never experienced before. The need to think of the conditions we face in our economy, society and culture as novel and requiring new responses is widespread.

However, anybody over the age of 40 can confirm that trends in music, fashion, art and so on are repeating themselves. There may be slight variances, but repetition and reinvention are well-established cultural realities.

This viewpoint is well expressed in the quote: "There is nothing new under the sun", from the Old Testament (Ecclesiastes 1:9), used by Karl Moore and David Lewis in the introduction to their book on ancient transnational corporations (TNCs). This view is that notwithstanding the impact of adaptation and technology, people do seem to reinvent social forms again and again. There is an additional underlying, though not quoted, philosophy that the authors seem to espouse, and that is that those who fail to understand the lessons of history are destined to repeat its mistakes.

Moore and Lewis have provided a readable and fascinating perspective on early TNCs. Lest we are tempted to believe that the TNC is a construct of the twentieth century, or, stretching it out, of

the post-Industrial Revolution era, the authors point out that the Assyrians, Phoenicians, Carthaginians, Greeks and Romans all developed forms of TNCs in the ancient world. However, the book is not a mere retelling of some of the business history of those times. It carries with it two further themes that resonate in the understanding of TNCs today. The first theme is the role of the State in encouraging, regulating and managing TNCs. The second theme is the notion that it is ownership, location and internalization advantages that either encourage or discourage firms to produce abroad. This latter theorem, known as the "eclectic paradigm", has been most powerfully expressed by John H. Dunning in *Multinational Enterprises and the Global Economy* (Dunning, 1993).

Pursuing these two themes, Moore and Lewis take us on a journey from around 2,000 BC to 100 AD, examining the varying forms of TNC organization that existed during that period. Peppered with details and quotations, this distant world allows us to begin to comprehend the parallels to the current era. We gain familiarity not only with the old trade routes, but also with the rulers and business operators who were involved in these early TNCs. We marvel at the myriad of forms of organization that coped with the difficulties of transportation and communication at those early times. (Indeed, we may also marvel at how little improvement there has been, despite advances in technology, in cross-cultural communication since the ancient era!)

Moore and Lewis have provided a well-argued viewpoint not only on the existence of TNCs in the past centuries, not only on the parallels to the modern TNC, but also on the issues of governmental jurisdiction in an era of an increasing globalization of commerce.

There are some minor criticisms. From time to time, the effort to assert the relevance of the eclectic paradigm seems forced and out of place. The authors appear to be more at ease in discussing the chronology of international trade, in describing the diversity of forms of organization and in establishing the differing public philosophies towards these organizations. Also, a fascination with detail sometimes overwhelms the flow of the thematic propositions, and the building of an overall picture of this world.

Finally, it can be argued convincingly that the modern TNC is qualitatively different from the ancient one due to major changes in the nature of global commerce and significant advances in communications and transportation technology. This argument, however, does not negate the importance of understanding how history sometimes repeats itself, or of the rediscovery of the lessons learned from the experience of earlier human history (as, for example, during the Renaissance period). Moore and Lewis have argued most effectively that the underlying factors of success for the ancient-world TNCs and of the success for twenty-first century TNCs are quite similar. They have given us an interesting, relevant and valuable perspective on a key contemporary business issue.

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A müködötöke kivitele és a technikai fejlödés a 21. század küszöbén [Foreign Direct Investment and Technological Changes at the Threshold of the 21st Century]

Mihály Simai, Peter Farkas, Andrea Éltetö and Peter Gál

(Budapest, Ministry of Education, 2000), 222 pages

After a four decade detour as a centrally planned economy, Hungary became a front-runner among Central and Eastern European countries in restoring the role of foreign direct investment (FDI) as an engine of economic development. Between 1990 and 1995, the ratio of FDI stock to GDP increased from nearly zero to almost 25 per cent, more than twice the world average and more than four times the Central and Eastern European average (UNCTAD, 2000). Since then, the penetration of FDI in Hungary has continued at a fast pace, bringing the FDI to GDP ratio close to 40 per cent at the end of the 1990s.

