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Oscar Schachter (1915-2003)

The Editors of the *Transnational Corporations* journal were saddened to learn about the death of Oscar Schachter, Hamilton Fish Professor Emeritus of International Law and Diplomacy, Columbia University, New York, and member of the Board of Advisers of our journal. He was one of the first officials to join the United Nations (in 1946) and a pioneer in the development of international law. He was a leading figure in a wide range of research areas, including the theory of international law, peacekeeping, the United Nations, dispute settlement, international economic law, the outer space and human rights. Professor Schachter was Advisor of the United Nations Committee on Transnational Corporations from 1989 till 1993. He had served on the Board of *Transnational Corporations* since its foundation in 1992. In his personal relations, he was liked and respected for his intellect, humour and gentle spirit. His contributions will continue to benefit the research community for many years to come. We will miss him greatly.

Multilateral rules on FDI: do we need them? Will we get them? A developing country perspective

Stephen Young and Ana Teresa Tavares*

This article reviews the state of play regarding the investment regime in the World Trade Organization, with the objective of contributing to the debate on policy priorities for developing countries. It concludes that substantial progress on an investment regime at the multilateral level is unlikely and perhaps undesirable. A multilateral investment accord appears to be relatively unimportant to investors. Furthermore, institutional and regulatory harmonization derived from rules imposed by the World Trade Organization is costly and may be inappropriate for developing countries, as it may divert resources from higher priorities in development and act as a barrier to experimentation. Focus should be on the domestic policy agenda, including further external liberalization, and principally domestic regulatory and institutional reform. Improving these fundamentals should have a significant positive impact on the attraction of foreign direct investment. Host-country support for a multilateral trading system, nevertheless, continues to be of paramount importance, alongside a gradualist approach to a multilateral investment accord over the long term.

Key words: World Trade Organization, Doha Round, multilateral investment rules, foreign direct investment, developing countries

Introduction

This article provides a review and evaluation of the state of play with respect to multilateral rules on foreign direct investment

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(FDI), focusing specifically on implications for developing countries. It provides comments on a number of linked questions: Where are we now with multilateral investment rules? Is a multilateral investment regime at the World Trade Organization (WTO) desirable? Are multilateral investment rules actually achievable? Where do we go from here, and what are the implications for developing economies?

These issues are the subject of extensive debate, often within the wider context of discussions on globalization and its benefits and costs, and the roles of multilateral institutions (including the International Monetary Fund (IMF), the World Bank and the WTO) within the post-war global architecture of rules for trade and investment. Joseph Stiglitz labels the current system one of “*global governance without global government ... in which a few institutions ... and a few players – the finance, commerce and trade ministries, closely linked to certain financial and commercial interests – dominate the scene, but in which many of those affected by their decisions are left almost voiceless*” (Stiglitz, 2002, pp. 21-22).

The overall objective of the article is to assist developing countries in deciding upon policy priorities. Drawing on available evidence, it concludes that substantial progress on an investment regime at the multilateral level is unlikely, and, without radical changes to the WTO itself and to the underlying principles of an investment regime, probably undesirable. The policy focus for developing countries should, therefore, be on domestic regulatory and institutional reform, while maintaining a strong commitment to the multilateral trading system, and recognizing the potential benefits from progress towards a multilateral investment accord over the long-term.

State of play in investment regulation

Multilateral investment rules

The history of multilateral investment rules is a tale of successive disappointments (Brewer and Young, 2000). The history begins with the proposal for an International Trade Organization (ITO) in the 1940s, and its rejection by the United States Congress. FDI-related topics were among the most important and controversial. In the end,

they were a crucial factor in the rejection by the United States of the Havana Charter that would have created the ITO. As a result of these developments, FDI-related aspects were largely ignored in the context of the General Agreement on Tariffs and Trade (GATT) until the Uruguay Round negotiations. In between times, however, a range of initiatives were promoted in different forums, key among these being:

- the binding codes of the Organisation for Economic Co-operation and Development (OECD) on *Liberalisation of Capital Movements* and *Current Invisible Operations* (1963), requiring the liberalization of inward and outward capital movements over the long-term;
- the draft United Nations *Code of Conduct on Transnational Corporations* (voluntary), submitted in 1990 but not finished;
- the voluntary OECD *Guidelines for Multinational Enterprises*, published in 1976 and regularly updated (with little evidence of implementation by transnational corporations (TNCs)); and
- the draft OECD *Multilateral Agreement on Investment* (MAI), aiming to achieve a comprehensive multilateral framework, whose negotiations were suspended in October 1998 (with no agreement).

