VOLUME 16 NUMBER 2 AUGUST 2007

# TRANSNATIONAL CORPORATIONS

**United Nations**
New York and Geneva, 2007
United Nations Conference on Trade and Development
Division on Investment, Technology and Enterprise Development

## Editorial statement

*Transnational Corporations* (formerly *The CTC Reporter*) is a refereed journal published three times a year by UNCTAD. In the past, the Programme on Transnational Corporations was carried out by the United Nations Centre on Transnational Corporations (1975-1992) and by the Transnational Corporations and Management Division of the United Nations Department of Economic and Social Development (1992-1993). The basic objective of this journal is to publish articles and research notes that provide insights into the economic, legal, social and cultural impacts of transnational corporations in an increasingly global economy and the policy implications that arise therefrom. It focuses especially on political and economic issues related to transnational corporations. In addition, *Transnational Corporations* features book reviews. The journal welcomes contributions from the academic community, policy makers and staff members of research institutions and international organizations. Guidelines for contributors are given at the end of this issue.



## Subscriptions

A subscription to *Transnational Corporations* for one year is US$ 45 (single issues are US$ 20). See p. 165 for details of how to subscribe, or contact any distributor of United Nations publications. United Nations, Sales Section, Room DC2-853, 2 UN Plaza, New York, NY 10017, United States – tel.: 1 212 963 3552; fax: 1 212 963 3062; e-mail: publications@un.org; or Palais des Nations, 1211 Geneva 10, Switzerland – tel.: 41 22 917 1234; fax: 41 22 917 0123; e-mail: unpubli@unog.ch.

## Note

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the United Nations. The term “country” as used in this journal also refers, as appropriate, to territories or areas; the designations employed and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. In addition, the designations of country groups are intended solely for statistical or analytical convenience and do not necessarily express a judgement about the stage of development reached by a particular country or area in the development process.

Unless stated otherwise, all references to dollars ($) are to United States dollars.

ISBN 978-92-1-112713-3
ISSN 1014-9562

## Board of Advisers

### CHAIRPERSON

***John H. Dunning***, Emeritus Esmee Fairbairn Professor of International Investment and Business Studies, University of Reading, United Kingdom, and Emeritus State of New Jersey Professor of International Business, Rutgers University, United States

### MEMBERS

***V.N. Balasubramanyam***, Professor of Development Economics, Lancaster University, United Kingdom

***Edward K. Y. Chen***, President, Lingnan College, Hong Kong, Special Administrative Region of China

***Farok J. Contractor***, Professor of Management and Global Business, Graduate School of Management, Rutgers University, Newark, New Jersey, United States

***Arghyrios A. Fatouros***, Professor of International Law, Faculty of Political Science, University of Athens, Greece

***Xian Guoming,*** Professor of Economics and International Business, Director, Center for Transnationals Studies, Dean, Teda College of Nankai University, Tianjin, China.

***Kamal Hossain***, Senior Advocate, Supreme Court of Bangladesh, Bangladesh

***Celso Lafer***, Professor, University of Sao Paulo, Brazil

***James R. Markusen,*** Professor of Economics, University of Colorado at Boulder, Colorado, United States.

***Theodore H. Moran***, Karl F. Landegger Professor, and Director, Program in International Business Diplomacy, School of Foreign Service, Georgetown University, Washington, D.C., United States

***Sylvia Ostry***, Chairperson, Centre for International Studies, University of Toronto, Toronto, Canada

***Terutomo Ozawa***, Professor of Economics, Colorado State University, Fort Collins, Colorado, United States

***Tagi Sagafi-nejad***, Radcliffe Killam Distinguished Professor of International Business, and Director, Ph.D. Program in International Business Administration, College of Business Administration, Texas A&M International University, Texas, United States

***Mihály Simai***, Professor Emeritus, Institute for World Economics, Budapest, Hungary

***John M. Stopford***, Professor Emeritus, London Business School, London, United Kingdom

***Osvaldo Sunkel***, Professor and Director, Center for Public Policy Analysis, University of Chile, Santiago, Chile

***Marjan Svetlicic,*** Head, Centre of International Relations, Faculty of Social Sciences, University of Ljubljana, Slovenia

***Daniel Van Den Bulcke***, Professor of International Management and Development, University of Antwerp, Belgium

*Transnational Corporations*
**Volume 16, Number 2, August 2007**

# Contents

# The FDI location decision: does liberalization matter?

Antonio Majocchi and Roger Strange*

In this article, we address the question of whether market, trade and financial liberalization has an impact upon FDI location decisions. We use a sample of Italian firms which have made investments in seven Central and East European countries (i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia). The results confirm that market size and growth, the availability of labour, the quality of infrastructure, and agglomeration economies are all important determinants of FDI location. However, we also show that the choice of FDI location is positively influenced by the extent of trade, financial and (weakly) market liberalization, and negatively related to the openness to foreign banks. This study improves upon the previous studies in a number of aspects: it uses firm-level data from the very start of transition process in 1990; it includes various dimensions of liberalization, notably financial liberalization and openness to foreign banks, which have not previously been considered; and finally, it provides elasticity estimates that show the changes in the probability of FDI location in each country arising from further liberalization in each of the other countries in the region.

**Key words**: Location decisions, Economies in transition, Italian FDI

* Antonio Majocchi is Associate Professor of International Business at the Faculty of Economics, University of Pavia, Italy (tel.: +39 0382 98646, e-mail: antonio.majocchi@unipv.it). Roger Strange is Senior Lecturer at King's College London, United Kingdom (tel.: + 44 20 7848 4423, e-mail: roger.strange@kcl.ac.uk). The corresponding author is Antonio Majocchi. The authors gratefully acknowledge financial support from MIUR (FIRB 2003, DM2PMI).

## 1. Introduction

Since the early 1990s, many countries in Central and Eastern Europe (CEECs) have undergone substantial economic liberalization, and these developments have contributed to CEECs becoming popular destinations for foreign direct investment (FDI) by Western firms (Meyer, 1998; Kalotay, 2004) particularly those from the European Union (EU). These countries share similar economic and institutional legacies from their Communist pasts, and all are potential new markets and/or low-cost production locations. But liberalization is a multi-faceted process and involves, *inter alia*, market liberalization, trade liberalization and financial liberalization. The speed and extent of market, trade and financial liberalization have not been uniform across the CEECs, and their individual paths of transition to market economies have differed substantially. These observations raise the issue of whether market, trade and financial liberalization each have an impact upon inward FDI and, if so, which effects are the strongest.

This article addresses this issue by establishing the determinants of FDI location in seven CEECs[1] (i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia), all of which have been involved in the process of accession to the EU and which together account for most inward investment in the region. The statistical analysis is based upon a sample of firms from just one country (i.e. Italy), which means that we do not need to control for possible country-of-origin effects (Grosse and Trevino, 1996; Chadee *et al.*, 2003) due to geographical and/or cultural proximity to Eastern Europe. We cover the period from the very beginning of the transition process in 1990 up to 2003, which allows us to explore fully the effects that the different paths towards a market economy have had upon the FDI location decisions of Italian firms.

[1] The three Baltic States (i.e. Latvia, Lithuania and Estonia), Malta and Cyprus are not the included in the present analysis due to the lack of data.

The article makes three important contributions. First, the findings add to the established literature by showing that market, trade and financial liberalization all have different effects upon the FDI location decision. Second, we derive estimates of the strength of these effects for each of the seven CEECs. These estimates may be used to derive appropriate policy implications for each country, though this is beyond the scope of this article. Third, the sample of Italian firms is particularly interesting because it consists primarily of small and medium-sized enterprises (SMEs) rather than large transnational corporations (TNCs). The role of SMEs in FDI flows has been increasingly acknowledged (Fujita, 1995a, 1995b; Urata and Kawai, 2000), but there are still relatively few empirical studies, compared to those that focus on large TNCs. Investments by transnational SMEs are much less visible, and official data often only count large investments. The analysis in this article thus fills this hole in the literature and provides insights into the FDI behaviour of SMEs.

The article is structured as follows. In section 2, we briefly discuss the main characteristics of inflows of FDI to the CEECs and outline the timetable of their accession to the EU. We then review the literature on the determinants of FDI location decisions and develop the hypotheses to be tested. Section 4 describes the sample of firms, presents details of the explanatory variables and provides a brief interpretation of the estimation technique. The penultimate section presents the empirical results and discusses their interpretation. The final section considers the policy implications and highlights the limitations of the analysis.

## 2. Background

Since the early 1990s, the CEECs have witnessed a large increase in inflows of FDI, notwithstanding a high level of volatility in the annual figures. As a consequence, FDI in the CEECs has increased from less than 1% of the world total in 1990 to roughly 4% in 2005 (UNCTAD, 2006, pp. 299-302). Firms from Western Europe have accounted for the bulk of the

investments in the region, with Germany being the most active investor in terms of value. However, such data on FDI values do not offer a complete picture of Italian investments in the area. Italian direct investments in the CEECs are generally small in value, but large in terms of numbers reflecting the fact that Italian industry structure is characterized by a high share of SMEs. For example, Italy was only the sixth most important investor country in Romania in terms of the value of FDI, but second in terms of the numbers of projects (with more then 2,000 firms involved). Notwithstanding the small average size of the Italian investments, the total value of FDI outflows from Italy during the 1990s increased at an average rate of 25% per year reaching more than 38 billion in 2003. According to one recent estimate (Istat, 2006), the share of these flows directed toward the CEECs increased to roughly 3% of the total in 2005 so that we can infer that the average flows of FDI from Italy to the CEECs have been roughly 1.15 billion.

This growth of FDI has taken place concomitantly with the process of the CEECs' accession to the EU. All the CEECs decided from an early stage that EU membership was essential in terms of their transition to liberal democratic market economies, and the EU had to decide how best to respond to these overtures. Initially, the EU negotiated a series of bilateral trade and cooperation agreements, and these were quickly superseded by a series of more wide-ranging Association Agreements. The first Association Agreements (with Poland and Hungary) came into force in February 1994, but the CEECs wanted more. In June 1993, the European Council meeting in Copenhagen defined a set of economic, political and administrative criteria (the "Copenhagen criteria") that set out in general terms the requirements to be satisfied for any CEEC to be granted access to the Union. These requirements included a sound and competitive market-based economy, stable democracy governed by the rule of law, the development of administrative and institutional standards comparable to those of western partners, and the capacity to cope with competitive pressures within the Union. More detailed measures were subsequently set out in a 1995 White Paper. The first evaluation of progress was made in 1997 in a document called *Agenda 2000*

and accession negotiations began in the following year with Cyprus, the Czech Republic, Estonia, Hungary, Poland and Slovenia. Accession negotiations were to continue at a later date with Bulgaria, Malta, Latvia, Lithuania, Romania and Slovakia. In 2002, after close evaluation of developments in various candidate countries, the EU Commission extended the first group of applicants to include Latvia, Lithuania, Malta and Slovakia, and these ten countries joined the EU in May 2004 (Clausing and Dorobantu, 2005). Bulgaria and Romania have since signed accession treaties that came into force in January 2007, and accession negotiations are underway with other countries. The "Copenhagen criteria" set a tight and well-defined path that candidate countries had to follow in order to comply with the requirements for EU membership. This process of institutional upgrading transformed the investment environment in each country, and rendered them increasingly stable and appealing locations for inward FDI. It is within this context that we have analysed the development of Italian investments in the region.

## 3. Review of the literature and research hypotheses

Research on the choice of FDI location has received a recent boost from the work of scholars such as Krugman (1991) and Porter (1994), who have argued that many of the factors that determine firm competitiveness are location-bound and that the choice of location for their activities is an important strategic decision for TNCs. These sentiments have also been echoed by Dunning (1998). These location-specific factors range from simple natural assets like raw materials and cheap labour to more complex assets, such as public support, and market or technological knowledge. Various authors (e.g. Birkinshaw and Hood, 2000; Rugman and Verbeke, 2001; Andresson *et al.*, 2002) have shown how international strategies are often formulated to selectively tap local knowledge and location-bound resources in order to improve firms' overall competitive standings.

Several previous studies on the locational choices of TNCs have explored the role of aspects such as market size and market potential for market-seeking investments, and local knowledge

and the availability of resources for strategic-asset and resource-seeking investments (Frost, 2005; Chang and Park, 2005). Most have focused on the FDI location decision into and within the United States, the EU or, more recently, China.[2] Rather less attention has been devoted to the CEECs, with several authors (e.g. Lankes and Venables, 1996; Meyer 1998) simply reporting aggregate data or using case study and survey methods, and relatively few econometric studies (Lansbury *et al.*, 1996; Holland and Pain, 1998; Resmini, 2000; Campos and Kinoshita, 2003; Bevan *et al.*, 2004; Bevan and Estrin, 2004; Grosse and Trevino, 2005). These studies have all used aggregate FDI flows or stocks in selected CEECs as the dependent variable, and have established that these are positively related to market size and market growth in the host economy, the availability of labour, the quality of infrastructure and agglomeration economies while negatively related to labour costs.[3]

As regards market size and growth, several studies (see, for example, Woodward *et al.*, 2000; Altomonte, 1998; Manea and Pearce, 2004) of FDI in the CEECs have stressed the role of market-seeking considerations. For example, Resmini (2000, p. 678) suggests that "in general, FDI in Central and Eastern

[2] See, for example, Bartik (1985), Coughlin *et al.* (1991), Friedman *et al.* (1992), Friedman *et al.* (1996), Glickman and Woodward (1988), Head *et al.* (1995, 1999), Luger and Shetty (1985), Woodward (1992), Shaver (1998) and Shaver and Flyer (2000) on FDI in the United States; Crozet *et al.* (2004), Ford and Strange (1999), Yamawaki (1991), Scaperlanda and Balough (1983) on FDI in the EU; and Belderbos and Carree (2002), Chang and Park (2005), Cheng and Kwan (2000), Chadee *et al.* (2003), He (2003) and Head and Ries (1996) on FDI in China. This is a not an exhaustive list, and there are also some interesting studies of FDI location in other regions: see, for example, Woodward and Rolfe (1992) on FDI in the Caribbean Basin.

[3] Other research (Resmini, 2000; Campos and Kinoshita, 2003; Bevan *et al.*, 2004; Bevan and Estrin, 2004) has also established that proximity between home and host countries is an important determinant of bilateral FDI flows. The shorter the distance between the countries, the greater is the attraction of the host country. Closer countries not only involve smaller transportation costs, but are also potentially closer in terms of "psychic" distance thus facilitating international investments. However, the sample of firms in this study are drawn from just one country (i.e. Italy), so it was not necessary to control for this proximity effect.

Europe is targeted to the local market". But Lankes and Venables (1996) point out that all the CEECs have become integrated, though to differing extents, with the EU as many West European firms invest in order to provide inputs for their domestic operations. Labour costs are particularly important for export-oriented investments in upstream manufacturing activities, though lower wages are only attractive insofar as they are not offset by lower productivity (Campos and Kinoshita, 2003). Bevan and Estrin (2004) find that labour costs are negatively associated with FDI, and similar results are reported by Resmini (2000). But lower average wages also mean lower average purchasing power and, to the extent that Italian firms have invested in the CEECs for market-seeking motives, they may well have been attracted by high average wage levels. Furthermore, high levels of remuneration are generally correlated to higher levels of skill. These two offsetting effects mean that many studies have failed to detect a statistically significant effect of labour costs on the choice of location (see, for example, Lansbury *et al.*, 1996; Holland and Pain, 1998; Basile *et al.*, 2003).

Another important factor that has been shown to have an impact on FDI location is agglomeration economies which arise from the concentration and co-location of related economic activities (Nachum, 2000; Sun *et al.*, 2002). The basic rationale is that greater numbers of foreign firms in a particular location generate positive externalities in terms of the availability of skilled workers, specialized services, intermediate products and shared knowledge. Several previous studies on FDI in the CEECs confirm this positive relationship (Resmini, 2000; Campos and Kinoshita, 2003; Cieslik, 2004). There is plenty of anecdotal evidence that the quality of infrastructure is an important determinant of FDI location decision. Unfortunately, it is also a variable that is notoriously difficult to operationalize. Mariotti and Piscitello (1995) and Chang and Park (2005) both use the extent of the transportation network as a proxy variable, while Campos and Kinoshita (2003) used the *per capita* number of telephone lines as a measure of the state of communications infrastructure and found a positive impact upon FDI location.

Recent research on new institutional economics has highlighted the potential effects of institutional variables on flows of FDI in general, and on entry mode choice and international performance in particular (Henisz, 2000; Delios and Beamish, 1999; Meyer, 2001). Others have focused on the impact of institutional factors on location. For instance, both Grosse and Trevino (2005) and Brada *et al.* (2003) have shown that levels of political risk in CEEC host economies are negatively correlated with inflows of foreign investment, as investors perceive a less favourable investment climate and higher transaction costs.

Several researchers have addressed the effects of liberalization on FDI in various regions of the world, though most have concentrated on the impact of privatization of previously State-owned firms and/or trade liberalization. For instance, Trevino *et al.* (2002) found a positive relationship between privatization and FDI in Latin America, and suggest that this is because privatization policies are seen by foreign investors as an indication of a country's positive attitude towards private firms. Various studies have investigated the link between trade openness and FDI, but with mixed results. Wheeler and Mody (1992) found that Brazil and Mexico attracted large inflows in the 1980s despite low levels of trade openness, but several more recent studies (Sin and Leung, 2001; Sun, Tong and Yu, 2002) seem to confirm a positive relationship between external trade liberalization and foreign capital inflows.

There have been few studies of the effects of financial liberalization on FDI, and most empirical analyses have focused on the effects of capital controls. Asiedu and Lien (2004) provide a review and report that older studies had mixed results, but that more recent studies seem to suggest an inverse relationship between capital controls and FDI.

With specific reference to the CEECs, Bevan *et al.* (2004) found that various institutional developments impacted on the flows of investments, the most important of which were privatization and private sector development, banking industry

reform (though not necessarily the non-banking financial industry), the liberalization of foreign exchange, and the development of the legal system. Brenton *et al.* (1999) reported that external trade liberalization had an impact upon foreign capital inflows. Previous work by the authors has shown that both lower levels of administered prices and higher levels of trade openness are positively related to FDI location (Strange and Majocchi, 2007).

This study builds upon this stream of literature. As noted in the introduction, the process of economic liberalization is multi-faceted and involves, *inter alia*, market liberalization, trade liberalization and financial liberalization. All seven CEECs have undergone massive structural and institutional changes since the beginning of the 1990s, though the extent of these changes has not been uniform. We hypothesize that the relative speed of these changes has had an impact upon the distribution of FDI among the seven countries.

As Bevan *et al.* (2004) stress, the creation of markets has been the main objective in the transition of the formerly centrally-planned economies of the CEECs, and a crucial element has been the liberalization of prices for goods and services. Domestic price liberalization should promote competition and reduce bureaucratic interference, weaken the power of incumbent firms, and create new business opportunities for efficient firms. We would thus expect foreign firms to favour countries where the government does not interfere unduly in the workings of the market, where market forces thus guide the allocation of resources, and where, *ceteris paribus*, there is a "level playing field" so that they are not subject to discrimination. Furthermore, we would expect such considerations to be all the more important for firms whose principal motivation for FDI is market-seeking. Service firms are likely to be primarily concerned with the domestic market, while it is likely that a substantial part of Italian manufacturing FDI in Eastern Europe is associated with the production of goods for export to the EU and elsewhere. Our first pair of hypotheses are thus:

***Hypothesis 1a**: Foreign firms are more likely to locate in countries where the extent of market liberalization is high.*
***Hypothesis 1b**: Foreign service firms are likely to be more strongly influenced in their location choices by market liberalization than foreign manufacturing firms.*

If the creation of domestic markets has been an important objective for the CEECs, so, too, has been improved access to international markets, as is evident from the brief account of the countries' negotiations on EU accession. These developments will clearly interest foreign firms, and we would expect investors to favour countries which are already substantially engaged in trade with the rest of the world, as not only does this suggest a certain intent by the host country government, but it should also be associated with more efficient import/export channels. Furthermore, it has been shown that countries that are more open to trade are likely to have better property rights protection (Ayyagari *et al.*, 2005), better macroeconomic policies and be less prone to corruption (Bonaglia *et al.*, 2001; Gokcekus and Knorich, 2006). Weak property rights are a considerable disincentive to FDI (Oxley, 1999; Smarzynska, 2002), whilst corruption is analogous to a tax as it raises the costs of doing business and has been negatively linked to FDI flows (Grosse and Trevino, 2005). We would therefore expect countries that are more open to international trade to be more attractive to foreign investors and, following the same logic as above, that this to be the case *a fortiori* for manufacturing firms. Our second pair of hypotheses are thus:

***Hypothesis 2a**: Foreign firms are more likely to locate in countries where the extent of trade liberalization is high.*
***Hypothesis 2b**: Foreign manufacturing firms are likely to be more strongly influenced in their location choices by trade liberalization than foreign service firms.*

The process of financial liberalization involves, *inter alia*, liberalization of the domestic financial industry and the removal of discrimination between foreign and domestic providers of financial services. The liberalization of the domestic financial

industry requires the elimination of controls on credit allocation and on deposit/lending rates, and more generally a diminution in the role of the State in favour of allowing the market to allocate resources. In principle, this should lead to the entry of new domestic providers of financial services, with the resultant increase in competition giving rise to higher economic growth rates, enhanced product variety and improved efficiency. A more efficient system allows the deployment of funds towards those firms that are able to generate the highest returns on their activities. Thus, it is likely that greater financial liberalization will be associated with the entry and growth of profitable businesses, and the improved provision of goods and services both to final customers and to other businesses in the host economy (Demirgüç-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; Beck *et al.*, 2000; Wurgler, 2000; Bekaert *et al.*, 2005). Beck *et al.* (2005) report that financial development stimulates the growth of small firms more than large firms. These developments enhance the attractiveness of a particular host country to a foreign investor both directly and indirectly through the possibility of more and cheaper supplies of intermediate goods and services. Furthermore, manufacturing firms in general are more reliant than service firms on supplies of intermediate goods and services. Thus, the indirect benefits accruing from the greater selection of potential suppliers and the cheaper supplies of intermediate goods and services should be more substantial for manufacturing firms. Our third pair of hypotheses are thus:

***Hypothesis 3a****: Foreign firms are more likely to locate in countries where the extent of financial liberalization is high.*
***Hypothesis 3b****: Foreign manufacturing firms are likely to be more strongly influenced in their location choices by financial liberalization than foreign service firms.*

As regards the removal of discrimination between foreign and domestic banks, there are several conflicting effects. On the one hand, the entry of foreign banks may well lead to enhanced competition, the introduction of new financial instruments, improved access to international capital markets,

better compliance with international standards, and greater stability (Meltzer, 2000). If this is indeed the case, then we would expect a greater presence of foreign banks to have a positive impact on FDI location. On the other hand, Stiglitz (1993) suggested that domestic banks might incur extra costs and domestic firms receive less access to funds as a result of foreign bank entry. Weller (2000a, 2000b) notes that transnational banks have been particularly active in Eastern Europe through the 1990s, but that the fast growth in their loans does not reflect substantial inflows of capital. He points out that transnational banks tend to expand their global operations to follow large TNC clients to whom they provide a range of services. Transnational banks introduce some funds from overseas but also raise funds in the host country, with the result that domestic banks lower their credit exposure and become less (rather than more) efficient.[4] Weller (2000a) emphasizes that greater competition and less access to capital raise the chance of domestic bank failure, but that this risk may be mitigated by favouring loans to less risky clients. He suggests that loans to large TNCs or to large domestic corporations are less risky than loans to SMEs or to start-up companies. Claessens *et al.* (2001) found that foreign bank entry had a destabilizing effect on financial systems in developing countries. And, Lensink and Hermes (2004) showed that the effects of foreign bank entry depended upon the level of development of the banking industry in the host economy, and typically pushed up costs and margins in the short-term in developing countries. Our sample consists primarily of SMEs rather than large TNCs, and these SMEs are likely to want to raise credit for their working capital needs through the host country banking system so as to limit their foreign exchange exposure. Thus, given the CEEC context of our study, our fourth hypothesis is:

***Hypothesis 4****: Foreign SMEs are less likely to locate in transition economies where the financial industry is relatively open to foreign banks.*

[4] Focarelli and Pozzolo (2000) found that foreign banks were more represented in countries where the domestic banking industry was less efficient.

## 4. Data and methodology

This section is divided into five sub-sections. In the first sub-section, we explain how the dataset of 272 foreign affiliates of Italian TNCs in Eastern Europe was constructed and outline some of its main characteristics. The second and third sub-sections detail respectively the dependent variable and the explanatory variables included in the regression model. The fourth sub-section provides a brief description of the conditional logit model and its interpretation. And, the fifth and final sub-section provides some descriptive statistics on the explanatory variables for the seven CEECs.

### 4.1 Data sources and sample characteristics

Each of the 272 observations in the sample corresponds to an affiliate of an Italian firm in one of the seven CEECs considered in the study. The observations are drawn from a larger database, constructed specifically for this study, which contains data on 969 Italian firms[5] with investments in at least one of the seven CEECs. Basic information on the investments was gathered from several different sources, such as the Amadeus database, the local branches of the Italian Institute for the Promotion of External Trade (ICE), and the seven Italian-CEEC Chambers of Commerce. Each of the 969 firms were contacted first by mail, and then by e-mail and/or telephone and asked to participate in a survey on Italian investments in the area, but only 288 firms (29.5% response rate) replied. These firms were asked a number of questions, though the only ones relevant to the present article were the industry and year of establishment of the CEEC affiliates. Sixteen of these firms had undertaken their investments before 1990 and were dropped from the sample, so the final sample consisted of 272 affiliates which had been established between 1990 and 2003. The geographical distribution of these investments is shown in table 1.

[5] An invitation letter to participate in the research project was sent to 1552 Italian firms which were believed to have investments in the CEEC countries. 583 letters were returned undelivered, so only the remaining 969 were considered active firms.

**Table 1. The sample distribution of firms in the seven countries**

| Country | Number of firms in sample | Percentage of total number of firms in sample (per cent) | Average Italian FDI stock, 1990-2003 (billions of dollars) | Percentage of total Italian FDI stock (per cent) |
|---|---|---|---|---|
| Bulgaria | 29 | 11 | 1 398.9 | 2.5 |
| Czech Republic | 13 | 5 | 13 356.2 | 23.9 |
| Hungary | 16 | 6 | 15 478.3 | 27.7 |
| Poland | 144 | 53 | 17 754.7 | 31.8 |
| Romania | 8 | 3 | 3 375.4 | 6.0 |
| Slovakia | 26 | 9 | 2 444.6 | 4.4 |
| Slovenia | 36 | 13 | 1 997.0 | 3.6 |
| Total | 272 | 100 | 55 805.4 | 100.0 |

*Source*: UNCTAD, *World Investment Report* (various years).

Over half are located in Poland, and a further quarter in Slovenia and Bulgaria combined. These figures on the numbers of investments may be compared with the data on the total value of the Italian FDI stock; it appears as though Poland may be over-represented and Hungary and the Czech Republic under-represented in the sample. However, we are not comparing like with like. Data regarding the size of the investing firms are unfortunately incomplete, but only 27 of the 272 firms were publicly listed either in Italy or in the host economy, so we can assume that the sample consists primarily of small and medium-sized firms. The sample thus corresponds well to the traditional structure of the Italian economy (Savona and Schiattarella, 2004), but does not include any really large-scale investments. Further efforts are needed to ascertain the representativeness of the sample; in the meantime, the results should be interpreted with caution. Almost two-thirds of the firms in the sample (172 firms) were classified as manufacturing, whilst the remaining 100 were active in the services sector.

### 4.2 The dependent variable

The dependent variable in the conditional logit model is the choice among the seven alternative locations for the 272

East European affiliates. Most of the previous econometric studies of FDI location in Eastern Europe have used aggregate inter-country FDI flows or stocks as the dependent variable. In this study, we focus on the individual FDI projects for three main reasons. First and foremost, location choices are strategic decisions made by firms, and it is thus preferable to look at the determinants of these individual decisions rather than the resultant flows of FDI. Furthermore, inter-country FDI flows are not only influenced by the factors which affect firms' FDI decisions, but also other macro factors which are likely to be irrelevant at the micro level. Thus a variable such as GDP in the home country might have an impact upon aggregate FDI flows (Bevan *et al.*, 2004), but it is not clear why it should affect the firm's choice of host country. Second, FDI data correspond to flows of funds across national boundaries, some of which may relate to new investments and some to past investments. It is, thus, quite possible for there to be a recorded FDI flow in a particular year, but for there to have been no new FDI project. Furthermore, FDI projects may take place with little or no aggregate FDI flow, either if the capital is raised in the host economy or if there are concomitant disinvestments. Third, the lagged value of the FDI stock is often used as a measure of agglomeration economies in the host economy and included as an explanatory variable. If FDI flows/stocks are the dependent variable, then OLS estimation may potentially generate inconsistent estimates (Campos and Kinoshita, 2003, p. 13).

### 4.3 The explanatory variables

Several of the previous studies (see, for example, Bevan *et al.*, 2004; Bevan and Estrin, 2004; Grosse and Trevino, 2005) have used various EBRD index numbers to capture the various dimensions of transition. Unfortunately, these index numbers are only available for the CEECs from 1994 onwards while our data on Italian investments extended back to 1990; so we were obliged to look for alternative measures. We initially included two measures related to the extent of market liberalization. One is the percentage of prices that were administratively controlled (ADM), rather than being set by market forces. The other is government expenditure as a percentage of GDP (GCON). Both

coefficients are expected to be negative. The proxy for trade liberalization (OTRA) is the ratio of total exports and imports to GDP (Resmini, 2000). The extent of financial liberalization (FLIB) is captured by the proportion of total credit provided by the domestic banking industry to private investors (Fries and Taci, 2002). Both these coefficients are expected to be positive. And, the openness of the financial system (OFIN) is measured by the proportion of foreign banks to total banks operating in each country (Claessens *et al.*, 2001); a negative coefficient is expected.

Several other variables were included in the model to control for the effects that had been established in the previous literature. To capture the effects of market size and potential, we included two variables. The first is population (POP), which measures the current size of the market. The second is the GDP growth rate (GROW), which relates to the future potential of the market. We would expect foreign investors to be attracted not only to larger markets but also to more dynamic markets. Hence, we would expect the coefficients of both variables to have positive signs.

We include GDP per capita (PCGDP) as an explanatory variable to capture the combined impact of labour costs and purchasing power: we would expect this variable to have a positive coefficient if the firms in the sample primarily have market-seeking motives, and a negative coefficient if low labour costs are an important motivation. As regards the availability of labour, we include two variables. The first is the rate of unemployment (UNEM), with the expectation that a high rate should attract FDI not just because more labour is available but also because of the depressing effect of the excess supply of labour on wages at the margin. The second is a human capital variable (HUM), measured by the proportion of the labour force with tertiary education. We would expect this to have a positive effect.

Another factor that is generally considered as important in attracting FDI is the quality of infrastructure. Given the span

of time covered by our sample and the relative scarcity of information on infrastructure in the early 1990s in the CEECs, we have to rely on a very simple measure, viz the number of telephone lines (fixed and mobile) per 100 inhabitants (TEL). This variable has been used in other similar studies (e.g. Campos and Kinoshita, 2003) and is a reasonable proxy for the state of communications infrastructure. We would expect this variable to have a positive impact upon FDI location. However, we do not presently have data on a suitable proxy for transportation infrastructure that cover the period of our analysis.

Agglomeration economies have been shown in numerous studies to have a positive impact upon FDI. This argument is particularly strong when dealing with SMEs, and Italian SMEs in particular, given their well-known tendency to locate in clusters. Country-specific knowledge tends to be passed from firm to firm, and Italian firms often pursue a follow-my-leader strategy (Meyer and Skak, 2002). More FDI generally leads to better infrastructure, better trained workers, a finer division of labour, the provision of more specialized support services and, in general, lower production costs. Following Wheeler and Mody (1992), we use the natural logarithm of the cumulative FDI stock (LFDI) in each country to proxy agglomeration economies and expect this to have a positive impact on location choice.

Detailed definitions of all the explanatory variables are provided in table 2. Following the practice in previous studies, the data for all the location-specific attributes relate to the year before the relevant affiliate was established: thus, for example, we use data for 1989 for FDI projects established in 1990, and data for 2002 for FDI projects established in 2003.

### 4.4 The conditional logit model

The dependent variable in the regression model is a discrete choice between the seven alternative locations in Eastern Europe (i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia). As all the explanatory variables are location-specific attributes, the appropriate estimation technique is conditional logit. Each Italian investor

**Table 2. The explanatory variables**

| Variable | Definition | Source |
|---|---|---|
| POP | Population (million) | EBRD |
| PCGDP | GDP per capita at current prices (thousands of dollars) | World Bank |
| GROW | Annual GDP growth rate at constant prices (per cent) | EBRD |
| UNEM | Unemployment rate (per cent) | EBRD |
| TEL | Number of telephone lines (fixed and mobile) per 100 inhabitants | EBRD |
| HUM | Percentage of labour force with tertiary education | World Bank |
| LFDI | The natural log of the cumulative stock of inward FDI (millions of dollars) | UNCTAD |
| GCON | Government expenditure as a percentage of GDP (per cent) | World Bank |
| ADM | The percentage of prices administratively controlled (per cent) | EBRD |
| OTRA | Total exports and imports as a percentage of GDP (per cent) | World Bank |
| FLIB | Credit to the private sector as a proportion of total domestic credit provided by the banking industry | World Bank |
| OFIN | The number of foreign banks as a percentage of the total number of banks (per cent) | EBRD |

*Source*: UNCTAD, *World Investment Report*; EBRD, *Transition Report*; World Bank, *World Development Indicators*.

is thus faced with a choice of J = 7 alternative locations, and will choose to locate its affiliate *i* in country *j* so as to maximize the expected future profits from its investment. More formally, affiliate *i* will be located in country *j* if and only if:

$$R_{ij} > R_{ik} \text{ for all } k \neq j \ , \qquad (k = 1, 2, \ldots, J)$$

where $R_{ij}$ = expected profit earned by affiliate *i* if it is located in country *j*.

Let $Y_i$ be a random variable that indicates the location chosen for affiliate *i*. Then the probability of choosing a specific country *j* depends upon the attributes of that country relative to the attributes of the other seven countries in the choice set. If $\mathbf{X}_j$ is a vector of location-specific attributes for country *j* and β is a vector of parameters to be estimated, then, following McFadden (1974), the probability of locating in country *j* (assuming that the disturbance terms are independently distributed and follow a Weibull distribution) is:

$$\text{Prob}\,(Y_i = J) = \frac{e^{\beta X_j}}{\sum_{k=1}^{7} e^{\beta X_k}}$$

Estimates of β may be obtained through maximum likelihood estimation. If the explanatory variables have been entered linearly, then a small change $\Delta x$ in variable $x$ leads to a change in the probability $P$ that a firm will choose a particular location, $\Delta P = \beta_x . P.( 1 - P ). \Delta x$, where $\beta_x$ is the coefficient associated with variable $x$. The effect of $\Delta x$ thus depends upon the initial probability of choosing location $j$, which in turn depends upon each attribute set (Greene, 2000, p. 863). The coefficient $\beta_x$ is thus not the marginal effect, though it will have the same sign. In the empirical analysis below, we report estimates of elasticities: i.e. the percentage changes in the probability of firm location in a particular host country as a result of 1% changes in the various measures of liberalisation.

The overall significance of the estimated equations may be assessed by a likelihood ratio test. The test statistic λ follows a *chi*-squared distribution with degrees of freedom equal to the number of restrictions imposed by the null hypothesis:

$$\lambda = 2 [ L(m) - L(0) ] ,$$

where L(m) is the log-likelihood of the chosen model, and L(0) is the log-likelihood of a constrained model where all the slope coefficients are set equal to zero. Model fit may be assessed by calculating the pseudo-$R^2$ as follows:

$$pseudo\text{-}R^2 = 1 - \frac{L(m)}{L(0)} .$$

It should be noted that the pseudo-$R^2$ is not analogous to the $R^2$ in linear regression though there is an empirical relationship between the two, and a pseudo-$R^2$ of 0.2 represents an $R^2$ of approximately 0.4 (Hensher *et al.*, 2005, p. 338).

### 4.5 The characteristics of the alternative locations

Table 3 provides some basic descriptive statistics for the explanatory variables in each of the seven countries. More specifically, the table reports the values of the explanatory variables in the years 1990 and 2002.

**Table 3. Descriptive statistics for the explanatory variables, 1990 and 2002**

| Country | Year | *POP* | *PCGDP* | *GROW* | *UNEM* | *TEL* | *HUM* | *LFDI* | *GCON* | *ADM* | *OTRA* | *FLIB* | *OFIN* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | 1990 | 9.0 | 0.950 | - 9.1 | 1.50 | 24.2 | 17.6 | 2.05 | 64.30 | 70.0 | 91 | 6.8 | 0.0 |
| | 2002 | 8.0 | 1.984 | 4.9 | 17.80 | 37.5 | 23.3 | 3.56 | 37.20 | 21.3 | 113 | 61.6 | 76.5 |
| Czech Rep | 1990 | 10.3 | 2.700 | - 0.4 | 0.80 | 15.8 | 9.6 | 3.13 | 60.10 | 28.0 | 25 | 86.1 | 0.0 |
| | 2002 | 10.2 | 6.742 | 1.5 | 8.80 | 37.8 | 11.6 | 4.58 | 46.60 | 12.4 | 125 | 52.0 | 70.3 |
| Hungary | 1990 | 10.4 | 3.300 | - 3.5 | 2.50 | 9.6 | 13.4 | 2.81 | 57.00 | 16.0 | 63 | 43.9 | 34.4 |
| | 2002 | 9.9 | 6.581 | 3.5 | 5.80 | 36.1 | 16.5 | 4.55 | 44.00 | 18.9 | 130 | 59.3 | 71.1 |
| Poland | 1990 | 38.2 | 2.100 | - 11.6 | 6.10 | 8.6 | 13 | 2.13 | 32.70 | 11.0 | 49 | 31.2 | 0.0 |
| | 2002 | 38.6 | 4.924 | 1.4 | 17.76 | 29.5 | 12.9 | 4.68 | 44.10 | 1.0 | 63 | 49.7 | 76.3 |
| Romania | 1992 | 23.2 | 1.300 | - 5.0 | 3.00 | 10.5 | 7.6 | 0.60 | 39.00 | 85.0 | 39 | 36.6 | 0.0 |
| | 2003 | 22.4 | 2.091 | 5.0 | 9.97 | 18.4 | 9.1 | 3.95 | 32.70 | 20.4 | 77 | 58.3 | 77.4 |
| Slovakia | 1990 | 5.3 | 2.280 | - 0.4 | 1.50 | 13.5 | 41.4 | 1.94 | 60.10 | 22.0 | 103 | 53.4 | 0.0 |
| | 2002 | 5.4 | 4.403 | 4.6 | 18.53 | 26.1 | 11.5 | 3.89 | 48.40 | 21.1 | 151 | 49.8 | 83.3 |
| Slovenia | 1990 | 2.0 | 6.400 | - 4.7 | 4.70 | 22.0 | 15.1 | 2.79 | 49.60 | 24.0 | 116 | 77.9 | 2.5 |
| | 2002 | 2.0 | 11.026 | 3.3 | 11.26 | 40.7 | 16.6 | 3.61 | 42.60 | 14.0 | 114 | 87.4 | 27.3 |

*Source*: EBRD, World Bank, UNCTAD, various years.
*Note*: See Table 2 for details of units and sources.