That Hungary's Ministry of Education has published this volume only five years after the 1995 peak in FDI inflows can be interpreted as a sign of the desire to understand better events that took place at a historically unparalleled speed. Hence, the book should not be judged only on the basis of originality — although it is not poor in original research — but also on the basis of its efficiency in transferring balanced knowledge on transnational corporations (TNCs) and FDI to students.

The first three chapters written by Mihály Simai in his elegant style (on trends in FDI and national innovation systems, on the strategies of TNCs and national technological development, and on the industry structure of FDI and national structural changes) provide a comprehensive and up-to-date panorama of what is happening in the global scene and why. I hope that this book will really reach large segments of readers in Hungary who, until now, have had more access to literature that Paul Krugman would label as "pop

internationalist" (Krugman, 1996) than to well researched publications. Indeed, it is a mystery why in Hungary, where TNCs and FDI are part of everyday life and still only a small part of the population is fluent in English, the classics of the international business literature have never been translated in Hungarian. Even the pathbreaking *Integration Through Foreign Direct Investment* (Hunya, 2000) published by the Vienna Institute for International Economic Studies, which contains several studies by top-notch Hungarian analysts (e.g. Andrea Éltetö, Gábor Hunya, Miklós Szanyi), has not been translated into Hungarian.

In this context, this dispassionate and objective book by Mihály Simai, Peter Farkas, Andrea Éltetö and Peter Gál fills an important niche. One can naturally ask whether or not it is warranted to narrow down development to its technological elements as this book does. Especially in developing countries with unexploited natural resources or unlimited supply of unskilled labour, the development questions go well beyond technology. But in small and resource-poor Hungary — a country that is also facing labour shortages as a negative fallout of its own economic success — technology can be a good proxy for development.

The case of Hungary is picked up in the fourth and fifth chapters of the volume. In chapter four, Farkas examines Hungary's concerns about the loss of R&D capabilities during the transition process. Public opinion at large and several experts blame the perceived loss of such capabilities on the takeover of local firms by TNCs. And at first sight, they have a point. TNCs are usually known for their propensity to locate R&D in the parent firm at the expense of foreign affiliates. According to Farkas, employment in R&D in Hungarian firms sold to foreigners through the country's privatization plan decreased in the 1990s.

However, it is rarely mentioned that the original R&D capabilities had been built up under the very specific conditions of autarky and often were the outcome of military initiatives. Once the economy was liberalized, a good part of these capabilities had no chance of survival. Under normal economic conditions there is a well proven positive correlation between R&D and development. But

during the early stages of economic transition, there can be a need to focus on development at the expense of R&D employment.

During this transition phase, FDI can in fact act as a preserver of some R&D activities. The book mentions the fact that foreign affiliates in Hungary are still more R&D intensive than their locally owned counterparts. In selected industries, TNCs continue to rely on the local advanced skills in R&D. The book mentions that several TNCs in the pharmaceutical industry, as well as General Electric, Knorr-Bremse, Electrolux, Ericsson and Nokia as examples of companies with recently expanding R&D facilities and capacities, and provides data estimates on local sourcing for certain affiliates (table 1). This is important because these capacities are sustainable in the new open and highly competitive environment.

Table 1. Share of local supplies in the output of selected TNC affiliates in Hungary, 1999

(Percentage)

Firm	Share of local supplies
Audi	< 10
Electrolux	40-50
Ford	> 10
General Electric[a]	60-70
General Motors	10-20
Philips	~ 10
Sony	< 5
Suzuki[a]	55-60

Source: Peredi, 2000; cited in Farkas, 2000, p. 15; and the book reviewed, p 127.

[a] Including own local value added.

It is a pity that the book uses aggregate national R&D data without distinguishing between foreign affiliates and locally owned firms. Such a distinction would reveal a revolution in the quality of R&D in Hungary. Unpublished (but not confidential) data from the Hungarian Central Statistical Office show that between 1992 and 1998, the R&D expenditures of foreign affiliates skyrocketed, from $6.3 million to $96.5 million (table 2). This contrasts sharply with

the decline in R&D expenditure at the national level, discussed in the chapter by Farkas. It is also notable that the value added of foreign affiliates grew more moderately in the same period, from $3.3 to $11.3 billion. This picture can be reconciled with a decline in R&D employment if it is assumed that foreign ownership led to a radical break from old, overstaffed and badly equipped R&D facilities. The R&D activities carried out by foreign affiliates in Hungary are increasingly capital intensive, and pay high salaries.