Investment came back on the GATT agenda with the Uruguay Round Agreements (1995). As part of a package that led to the establishment of the WTO, a number of agreements with explicit investment content were approved, namely, the Agreement on Trade-Related Investment Measures (TRIMs), which limits FDI performance requirements to some extent; and the General Agreement on Trade in Services (GATS), which includes FDI in services. In addition, agreements with continuous and direct relevance to investment include the Agreement on Trade-Related Intellectual Property Rights (TRIPS), which establishes standards and enforcement procedures for intellectual property; the Agreement on Subsidies and Countervailing Measures restricting some subsidies and retaliatory actions; and the Agreement on Dispute Settlement Understanding where government-to-government disputes on investment issues are included (for detail see Brewer and Young, 2000, pp. 121-131). However, the agreements do not appear to

have been designed specifically with investment in mind, are limited in scope and lack integration. Pierre Sauvé and Christopher Wilkie commented that: “there is still not a great deal of appreciation among WTO members of the extent to which existing rules address investment-related matters” (Sauvé and Wilkie, 2000, p. 338).

WTO rules established that biennial ministerial-level meetings would be held to continue the process of liberalization within a rules-based system. After the failure to initiate a millennium round of negotiations at the 3rd Ministerial Conference in Seattle in late 1999, eventually in November 2001 the Doha Round was launched. Heralded as a “development round”, 21 subjects are listed in the Doha Declaration, including a number of investment-related items, namely: negotiations on specific issues in the GATS, in the TRIPS Agreement, and in the Anti-Dumping and Subsidies Agreements; while working groups study the topics of the relationship between trade and investment, the interaction between trade and competition policy, and trade and technology transfer. The 5th Ministerial Conference (2003) in Cancún, Mexico, proved a setback to the Doha Round, and to its claims to be a development round. But whatever happens, only very limited progress on investment issues is possible, and the prospects for a comprehensive multilateral investment regime are as far away as ever.

As this article will show, from the days of the Havana Charter there have been three key and interrelated barriers to progress on a multilateral investment regime. The first concerns the problem of the relationship between multilateral rules and domestic priorities. The second relates to the balance between the rights of TNCs and obligations of countries (compared with the rights of countries and obligations of TNCs); and the third concerns asymmetries between home countries for FDI (mainly industrialized countries) and recipient host nations (mainly in the developing world).

The architecture of investment rules encompasses multiple overlapping levels, namely, multilateral, macro-regional (trade/investment blocs), national/bilateral and sub-national/micro-regional levels. These levels interact with and may eventually contradict each other, creating problems of systemic coordination (Tavares, 2001).

Furthermore, the importance given to investment rules, and the state of development of regulation in this regard, are highly variable between levels and even within each level. For instance, some regional blocs have explicit investment provisions and others do not have them (Brewer and Young, 2000). The provisions of the North American Free Trade Agreement (NAFTA) on investment are among the most advanced at a macro-regional level. They are wide-ranging, including fourteen chapters, the most relevant being Chapter 11, which uses terms similar to those of many bilateral investment treaties (BITs) on important issues such as expropriation. Under that Chapter appeared some of the first cases where TNCs have sued rich OECD host governments (Hallward-Driemeier, 2003).¹ Space does not permit a full review of investment regulation at these different levels, and because of the relevance to the article, further comment is restricted to bilateral rules.

Bilateral investment treaties

Recent years have witnessed an extraordinary proliferation of BITs (UNCTAD, 1998 and 2003), which are nowadays the most important instrument for the international protection of FDI. They are usually heralded as a means of attracting further FDI to the signatory countries; and are especially important when domestic institutions are fragile and protection of property rights is weak. BITs protect the affiliates of TNCs in host countries from discrimination, by requiring the granting of national treatment and most-favoured-nation treatment. In addition, they usually deal with cases of expropriation, capital transfer restrictions, and losses resulting from war and civil disturbance etc.

The first BIT was ratified in 1959. The number of such treaties quintupled during the 1990s and totalled 2,256 by the end of 2002 (UNCTAD, 2003). 173 countries were involved in BITs at the end of the 1990s (contrasted with only 2 at the end of the 1950s). The importance of BITs in international investment regulation worldwide

¹ A major advantage of regional integration agreements for small countries is, of course, to create larger markets; and market size is a major FDI determinant.

is thus very clear. Until the late 1980s, most BITs were signed between a developed and a developing country, usually by initiative of the former, aiming to secure protection of its investors. Since that time, BITs between developing countries are increasingly frequent. BITs where the two counterparts are developed countries are infrequent, mainly because investment relations between such countries are by and large dealt with in various instruments adopted under the aegis of the OECD.

Articles in this journal have evaluated a number of dimensions of BITs. John Kline and Rodney Ludema (1997) note that TNCs are granted a number of rights while having few responsibilities. Similarly, home-country governments have few responsibilities other than using best endeavours to stimulate capital flows. BITs grant investors legal standing, so they have a direct role in international trade disputes. Kline and Ludema (1997) argue that this investor-State approach is conceptually preferable to the State-State system of WTO dispute settlement. Thus the decisions in BITs dispute proceedings are more narrowly defined and create fewer market distortions; whereas WTO judgments go beyond the particular case to penalize exporters who have no involvement in the dispute. A.V. Ganesan (1998) suggests that BITs have found favour with developing countries because they commonly provide for national treatment to foreign investors in the post-establishment phase only, and do not restrict host countries from following their own FDI policies. A comprehensive multilateral regime would, by contrast, allow TNCs market access under conditions of non-discrimination between domestic and foreign investors in respect of entry, establishment and operation.