The data show quite clearly the paths undertaken by the seven countries in the process of transition. All the countries, with different degrees of speed and success, have experienced substantial increases in *per capita* income, though there have also been accompanying increases in the rates of unemployment. The GDP growth rates were all negative in the years immediately after the fall of the Communist regimes, but have all been positive in recent years. Moreover, all the countries have pursued processes of market, trade and financial liberalization that have led to decreases in the roles of their governments in their domestic economies and higher levels of integration into the world economy. All seven countries show substantial increases

in their ratios of trade to GDP and their openness of their financial systems to foreign banks, and marked reductions in both the proportion of administered prices (except for Hungary) and government expenditure as a percentage of GDP (except for Poland). Financial liberalization has also progressed in most countries, with the exception of the Czech Republic and Slovakia. It should also be noted that population (POP) has remained relatively constant in all seven countries.

The correlation matrix, together with average values and standard deviations of the explanatory variables, are provided in table 4.

**Table 4. The correlation matrix of the explanatory variables**

| Variable | Mean | s.d. | POP | PCGDP | GROW | UNEM | TEL | HUM | LFDI | GCON | ADM | OTRA | FLIB | OFIN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POP | 13.95 | 11.67 | 1.00 | | | | | | | | | | | |
| PCGDP | 3.499 | 2.286 | -.3897 | 1.00 | | | | | | | | | | |
| GROW | - 0.774 | 6.10 | .0173 | .3641 | 1.00 | | | | | | | | | |
| UNEM | 9.38 | 4.86 | .0226 | .1407 | .2204 | 1.00 | | | | | | | | |
| TEL | 21.91 | 9.01 | -.4904 | .5293 | .4041 | .3494 | 1.00 | | | | | | | |
| HUM | 17.34 | 10.15 | -.3533 | -.0894 | .0595 | .2716 | .0973 | 1.00 | | | | | | |
| LFDI | 7.16 | 1.93 | .0557 | .4217 | .4507 | .3224 | .4769 | -.1475 | 1.00 | | | | | |
| GCON | 45.72 | 8.73 | -.4499 | .0533 | -.1382 | -.3200 | -.0999 | .2688 | -.0557 | 1.00 | | | | |
| ADM | 21.19 | 15.12 | -.1551 | -2713 | -.1954 | -.3519 | -.0791 | -.0583 | -.6648 | .1371 | 1.00 | | | |
| OTRA | 85.37 | 32.53 | -.6841 | .4403 | .2677 | .2562 | .7017 | .4970 | .2117 | .0735 | -.0872 | 1.00 | | |
| FLIB | 0.522 | 0.233 | -.3519 | .5893 | .1953 | -.0561 | .3421 | .0362 | .3245 | -.0568 | -.2374 | .2576 | 1.00 | |
| OFIN | 0.255 | 0.230 | -.00312 | .1418 | .4349 | .1942 | .4375 | -.0238 | .7716 | -.0896 | -.4409 | .2900 | .1909 | 1.00 |

*Source*: authors' analysis.

Two correlations are quite high exceeding 0.7: the first is the correlation between communications infrastructure (TEL) and trade liberalization (OTRA), and the second is the one between agglomeration economies (LFDI) and the openness of the financial system (OFIN). To test for the severity of the multicollinearity, we calculated variance inflation factors (VIF) for each of these four variables by running OLS regressions with each as a function of all the other explanatory variables (Greene, 2003). The respective VIFs were 3.70 (TEL), 3.33 (OTRA), 4.17 (LFDI) and 4.17 (OFIN). The common rule of thumb is that the multicollinearity is severe if the VIF > 5, but all values were smaller than this value.

## 5. Discussion

This discussion section is divided into three parts. In the first part, we estimate the model for the full sample of 272 affiliates using all twelve explanatory variables which have been hypothesized to have an influence on firms' FDI location decisions. Two of the twelve variables are discarded on the grounds of a lack of statistical significance, which leaves a "base" model with ten explanatory variables. In the second part of the section, we estimate this base model separately for the manufacturing affiliates and for the service affiliates, and compare the two sets of regression coefficients. Finally, in the third section, we derive estimates, for each of the seven countries, of both the direct and the cross-elasticity effects of changes in the liberalization variables. This enables us to assess the potential impact on the probability of further inward FDI in each country, not only of further liberalization within that country, but also of further liberalization in the other six countries.

### 5.1 Estimation of the base model

The coefficient estimates from the conditional logit model using the full sample of 272 affiliates are presented in table 5. Three different versions of the model are presented, each of which is highly significant when assessed by the chi-squared statistics. As noted above, the coefficients do not measure the marginal effects, but they do have the same sign.

The first model (1) reports the coefficient estimates when all twelve explanatory variables are included. The signs of two of the variables (HUM and GCON) are as expected, but are statistically insignificant. GCON is one of the two proxies for market liberalization and therefore its omission, and the retention of the other proxy (ADM), should not cause any problems of omitted variable bias. The human capital variable (HUM) has a very low t-statistic and is not highly correlated with any other variable; so its omission is also justified. The model (2) constitutes our base model. The chi-squared statistic is highly significant, and the pseudo-$R^2$ has an acceptable value of 0.236.

## Table 5. The conditional logit model: coefficient estimates

| Explanatory variables | Model (1) | Model (2) | Model (3) | Model (4) *Manufacturing* | Model (5) *Service* |
|---|---|---|---|---|---|
| Control variables | | | | | |
| POP | 0.0864*** | 0.0872*** | 0.0598*** | 0.0829*** | 0.0880*** |
| | (0.0149) | (0.0124) | (0.0076) | (0.0156) | (0.0219) |
| PCGDP | - 0.116* | - 0.124** | 0.033 | - 0.063 | - 0.239** |
| | (0.065) | (0.059) | (0.041) | (0.074) | (0.107) |
| GROW | 0.0406* | 0.0423* | 0.0397** | 0.0392 | 0.0590 |
| | (0.0232) | (0.0226) | (0.0226) | (0.0274) | (0.0428) |
| UNEM | 0.104*** | 0.107*** | 0.127*** | 0.089*** | 0.153*** |
| | (0.029) | (0.027) | (0.027) | (0.034) | (0.050) |
| TEL | 0.0557** | 0.0529** | 0.0485*** | 0.0167 | 0.1026*** |
| | (0.0256) | (0.0222) | (0.0175) | (0.0294) | (0.0373) |
| HUM | 0.0047 | | | | |
| | (0.014) | | | | |
| LFDI | 0.227* | 0.212** | 0.137** | 0.172 | 0.347** |
| | (0.122) | (0.978) | (0.065) | (0.127) | (0.170) |
| Liberalization variables | | | | | |
| GCON | - 0.0035 | | | | |
| | (0.0144) | | | | |
| ADM | - 0.011 | - 0.0123 | | - 0.0100 | - 0.0206 |
| | (0.0093) | (0.0088) | | (0.0114) | (0.0152) |
| OTRA | 1.725*** | 1.845*** | | 2.074*** | 1.538* |
| | (0.605) | (0.471) | | (0.594) | (0.839) |
| FLIB | 1.346** | 1.394*** | | 1.559** | 0.661 |
| | (0.547) | (0.511) | | (0.688) | (0.871) |
| OFIN | -1.535 | -1.594* | | -1.877 | - 1.820 |
| | (0.987) | (0.950) | | (1.261) | (1.577) |
| sample size | 272 | 272 | 272 | 172 | 100 |
| log-likelihood | - 404.65 | - 404.70 | - 419.22 | - 261.32 | - 137.43 |
| chi-squared | 249.28*** | 249.17*** | 220.13*** | 146.76*** | 114.33*** |
| pseudo-$R^2$ | 0.236 | 0.236 | 0.208 | 0.219 | 0.294 |

*Source*: authors' analysis.

*Notes:* (1) The full sample consists of 272 firms; the number of alternative locations is seven.

(2) Standard errors are in brackets. The symbol * denotes that the coefficient is significant at the 10% level, ** that the coefficient is significant at the 5% level and *** at the 1% level.

All the estimated coefficients have the expected signs, and all except one are significant at the 10% level or better.

The results confirm the established findings that market size and potential, the availability of labour, the quality of infrastructure, and agglomeration economies all have positive effects upon the FDI location decision. The coefficient of PCGDP is negative and statistically significant suggesting that, at least for the Italian firms in the sample, low labour costs are more important in the FDI location choice than high levels of purchasing power. A word of caution is required. We should note that the population figures for each of the countries do not change markedly between 1990 and 2002 – see table 3. The coefficient of the POP variable may thus be picking up, not only the effects of relative market size, but also the average influence of various unspecified effects that vary between locations.

The results are also encouraging with respect to the effects of economic liberalization. The coefficient of the market liberalization variable (ADM) is negative as expected, because greater liberalization implies a smaller proportion of prices that are administratively controlled. However, the p-value of the coefficient is just over 10%. There is thus some, albeit weak, support for hypothesis 1a. Interestingly, Bevan *et al.* (2004) also found that the liberalization of domestic prices had a positive, but statistically insignificant, effect on FDI inflows. The coefficient of the trade liberalization variable (OTRA) is positive, as expected, and highly statistically significant lending strong support to hypothesis 2a. Similarly, the coefficient of the financial liberalization variable (FLIB) is also positive and highly statistically significant, lending strong support to hypothesis 3a. Finally, the significant negative sign for the OFIN variable appears to confirm that the entry of transnational banks actually leads to a reduction in the level of credit provided by domestic banks. This supports the view of Weller (2000b) who notes that prime examples of this connection between transnational banks and less credit "can be found in the economies of Central and Eastern Europe. In these areas MNBs have quickly gained significant market shares, while the credit supply, especially to smaller companies, has been stagnant or

declining" (Weller, 2000b, p. 4). As our sample is primarily made up of SMEs, and their affiliates are likely to want to raise capital locally to finance their working capital requirements, any potential problems with the availability of credit would not be welcome. Our results suggest that such concerns are taken into account by SMEs in making their FDI location decisions. Hypothesis 4 is thus supported.

In summary, we have demonstrated that market, trade, and financial liberalization all have impacts upon the location decisions of foreign investors, as does the openness of the financial system to foreign banks. The combined significance of these four variables may be assessed by removing them, as in model (3). This gives rise to a very significant loss of explanatory power ($\lambda = 29.04$, $p < 0.01$). The coefficients of the included variables retain their signs and statistical significance, with the exception of the coefficient of PCGDP which becomes positive and insignificant. This suggests that this coefficient may be picking up the net effects of the omitted variables.

### 5.2 Comparison of manufacturing and service firms

The full sample consisted of 172 manufacturing and 100 service firms. As has been hypothesized above, it is reasonable to assume that there might be differences between these two groups of firms in terms of the sensitivity of location choice to changes in the explanatory variables. We thus ran two further regressions – see table 5 - using the base model: one with the manufacturing firms (model 4) and the other with the service firms (model 5).

Both regression models were highly statistically significant, with a healthy pseudo-$R^2$ of 0.294 for the regression on the services sector firms, and the corresponding coefficients in both regressions had the same signs. Five of the control variables were statistically significant in the regression for service firms, whereas only POP and UNEM were significant for the manufacturing firms. Furthermore, the absolute sizes of the coefficients for all six control variables were larger for the services sector firms than for the manufacturing firms, implying

that the former were rather more sensitive to changes in these location attributes.

As regards the liberalization variables, the (absolute) value of the coefficient of the market liberalization variable (ADM) was larger for the service firms, though not significantly so; thus there is only weak support for hypothesis 1b. And, the values of the coefficients of both the trade (OTRA) and financial liberalization (FLIB) variables were larger for the manufacturing firms, though again the differences were not statistically significant; so there is only weak support for hypotheses 2b and 3b. Further investigation of these hypotheses will require a larger sample of firms.

### 5.3 The expected impacts of liberalization

Perhaps the most interesting results to emerge from the analysis are the estimated elasticities reported in tables 6-9. These elasticities show the change in the probability of FDI location in a particular host economy arising from a change in one of the liberalization variables. Estimates are provided for the manufacturing and service firms separately. The diagonal elements in these tables show the estimated direct elasticities of changes for each country in each of the four liberalization variables in that country, and are highlighted in bold type. The off-diagonal elements in the tables show the cross-elasticities – the effects of greater liberalization in one country on the probabilities of FDI location in the other six countries. Large (absolute) values indicate strong effects. Thus, in table 7(a) for example, a 1% increase in the trade liberalization variable (OTRA) for Bulgaria would lead to an estimated 1.8% increase in the probability of manufacturing firms investing in Bulgaria, whilst a similar 1% increase in the trade liberalization variable for Poland would only lead to an estimated 0.5% increase in the probability of manufacturing firms investing in Poland.

Table 6 shows the effects of market liberalization on the probabilities of manufacturing firm and service firm FDI location in each of the seven countries.

**Table 6. The impact of market liberalization on FDI location by (a) manufacturing firms, and (b) service firms**

| Change in ADM in country | Estimated elasticities with respect to the probability of firm location | | | | | | |
|---|---|---|---|---|---|---|---|
| (a) | Bulgaria | Czech Rep. | Hungary | Poland | Romania | Slovakia | Slovenia |
| Bulgaria | **- 0.272** | + 0.023 | + 0.020 | + 0.021 | + 0.021 | + 0.021 | + 0.022 |
| Czech Rep. | + 0.012 | **- 0.173** | + 0.013 | + 0.013 | + 0.014 | + 0.014 | + 0.014 |
| Hungary | + 0.007 | + 0.007 | **- 0.134** | + 0.006 | + 0.006 | + 0.007 | + 0.006 |
| Poland | + 0.051 | + 0.051 | + 0.050 | **- 0.052** | + 0.054 | + 0.051 | + 0.053 |
| Romania | + 0.013 | + 0.016 | + 0.013 | + 0.014 | **- 0.248** | + 0.014 | + 0.017 |
| Slovakia | + 0.022 | + 0.023 | + 0.022 | + 0.022 | + 0.021 | **- 0.177** | + 0.022 |
| Slovenia | + 0.030 | + 0.031 | + 0.030 | + 0.032 | + 0.029 | + 0.031 | **- 0.179** |
| (b) | | | | | | | |
| Bulgaria | **- 0.498** | + 0.105 | + 0.075 | + 0.085 | + 0.084 | + 0.087 | + 0.111 |
| Czech Rep. | + 0.023 | **- 0.366** | + 0.024 | + 0.023 | + 0.023 | + 0.029 | + 0.039 |
| Hungary | + 0.016 | + 0.018 | **- 0.307** | + 0.016 | + 0.017 | + 0.019 | + 0.014 |
| Poland | + 0.108 | + 0.097 | + 0.104 | **- 0.085** | + 0.114 | + 0.101 | + 0.114 |
| Romania | + 0.011 | + 0.015 | + 0.009 | + 0.011 | **- 0.484** | + 0.011 | + 0.016 |
| Slovakia | + 0.029 | + 0.034 | + 0.031 | + 0.029 | + 0.030 | **- 0.360** | + 0.031 |
| Slovenia | + 0.033 | + 0.044 | + 0.029 | + 0.033 | + 0.030 | + 0.034 | **- 0.389** |

*Source*: authors' analysis.
*Note*: The figures in each row of the table show the effects of market liberalization in the country in the first column on FDI location in all seven CEECs.

The figures along both leading diagonals are negative, as high values of the ADM variable correspond to low degrees of liberalization, whilst the off-diagonal elements are all positive. The following points are of interest. First, the direct elasticities are largest for Bulgaria and Romania, and smallest for Poland, suggesting that market liberalization has a potentially greater effect in heavily regulated economies than in economies where market forces already hold sway to a large extent. Second, the direct elasticities are larger for the service firms than for the manufacturing firms in all seven countries, suggesting that service firms are more susceptible to domestic market liberalization as manufacturing firms are more concerned with export markets. The differences are most pronounced in Bulgaria and Romania, and least evident in Poland. Third, the cross elasticities are largest with respect to liberalization in Poland

than with respect to the other countries. When Poland chooses to liberalize, this has a marked effect on the other CEECs, but market liberalization efforts in the other countries do not have such a wide impact. In contrast, the cross elasticities are smallest with respect to liberalization in Hungary.

Table 7 shows the effects of trade liberalization on the probabilities of manufacturing firm and service firm FDI location in each of the seven countries.

**Table 7. The impact of trade liberalization on FDI location by (a) manufacturing firms and (b) service firms**

| Change in OTRA in country | Estimated elasticities with respect to the probability of firm location | | | | | | |
|---|---|---|---|---|---|---|---|
| (a) | Bulgaria | Czech Rep. | Hungary | Poland | Romania | Slovakia | Slovenia |
| Bulgaria | **+ 1.847** | - 0.144 | - 0.157 | - 0.142 | - 0.142 | - 0.149 | - 0.138 |
| Czech Rep. | - 0.133 | **+ 1.650** | - 0.132 | - 0.124 | - 0.144 | - 0.135 | - 0.110 |
| Hungary | - 0.096 | - 0.087 | **+ 1.792** | - 0.082 | - 0.084 | - 0.091 | - 0.075 |
| Poland | - 0.500 | - 0.480 | - 0.510 | **+ 0.496** | - 0.503 | - 0.494 | - 0.488 |
| Romania | - 0.065 | - 0.069 | - 0.064 | - 0.066 | **+ 1.084** | - 0.063 | - 0.058 |
| Slovakia | - 0.281 | - 0.288 | - 0.285 | - 0.263 | - 0.266 | **+ 2.173** | - 0.264 |
| Slovenia | - 0.336 | - 0.344 | - 0.336 | - 0.344 | - 0.322 | - 0.349 | **+ 1.965** |
| (b) | | | | | | | |
| Bulgaria | **+ 1.243** | - 0.209 | - 0.227 | - 0.224 | - 0.216 | - 0.222 | - 0.209 |
| Czech Rep. | - 0.075 | **+ 1.121** | - 0.095 | - 0.076 | - 0.084 | - 0.091 | - 0.061 |
| Hungary | - 0.084 | - 0.091 | **+ 1.553** | - 0.083 | - 0.089 | - 0.098 | - 0.063 |
| Poland | - 0.425 | - 0.418 | - 0.452 | **+ 0.342** | - 0.447 | - 0.439 | - 0.395 |
| Romania | - 0.020 | - 0.019 | - 0.022 | - 0.022 | **+ 0.852** | - 0.021 | - 0.017 |
| Slovakia | - 0.142 | - 0.161 | - 0.162 | - 0.142 | - 0.147 | **+ 1.732** | - 0.133 |
| Slovenia | - 0.131 | - 0.169 | - 0.118 | - 0.131 | - 0.120 | - 0.135 | **+ 1.552** |

*Source*: authors' analysis.
*Note*: The figures in each row of the table show the effects of trade liberalization in the country in the first column on FDI location in all seven CEECs.

The figures along both leading diagonals are positive, as high values of the OTRA variable correspond to high degrees of liberalization, whilst the off-diagonal elements are all negative. The following points are of interest. First, the direct elasticities are largest for Slovakia, which is the most open of

the seven countries (see table 3), and smallest for Poland which has the largest domestic market. Second, the direct elasticities are larger for the manufacturing firms than for the service firms in all seven countries, as would be expected as manufacturing firms are typically more engaged in international trade than service firms. Third, the cross elasticities are again larger with respect to trade liberalization in Poland than with respect to the other countries. In contrast, the cross elasticities are smallest with respect to liberalization in Romania.

Table 8 shows the effects of financial liberalization on the probabilities of manufacturing firm and service firm FDI location in each of the seven countries.

**Table 8. The Impact of Financial Liberalization on FDI location by (a) manufacturing firms and (b) service firms**

| Change in FLIB in country | Estimated elasticities with respect to the probability of firm location | | | | | | |
|---|---|---|---|---|---|---|---|
| (a) | Bulgaria | Czech Rep. | Hungary | Poland | Romania | Slovakia | Slovenia |
| Bulgaria | **+ 0.469** | - 0.041 | - 0.049 | - 0.035 | - 0.038 | - 0.042 | - 0.029 |
| Czech Rep. | - 0.082 | **+ 1.106** | - 0.082 | - 0.083 | - 0.090 | - 0.088 | - 0.086 |
| Hungary | - 0.028 | - 0.025 | **+ 0.546** | - 0.025 | - 0.024 | - 0.027 | - 0.024 |
| Poland | - 0.316 | - 0.306 | - 0.316 | **+ 0.305** | - 0.317 | - 0.305 | - 0.287 |
| Romania | - 0.038 | - 0.041 | - 0.038 | - 0.038 | **+ 0.635** | - 0.037 | - 0.034 |
| Slovakia | - 0.100 | - 0.100 | - 0.103 | - 0.094 | - 0.094 | **+ 0.774** | - 0.094 |
| Slovenia | - 0.180 | - 0.177 | - 0.181 | - 0.184 | - 0.170 | - 0.184 | **+ 1.046** |
| (b) | | | | | | | |
| Bulgaria | **+ 0.214** | - 0.038 | - 0.053 | - 0.038 | - 0.042 | - 0.045 | - 0.024 |
| Czech Rep. | - 0.029 | **+ 0.456** | - 0.033 | - 0.030 | - 0.030 | - 0.036 | - 0.043 |
| Hungary | - 0.014 | - 0.015 | **+ 0.256** | - 0.014 | - 0.014 | - 0.016 | - 0.011 |
| Poland | - 0.150 | - 0.145 | - 0.166 | **+ 0.120** | - 0.164 | - 0.157 | - 0.131 |
| Romania | - 0.007 | - 0.007 | - 0.007 | - 0.007 | **+ 0.292** | - 0.007 | - 0.006 |
| Slovakia | - 0.029 | - 0.034 | - 0.034 | - 0.029 | - 0.030 | **+ 0.355** | - 0.028 |
| Slovenia | - 0.039 | - 0.050 | - 0.036 | - 0.039 | - 0.036 | - 0.041 | **+ 0.466** |

*Source*: authors' analysis.
*Note*: The figures in each row of the table show the effects of financial liberalization in the country in the first column on FDI location in all seven CEECs.

The figures along both leading diagonals are positive, as high values of the FLIB variable correspond to high degrees of

liberalization, whilst the off-diagonal elements are all negative. The following points are of interest. First, the direct elasticities are largest for the Czech Republic and Slovenia, both of which are highly liberalized (see table 3), and lowest for Poland. Second, the direct elasticities are considerably larger for the manufacturing firms than for the service firms in all seven countries, suggesting that the availability of efficient domestic suppliers is particularly important for the former. Third, the cross elasticities are again larger with respect to financial liberalization in Poland than with respect to the other countries, and are smallest with respect to liberalization in Romania.

Table 9 shows the effects of greater openness to foreign banking on the probabilities of manufacturing firm and service firm FDI location in each of the seven countries.

**Table 9. The impact of greater openness to foreign banking on FDI location by (a) manufacturing firms and (b) service firms**

| Change in OFIN in country | Estimated elasticities with respect to the probability of firm location | | | | | | |
|---|---|---|---|---|---|---|---|
| (a) | Bulgaria | Czech Rep. | Hungary | Poland | Romania | Slovakia | Slovenia |
| Bulgaria | **- 0.314** | + 0.028 | + 0.038 | + 0.023 | + 0.025 | + 0.030 | + 0.018 |
| Czech R. | + 0.049 | **- 0.564** | + 0.050 | + 0.043 | + 0.049 | + 0.046 | + 0.035 |
| Hungary | + 0.048 | + 0.044 | **- 0.883** | + 0.040 | + 0.042 | + 0.045 | + 0.036 |
| Poland | + 0.205 | + 0.194 | + 0.208 | **- 0.179** | + 0.200 | + 0.185 | + 0.137 |
| Romania | + 0.026 | + 0.027 | + 0.027 | + 0.022 | **- 0.380** | + 0.024 | + 0.017 |
| Slovakia | + 0.056 | + 0.054 | + 0.057 | + 0.046 | + 0.053 | **- 0.380** | + 0.037 |
| Slovenia | + 0.023 | + 0.025 | + 0.023 | + 0.022 | + 0.024 | + 0.023 | **- 0.130** |
| (b) | | | | | | | |
| Bulgaria | **- 0.403** | + 0.079 | + 0.101 | + 0.071 | + 0.078 | + 0.089 | + 0.037 |
| Czech R. | + 0.039 | **- 0.568** | + 0.053 | + 0.039 | + 0.044 | + 0.047 | + 0.022 |
| Hungary | + 0.053 | + 0.057 | **- 0.986** | + 0.053 | + 0.057 | + 0.062 | + 0.041 |
| Poland | + 0.266 | + 0.261 | + 0.330 | **- 0.209** | + 0.305 | + 0.300 | + 0.150 |
| Romania | + 0.013 | + 0.013 | + 0.017 | + 0.014 | **- 0.553** | + 0.015 | + 0.008 |
| Slovakia | + 0.041 | + 0.043 | + 0.053 | + 0.041 | + 0.047 | **- 0.487** | + 0.023 |
| Slovenia | + 0.011 | + 0.010 | + 0.011 | + 0.011 | + 0.012 | + 0.011 | **- 0.123** |

*Source*: authors' analysis.
*Note*: The figures in each row of the table show the effects of greater openness in the country in the first column on FDI location in all seven CEECs.

High values of the OFIN variable correspond to high degrees of openness. The figures along both leading diagonals are negative, whilst the off-diagonal elements are all positive, reflecting the comments made about the regression coefficients. The following points are of interest. First, the direct elasticities are largest for Hungary, and lowest for Slovenia. Second, the direct elasticities are larger for the service firms than for the manufacturing firms in six countries though often not by much, but the reverse is true in Slovenia. Third, the cross elasticities of greater openness in other economies are particularly small in Slovenia.

## 6. Conclusions

We stated in the introduction that this article aimed to contribute to the literature in three ways. First, our findings contribute towards a better understanding of the factors behind the growing flows of FDI to the CEECs. The econometric results confirm the conclusions of the previous studies in literature that market size and growth, the availability of labour, the quality of infrastructure, and agglomeration economies are all important determinants of FDI location. However, our results also explore the impact of different liberalization policies upon FDI location. There have been few studies of the effects of liberalization policies, and these generally focused on trade or capital account liberalization, or the effects of privatization policies. In transition countries, however, there is much wider scope for liberalization. We show that the choice of FDI location is positively influenced by the extent of trade, financial and (weakly) market liberalization, and negatively related to the openness to foreign banks. Our findings on trade liberalization in the CEECs confirm those of Bevan *et al.* (2004), but our other results show effects that have not previously been identified. Moreover, we believe that this study improves upon the previous studies of FDI in the CEECs in two other ways. On the one hand, it uses firm-level data rather than modelling the determinants of inter-country flows of FDI. On the other hand, our analysis uses data from the very start of the transition process in 1990.

The second contribution is that our methodology may be used to derive appropriate policy implications for each of the seven CEEC countries, though detailed analysis is beyond the scope of this article. Our empirical results suggest that liberalization in the CEECs has affected the choice of FDI location in the past, and the estimated elasticities suggest that there are important effects at the margin. To the extent that the governments in these countries perceive inward FDI as bringing benefits to their economies, then the elasticities in tables 6-9 provide guidance as to which forms of liberalization are most effective in attracting FDI.

Thus market, trade and financial liberalization all have a positive impact upon the probability of FDI location. Trade liberalization appears to be particularly effective in all countries, particularly in attracting manufacturing firms, but much less so in Poland than elsewhere. For countries keen to attract FDI, appropriate measures should involve not only an improvement in export/import channels and the elimination of controls on credit allocation and deposit/lending rates, but also stronger protection of intellectual property rights and less corruption. Domestic price liberalization, whilst also important, should have a lower priority, as our findings suggest it does not have a significant impact upon FDI location. The estimated cross-price elasticities also confirm that the CEEC governments need to be mindful of the policies that their neighbours are pursuing, in that the Italian firms clearly view some countries as potential substitute locations for each other. However, it should be stressed that other considerations, apart from FDI promotion, should be taken into account in deciding upon appropriate liberalization policies.

The third contribution is the focus on the FDI location decisions of a sample largely consisting of SMEs. It appears that such SMEs respond in similar ways to larger firms in that they are attracted *ceteris paribus* to economies with greater market size etc., and also to economies with greater degrees of market, trade and financial liberalization. However, it does appear that openness to foreign banks has had a negative impact upon SME location, perhaps because of crowding-out effects in

the domestic credit markets. There may well be a case for stricter controls on the policies and activities of the foreign banks, if not on their presence *per se*.

As with all econometric work, there are limitations and scope for further research. The main limitations are threefold. First, liberalization is a complex phenomenon and this complexity cannot be fully captured by a handful of quantitative measures. Second, the empirical results reflect the experience of firms over the period 1990-2003, and there is no guarantee that the same relationships will hold true in the future. Third, the empirical results are derived from a sample of SMEs from one host country (Italy). Further research is thus merited. First, it would be useful to confirm whether the findings hold true for firms from other home economies, apart from Italy, and for a sample of larger firms. Perhaps the results in this article only apply to SMEs, which make up the greater part of the sample, and larger firms may have different considerations. In particular, it would be interesting to establish whether greater openness to foreign banks also had a negative impact upon the FDI location of larger firms. Second, it is likely that other firm-specific characteristics (apart from size) may have an impact on the choice of FDI location, and the significance of such characteristics could be established. Perhaps firms from certain industries prefer particular countries and are more sensitive to particular attributes (e.g. trade liberalization), whilst firms in other industries favour alternative locations and are more sensitive to different attributes (e.g. financial liberalization). A first step was comparing the results of manufacturing and service firms, but the analysis could be taken further by contrasting, for example, labour-intensive and capital-intensive firms, and introducing additional explanatory variables such as international experience and ownership structure. Third, the effects of EU accession could be investigated.■

## References

Altomonte, C. (1998). "FDI in the CEECs and the theory of real options: an empirical assessment", *LICOS Discussion Paper*, 76, Katholieke Universiteit Leuven.

Andresson, U., M. Forsgren and U. Holm (2002). "The strategic impact of external networks: subsidiary performance and competence development in the multinational corporation", *Strategic Management Journal*, 23(11), pp. 979-996.

Asiedu, E. and D. Lien (2004). "Capital controls and foreign direct investment", *World Development*, 32(3), pp. 479-490

Ayyagari, M., V. Maksimovic and A. Demirgüç-Kunt (2005). "How well do institutional theories explain firms' perceptions of property rights?". Paper presented at the AIB Annual Conference, Quebec City.

Bartik, T.J. (1985). "Business location decisions in the United States: estimates of the effects of unionization, taxes and other characteristics of states", *Journal of Business and Economic Statistics*, 3(1), pp. 14-22.

Basile, R., D. Castellani and A. Zanfei (2003). "Location choices of multinational firms in Europe: the role of national boundaries and EU policy", Università di Urbino, *Faculty of Economics Working Paper*, no.183.

Beck, T., R. Levine and N. Loayza (2000). "Finance and the sources of growth", *Journal of Financial Economics*, 58(1-2), pp. 261-300.

Beck, T., A. Demirgüç-Kunt, L. Laeven and R. Levine (2005). "Finance, firm size and growth" *World Bank Policy Research Working Paper*, no.3485.

Bekaert, G., C.R. Harvey and C. Lundblad (2005). "Does financial liberalization spur growth?", *Journal of Financial Economics*, 77(1), pp. 3-55.

Birkinshaw, J. and N. Hood (2000). "Characteristics of foreign subsidiaries in industry clusters", *Journal of International Business Studies*, 31(1), pp. 141-154.

Belderbos, R.A. and M. Carree (2002). "The location of Japanese investments in China: agglomeration effects, keiretsu, and firm heterogeneity", *Journal of the Japanese and International Economies*, 16(2), pp. 194-211.

Bevan, A.A., S. Estrin and K. Meyer (2004). "Foreign investment location and institutional development in transition economies", *International Business Review*, 13(1), pp. 43-64.

Bevan, A.A. and S. Estrin (2004). "The determinants of foreign direct investment into European transition economies", *Journal of Comparative Economics*, 32(4), pp. 775-787.

Bonaglia, F., J.B. de Macedo and M. Bussolo (2001). "How globalisation improves governance", *OECD Technical Papers*, vol. 181.

Brada, J.C., A.M. Kutan and M.Y. Taner (2003). "The effects of transition and political instability on foreign direct investment: Central Europe and the Balkans", *ZEI Working Paper*, B 28.

Brenton, P., F. Di Mauro and M. Lücke (1999). "Economic integration and FDI: an empirical analysis of foreign investment in the EU and in Central and Eastern Europe", *Empirica,* 26(2), pp. 95-121

Campos, N. and Y. Kinoshita (2003). "Why does FDI go where it goes? New evidence from the transitional economies", *IMF Working Paper*, WP/03/228.

Chadee, D., F. Qiu and E.L. Rose (2003). "FDI location at the subnational level: a study of EJVs in China", *Journal of Business Research*, 56, pp. 835-845.

Chang, S-J. and S. Park (2005). "Types of firms generating network externalities and MNCs co-location decisions", *Strategic Management Journal*, 26(7), pp. 595-615.

Cheng, L.K. and Y.K. Kwan (2000). "What are the determinants of the location of foreign direct investment? The Chinese experience", *Journal of International Economics*, 51(2), pp. 379-400.

Cieslik, A. (2005). "The location of foreign firms and national border effects: the case of Poland", *Journal of Economic and Social Geography*, 96, pp. 287-297.

Claessens, S., A. Demirgüç-Kunt and H. Huizinga (2001). "How does foreign entry affect domestic banking markets?", *Journal of Banking and Finance*, 25(5), pp. 891-911.

Clausing, K.A. and C.L. Dorobantu (2005)."Re-entering Europe: does European Union candidacy boost foreign direct investment?", *The Economics of Transition*, 13(1), pp. 77-103.

Coughlin, C.C., J.V. Terza and V. Arromdee (1991). "State characteristics and the location of foreign direct investment within the United States", *Review of Economics and Statistics*, 73(4), pp. 675-683.

Crozet, M., T. Mayer and J.L. Mucchielli (2004). "How do firms agglomerate? A study of FDI in France" *Regional Science and Urban Economics*, 34(1), pp. 27-54.

Delios, A. and P. Beamish (1999). "Geographic scope, product diversification, and the corporate performance of Japanese firms", *Strategic Management Journal*, 20(8), pp. 711-727.

Demirgüç-Kunt, A. and V. Maksimovic (1998). "Law, finance and firm growth", *Journal of Finance*, 53, pp. 2107-2137.

Disdier, A-C. and T. Mayer (2004). "How different is Eastern Europe? Structure and determinants of location choices by French firms in Eastern and Western Europe", *Journal of Comparative Economics*, 32(2), pp. 280-296.

Dunning, J.H. (1998). "Location and the multinational enterprise: a neglected factor?", *Journal of International Business Studies*, 29(1), pp. 45-66.

Durnev, A., K. Li, R. Morck and B. Yeung (2004). "Capital markets and capital allocation: implications for economies in transition", *Economics of Transition*, 12(4), pp. 593-634.

Focarelli, D. and A. F. Pozzolo (2001). "The patterns of cross-border bank mergers and shareholdings in OECD countries", *Journal of Banking and Finance*, 25, pp. 2305-2337.

Ford, S. and R. Strange (1999). "Where do Japanese manufacturing firms invest within Europe, and why?", *Transnational Corporations*, 8(1), pp. 117-142.

Friedman, J., D.A. Gerlowski and J. Silberman (1992). "What attracts foreign multinational corporations? Evidence from branch plant location in the United States", *Journal of Regional Science*, 32(4), pp. 403-418.

Friedman, J., H.-G. Fung, D.A. Gerlowski and J. Silberman (1996). "A note on 'State characteristics and the location of foreign direct investment within the United States'". *The Review of Economics and Statistics*, 78(2), pp. 367-368.

Fries, S. A. Taci (2002). "Banking reform and development in transition economies", *EBRD Working Paper*, no.71.

Frost, T. S. (2001). "The geographic sources of foreign subsidiaries innovations", *Strategic Management Journal*, 22(2), pp. 101-123.

Fujita, M. (1995a). "Small and medium-sized transnational corporations: trends and patterns of foreign direct investment", *Small Business Economics*, 7(3), pp. 183-204.

Fujita, M. (1995b). "Small and medium-sized transnational corporations: salient features", *Small Business Economics*, 7(4), pp. 251-271.

Glickman, N.J. and D.P. Woodward (1988). "The location of foreign direct investment in the United States: patterns and determinants", *International Regional Science Review*, 11(2), pp. 137-154.

Gokcekus, O. and Knorich, J. (2006). "Does quality of openness affect corruption?", *Economics Letters*, 91(2): 190-196.

Greene, W.H. (2000). *Econometric Analysis* (New Jersey: Prentice Hall), fourth edition.

Grosse, R. and L.J. Trevino (1996). "Foreign direct investment in the United States: an analysis by country of origin", *Journal of International Business Studies*, 27(1), pp. 139-155.

Grosse, R. and L.J. Trevino (2005). "New institutional economics and FDI location in Central and Eastern Europe", *Management International Review*, 45(2), pp. 123-145.

He, C. (2003). "Location of foreign manufacturers in China: agglomeration economies and country of origin effects" *Papers in Regional Studies*, 82, pp. 351-372.

Head, K, J. Ries and D. Swenson (1995). "Agglomeration benefits and location choice: evidence from Japanese manufacturing investments in the United States", *Journal of International Economics*, 38(3-4), pp. 223-247.

Head, K. and J. Ries (1996). "Inter-city competition for foreign investment: static and dynamic effects of China's incentive areas", *Journal of Urban Economics*, 40(1), pp. 38-60.

Head, K., J. Ries and D. Swenson (1999). "Attracting foreign manufacturing: investment promotion and agglomeration", *Regional Science and Urban Studies*, 29(2), pp. 197-216.

Henisz. W.J. (2000). "The institutional environment for multinational investments", *Journal of Law, Economics and Organisation*, 16(2), pp. 334-364.

Hensher, D.A., J. M. Rose, and W.H. Greene (2005). *Applied Choice Analysis: a Primer* (Cambridge: Cambridge University Press).

Holland, D. and N. Pain (1998). "The diffusion of innovation in Central and Eastern Europe. A study of the determinants and impact of foreign direct investments", *National Institute of Social and Economic Research Discussion Paper*, no. 137.

Istat (2006). *Commercio estero e attività internazionali delle imprese* (Istat, Roma).

Kalotay, K. (2004). "The European flying geese: new FDI patterns for the old continent?", *Research in International Business and Finance*, 18(1), pp. 27-49.

Krugman, P. (1991). "Increasing returns and economic geography", *Journal of Political Economy,* 99, pp. 483–499.

Lansbury, M., N. Pain and K. Smidkova (1996). "Foreign direct investment in Central Europe since 1990: an econometric study", *National Institute Economic Review,* 156, pp. 104-114.

Lankes, H.P. and A.J. Venables (1996). "Foreign direct investment in economic transition: the changing pattern of investments", *The Economics of Transition,* 4(2), pp. 331-347.

Lensink, R. and N. Hermes (2004). "The short-term effects of foreign bank entry on domestic bank behaviour: does economic development matter?", *Journal of Banking and Finance,* 28(3), pp. 553-568.

Luger, M.I. and S. Shetty (1985). "Determinants of foreign plant start-ups in the United States: lessons for policymakers in the South-East", *Vanderbilt Journal of Transnational Law,* 18(2), pp. 223-245.