Table 2. Performance of foreign-owned firms in Hungary, 1992-1998

Item	Unit	1992	1993	1994	1995	1996	1997	1998
Number of firms		17 182	20 999	23 557	25 096	26 130	25 738	25 992
Number of employees		359 598	435 632	514 625	547 065	565 306	543 021	578 341
Capital stock	million $	9 027	12 096	13 300	15 738	14 874	14 561	13 836
Foreign-owned capital	million $	5 086	7 203	7 928	10 380	10 506	10 957	11 024
Turnover	million $	17 847	23 936	31 608	38 996	44 532	47 326	52 661
Value added	million $	3 284	4 863	6 965	7 951	8 876	10 442	11 322
Earnings per employee	$	4 812	5 299	5 249	5 458	5 623	5 624	5 852
R&D expenditure	**million $**	**6.3**	**15.2**	**29.5**	**31.0**	**56.4**	**89.4**	**96.5**
Gross fixed capital formation	million $	1 349	1 978	2 497	3 201	3 198	2 984	3 813
Total exports	million $	3 454	3 880	5 841	7 456	8 188	14 185	17 748
Total imports	million $	4 096	5 593	8 372	9 683	10 783	15 427	19 061
Gross profits	million $	..	-326	-60	47	1 096	2 396	2 810

Source: UNCTAD, based on unpublished data provided by the Hungarian Central Statistical Office.

Éltetö's chapter contains some surprises for readers unfamiliar with new patterns in the foreign trade in transition economies. She compares the technological patterns of exports of Hungary, the Netherlands, Poland and Spain and concludes that thanks to a massive inflow of FDI, Hungary and Poland have caught up fast with the two European Union countries. "The analysis of the technology intensity of the exports to the European Union by these four countries reveals

that, in 1997-1998, *the share of high technology goods in exports became the highest in Hungary, ahead of the Netherlands, although the general technological level of the latter (as demonstrated) is higher. In Poland, too, the share of technology intensive goods in exports increased fast, while their share stagnated in Spain.* In the Central European countries, the group of *high technology goods* consists of a few items produced and exported by foreign affiliates of transnational firms in large quantities; hence the impact of FDI is direct and well observable" [p. 167, translated from Hungarian original; emphasis of the original text].

In chapter six, Gál, while dealing with the impact of the telecommunication and information revolution on financial services, provides a global perspective. The topic is nevertheless of major importance for Hungary, where according to data provided by the Hungarian Investment and Trade Development Agency, 63 per cent of the banking and 68 per cent of the insurance industries were foreign-owned at the end of 1998. This chapter is important because it provides a broad overview and because balances the bias in FDI literature that focuses too little on services. The financial services industry also represents a natural link between direct and portfolio investment, an area of analysis that is growing in importance (Dunning-Dilyard, 1999).

The seventh chapter, written by Simai, sums up the main findings of the book in ten points. Let us just highlight the first and the last two ones that are of importance for all readers. The first point states that: "*At the end of the 20th century, it has been not only the strengthening of national and firm-level innovatory capacities in the broad sense that has determined success in competition and competitiveness, but also the exploitation of new technologies in the modernization of manufacturing and services industries and in the improvement of productivity and capacities to produce value added*" [p. 204, translated from Hungarian original; emphasis of the original text]. The ninth point concludes that the positive impact of FDI in Hungary has been similar to that experienced in other countries, while the tenth point emphasizes that it is too early to draw conclusions on the long-term implications of the presence of TNCs in Hungary and on the efficiency of their local linkages. These conclusions may sound

evident, but for the Hungarian student who will use this book as a textbook, they are of major importance. Let us hope that this volume will be soon become available in all Hungarian bookshops.