The huge increase in BITs was associated with the adoption of policies to attract rather than restrict or regulate FDI and can, therefore, be seen as part of the liberalization agenda of the 1980s and 1990s in developing and emerging nations. A recent series of country studies of policy reform in Latin America (Lengyel and Ventura-Dias, 2004) concluded that the proliferation of bilateral and plurilateral agreements can be explained by the lack of measurable benefits from multilateralism when compared to the high costs of

adjustment and reduced government autonomy. Countries wanted control over the pace, sequencing and direction of liberalization and reform. So the failure to make progress at the multilateral level has led to alternative arrangement emerging: given their bargaining power, home country governments find it easier to achieve the goal of protecting and facilitating outward FDI at the bilateral level;² TNCs obtain similar benefits, although, as Joachim Karl (1998) points out, regionally or globally integrated TNCs are unprotected in cases in which violations of agreements by host countries cause cross-border harm.

Despite the arguments presented above, however, studies have found that BITs are not important FDI determinants (UNCTAD, 1998; Hallward-Driemeier, 2003), thereby questioning their effectiveness.

Are multilateral investment rules desirable? Theoretical perspectives

This section reviews the major theoretical arguments relating to the establishment of a rules-based multilateral investment regime. From an economic perspective, the benefits from such a regime have been clearly stated by various authors (UNCTAD, 1996; Graham, 1996; Brewer and Young, 2000; Sauvé and Wilkie, 2000; Young and Brewer, 2003).

The most general argument pro-investment liberalization within a multilateral framework parallels that for multilateral trade liberalization, basically relying on the equivalent of the gains-from-trade argument. The general conclusion is that, as with trade, the liberalization of international FDI flows should be encouraged since it generates both national and global welfare gains, both by stimulating an increase in such flows, and preventing deadweight losses emanating from protectionist behaviour and the absence of a harmonized framework.

² The Government of the United States has made it clear in the wake of Cancún that it will make greater efforts to develop bilateral and regional trade initiatives (De Jonquières, 2003).

The situation regarding FDI contrasts starkly with that for international trade where there is a long-established, comprehensive multilateral system of rules and principles (for a comprehensive review see Brewer and Young, 2000). An agreement on a multilateral trade regime may be easier because the symmetries of imports and exports mean that countries' interests are relatively similar. Furthermore, negotiations on tariff (although not non-tariff) barriers are simpler than with investment and related barriers because the former are readily identified and isolated. Identification and quantification of countries' gains and losses is more straightforward in the case of trade impediments as well (Caves, 1996).

According to Richard Caves (1996), while two-way movements of investment are becoming more important, there are still major asymmetries – and, therefore, difficulties in ensuring that the benefits of international policy co-ordination are spread fairly among participants. Alan Rugman and Alain Verbeke (1998) argue that the symmetry of FDI positions at the national level and the dispersion of ownership-specific advantages at the firm level suggest support by both countries and firms for multilateral trade and investment liberalization. This, however, primarily applies to the two-way FDI flows between developed countries (admittedly the bulk of global investment flows) rather than to relations between developed and developing countries.

Hence, the asymmetry in investment positions, compounded by, we argue, the “invisibility” of FDI and relative complexity of measuring FDI flows make fair and balanced negotiations on investment very difficult.

Another important economic argument in favour of a multilaterally agreed framework is that it would limit the considerable waste of resources produced by the often scandalous incentive escalation (Oxelheim and Ghauri, 2003) and other distorting idiosyncratic measures that are only possible due to the lack of an internationally agreed and coordinated framework. Aside from the waste and misallocation of resources, competition may be distorted,

especially for large-scale capital-intensive projects in oligopolistic markets (Brewer and Young, 1997; Young, 2004).

Furthermore, as there is a trade-off between the granting of incentives and other policy measures, the efficiency of incentives can be strongly questioned, and the potentially significant opportunity costs highlighted (Driffield, 2000; Blomström and Kokko, 2003). The payment of incentives is dominated by the industrialized countries; and even within an area such as the European Union (EU), the wealthier nations spend significantly more than the poorer developing countries (Brewer and Young, 1997).

The *World Investment Report 1996* (UNCTAD, 1996), supported by numerous studies, has highlighted the significance of incentives in FDI decisions in host developed countries. Conversely, many developing countries still regard performance (principally local content) requirements as important tools in encouraging indigenous industrial development and strengthening trade balances. Under conditions of oligopoly, performance requirements may be employed to shift rents and producer surplus from firms to host countries; but the conclusion depends on the type of measure, and performance requirements are a second best development tool. On balance, theory and empirical evidence largely favours the elimination of investment incentives and performance requirements, from both global and national perspectives (Moran, 1998; Guisinger *et al.*, 2003).