Manea, J. and R. Pearce (2004). "Industrial restructuring in economies of transition and TNC's investment", *Transnational Corporations*, 13(2), pp. 8-27.

McFadden, D. (1974). "Conditional logit analysis of qualitative choice behaviour", in P. Zarembka, ed. *Frontiers in econometrics* (New York: Academic Press), pp.105-142.

Meltzer, A. (2000). *Report of the International Financial Institutions Advisory Commission*. (Washington, D.C.: United States Congress).

Meyer, K.E. (1998). *Direct Investments in Economies in Transition* (Cheltenham: Edward Elgar).

Meyer, K. (2001). "Institutions, transaction costs, and entry mode choice in Eastern Europe", *Journal of International Business Studies,* 32(2), pp. 357-367.

Meyer, K. and A. Skak (2002). "Networks, serendipity and SME entry into Eastern Europe", *European Management Journal,* 20(2), pp. 179-188.

Mariotti, S. and L. Piscitello (1995). "Information costs and location of FDIs within the host country: empirical evidence from Italy", *Journal of International Business Studies,* 26(4), pp. 815-841.

Nachum, L. (2000). "Economic geography and the location of TNCs: financial and professional service FDI to the USA", *Journal of International Business Studies,* 31(3), pp. 367-385.

Oxley, J.E. (1999). "Institutional environment and the mechanisms of governance: the impact of intellectual property protection on the

structure of inter-firm alliances", *Journal of Economic Behavior and Organization*, 38(3), pp. 283-310.

Porter, M.E. (1994). "The role of location in competition", *Journal of Economics and Business*, 1(1), pp. 35-39.

Porter, M. (1998). "Clusters and the new economics of competition", *Harvard Business Review*, November-December, pp. 77-90.

Rajan, R.G. and L. Zingales (1998). "Financial dependence and growth", *American Economic Review*, 88(3), pp. 559-586.

Resmini, L. (2000). "The determinants of foreign direct investment in the CEECs: new evidence from sectoral patterns", *The Economics of Transition*, 8(3), pp. 665-690.

Rugman, A.M. and A. Verbeke (2001). "Subsidiary-specific advantages in multinational enterprises", *Strategic Management Journal*, 22(3), pp. 237-250.

Savona, M. and R. Schiattarella (2004). "International relocation of production and the growth of services: the case of the 'Made in Italy' industries", *Transnational Corporations*, 13(2), pp. 58-76.

Scaperlanda, A.E. and R.S. Balough (1983). "Determinants of US direct investment in the EEC: revisited", *European Economic Review*, 21(3), pp. 381-390.

Shaver, J.M. (1998). "Do foreign-owned and US-owned establishments exhibit the same location pattern in US manufacturing industries?", *Journal of International Business Studies*, 29(3), pp. 469-491.

Shaver, J and F. Flyer (2000). "Agglomeration economics, firm heterogeneity, and foreign direct investment in the United States", *Strategic Management Journal*, 21(12), pp. 1175–1193.

Sin, C. and W.-F. Leung (2001). "Impacts of FDI liberalization on investment inflows", *Applied Economic Letters*, 8, pp. 253-256

Smarzynska, B.K. (2002). "Composition of foreign direct investment and protection of intellectual property rights: evidence from transition economies" *World Bank Policy Research Working Paper*, no.1786.

Stiglitz, J.E. (1993). "The role of the state in financial-markets", *World Bank Economic Review*, suppl. S, pp. 19-52.

Strange R. and A. Majocchi (2007). "Economic liberalisation and the FDI location decision: evidence from Italian firms in Eastern Europe", in J. Larimo, ed., *Market Entry and Operational Decision Making in East-West Business Relationship*, Haworth Press, New York, pp. 93-114.

Sun, Q., W. Tong and Q. Yu (2002). "Determinants of foreign direct investment across China", *Journal of International Money and Finance*, 21(1), pp. 79-113.

Trevino, L.J., J.D. Daniels and H. Arbelaez (2002). "Market reform and FDI in Latin America: an empirical investigation", *Transnational Corporations*, 11(1), pp. 30-48.

UNCTAD (2006). *World Investment Report 2006: FDI from Developing and Transition Economies - Implications for Development* (New York and Geneva: United Nations).

Urata, S. and H. Kawai (2000). "The determinants of the location of foreign direct investment by Japanese small and medium-sized enterprises", *Small Business Economics*, 15(2), pp. 79-103

Weller, C. (2000a). "Financial liberalization, multinational banks and credit supply: the case of Poland", *International Review of Applied Economics*, 14(2), pp. 193-211.

Weller, C. (2000b). "Banking on multinationals", *EPI Issue Brief*, no.142., Economic Policy Institute.

Wheeler, D. and A. Mody (1992). "International investment location decisions", *Journal of International Economics*, 33(1-2), pp. 57-76.

Woodward, D.P. (1992). "Locational determinants of Japanese manufacturing start-ups in the United States", *Southern Economic Journal*, 58(3), pp. 690-708.

Woodward, D.P. and R. Rolfe (1992). "The location of export-oriented foreign direct investment in the Caribbean Basin", *Journal of International Business Studies*, 24(1), pp. 121-144.

Woodward, D.P., R.J. Rolfe, P. Guimarães and T. Doupnik (2000). "Taxation and the location of foreign direct investment in Central Europe", in K. Fatemi, ed., *The New World Order: Internationalism and the Multinational Corporations* (London: Pergamon Press), pp.192-203.

Wurgler, J. (2000). "Financial markets and the allocation of capital", *Journal of Financial Economics*, 58(1-2), pp. 187-214.

Yamawaki, H. (1991). "Location decisions of Japanese multinational firms in European manufacturing industries", in K.S. Hughes, ed., *European competitiveness* (Cambridge: Cambridge University Press), pp. 11-28.

# Foreign direct investment and host country economic growth: Does the investor's country of origin play a role?

Fabienne Fortanier*

Empirical evidence on the relationship between FDI and economic growth is still inconclusive. Recent studies have examined factors that could influence this relationship but have not extensively addressed the role of the characteristics of foreign direct investment (FDI). This article contributes to the debate by analysing the differences in the growth consequences of FDI from various countries of origin, using a dataset on bilateral investment stocks of six major outward investor countries in 71 host countries for the period 1989-2002. Panel data analysis confirms that the growth consequences of FDI differ by country of origin, and that these country of origin effects also vary depending on the host country characteristics.

**Key words**: foreign direct investment, country of origin, growth consequences

## 1. Introduction

In the past two decades, foreign direct investment (FDI) by transnational corporations (TNCs) has become the prime source of external financing for developing countries. Yet, evidence on the consequences of the influx of TNC investment for the host economy is still far from conclusive.[1] Recent research has indicated that part of the divergence in empirical findings can be attributed to methodological issues, such as research design (Görg and Strobl, 2001), and to host country

* University of Amsterdam, Faculty of Economics and Business Studies, Roetersstraat 11, 1018 WB Amsterdam, the Netherlands (email: F.N.Fortanier@uva.nl).

[1] See, for example, reviews by Caves (1996), Rodrik (1999), Fortanier (2004) and Meyer (2004).

characteristics such as institutions (Rodrik, 1999; Alfaro *et al.*, 2004), openness to trade (Balasubramanyam *et al.*, 1996) and technological development (Borensztein *et al.*, 1998).

However, one set of factors that influence FDI-economic growth relationship have so far received little systematic empirical attention: the heterogeneous characteristics of FDI itself (Nunnenkamp and Spatz, 2004; Lall, 1995; Jones, 2005). In the field of economics, where most studies on FDI and growth can be found, FDI is generally conceptualized as homogeneous flows of capital. In the field of International Business, the differences in types of investors and investments (e.g. the organizational, technological, managerial and strategic characteristics of the firms) *are* recognized, but these are mostly related to firm performance, rather than "host country performance". This article examines whether taking into account the differences in the characteristics of FDI in empirical research helps our understanding of the impact of FDI: i.e. whether, to what extent and under what conditions the entry of TNCs enhances economic growth in host economies.

In this article, we focus on the role of one particular FDI characteristic: the country of origin of the TNC. The market conditions, business systems and institutions in the TNC's country of origin (cf. North, 1991; DiMaggio and Powell, 1983; Whitley, 1998) influence a wide range of strategic and organizational characteristics of TNCs, including, for example, the degree of intra-company sales and trade (Harzing and Sorge, 2003), sector specialization (Moen and Lilja, 2001) and human resource management practices (Bae *et al.*, 1998). It is therefore hypothesized that FDI from different countries should also have different consequences for host country economic growth. In addition, it is expected that such effects also differ across host countries depending on their characteristics. To test these hypotheses, a dataset was constructed from various official sources for a sample of 71 countries covering a 14-year period (1989-2002), including information on both total FDI as well as FDI from the world's six major investor countries (France, Germany, Japan, the Netherlands, the United Kingdom, and the United States).

Before moving to the empirical analyses, this article first reviews the literature on the role of FDI on economic growth in more detail. Both the (theoretical) mechanisms through which TNCs influence host economies and the (empirical) outcomes of these processes are discussed. Then the roles the characteristics of both the host country and FDI play in FDI-economic growth relationship are elaborated, and hypotheses are developed. The data collection, methodology and estimation techniques are explained in section 3, while the results of the analysis are presented in section 4. Section 5 discusses the findings and explores potential explanations that may guide further research. Section 6 concludes.

## 2. Literature and hypotheses

### 2.1 FDI and economic growth

FDI and TNCs affect economic growth (and other dimensions of development) through three key mechanisms: *size* effects, *skill and technology* effects and *structural* effects. Size effects refer to the net contribution of FDI to the host country's savings and investment, thus affecting the growth rate of the production base (Bosworth and Collins, 1999). Most of the potential costs and benefits of foreign capital, however, result from more indirect effects of FDI either through the transfer of skills and technologies (Baldwin *et al.*, 1999) or through structural change in markets (competition and linkages) (Kokko, 1996).

TNCs are one of the most important sources of skills and technology transfer across borders. TNCs are generally concentrated in technology-intensive industries (Markusen, 1995; Baldwin *et al.*, 1999). Technology brought in by TNCs through FDI can "spill-over" to local firms through demonstration effects, labour migration or linkages with buyers and suppliers (Blomström *et al.*, 1999). Local firms use the new technologies to increase their productivity and thus contribute to economic growth. However, TNCs' technologies are often designed for industrialized country wages and capital costs, and may not always be appropriate under the factor prices prevailing

in developing countries (Caves, 1996). In such instances, the scope for skill and technology transfer may be small.

Structural effects brought about by the entry of a TNC include both horizontal (competition) as well as vertical (linkages with buyers and suppliers) changes. Investment of a TNC in the host economy can stimulate competition and improve the allocation of resources, especially in those industries where high entry barriers are limiting the degree of domestic competition (e.g. utilities). In this way, the entry of a TNC may contribute to the dynamics and innovation in the local market (Lall, 2000) and thus to economic growth. However, TNCs with their superior technology, greater possibilities for exploiting economies of scale and access to larger financial resources may also out-compete local - often much smaller - firms ("crowding out") (Agosin and Mayer, 2000). In a strict economic sense, crowding out does not have to be problematic, as long as local firms are replaced by more efficient firms. However, if crowding out leads to increased market concentration, the risk of monopoly rents and deterioration of resource allocation (and thus reduced economic growth) increases. These potential effects are not necessarily confined to product market competition alone, but can also extend to, for example, capital markets (Harrison and McMillan, 2003).

Linkages between the foreign affiliates and local suppliers (and buyers, see Aitken and Harrison, 1999) form the final main channel through which spillovers from TNCs to local firms occur (Javorcik, 2004). Linkages, or sourcing relations with suppliers (Alfaro and Rodríguez-Clare, 2004), can raise the overall output of local supplier firms and – especially if paired with training – their productivity and product quality (McIntyre *et al.*, 1996). However, TNCs improve welfare only if they generate more linkages than those previously formed by the local firms they displace. This is not always the case, since TNCs often source their inputs through their own international production networks, which, in addition, could also have potentially negative trade balance effects (De Mello and Fukasaku, 2000).

It is through these size, skill and technology, and structural effects that TNCs can affect the economic growth of host countries. Whether this effect is, on the whole, positive or negative is a fervently debated research question. On the one hand, De Mello (1999), Sjöholm (1997b) and Xu (2000) found that foreign investors increased growth in host countries. Baldwin *et al.* (1999) established that domestic technological progress was aided by foreign technological progress, and studies by Borensztein *et al.* (1998) and OECD (1998) also presented evidence that FDI had a larger impact on economic growth than investment by domestic firms. On the other hand, a study by Kawai (1994) on Asian and Latin-American countries indicated that an increase in FDI generally had a negative effect on growth (with the exception of Indonesia, the Philippines, Peru, Singapore and Taiwan Province of China). Also in Central and East European countries, the impact of FDI on growth was found to be negative in a number of studies (Djankov and Hoekman, 1999; Mencinger, 2003). Furthermore, Carkovic and Levine (2000) found negative results in their study of the impact of FDI on income and productivity growth in 72 countries.

Studies that used enterprise or industry-level data rather than macro-economic data did not yield consistent results. Some studies identified positive effects of FDI on productivity: e.g. Sjöholm (1997a); Anderson (2001) for the Indonesian manufacturing industry; Kokko (1994) and Ramírez (2000) for Mexico; Kokko *et al.* (1996) for Uruguay; and Liu *et al.* (2001) for China. On the other hand, another group of studies found negative effects of FDI on the productivity of local firms. Aitken and Harrison (1999) used data for Venezuela and concluded that productivity in local firms decreased while productivity in foreign firms and firms with significant foreign participation increased. The study by Haddad and Harrison (1993) for Morocco and Aitken *et al.* (1996) for Mexico and Venezuela were also unable to establish positive productivity spillovers.

### 2.2 FDI characteristics and host country context

Diverging empirical results have prompted several researchers to look for explanations for these differences. In

addition to the methodological issues related to research design (Görg and Strobl, 2001), two sets of factors that could (potentially) influence the FDI-economic growth relationship have been identified: the characteristics of FDI and the host country environment.

It is the explicit consideration of the first set of factors that constitutes the main contribution of this article to the FDI-economic growth debate. The characteristics of FDI have hitherto received very little empirical attention as determinants of FDI-growth relationship. However, FDI is not a uniform flow of capital across borders and should not therefore be treated as such. Rather, FDI differs by the size and mode of entry; the nature of the (production) techniques chosen; the trade orientation of the parent company; the role of the affiliate in the global production network; the type of activity that takes place; and the aim with which the investment is made (Lall, 1995; Dunning, 1993; Jones, 2005). Some initial research results support this perspective. For example, Mencinger (2003) suggested that the negative relationship between FDI and growth in transition economies could be explained by the form of FDI, which had been predominantly through acquisitions rather than greenfield investments. Kearns and Ruane (2001) found that in Ireland, the scale of R&D activity of foreign affiliates was positively related to job creation rates. Egelhoff *et al.* (2000) examined FDI characteristics in relation to the patterns of trade and found that industry, affiliate size and parent country all significantly influenced the size and patterns of trade.

This study focuses on the role of one particular characteristic of FDI: its country of origin. The influence of the country of origin on TNCs has been extensively documented, especially from an institutional theory perspective. The nature of the domestic market, business system and institutional backgrounds influences a wide range of strategic and organizational characteristics of TNCs (cf. North, 1991; Ruigrok and Van Tulder, 1995; DiMaggio and Powell, 1983; Whitley, 1998; Pauly and Reich, 1997). The combination of national production factors and institutions determine the opportunity set of firms, and because these sets differ across countries, firms'

optimal actions diverge, and hence also firm behaviour and strategy (North, 1991; Wan and Hoskisson, 2003). Examples of the characteristics that are influenced by country of origin effects include intra-company sales and trade and the extent of local manufacturing and R&D (Harzing and Sorge, 2003); sector specialization, forms of ownership and ways of internationalization (Moen and Lilja, 2001); capital intensity of production and technology use (Schroath *et al.*, 1993); the use of global (vs. multi-domestic) strategies (Yip *et al.*, 1997); human resource management practices (Bae *et al.*, 1998). Each of these factors critically influences one or more of the skill, structure and skill, and technology effects outlined above, and thereby the impact of FDI on economic growth. For example, industry specialization and R&D have an important impact on the level of technology adopted by foreign affiliates and hence its potential for knowledge spillovers (Kokko *et al.*, 1996; Haddad and Harrison, 1993). The mode of entry (greenfield versus acquisition) influences the impact of FDI on the market structure (Maioli *et al.*, 2005). The way in which international production is organized determines, amongst others, the extent of local linkages creation (Pauly and Reich, 1997). Therefore we hypothesize:

***Hypothesis 1.*** *The growth impact of FDI differs by the country of origin of FDI.*

The impact of FDI on growth also differs depending on *host* country characteristics related to the so-called "absorptive capacity" of a host country – the ability to actually reap the potential benefits of FDI. The quality of host country institutions, in particular the rule of law and the protection of property rights (North, 1991; Rodrik, 1999), is an oft-cited example of host country characteristics that determine the growth-enhancing effect of FDI. High quality institutions facilitate the start-up of new local ventures that can exploit knowledge spillovers from foreign TNCs. In addition, institutions make contracts – in particular with regard to supplier relationships – more easily enforceable and thereby lower the transaction costs of local sourcing for TNCs. High quality institutions can thus enlarge the potential for positive *indirect* effects of FDI (technology transfer and linkages).

A host country's openness to trade has also been found to positively influence the extent to which FDI contributes to growth. (Balasubramanyam *et al.*, 1996). Trade openness is a measure of the existing level of competition (and strength of competitive forces) in a local economy. In countries that are more open to trade, market distortions are less and the level of efficiency and competition is higher. This is likely to induce TNCs to invest more in human capital, but also to enhance spillovers as local competitors would be "forced" to learn (Görg and Strobl, 2001; Blomström *et al.*, 1999). In closed economies, there are more opportunities for rent-seeking (Hirschey, 1982). The lack of competition would allow TNCs (and local firms) to sustain X-inefficiencies, and therefore resource allocation would be sub-optimal with detrimental effects on growth.

Thirdly, the extent to which FDI contributes to growth also depends on the level of technological sophistication and the stock of human capital available in the host economy. FDI has been found to raise growth only in those countries that have reached a minimum threshold level of technological sophistication or the stock of human capital (Borensztein *et al.*, 1998; Xu, 2000). Extending this line of research, this article explores if such thresholds are the same for all kinds of investment, or whether some types of investment start contributing to host economy growth at a lower threshold level than others. Suggestions that the latter might be the case are found in evidence regarding technology *gaps* (Kokko *et al.*, 1996; Haddad and Harrison, 1993); this work indicates that it is the relative difference (e.g. in productivity) between local and foreign firms that determines the degree of spillovers, which are thus dependent on the absolute level of sophistication of both domestic and foreign firms. Hence, to the extent that the impact of FDI differs by its country of origin, we can also expect and hypothesize that:

***Hypothesis 2***. *The impact on economic growth of FDI differs depending on host country characteristics, including the quality of institutions, the extent of trade openness and the stock of human capital.*

## 3. Data and methodology

### 3.1 Sample and variables

To test the two hypotheses, data on total inward FDI in host economies were collected. Similar data were collected for inward FDI from the six major investor countries (the United States, Japan, Germany, the United Kingdom, France and the Netherlands, creating the variables USFDI, JPFDI, GEFDI, UKFDI, FRFDI and NLFDI) in each country in the sample. These six investor countries account for 63% of the global outward FDI stock. FDI was measured as changes in stocks, rather than flows. While this approach differs from other studies, it better captures (changes in) the role of FDI and foreign TNCs in a host economy and also better mirrors the growth in capital stock in the production function (Balasubramanyam *et al.*, 1996).

Data were taken from UNCTAD (for total inward FDI) and the national statistics offices or central banks of the six outward investor countries. For Japan, which has very detailed geographically broken down data available for flows but not for stocks, estimates were made for stock breakdown by applying the percentages of individual country shares in the accumulated outflows to the outward stock total. The comparison of these estimates with the real values for the geographically broken down stock data that were available for a small group of country-periods (1997-2003, for 25 countries) resulted in a Pearson correlation of 0.89 ($p<0.001$), indicating that the estimates were good approximations of the real values. All inward stock data, both the total value and the values for the individual investors, were calculated as percentages of the host country GDP.

Data on investment stocks by country of origin were available from 1989 for all outward investors, while 2002 was the latest year for which all six countries reported the geographical breakdown of their outward stocks. Since not all investor countries include the same host countries in their outward investment statistics, only those host countries in the sample for which data were available for at least three of the six investors for the entire period were included. This resulted

in a sample of 71 countries (of which 49 were developing countries) and a total of 994 observations. Table 1 gives an overview of the countries (and regions) included in the sample.

**Table 1. Countries included the sample**

| Region | Countries included |
|---|---|
| Developed (n=22) | Australia, Austria, Belgium/Lux, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States |
| Africa & Middle East (n=15) | Cote d'Ivoire, Egypt, Ghana, Iran, Israel, Kenya, Mauritius, Morocco, Nigeria, Saudi Arabia, South Africa, Tanzania, Turkey, United Arab Emirates, Zimbabwe |
| Asia (n=11) | China, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand |
| Eastern Europe (n=9) | Bulgaria, Czech Republic, Hungary, Poland, Romania, Russia, Slovak Republic, Slovenia, Ukraine |
| Latin America (n=14) | Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Panama, Paraguay, Peru, Uruguay, Venezuela |

While combining investment data in this way has some important limitations, since the methodologies of data collection are not the same across countries, this dataset still represents the best data available to date. With the exception of Japan, the dataset has exactly the same methodology and data quality (and, where the samples overlap, the same values) as the OECD Direct Investment Yearbook. This, the only known official source of bilateral FDI data, is also compiled from national official data. However, going back to the original sources of the data ensured a wider developing country coverage (49 vs. 25) and in some instances, fewer missing values (as national data seem more regularly updated) than the OECD dataset.

The relationship between FDI and economic growth was controlled for other factors that are usually included in growth equations. Both the augmented Solow model and endogenous growth models include the initial levels of GDP per capita, total investment, and human capital (education) as a minimal set of

explanatory variables in cross-country growth regressions (cf. Mankiw *et al.*, 1992; Romer, 1993). The key difference lies in the role of externalities, or spillovers from knowledge goods, that endogenous growth theory proposes. In fact, the study of FDI as a driver of economic growth in host countries via technology transfer, diffusion and spillover effects is based on endogenous growth reasoning (Nair-Reichert and Weinhold, 2001). Hence, following Borensztein *et al.* (1998) and Alfaro *et al.* (2003), the direct effect of FDI on economic growth was estimated using a model in which growth was dependent upon initial GDP per capita, total investment, human capital as well as FDI.

Here, economic growth (denoted as *gGDP*) was measured by the annual percentage growth of GDP; the extent of domestic investment (*GCF*) by gross capital formation as percentage of GDP (expected sign is positive); and the level of initial GDP per capita (*GDP0*), which served as a "catch-up" variable and captures diminishing returns to capital (expected sign negative), by the GDP per capita in 1990 (*PPP*). The stock of human capital (*School*) was measured by the percentage of secondary school enrollment in 1990. Trade openness was measured by the sum of exports and imports as a percentage of GDP (*TradeOp*), while institutional quality (*Instit*) was proxied by the ICRG "Rule of Law" indicator, averaged over the 1990-1999 period. All data on the control variables were taken from the World Development Indicators (from the World Bank) with the exception of the ICRG Rule of Law indicator, which was drawn from the Dollar-Kraay dataset (Dollar-Kraay, 2004). Finally, a set of regional dummies for the host economies (*R*), as grouped in table 1, were included. Table 2 summarizes the variable definitions and data sources.

### 3.2 Estimation

The data were analysed in several steps. As explained above, the analysis started with a basic growth model that included the rate of investment, the initial GDP per capita, FDI (denoted as *FDI*), regional dummies, and indicators for human capital, trade openness, and institutional quality:

**Table 2. Variable definitions**

| Variable | Measurement | Source |
|---|---|---|
| gGDP | percentage growth of GDP | World Bank WDI |
| GDPC0(log) | level of initial GDP per capita (1990) | World Bank WDI |
| GCF | Gross Capital Formation as percentage of GDP | World Bank WDI |
| FDI | Change in total inward FDI stock / host GDP | UNCTAD |
| School | percentage of secondary school enrollment 1990 | World Bank WDI |
| Tradeop | sum of exports and imports as percentage of GDP | World Bank WDI |
| Institut | RG 'Rule of Law' indicator (1990-1999) | Dollar-Kraay |
| USFDI | Change in US FDI stock in host country / host GDP | BEA |
| JPFDI | Change in Japanese FDI stock in host country / host GDP | Ministry of Finance |
| GEFDI | Change in German FDI stock in host country / host GDP | Deutsche Bundesbank |
| UKFDI | Change in UK FDI stock in host country / host GDP | National Office of Statistics |
| FRFDI | Change in French FDI stock in host country / host GDP | Banque de France |
| NLFDI | Change in Dutch FDI stock in host country / host GDP | Netherlands Central Bank |

$$gGDP_{it} = \beta_t + \beta_1 GCF_{it} + \beta_2 GPD0_i + \beta_3 FDI_{it} \cdot \beta_6 Tradeop_{it} + \beta_7 Instit_i + \varepsilon_{it}. \quad (1)$$

This basic model was then extended in order to test whether the effect of FDI differs across host countries, by the level of human capital development, institutions and trade openness:

$$gGDP_{it} = \beta_t + \beta_1 GCF_{it} + \beta_2 GPD0_i + \beta_3 FDI_{it} + \beta_6 TradeOp_{it} + \beta_7 Instit_i + \beta_8 FDI_{it} \quad (2)$$

where *HOSTCC* is either *School*, *TradeOp* or *Instit*. In the next step, to assess the role of differences in the country of origin of FDI, the FDI variable was replaces by six FDI variables (denoted as *XXFDI*) distinguished by country of origin:

$$gGDP_{it} = \beta_t + \beta_1 GCF_{it} + \beta_2 GPD0_i + \beta_3^{1-6} \cdot \beta_5 School_i + \beta_6 TradeOp_{it} + \beta_7 In. \quad (3)$$

Lastly, the interactions between FDI from different countries and host country characteristics were explored:

$$gGDP_{it} = \beta_t + \beta_1 GCF_{it} + \beta_2 GPD0_i + \beta_3^{1-6} XXFDI_{it}^{1-} \beta_6 TradeOp_{it} + \beta_7 Instit_i + \beta_8^{1-6} XXFDI_{it}^{1-6} \quad (4)$$

These equations were estimated using all observations in the dataset by utilizing techniques specifically designed to handle panel data. Using the data for all 994 observations enabled us not only to take full advantage of the benefits of pooling data (larger sample), but also to take into consideration the time dimension in the relationship between FDI and growth. However, it is exactly the combination of data across units and over time that may create additional difficulties in the estimation. In addition to the issues related to the structure of the error terms (heteroskedasticity, autocorrelation), the potential *endogeneity* of FDI and growth, caused by unobserved (omitted) variables that influence both, is a major potential concern in economic growth research.

Endogeneity would make OLS estimations inconsistent. In particular, certain host country characteristics, such as trade openness or the quality of institutions, are known not only to enhance growth, but also to attract FDI. As our equations included three important host country characteristics (quality of institutions, trade openness, and level of human capital), there might have been less reason to suspect that there were any additional unobserved variables that greatly influenced FDI and growth and resulted in creating a correlation between FDI and the error term. However, we still tested for potential endogeneity using both the Durbin-Wu-Hausman (DWH) test and the Hausman specification test. Essentially, both test compare coefficients obtained from OLS (potentially inconsistent) with those obtained via IV regressions (consistent but inefficient) and test whether they differ significantly.

With IV estimations, the selection of instruments for FDI is the main problem. We followed Xu (2000), Borensztein *et al.* (1998), Alfaro *et al.* (2004) and De Mello (1999) and selected

the lagged values of FDI as instruments. Some researchers include other instruments in addition to lagged FDI values. However, our system of equations already included most of those variables in the primary equation. Therefore, similar to the approach in Xu (2000), we included only the lagged FDI values.

The DWH test indicated that there might be some weak endogeneity ($F_{1,914}$=3.66, p<0.10). However, the F-statistic was only significant at the 10% level and evidence for endogeneity was thus not particularly strong. In addition, the Hausman specification test further indicated that endogeneity was unlikely to be present ($Chi^2$(11)=13.77, p=0.25). Thirdly, other studies (e.g. Borensztein *et al.*, 1998; Alfaro *et al.*, 2001), though not formally testing for endogeneity, concluded that the results they obtained with or without IV estimators were qualitatively similar, implying that OLS is not inconsistent and that IV estimation is therefore unnecessary. Finally, estimating the models using dynamic (Arellano-Bond) GMM estimators led to virtually the same results. Given these arguments, and considering that using IV would imply a loss of efficiency in comparison with OLS, the models were estimated without using instrumental variables.

Since the Panel-adjusted Durbin Watson test for model (2) specified above indicated the presence of autocorrelation (DW=1.01, rho=0.43), and modified Wald tests ($Chi^2$(71)=8235, p<0.001) the presence of heteroskedasticity, the equations were estimated using AR(1) GLS with heteroskedasticity-corrected standard errors and time fixed effects.

## 4. Results

The descriptive statistics of the continuous variables and their correlation coefficients are presented in table 3. The main independent variables are significantly correlated with the dependent variable, *gGDP*, with the exception of institutions. Table 3 also indicates that substantial correlations exist between the independent variables, notably between schooling, institutions and initial GDP. In order to test for potential multicollinearity, VIF statistics (for model 1) were calculated, which resulted in an average VIF of 2.38 and a maximum value

## Table 3. Descriptive statistics and Pearson correlations

| | | n | m. | s.d. | min. | max. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | gGDP | 994 | 2.88 | 4.16 | -22.90 | 17.50 | 1.00 | | | | | | | | | | | |
| 2 | FDI | 994 | 1.29 | 6.63 | -42.80 | 116.10 | -0.07 ** | 1.00 | | | | | | | | | | |
| 3 | GDPC0(log) | 994 | 3.55 | 0.62 | 2.22 | 4.53 | -0.08 ** | 0.03 | 1.00 | | | | | | | | | |
| 4 | GCF | 994 | 22.47 | 5.97 | 6.15 | 43.64 | 0.26 *** | -0.01 | 0.03 | 1.00 | | | | | | | | |
| 5 | School | 994 | 69.79 | 25.93 | 6.00 | 124.00 | -0.14 *** | 0.05 | 0.75 *** | 0.11 *** | 1.00 | | | | | | | |
| 6 | Tradeop | 994 | 76.98 | 62.61 | 0.00 | 425.99 | 0.12 *** | 0.02 | 0.21 *** | 0.31 *** | 0.12 *** | 1.00 | | | | | | |
| 7 | Institut | 994 | 4.31 | 1.18 | 1.62 | 6.00 | -0.05 | 0.07 ** | 0.74 *** | 0.18 *** | 0.65 *** | 0.23 *** | 1.00 | | | | | |
| 8 | USFDI | 910 | 0.33 | 1.64 | -21.47 | 21.56 | -0.04 | 0.34 *** | 0.12 *** | 0.01 | 0.09 *** | 0.27 *** | 0.14 *** | 1.00 | | | | |
| 9 | JPFDI | 897 | 0.02 | 0.38 | -3.79 | 5.17 | -0.18 *** | 0.38 *** | -0.04 | -0.08 ** | 0.00 | -0.13 *** | -0.01 | 0.18 *** | 1.00 | | | |
| 10 | GEFDI | 896 | 0.13 | 0.55 | -2.81 | 7.55 | -0.09 *** | 0.17 *** | 0.09 *** | 0.04 | 0.15 *** | 0.10 *** | 0.19 *** | 0.04 | 0.08 ** | 1.00 | | |
| 11 | NLFDI | 689 | 0.11 | 0.39 | -1.50 | 4.28 | 0.00 | 0.33 *** | 0.07 * | -0.05 | 0.11 *** | 0.11 *** | 0.14 *** | 0.27 *** | 0.14 *** | 0.09 ** | 1.00 | |
| 12 | FRFDI | 646 | 0.16 | 0.78 | -2.80 | 9.17 | -0.03 | 0.21 *** | 0.08 ** | -0.04 | 0.10 ** | 0.09 ** | 0.11 *** | 0.13 *** | 0.11 *** | 0.22 *** | 0.27 *** | 1.00 |
| 13 | UKFDI | 704 | 0.20 | 2.21 | -19.65 | 31.05 | 0.02 | 0.11 *** | 0.06 | -0.02 | 0.07 * | 0.05 | 0.06 | 0.13 *** | 0.04 | 0.08 ** | 0.33 *** | 0.27 *** |

*** $p<0.01$
** $p<0.05$
* $p<0.10$

of 3.28. Although there are no formal criteria for assessing the value of VIFs, most authors suggest that multicollinearity becomes a problem with VIFs over 10 (Stevens, 2002; Myers, 1990; Dewberry, 2004), far above the values found in our analyses.

As might be expected, the values of FDI for individual investor countries are correlated with total FDI, and to a lesser extent, with each other as well. Still, the coefficients are rather small, and there also seems to be considerable variation in the value of the correlation coefficients between FDI of individual investors and the other variables in the model. These are first hints of the differences in FDI by country of origin. The descriptive statistics do not point to the presence of influential outliers, although the maximum values for trade openness and all FDI variables are quite high. This is primarily caused by the inclusion of Hong Kong (China) and Singapore in the sample. While these observations did not significantly influence the outcomes of the estimation in most instances, these two economies were problematic in examining the interaction between trade openness and FDI. Therefore, both economies were excluded from the subsequent analyses.

The results of the regression analyses are presented in table 4. The first model that was estimated was the growth equation in its most restricted form, while models 2-5 added the interaction effects between FDI and host country characteristics. The results confirm the previous findings. Looking at the values and significance of both the main effects of FDI and the interactive terms, it can be concluded that FDI has a negative effect on growth in countries that have a low stock of human capital; are relatively closed to trade; or are characterized by low quality institutions. However, FDI has a positive effect on growth in countries that score high on these dimensions.

The final two columns in table 4 present the results for models (5) and (6) for which FDI was disaggregated by country of origin. The findings support H1: considerable differences exist in the impacts of FDI on host country growth depending on its home country. Additional F-tests on the coefficients (not

## Table 4. GLS AR1 Regression results, Host country characteristics

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| GDPC0(log) | -0.92 ** | -0.88 * | -0.91 * | -0.86 * | -1.71 *** | -0.64 |
| | (-1.97) | (-1.84) | (-1.92) | (-1.80) | (-3.07) | (-1.39) |
| GCF | 0.22 *** | 0.24 *** | 0.22 *** | 0.23 *** | 0.30 *** | 0.25 *** |
| | (9.83) | (10.84) | (9.89) | (10.53) | (10.40) | (10.49) |
| FDI | -0.06 *** | -0.39 *** | -0.12 *** | -0.42 *** | | |
| | (-3.70) | (-8.41) | (-3.18) | (-6.52) | | |
| School | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | (0.47) | (-0.62) | (0.52) | (0.20) | (1.53) | (0.50) |
| Tradeop | 0.01 * | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 * |
| | (1.67) | (1.34) | (1.51) | (1.56) | (0.45) | (1.94) |
| Institut | 0.06 | 0.00 | 0.04 | -0.08 | 0.27 | -0.17 |
| | (0.26) | (-0.02) | (0.18) | (-0.38) | (1.03) | (-0.81) |
| FDI x School | | $3.94x10^{-3}$ *** | | | | |
| | | (7.13) | | | | |
| FDI x Tradeop | | | 0.00 * | | | |
| | | | (1.71) | | | |
| FDI x Institut | | | | 0.07 *** | | |
| | | | | (5.55) | | |
| R1 (Developed) | -0.64 | -0.32 | -0.60 | -0.43 | -0.46 | -0.49 |
| | (-0.92) | (-0.46) | (-0.87) | (-0.61) | (-0.53) | (-0.71) |
| R2 (Africa) | -0.10 | 0.09 | -0.07 | 0.04 | 0.98 | 0.09 |
| | (-0.23) | (0.21) | (-0.17) | (0.08) | (1.46) | (0.22) |
| R3 (Asia) | 0.21 | 0.26 | 0.18 | 0.21 | -0.49 | -0.05 |
| | (0.37) | (0.47) | (0.32) | (0.37) | (-0.64) | (-0.09) |
| R4 (Eastern Europe) | -3.95 *** | -3.64 *** | -3.94 *** | -3.79 *** | -2.82 *** | -2.52 *** |
| | (-4.92) | (-4.54) | (-4.93) | (-4.74) | (-3.28) | (-3.44) |
| USFDI | | | | | -0.10 | -0.09 * |
| | | | | | (-1.15) | (-1.72) |
| JPFDI | | | | | -1.81 *** | -1.50 *** |
| | | | | | (-6.37) | (-6.41) |
| GEFDI | | | | | -0.40 ** | -0.18 |
| | | | | | (-2.35) | (-1.14) |
| UKFDI | | | | | 0.08 ** | |
| | | | | | (2.16) | |
| FRFDI | | | | | -0.03 | |
| | | | | | (-0.24) | |
| NLFDI | | | | | -0.07 | |
| | | | | | (-0.28) | |
| Rho | 0.45 | 0.46 | 0.44 | 0.45 | 0.40 | 0.44 |
| n | 966 | 966 | 966 | 966 | 483 | 831 |
| Wald Chi2 | 352 | 444 | 353 | 413 | 396 | 355 |
| LogLikelihood | -2169 *** | -2150 *** | -2172 *** | -2158 *** | -1034 *** | -1838 *** |

GLS AR(1) regressions, dependent is gGDP, time dummies not reported.
T-values based on heteroskedasticity-corrected s.e. in parentheses below coefficients.
*** p<0.01
** p<0.05
* p<0.10

reported) indicated that Japanese FDI, in particular, had a negative impact on growth in comparison with FDI from other five countries. United States and German FDI also affect growth negatively, though significantly less so than Japanese FDI. United Kingdom FDI, in contrast, has a positive effect on growth. French and Dutch FDI seem to take the "middle ground", as their impacts are neither generally negative nor positive. The coefficients for French and Dutch FDI are not significantly different from those for the United Kingdom, the United States or Germany. The results are confirmed in model 6, in which only United States, Japanese and German FDI were included. This model was estimated because even though care was taken in selecting the sample of countries, missing data, especially for the United Kingdom, France and the Netherlands, reduced the sample considerably. We therefore tested the model (and those in table 5 below) twice: once with all the FDI variables for a sample of 483 observations; and once for a larger sample (831 observations) but with only the United States, Japan and German FDI variables. In particular, smaller and less developed countries were eliminated from the sample due to data availability. The results of these two estimations did not differ substantially (even though the t-statistics for the coefficient for Germany indicate it is not significantly different from zero, additional F-tests indicate that there is also no significant difference between the United States and Germany but that the difference between these two countries and Japan is significant).

Table 5 presents the results of the country of origin effects in interaction with the host country characteristics. The results strongly confirm hypothesis 2 and even exceed the expectation that the differences in interaction effects could only influence the threshold after which FDI positively affects economic growth. Instead, we also find negative interaction effects. Table 5 presents 3 panels, each of which explores the interaction between the FDI variables and one of the variables that represent host country characteristics.