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JUST PUBLISHED

World Investment Report 2000: Cross-border Mergers and Acquisitions and Development

(Sales No. E.00.II.D.20) ($49)

The *World Investment Report 2000* (*WIR2000*) highlights important sectoral and geographical changes in the pattern of FDI, with particular focus on developing countries. *WIR2000* focuses specifically on the growing role of cross-border mergers and acquisitions (M&As) in worldwide FDI. Cross-border M&As have been prevalent in developed countries for some time, and they have become increasingly important as well in developing countries and economies in transition. *WIR2000* analyzes the driving forces behind the recent expansion of cross-border M&As, their impact on corporate performance, as well as on host country development, particularly as compared with greenfield investment as a mode of FDI entry. The *Report* presents various policy options to address possible negative effects of M&As.

World Investment Report 2000: Cross-border Mergers and Acquisitions and Development: Overview

(UNCTAD/WIR/00(Overview))

Available free of charge in Arabic, Chinese, English, French, Russian and Spanish.

Relatório Sobre os Investimentos no Mondo 1999: O Investimento Directo Estrangeiro e o Desafio do Desenvolvimento: Panorama Geral

(UNCTAD/WIR/1999(Overview))

This is the first time that an Overview of the *World Investment Report* is translated into Portuguese. A limited number of copies is available free of charge.

FDI Determinants and TNC Strategies: The Case of Brazil

(Sales No. E.00.II.D.2) ($35)

Investment flows into Brazil tripled between 1996 and 1999 to $31 billion, but the country's potential to attract even more FDI remains under-exploited. This study recommends the creation of a national investment promotion agency as one of the key ways to develop that potential. The revival and acceleration of FDI in Brazil are attributable to effective policies that helped stabilize the economy, liberalized trade and FDI regimes and privatized State assets. However, the country will face difficulties in sustaining or even increasing the rate of growth of FDI given the intense competition for investment. Brazil can maintain high FDI inflows over the next few years through traditional investors and the privatization of State-owned enterprises. But to maintain or even increase those inflows once the current privatization programme is over will also require FDI from non-traditional sources, such as small and medium-sized enterprises and investors from Asia and Latin America, as well as new investors from developed countries. This will be all the more important if Brazil is to increase not only the volume of inward FDI, but also its quality and improve foreign affiliate export performance.

International Investment Instruments: A Compendium. Volume IV. Multilateral and Regional Instruments

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Scope and Definition

(UNCTAD/ITE/IIT/11 Vol. II) (in Arabic)

A limited number of copies of this volume is available free of charge upon request.

Books received on foreign direct investment and transnational corporations since April 2000

Aharoni, Yair and Lilach Nachum, *Globalization of Services: Some Implications for Theory and Practice* (London and New York: Routledge, 2000), 338 pages.

Cohen, Élie, Jean Hervé Lorenzi et al., *Politiques Industrielles pour l'Europe* (Paris: La Documentation française, 2000), 5,500 pages.

Grosse, Robert E., ed., *Thunderbird on Global Business Strategy* (New York: Wiley, 2000), 362 pages.

Hood, Neil and Stephen Young, eds., *The Globalization of Multinational Enterprise Activity and Economic Development* (Houndmills: Macmillan, 2000), 418 pages.

Witkowska, Janina and Zofia Wysokinska, eds., *Motivations of Foreign Direct Investors and their Propensity to Exports in the Context of European Integration Process* (Lódz: University of Lódz, 1997), 135 pages.

GUIDELINES FOR CONTRIBUTORS

I. Manuscript preparation

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Articles should, normally, not exceed 30 double-spaced pages (12,000 words). All articles should have an abstract not exceeding 150 words. Research notes should be between 10 and 15 double-spaced pages. Book reviews should be around 1,500 words, unless they are review essays, in which case they may be the length of an article. Footnotes should be placed at the bottom of the page they refer to. An alphabetical list of references should appear at the end of the manuscript. Appendices, tables and figures should be on separate sheets of paper and placed at the end of the manuscript.

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Dunning, John H. (1979). "Explaining changing patterns of international production: in defence of the eclectic theory", *Oxford Bulletin of Economics and Statistics*, 41 (November), pp. 269-295.

United Nations Centre on Transnational Corporations (1991). *World Investment Report 1991: The Triad in Foreign Direct Investment.* Sales No. E.91.II.A.12.

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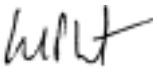

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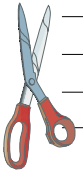

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