Another conceptual argument presented in favour of binding multilateral rules is that they would lock-in liberalization and protection measures, and make reversal of policies much more difficult than the case with national/bilateral rules. This lock-in of policy measures could be particularly important when changes of government occurred or recession conditions encouraged protectionism, and would solve dynamic consistency problems.

Similar arguments have been developed by James Markusen (2001) from a game-theory perspective. He suggests that a multilateral investment agreement can bind future political leaders or make it difficult for them to withdraw from such rules. Again, if there

is no multilateral agreement, negotiations will be on a case-by-case basis with no fixed or transparent policies; this can lead to rent seeking and corruption by local government officials.³

The issue of transparency and openness is crucial. Indeed, there is a significant amount of research showing that openness lowers corruption, the latter seen as a major inhibitor to growth and development. Theory suggests that trade policy, competition by foreign producers and international investors, and openness-related differences in institution-building costs are three major transmission mechanisms through which openness affects a country's corruption levels. Recent empirical work (Bonaglia *et al.*, 2001) indicates that the effect of openness on corruption is nearly one third of that exercised by the level of development. Thus multilateral and national policies can work together to reduce corruption, hence contributing to economic growth and development.

The final economic argument presented here is that the existence of a multilateral regime, by leading to reductions in uncertainty, would be conducive to a substantial decrease in information/communication and transaction costs (Casson, 1997); these can be extremely high in the case of continuous haggling over FDI conditions.

Thus there are powerful economic arguments in favour of a multilateral investment agreement at the global level. However, the key issue is the asymmetric nature of investment flows, and the problems this creates for ensuring a fair distribution of benefits between capital exporters (mainly developed countries) and capital

³ Conversely Markusen (2001) also notes a number of arguments that might favour domestic as opposed to international rule making. First, commitment to international rules means a sacrifice of flexibility and potential bargaining power. Second, there will be an inability to discriminate among investment projects, meaning that the host country could lose out on possible larger rent shares on the more profitable projects. Third, projects may vary widely in terms of their potential net spillover and other benefits and governments would like flexibility to exploit these. In the main, these arguments do not carry much weight.

importers (mainly developing countries). This is a strong *provisio* to the pro-multilateralism arguments.

To conclude this discussion, it is worth adding what is essentially a political economy argument pro-multilateral FDI regulation, namely that it would have a positive impact on TNC-government relations, and on government-government interaction. According to Edward M. Graham (1996), the consequences of an imperfectly integrated world economy and a political system based on nation States are that conflicts inevitably arise between and among TNCs and governments. These can lead to global and national welfare losses through inefficiencies and/or resource misallocations. In a similar vein, Caves (1996) highlights a divergence of national welfare from global welfare in a number of major policy areas, including taxation and competition. One of the reasons for the imperfectly integrated global economy derives from the absence of a credible and coherent framework for international investment. What exists comprises a patchwork of bilateral treaties, regional arrangements, and limited plurilateral or multilateral instruments. This patchwork creates a considerable problem of lack of coordination and consequent systemic failure, and in the end weakens the bargaining power of countries *vis-à-vis* TNCs, which have learned how to exploit the absence of a transparent and harmonized FDI regulatory framework.

Are multilateral investment rules actually achievable (or desirable)? Political-economy and institutional perspectives

Despite the economic case for multilateral rules, other arguments exist, in a political economy (or strictly political science) sphere that may tip the balance against multilateralism. A number of themes have been developed in the literature highlighting the problems of achieving a multilateral system of rules (of all types, including investment). Challenges emphasized relate to the dilemmas posed by relationships between globalization, the nation State and democratic politics; issues of supranational governance; decision-making processes and bargaining power; and the debate over the relative merits and demerits of institutional and regulatory harmonization versus diversity at country level.

Globalization, the nation State and democratic politics

There are arguments that the requirements for stronger integration are unattainable and probably undesirable in a world of nation States and democratic politics. Literature on the topic of investment frameworks distinguishes between “strong” and “weak” rules and “deep” or “shallow” integration (e.g. UNCTAD, 1996). The requirements for achieving the benefits of deep integration are, however, very demanding, requiring market contestability and modal neutrality;⁴ policy coherence; binding rules with wide country coverage; and comprehensive rules, incorporating national treatment, most favoured nation treatment and effective dispute settlement mechanisms (Brewer and Young, 2000, p. 37-38).

Dani Rodrik (2002) argues that a requirement for deep integration is *either* removing the sovereignty of the nation State *or* abandoning domestic politics. Since these latter two options are unlikely to be feasible together, then the only remaining possibility is the abandonment of the goal of deep economic integration. This is what he calls the “political trilemma” of the world economy.