Panel (a) displays the interaction effects for trade openness. The results indicate that the positive interaction effect between FDI and trade openness is particularly strong for United

## Table 5. GLS AR1 Regression results, COO-host country interaction effects

| | Panel a: HOSTCC = TradeOp | | Panel b: HOSTCC = School | | Panel c: HOSTCC = Institut | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| GDPC0(log) | -1.83 *** | -0.65 | -1.81 *** | -0.48 | -1.80 *** | -0.60 |
| | (-3.28) | (-1.41) | (-3.42) | (-1.04) | (-3.09) | (-1.29) |
| GCF | 0.30 *** | 0.25 *** | 0.28 *** | 0.25 *** | 0.29 *** | 0.25 *** |
| | (10.85) | (10.64) | (9.86) | (10.77) | (10.05) | (10.62) |
| School | 0.02 * | 0.00 | 0.01 | 0.00 | 0.02 * | 0.00 |
| | (1.76) | (0.46) | (1.03) | (-0.25) | (1.82) | (0.47) |
| Tradeop | 0.00 | 0.01 ** | 0.00 | 0.01 * | 0.00 | 0.01 ** |
| | (0.73) | (2.00) | (0.96) | (1.69) | (0.87) | (2.03) |
| Institut | 0.35 | -0.16 | 0.39 | -0.18 | 0.30 | -0.22 |
| | (1.40) | (-0.79) | (1.55) | (-0.85) | (1.16) | (-1.07) |
| USFDI | -0.54 *** | -0.31 ** | -3.00 *** | -0.50 *** | -3.12 *** | -0.57 *** |
| | (-2.77) | (-2.35) | (-5.76) | (-3.31) | (-5.18) | (-3.03) |
| JPFDI | -0.08 | -0.33 | -0.43 | -2.73 *** | 1.45 | -1.06 |
| | (-0.12) | (-0.59) | (-0.45) | (-4.76) | (1.06) | (-1.14) |
| GEFDI | 1.00 * | 0.19 | -0.89 | -1.69 ** | -0.42 | -2.79 ** |
| | (1.67) | (0.31) | (-0.70) | (-2.13) | (-0.25) | (-2.27) |
| UKFDI | 0.22 ** | | 0.51 ** | | 0.41 ** | |
| | (2.38) | | (2.13) | | (2.12) | |
| FRFDI | -0.07 | | 0.23 | | -0.34 | |
| | (-0.17) | | (0.20) | | (-0.27) | |
| NLFDI | -0.86 | | 2.02 | | 1.87 | |
| | (-1.06) | | (1.49) | | (0.91) | |
| USFDI x *HOSTCC* | 0.00 ** | 0.00 * | 0.03 *** | 0.00 *** | 0.56 *** | 0.10 *** |
| | (2.11) | (1.73) | (5.63) | (2.88) | (5.07) | (2.60) |
| JPFDI x *HOSTCC* | -0.02 *** | -0.01 ** | -0.01 | 0.02 | -0.64 ** | -0.11 |
| | (-2.88) | (-2.33) | (-0.71) | (0.66) | (-2.01) | (-0.50) |
| GEFDI x *HOSTCC* | -0.01 ** | 0.00 | 0.01 | 0.02 ** | 0.01 | 0.48 ** |
| | (-2.47) | (-0.55) | (0.44) | (1.99) | (0.02) | (2.13) |
| UKFDI x *HOSTCC* | 0.00 | | -0.02 | | 0.05 | |
| | (-1.33) | | (-1.43) | | (0.25) | |
| FRFDI x *HOSTCC* | 0.00 | | 0.00 | | -0.06 | |
| | (-0.04) | | (-0.23) | | (-1.70) | |
| NLFDI x *HOSTCC* | 0.01 | | 0.00 * | | -0.33 | |
| | (1.03) | | (-1.73) | | (-0.89) | |
| Rho | 0.38 | 0.43 | 0.39 | 0.44 | 0.38 | 0.43 |
| n | 483 | 831 | 483 | 831 | 483 | 831 |
| Wald Chi2 | 501 | 382 | 445 | 386 | 439 | 381 |
| LogLikelihood | -1029 *** | -1836 *** | -1022 *** | -1824 *** | -1030 *** | -1836 *** |

GLS AR(1) regressions, dependent is gGDP. Region and time dummies R1-R4 are included, not reported.

T-values based on heteroskedasticity-corrected s.e. in parentheses below coefficients.

*** $p<0.01$

** $p<0.05$

* $p<0.10$

States FDI. In contrast, the negative effect of Japanese FDI on growth is exacerbated in countries that are more open to trade. German FDI has a positive (yet not very significant) effect on growth in countries closed to trade, and a negative effect in countries open to trade. For French and Dutch FDI, the signs of the coefficients confirm the positive interaction between FDI and trade openness, though the coefficients are not significant. The positive effect of United Kingdom FDI on growth is not affected by trade openness.

Panel (b) presents the interaction effects for education. Again, the effect found for total FDI appears to be caused primarily by United States FDI. Both the negative impact in countries with low levels of education and the positive impact in countries with high levels of education are significantly smaller for German and French FDI. For Dutch FDI, the relationship between FDI, education and growth appears to be "inverted", though only weakly; Dutch FDI promotes growth in countries with low levels of education and reduces it in countries with high levels of education. Similar results (though not significant) are found for the United Kingdom. Finally, Japanese FDI continues to be negative throughout, independent of the level of education in the host country.

Panel (c) reports the results of the interactions between FDI and institutional quality of the host country. Again, United States FDI seems to be responsible for the overall finding of a positive interaction effect between FDI and institutional quality for growth. Similar (though less significant) results of a positive interaction effect are also found for German and French FDI. The effect of Japanese FDI is again negative, and significantly more so in countries with high quality institutions, while Dutch FDI interacts negatively (though insignificant) with institutional quality.

Some of the coefficients in table 5 that represent the main and interactive effects of FDI may appear to be unstable. However, the three panels in table 5 reflect the interactions of FDI with different variables with different measurement scales.

In addition, within each panel, the samples for the two models differ considerably in size; the smaller sample contains a disproportionate number of developed countries. In this context, it is not surprising that variation in indicators that represent differences in income (*GDP0*) or schooling (*School*) decreases to such an extent that they do not distinguish between high and low growth countries, and hence lose significance.

Table 6 summarizes all the empirical results. It shows that first of all, the overall or general effect of FDI on growth is negative, though the extent to which that is the case differs by home country. For some countries (notably France), it was not possible at all to establish a significant effect (which provides further support for the hypothesis that not all FDI affects host country growth in the same way). Only United Kingdom FDI has a positive effect on host country growth. In addition, as far as the interaction effects are concerned, only United States FDI behaves entirely as hypothesized (i.e. with positive interaction effects with all three host country characteristic variables). It appears that the findings of previous studies on the positive interaction effect with trade openness, schooling and institutions are very much driven by how United States FDI interacts with local environments and disregards the different impact of FDI from other countries. The differences are clearest for Japanese FDI, which tends to be negatively related to growth, an effect which is increased in countries that are open to trade and characterized by high quality institutions. In contrast, United Kingdom FDI is generally good for economic growth, regardless of the characteristics of the host country characteristics. The findings for French FDI are most ambiguous – generally in line with what is expected, but not significantly different from zero. Finally, the interactions of German and Dutch FDI are the opposite of each other; where the effect of German FDI is positively influenced by the level of education and the quality of institutions in the host country, and negatively by trade openness, this is the other way around (though not always significant) for Dutch FDI.

**Table 6. Summary of the findings**

| | General effect | Interaction effects | | |
|---|---|---|---|---|
| | | With Trade Openness | With Schooling | With Institutions |
| US FDI | Moderate negative | Positive interaction | Positive interaction | Positive interaction |
| JP FDI | Most negative | Negative effect increased | n.s. | Negative effect increased |
| GE FDI | Moderate negative | Negative interaction | Positive interaction | Positive interaction |
| UK FDI | Positive | n.s. | n.s. | n.s. |
| FR FDI | n.s. | n.s. | n.s. | n.s. |
| NL FDI | n.s. | n.s. | Negative interaction | n.s. |

n.s. = not significant

## 5. Discussion and potential explanations for the results

The results reported in the previous section clearly support the two hypotheses: the impact of FDI differs by country of origin, and so does its interaction with host country characteristics. Differences in home country factor endowments and institutional backgrounds have created TNCs whose investments have considerably diverse effects for host country development. But these findings immediately raise questions about the underlying attributes that create these differences. Given the multitude of (home-country influenced) dimensions in which TNCs can differ from each other, which ones could be causing the differences we found in the empirical analysis of this article? This section explores two likely candidates: first, different sector specializations (and thus level of knowledge and technology, and potential technology gaps) across home countries; second, differences in organizational structure, in particular those related to the role of affiliates in relation to the whole organization and its external network (centralization or integration, versus decentralization or local responsiveness).

These explorations are mainly qualitative, not quantitative, firstly because of the relatively small set of home countries involved (which reduces cross-sectional variation) and secondly, because of the difficulties associated with measuring these

variables (organizational structure) and with including these variables in the analysis (sectoral composition). The three-way interaction of inward FDI, home country share, and sector distribution would not only be complex as such, but also impose quite a rigid assumption on the data (that the sectoral pattern of FDI is the same for all host countries) which might be acceptable in a first exploration of potential explanations for empirical findings, but less suitable for a more sophisticated quantitative analysis.

### 5.1 Sector specialization

Table 7 gives an overview of the sectoral distribution of investment made by the six outward investor countries in the course of the 1990s. Numbers in bold font indicate industries in which FDI from a particular country is relatively concentrated within each sector, while numbers in italics indicate industries in which a particular country has relatively little FDI. Table 7 shows that all countries have a rather distinct set of industries in which their FDI is (relatively) concentrated with the exception of United States. This is an important indication that industry specialization could potentially account for (part of) the established country of origin effects. While FDI overall (i.e. without relative concentration on particular sectors, hence most similar to United States FDI) shows positive interaction effects with the host country characteristics identified in this article, the negative or absent interaction effects for other countries could be due to the particular nature of industries. The question is whether, for certain industries, arguments can be found that explain the negative, instead of positive, interaction of FDI with trade openness, institutional quality and the level of education.

For trade openness, the general argument has been that large trade to GDP ratios imply high levels of competition in the local economy, in which case foreign TNCs would be forced to produce efficiently and local firms to learn from TNCs (Görg and Strobl, 2001; Blomström *et al.*, 1999). However, it has been suggested that because of the oligopolistic character on a global scale in many industries, the entry of one TNC is often followed

**Table 7. Average FDI flows (1989-2002) by sector as percentage of total flows**

| | United States | Japan | Germany | United Kingdom | France | Netherlands |
|---|---|---|---|---|---|---|
| **PRIMARY SECTOR** | 5.04 | 2.65 | 1.33 | **12.30** | 3.07 | *0.70* |
| Agriculture and Fishing | 0.03 | **0.39** | *-0.28* | -0.08 | 0.04 | 0.09 |
| Mining and Quarrying, ex petroleum & gas | 1.25 | n.a. | *0.30* | **1.66** | 0.95 | 0.36 |
| Petroleum and gas | 3.76 | n.a. | 1.29 | **10.73** | 2.08 | *-0.01* |
| **MANUFACTURING** | 32.26 | 35.11 | 36.70 | 34.46 | *21.82* | **40.14** |
| Food products | 5.18 | 3.24 | *0.60* | 8.95 | 3.04 | **12.76** |
| Textile and wood | 4.92 | 1.96 | 2.06 | 2.39 | *1.23* | **6.05** |
| Petroleum, chemical, rubber, plastic prod. | 9.88 | *4.72* | 10.73 | 9.76 | 6.52 | **11.53** |
| Metal and mechanical products | 3.98 | **14.33** | 6.81 | 3.32 | 2.66 | *1.56* |
| Machinery, computers, RTV, com. | 5.03 | **7.43** | 3.20 | *-0.09* | 3.29 | 5.98 |
| Vehicles and other transport equipments | 3.58 | 6.98 | **12.54** | 3.95 | 2.16 | *0.80* |
| **SERVICE SECTOR** | 61.76 | 61.17 | **67.64** | *51.27* | 55.81 | 57.07 |
| Electricity, Gas and Water | 2.66 | n.a. | **7.17** | 1.38 | 3.80 | *0.38* |
| Construction | *0.25* | 0.69 | 0.69 | 0.61 | **1.29** | 0.46 |
| Trade and Repairs | 10.29 | 9.60 | *3.88* | 8.02 | 7.45 | **11.68** |
| Hotels and Restaurants | 0.72 | n.a. | *0.04* | **2.98** | 1.02 | 0.18 |
| Transports and Com., excl. telecom. | 1.48 | n.a. | *0.16* | **1.93** | 0.71 | 1.32 |
| Telecommunications | 2.10 | n.a. | *0.99* | **15.57** | 2.54 | 3.21 |
| Financial Intermediation | 29.81 | 20.47 | **38.22** | 15.91 | *15.53* | 34.83 |
| Real Estate and Business Activities | 16.82 | 7.66 | 16.70 | 8.14 | **20.57** | *6.01* |
| Other Services | 1.33 | **17.89** | 4.71 | 7.24 | 2.89 | *0.75* |
| **UNALLOCATED** | 1.32 | 1.07 | -5.68 | 2.51 | 19.30 | 2.08 |
| **TOTAL** | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Source*: OECD.

*Note*: **Bold** figures represent the highest relative share in a particular industry (and hence a relative specialization or advantage of a particular country in that sector). *Italics* represent the lowest relative share (and hence a relative disadvantage of a particular country in that sector.

by others with important (short-term) positive consequences for competition (Newfarmer, 1985; Liang, 2005). The potential competition-enhancing effect of TNC entry could be higher in non-competitive (i.e. closed) economies. In contrast, highly competitive (trade-open) local markets may experience a reduction in total competition (and allocative efficiency) if a

TNC in a globally oligopolistic industry replaces exports to such a market by taking over a local independent firm. It may therefore be that industry specialization in highly concentrated industries can result in negative interactions with trade-openness in relation to economic growth.

Industries traditionally considered as oligopolistic include motor vehicles; petroleum and gas; chemicals, and food, beverages and tobacco. In contrast, trade, financial intermediation and computers and electronics are far less concentrated (Pryor, 2001; Davies and Lyons, 1996). Japan and Germany – the two countries that showed negative interactions between trade-openness and FDI – are most active in less-concentrated industries, such as financial intermediation, construction and utilities. Therefore, industry specialization, and particularly with regard to the level of concentration, is unlikely to offer explanations for the interaction of FDI with trade-openness.

The second host country characteristic, the level of education, has generally been used as a proxy for the technology gap: i.e. the (technological) difference between foreign and domestic firms. TNCs are generally considered to be (far) superior to local firms, and hence local firms should have reached a considerably high level of human capital accumulation before they are able to benefit from FDI. Negative interaction effects, in contrast, mean that FDI has a beneficial impact in countries with low levels of education, and negative in countries with high levels of education. From a technology gap perspective, this could be possible if FDI is concentrated in "low to medium tech" sectors; the gap is then small enough for countries with low levels of human capital to benefit, while too small (or even negative) for countries with high levels of education. This can explain the negative interaction effect of Dutch FDI with the level of education. Table 7 shows that Dutch FDI is very strong (in comparison with others) in low to medium tech manufacturing. Positive interactions would then primarily be found for medium to high tech FDI. This is the case for German (and also United States) FDI, which are strong in medium to high tech industries. Finally, the overall negative

effect (and a lack of interaction) for Japanese FDI might be explained by its (relatively) strong focus on high-tech industries, making the gap even for countries with relatively high levels of education too large to benefit from spillovers. To conclude, industry specialization, especially given the differing level of technology across industries, can thus potentially explain the differences in the interaction of FDI with host country levels of human capital.

As for the third host country characteristic, the quality of institutions, the main argument focuses on the potential of direct versus indirect spillovers. High quality institutions particularly encourage positive indirect effects of FDI, as they facilitate contracts and business transactions (linkages and technology transfer). From this perspective, "reverse" interaction effects (i.e. a positive impact on growth in low-institutional quality environments) might be due to the firms in industries that are primarily engaged in large-scale, labour intensive production, where direct (size) effects might dominate. Dutch FDI (which shows this pattern of impact) is primarily focused in such industries, with relatively large FDI in food, textiles and petroleum products. Also in the more high-tech computer and radio and television industry in which Dutch TNCs are relatively active, parts of the production process involve high-volume production, with limited local backward linkages. This is also the case for Japanese FDI. Industry specialization, in particular differences in production methods, might hence (partly) explain the differences in the interaction of FDI with the quality of institutions.

### 5.2 Organizational structure

The second factor that could potentially account for the different findings for the impact of FDI from different countries is the way in which firms organize and coordinate their overseas affiliates and international production network. TNCs face the conflicting pressures to, on the one hand, optimally exploit relative factor endowments and achieve economies of scale, and on the other hand, to adapt products and production methods to

local market conditions, government policies and business environments. Different balances between these pressures lead to organizational forms that range from globally integrated and centrally coordinated TNCs, to multi-domestic, locally embedded and decentralized TNCs (Doz and Prahalad, 1984; Bartlett and Ghoshal, 1989; Ruigrok and Van Tulder, 1995). Firms that are locally embedded are – by definition – more connected with local firms (thus increasing linkage potential), more inclined to adapt technologies and marketing practices to local environments (thus diminishing the technology gap) and conduct more R&D and manufacturing of the products in the host country (thus increasing the size effects) than integrated affiliates (Harzing and Sorge, 2003).

Pressures to organize as a multi-domestic or integrated firm are partly influenced by industry characteristics (Kobrin, 1991). Still, even within each industry, strong differences are observed in the organizational structures of TNCs from different countries (Thomas III and Waring, 1999). The following general conclusions regarding the organizational characteristics of Japanese, European and United States firms can be ascertained from the literature.

Japanese TNCs are among the most integrated firms, where there is little or no decentralization of decision making (Ruigrok and Van Tulder, 1995) and strong long-term relationships with domestic suppliers and distributors hamper the creation of linkages with local suppliers in host countries (Thomas III and Waring, 1999). As indicated above, this might explain the negative interaction of Japanese FDI with institutions. The increased negative impact of Japanese FDI in countries that are more open to trade might also be explained along these lines: the more open to trade, or competitive, a local market is, the larger are the potential costs of using the traditionally preferred, rather than the most competitive supplier.

German FDI resembles Japanese FDI most closely (Harzing *et al.*, 2002; Thomas III and Waring, 1999) in that it is very much oriented towards headquarters in Germany (affiliates as "pipelines of headquarters", Harzing *et al.*, 2002), with

reliance on imports from the home country (Yip *et al.*, 1997) instead of local linkages. This could explain the negative interaction with trade openness. But where Japanese firms are strongly (regionally) integrated across borders, German FDI tends to copy home country (medium-high tech) production methods, which would explain the positive interaction with the level of education.

United States (and United Kingdom) TNCs make much less use of an integrated and centralized strategy than Japanese TNCs (Yip *et al.*, 1997). Decision-making centers can be decentralized and the division of labour is worldwide. There is considerable intra-firm trade, but also lots of local manufacturing as well as R&D and product adaptation. United States (and United Kingdom) firms rely far less on headquarters-affiliate trade than their Japanese or German counterparts (Yip *et al.*, 1997; Harzing *et al.*, 2002). This can explain the positive interaction with the quality of institutions.

French TNCs tended to be relatively multi-domestic (a heritage of colonization), but have become more integrated over time. Its main distinguishing characteristic in comparison with United States and United Kingdom TNCs is the greater centralization of decision-making authority (Calori *et al.*, 1997), limiting the scope for local embeddedness (and hence local product or process adaptation). This might account for the generally positive but insignificant interactions of French FDI with variables representing host country characteristics.

Finally, Dutch TNCs – with the exception of the few largest (often bi-national) firms including Shell, Unilever, and Philips Electronics – can be characterized as multi-domestic and seeking a local player status (Ruigrok and Van Tulder, 1995). This implies high levels of local embeddedness and local linkages, which, given the negative interaction with schooling, are also created in countries with low levels of human capital.

As this brief overview shows, both industry specialization and differences in general organizational structure appear to account for some part of the variation in the impact of FDI form

different countries of origin on growth in host countries. However, many uncertainties remain, making these two variables more interesting topics for further research than definitive explanations.

## 6. Conclusion

This article set out to explore the different consequences of FDI from various countries of origin for economic growth in host countries. Existing studies on the effect of FDI on growth have already recognized the role of host country factors, such as the quality of institutions and openness to trade, in determining whether FDI is beneficial for development. In contrast, a distinction between different types of FDI is hardly ever made in assessing its development impact, partly due to the fact that the majority of contributions to the debate on FDI and development come from the field of Economics, where FDI is generally treated as homogeneous flows of capital.

In the field of International Business, however, it has long been established that TNCs and their investments are not homogenous at all and differ in many aspects. The country of origin of a TNC is one such dimension, and one that has been found to explain differences in many aspects of TNC strategy, organization and behavior. It was therefore hypothesized that the effect of FDI – and its interaction with host country characteristics like the level of education – should differ by its country of origin. The empirical results confirmed the hypotheses.

In particular, we found that many of the conclusions that previous studies have drawn on the effect of total FDI are, in fact, essentially applicable only for United States FDI. The effect of investments from other major investor countries on growth – notably Japan and the United Kingdom, but also France, Germany and the Netherlands – seem to differ considerably from United States FDI. These results have important implications for host countries. Taking into consideration the quality of institution, trade openness and the level of education in the host

country, the results suggest areas in which investment promotion efforts regarding FDI from developed countries could best be focused.

However, to some extent, the result of this study that the impact of FDI differs by country of origin raises more questions than answers. As was elaborated in the discussion of the findings, the present article constitutes a very plausible first step in exploring the influence of FDI characteristics, but the country of origin of FDI may not be a very *specific* indicator of the exact kind of attributes of FDI that play a role. Follow-up studies should aim to use more refined measures of FDI characteristics, shifting towards micro levels of analysis while striving to maintain a cross-country comparative perspective. This article suggests that an analysis of industry specific patterns – where technology levels seem more important explanations than competition effects – and of the organizational characteristics of TNCs could be fruitful avenues of further research for explaining in more detail *why* the impact of Japanese FDI, for example, appears so different from United States FDI.

Studies of this type have hitherto been hampered by data constraints. Much of the detailed data that are necessary for such analyses are often only available for the operations of TNCs from a single country (the United States BEA's financial and operating statistics for United States TNCs are a prime example). However, the results of this study actually provide some hope in this area. First of all, the results of this study can serve as a background against which to assess the extent to which the conclusions of future studies based on the operations of TNCs of one particular nationality can be generalized.

A second argument is primarily related to the United States TNC operating statistics. On the one hand, the results of this study that the effects of United States FDI are very similarly to those of total FDI can indeed imply that the "total" effect of FDI is in fact a "United States" effect, and that an analysis of the impact of TNCs for individual investor countries is therefore more appropriate. However, it could also imply that United

States FDI can serve as a good *proxy* for total FDI. Along this line of argument, when cross-national variation is partly determined by sector specialization, it could also be tested using within-United States sector peculiarities. In this way, further exploration of the available United States statistics could shed further light on the impact of FDI. In terms of future research strategies, probably both approaches have their merits and could be pursued concurrently. Such research becomes all the more relevant given the large and increasing role of TNCs in developing countries.■

## References


Agosin, M. and R. Mayer (2000). "Foreign investment in developing countries: does it crowd in domestic investment?", UNCTAD Discussion Paper no 146.

Aitken, B. and A. Harrison (1999). "Do domestic firms benefit from direct foreign investment? Evidence from Venezuela", *American Economic Review*, 89(x): 605-618.

Aitken, B., A. Harrison and R. Lipsey (1996). "Wages and foreign ownership: a comparative study of Mexico, Venezuela and the United States", *Journal of International Economics*, 40(3/4): 345-371.

Alfaro, L., A. Chanda, S. Kalemli-Ozcan and S. Sayek (2004). "FDI and economic growth: the role of local financial markets", *Journal of International Economics*, 64(1):113-134.

Alfaro, L and A. Rodriguez-Clare (2004). "Multinationals and linkages, an empirical investigation", *Economia*, spring.

Anderson, G. (2001). "Spillovers from FDI and economic reform", NEUDC conference, Boston, September 28-30.

Bae, J., S. Chen and J. Lawler (1998). "Variations in human resource management in Asian countries: MNC home country and host country effects", *International Journal of Human Resource Management*, 9(4): 653-670.

Balasubramanyam, V., M. Salisu and D. Sapsford (1996). "Foreign direct invesmtent and growth in EP and IS countries", *Economic Journal*, 106(434): 92-105.

Baldwin, Richard, H. Braconier and R. Forslid (1999). "Multinationals, endogenous growth and technological spillovers: theory and evidence", *CEPR Discussion Paper*, 2155.

Bartlett, C. and S. Ghoshal (1989). *Managing Across Borders*, Cambridge, MA: Harvard University Press.

Blomström, M., S. Globerman and A. Kokko (1999). "The determinants of host country spillovers from FDI: review and synthesis of the literature", *SSE/EFI Economics and Finance Working Paper*, 239.

Borensztein, E., J. De Gregorio and J.-W Lee (1998). "How does FDI affect economic growth", *Journal of International Economics*, 45(1): 115-135.

Bosworth, B. and Collins, S. (1999). "Capital flows to developing economies: implications for saving and investment", *Brookings Papers on Economic Activity*, 1: 143-169.

Calori, R., M. Lubatkin, P. Very, and J. Veiga (1997). "Modelling the origins of nationally-bound administrative heritages: a historical Institutional analysis of French and British firms", *Organization Science*, 8(6): 681-696.

Carkovic, M. and R. Levine (2000). "Does FDI accelerate economic growth?", *University of Minnesota Working Paper*.

Caves, R. (1996). *Multinational Enterprise and Economic Analysis*. Cambridge University Press.

Davies, S. and B. Lyons (1996). *Industrial organization in the European union: structure, strategy and competitive mechanism*, Oxford: Clarendon Press.

De Mello, L.R. (1999). "FDI-led growth: evidence from time series and panel data", *Oxford Economic Papers*, 51: 133-151.

De Mello, L.R. and K. Fukasaku (2000). "Trade and FDI in Latin America and Southeast Asia: temporal causality analysis", *Journal of International Development*, 7: 903-924.

Dewberry, C. (2004). *Statistical Methods for Organizational Research*, London: Routledge.

DiMaggio, P. and W.W. Powell (1983). "The iron cage revisited: institutional isomorphism and collective rationality in organization fields", *American Sociological Review*, 48: 147-160.

Djankov, S. and B. Hoekman (1999). "Foreign investment and productivity growth in Czech enterprises", *World Bank Economic Review*, 14: 49-64.

Doz, Y. and C. Prahalad (1984). "Patterns of strategic control within multinational corporations", *Journal of International Business Studies*, 15(Special Issue on Strategic Planning): 55-72.

Dunning, J. (1993). *The Globalisation of Business*, London: Routledge.

Egelhoff, W., L. Gorman and S. McCormick (2000). "How FDI characteristics influence subsidiary trade patterns: the case of Ireland", *Management International Review*, 40(3): 203-230.

Fortanier, F. (2004). "The impact of foreign direct investment on development: bridging international business with development economics & industrial economics", Paper presented at the AIB 2004 Meeting, Stockholm.

Görg, H. and E. Strobl (2001). "Multinational companies and productivity spillovers: a meta-analysis", *Economic Journal*, 111(475): F723-F739.

Haddad, M. and A. Harrison (1993). "Are there positive spillovers from direct foreign investment? Evidence form panel data for Morocco", *Journal of Development Economics*, 42: 51-74.

Harrison, A. and M. McMillan (2003). "Does direct foreign investment affect domestic credit constraints?", *Journal of international economics*, 61(1): 73-100.

Harzing, A-W. and A. Sorge (2003). "The relative impact of country of origin and universal contingencies on internationalization strategies and corporate control in multinational enterprises: worldwide and European perspectives", *Organization Studies*, 24(2): 187-214.

Harzing, A.-W., A. Sorge and J. Paauwe (2002). "HQ-subsidiary relationships in multinational companies: a British-German comparison", in M. Geppert, D. Matten and K. Williams, eds. *Challenges for European Management in a Global Context – Experiences from Britain and Germany,* Basingstoke: Palgrave.

Hirschey, M. (1982). "Market power and foreign involvement by US multinationals", *Review of Economics and Statistics*, 64(2): 343-346.

Javorcik, B. (2004). "Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages", *American Economic Review*, 94(3): 605-627.

Jones, G. (2005). *Multinationals and Global Capitalism: From the Nineteenth to the Twenty-First Century*, Oxford: Oxford University Press.

Kawai, H. (1994). "International comparative analysis of economic growth: trade liberalisation and productivity", *The Developing Economies*, 17(4): 373-397.

Kearns, A. and F. Ruane (2001). "The tangible contribution of R&D spending foreign owned plants to a host region: a plant level study of the Irish manufacturing sector (1980-1996)", *Research Policy*, 30: 227-244.

Kobrin, S. (1991). "An empirical analysis of the determinants of global integration", *Strategic Management Journal*, 12: 17-31.

Kokko, A. (1996). "Productivity spillovers from competition between local firms and foreign affiliates", *Journal of International Development*, 8(4): 517-30.

Kokko, A. (1994). "Technology, market characteristics and spillovers", *Journal of Development Economics*, 43: 279-293.

Kokko, A., R. Tansini and M. Zejan (1996). "Local technological capability and spillovers from FDI in the Uruguayan Manufacturing sector", *Journal of Development Studies*, 34: 602-611.

Lall, S. (1995). "Employment and foreign investment: policy options for developing countries", *International Labour Review*, 134(4-5): 521-540.

Lall, S. (2000). "FDI and development: policy and research issues in the emerging context", *Queen Elizabeth House WP*, 43, University of Oxford.

Liang, G. (2004). *New Competition: Foreign Direct Investment and Industrial Development in China*, Rotterdam: ERIM.

Liu, X, D. Parker, K. Vaidya and Y. Wei (2001). "The impact of foreign direct investment on labour productivity in the Chinese electronics industry", *International Business Review*, 10: 421-439.

Maioli, S., H. Görg and S. Girma (2005). "Trade, FDI and plant-level price-cost margins in the UK". Paper presented at the ONS Analysis of Enterprise Microdata Conference, UK National Statistics.

Mankiw, N., D. Romer and D. Weil (1992). "A Contribution to the empirics of economic growth", *Quarterly Journal of Economics*, 107(2): 407-437.

Markusen, J. (1995). "The boundaries of multinational enterprises and the theory of international trade", *Journal of Economic Perspectives*, 9: 169-189.

McIntyre, J., R. Narula, and L. Trevino (1996). "The role of export processing zones for host countries and multinationals: a mutually beneficial relationship?", *The International Trade Journal*, 10(4): 435-466.

Mencinger, J. (2003). "Does foreign direct investment always enhance economic growth?", *Kyklos*, 56(4): 491-508.

Meyer, K. (2004). "Perspectives on multinational enterprises in emerging economies", *Journal of International Business Studies*, 35(4): 259-276.

Moen, E. and K. Lilja (2001). "Constructing global corporations: contrasting national legacies in the Nordic forest industry", in G. Morgan, P.H. Kristensen and R. Whitley, eds., *The Multinational Firm, Organizing Across Institutional and National Divides*, Oxford: Oxford University Press.

Myers, R. (1990). *Classical and modern regression with applications*, Boston: Duxbury.

Nair-Reichert, U. and D. Weinhold (2001). "Causality tests for cross country panels: a new look at FDI and economic growth in developing countries", *Oxford bulletin of Economics and Statistics*, 63(2): 153-171.

Newfarmer, R. (1985). "International industrial organisation and development: a survey", in R. Newfarmer, ed., *Profits, Progress and Poverty: Case Studies of International Industries in Latin America*, Notre Dame, IN: University of Notre Dame Press.

North, D. (1991). *Institutions, Institutional Change and Economic Development*, Cambridge: Cambridge University Press.

Nunnenkamp, P. and J. Spatz (2004). "FDI and economic growth in developing economies: how relevant are host country and industry characteristics?", *Transnational Corporations*, 13(3): 53-86.

OECD (1998). *Open Markets Matter: The benefits of trade and investment liberalisation*, Paris: OECD.

Pauly, L. and S. Reich (1997). "National structures and multinational corporate behaviour: enduring differences in the age of globalization", *International Organization*, 51(1): 1-30.

Pryor, F. (2001). "New trends in US industrial concentration", *Review of Industrial Organization*, 18(3): 301-326.

Ramírez, M. (2000). "Foreign direct investment in Mexico: a cointegration analysis", *Journal of Development Studies*, 37(1): 138-162.

Rodrik, D. (1999). *Making Openness Work: the New Global Economy and the Developing Countries*, Washington, D.C.: ODC.

Romer, P. (1993). "Idea gaps and object gaps in economic development", *Journal of Monetary Economics*, 32: 543-573.

Ruigrok, W. and R. Van Tulder (1995). *The logic of International Restructuring*, London: Routledge.

Schroath, F., M. Hu and H. Chen (1993). "Country of origin effects of foreign investments in the People's Republic of China", *Journal of International Business Studies*, 24(2): 277-290.

Sjöholm, F. (1997a). "Technology gap, competition and spillovers from direct foreign investment: evidence from establishment data", *Working Paper Series in Economics and Finance*, 211, Stockholm School of Economics.

Sjöholm, F. (1997b). "Productivity growth in Indonesia: the role of regional characteristics and direct foreign investment", *Economic Development and Cultural Changes*, 47: 559-584.

Stevens, J.R. (2002). *Applied multivariate statistics for the social sciences*, Hillsdale, NJ: Erlbaum

Thomas III, L. and G. Waring (1999). "Competing capitalisms: capital investment in American, German, and Japanese firms", *Strategic Management Journal*, 20(8): 729-748.

Wan, W. and R. Hoskisson (2003). "Home country environments, corporate diversification strategies, and firm performance", *Academy of Management Journal*, 46(1): 27-45.

Whitley, R. (1998). "Internationalization and varieties of capitalism: the limited effects of cross-national coordination of economic activities on the nature of business systems", *Review of International Political Economy*, 5(3): 445-481.

Xu, B. (2000). "Multinational enterprises, technology diffusion, and host country productivity growth", *Journal of Development Economics*, 62: 477-493.

Yip, G., J. Johansson and J. Roos (1997). "Effects of nationality on global strategy", *Management International Review*, 37(4): 365-385.

# Attracting FDI to transition countries: the use of incentives and promotion agencies

Fergus Cass*

Transition countries have made extensive use of two policy measures that aim to encourage foreign direct investment, namely fiscal and financial incentives and Investment Promotion Agencies (IPAs). Drawing on data in respect of 27 countries and using specially constructed scales, activity levels over time for these two measures are evaluated; countries are compared; trends are identified; and the factors behind policies are discussed. The data suggest that use of incentives increased from the mid-1990s but that recent falls in tax rates and, in some countries, accession to the EU are reversing this trend. Incentives do not appear to have been used as a way of compensating for disadvantages in the business environment during the earlier stages of transition; their later importance in some countries may have been influenced by active participation in international competition for export-oriented investment. The use of IPAs seems linked to progress in transition.

**JEL Classification**: F21, H25, H59, P27
**Key words:** Foreign Direct Investment (FDI), transition economies, incentives, investment promotion

## 1. Introduction

Throughout the world, governments have been seeking to attract foreign direct investment (FDI) through a variety of measures, including the use of financial and tax incentives and the establishment of Investment Promotion Agencies (IPAs).

* School of Slavonic and Eastern European Studies (SSEES), University College London, Gower Street, London WC1E 6BT, United Kingdom (email:f.cass@ucl.ac.uk).

The author would like to thank Professor Slavo Radosevic of SSEES and the anonymous referees for their comments and suggestions.

Both of these measures are extensively employed: while precise data on the supply of investment incentives are limited (Oman, 2000, pp. 7 and 114), it is clear that most countries offer them (UNCTAD, 2000, p. 11), and "nearly every country" has an IPA (Morisset and Andrews-Johnson, 2004, p. 8). This article examines the use of these measures by transition countries, with the aim of answering some basic questions: to what extent have countries used them relative to each other and over time; what types of incentives have countries offered; and can policies in relation to incentives and IPAs be explained in terms of the stages that countries have reached in the transition process or by other factors?

On first inspection, this may seem well-covered territory, at least so far as investment incentives are concerned. Data on the tax rates and incentives packages of individual countries can be readily obtained from a variety of sources, including international accounting firms. Scholars have examined the evolution of tax systems during transition, seeking to identify common themes (Martinez-Vazquez and McNab, 2000; Mitra and Stern, 2002; Gandullia, 2004). There is a range of studies that present and compare tax policies related to investment, drawing on data from various transition countries (Hunya, 2000; Mah and Tamulatis, 2000; Antaloczy and Sass, 2001; Sedmihradsky and Klazar, 2002; OECD, 2003; Meyer and Jensen, 2004). There is also a growing body of work that examines the effectiveness of tax and incentive policies in attracting FDI (Sedmihradsky and Klazar, 2002; Beyer, 2002; Mallya *et al.*, 2004). All of these studies have been valuable sources for the present study, which, however, has different goals. It attempts to measure the intensity of incentives systematically, in order to enable comparisons over time and across countries; it does this by applying a specially constructed scale to the incentive packages offered by 27 transition countries. This procedure undoubtedly involves simplification and a degree of subjectivity, but it brings important advantages in terms of insight into overall trends and the ability to assess the relative position of individual countries.

Data on the scale and scope of investment promotion[1] activities in transition countries are limited. Comparative assessments of IPA practice in transition countries are virtually non-existent. An UNCTAD study (UNCTAD, 2001) of IPAs worldwide included aggregated data on 15 agencies in Central and Eastern Europe; individual country data were not reported. While a number of studies deal with the effectiveness of IPAs (such as Wells and Wint, 2000; Wint and Williams, 2002; Morisset, 2003; Morisset and Andrews-Johnson, 2004; Charlton and Davis, 2004), few use data from transition countries and all present only aggregate findings. In the present study, the IPA activities of 27 transition countries are assessed individually and an attempt is made to measure the intensity of these activities so that, as with incentives, comparisons can be made and trends identified.

The information assembled on incentives and IPAs provides a basis for consideration of the drivers of country policies in these fields. Have incentives been used to overcome investor reluctance to invest in newly liberalized economies and were they therefore most likely to occur in the early stages of transition? Have they been a means of offsetting high tax rates, and are they likely to be reduced if overall tax rates fall? Have they been driven by competition for export-oriented, efficiency-seeking investment? Have IPAs grown out of a need to attract initially reluctant investors or have they become more prevalent and more active as countries make progress towards a market economy?

The article begins by considering the rationale for interventions by transition countries in these two areas and

[1] While some writers apply the term "investment promotion" to investment incentives (e.g. Hanson, 2001) and others situate incentives among the tools of investment promotion (e.g. Head *et al.* 1999, p. 204, Charlton and Davis, 2004, p. 3), the majority distinguish incentives from promotion, and use "investment promotion" to describe the activities of IPAs (e.g. Wells and Wint, 2000; Loewendahl, 2001; Morisset and Andrews-Johnson, 2004); this article follows the latter usage.

formulating hypotheses as to the factors that shape their evolution. The data collection exercise is described and trends in incentives and promotional activities are analysed. The hypotheses about the factors shaping incentive and promotion policy are assessed. Finally, conclusions are drawn.