Several authors (Hoekman, 2002; Rodrik, 2002; Ostry, 2001) have contrasted the present WTO system with its predecessor, the Bretton Woods/GATT regime. During the latter period, far-reaching trade liberalization occurred in manufactured goods, but services, agriculture and textiles were effectively omitted; anti-dumping and safeguard clauses were permitted; and investment issues and developing countries’ policies were largely excluded. The deeper integration associated with the WTO regime, by contrast, “involves an inherently intrusive focus on domestic policy ... [and] also greatly

⁴ Modal neutrality means that rules are designed to ensure that government policies do not lead to the choice of an inefficient mode of supply. One argument for investment regulations in the WTO is that if rules exist on trade policy but not on investment policy, government measures may distort the mode of supply. In a theoretical analysis, Hoekman and Saggi (2002) find that a TNC chooses the efficient mode of supply even under a discriminatory output tax levied on FDI. Still, there is ample evidence of distortions occurring in, for example, the FDI decisions of Japanese TNCs entering Europe in the 1980s and early 1990s (e.g. Barrell and Pain, 1999).

reinforces the legalization trend in the trading system” (Ostry, 2001, p. 235). Since further progress is incompatible with national sovereignty or domestic politics, the likely consequence is regarded as being a shallow version of globalization (Rodrik, 2002), with investment rules excluded. This author, as well as others like Stiglitz (2002), has argued that in the absence of any kind of global government, deep integration tends to have a profoundly anti-democratic nature. This, together with a perceived loss of sovereignty (or at least authority), are reasons why developing countries tend to oppose such commitments, and a practical argument that counteracts the theoretical economic advantages of a multilateral investment regime.⁵

Supranational governance and the roles of the WTO, IMF and World Bank

A substantial body of literature has focused upon systemic weaknesses in global governance. One theme emphasizes the defects of the WTO system itself. For example, Rorden Wilkinson (2001) suggests that the WTO was a product of post-war institutional path dependency. As such its provisions are viewed as favouring industrial countries, with its culture being one of anti-developmentalism. Despite the positive theoretical arguments supporting trade rules, Stiglitz (2002) has argued that trade agreements have been asymmetric, with the rich countries doing too little to open their markets to the south. This would encompass investment-related issues too, where there are suggestions that, for example, the TRIPS agreement in the Uruguay Round was anti-developmental. The requirement to establish intellectual property laws and institutions to enforce them has been argued to lead to substantial transfers from poor to rich countries through royalty payments (Maskus, 2000; Srinivasan, 2002; additional criticisms are contained in Strange and Katrak, 2003). Similarly, middle-income developing countries (such as those in Latin America) accepted obligations to eliminate a number of policy

⁵ Aside from sovereignty, there can be issues of prestige associated with FDI. Statistics on FDI attraction are now used in many countries as an important economic indicator, and FDI-related agencies tend to be high profile institutions. Because of this “jewel-in-the-crown syndrome”, politicians may seek to maintain control over FDI issues.

instruments (such as local-content requirements) without getting much in return (Lengyel and Ventura-Dias, 2004). Furthermore, the Dispute Settlement Mechanism is biased against developing countries since the possibilities for retaliation in the event of winning a case are related to the economic size of the country. Among the positives, on the other hand, Miguel Lengyel and Vivianne Ventura-Dias (2004) suggest that membership of the WTO has led to improved information dissemination, especially in respect of complex technical knowledge, and so has assisted the involvement of poor and small States.

The need for reform of global institutions (the WTO but also the IMF and World Bank) is also evident in the work of a number of authors (e.g. Hart, 1997; Tita, 1998; Marceau and Pedersen, 1999; and Sharma, 2000). James Boughton (2002) highlights problem areas such as the absence of clear mechanisms to handle the relationships between the trade liberalization rules of the WTO, and trade reforms undertaken as part of World Bank or IMF programmes; and the differential voting systems of these institutions (one-country one-vote in the WTO; weighted voting in the World Bank and IMF), which could allow, for example, WTO members to be “punished” in a World Bank or IMF forum for breaching WTO agreements. Finally, Dukgeun Ahn (2000) and others emphasize the requirement for improved cooperation and coherence among the multilateral institutions.

Hence reform of supranational governance is regarded as being essential if a multilateral regime is to be achieved. Aside from the specific problems associated with multilateral investment negotiations (to be discussed below), the perception of anti-developmentalism in systems of global governance generally makes many developing countries strong opponents of a multilateral investment framework under the aegis of the WTO.

Decision-making processes and bargaining power

The dissatisfaction with supranational governance systems extends to forceful (sometimes polemical) criticisms of decision-making processes in the WTO and imbalances in bargaining power.

Within the international business field, studies of TNC-host government relations and bargaining power have a long history (Root and Ahmed, 1978; Fagre and Wells, 1982; Lecraw, 1984; Kobrin, 1987). More recently, the approach has been extended to include a second tier of bargaining at the bilateral level between host developing and developed countries or multilateral institutions (Ramamurti, 2001). The conclusion was that the bargaining power of TNCs has been strengthened, while that of host countries has been weakened, meaning a much greater emphasis on the rights of firms and obligations of countries.

It is not difficult to utilize such an approach to analyze the Doha Round of WTO negotiations and show the practical problems of making any substantive progress on investment-related matters. New actors have emerged such as non-governmental organizations, which have challenged many of the assumptions of deeper integration based on a corporate commercial agenda, although they have had little direct success in influencing multilateral negotiations. The demise of the MAI also showed that there was little support for investment rules among major players like the TNCs and the Government of the United States. TNCs have largely achieved what they want from investment rules (as discussed above, BITs have tipped the balance towards the rights of firms and specifically investor protection, a major concern). Therefore, TNCs are not actively pursuing an investment-related agenda, although their trading interests suggest support for a trade-related round of negotiations. The large developing-country block in the WTO is by no means unified; but there has been determined opposition to an investment agreement by key members like India, and genuine concerns about the benefits associated with the widespread trade and investment liberalization and deregulation policies pursued in the last decades.

Key issues for a successful agreement include investment incentives and performance requirements which are basically non-negotiable (but see Theodore Moran's "grand bargain" (1998)). It is questionable whether there is a political market for multilateral rules on investment incentives, especially in federal countries: no or little progress was made in the MAI, NAFTA or in the OECD's Industry Committee (Sauvé and Wilkie, 2000). Conversely,

developing countries are unwilling to expand agreements on TRIMs. There also more important issues than investment for developing nations, particularly, for example, market access for exports of agricultural and textile products. From a bargaining power perspective, the conclusion is one of stalemate.

Authors in political science focus strongly on decision-making processes, and some are highly critical of the domination of the WTO by the United States and EU. Despite the fact that developing countries represent a large majority in the WTO, they are dependent on industrialized nations for imports, exports, aid, security etc. and may end up compromising their interests. Richard Steinberg (2002) labels bargaining in the WTO as power-based and asymmetrical even though in theory it should be law-based. Aileen Kwa (2003) comments similarly that decision-making is non-transparent and non-accountable, with the major industrial nations making the real decisions and ignoring opposing views. It is not necessary to accept the extreme versions of such arguments to recognize the widespread dissatisfaction with current decision-making processes. The issue for this article concerns the effects on negotiations on investment-related matters. While power rests with the industrialized nations, the developing country majority has enabled them to use power in a negative way, which is to halt progress on issues that are critical to them, such as performance requirements (TRIMs).

Institutional and regulatory harmonization versus diversity at country level

A likely trade-off exists between harmonization and diversity in rule-making. There is currently substantial institutional diversity around the world, leading to high transaction costs. The latter derive from problems of contract enforcement; implicit (versus explicit) contracts and the need for repeated interaction between parties; and national differences in regulations and in the rules of doing business. Deep economic integration would require removing these transaction costs through the harmonization of institutions and associated regulations, a process that would parallel the removal of barriers to investment and trade.

Authors such as Sylvia Ostry (2001), Rodrik (2002) and Sharun Mukand and Rodrik (2002) have, however, focused upon the challenges posed by multilateral agreements for institutional reform in developing countries. Following Douglass North (1994; see also World Bank, 2002), it is well recognized that markets require effective non-market institutions in order to operate efficiently. However, as Stiglitz (2002) has noted, the establishment of these institutions can be prohibitively costly to some developing countries, and may not suit these countries' interests. There is no *a priori* recipe for harmonization. Difficulties of adjustment have also been noted by various authors (see, for example, Lengyel and Ventura-Dias, 2004, in a Latin American context).

In fact, there is a growing body of literature which argues for encouraging institutional diversity and experimentation in order to ensure a fit between institutions and local conditions and development needs (Dewatripont and Roland, 1995; Roland, 2000; Rodrik, 2000; Besley, 2000; see also Berglöf and von Thadden, 2001 on corporate governance). This may provide a further rationale for diversity and experimentation among regulatory regimes.

Other writers (e.g. Mukand and Rodrik, 2002; Rodrik, 2003) develop a related argument. Accepting that there has been a general convergence towards an outward-looking, liberalization-based policy model, this hides considerable diversity, particularly in respect of institutional implementation. It is suggested that China and India, which have been markedly successful in terms of growth rates, have implemented solutions very different to those of some Latin American countries. These, it is suggested, have less to do with basic economic principles as with their institutional embodiment, although clearly there are differences in the former, particularly as regards pace of liberalization.

While some authors have focused upon institutions per se, others, such as Bernard Hoekman (2002), have pointed out that the adoption of regulations and standards applied in developed countries may also be costly and inappropriate for developing countries. Thus the required intellectual property regime may differ, for example, according to a country's stage of development; and the customs

system might differ according to the problems faced (Hoekman, 2002; Finger and Nogués, 2001). Again some areas of regulation may not be priorities for developing countries. This suggests greater consideration by the WTO of the investment required by developing countries in implementation and the opportunity costs of diverting resources from higher priorities in development.