## 2. Rationale for incentives during transition

FDI incentives have been defined as "any measurable advantages accorded to specific enterprises or categories of enterprises by (or at the direction of) a Government, in order to encourage them to behave in a certain manner" and include "measures…designed either to increase the rate of return of a particular FDI undertaking, or to reduce (or redistribute) its costs or risks". They are seen as distinct from "broader non-discriminatory policies" such as "the general…fiscal regime for business operations" (UNCTAD, 2000, p. 11). This article takes a less precise view of the boundaries between FDI incentives and the rest of the tax system. Its scope includes investment incentives that are available to local as well as foreign investors; in practice, such incentives are often used as a tool to attract FDI and are principally taken up by foreign investors. The borderline between general fiscal rules and specific incentives is not always clear and there can be an interaction between them: for example, between tax holidays and rules about the carrying forward of losses. Therefore, while accepting that a key characteristic of incentives is that they are selective in their application (OECD, 2003, p. 67), it is assumed that they may be broadly targeted and that they should be considered "alongside basic features of the tax system" (OECD, 2003, p. 39).

The term "FDI incentives" covers fiscal and financial benefits. Fiscal incentives include full or partial holidays from tax; reductions in the standard rate of tax; tax reductions conditional on reinvestment of profits; investment allowances and investment tax credits; accelerated depreciation of assets; preferential treatment of profit on exports; tax deductions based on specific types of expenditure (e.g. R&D); and exemptions from import duties on capital goods or other inputs (list adapted

from UNCTAD, 2000, p. 20). Financial incentives include: cash grants related to the value of assets invested or numbers employed or training costs; provision of subsidized facilities such as factories or sites; provision of infrastructure related to new facilities, such as roads and links to utilities; and direct subsidies. Entitlement to incentives can be based on criteria such as: scale of investment; numbers employed; export orientation; or sector/industry. "Export Processing Zones" (EPZs), "Special Economic Zones" (SEZs) or "Free Trade Zones" (FTZs) generally combine some of the above incentives – for example, exemptions from import duties, tax holidays and low cost facilities – with a streamlined administrative system that is distinct from that of the rest of the country.

In the context of transition, where ownership of productive assets is undergoing substantial change and private capital is scarce, the rationale for encouraging foreign investment has tended to focus on the contribution of FDI to the transition process. The possible contributions of FDI to transition include "solv(ing) the restructuring problems (of state enterprises) by passing them on to foreign firms" (Lavigne, 1999, p. 171); "restructuring and improving the technological structure of exports" (Smith, 2000, p. 182); compensating for the inadequacy of domestic financial markets (Gros and Steinherr, 1995, p. 289); and contributing to the upgrading of skills, knowledge and managerial expertise (World Bank, 2002, p. 67). The interaction between FDI and the dynamics of the transition process suggests that incentives might be particularly necessary in the early stages. Even with rapid liberalization and macroeconomic stabilization, time would be needed to create a legal, institutional and administrative framework that would be attractive to international business. In the meantime, investors could face levels of cost, uncertainty and risk that were outside their normal decision criteria, or higher than in their home countries or in alternative investment locations. They might also take longer to bring their investments to full production. This imbalance between urgently needed economic benefits on the one hand and returns to investors on the other might seem to fit the classic "market failure" rationale for incentives. A number

of broader arguments in support of incentives could also be seen as especially relevant to transition countries: firstly, transformational developments may need to be insulated from the hindrances of the wider environment – for example, EPZs may overcome administrative deficiencies by creating an enclave with simplified and relatively efficient procedures (Levy, 1990, p. 27); secondly, incentives can have a "signalling effect", communicating a government's commitment to stimulate FDI (Morisset and Pirnia, 2000, p. 13); and finally, assuming a tendency for some export-oriented investment to "cluster", incentives can attract a "first mover investor who is …followed by competitors or suppliers" (UNCTAD, 2002, p. 204). All of these considerations were most clearly visible in the earlier stages of the transition process. It might be expected that their relevance would diminish as the transition process advanced and the business environment matured, and that incentives would therefore become less necessary over time. This perspective of the role of incentives is referred to here as the "transitional hypothesis".

The development of the tax system provides another possible rationale for the role of FDI incentives in a transition context. When transition began, taxes on companies represented a higher share of government revenue and of GDP than in the high income OECD countries (Mitra and Stern, 2002, pp. 9-10), linked to a tradition of heavy taxation of enterprises. In the early years of transition, countries faced erosion of tax revenues and needed to create institutions for raising revenue in a market economy. Incentives could arguably insulate potential investors both from the initial high tax rates and from the uncertainties associated with tax reform. Thus a "tax hypothesis" would link the level of incentives to the state of tax reform and to the corporate tax rate; in part, it is a subset of the "transitional hypothesis".

An alternative interpretation derives from the investment-development path, outlined by Dunning and Narula, which suggests that as an economy moves from dependence on primary industries, through the expansion of manufacturing, to the rise of the services sector, the level and composition of FDI also

evolves from resource-seeking in the early stages to a combination of efficiency-seeking, market-seeking and "asset-augmenting" in the later stages (Narula and Dunning, 1998, p. 34). Radosevic *et al.* adapted this to relate changes in the types of FDI to the specific circumstances of transition; in their model, FDI moves from predominantly market-seeking to predominantly efficiency-seeking (i.e. export-oriented) (Radosevic *et al.*, 2003, p. 65). Given that export-oriented FDI is more likely than other forms of FDI to be influenced by incentive levels (Morisset and Pirnia, 2000, p. 9), there is the possibility that, far from diminishing as transition progresses, incentives will be driven up by competitive pressure when the emphasis shifts to efficiency-seeking investment. This will be referred to as the "competitive hypothesis".

## 3. Rationale for Investment Promotion Agencies during transition

In their pioneering work, first published in 1990, Wells and Wint defined investment promotion in terms of "promotional techniques", which comprise "providing information to potential investors, creating an attractive image of the country as place to invest, and providing services to prospective investors" (Wells and Wint, 2000, p. 1). Typically, these are implemented by a single agency – an IPA – but some promotional techniques may be carried on in other ways (e.g. by economics ministries or by embassies) and some IPAs may have other functions (e.g. export promotion). In this article, the term "promotional activities" covers the three key areas defined by Wells and Wint - these will also be referred to as the "classical IPA tasks". Only the activities of IPAs are considered. A fourth task undertaken by IPAs will also be discussed, namely "policy advocacy" – a role identified by Wells and Wint in the light of experience subsequent to their 1990 paper (Wells and Wint, 2000, p. vii). These tasks are explained in table 1, in terms adapted from Morisset and Andrews-Johnson (2004, p. 7).

The economic rationale for promotional activities has much in common with that for incentives. Market failure may

**Table 1. Functions of investment promotion agencies**

| | *Function* | *Description* | *Example of means* |
|---|---|---|---|
| "Classical" IPA tasks | Investor facilitation and investor services | Assisting an investor to analyse his decision, establish a business and ensure it continues to operate. | *Provision of information, assistance in getting approvals, assistance with sites, utilities etc.* |
| | Image building | Creating the perception of a country as an attractive site. | *Advertising and public relations.* |
| | Investment generation | Targeting specific sectors and companies in order to create investment leads. | *Identification of targets, direct contact, forums, seminars etc.* |
| Policy-related activities | Policy advocacy | Supporting initiatives to improve the investment climate and identifying private sector views. | *Surveys, participation in task forces, policy proposals, lobbying.* |

*Source*: author's adaptation from Morisset and Andrews-Johnson (2004, p7).

arise if potential investors are unaware of a location's advantages or have an incorrect impression of its business environment (Morisset and Andrews-Johnson, 2004, p. 10). Loewendahl (2001, p. 2) quotes an IFC assessment that "most companies consider only a small range of potential investment locations; many other countries are not even on their map" (IFC, 1997, p. 49). This is consistent with the literature on strategic decision-making: typically, decision makers face "cognitive limits", "satisfice instead of optimise" and "rarely engage in comprehensive search" (Eisenhardt and Zbaracki, 1992, p. 22). Even if aware of a potential location, companies may fail to assess it because of unfamiliarity or search costs.

As noted earlier, incentives might be justified in the early stages of transition on the grounds that they insulate from or offset disadvantages in the environment, signal that the country

is open for business and attract first movers in the formation of export-oriented clusters. Some linked or analogous roles for investment promotion can be envisaged, for example, in assisting potential investors navigate through regulatory processes that are still undergoing reform, creating international awareness that conditions are changing, and alerting investors to the emerging opportunities, including the existence of incentives. Thus, a "transitional hypothesis" might also be used to explain the evolution of IPA activities.

However, the ability of promotional activities to generate investment is likely to be constrained by fundamental conditions related to markets, resources, costs and the general business environment. Promotional activities will be wasted if these conditions are not satisfactory. An investor may be persuaded to consider a location, but if he finds that his needs will not be met or that the financial returns will be inadequate or uncertain, he will not proceed with the project. An alternative hypothesis, labelled here as the "marketing hypothesis" would relate promotional activity to the quality and attractiveness of the investment location being promoted. An IPA might evolve in stages, initially confined to facilitation services and a modest level of image building, and later, when the business environment strengthens, developing into more advanced levels of service provision and the sophisticated targeting of potential investors. Other advantages such as low tax rates, incentives, or proximity to markets or sources of investment might provide additional platforms for promotion.

Policy advocacy – activity related to improving the investment climate - seems conceptually distinct from the "classical" IPA tasks of attracting investment through information and promotional techniques and it is not immediately obvious that it needs to be undertaken by IPAs. The role may emerge because an agency's interactions with investors alert it to their concerns. But it may also reflect the logic of the model of investment promotion, set out by Wells and Wint, in which an IPA's activities are viewed as analogous to industrial marketing, with potential investors as "customers" and the country as a "product" to be marketed (Wells and Wint,

2000, p. 28). This conceptualization of investment promotion as a business process seems to have been formulated primarily as a way of illuminating an IPA's promotional techniques, which are seen as very similar to those of industrial marketing. But, just as marketing is linked to the characteristics of the product being marketed and to the strategy that shapes the overall business approach, by analogy investment promotion can be conceived as closely connected with processes such as the determination of sectoral priorities, the enhancement of the country's capability to attract the desired investment, the choice of incentives to be offered, and the use of those incentives to influence specific decisions. Arguably, these are not all capable of being handled by a single agency, but it is significant that through policy advocacy, many agencies are already seeking to influence the attributes of the "product" (i.e. the business environment) and that some successful agencies go beyond the three classical IPA tasks. Notable international examples are: Singapore's Economic Development Board, which formulates policy (UNCTAD, 2002, p. 222), develops industrial estates (ibid.) and initiates industry clusters (te Velde, 2001, p. 46); and Ireland's IDA, which has considerable discretion in operating a system of incentives (Ruane, 2003, p. 6) and uses its relationships with investors "to promote the development of clusters and agglomerations" (Ruane, 2003, p. 7). The extent to which transition country IPAs have developed along this "policy axis" - from policy advocacy towards development management - will be briefly assessed later.

## 4. Survey of country practices

This section describes the information collected on country incentives and IPAs and indicates how values have been assigned to them. The first step was to establish the position at the time the data were collected in mid-2005. The incentives offered and the promotional activities undertaken were translated into values on appropriate scales. These "point in time" values were used in combination with other information to estimate values in the period 1994-2003.

### 4.1 Previous studies and surveys

Studies have described incentives in transition countries in varying degrees of detail, some in the context of a specific focus on tax or incentives, most within wider frameworks such as FDI policies, competitiveness or compliance with WTO requirements. An OECD study (OECD, 2003) describes the incentives available in eight countries in South-East Europe, as part of a report on tax policies relevant to investment in the region, and reviews ten other transition countries for comparative purposes; this has been a valuable source of information on key developments. Other studies include those by Hunya (2000), Mah and Tamulaitis (2000), Antalóczy and Sass (2001), and Meyer and Jensen (2004). Sedmihradsky and Klazar (2002) outline the evolution of tax incentives in the Visegrad countries, examine Czech practice in detail and review evidence on the effectiveness of incentives. Studies of the reform of tax systems in transition countries, such as those by Mitra and Stern (2002), Gandullia (2004), Martinez-Vazquez and McNab (2000) and Appel (2003), deal, *inter alia*, with incentives, providing comparative information and identifying common themes. There is therefore an extensive literature that presents incentive policies in some transition countries, albeit at different points in time, with different levels of country coverage and having different purposes. However, the data are not comparable and, though detailed, are not readily usable for analytical work.

Comparative assessments of IPA practice in transition countries have not been identified. An UNCTAD study (UNCTAD, 2001) of 101 IPAs segmented its findings by region and presented aggregated data on 15 agencies in Central and Eastern Europe, covering activities, resources, priorities, issues and organization. Morisset and Andrews-Johnson included nine transition countries in their survey of the effectiveness of IPAs (Morisset and Andrews-Johnson, 2004) but reported only aggregate findings. In neither case were individual country data reported.

### 4.2 Incentives: data, sources and evaluation method

For each transition country, the corporate tax rate as of May/June 2005 was identified and the principal incentives offered were noted. The main sources were tax surveys produced by two accounting firms, Ernst and Young (Ernst and Young, 2005) and Price Waterhouse Coopers (PriceWaterhouseCoopers, 2005a) and the websites of the country IPAs. Other sources included other accounting firms or, in the case of some CIS countries, websites of the United States Department of Commerce. The data headings are described in table 2 and the results are summarized in appendix 1.

**Table 2. Data on tax and incentives**

| *Heading* | *Background* |
|---|---|
| Company taxation rate % | The top rate of tax applied to the taxable profit of companies. |
| Tax holidays | Full or partial reduction of profit tax for a defined period. |
| Tax credits | Reductions in taxable profit, by: amounts related to total investment; accelerated depreciation of fixed assets; employment costs; research and development costs; or other factors. |
| Grants | Cash grants, based, for example, on number of new jobs created or to reimburse training costs. |
| Subsidized locations | Subsidized access to premises or sites, e.g. in industrial parks; assistance with cost of infrastructure. |
| Free trade zones | Areas in which there is a special regime for import duties, sales taxes and profit taxes and which may also be exempt from other rules and requirements; generally related to production for export. |

*Source*: author's analysis.

Certain other incentives were excluded, notably exemptions from import duties and/or VAT on capital goods and other inputs. The rationale for exclusion is the difficulty of evaluating their significance, in a context where import duties have been falling and where VAT on inputs is often recoverable through the operation of the tax system. In some countries, transitional arrangements for existing investors have been instituted when incentives have changed. The data in appendix 1 are based on incentives applicable to new investors.

The incentives offered by each country were assessed and a score was attributed to them. Determining the value and attractiveness of incentives to potential investors is difficult. In principle, they should be considered in conjunction with the tax system as a whole, leading to computation of an "effective tax rate" for FDI projects in each country. In their study of the impact of incentives on location decisions in the EU, Hubert and Pain calculated this as "the ratio of cash receipts from taxes and profits of corporations to the total operating surplus", on the assumption that "this rate, which reflects the past profitability of all firms in the host country, corresponds to the one that might be faced by the representative foreign firm in that location in the future" (Hubert and Pain, 2002, p. 345). However, this assumption would probably not be valid in transition countries, where incentives and tax systems have been changing rapidly and the past may not be a good guide to the future. In principle, a more relevant measure should result from computation of a forward looking rate, based on expected cash flows before and after tax from a hypothetical investment project. The methodology has been extensively used by the EU in computing effective tax rates for member countries (e.g. European Commission, 2001a). An EU Working Paper by Finkenzeller and Spengel examines effective tax rates in the countries that joined the Community in 2004, and incorporates the effects of the tax incentive considered to be most typical of the each country concerned (Finkenzeller and Spengel, 2004, p. 40). However, the results have not been used here, due to the limited number of transition countries covered, the somewhat arbitrary approach to the incorporation of incentives, and the difficulty attached to including significant incentives such as FTZs.

The home country's tax environment may also affect the benefit derived from incentives, although this is a contested area. Morisset and Pirnia quote research suggesting that "tax incentives are more effective when they apply to firms from countries whose governments do not tax their foreign activities" (Morisset and Pirnia, 2000, p. 17), the logic being that if foreign income is taxed in the home country, the tax saved abroad could be recaptured by more tax paid at home. However, it has been argued that "with intelligent tax planning it ought not to be too difficult to avoid having the benefit of host country incentives neutralised by the home country" (OECD, 2003, p. 87) and this is the assumption made here.

In the absence of viable alternatives covering all of the countries under review, a simplified and judgement-based approach was adopted for this study. The level of incentives was assessed using a four point scale analogous to that used by the EBRD in its transition indicators. A score was assigned to the attractiveness of the total incentives offered by each country in May/June 2005 on a scale of 1 to 4+; the "+" and "-" ratings were translated into numbers by adding and subtracting 0.33 from the assigned value.[2] Attractiveness in this context is judgement-based, combining the value of incentives and the range of potential investors likely to have access to them. The assessment involved a process of inter-country comparison to establish relative positions, using the following principles:

- Tax rates were ignored; a tax holiday in a country with a 30% profit tax rate was deemed as attractive as one in a country with a 20% tax rate.
- Tax holidays were regarded as more valuable than credits related to the amount of the investment, unless the holiday is short and the credit is substantial.
- A tax holiday with no restriction was deemed more valuable than one subject to an upper limit such as the amount of the investment.
- Holidays or credits conditional on reinvestment were regarded as less valuable than those without a requirement to reinvest.

[2] This procedure follows that of the EBRD in the transition indicators

- Profit tax benefits arising in a free trade zone (FTZ) were seen as less attractive than those applying "on-shore" if it appeared that not all categories of business were eligible to operate in the FTZs (e.g. investments targeted at the local market) or that the number of FTZs was limited.
- Tax concessions applicable to individual industries were treated as less attractive than those applying to the whole sector.
- Concessions conditional on location (e.g. in areas of high unemployment) were seen as less attractive than those with no conditions.

Appendix 1 summarizes the assessments and shows the scores.

From a range of sources, including the studies referred to earlier, key stages in the evolution of each country's tax and incentive system were identified. This information was used to adjust the 2005 scores up or down in the light of movements in the level of incentives offered, giving estimated values for each year between 1994 and 2003; averages for the period were also computed and are shown in appendix 1. Tax rates for years prior to 2005 were obtained from the Heritage Foundation, which drew on data used for its Indices of Economic Freedom (Heritage Foundation, 2005).

### 4.3 IPAs: data, sources and evaluation method

Information on IPAs has been gathered mainly from the websites of each agency. In a small number of cases, sources such as government or other websites indicated the existence of an agency but no agency website could be located at the time of the study and the agency was therefore treated as inactive.

In the relatively limited number of studies of this area, promotional activities have been measured in a variety of ways. In evaluating the impact of IPAs, Wells and Wint (2000) identified whether or not a country was actively promoting itself in the United States. Morisset (2003) and Morisset and Andrews-Johnson (2004) measured the resources involved, in terms of budgets and manpower. Wint and Williams (2002) utilized the

assessment of experts on the effectiveness of IPAs. Charlton and Davis (2004) investigated the relationship between FDI flows to specific industries and the industry targeting strategies of IPAs and therefore did not need to measure total IPA activity. The resource-based approach has the merit of objectivity, but is constrained by availability of information: Morisset made a special survey of selected agencies and gathered information on one year only. The assessment method may risk circularity as the judgment of "effectiveness" could be influenced by the country's success in attracting FDI.

In this study, an assessment-based approach is used to derive a measure of the extent and intensity of IPA activities, concentrating on the three "classical" IPA tasks, i.e. Investor Services, Image Building and Investor Generation; Policy Advocacy is not considered. These are further simplified into two categories: (1) Investor Services and (2) a category combining Image Building and Investor Generation, and therefore covering all activities aimed at attracting investors. Based mainly on its website, each IPA is assessed on (a) whether or not it engages in each of these two categories of activity, assigning the value of 1 if it performs a task and a zero if it does not, and (b) the strength of its activities in each of them, using a "+" or "-" to make distinctions within each category, with "+" or "-" having a value of 0.33. The combined scale ranges from 1, where no activities have been identified, to 3.67, where an agency is judged to perform relatively strongly in both categories. Investor Services are generally listed on IPA websites. Assessment of other activities relies on the impression given by the website (e.g. whether it appears to provide well supported arguments for investing in the country); the existence of activities such as seminars which focus on potential investors; and evidence of a strategic sense expressed, for example, in terms of clear descriptions of priority sectors/industries.

The year of establishment of each agency was identified. In some cases, there were precursor agencies. The score from the process described above was assigned to each year of operation by the agency or its precursor, assuming it took the agency three years from inception to build to its current score.

Averages for the period 1994-2003 were then computed. The results are summarized in appendix 2.

### 4.4 Limitations of the evaluation methodology

The methodology that generated the values assigned to incentive levels and promotional levels is, as noted, judgement-based. This undoubtedly limits the reliability of the data and the extent to which firm conclusions can be drawn from them. Previous paragraphs have indicated the limitations of existing data, notably the absence of consistent information covering all of the countries under review. The computation of effective tax rates may well be the most useful tool for future research. More effective measurement of IPA activity will probably require data on budgets and resources.

## 5. Principal trends

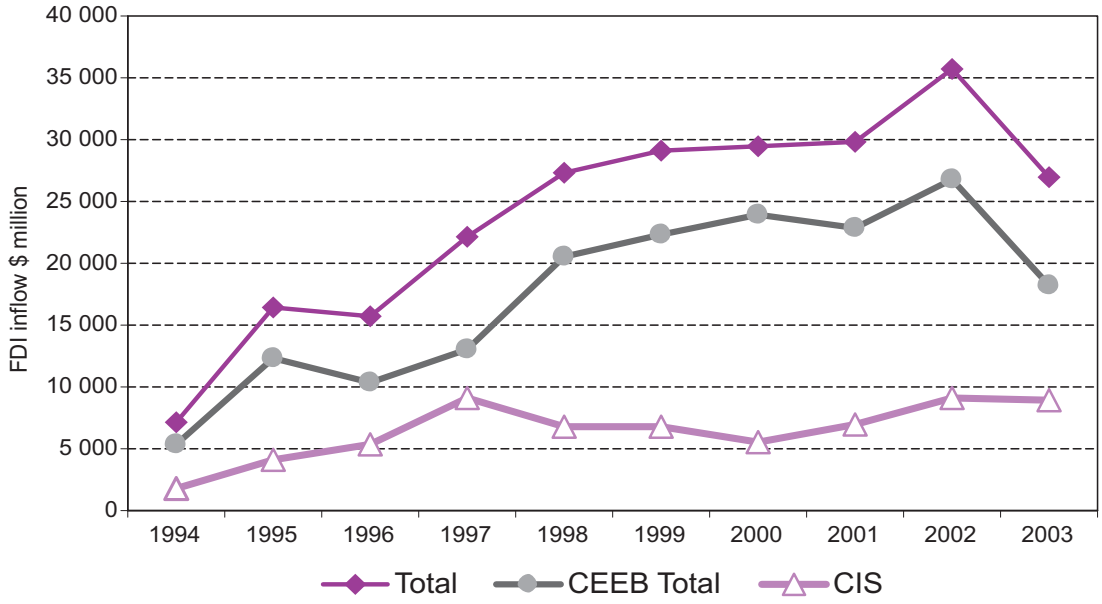
After presenting summary data on FDI, this section reviews the principal trends in taxation rates, the use of incentives and the work of IPAs. In a number of instances, the data are split between the CIS countries and the countries of Central and Eastern Europe and the Baltics (abbreviated as CEEB).

### 5.1 FDI

Figure 1 shows total annual FDI flows to transition countries, the CEEB countries and the CIS countries for the period 1994-2003. FDI inflows increased until 2002, largely driven by inflows to the CEEB countries. The decline in 2003 was due mainly to the end of privatization in the Czech Republic and Slovakia (UNCTAD, 2004, p. 69).

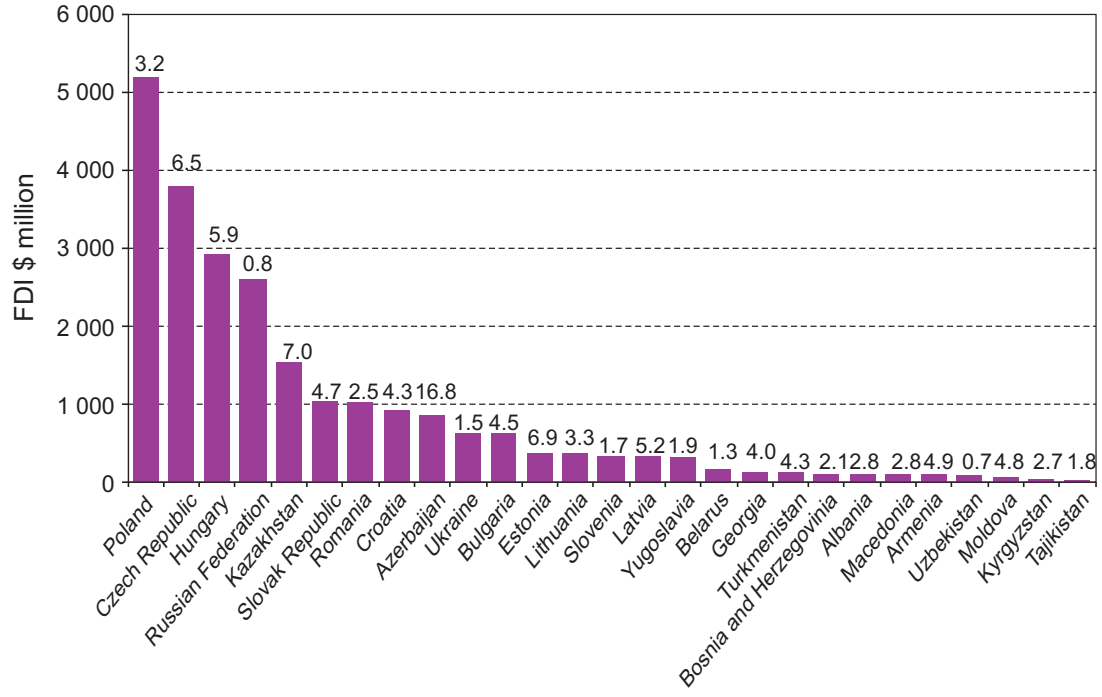
Figure 2 ranks countries according to the value of annual average FDI over the period 1994-2003. Average FDI as a percentage of average GDP is also shown, above the relevant bars. The chart illustrates the high levels of FDI inflows to the countries of Central Europe and to those with significant oil and gas resources.

**Figure 1. Annual FDI inflows 1994 – 2003**
(Millions of dollars)




*Source:* UNCTAD (2004).

**Figure 2. Annual average FDI inflows as percentage of GDP by country, 1994-2003**
(Millions of dollars and per cent)




*Source*: UNCTAD (2004), World Bank (2005).

### 5.2 Tax and Incentives

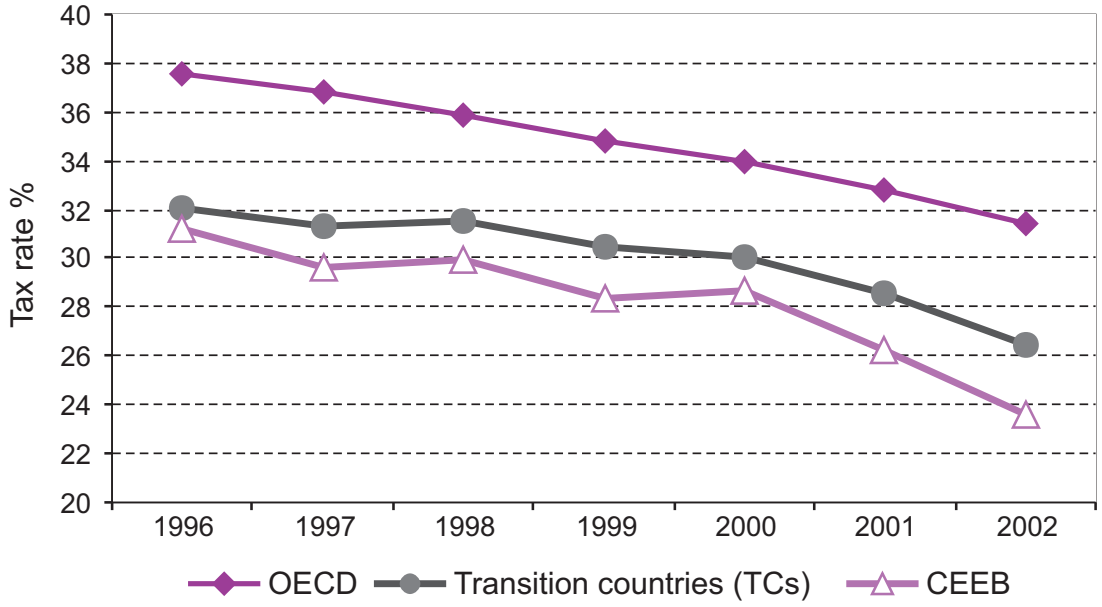
Corporate tax rates have declined significantly since the mid-1990s. Figure 3 shows the average "headline" rates in the OECD, in transition countries as a whole and in the CEEB in the period 1996-2002.

While the OECD average fell from 37.6% to 31.4%, the average in all transition countries went from 32% to 26.4% and that in the CEEB countries fell more sharply from 31.2% to 23.6%. This drop was not accompanied by a reduction in incentives. Figure 4 shows for the CEEB countries the trend of corporate tax rates and the average incentive level (measured as described in section 4) over a slightly longer period. Incentive levels grew strongly and then apparently stabilized.

The evolution of tax rates and incentives in CEEB can be segmented into four broad periods. In the first phase, in the early years of transition, some countries - for example Hungary and the Czech Republic - introduced tax holidays and other incentives. Next, in the first half of the 1990s (mostly before the period shown in figure 4), a number of countries eliminated or restructured incentives, in conjunction with reform of the tax system and, in some cases, reduction of tax rates. Examples are the Czech Republic in 1993 (Gandullia, 2004, p. 16), Estonia in 1994 (Hunya, 2004, pp. 106-107), Hungary in the early 1990s (Gandullia, 2004, p. 15), Lithuania in 1996 (OECD, 2003, p. 183), Poland in 1993 (Sedmihradsky and Klazar, 2002, p. 3), and Slovenia in 1994 (OECD, 2003, p. 184).

In the third period, largely in the second half of the 1990s, the situation was more complex. Tax rates fell, albeit slowly. A significant development was what has been characterized as "tax competition" between four Central European countries, the Czech Republic, Hungary, Poland and Slovakia (Martinez-Vazquez and McNab, 2000, p. 9; Mitra and Stern, 2002, p. 43; OECD, 2003, p. 181). Hungary was the leader of the process (OECD, 2003, p. 181), with relatively low tax rates from an early stage, "generous tax holidays" (OECD, 2003, p. 181) and free trade zones (UNCTAD, 2002, p. 216). Poland's response

**Figure 3. Average corporate tax rates, 1996 -2002**
(Per cent)




*Sources*: OECD (2003), Cato Institute (2002), Heritage Foundation (2005).

**Figure 4. Tax rates and incentive levels, CEEB countries, 1995 - 2003**
(Per cent and index)


*Source*: author's calculation based on his survey of country practices.

gathered momentum from 1995, with a network of "special economic zones" in which ten year tax holidays were available (OECD, 2003, p. 181), and with incentives for investment in certain industries (Gandullia, 2004, p. 16) and regions (Hunya, 2000, p. 9). These measures "encourage(d) a similar response in the Czech Republic", starting in 1997 (OECD, 2003, p. 181) and enhanced in 2000. This involved incentives including: tax holidays up to ten years for large new enterprises; tax exemptions for expansion of existing businesses (OECD, 2003, p. 182); and job creation and training grants (Hunya, 2000, p. 9). In 1998, Slovakia was "the last to enter the competition" (OECD, 2003, p. 181), "introducing new and more generous tax holidays and further relaxing the qualifying rules for tax incentives in 1999 and in 2001" (OECD, 2003, p. 181). In the same period, Romania and Bulgaria introduced and repealed a series of incentives described as "bewildering" in the case of Bulgaria (OECD, 2003, p. 121) and "inconsistent" in Romania (OECD, 2003, p. 148). While the three Baltic States "tended to rely more on low rates of CIT (corporate income tax) than on special incentives" (OECD, 2003, p. 182), Lithuania offered significant profit tax reductions for investments in duty free zones (Hunya, 2004, p. 108) and Latvia also established special economic zones offering tax reductions (Hunya, 2004, p. 108; Latvian Investment and Development Agency, 2005). In the countries that had formerly comprised Yugoslavia, there were few incentives during this period.

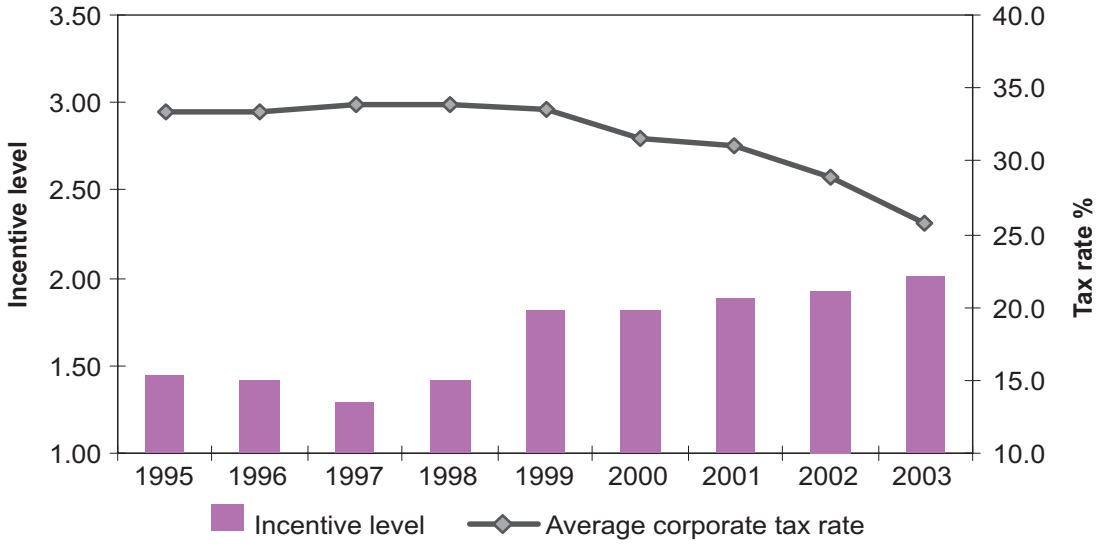
In the fourth phase – the period since 2001 – the level of incentives offered showed signs of stabilizing and may now be in decline, accompanied by rapidly falling tax rates. Incentives offered by countries joining the EU are required to comply with EU competition rules (European Commission, 2001b). For the four Central European countries, this has meant the curtailment of tax holidays, greater emphasis on tax credits and various cash grants – all subject to overall limits on the total value of incentives offered. The greater emphasis on cash grants provides an incentive of a type that "may be particularly attractive from the perspective of a recipient" (UNCTAD, 2002, p. 212). EU membership may also have stimulated some levelling up in countries where incentives were relatively low: for example,

since 2001, Latvia has offered partial tax holidays for larger investments - these are compatible with EU rules (Hunya, 2004, p. 107). Bulgaria and Romania have reduced incentives (OECD, 2003, p. 121; FIC, 2002, p. 39), while a more stable environment in the Balkans has led to an expansion of incentives, notably ten year tax holidays in Croatia in 2001 (OECD, 2003, p. 127) and a similar development in Serbia in 2002, following reforms in 2001 (OECD, 2003, pp. 160 and 162).

By 2005, the average tax rate in the CEEB countries had fallen to 17% and the average incentive score was at the same level as 2001, after a small rise in the intervening years.

In the CIS, tax rates have been higher than in the CEEB countries and incentives have been much lower – in some cases non-existent. Compared with the CEEB countries, there is less literature on taxation and incentives and the dates of introduction of some incentives had to be estimated. Figure 5 summarizes the position. Trends are less clear than in the CEEB countries. Early introduction of tax holidays was reversed in some cases - e.g. abolition of tax holidays in Ukraine in 1995 (OECD, 2003,

**Figure 5. Tax rates and incentives, CIS countries, 1995 – 2003**
(Per cent and index)




*Source*: author's calculation based on his survey of country practices.
*Note*: Kazakhstan, Kyrgyzstan and Uzbekistan, whose tax rates for earlier years could not be obtained, are not included.

p. 183) and in Georgia in 1996 (United States Department of Commerce, 2005a). In Russia, tax concessions that were developed in the late 1990s were abolished with the introduction of the new tax code in 2002 (Deloitte Touch Tohmatsu, 2002, p. 2). Overall, in the period since 1999, there appears to have been a modest expansion in incentives, generally through short tax holidays. Countries enhancing incentives have included Kazakhstan in 2004, with a programme of "Investment Tax Preferences" for up to five years for investments in "priority types of activity" (Kazinvest, 2005a), and Moldova in 2002, offering tax holidays ranging from three to five years (OECD, 2003, p. 139). At least seven out of the twelve CIS countries have legislation enabling economic zones that give profit tax reductions but not all zones appear to be operational. By 2005, average tax rates had fallen further to 22.8%, with a slight reduction in average incentive levels compared with 2003.

Table 3 shows the percentage of countries offering the principal categories of incentive. In this table, tax holidays and tax credits are combined into one category. The distinction between tax holidays and tax credits has become blurred, as some tax holidays are partial (e.g. only a part of the tax normally payable is reduced) or are capped in a manner similar to a credit (e.g. the benefit is restricted to an amount equivalent to the value of the investment). The figures for free zones exclude those zones that do not offer reductions in profit tax; also excluded are countries where zones are permitted but do not appear to operate in practice. In this table, no account has been taken of

**Table 3. Incentives by type, 2005**

| % of total countries offering: | CEEB | CIS | All |
|---|---|---|---|
| Tax holiday or tax credits | 87% | 58% | 74% |
| Free zones with profit tax reduction | 53% | 58% | 56% |
| Grants | 60% | 0% | 33% |
| Subsidized locations | 40% | 8% | 26% |
| No significant incentives | 7% | 33% | 19% |

*Source*: author's own calculation based on his survey of country practices.
*Note*: The columns add to more than 100%, as countries give more than one type of incentive.

the scale of an incentive; a tax holiday for ten years is treated in the same way as a two-year holiday, unlike in the evaluation process described earlier.

Tax holidays or tax credits are the most popular form of incentives, being used by 74% of all transition countries and by 87% of the CEEB countries. This is consistent with the global picture - "reductions in the standard rates of corporate income tax and tax holidays are the most widely used fiscal incentives" (UNCTAD, 2000, p. 12). Free zones are the second most popular form of incentive, available in 56% of all countries and in 53% of the CEEB countries. Grants are available in 33% of countries, all of which were EU members at the time of the survey except Bulgaria (which joined in 2007) and Croatia (a candidate for membership). The data supports UNCTAD's assessment that "fiscal measures are more common in developing countries, which cannot afford a direct drain on the government budget (while) (d)eveloped countries frequently employ financial incentives such as outright grants" (UNCTAD, 2002, p. 204).