Thus multilateral rules are not necessarily desirable, let alone achievable, if they were to lead to excessive harmonization at country level (which could be potentially counterproductive from a development perspective).

Overall, the above-mentioned arguments, mainly from a political economy perspective, highlight the difficulties and potential problems implied by a multilateral regime that have until now counterbalanced the economic reasons pro-multilateralism. In fact, a multilateral regime has considerable difficulties that transcend mere negotiating complexity: these include the global efficiency-equity trade-off; the dangers of a recipe approach given development asymmetries of countries; and considerable coordination/transaction/bargaining costs *ex ante* (though implying a significant reduction of such costs *ex post* if a rules-based framework would be achieved).

Do multilateral investment rules matter for developing countries? The case for domestic reform

There is extensive research on the determinants of FDI in host countries (UNCTAD, 1996). Important variables include market size and growth prospects, labour availability and skills and the quality of infrastructure (for a more refined evaluation, see Nunnenkamp and Spatz, 2002). Accepting the importance of these factors, Ewe-Ghee Lim's (2001) review of the literature on foreign investment and growth suggests that an emphasis on non-tax deficiencies within a country (infrastructure problems, regulatory and legal barriers, macroeconomic instability and economic impediments such as trade barriers) is the most efficient way to attract FDI.

None of the above studies provide evidence that multilateral investment rules are a significant influence on investment decisions.

Certainly there was a ubiquitous process of privatization, deregulation and liberalization (including FDI liberalization) during the 1980s and 1990s. But in the case of Latin America, for instance, this trend preceded the completion of the Uruguay Round negotiations and was brought about by the financial crises of the 1980s and the influence of the World Bank and IMF on policy-making (Lengyel and Ventura-Dias, 2004). The rapid growth in FDI to China again reflects a lengthy liberalization process prior to WTO entry in 2001, which opened up great opportunities for market-seeking and efficiency-seeking TNC activity. Conversely, among the least developed countries, there is disappointment and frustration that market reform and trade and investment liberalization has not been reflected in substantially increased FDI inflows; the explanation relates to a lack of market and investment opportunities.

What may be hypothesized is that a supportive FDI regime is a necessary but not sufficient condition for investment attraction; and that the necessary conditions mostly focus on investment protection that are met by BITs. This explanation would suggest that a multilateral investment regime is relatively unimportant to investors.

Research evidence, however, mostly shows a positive relationship between *trade* policy liberalization and FDI inflows (Nunnekeamp and Spatz, 2002 is something of an exception). TNCs, particularly those with regionally or globally integrated production systems, require a liberal trade environment to lower trade transactions and operating costs and facilitate imports and exports. Therefore, host country support for the multilateral *trading* system is of fundamental importance.

Thereafter the focus for host developing nations should be *domestic regulatory reform* (or what Hoekman, 2002, terms the “behind the border” agenda). The starting point is clearly to get the basics right, meaning policies to ensure macroeconomic stability; strong financial systems; and sound public and corporate governance. A second level of required policy intervention concerns industry policies (and the necessary institutional support facilities) designed to improve competitiveness and support the development of the market economy. These include areas of industrial strategy relating

to technological capabilities; human resource development; entrepreneurship and small- and medium-sized enterprise development; and rural industrial development.

In respect of improving the contribution of FDI, much of the recent policy debate at the national level concerns competitive enhancement policies and the promotion of localization within an increasingly globalized world economy (Hood and Young, 2000; Dunning, 1997, 2000). These require the encouragement of national innovative systems, technologically advanced locational milieu and industrial clusters, public infrastructure, skilled and flexible labour, and coordinated macro-organizational strategies.

In addition, regulatory reform to provide an enabling environment and institutional reform to ensure implementation are now seen as critical elements (UNCTAD, 2002).⁶ Issues of significance include actions, first, to achieve better regulation, including, for instance, fiscal reform; land planning and allocation; business licensing and registration; and import/export procedures. Second, improvements in commercial dispute resolution, such as enhancing the accessibility of courts and simplifying court procedures; and implementing anti-corruption procedures. Third, changing the culture of government through training. And, fourth, facilitating private sector advocacy. Such internal restructuring is essential to provide micro-level support to programmes focusing upon macroeconomic stability and structural reform.

Improvements in import / export procedures and associated services such as transport and distribution, as well as the strengthening of trade-related institutions (e.g. customs authorities), are essential to reduce transactional inefficiencies and corruption and facilitate trade and FDI (as well as private sector activity more generally).