Incentives are generally linked explicitly to "manufacturing" investment or have that effect in practice, as they often have value thresholds that are likely to be reached only with investment in production facilities. Five countries (19%) take a more fine-tuned approach to defining priorities, although it is not always clear how these affect the granting of incentives. In Kazakhstan, where investors in "priority types of activity" are eligible for incentives (Kazinvest, 2005a), the country prioritizes "science intensive and high tech export-oriented production" and "goods and services with high added value" (Kazinvest, 2005b). Serbia lists 16 industries that qualify for higher levels of tax credit, although its tax holidays for larger investments do not appear to have sectoral restrictions (PriceWaterhouseCoopers, 2004, p. 51). The Czech Republic targets its manufacturing incentives on specific manufacturing industries or on investment in "high tech machinery" (PriceWaterhouseCoopers, 2005b). In addition to incentives for manufacturing, the Czech Republic, Hungary and Slovenia have packages for R&D and for services such as call centres and regional corporate centres. A sixth country - Estonia – has

priority sectors (Enterprise Estonia, 2005) but may be unable to influence investment in their direction due to its limited use of incentives.

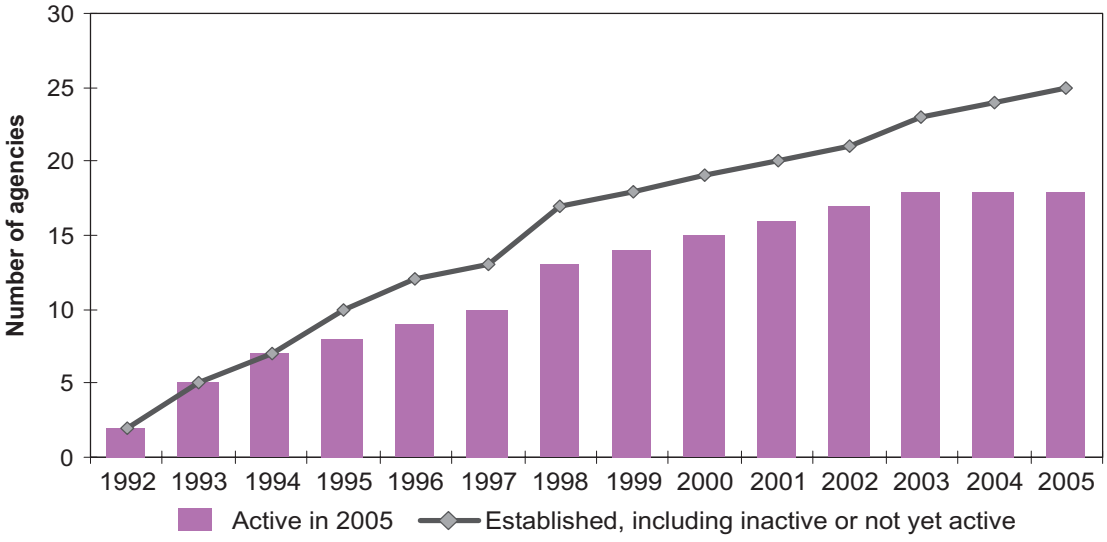
### 5.3 Promotion

The number of IPAs has increased steadily since the early 1990s. Not all of those IPAs whose establishments have been announced show evidence that they are actually functioning. The trends in the totals of those announced and of those in operation in the years concerned are shown in Figure 6.

The 2005 totals are analysed in table 4. Only 42% of the CIS countries had active agencies compared with 87% of the CEEB countries. Active agencies in the CIS had an average age of 5.4 years while CEEB agencies had an average age of 9.5 years. Use of IPAs is therefore more extensive and longer established in the CEEB countries.

All agencies claim or imply that they perform the three "classical" tasks of IPAs (Investor Services, Image Building, and Investment Generation). In practice, some seem to emphasize Investor Services only. Table 5 presents an assessment of the scope of IPA activity.Those in the "relatively strong

**Figure 6. Number of IPAs, 1992 - 2005**




*Source*: author's calculation based on his survey of country practices.

**Table 4. Incidence of IPAs in 2005**

| % of countries with - | CEEB | CIS | All |
|---|---|---|---|
| Active agencies | 87% | 42% | 67% |
| Agencies inactive or not yet active | 13% | 50% | 30% |
| No agency | 0% | 8% | 4% |
| Total | 100% | 100% | 100% |

*Source*: author's own calculation based on his survey of country practices.

investment priority areas. Of these, only one agency - CzechInvest - seems to be engaged in shaping investment priorities and influencing their implementation. Having absorbed other tasks such as SME development and administration of structural funds, it claims to be a "development agency". Its strategic priorities have been clearly articulated (CzechInvest, 2004) and, crucially, it is the sole body in the Czech Republic authorized to submit investment incentive applications to the relevant ministry.

61% of agencies have tasks other than investment promotion, including export promotion (33%) and local business development (39%). Many of these responsibilities have come through mergers between IPAs and other agencies. Whether they contribute to the effectiveness of the agencies' investment promotion role is open to question: Wells and Wint argued that investment and export promotion are significantly different, in terms of contact points, processes and resources and that proposals to combine them "have usually failed" (Wells and Wint, 2000, pp. 170-171).

coverage" category comprise the Czech Republic, Estonia, Hungary and Poland.

61% of active IPAs claim to undertake "Policy Advocacy". Their effectiveness in this task has not been evaluated. As noted above, six IPAs state that their countries have

**Table 5. priorities of active IPAs**

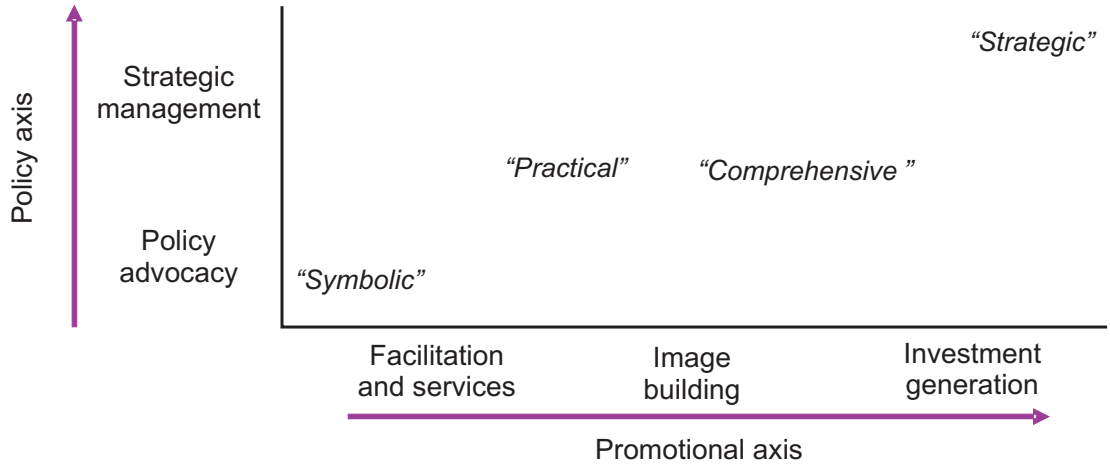
| | % of active IPAs |
|---|---|
| Primary focus on Investor Services | 22% |
| All three functions covered to some degree | 56% |
| Relatively strong coverage of all three functions | 22% |
| Total | 100% |

*Source*: author's own calculation based on his survey of country practices.

The foregoing analysis suggests a way of looking at IPAs that goes beyond the conventional classification of their activities. First come what might be described as the "symbolic": agencies that exist legally, may even have some kind of organization and facilities, but don't show any sign of activity. Next, there are the "practical": these major on facilitating new and existing investors, often providing a substantial range of information and services. Armenia's ADA seems to be an example of an agency in this category. The third category might be termed "comprehensive": they perform, or attempt to perform, the three main promotional tasks, providing services and attempting to promote the country to potential investors, with varying degrees of impact; the majority of IPAs are probably in this category. IPAs in the "practical" and "comprehensive" categories are likely also to engage in policy advocacy. Finally, there is the "strategic" category: agencies with a strong sense of the direction in which they want to steer FDI and having the influence and capabilities to advance their goals. The international models include Singapore and Ireland; among transition countries CzechInvest is perhaps the only one that comes into this category. This typology might be represented as in figure 7.

This categorization does not necessarily imply an evolutionary path. Some agencies may deliberately choose to

**Figure 7. IPA roles**



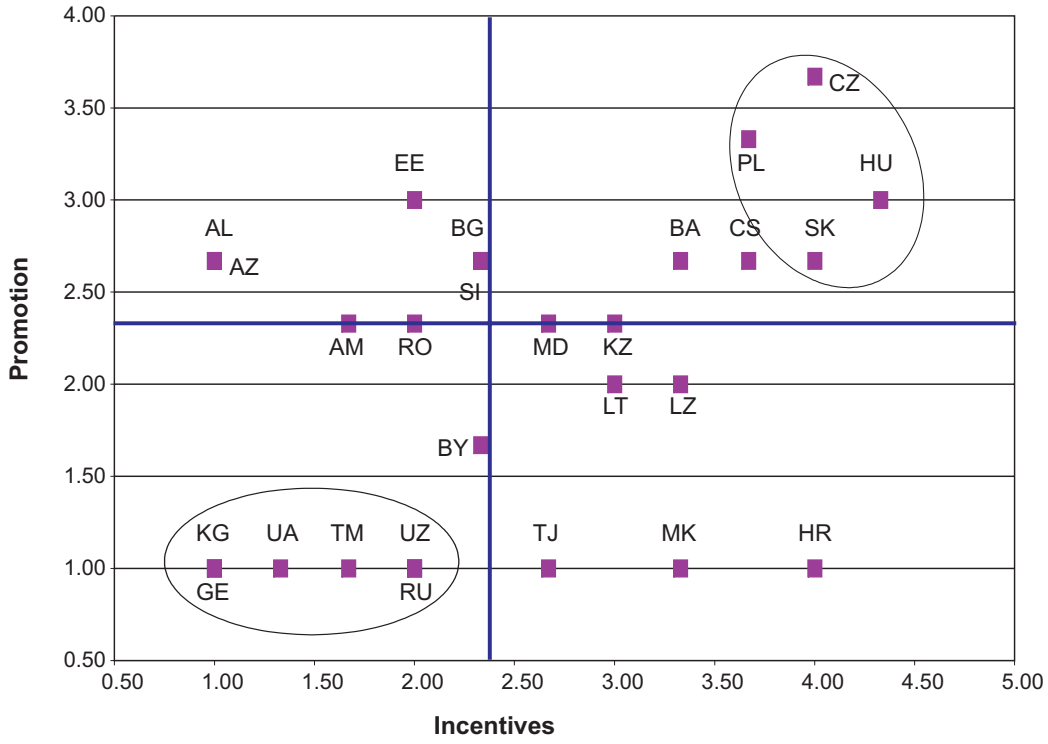

*Source*: author.

concentrate on services and limited image building; there is evidence that these activities are relatively more cost effective than investment generation (Morisset and Andrews-Johnson, 2004, pp. 32-43).

### 5.4 Overview of incentives and promotional activity

To complete the review, this section briefly presents the position of individual countries in 2005, in the form of a scatter diagram (figure 8) whose axes measure incentive levels and the extent of promotional activity. Two contrasting groups are highlighted in the chart. On the one hand, there are four Central European Countries (the Czech Republic, Hungary, Poland and Slovakia), which, in 2005, gave relatively high levels of incentives and had active IPAs, a stance they had maintained for some time. On the other, there is a larger group of CIS countries with few incentives and without IPAs. There are some extreme positions: Estonia with few incentives (but low taxes) and an active IPA, Croatia with substantial incentives but no

**Figure 8. Country Scores, Incentives and Promotion, 2005**




*Source*: author.

IPA in the period surveyed. Of the remainder, some such as Slovenia, Lithuania and Latvia have followed a reasonably consistent course over time while others, in the years prior to 2005, underwent significant policy shifts, whether towards higher incentives (e.g. Croatia, Bosnia and Herzegovina, Serbia and Montenegro) or fewer (e.g. Romania).

## 6. Factors shaping incentive and promotion policies

This section assesses whether the data shed light on the factors that have influenced the policies of transition countries towards incentives and promotional activities.

It was hypothesized earlier (Section 2) that incentives were most likely to be offered in order to offset disadvantages in the business environment, such as those that arise when the transition process is incomplete (described as the "transitional hypothesis") or profit taxes are high (the "tax hypothesis"). An alternative perspective would see incentive levels as driven by international competition for efficiency-seeking investment (described as the "competitive hypothesis"). The "transitional" and "tax" hypotheses gain only limited support from the data reported above. There is evidence from some CEEB countries that incentives were introduced in the early years of transition and subsequently withdrawn as tax systems were reformed and rates reduced. But the dominant trend is a progressive increase in the level of incentives against the background of reductions in tax rates and progress in transition. Explanations in terms of the "competitive hypothesis" seem plausible, at least for the four countries – the Czech Republic, Hungary, Poland and Slovakia - reported as having engaged in "tax competition" in the late 1990s. Recent stabilization of incentive levels - and, in some cases, reduction - appears linked to EU rules and may also reflect a shifting of competition from incentives to tax rates.

As noted, a "transitional hypothesis" might also seem relevant to the development of IPAs, in that promotion could be particularly important in the early stages of transition when investors might be unaware of the opportunities or might need assistance in establishing their operations. In practice, however,

the number and scope of active IPAs have grown as the process of transition has advanced, giving support to the alternative hypothesis (the "marketing hypothesis") under which the level of promotional activity is linked to the advantages a country can offer to potential investors.

The relationship between incentive levels and promotional activity on the one hand and a range of possible explanatory variables such as transition progress on the other might lend itself to formal econometric analysis. This has not been undertaken here, reflecting the approximate nature of the quantification of some of the relevant variables, especially the measures of incentives and of promotional activity. Instead, country behaviour is explored briefly by examining incentive levels and IPA activity in a number of country clusters. Countries have been grouped on the basis of similarities in a small number of variables that may be relevant to attractiveness to foreign investors in the context of transition, comprising:

- Transition progress, defined as progress towards an "industrialized market economy" (using the EBRD's terminology) and measured as the average of the EBRD transition scores for each country in the period 1994-2003, under the headings: large-scale privatization; small-scale privatization; governance and enterprise restructuring; price liberalization; trade and foreign-exchange liberalization; competition policy; banking reform and securities markets (*source*: EBRD transition reports).
- Political stability, using a measure taken from the World Bank's set of Governance Indicators and averaged for the period 1996-2002 (*source*: World Bank, 2004).
- Proximity to sources of FDI, measured by the average distance between the capital city of the country and the capitals of the three nearest potential sources for FDI, which are defined as EU capitals, Moscow (for all countries except Russia) and Istanbul.
- Resource endowment, defined as whether or not the country has a "rich" natural resource endowment (*source*: De Melo *et al.*, 1997, table 1).

Five principal clusters were identified, and are shown in table 6. For each cluster, the average level of taxation, incentives and IPA activity in the period 1994-2003 is also shown. Incentives and IPA activity have been grouped into three categories, "high", "medium" and "low/no" based on the scores computed for this article. Average corporate tax rates have been converted to a scale used by the Heritage Foundation, in which taxes below 15% are rated as "very low", taxes at or above 36% are rated "very high" and intermediate positions are rated "low", "moderate" and "high" (Heritage Foundation, 2005, p. 63). More extensive information, including individual country data, is given in appendix 3.

**Table 6. Summary of country clusters and scores**

| Group | *(comment)* | Members | Avge. level 1994-2003 | | |
|---|---|---|---|---|---|
| | | | Tax | Incentives | IPA activity |
| 1 | *(more stable and advanced in transition and closest to FDI sources)* | Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia | High | High | High |
| 2 | | Bulgaria, Croatia, Latvia, Lithuania, Romania. | High | Medium | Medium |
| 3 | | Albania, Armenia, Belarus, Bosnia & Herzegovina, Macedonia, Moldova, Ukraine, Serbia and Montenegro | High | Low/No | Low/No |
| 4 | *(less stable or less advanced in transition and furthest from FDI sources)* | Georgia, Kyrgyzstan, Tajikistan, Uzbekistan | V high | Low/No | Low/No |
| 5 | *(resource rich – would otherwise be in 3 or 4)* | Azerbaijan, Kazakhstan, Russian Federation, Turkmenistan | V high | Low/No | Low/No |

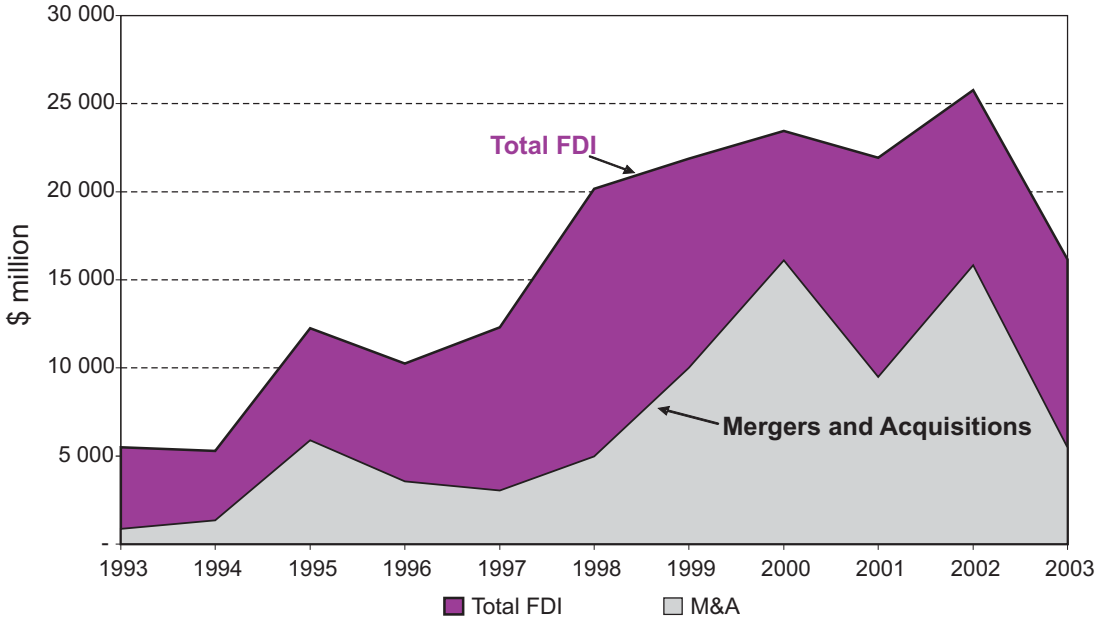
*Source*: author's analysis based on his survey of country practices.

There are differences between the clusters with respect to the level of incentives offered and the extent to which IPAs are used, but there doesn't appear to be a marked difference in tax levels. The resource-rich countries (Cluster 5) may perhaps be viewed as a special case, in that they could presumably attract FDI into their oil and gas and mineral industries (and perhaps other areas also) without needing to promote themselves or give incentives; it may also be that the special regimes some of them operate in the oil and gas industry were used in such a way as to offer attractive terms, at least to first movers. Leaving them aside, the exercise suggests that in the period under consideration (1994-2003) the countries that were less advanced in transition, less stable or further from potential sources of FDI were also less likely to offer high levels of incentive and to engage in promotional activity. These countries appear to have had disadvantages that could deter investors, but they have offered fewer incentives and have promoted themselves less actively (if at all) than countries that have relatively more attractive business environments. The interaction between tax rates and incentives levels is less clear: clusters with "very high" taxation seem to have offered little or no incentives and the three clusters classified as having "high" taxation offered very different incentive levels, ranging from high to low. Thus high or very high tax rates cannot be seen as an explanation of high incentives. The picture that emerges is that levels of incentives and of promotional activity among transition countries have been shaped by factors other than relative disadvantage.

A positive identification of the factors behind country policies is more complex, because practices vary, even within clusters, and some countries have changed their policies over time. One approach would be to explain trends in the use of incentives in terms of an initial focus on privatization followed, at a later stage, by the encouragement of greenfield investment. It could be argued that a formalized system of incentives was not needed in order to attract investors in privatizations, who could instead be influenced by the acquisition price and specific contractual terms. An incentive system, on the other hand, would become more relevant when attention shifted to greenfield

investors. This interpretation can be assessed by considering mergers and acquisitions (M&A) and total FDI flows, as presented by UNCTAD.[3] If reported M&A inflows are assumed to be predominantly in respect of privatizations – a reasonable assumption at least in the initial years of transition – they might be expected to decline in absolute terms and as a percentage of total FDI. The actual picture is more complex, both in total and at country level. Significant privatization inflows occurred after the start of "tax competition" in the second half of the 1990s. Greenfield investment seems to have been substantial and on an increasing trend from an early stage. Figure 9 shows the values involved for transition countries as a whole.

**Figure 9. Total FDI inflows to transition countries and M&A inflows, 1993 – 2003**
(Millions of dollars)




*Source*: UNCTAD (2004).

[3] There are limitations attached to linking M&A and total inflows, as M&A data are not always consistent with total FDI reporting. While FDI figures are derived from balance-of payments data, the M&A data are sourced separately. The M&A figures represent the total amounts of the transactions involved, recorded at the time the relevant deals are closed, but these are not always paid in a single year. The FDI inflows represent the value of transactions in the year in question (see UNCTAD, 2005, pp. 301-302 for an elaboration of the differences between the two series).

It seems that policies towards incentives and promotion can best be explained in terms of a complex of factors. The most crucial element may well be a decision to focus strongly on attracting efficiency-seeking investment, either because market-seeking FDI (whether greenfield or acquisition of privatized firms) was tailing off or because of an intensified focus on growth following the transition recession. This doesn't explain the consistency with which some countries have developed their incentive systems, compared with the inconsistent policies followed by others. It may be that success in actually attracting investment (resulting from a range of factors, including institutional and locational advantages) may reinforce the initial commitment to attracting FDI and ensure the continuation of the relevant policies, including the offering of incentives. Effective IPAs, with links to an expanding number of existing and potential investors, may develop an influence on policy formulation, minimizing radical shifts in direction, protecting or even enhancing incentives, and embedding attitudes favourable to FDI within key sectors of government and more widely.

This account seems to fit the experience of countries in the first and second clusters. The Czech Republic, Hungary, Poland and Slovakia, which were relatively advanced in transition (as well as being close to investment sources) made decisive commitments to encouraging FDI through a range of policies, including an escalating level of financial and fiscal incentives, in the mid- to late-1990s. The development of effective IPAs and the accumulation of an "installed base" of FDI may have ensured the continuation and indeed enhancement of investor-friendly policies. Estonia's approach can be analysed in broadly similar terms: its choice of low taxes rather than incentives represents an equally decisive commitment to encouraging FDI; significantly, it has an experienced IPA, which attaches high priority to "aftercare of existing investors" (UNCTAD, 2002, p. 213). Romania in the 1990s illustrates a different set of circumstances. It offered "a multitude of overlapping incentives", subject to frequent change (OECD, 2003, p. 148), subsequently scaled back incentives and recently introduced a low overall tax rate. The earlier instability might

be linked to an uncertain attitude to FDI, perhaps aggravated by weak feedback mechanisms; actual FDI was relatively low in the period concerned and it may be significant that the Romanian IPA underwent a number of changes and reorganizations until its relaunch in 2002, suggesting that its voice in policymaking was weak.

## 7. Conclusions

While most transition countries have offered investment incentives at some point, there are considerable differences in the extent to which they have done so and country policies have varied over time; generalizations, therefore, have to be heavily qualified. Tax rates are an important background to incentives and here conclusions can more easily be drawn – corporate tax rates have been falling since the mid 1990s and especially since the year 2000. There was a significant increase in the average level of incentives since the mid-1990s; this rise was most marked in the period from 1997 to 2001/2002, occurred mainly in the CEEB countries and took place despite the fall in corporate tax rates. The most common form of incentive is a tax holiday or investment tax credit, followed by free zones; only a minority of countries – generally those with higher income levels – offer cash grants. Incentives have largely been targeted at manufacturing, with varying degrees of discrimination between industries, while some countries have recently begun to offer special packages for investment in R&D and certain services. EU membership has restricted the incentives that some CEEB countries can offer. A recent further fall in corporate tax rates may herald a new phase in which incentives play a lesser role in FDI attraction. The widespread lowering of tax rates brings into question whether an elaborate apparatus of fiscal and financial incentives continues to be necessary.

IPA numbers have grown steadily since the early 1990s, although some agencies do not appear to be active in any meaningful sense. When these are excluded, IPAs are largely a CEEB phenomenon – only 40% of the CIS countries have an active agency compared with 87% of the CEEB countries. Most agencies claim to undertake the main promotional tasks into

which IPA activities are conventionally classified: Investor Services, Image Building, and Investment Generation. 60% also engage in "Policy Advocacy" – working to improve the investment climate – and a similar percentage undertake non-IPA activities, such as export promotion - a recent development that may carry the risk of loss of focus. Performance of the three main tasks varies in quality: a minority appear to have chosen, sensibly, to focus on investor services and facilitation; a similar minority appears to perform relatively well across the spectrum; and there is a larger group that probably still needs to find an effective way to deliver the more proactive functions, notably investment generation. International best practice suggests that there is a further "strategic" dimension to IPA activity: at least one agency – CzechInvest - appears to have moved to this level, with a clear strategy, sharply defined sectoral priorities and an active involvement in the negotiation of incentives with individual investors. The wide divergence in the role and effectiveness of IPAs has policy implications, including whether limited resources are being spread over too wide a range of tasks; whether it is desirable to undertake tasks additional to investment promotion; and whether some agencies are positioned in such a way as to make an appropriate and effective input to official policy in relation to FDI.

This article has attempted to understand the factors that have shaped policy towards incentives and promotional activity. There was no evidence that incentives have been influenced by a need to compensate for inadequacies in the business environment, high tax rates or other relative disadvantages, such as distance; if anything the reverse appeared to be the case – incentive levels increased as countries made progress towards a market economy and reduced their tax rates. Countries more advanced in transition are more likely to have active promotion agencies than the laggards. It seems likely that policies have been shaped by the seriousness and consistency of a country's commitment to encouraging efficiency-seeking, export-oriented FDI; competition between countries; and mechanisms, including "policy advocacy" by IPAs, that reinforce or even amplify initial policy decisions that have proved successful.

The measures used here to evaluate incentive levels and promotional activities have shown their limitations. At worst, their value may be illustrative rather than analytical; at best they need further refinement - this applies particularly to promotional activity.■

## References


Antalóczy, Katalin and Magdolna Sass (2001). "Foreign direct investment incentive policies in the Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia", Budapest, <http://www.wifo.ac.at/~luger/sass_antaloczy.pdf>.

Appel, Hilary (2003). "The political economy of tax reform in Central Europe: Do domestic politics still matter?", mimeo., <http://www.eurofaculty.lv/taxconference/files/Hilary_Appel.pdf>.

Beyer, Jurgen (2002). "'Please invest in our country' – how successful were the tax incentives for foreign investment in transition countries", *Communist and Post-Communist Studies*, 35, pp. 191-211.

Cato Institute (2002). "Fourth highest corporate tax rate means time for reform" (web article quoting tax survey by KPMG), <http://www.cato.org/dailys/04-04-02.html>.

Charlton, Andrew and Nicholas Davis (2004). "Does investment promotion work? Results from cross-country analysis at the industry level", *Research Paper Series*, Oxford Investment Research, <http://www.oxfordinvestment.org.uk/Download/040916-OIR-Does-Investment-Promotion-Work.pdf>.

CzechInvest (2004). *Growing Competitive Business in the New Europe: CzechInvest Strategy 2004-2006*, <http://www.czechinvest.org/web/pwci.nsf/dwnl/489EBEDA8234B232C1256F2400455ED2/$File/CzechInvest%20Strategy.pdf>.

Deloitte Touche Tohmatsu (2002). *The Rough Guide to Russian Taxation 2003*, <http://www.deloitte.com/dtt/cda/doc/content/russian%20guide.pdf>.

de Melo, Martha, Cevdet Denizer, Alan Gelb, Stoyan Tenev (1997). "Circumstance and choice: the role of initial conditions and policies in transition economies", *World Bank Policy Research Working Paper*, No. 1866, Washington D.C.: World Bank.

EBRD (1999, 2001, 2002, 2003 and 2004). *Transition Reports*, London: EBRD.

Eisenhardt, Kathleen M. and Mark J. Zbaracki (1992). "Strategic Decision making", *Strategic Management Journal*, 13, pp. 17-37.

Enterprise Estonia (2005). *Target Sectors for Investment Promotion*, <http://www.investinestonia.com/index.php?option=displaypage&Itemid=122&op=page&SubMenu=>.

Ernst & Young (2005). *Worldwide Corporate Tax Guide*, Ernst & Young, <http://www.ey.com/global/download.nsf/Argentina/WorldwCorporateTaxGuide/$file/WHOLE_FILE.pdf>.

European Commission (2001a). "Company taxation in the internal market", *Commission Staff Working Paper*, Brussels: Commission of the European Communities, <http://europa.eu.int/comm/taxation_customs/resources/documents/company_tax_study_en.pdf>

European Commission (2001b). *Report on the results of the negotiations on the accession of Cyprus, Malta, Hungary, Poland, Slovakia, Latvia, Estonia, Lithuania, the Czech Republic and Slovenia to the European Union*, prepared by the Commission's departments, Brussels: European Commission, <http://europa.eu.int/comm/enlargement/negotiations/pdf/negotiations_report_to_ep.pdf> .

FIC - Foreign Investors Council of Romania (2002). *An Investment Climate for EU Membership*, Bucharest, <http://www.fic.ro/download%20files/FIC%20eng.pdf>.

Finkenzeller, Martin and Christoph Spengel (2004). "Measuring the effective levels of company taxation in the new member States: a quantitative analysis", *Taxation Paper*, No 7, Brussels: European Commission, Directorate-General Taxation and Customs Union, <http://europa.eu.int/comm/taxation_customs/resources/documents/company_taxation_new_ms.pdf>.

Gandullia, Luca (2004). "Tax systems and reforms in EU new member countries: an overview", *Working Paper*, n. 10/2004, Università di Genova, <http://130.251.147.253/finanza/WP%5Cn102004.pdf> .

*Great Circle Distances between Capital Cities*, <http://www.wcrl.ars.usda.gov/cec/java/capitals.htm>.

Gros, Daniel and Alfred Steinherr (1995). *Winds of Change: Economic Transition in Central and Eastern Europe*, Harlow: Pearson Education.

Hanson, Gordon H (2001). "Should countries promote foreign direct investment?", *G-24 Discussion Paper Series*, UNCTAD and Center For International Development Harvard University, New York and Geneva: United Nations.

Head, C. Keith, John C. Ries and Deborah L. Swenson (1999). "Attracting foreign manufacturing: investment promotion and agglomeration", *Regional Science and Urban Economics*, 29, pp. 197-218.

Heritage Foundation (2005). *Index of Economic Freedom*, Washington D.C. and New York, (and equivalent for previous years), <http://www.heritage.org/research/features/index/>.

*How Far Is It? - What is the Distance Between Two Geographical Points?*, <http://www.escapeartist.com/travel/howfar.htm>.

Hubert, Florence and Nigel Pain (2002). "Fiscal Incentives, European Integration and the Location of Foreign Direct Investment", *The Manchester School*, 70(3), pp. 336-363.

Hunya, Gabor (2000). *International Competitiveness Impacts of FDI in CEECs*, United Nations Commission for Europe, <http://www.unece.org/ead/misc/ffd2000/hunya.pdf>.

Hunya, Gabor (2004). "FDI in small countries: the Baltic States", *Research Reports*, 307 Vienna: WIIW, <http://wiiw66.wsr.ac.at/pdf/RR307.pdf>.

IFC - International Finance Corporation (1997). *Foreign Direct Investment*, Washington, D.C.: World Bank.

Kazinvest (2005a). *Law of the Republic of Kazakhstan "On Investments" January 8, 2003 ‡373-II* •, <http://www.kazinvest.kz/english/document_eng.asp?id=20>.

Kazinvest (2005b). *Why Kazakhstan*, <http://www.kazinvest.kz/english/Why_kazakh_eng.html>.LatvianInvestmentandDevelopmentAgency(20>.

Latvian Investment and Development Agency (2005). website: <http://www.liaa.gov.lv/eng/Incentives/Tax_incentives/>.

Lavigne, Marie (1999). *The Economics of Transition,* Basingstoke and New York: Palgrave (2nd edition).

Levy, Brian (1990). "The design and sequencing of trade and investment policy reform: an institutional analysis", *Policy Research Working Paper Series*, No. 419, Washington, D.C.: World Bank.

Loewendahl, Henry (2001). "A framework for FDI promotion", *Transnational Corporations*, 10(1), pp.1-42.

Mah, Jai S. and Donatas Tamulaitis (2000). "A note on investment incentives in the WTO and the transition economies", *Post-Communist Economies*, 12(1), pp. 119-130.

Mallya, Thaddeus, Zdenek Kukulka and Camilla Jensen (2004). "Are incentives a good investment for the host country? An empirical evaluation of the Czech National Incentive Scheme", *Transnational Corporations*, 13(1), pp.109-148.

Martinez-Vazquez, Jorge and Robert M. McNab (2000). *The Tax Reform Experiment In Transitional Countries*, Andrew Young School of Policy Studies, Georgia State University, Atlanta, <http://www.nps.navy.mil/rmmcnab/papers/Tax%20Reform%20Experiment%20-%20Final%20-%2020%20Mar%2000.pdf>.

Meyer, Klaus E. and Camilla Jensen (2004). "Foreign direct investment and government policy in Central and Eastern Europe", *Working Paper*, Center for East European Studies, Copenhagen Business School.

Mitra, Pradeep and Nicholas Stern (2002). "Tax systems in transition", Washington, D.C.: World Bank, <http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2002/11/22/000094946_02110804044282/Rendered/PDF/multi0page.pdf>.

Morisset, Jacques (2003). "Does a country need a promotion agency to attract foreign direct investment? A small analytical model applied to 58 countries", *World Bank Policy Research Working Paper*, No. 3028, Washington, D.C.: World Bank.

Morisset, Jacques and Neda Pirnia (2000). *How Tax Policy and Tax Incentives Affect Foreign Direct Investment: A Review*, Washington, D.C.: World Bank and International Finance Corporation, Foreign Investment Advisory Service.

Morisset, Jacques and Kelly Andrews-Johnson (2004). *The effectiveness of Promotion Agencies at Attracting Foreign Direct Investment*, Washington, D.C.: IBRD/World Bank.

Narula, Rajneesh and John H. Dunning (1998). "Globalisation and new realities for multinational enterprise- developing host country interaction", mimeo. <http://www-edocs.unimaas.nl/files/mer98015.pdf>.

OECD (2003). *Tax Policy Assessment and Design in Support of Direct Investment: A Study of Countries in South East Europe*, Paris: OECD.

Oman, Charles (2000). *Policy Competition for Foreign Direct Investment*, Paris: OECD.

Price Waterhouse Coopers (2004). Doing Business and Investing in Serbia <http://www.pwcglobal.com.ro/extweb/home.nsf/docid/1B1773FE44FA830080256F57003BED2E/$file/DBG04Web.pdf>.

PriceWaterhouseCoopers (2005a). *CEE-CIS Tax Notes Working cross-border Issue No. 5/1 Annual edition 2005*, PriceWaterhouseCoopers, <http://www.pwc.com/cz/eng/ins-sol/spec-int/eu/PwC_CEE-CISTaxNotes_1-2005.pdf>.

PriceWaterhouseCoopers (2005b). *Online Business Guide Czech Republic: Investment Incentives*, <http://www.pwc.com/cz/eng/ins-sol/spec-int/taxguide/investment/index.html>.

Radosevic, Slavo, Urmas Varblane, Tomasz Mickiewicz (2003). "Foreign direct investment and its effect on employment in Central Europe", *Transnational Corporations*, 12(1), pp. 53-90.

Ruane, Frances (2003). "Foreign direct Investment in Ireland", *Management School Working Paper*, Lancaster University, <http://www.lums.lancs.ac.uk/publications/viewpdf/000056/>.

Sedmihradsky, Milan and Stanislav Klazar (2002). "Tax competition for FDI in Central-European Countries", University of Economics, Prague, mimeo., <http://nb.vse.cz/~klazar/pres/Tax%20competition%20for%20FDI%20in%20Central-European%20Countries.pdf>.

Smith, Alan, (2000). *The Return to Europe The Reintegration of Eastern Europe into the European Economy*, New York and Basingstoke: Palgrave

te Velde, Dirk Willem (2001). "Policies towards foreign direct investment in developing countries: emerging best practices and outstanding issues", mimeo., London: Overseas Development Institute, <http://www.odi.org.uk/iedg/meetings/FDI_Conference/DWPaper.pdf>.

UNCTAD (1998). *World Investment Report 1998*, New York and Geneva: United Nations.

UNCTAD (2000). *Tax Incentives and Foreign Direct Investment: A Global Survey*, New York and Geneva: United Nations.

UNCTAD (2001). *The World Of Investment Promotion At A Glance A Survey of Investment Promotion Practices*, New York and Geneva: United Nations.

UNCTAD (2002). *World Investment Report 2002*, New York and Geneva: United Nations.

UNCTAD (2004). *World Investment Report 2004*, New York and Geneva: United Nations.

UNCTAD (2005). *World Investment Report 2005*, New York and Geneva: United Nations.

United States Department of Commerce (2005a). *BISNIS Website – Georgia*, <http://www.bisnis.doc.gov/bisnis/country/georgia.cfm>.

United States Department of Commerce (2005b). *BISNIS Website – Kyrgyzstan*, <http://www.bisnis.doc.gov/bisnis/country/kyrgyzstan.cfm>.

United States Department of Commerce (2005c). *BISNIS Website – Tajikistan*, <http://www.bisnis.doc.gov/bisnis/country/tajikistan.cfm>.

United States Department of Commerce (2005d). *BISNIS Website – Turkmenistan*, <http://www.bisnis.doc.gov/bisnis/country/turkmenistan.cfm>.

Wells, Louis T. and Alvin G Wint (2000). *Marketing a Country: Promotion as a Tool for Attracting Foreign Investment*, Washington, D.C.: IFC, MIGA and World Bank (Revised Edition).

Wint, Alvin and Densil Williams (2002). "Attracting FDI to developing countries: A changing role for Government", *The International Journal of Public Sector Management*, 15(5), pp. 361-374.

World Bank (2002). *Transition: The First Ten Years*, Washington, D.C.: World Bank.

World Bank (2004). *Governance Indicators 1996-2002*, Washington, D.C.: World Bank, <http://www.worldbank.org/wbi/governance/govdata2002/index.html>.

World Bank, *WDI (World Development Indicators) Online*, http://publications.worldbank.org/WDI/.

## Appendix 1. Tax Rates and Investment Incentives 2005

| Country | Tax rate on corporate profits % 2005 | Principal Incentives 2005 | | | | | Comment | Score 2005 | Average score 1994-2003 |
|---|---|---|---|---|---|---|---|---|---|
| | | Tax holiday | Tax credits | Grants | Subsidized locations | Free Zones with profit tax reductions | | | |
| Albania | 23% | | | | | | No significant incentives identified | 1 | 1.67 |
| Armenia | 20% | X | | | | | Limited tax holiday only (2 years) | 2- | 1.34 |
| Azerbaijan | 24% (a) | | | | | | Production sharing agreements in oil sector may operate as incentives - not taken into account here | 1 | 1.00 |
| Belarus | 24% (b) | X (f) | | | | X | Free zones with five year tax holiday appear to be the main incentive | 2+ | 2.34 |
| Bosnia & Herzegovinia | 30% ( c) | X | X | | | X | Tax holidays, both in free zones and onshore (5 yrs) plus tax credit for reinvested profit provide significant incentive. | 3+ | 2.17 |
| Bulgaria | 15% | X | X | X | X | X | Conditions attached to incentives (location in areas of high unemployment, reinvestment profit) may reduce their advantage | 2+ | 2.60 |
| Croatia | 20% | X | X | X | | X | 10 year tax holidays represent a significant benefit | 4 | 1.90 |
| Czech Republic | 26% (d) | X | | X | X | | A significant and wide range of incentives, now constrained by EU rules | 4 | 3.00 |
| Estonia | 0% (e) | | | X | | | Limited incentives, as focus is on low tax rate | 2 | 1.70 |
| Georgia | 20% | | | | | | Reforms of tax system being prepared | 1 | 1.30 |
| Hungary | 16% | | X | X | X | X | EU rules have constrained the generous range of incentives previously offered but the current package, especially the development tax incentive, appears to provide considerable scope, albeit with complex rules and overall limits. | 4+ | 3.73 |
| Kazakhstan | 30% | X | X | | X | X | A significant range of incentives, whose attractiveness may be lessened by the operation of the Government's system of priority sectors. Accounts of what is available differ. | 3 | 1.00 |
| Kyrgyzstan | 20% | | | | | | No incentives identified | 1 | 1.80 |
| Latvia | 15% | | X | X | | X | Tax credits, grants and free zones offer a significant range of incentives which, however, seem more limited than some other EU members | 3+ | 2.63 |
| Lithuania | 15% | | X | | | X | The main incentive appears to be the generous regime in FEs | 3 | 3.00 |

/...

## Appendix 1. Tax Rates and Investment Incentives 2005

| Country | Tax rate on corporate profits % 2005 | Principal Incentives 2005 | | | | | Comment | Score 2005 | Average score 1994-2003 |
|---|---|---|---|---|---|---|---|---|---|
| | | Tax holiday | Tax credits | Grants | Subsidized locations | Free Zones with profit tax reductions | | | |
| Macedonia | 15% | X | X | | | X | Short tax holidays "onshore", tax credits and long tax holidays in free zones represent a significant range of incentives, at least on paper. | 3+ | 1.70 |
| Moldova | 18% | X | | | | X | Relative attractiveness of tax holidays reduced by five year duration and reinvestment requirement | 3- | 2.07 |
| Poland | 19% | | X | X | X | X | While tax exemptions appear not to be given outside SEZs, investment grants and the wide use of SEZs imply an attractive range of incentives, capped, however, by EU limits. | 4- | 3.60 |
| Romania | 16% | | X | | X | X (g) | The phasing out of incentives given in free zones and in disadvantaged areas means that the overall level of incentives is relatively modest. | 2 | 3.10 |
| Russian Federation | 24% | | X | | | X | Modest regional incentives and reinvestment requirement in FEZs imply a relatively low overall level | 2 | 1.84 |
| Serbia & Montenegro | 10% | X | X | | | | Up to 10 year tax holidays for large investments and various tax credits imply a high level of incentive. | 4- | 1.54 |
| Slovak Republic | 19% | X | X | X | X | | The ten year reduction and various grants represent a significant level of incentive | 4 | 2.84 |
| Slovenia | 25% | | X | X | | | Dividend restrictions appear to limit value of relatively modest tax credits. | 2+ | 2.77 |
| Tajikistan | 30% | X | | | | X | In principle tax holidays and Free Zones represent significant incentives but it is not clear how these work in practice | 3- | 1.50 |
| Turkmenistan | 20% | X | | | | X | In principle there seems to be a willingness to grant incentives, some on a case by case basis, but operation in practice was not established | 2- | 1.67 |
| Ukraine | 25% | | | | | X (h) | Moratorium on new projects in SEZs means that overall level of incentives is limited | 1+ | 1.87 |
| Uzbekistan | 15% | X | X | | | X | Incentives are available on a case by case basis but requirements are described as ambiguous and cumbersome | 2 | 1.70 |

Tax rate notes (a) Separate regime for oil (b) 30% for banks ( c) 10% in Republika Srpska (d) 24% from 2006 (e) 24% payable on distribution of profit Incentive notes (f) Applies only to companies esta blished before 2005 (g) profit tax concession applies to existing investors; ends in 2006 (h) moratorium on new projects

## Appendix 2. Investment promotion agencies: summarized data

| | None identified | Status: Apparently inactive / not yet active | Active | Years in operation (active agencies only) | Scoring 2005: Base | Services | Promotion | **Total** | **Average score 1994-2003** | Explicit policy advocacy / liaison role | Other tasks: Exports | Local business development | Other | No other task |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | X | 3 | 1 | 1 | 1- | **2.67** | **1.20** | X | - | - | - | X |
| Armenia | | | X | 7 | 1 | 1+ | 0 | **2.33** | **1.70** | X | X | - | - | - |
| Azerbaijan | | | X | 2 | 1 | 1- | 1- | **2.67** | **1.10** | X | - | - | - | X |
| Belarus | | | X | 4 | 1 | 1- | 0 | **1.67** | **1.07** | - | - | - | - | X |
| Bosnia & Herzegovinia | | | X | 6 | 1 | 1 | 1- | **2.67** | **1.64** | X | - | X | - | - |
| Bulgaria | | | X | 10 | 1 | 1 | 1- | **2.67** | **2.00** | - | - | - | - | X |
| Croatia | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Czech Republic | | | X | 13 | 1 | 1+ | 1+ | **3.67** | **3.37** | X | - | X | - | - |
| Estonia | | | X | 11 | 1 | 1 | 1 | **3.00** | **2.70** | - | X | X | - | - |
| Georgia | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Hungary | | | X | 12 | 1 | 1 | 1 | **3.00** | **2.80** | - | - | X | - | - |
| Kazakhstan | | | X | 7 | 1 | 1- | 1- | **2.33** | **1.60** | - | - | - | - | X |
| Kyrgyzstan | X | | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Latvia | | | X | 12 | 1 | 1 | 0 | **2.00** | **2.00** | X | - | X | - | - |
| Lithuania | | | X | 8 | 1 | 1 | 0 | **2.00** | **1.70** | - | X | - | - | - |
| Macedonia | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Moldova | | | X | 7 | 1 | 1- | 1- | **2.33** | **1.70** | X | X | X | - | - |
| Poland | | | X | 13 | 1 | 1+ | 1 | **3.33** | **2.90** | X | X | - | X | - |
| Romania | | | X | 11 | 1 | 1- | 1- | **2.33** | **1.80** | X | - | - | - | X |
| Russian Federation | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Serbia & Montenegro | | | X | 4 | 1 | 1 | 1- | **2.67** | **1.30** | X | X | - | - | - |
| Slovak Republic | | | X | 11 | 1 | 1 | 1- | **2.67** | **2.04** | - | - | X | - | - |
| Slovenia | | | X | 9 | 1 | 1 | 1- | **2.67** | **2.13** | X | - | - | - | X |
| Tajikistan | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Turkmenistan | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Ukraine | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Uzbekistan | | X | | na | 1 | na | na | **1.00** | **1.00** | na | na | na | na | na |
| Totals: | | | | | | | Mean scores: | | | Totals: | | | | |
| CEEB | 15 | 0 | 2 | 13 | 9.5 | | | **2.49** | **1.97** | 8 | 5 | 6 | 1 | 4 |
| CIS | 12 | 1 | 6 | 5 | 5.4 | | | **1.53** | **1.18** | 3 | 1 | 1 | 0 | 3 |
| Total | 27 | 1 | 8 | 18 | 8.3 | | | **2.06** | **1.62** | 11 | 6 | 7 | 1 | 7 |
| | % of total countries | | | | | | | | | % of active countries | | | | |
| CEEB | 100 | 0% | 13% | 87% | | | | | | 62% | 38% | 46% | 8% | 31% * |
| CIS | 100 | 8% | 50% | 42% | | | | | | 60% | 20% | 20% | 0% | 60% |
| Total | 100 | 4% | 30% | 67% | | | | | | 61% | 33% | 39% | 6% | 39% * |

* Adds to more than 100% due to agencies with more than one extra task

## Appendix 3. Host Country characteristics and levels of taxation, incentives and promotional activity

| Cluster | Country | Cluster characteristics | | | | Average levels, 1994 - 2003 | | | | | | 2005 levels | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transition Progress (average, 1994-2003) | Political Stability | Proximity (km) | Natural Resources | Corporate Tax % | Corporate Tax Group | Incentives Score | Incentives Group | Promotional Activity Score | Promotional Activity Group | Tax rate % | Incentives Score | Pomotion Score |
| 1 | Czech Republic | 3.50 | 3.45 | 375 | 0 | 36.5% | V high | 3.00 | High | 3.37 | High | 26.0% | 4.00 | 3.67 |
| 1 | Estonia | 3.45 | 3.34 | 433 | 0 | 18.0% | Low | 1.70 | Low/No | 2.70 | High | ** 0.0% | 2.00 | 3.00 |
| 1 | Hungary | 3.60 | 3.44 | 574 | 0 | 18.0% | Low | 3.73 | High | 2.80 | High | 16.0% | 4.33 | 3.00 |
| 1 | Poland | 3.45 | 3.21 | 578 | 0 | 36.0% | V high | 3.60 | High | 2.90 | High | 19.0% | 3.67 | 3.33 |
| 1 | Slovak Republic | 3.35 | 3.25 | 466 | 0 | 36.5% | V high | 2.84 | High | 2.04 | Medium | 19.0% | 4.00 | 2.67 |
| 1 | Slovenia | 3.25 | 3.57 | 501 | 0 | 26.5% | Moderate | 2.77 | Medium | 2.13 | Medium | 25.0% | 2.33 | 2.67 |
| | *Cluster 1 average* | *3.43* | *3.38* | *488* | *0* | *28.6%* | *High* | *2.94* | *High* | *2.66* | *High* | *17.5%* | *3.39* | *3.06* |
| 2 | Bulgaria | 2.85 | 2.87 | 617 | 0 | 34.5% | V high | 2.60 | Medium | 2.00 | Medium | 15.0% | 2.33 | 2.67 |
| 2 | Croatia | 3.10 | 2.98 | 522 | 0 | 29.0% | High | 1.90 | Low/No | 1.00 | Low/No | 20.0% | 4.00 | 1.00 |
| 2 | Latvia | 3.10 | 3.17 | 506 | 0 | 25.0% | Moderate | 2.63 | Medium | 2.00 | Medium | 15.0% | 3.33 | 2.00 |
| 2 | Lithuania | 3.20 | 3.11 | 693 | 0 | 27.0% | High | 3.00 | High | 1.70 | Medium | 15.0% | 3.00 | 2.00 |
| 2 | Romania | 2.75 | 2.83 | 683 | 0 | 35.5% | V high | 3.10 | High | 1.80 | Medium | 16.0% | 2.00 | 2.33 |
| | *Cluster 2 average* | *3.00* | *2.99* | *604* | *0* | *30.2%* | *High* | *2.65* | *Medium* | *1.70* | *Medium* | *16.2%* | *2.93* | *2.00* |
| 3 | Albania | 2.65 | 2.15 | 622 | 0 | 29.5% | High | 1.67 | Low/No | 1.20 | Low/No | 23.0% | 1.00 | 2.67 |
| 3 | Armenia | 2.50 | 2.22 | 1639 | 0 | 25.0% | Moderate | 1.34 | Low/No | 1.70 | Medium | 20.0% | 1.67 | 2.33 |
| 3 | Belarus | 1.65 | 2.51 | 743 | 0 | 29.5% | High | 2.34 | Medium | 1.07 | Low/No | 24.0% | 2.33 | 1.67 |
| 3 | Bosnia & Herzegovinia | 1.70 | 2.03 | 610 | 0 | 30.0% | High | 2.17 | Medium | 1.64 | Low/No | 30.0% | 3.33 | 2.67 |
| 3 | Macedonia | 2.75 | 1.91 | 618 | 0 | 19.0% | Low | 1.70 | Low/No | 1.00 | Low/No | 15.0% | 3.33 | 1.00 |
| 3 | Moldova | 2.55 | 2.37 | 898 | 0 | 30.0% | High | 2.07 | Medium | 1.70 | Medium | 18.0% | 2.67 | 2.33 |
| 3 | Serbia & Montenegro | 1.65 | 1.34 | 672 | 0 | 23.0% | Moderate | 1.54 | Low/No | 1.30 | Low/No | 10.0% | 3.67 | 2.67 |
| 3 | Ukraine | 2.25 | 2.34 | 953 | 0 | 30.0% | High | 1.87 | Low/No | 1.00 | Low/No | 25.0% | 1.33 | 1.00 |
| | *Cluster 3 average* | *2.21* | *2.11* | *844* | *0* | *27.0%* | *High* | *1.84* | *Low/No* | *1.33* | *Low/No* | *20.6%* | *2.42* | *2.04* |
| 4 | Georgia | 2.40 | 1.37 | 1602 | 0 | 20.0% | Low | 1.30 | Low/No | 1.00 | Low/No | 20.0% | 1.00 | 1.00 |
| 4 | Kyrgyzstan | 2.80 | 2.48 | 3517 | 0 | 31.0% | High | 1.80 | Low/No | 1.00 | Low/No | 20.0% | 1.00 | 1.00 |
| 4 | Tajikistan | 1.90 | 0.60 | 3409 | 0 | 48.0% | V high | 1.50 | Low/No | 1.00 | Low/No | 30.0% | 2.67 | 1.00 |
| 4 | Uzbekistan | 2.25 | 1.93 | 3258 | 0 | 34.5% | V high | 1.70 | Low/No | 1.00 | Low/No | 15.0% | 2.00 | 1.00 |
| | *Cluster 4 average* | *2.34* | *1.60* | *2947* | *0* | *33.4%* | *V high* | *1.58* | *Low/No* | *1.00* | *Low/No* | *21.3%* | *1.67* | *1.00* |
| 5 | Azerbaijan | 2.05 | 1.80 | 1984 | 1 | 32.5% | High | 1.00 | Low/No | 1.10 | Low/No | 24.0% | 1.00 | 2.67 |
| 5 | Kazakhstan | 2.45 | 2.77 | 3646 | 1 | 30.0% | High | 1.00 | Low/No | 1.60 | Low/No | 30.0% | 3.00 | 2.33 |
| 5 | Russian Federation | 2.75 | 1.95 | 1230 | 1 | 35.0% | V high | 1.84 | Low/No | 1.00 | Low/No | 24.0% | 2.00 | 1.00 |
| 5 | Turkmenistan | 1.35 | 2.63 | 2688 | 1 | 37.0% | V high | 1.67 | Low/No | 1.00 | Low/No | 20.0% | 1.67 | 1.00 |
| | *Cluster 5 average* | *2.15* | *2.29* | *2387* | *1* | *33.6%* | *V high* | *1.38* | *Low/No* | *1.18* | *Low/No* | *24.5%* | *1.92* | *1.75* |

** *0% tax rate is for undistributed profit; distributions are taxed at 24%*

# RESEARCH NOTE

# The impact of inward foreign direct investment on the nature and intensity of Chinese manufacturing exports

Chengqi Wang*, Peter J. Buckley**, Jeremy Clegg** and Mario Kafouros**

Using data for the period 1983-2002, this study examines the relationship between inward foreign direct investment (FDI) and export performance in China. The results indicate that FDI promotes exports by foreign as well as domestically-owned firms, and that this effect is strongest for labour-intensive industries. This impact, however, does not depend on the country of origin of the investor. This finding contradicts previous results that showed that western transnational corporations (TNCs) were significantly less export-oriented than the affiliates of TNCs from other economies, suggesting that western TNCs in China have become more export-oriented in recent years. The finding that the relationship between FDI and exports is not influenced by the country of origin underscores the timeliness of the elimination of the discriminatory policy of China towards foreign investors.

## 1. Introduction

The contribution of transnational corporations (TNCs) to exports from developing countries has long been a point of debate. Host countries often complain that TNCs export too little, and the findings in some studies support these arguments. For

* Corresponding author. Associate Professor and Reader in International Business, Nottingham University Business School, Jubilee Campus, University of Nottingham, NG8 1BB UK, United Kingdom (tel.: +44 0115 8467821, e-mail: Chengqi.Wang@Nottingham.ac.uk) and Business School, Ningbo University, China.

** Centre for International Business, University of Leeds (CIBUL), Leeds University Business School, United Kingdom.

example, Lall and Mohammad (1983) found that TNCs performed rather poorly in generating exports from India. However, other empirical studies have suggested the opposite, showing that inward foreign direct investment (FDI) was export-oriented and raised the level of exports from host economies (O'Sullivan, 1993; Blake and Pain, 1994; Cabral, 1995). Research on the role of inward FDI in improving Chinese export performance has been a more recent addition to the literature. Many studies found evidence of a generally positive and significant role for inward FDI in promoting the expansion of Chinese exports (Buckley, Clegg and Wang, 2002; Sun, 1999, 2001; Zhang and Song, 2000).

What remains unclear, however, is the mechanism through which FDI creates or encourages Chinese exports; the rise in Chinese exports could result either directly from the export activities of foreign affiliates[1] or from the expansion of exports by domestically-owned firms. This study contributes to this stream of research by shedding some light on the ways in which inward FDI has impacted on Chinese export expansion and upgrading.

The question at issue is the nature and structure of the relationship between inward FDI and Chinese exports. Firstly, we examine the extent to which the growth of Chinese exports is attributable to inward FDI. Secondly, we assess whether FDI has contributed to the changing structure of Chinese exports. The expansion of Chinese exports is taking place alongside a shift in the composition of exported goods, namely, an increasing share of capital- and technology-intensive goods (and a relative decline of traditional labour-intensive goods). There has not been much research on this issue. Thirdly, we examine the country-of-origin effects. Depending on the origin of the parent company, foreign affiliates in China are perceived as either "local market-oriented" or "export-oriented". A survey by De Beule *et al.* (2001) showed that the affiliates of "overseas" Chinese firms in Guangdong province sold a substantially larger share of its

[1] In China, foreign affiliates are often referred to as foreign-invested enterprises or FIEs.

output abroad than western TNCs. The affiliates of European TNCs exported less than 30% of their sales, while the average in Guangdong province was approximately 50%. This study examines whether (and to what extent) these country-of-origin effects are present in more recent data.

The rest of this article proceeds as follows. Section 2 outlines the theoretical framework. We then present the model specification and the data in section 3. The empirical results and discussion are given in sections 4 and 5. Concluding remarks are offered in the last section.

## 2. Conceptual framework

One of the challenges currently facing applied research is how to investigate the theoretical predictions regarding the impact which the movement of factors of production (and the export of factor services) via TNCs' operations has on the patterns of the host economy' trade. In this regard, the recent experience of China offers a valuable case for examining how developing countries are able to realize their export potential when factors and services are internationally mobile. The substantial differences in factor endowments between China and developed countries are the principal drivers of the export of technology, management skills and headquarter services in the form of FDI from developed countries to China, which, according to theory, could stimulate exports from the labour-abundant host. Dunning (1998) argued that the relationship between trade and FDI was conditional on the motivation of the FDI in question. Market-seeking FDI can displace exports from the home to the host country, while efficiency-seeking FDI will increase the volume of trade (Gray, 1998; Kojima, 1978; Buckley, 1983). Theory therefore suggests that FDI plays an important role in reallocating global economic resources and stimulating productive capabilities.

Foreign affiliates are usually considered as better placed to serve international markets than their host country counterparts since they are usually better informed about international market conditions and benefit from access to

international marketing and distribution networks of their parent companies. Moreover, TNCs are often larger than local firms and have managerial, entrepreneurial and financial resources to afford the high fixed costs associated with export activities (Blomström and Kokko, 1998). Hence, inward FDI should positively impact on the volume of exports from China. Thus, our first hypothesis is:

***Hypothesis 1****: Inward FDI has raised the volume of exports from China.*

Foreign affiliates may directly enhance the exports of local firms in the host economy through the provision of competitive assets (UNCTAD, 2002), but may also indirectly create external effects that enhance the export prospects of local firms (Rhee and Belot, 1990). Such externalities may arise, for example, through the formation of linkages where local firms are engaged as suppliers and subcontractors to TNCs. These linkages provide channels through which knowledge about technologies and foreign market conditions can be transmitted. In addition, local firms may learn how to succeed in foreign markets by imitating TNCs. In the case of Sino-foreign joint ventures, marketing knowledge and know-how might be transferred back to the Chinese parent company. TNCs may also train local employees in export management and foreign market knowledge, and local firms can acquire this knowledge through hiring these employees of TNCs. These arguments are empirically supported by Aitken *et al.* (1994) for Mexico and by Kokko *et al.* (1997) for Uruguay. This forms the basis of our hypothesis 2:

***Hypothesis 2****: Inward FDI has raised the volume of exports by domestically-owned firms.*

The first two hypotheses are concerned with the general impact of FDI on exports. Next, we investigate the specific nature of the impact that arises from China's current stage of development and its comparative advantage. As China is abundant in labour, it is expected that the dominant motive of incoming TNCs is to use it as a production base for labour-intensive goods. Thus, our third hypothesis is:

***Hypothesis 3**: The impact of inward FDI on Chinese exports is stronger for labour-intensive goods than for capital- and technology-intensive goods.*

A notable feature of inward FDI in China is that investing countries can be divided into two distinct groups: "overseas" Chinese, including Hong Kong (China) and Macao (China), and "western" countries (primarily, the European Union, Japan and the United States).[2] TNCs from overseas Chinese and those from developed countries have different types of technological advantages (Yeung, 1994; Shi, 1998; Luo, 1999). Western TNCs' knowledge assets are typically in proprietary state-of-the-art product and process innovations, generated by extensive investment in R&D (Buckley and Casson, 1976). In contrast, overseas Chinese TNCs are relatively small and less innovation-intensive. Their primary knowledge assets are skills of using standardized technology and experience in organizing labour-intensive production. Much of these have been generated through export-oriented production conducted during the take-off period of the development of their home economies (Shi, 1998).

These differences in ownership advantages are expected to influence the motivations of the two groups of investors. Market-seeking is the prime motivation for FDI by western TNCs in developing countries with large domestic markets (Shi, 1998). TNCs from overseas Chinese typically originate from newly-industrialized economies (NIEs) which are export-oriented. The ownership advantages of overseas Chinese TNCs - in combination with the availability of cheap labour and land in the host economy - allows them to reduce production costs. The main motive for FDI by overseas Chinese TNCs is therefore likely to be efficiency-seeking. These TNCs relocate export-oriented industries out of their home economies to take advantage of cheaper immobile factors abroad in order to pursue

[2] The use of the term "overseas" Chinese to refer to firms based in Hong Kong and Macao is, in some sense, a misnomer since these two territories are part of China. However, the business communities in these territories are quite distinct from their mainland counterparts and so are the regulations governing them. Therefore, they are treated as "overseas" firms in this study.

export expansion. This line of argument suggests that overseas Chinese TNCs contribute more to China's exports than their western counterparts. This is the basis for hypothesis 4:

***Hypothesis 4****: The contribution of overseas Chinese FDI to Chinese exports is greater than that of western FDI.*

## 3. Data and model specification

The econometric analysis was conducted using aggregate data obtained from various issues of *the China Statistical Yearbook* and *the China Foreign Economic Statistical Yearbook*. Table 1 presents the figures for annual exports and inward FDI for the period under consideration. It is clear that the rapid increase in the volume of exports from China was accompanied by an increasing share of exports by foreign affiliates. Partly as a result of the priority given to the development of new export industries in China, a substantial share of FDI flows has been in industries that are highly export-intensive. Wei (1995, 1996) concluded that almost all of the growth of Chinese exports since 1992 could be directly or indirectly attributed to foreign affiliates' activity. The growth of exports by domestically-owned firms has been relatively slow but still substantial in absolute terms. Total exports by these firms in 2002 were worth $156 billion, seven times the value of 1983.

Although many of the world's largest TNCs have established operations in China, a large share of the realized investment has originated from smaller investors within the Asian developing region. Table 1 shows that over the period under consideration, 47% of the accumulated FDI came from Hong Kong (China) and Macao (China).[3] Since 1996, a growing

[3] The dominance of Hong Kong (China), however, may be overstated for two reasons. First, some of the investments may have been "round-tripping" investments: i.e. domestic Chinese investment re-routed through Chinese affiliates in Hong Kong so that they are able to enjoy the special tax breaks and incentives FDI into China receives. Second, some FDI listed as originating from Hong Kong is in reality from Taiwan Province of China that is placed into China via their affiliates in Hong Kong.

**Table 1. Exports and inward FDI of China, 1983-2002**
(Millions of dollars)

| Years | Export | | | FDI | | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Domestic firms | Foreign firms (the share in per cent ) | Total | Hong Kong and Macau (China) | Japan | United States | EU |
| 1983 | 22 226 | 21 896 | 330 (1.49) | 636 | 378 | 97 | 52 | 41 |
| 1984 | 26 139 | 26 070 | 69 (0.26) | 1 258 | 748 | 225 | 256 | 148 |
| 1985 | 27 350 | 27 053 | 297 (1.08) | 1 661 | 956 | 315 | 357 | 168 |
| 1986 | 30 942 | 30 360 | 582 (1.88) | 1 874 | 1 132 | 201 | 315 | 130 |
| 1987 | 39 437 | 38 229 | 1 208 (3.06) | 2 314 | 1 597 | 219 | 263 | 53 |
| 1988 | 47 516 | 45 060 | 2 456 (5.17) | 3 194 | 2 095 | 515 | 236 | 157 |
| 1989 | 52 538 | 47 625 | 4 913 (9.35) | 3 392 | 2 077 | 356 | 284 | 188 |
| 1990 | 62 091 | 54 277 | 7 814 (12.6) | 3 487 | 2 214 | 503 | 456 | 147 |
| 1991 | 71 843 | 59 796 | 12 047 (16.8) | 4 366 | 2 487 | 533 | 323 | 246 |
| 1992 | 84 940 | 67 584 | 17 356 (20.4) | 11 007 | 7 709 | 710 | 510 | 243 |
| 1993 | 91 763 | 66 526 | 25 237 (27.5) | 27 515 | 19 516 | 1 324 | 2 060 | 671 |
| 1994 | 121 006 | 86 293 | 34 713 (28.7) | 33 767 | 20 170 | 2 075 | 2 490 | 1 876 |
| 1995 | 148 780 | 101 904 | 46 876 (31.5) | 37 521 | 20 500 | 3 108 | 3 083 | 2 239 |
| 1996 | 151 048 | 89 538 | 61 510 (40.7) | 41 725 | 21 257 | 3 679 | 3 443 | 3 002 |
| 1997 | 182 792 | 107 893 | 74 899 (41.0) | 45 257 | 21 027 | 4 326 | 3 239 | 4 439 |
| 1998 | 183 712 | 102 750 | 80 962 (44.1) | 45 463 | 18 930 | 3 400 | 3 898 | 4 309 |
| 1999 | 194 930 | 106 302 | 88 628 (45.5) | 40 319 | 16 673 | 2 973 | 4 220 | 4 797 |
| 2000 | 249 210 | 129 769 | 119 441 (47.9) | 40 720 | 15 847 | 2 916 | 4 383 | 4 673 |
| 2001 | 266 152 | 132 932 | 133 218 (50.1) | 46 850 | 17 038 | 4 348 | 4 433 | 4 182 |
| 2002 | 325 600 | 155 615 | 169 985 (52.2) | 52 943 | 18 329 | 4 190 | 5 424 | 3 909 |
| Total | | | | 445 070 | 210 710 | 36 010 | 39 780 | 35 610 |

*Source*: authors' calculations from *Almanac of China's Economy* and *China Statistical Yearbook*, various issues.

proportion of inward FDI has come from other sources, such as the European Union, Japan and the United States. Nevertheless, in terms of accumulated investment, China's inward FDI is still dominated by Asian developing economies. FDI from developing Asia typically consists of fairly small scale, labour-intensive projects, often concentrated in the processing of imported inputs for re-exports.

The composition of China's exports has also experienced a significant transformation over the period. Table 2 shows that the share of capital- and technology-intensive goods in Chinese

exports has more than doubled, from 19.6% in 1983 to 43.7% in 2002. UNCTAD (2002) reported that all of China's 10 principal exported goods in 2000 (accounting for 42% of the total) were products exhibiting rapid growth in world trade. All of these findings are consistent with the common perception that inward FDI has been important for China, but more research on the precise nature of this relationship is necessary.

Following previous studies (Sun, 2001; Zhang and Song, 2000), we model the level of exports as a function of FDI, domestic investment, the exchange rate and the economic performance of the host country (as proxied by the level or

**Table 2. Export structure of China, 1983-2002**
(Millions of dollars)

| Year | Labour intensive goods | Capital and technology intensive goods (% of total) |
|---|---|---|
| 1983 | 8 169 | 2 472 (19.6) |
| 1984 | 9 751 | 2 857 (20.1) |
| 1985 | 7 979 | 2 130 (15.8) |
| 1986 | 10 804 | 2,827 (14.4) |
| 1987 | 14 843 | 3 976 (15.2) |
| 1988 | 18 757 | 5 666 (17.1) |
| 1989 | 21 652 | 7 075 (18.9) |
| 1990 | 25 262 | 9 318 (20.2) |
| 1991 | 31 076 | 10 967 (19.7) |
| 1992 | 50 369 | 17 567 (25.9) |
| 1993 | 55 173 | 19 905 (26.5) |
| 1994 | 73 155 | 28 131 (27.8) |
| 1995 | 86 788 | 40 501 (31.8) |
| 1996 | 84 922 | 44 189 (34.2) |
| 1997 | 104 836 | 53 927 (34.0) |
| 1998 | 102 610 | 60 550 (37.1) |
| 1999 | 105 800 | 69 200 (39.6) |
| 2000 | 129 050 | 94 700 (38.0) |
| 2001 | 131 530 | 108 270 (40.7) |
| 2002 | 154 779 | 142 301 (43.7)*(1)* |

*Source*: Authors' calculations from *China Statistical Yearbook*, *China Foreign Economic Statistical Yearbook* and *China Almanac of Foreign Economy and Trade*, various issues.
In this study, capital or technology intensive goods comprise "chemicals and related products" and "mechanical and transport equipment".

growth of GDP). The following theoretical arguments underpin the selection of these variables. Domestic investment allows local firms to upgrade their technological capabilities and improve efficiency. As a result, they are better able to compete in international markets. Indeed, studies of the determinants of exports confirm that domestic investment is a significant predictor of export performance (Zhang and Song, 2000). Exports are also affected by exchange rates. A depreciation of the country's currency tends to increase its export earnings.[4] GDP (and its growth) is also an important determinant of export performance as it represents the overall performance of the economy (Zhang and Song, 2000). The model can be written as follows:[5]

$$LogEX_t = \alpha_0 + \alpha_1 LogFDI_{t-1}, + \alpha_2 LogR_{t-} \quad , \qquad (1)$$

where *EX* is the value of exports, *FDI* is the "utilized FDI"[6], *R* is the exchange rate, expressed as the Renminbi (RMB) yuan price of foreign exchange.[7] We estimate the model by OLS.

[4] During the period under study (1983-2002), the Chinese currency depreciated significantly from $1=RMB1.98 yuan in 1983 to $1=RMB8.27 yuan in 2002. The REER of Chinese currency fell from 285.16 in 1983 to 121.37 in 2002. The Chinese authorities have stated that in managing the RMB exchange rate, priority must be given to encouraging export.

[5] Following Zhang and Song (2000) and Sun (2001), we sought to avoid the problem of omitted variables by including lagged domestic investment and GDP growth. In almost all preliminary regressions, GDP growth had no effect on exports, while domestic investment was usually insignificant and often wrongly signed. In view of this, and suspected collinearity with the FDI variable, these two variables were removed from the equation. Possible reasons for the poor performance of the domestic investment variable include the extreme variability in the data: the average growth rate from 1983-2002 was 13.7%, with a low of 6.5% in 1989 climbing to 25.0% in 1991, 35.1% in 1992 and 47.8% in 1993. Another possible explanation is that the bulk of domestic investment went to the infrastructure sector, which may be only weakly linked to export activities.

[6] Utilized FDI is the official term given to investment actually made. This is to be distinguished from the value of investment for which permission has been granted by the Chinese authorities.

[7] A rise in this variable represents a depreciation in the foreign exchange value of the Chinese currency, and therefore a fall in the foreign currency price of Chinese exports.

The value of exports (*EX)* is deflated by a retail price index (as there is no other appropriate deflator). A similar approach has been used in other studies (e.g. Pain and Wakelin, 1998; Sun, 2001; Zhang and Song, 2000; Zhang, 1995). The real effective exchange rate (REER) is used as the exchange rate variable. The data on REER were obtained from the IMF. We expect the coefficients on $LogFDI_{t-1}$ and $LogR_{t-1}$ to have positive signs.

Of particular interest is the coefficient of $LogFDI_{t-1}$, as this indicates the elasticity of exports with respect to inward FDI (of the previous year). The use of lagged dependent variables in examining the impact of FDI on export performance has long been established (e.g. Orr, 1991). The first-order lag structure is also adopted for the exchange rate variable ( $LogR_{t-1}$ ) to take into account the time taken for demand to respond to price changes in international markets. The time variable ( *TIME* ) is included in order to capture the time trend. To assess the impact of FDI on exports by domestically-owned firms, the model in equation (1) is estimated using exports by domestically-owned firms, denoted as $EX(D)_t$, as the dependent variable (table 3).

Two further variations of the model in equation (1) are estimated to examine the nature of the relationship. First, the model is estimated by separating the data for the dependent variable into two groups: exports of labour-intensive goods and those of capital-intensive goods (table 4). Second, the model is estimated by separating the data for FDI by country of origin (table 5).

## 4. Empirical results

The results of the estimations are presented in tables 3-5.[8] Column (1) in table 3 shows that the coefficient on the FDI

[8] As indicated by adjusted $R^2$ and D.W. statistics, most of the regressions fit the data well. All our calculated $d$ values but one (column (5) in Table 3) lie well between $d_u$ (0.998) and $4-d_u$ (2.324) at the usual 5% level of significance, Therefore, there appears to be no general problem of autocorrelation.

variable is positive and statistically significant, confirming the contribution of FDI to China's overall export expansion in the period under study. The result shows that a 1% increase in FDI leads to a 0.2% growth in exports in the following year. This finding is consistent with H1. It is also consistent with Thoburn (1997), Sun (1999, 2001) and Zhang and Song (2000), which found evidence of a positive role for foreign TNCs in promoting China's export growth.

**Table 3. FDI and Chinese export performance, 1983-2002**

| Dep. variable | $LogEX_t$ (1) | $LogEX(D)_t$ (2) |
|---|---|---|
| Constant | 5.613(36.31) | 6.058(38.26)*** |
| $LogFDI_{t-1}$ | 0.196(4.06)*** | 0.179(3.62)*** |
| $LogEX(F)_{t-1}$ | ___ | ___ |
| $LogR_{t-1}$ | 0.369(3.15)*** | 0.532(4.44)*** |
| $TIME$ | 0.132(8.62)*** | 0.087(5.56)*** |
| $R^2 - adj$ | 0.99 | 0.98 |
| D.W. | 1.95 | 2.34 |

*Source*: authors' analysis.
Figures in parentheses are t statistics (two-tailed tests); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

The variable $LogFDI_{t-1}$ is also significant in column (2), which presents the estimation of the model with exports from domestically-own firms as the dependent variable. This result confirms the existence of externalities. It is also in line with the findings by Buckley *et al.* (2002), Kokko *et al.* (1997) and Aitken *et al.* (1994).

The significant results for the exchange rate variable ($LogR_{t-1}$) confirm that a depreciation of the RMB yuan promotes the growth of exports. These results are also consistent with Wang (1993), Wu (1994) and Zhang (2001), which provide accounts of the contribution of the exchange rate policy to export growth in China. Table 3 shows that the price responsiveness of

exports by domestically-owned firms appears greater than the average for all Chinese exports.

Table 4 shows the impact of FDI on exports of different categories of goods, namely exports of labour-intensive goods, denoted by $EX(L)_t$, and exports of capital-intensive goods, denoted by $EX(C)_t$. Although it would have been better to examine the impact that FDI in labour-intensive industries had on labour-intensive exports (rather than the effect of total FDI on labour-intensive exports), this was not possible in our case as the data were not available.

**Table 4. FDI and Chinese export performance by category of exported goods, 1983-2002**

| Dep.variable | $LogEX(L)_t$ (1) | $LogEX(C)_t$ (2) |
|---|---|---|
| Constant | 4.756(18.37)*** | 2.850(9.96)*** |
| $LogFDI_{t-1}$ | 0.220(2.73)*** | 0.152(1.71)* |
| $LogR_{t-1}$ | 0.711(3.63)*** | 0.426(1.96)* |
| $TIME$ | 0.135(5.27)*** | 0.236(8.32)*** |
| $R^2 - adj$ | 0.98 | 0.98 |
| D.W. | 1.16 | 1.01 |

*Source*: authors' analysis.
Figures in parentheses are t statistics (two-tailed tests); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

The aggregate FDI is shown to have a positive and significant impact on both groups of Chinese exports. What is interesting, however, is the difference between the coefficients; the size of the coefficient (and the level of significance) of the FDI variable is greater for the labour-intensive group than the capital-intensive group. Thus, the results provide support for hypothesis 3.

Table 5 presents the results of the estimation in which FDI is separated by home economy. The coefficient of FDI is positive and statistically significant for all home economy groups.

**Table 5. FDI and Chinese exports by major source countries, 1983-2002**

| Dependent variable: exports by China ( $LogEX_t$ ) | | | |
|---|---|---|---|
| FDI origin | Hong Kong and Macau (China) | United States | EU |
| Constant | 5.624(36.77)*** | 6.125(70.91)*** | 6.377(46.27)*** |
| $LogFDI_{t-1}$ | 0.180(3.77)*** | 0.220(5.45)*** | 0.165(3.50)*** |
| $LogR_{t-1}$ | 0.449(4.05)*** | 0.710(9.09)*** | 0.825(7.56)*** |
| $TIME$ | 0.146(11.14)*** | 0.125(9.84)** | 0.129(7.08)*** |
| $R^2 - adj$ | 0.99 | 0.98 | 0.99 |
| D.W. | 2.04 | 2.24 | 1.83 |

*Source*: authors' analysis.
1. Figures in parentheses are t statistics (two-tailed tests); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

Since the dependent variable used in the analysis is aggregate exports from China, the results do not allow us to say whether the positive impact of FDI from western economies on exports is due to their affiliates' exports or through spillover effects that stimulate exports from domestically-owned firms. But the impact of FDI from western countries on Chinese exports is no less than the impact of FDI by overseas Chinese firms. Hence, hypothesis 4 is not supported by the data.

## 5. Discussion

The results show that foreign affiliates in China appear to be acting as a platform for exports, which is in line with the findings in Zhao and Zhu (2000). The location advantages of China are likely to centre on the exploitation of cheap labour and land. Inward FDI realizes export potential of the economy through transferring either entire production processes or labour-intensive and less technology-intensive segments of high technology industries (Lee, 1992). Further investigation is required to understand better which intangible assets are being transferred and through what mechanisms.

It is noted that the exchange rate has a larger coefficient for labour-intensive goods than for capital and technology-intensive goods. This is to be expected as labour-intensive export goods are likely to be more standardized, competing in foreign markets on price rather than on quality. Consequently, they are more sensitive to changes in the price caused by exchange rate movements. This explanation can also account for the findings presented in table 3 that the exchange rate has a greater impact on exports by domestically-owned firms, since they are exporting more standardized goods than the affiliates of TNCs.

In contrast with previous findings that European Union and United States affiliates in China were mostly local market-oriented operations, we found (by using more recent data) that their impact on Chinese exports were comparable to those of FDI from Hong Kong (China) and Macao (China). This finding may be explained by two possible factors. First, the export-oriented approach of western TNCs might have taken longer to implement, perhaps because TNCs under pressure to satisfy local content requirements (Bjorkman and Osland, 1998) have not found many local subcontractors and suppliers with capabilities to meet their quality requirements. Second, those TNCs that entered the country primarily for servicing the local market might have changed their strategy to focus more on exports following intensifying competition and local market saturation in China.

Finally, the results concerning Hong Kong (China) and Macao (China) in table 5 are in line with the findings in De Beule *et al.* (2001). It is likely that investment from Hong Kong (China) and Macau (China) in mainland China is undertaken to establish labour-intensive operations on imported intermediate goods for re-export.

## 6. Conclusion

We found that inward FDI exerted a considerable effect on overall Chinese export expansion. This export expansion comprises the growth of exports by foreign affiliates as well as

those by domestic firms that have benefited from externalities associated with the presence of foreign affiliates. We also found that the impact of inward FDI on Chinese exports was stronger for labour-intensive goods than for capital-intensive goods. This finding is consistent with the observation that while there is an increasing share of capital-intensive goods in exports, China's exports of manufactures still consist mainly of products with low value-added and a low level of technology (e.g. textiles, garments, shoes and low-value electronics and machinery).

We also examined whether there are differences in the impact of FDI on Chinese exports by the investors' home economy. We found that the differences were insubstantial. The dominant view in the past was that western TNCs that invest in China were primarily domestic market-oriented (in contrast with overseas Chinese FDI), and had been little concerned with exports. The more recent data used this study indicate that this has changed.

The findings also have implications for Chinese policy towards the encouragement of inward FDI and the promotion of exports. The results show that FDI had a more marked impact on the exports of labour-intensive goods than the export of capital-intensive goods. This reflects China's current comparative advantage, and signals the potential for the development of China's exports in more capital- intensive activities. TNCs are increasingly locating research and development in China. This is likely to result in the gradual rise of the impact of inward FDI on exports of goods in this category.

The study has also shown that the policy of the Government of China to allow the exchange rate to depreciate stimulated Chinese exports. This policy was criticized abroad for rendering Chinese goods "too cheap". However, the findings suggest that this policy has been important to China's export performance. With the accession of China to the World Trade Organisation, the Government of China has lost discretion to discriminate between national and foreign firms. Our results suggest that this loss will have lesser impact than might have

been expected from earlier studies. In fact, whatever the home economy of the investors, inward FDI is found to stimulate Chinese exports. Hence, from the perspective of export promotion, FDI from all economies should be equally welcomed.

## References


Aitken, Brian, Gordon H. Hanson and Ann Harrison (1994). "Spillovers, foreign direct investment, and export performance", *NBER Working Paper*, No. 4967, National Bureau of Economic Research.

De Beule, Filip, Daniel van den Bulcke and Luodan Xu (2001). "Foreign invested enterprises in Guangdong Province, China: survey results". Paper presented at the 27th Annual Conference of the European International Business Academy, 2001, ESCP-EAP-Paris, December.

Blake, Andrew P. and Nigel Pain (1994). "Investigating structural change in UK export performance: the role of innovation and direct investment", *NIESR Discussion Paper*, 71.

Blomström, Magnus and Ari Kokko (1998). "Multinational corporations and spillovers", *Journal of Economic Surveys*, 12(2), pp.1-31.

Bjorkman, Ingmar and Gregory E. Osland (1998). "Multinational corporations in China: responding to government pressures", *Long Range Planning*, 31(3), pp. 436-445.

Buckley, Peter J. (1983). "Macroeconomic versus international business approach to direct foreign investment: a comment on Kojima's approach", *Hitotsubashi Journal of Economics*, 24(1), pp. 95-100.

Buckley, Peter J. and Mark C. Casson (1976). *The Future of Multinational Enterprise* (London: Macmillan).

Buckley, Peter J., Clegg, Jeremy and Wang, Chengqi (2002). "The impact of inward FDI on the performance of Chinese manufacturing firms", *Journal of International Business Studies*, 33(4), pp. 637-655.

Cabral, S. (1995). "Comparative export behaviour of foreign and domestic firms in Portugal", *Banco de Portugal Economic Bulletin*, March, pp. 69-78.

Dunning, John H. (1998). "The European internal market program and inbound foreign direct investment", in John H. Dunning, ed., *Globalization, Trade and Foreign Direct Investment* (Oxford: Elservier).

Gray, Peter H. (1998). "International trade and foreign direct investment: the interface", in John H. Dunning, ed., *Globalization, Trade and Foreign Direct Investment* (Oxford: Elservier).

Kokko, Ari, Ruben Tansini and Mario Zejan (1997). "Trade regimes and spillover effects of FDI: evidence from Uruguay" (Stockholm School of Economics, Stockholm), mimeo.

Kojima, Kiyoshi (1978). *Direct Foreign Investment, A Japanese Model of Multinational Business Operations* (New York: Praeger).

Lall, Sanjaya and Sharif Mohammed (1983). "Foreign ownership and export performance in the large corporate sector in India", *Journal of Development Studies*, 20(1), pp. 56-67.

Lee, C.H. (1992). "Direct foreign investment, structural adjustment, and international division of labor: a dynamic macroeconomic theory of direct foreign investment", *Hitotsubashi Journal of Economics*, 31, pp. 61-72.

Luo, Yadong (1999). "Dimensions of knowledge: comparing Asian and Western TNCs in China", *Asia Pacific Journal of Management*, 16, pp. 75-93.

Orr, J. (1991). "The trade balance effects of foreign direct investment in U.S. manufacturing", *Federal Reserve Bank of New York Quarterly Review*, 16, pp. 63-76.

O'Sullivan, Patrick J. (1993). "An assessment of Ireland's export-led growth strategy via foreign direct investment: 1960-80", *Weltwirtschaftliches Archiv*, 129, pp. 139-158.

Pain, Nigel and Katharine Wakelin (1998). "Export performance and the role of foreign direct investment", *The Manchester School Supplement*, pp. 62-88.

Rhee, Yung Whee and Therese Belot (1990) "Export catalysts in low-income countries", *World Bank Discussion Papers*, 72, (Washington, D.C.: World Bank).

Shi, Yizhen (1998). "Technological assets and the strategy of foreign firms to enter the China market", *Journal of International Marketing and Marketing Research*, 23(3), pp.129-138.

The State Statistical Bureau (SSB) (1996). *The Data for Third Industrial Census of China* (Beijing: China Statistical Press).

The State Statistical Bureau (SSB) (2002). *The Annual Report of Chinese Industry* (Beijing: China Statistical Press).

Sun, Haishun (1999). "Impact of FDI on the foreign trade of China", *Journal of the Asia Pacific Economy*, 4 (2), pp. 317-339.

Sun, Haishun (2001). "Foreign direct investment and regional export performance in China", *Journal of Regional Science*, 41(2), pp. 317-336.

Thoburn, John (1997). "Enterprise reform, domestic competition and export competition", *Journal of the Asia Pacific Economy*, 2(2), pp. 166-177.

UNCTAD (2002). *World Investment Report* (New York and Geneva: United Nations).

Wang, H. (1993). *China's Exports Since 1979* (New York: St. Martin's Press).

Wei, Shang-Jin (1995). "The Open Door policy and the China's rapid growth: evidence from city-level data", in Takatoshi Ito and Anne Krueger, eds., *Growth Theories in Light of the East Asian Experience* (Chicago: University of Chicago Press).

Wei, Shang-Jin (1996). "Foreign direct investment in China: sources and consequences", in Takatoshi Ito and Anne Krueger, eds., *Financial Deregulation and Integration in East Asia* (Chicago: University of Chicago Press).

Wu, S. (1994). "Exchange rate policies and its contribution to export growth in China, 1978-1992", *Research Paper*, Centre for Development Economics, William College.

Yeung, Henry Wai-Chung (1994). "Transnational corporations from Asian developing countries: their characteristics and competitive edge", *Journal of Asian Business*, 10(4), pp. 17-58.

Zhang, Honglin K. and Song, Shunfeng (2000). "Promoting exports: the role of inward FDI in China", *China Economic Review*, 11, pp. 385-396.

Zhang, Zhaoyong. (1995). "International trade and foreign direct investment: further evidence from China", *Asian Economic Journal*, 9(2), pp. 153-167.

Zhao, Hongxin and Zhu, Gangti (2000). "Locational factors and country of origin difference: an empirical analysis", *Multinational Business Review*, 8(1), pp. 60-73.

# BOOK REVIEWS

## *Multinational Firms, Innovation and Productivity*

Davide Castellani and Antonello Zanfei
(Cheltenham and Northampton, MA, Edward Elgar, 2006),
249+xii pages

Innovation, internationalization and performance – mainly in terms of productivity – are the three interrelated dimensions that form the basis of the book's overall framework within which there is an exploration of a variety of issues, all connected with the concept of heterogeneity of firms. In particular the book examines how the activities of transnational corporations (TNCs) interact with innovation; and also how the performance of host economies is affected by the cumulative interaction of various elements of internationalization and innovation.

The authors point out that firms' heterogeneity has usually been studied in relation to inter-industry differences and/or differences in the country of origin of TNCs. Castellani and Zanfei's work concentrates on a less researched aspect: intra-industry heterogeneity. The foreign TNCs differ from each other even within the same industry; their heterogeneity impacts on innovation and performance as well as on their contribution to positive spillover effects in the host economy. Similarly, firms in the host country are heterogeneous even within the same industry. They differ in a variety of characteristics that impact on their own innovation capabilities and productivity and on their absorptive capacity as receptors of spillover effects from foreign TNCs. This is the overall framework around which the book is structured; it has three parts, each comprising two chapters.

Part I deals with the changing role of TNCs. Chapter one clearly develops the two way linkages between internationalization and innovation; the latter constitutes an

advantage for the firm branching out into the international arena and, conversely, internationalization creates opportunities for innovation activities via what the authors term *double network structure*. The intra-firm network of affiliates at home and abroad interacts positively with the external networks of formalized or informal linkages that each unit of the company establishes. The positive interaction allows each unit of the firm to learn from external linkages and – via the internal network – to transmit knowledge to other units within the firm. The scope for knowledge acquisition is higher the more diverse the environments with which the various units of the firm come into contact and therefore the higher and more diverse the host countries in which a TNC operates. Thus, the authors see the TNC as a *bridging institution* between different localities and countries with their diverse economic, technological and cultural contexts.

Innovation and internationalization affect each other and co-evolve along three main features: (a) innovation activities create advantages that lead to and/or enhance internationalization; (b) the double network structure allows the TNCs to learn from diverse environments; (c) if local firms are innovative, they contribute to the innovativeness of the foreign TNC and at the same time, they will have enough absorptive capacity to benefit from the innovative activities of the foreign TNCs. The other five chapters develop the discourse around these main points; in each chapter, theoretical arguments are presented, and empirical evidence from the authors' own research and/or from other sources is brought in to strengthen the theoretical arguments.

Chapter two deals with the *double network structure*. The authors analyse the issue of geographical dispersion of innovative activities as well as the issue of embeddedness. On the latter point there is evidence that many foreign TNCs are becoming embedded into the host economies via adaptation of their technology to local conditions and/or the establishment of cooperative agreements on innovation with local firms; a relevant role in the effectiveness of the double network structure

is played by the internal organization of the TNC: specifically by the degree of autonomy that the affiliates enjoy vis-à-vis the parent company. A high degree of autonomy allows the affiliate to develop more external linkages and become more embedded into the host locality; however, a lower degree of autonomy may favour the intra-firm transfer of knowledge. One question that emerges from this chapter is the following: are internal and external networks complementary or substitutive with regard to innovation activity? There are arguments and evidence that the relationship could be either way. The authors' view is that, on balance, the evidence of complementarity is stronger. On this point, they present their own case study of the electronics and chemicals industries.

Part II deals with firms' heterogeneity in terms of innovation, internationalization and productivity. Chapter three explores heterogeneity in terms of international involvement and its relationship to innovation. TNCs differ from each other because of the differences in their country of origin or in their ability to develop their internal innovation capabilities or in terms of their chosen inernationalization path. The issues are explored by reference to relevant theories of internationalization from Vernon's international product life cycle to the internalization theory to the Scandinavian School's stages in the internationalization process. We are also presented with the authors' own study of productivity and innovation of Italian firms.

Chapter four develops the theme of TNCs as *bridging institutions* in the context of their heterogeneity seen as a characteristic that applies across and within TNCs. *Across TNCs*, the heterogeneity arises from differences in the the following aspects: (a) characteristics of the country of origin; (b) characteristics of the foreign systems in which they operate; and (c) the number, diversity and quality of the different systems in which they operate as well as the type of interaction they are involved in. The analysis of *heterogeneity within the TNC* leads the authors to consider the position, behaviour, innovation activities and performance of the parent company, the foreign

affiliates and the national affiliates. The analysis addresses the following issues: organization of innovative activities with particular attention given to the dispersion of R&D activities; constraints to the transfer of knowledge and innovation and constraints to the adoption of innovation and technology. The inference on the performance of parent companies versus foreign affiliates and national affiliates is derived not only from studies by other experts but also from the authors' own work on the Italian case. The study concludes that affiliates of foreign firms perform better than purely domestic firms but not better than domestic TNCs: a conclusion with relevant policy implications highlighted in the book.

Part III analyses the indirect impact of TNCs' innovation activities through spillover effects on the host economy. Chapter five considers various spillover channels: competition; imitation and demonstration effects; workers' mobility and various forward and backward linkages. The empirical evidence of spillovers is scanty. The authors explain this lack of evidence as resulting partly from the problems in model specification of the econometric studies and partly from the negative impact of competition neutralizing any positive impact.

Chapter six goes "in search of horizontal spillovers" from TNCs and again looks at the role of heterogeneity. Positive spillovers from foreign to domestic firms can occur in the presence of: technological gap between foreign and domestic firms; and/or high absorptive capacity by the domestic firms. Thus, the characteristics of both foreign and domestic firms are relevant. In this respect, foreign firms differ in the following characteristics: (i) extent of R&D in the host economy; (ii) propensity to establish collaborative linkages for innovation activity; (iii) and time elapsed since the establishment of the affiliate in the host country. All three characteristics are relevant for the degree of embeddedness and the extent of positive spillover effects. The heterogeneity of domestic firms is analysed with regard to their being internationalized or not, which may take the form of engaging in export or direct production abroad. Internationalized firms are found to have higher absorptive

capacity and thus be better able to receive positive innovation spillover effects. A last arm of the study takes the authors to the issue of whether the difference between domestic and foreign TNCs is due to the latter being foreign or being transnational. This involves analysing transnationals (both foreign and domestic) versus non-transnationals. The authors' own study finds that the expansion of foreign firms in Italy helps domestic firms that internationalize via exports while an increase in activities at home of Italian TNCs favours other domestic firms.

This is an excellent book - results of years of research. It offers the reader a fairly coherent theoretical framework, a very large literature review for every element of the study and a great deal of empirical research by the authors themselves, which is mostly for Italy and based on the Community Innovation Survey and ELIOS databases. The literature review as well as the authors' empirical studies point to a large number of unresolved questions and therefore to the need for further research – as in the case of spillover effects of TNCs into the host economy. In other words, the book can be turned into a gold mine for doctoral students to dig in and find sources of ideas for their own research.

Given the multi-dimensionality of the theoretical framework and the richness of elements covered for each dimension, the book is necessarily dense as well as deep: not an easy bed-time reading. The readers may have to devote their full attention to gain the full benefits; however, the result is highly rewarding. Moreover, clear and concise introductions and conclusions to each chapter are a great help to the reader; so are the summary tables offered by the authors in various parts. All in all, a must on the reading list of any researcher working on innovation, internationalization and the interface between the two.

**Grazia Ietto-Gillies**
Professor Emeritus of Applied Economics
Director, Centre for International Business Studies
London South Bank University
United Kingdom

## The New Political Economy of Emerging Europe
## Second edition

László Csaba
(Budapest, Akadémiai Kiadó, 2007), 400 pages

Transition studies is a huge academic discipline these days. From a modest start – e.g. a "passionate pamphlet" published in Hungary in 1989 (Kornai, 1989)[1] – it has grown into a mass industry. Given the proliferation of studies, why would anyone read yet another book entitled *The New Political Economy of Europe*, especially 18 years and arguably millions of worthless pages after the birth of transition studies?

It is safe to bet, however, that this second (revised and extended) edition of the book by László Csaba will become a best seller against all the odds. Naturally, you have to read it in its revised version, not least because the first edition (Csaba, 2005) sold out quickly. You also have to read the second edition because the author has extended and improved the analysis in various ways. Among other additions, two new chapters have been added, entitled "Re-interpreting rules-based behaviour in Europe" (chapter 9) and "Post-crisis perspectives on the future of the EU" (chapter 10).

The remaining ten substantive chapters carry the same titles as in the first edition, although some of the data have been updated and the style has been improved. After two forewords (to the second and first editions), the first substantive chapter looks at the empirical evidence on transition (chapter 3), and then the author turns to the question of what post-communist transformation means for development (chapter 4). The prominence of development issues in the book implies that for the author, the main benchmark of success in transition is based on the pragmatic question of how people's lives have improved. The development question is followed by examinations of the

[1] Its English version was re-baptized and given a more solemn but less exciting title of "Road to a free economy" (Kornai 1990), probably to depict transition as the reversal of the "Road to serfdom" as argued in Hayek (1944).

relationship between states and markets (chapter 5), and of the relationship between globalization and regionalization, especially in the countries that joined the EU in 2004 and 2007 (chapter 6).

The chapter on globalization and regionalization provides a logical bridge to the subsequent four chapters(including the two new ones), which all focus specifically on EU integration issues. Indeed, one of the main merits of this book is that it organically links transition with EU accession. We can largely agree with the author that accession is not the end of transition, but its logical continuation. It is again another key message of the book that EU accession brings as many new challenges to the development of new member countries as solutions to old problems. The chapter titles are self-explanatory here: "Limits to accession-driven transformation in Central Europe" and "A non-stability and anti-growth pact for Europe?". In the latter chapter, indeed already in the first edition published in 2005, the author was not afraid of taking an unpopular position against the fashionable argument of the day that in EU accession countries macroeconomic stability would not be conducive to sustainable growth, and therefore they should aim for loose monetary and fiscal policies. Recent history indicates that he may well have been right. His own country disregarded macroeconomic discipline for a long period of time. When the inevitable correction came in late 2006 – the fiscal deficit was approaching 10% of GDP – it was accompanied by riots and other forms of social upheaval. Since then, nobody challenges any more Csaba's adherence to macroeconomic orthodoxy.[2]

The last four chapters of the book return to broader issues in transition. They deal, successively, with transition in the Russian Federation (chapter 11), the mutations of market socialism (chapter 12), the issue of privatization and regulation (chapter 13) and the nexus between institutions and growth (chapter 14). In chapter 12, the author delves into the long history of market reforms ("The viable impossible?"), including the New Economic Policy of the Soviet Union in the 1920s, Tito's

[2] Not all politicians, however, have stopped preaching the "virtue" of macroeconomic imbalances.

Yugoslav model from the 1960s onwards, Hungary's economic reforms after 1968 and the opening up of the Chinese economy since the introduction of reform by Deng Xiaoping. The choice of the topics in these chapters reflects the fact that Csaba is first and foremost an institutional economist. He is a particularly active member of the European Association for Comparative Economic Studies (Vice President in 1990-1994 and 1996-1998, President in 1999-2000, currently a member of the Advisory Board).

Scholars of international business and international investment will appreciate that the book pays considerable attention to the role of foreign direct investment (FDI) and transnational corporations (TNCs) in transition. This is very important because, for a long time, the majority of transition studies neglected this issue. As Csaba's compatriot, Peter Mihályi, noted: "by emphasizing de-etatization and certain aspects of corporate governance, policy makers in the East and the West (Hungary included) for many years misunderstood the *raison d'être* of privatization, and had a distorted idea of where the priorities should be. […] In this model, FDI was not expected to play a key role in privatization." (Mihályi, 2001, pp. 61-62). In contrast, scholars of FDI noted at the beginning of the transition that due to the relative weakness of the nascent local private sector and its limited experience with the functioning of market economy, FDI and TNCs had to play a disproportionately larger role in economic transformation than in the development of other countries at a similar level of development (Dunning, 1993).

An inconvenience in the book's treatment of FDI and TNCs is that this discussion is spread over various chapters and sections of the book. In the chapter on empirical evidence (chapter 3), there is a detailed section entitled "Foreign direct investment – Do we possess a key?" (pp. 64-68), and FDI figures again prominently in the preliminary conclusions from empirical evidence (pp. 68-70). In chapter 5, the analysis of the experience of the front-runners countries deals partly with the topic (especially pp. 118-122). The chapters on the Russian Federation (chapter 11) and on market socialism (chapter 12) discuss the FDI component of transition in two large countries (p. 282 for

the Russian Federation and p. 331 for China). Finally, the chapter on institutions and growth (chapter 14) puts the spotlight on investment promotion policies (p. 377) and on the role of foreign banks on financial intermediation (p. 382). The dispersal of FDI issues over various chapters is understandable from the author's point of view, as he aims to provide a comprehensive picture of the key aspects of transition, for which FDI is only a part.

While most of the issues related to the role of FDI in transition are discussed well in the book, the role of FDI in EU accession and the impact of EU accession on FDI are treated only implicitly in the most part. A more explicit analysis could start with questions on the relationship between economic integration and FDI and the changing structure of FDI-related production, which are only partly touched upon in this book. We know already that accession to EU leads to a major shift in the composition of inward FDI, while also giving it a new impetus. The enlargement in 2004 indeed resulted in a change in the composition of inward FDI in new member countries towards higher value-added and more services-related FDI. However, at the same time, their inward FDI plummeted in 2004, to recover gradually afterwards (Hunya and Sass, 2005). Why did this happen? Was it just a temporary drop resulting from a wait and see attitude of investors with regard to the regulatory uncertainty? Or did they also anticipate a potential increase in production costs, as the full application of the rules and regulations of the acquis communautaire requires additional expenditure by business? Or did they think old Members would pressure accession countries to increase their taxes? And when it comes to the restructuring of industries, why is it that most of us did not foresee that new countries could not just gain but might also lose productive capacity during such rationalization? These are issues which the author might consider incorporating into future editions of the book.

A critical comment that might be added is on the FDI statistics presented in the annex of chapter 3 (p. 87). Regrettably, the data series stops at 2002. We know that one of the reasons for this is the demise of the author's main source of information, the *Economic Survey of Europe* published by the United Nations

Economic Commission for Europe (UNECE). Still, the last issue of that series (UNECE, 2005) contained data at least up till year 2003. Moreover, the on-line statistical database of UNECE offers further updates, and the FDI/TNC database of UNCTAD, the main United Nations agency on such statistics, provides even more detailed data, free of charge and on-line, which the author could have used to update his table. One of the unintended consequences of the lack of statistical updates is the author's limited attention to some new developments. For example, for many years, we all contended that FDI in the Russian Federation was relatively little because of the country's investor unfriendliness, and that the situation would not change any time soon. However, since 2003, the inflows of FDI to the Russian Federation have literally exploded – against the backdrop of increasingly restrictive rules on inward FDI. It seems that the need to access natural resources, for which global demand has increased substantially, has overridden most concerns about the business environment. Moreover, the sudden enrichment of part of the Russian population on the back of high oil and gas prices has provided an incentive for market-seeking investors, for example, in banking.

These limited critical remarks, however, do not cancel or lessen the merits of this excellent book. The author's evaluation of the development impact of FDI on countries in transition is comprehensive and even-handed. On balance, FDI has had more positive than negative impacts on transition. Going one step further, one can say that, in hindsight, it is difficult to imagine how transition could have happened at all without inflows of FDI. That does not mean, however, that FDI has been the only factor underlying success in transition. It has contributed to the transformation of countries from centrally planned to market economies in conjunction with an overhaul of the domestic business sector, a redirection of external trade and financial links with the world at large, macroeconomic stabilization and, last but not least, social transformation. Without an interaction with the latter processes, FDI would have created only an enclave with little embeddedness in its host economy. The importance of these processes is well documented in Csaba's book. He also points out that FDI is not a panacea to all problems arising from

transition; its risks and negative impacts have to be acknowledged, too. The book again does that in a reasoned manner, for example, when discussing the consequences of foreign ownership in retail banking.

All in all, this is a refreshing book. It is a comprehensive, balanced, pragmatic and non-ideologized account of both transition and what comes after. It avoids most of the problems related to the over-econometrization of the dismal science. Csaba puts all data analysis under a critical scrutiny. The fact that he is from inside the region helps. Moreover, by putting the economic analysis into the institutional and political context of the societies concerned, the author is able to evaluate the credibility of quantitative information. What follows from this is a lucid and uncompromised analysis of transition with all its complexities. However, Csaba is not a thriller writer. His sentences tend to be dense, perhaps too long. Why does the magic nevertheless work? Why is it that if you started reading the book, you do not want to stop reading it? It is the excitement about the topic and the quality of the analysis that keep you there.

You are encouraged to obtain a copy of this book and enjoy it. Whether you are a scholar, a student, a public servant, or just interested in finding out what is happening in formerly centrally planned economies, I am sure you will find the book useful. It can be used as a textbook or as reference material. We also hope that the publisher, which is member of the international Wolters Kluwer Group, has printed a larger number of copies than the first edition. However, if you do not want to take the risk of seeing it sold out, it is better to buy it now.

**Kálmán Kalotay***
United Nations Conference on Trade and Development
Division on Investment, Technology and Enterprise Development
Geneva, Switzerland

* This review represents the personal opinion of the reviewer.

## References


Csaba, László (2005). *The New Political Economy of Emerging Europe*, first edition (Budapest: Akadémiai Kiadó).

Dunning, John H. (1993). "The prospects for foreign direct investment in Eastern Europe", in Patrick Artisien, Matija Rojec, and Marjan Svetlicic, eds., *Foreign Direct Investment in Central and Eastern Europe* (London: Macmillan), pp. 16-33.

Hayek, Friedrich August von (1944). *The Road to Serfdom* (Chicago: University of Chicago Press).

Hunya, Gábor and Magdolna Sass (2005). "Coming and going: Gains and losses from relocations effecting Hungary", *WIIW Research Reports*, 323 (Vienna: The Vienna Institute for International Economic Studies).

Kornai, János (1989). *Indulatos röpirat a gazdasági átmenet ügyében* [Passionate pamphlet in the cause of economic transition] (Budapest: HVG Kiadó).

Kornai, János (1990). *The Road to a Free Economy: Shifting from a Socialist System - The Example of Hungary* (New York: W.W. Norton).

Mihályi, Peter (2001). "The evolution of Hungary's approach to FDI in post-communist privatization", *Transnational Corporations*, 10, 3, pp. 61-73.

UNECE (United Nations Economic Commission for Europe) (2005). *Economic Survey of Europe 2005 No.2* (New York and Geneva: United Nations).

## Corrigendum

The December 2006 issue of this journal published an article by Axèle Giroud and Hafiz Mirza, entitled "Factors determining supply linkages between transnational corporations and local suppliers in ASEAN" (vol. 15, no. 3, pp. 1-32). However, one table and the appendix were omitted in error. We apologize for this omission. This article should have the following table on page 20:

### Table 6. Linear Regression Models

| | Reg. 1 | Reg. 2 | Reg. 3 | Reg. 4 | Reg. 5 |
|---|---|---|---|---|---|
| **Subsidiary characteristics** | | | | | |
| Strategic role | .295*** | .288*** | .254** | .270*** | .309*** |
| | (15.072) | (14.724) | (12.987) | (13.800) | (15.779) |
| Experience in host economy | .349*** | .367*** | .275*** | .279*** | .299*** |
| | (.943) | (.994) | (.744) | (.755) | (.807) |
| Mode of entry | | | | | |
| Sales on the local market | | | | | |
| Size of the subsidiary | | | | | |
| **Industry** | | | | | |
| Consumer electronics | | 198*** | | | |
| | | (11.754) | | | |
| Other electronics | | | | | |
| Textiles | | | | | |
| Garments | | | -.242** | | |
| | | | (-13.958) | | |
| **Host economy** | | | | | |
| Cambodia | | | | -.256*** | |
| | | | | (-20.012) | |
| Malaysia | | | | | |
| Thailand | | | | | |
| Viet Nam | | | | | |
| **Home economy** | | | | | |
| United States | | | | | |
| Japan | | | | | |
| Europe | | | | | |
| ASEAN | | | | | -.195*** |
| | | | | | (-17.872) |
| Others | | | | | |
| **Model statistics** | | | | | |
| Adj. *R*-sq. | .255 | .286 | .298 | .307 | .283 |
| F-value | 15.059*** | 11.959*** | 12.581*** | 13.125*** | 11.799*** |

*Source*: authors' calculations

*Notes*: Significance levels: *** p<0.01, ** p< 0.05, * p < 0.1, all two-tailed tests. Values for the independent variables are standardized beta coefficients. The intercept was insignificant in all models. All models were re-run without the intercept, the results in terms of significance levels remained similar to those presented in the models above.

This article should have the following tables on page 34 as an appendix:

## Appendix 1

**Table A1. Number of subsidiaries by host and home countries**
(Frequency)

| Host economy | Malaysia | Thailand | Viet Nam | Cambodia | Total | Share (%) |
|---|---|---|---|---|---|---|
| **Home country** | | | | | | |
| Japan | 10 | 9 | 7 | 0 | 26 | 30.5 |
| United States | 7 | 2 | 1 | 1 | 11 | 12.9 |
| Europe | 5 | 2 | 3 | 0 | 10 | 11.7 |
| 3 NIEs | 4 | 8 | 8 | 5 | 25 | 29.4 |
| ASEAN | 0 | 0 | 3 | 4 | 7 | 8.2 |
| Others | 1 | 4 | 0 | 1 | 6 | 7.0 |
| **Industry** | | | | | | |
| Consumer Electronics | 7 | 5 | 8 | 0 | 20 | 23.5 |
| Other Electronics | 18 | 16 | 3 | 0 | 37 | 43.5 |
| Textiles | 1 | 1 | 3 | 0 | 5 | 5.8 |
| Garments | 1 | 3 | 8 | 11 | 23 | 27.0 |
| **Total** | 27 | 25 | 22 | 11 | 85 | 100 |

*Source*: authors' calculations.

**Table A2. Average share of inputs purchased locally: host country by home countries and industry**
(Percentages)

| Host country | Malaysia | Thailand | Viet Nam | Cambodia | Total |
|---|---|---|---|---|---|
| **Home country** | | | | | |
| Japan | 37.1 | 49.8 | 12.0 | 0 | 34.1 |
| United States | 38.5 | 20.0 | 60.0 | 0 | 37.0 |
| Europe | 15.0 | 25.0 | 15.0 | 0 | 17.0 |
| 3 NIEs | 40.0 | 21.8 | 28.7 | 0 | 22.6 |
| ASEAN | 0 | 0 | 10.0 | 0 | 4.2 |
| Others | 60 | 43.7 | 0 | 0 | 39.1 |
| **Industry** | | | | | |
| Consumer Electronics | 34.4 | 39.6 | 31.1 | N/A | 34.4 |
| Other Electronics | 32.5 | 36.7 | 8.3 | N/A | 32.3 |
| Textiles | 90.0 | 50.0 | 8.3 | N/A | 33.0 |
| Garments | 20.0 | 13.3 | 18.8 | 0.0 | 9.5 |
| **Total** | **34.7** | **35.0** | **20.4** | **0.0** | **26.8** |

*Source*: authors' calculations
*Note:* The three NIEs (newly industrializing economies) are Hong Kong (China), the Republic of Korea and Taiwan Province of China.

## GUIDELINES FOR CONTRIBUTORS

### I. Manuscript preparation

Papers for publication must be in English.

Authors are requested to submit their manuscript by email to Anne.Miroux@UNCTAD.org. The manuscript should be prepared with Microsoft Word (or an application compatible with Word), accompanied by a statement that the text (or parts thereof) has not been published or submitted for publication elsewhere.

If authors prefer to send by post, please send three copies of their manuscripts to: :

The Editor, *Transnational Corporations*
UNCTAD
Division on Investment, Technology
and Enterprise Development
Palais des Nations
CH-1211 Geneva 10
Switzerland

Articles should not normally exceed 12,000 words (30 double-spaced pages). All articles should have an abstract not exceeding 150 words. Research notes should be between 4,000 and 6,000 words. 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.

Manuscripts should be double-spaced (including references) with wide margins. Pages should be numbered consecutively. The first page of the manuscript should contain: (i) title; (ii) name(s) and institutional affiliation(s) of the

author(s); and (iii) mailing address, e-mail address, telephone and facsimile numbers of the author (or primary author, if more than one).

*Transnational Corporations* has the copyright for all published articles. Authors may reuse published manuscripts with due acknowledgement.

## II. Style guide

A. **Quotations** should be accompanied by the page number(s) from the original source.

B. **Footnotes** should be numbered consecutively throughout the text with Arabic-numeral superscripts. Important substantive comments should be integrated in the text itself rather than placed in footnotes.

C. **Figures** (charts, graphs, illustrations, etc.) should have headers, subheaders, labels and full sources. Footnotes to figures should be preceded by lowercase letters and should appear after the sources. Figures should be numbered consecutively. The position of figures in the text should be indicated as follows:

Put figure 1 here

D. **Tables** should have headers, subheaders, column headers and full sources. Table headers should indicate the year(s) of the data, if applicable. The unavailability of data should be indicated by two dots (..). If data are zero or negligible, this should be indicated by a dash (–). Footnotes to tables should be preceded by lowercase letters and should appear after the sources. Tables should be numbered consecutively. The position of tables in the text should be indicated as follows:

Put table 1 here

E. **Abbreviations** should be avoided whenever possible, except for FDI (foreign direct investment) and TNCs (transnational corporations).

F. **Bibliographical references** in the text should appear as: "John Dunning (1979) reported that ...", or "This finding has been widely supported in the literature (Cantwell, 1991, p. 19)". The author(s) should ensure that there is a strict correspondence between names and years appearing in the text and those appearing in the list of references. All citations in the list of references should be complete. Names of journals should not be abbreviated. The following are examples for most citations:

Bhagwati, Jagdish (1988). *Protectionism* (Cambridge, MA: MIT Press).

Cantwell, John (1991). "A survey of theories of international production", in Christos N. Pitelis and Roger Sugden, eds., *The Nature of the Transnational Firm* (London: Routledge), pp. 16-63.

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.

All manuscripts accepted for publication will be edited to ensure conformity with United Nations practice.

# READERSHIP SURVEY

Dear Reader,

We believe that *Transnational Corporations*, already in its fourteenth year of publication, has established itself as an important channel for policy-oriented academic research on issues relating to transnational corporations (TNCs) and foreign direct investment (FDI). But we would like to know what **you** think of the journal. To this end, we are carrying out a readership survey. And, as a special incentive, every respondent will receive an UNCTAD publication on TNCs! Please fill in the attached questionnaire and send it to:

Readership Survey: *Transnational Corporations*
The Editor
UNCTAD, Room E-9121
Palais des Nations
CH-1211 Geneva 10
Switzerland
Fax: (41) 22 907 0194
(E-mail: tncj@UNCTAD.org)

Please do take the time to complete the questionnaire and return it to the above-mentioned address. Your comments are important to us and will help us to improve the quality of *Transnational Corporations*. We look forward to hearing from you.

Sincerely yours,

Anne Miroux
Editor
*Transnational Corporations*

# *TRANSNATIONAL CORPORATIONS*

## Questionnaire

1. Name and address of respondent (optional):

_____

_____

_____

_____

2. In which country are you based?

_____

_____

_____

3. Which of the following best describes your area of work?

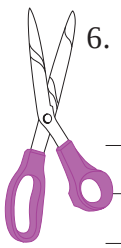
| | | | |
|---|---|---|---|
| Government | ☐ | Public enterprise | ☐ |
| Private enterprise | ☐ | Academic or research | ☐ |
| Non-profit organization | ☐ | Library | ☐ |
| Media | ☐ | Other (specify) | ☐ |

4. What is your overall assessment of the contents of *Transnational Corporations*?

| | | | |
|---|---|---|---|
| Excellent | ☐ | Adequate | ☐ |
| Good | ☐ | Poor | ☐ |

5. How useful is *Transnational Corporations* to your work?

Very useful ☐ Of some use ☐ Irrelevant ☐



6. Please indicate the three things you liked most about *Transnational Corporations*:

_____

_____

_____

7. Please indicate the three things you liked least about *Transnational Corporations*:

_____

_____

_____

_____

_____

8. Please suggest areas for improvement:

_____

_____

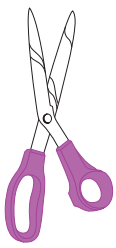
_____

_____

_____

9. Are you a subscriber? Yes ☐ No ☐

If not, would you like to become one ($45 per year)? Yes ☐ No ☐
Please use the subscription form on p. 165).



I wish to subscribe to *Transnational Corporations*

Name _____

Title _____

Organization _____

Address _____

_____

Country _____

Subscription rates for *Transnational Corporations* (3 issues per year)

☐ 1 year US$45 (single issue: US$20)

☐ Payment enclosed

Charge my ☐ Visa ☐ Master Card ☐ American Express

Account No. _____ Expiry Date _____

United Nations Publications

Sales Section
Room DC2-853
2 UN Plaza
New York, N.Y. 10017
United States
*Tel*: +1 212 963 8302
*Fax*: +1 212 963 3484
*E-mail*: publications@un.org

Sales Section
United Nation Office
Palais des Nations
CH-1211 Geneva 10
Switzerland
*Tel*: +41 22 917 2615
*Fax*: +41 22 917 0027
*E-mail*: unpubli@unog.ch

**Is our mailing information correct?**

Let us know of any changes that might affect your receipt of *Transnational Corporations*. Please fill in the new information.

Name _____

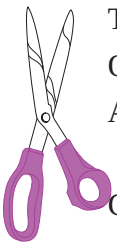
Title _____

Organization _____

Address _____

_____

Country _____



For further information on UNCTAD's work on investment, technology and enterprise development, please visit:

Division on Investment, Technology and Enterprise Development, DITE
http://www.unctad.org/en/subsites/dite

**Transnational Corporations Journal**
**http://www.unctad.org/tnc**

FDI Statistics online
http://www.unctad.org/en/subsites/dite/FDIstats_files/FDIstats.htm

World Investment Report
http://www.unctad.org/wir

Advisory Services on Investment and Training
http://www.unctad.org/asit

International Investment Agreements
http://www.unctad.org/iia

Investment Policy Reviews
http://www.unctad.org/en/investpolicy.en.htm

LDCs Investment Guides
http://www.unctad.org/en/investguide.en.htm

World Association of Investment Promotion Agencies (WAIPA)
http://www.waipa.org

United Nations Conference on Trade and Development, UNCTAD
http://www.unctad.org

Printed at United Nations, Geneva
GE.07- – December 2007 – 2,890

United Nations publication

ISBN 978-92-1-112732-4

**UNCTAD/ITE/IIT/2007/2 (Vol. 16, No. 2)**

ISSN 1014-9562