In summary, the objectives of domestic regulatory reform are to assist the emergence and development of market economies and

⁶ The material that follows relates to an interesting programme that has been recommended for the United Republic of Tanzania called the BEST (Business Environment Strengthening for Tanzania) programme. See UNCTAD, 2002, pp. 65.

a growing and internationally competitive private sector. Such a reform agenda will in turn provide the conditions for successful FDI attraction (Lin, 2001). These are areas where the WTO has rather little to contribute, although multilateral level policy issues have a significant bearing on the economic fundamentals that are so important in attracting and benefiting from FDI. For example, IMF and World Bank programmes have a role in promoting macroeconomic stability, economic reform and restructuring and the development of private enterprise. The International Finance Corporation (World Bank affiliate) plays an important role in FDI by taking equity stakes in invested enterprises.

Where now for developing countries?

The findings of this article can be summarized as follows:

1. While there are strong economic arguments in favour of a multilateral investment agreement at the global level, the asymmetric nature of investment flows creates problems in ensuring a fair distribution of benefits at the country level.
2. Weaknesses in supranational governance have created opposition to all multilateral institutions; the WTO has been strongly criticized because of its decision-making processes and bargaining power that favour developed States, despite the one-member one-vote system.
3. There is opposition to multilateral rules because of the adverse effects on national sovereignty and the ability to pursue domestic priorities. Institutional and regulatory harmonization derived from WTO rules is costly and may be inappropriate for developing countries, as well as diverting resources from higher priorities in development, and acting as a barrier to experimentation.
4. The spread of BITs (and regional integration agreements) has weakened the requirement for multilateral investment rules.
5. Although evidence is lacking, it is hypothesized that a multilateral investment regime is relatively unimportant as a locational determinant for investors.
6. The emphasis in developing countries should be on a *domestic regulatory reform agenda* that will provide the conditions

for successful FDI attraction, while supporting the evolution of the multilateral *trading* system to facilitate the development of TNCs' regionally and globally integrated production systems (and, indeed, the internationalization of domestic enterprises).

The perspectives presented here should not be regarded as a retreat from multilateralism. On the contrary, the multilateral trade and investment regime needs to be supported and strengthened. In particular, and despite difficulties, there should be an unwavering commitment to the multilateral trading system. Developing countries have much to gain from reductions in the trade restrictions imposed both by the industrialized countries and themselves.

In respect of a multilateral investment regime, the position is more complicated. Economic perspectives indicate welfare gains from a multilateral framework, but any agreement would have to recognize equity issues and the distribution of benefits between nations to be acceptable. Additionally, investment rules would need to provide an appropriate balance between the rights and responsibilities of firms and countries. This means rules that ensure predictability and security for foreign investors, and flexibility for host nations to follow their own development objectives; as well as tackling investment distortions caused primarily by developed country practices. Finally, multilateral rules should in general not extend into areas of domestic regulation, unless there are clear net benefits to all parties from so doing.

There is clearly additional work to be undertaken here, but the establishment of a set of principles along these lines could form the basis of a work programme that is acceptable to all parties. The objective would be a gradualist approach to a multilateral investment accord over the long term. Even this will be no easy task in the light of the dissension and polarization of views that exist at present. However, many years ago, when trade talks commenced, the reduction of tariff and non-tariff barriers also seemed impossible. Alongside this general approach, it will still be possible to make progress on deeper integration in services through the GATS, and to learn lessons that can apply to other investment areas.

This article has highlighted gaps and deficiencies in empirical research. To support and inform the work programme, therefore, a number of research questions should be addressed, including the following (see also Rugman and Verbeke, 1998; Wells, 1998; Sauvé and Wilkie, 2000; Srinivasan, 2002):

- Do TNCs take WTO rules into consideration in their decision-making and how important are they relative to bilateral and regional and national rules?
- How important have multilateral rules been in liberalization processes in developing countries?
- What is the evidence on the extent, nature and economic impacts of investment incentives, performance requirements, rules of origin and antidumping regulations?
- What are the experiences of developing countries with regulatory and institutional reform, and what are the implications for inward FDI?
- How far do the interests of developing countries depend upon their stage of development (including their institutional development)?

Concluding remarks

Little progress has been made with multilateral investment rules over a period of nearly 60 years, and little can be expected from the Doha Round. In the light of this experience, the present article has attempted to identify the reasons for lack of progress and to establish what lessons can be drawn for policy priorities in developing countries.

The conclusion that developing countries should address a domestic regulatory reform agenda is a very pragmatic but also important one. The potential gains from a multilateral investment regime are worth pursuing over the long-term, but positions are now so entrenched and frequently antagonistic that a period of reflection would be useful. During this time a research agenda might be devised and implemented, and begin to address controversial issues on which opinions are numerous and varied, but on which objective empirical

data are highly deficient. In parallel a framework of principles could be developed and from this a long-term programme that is acceptable to all parties put into place. This might, over the long-term, produce a comprehensive multilateral investment regime; but, with a realistic agenda from the start, expectations would be managed. ■

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Knowledge transfer to China: policy lessons from foreign affiliates

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The recent strategy of the Government of China has been to attract foreign direct investment in order to obtain foreign technology and capital. There is an official preference for advanced technology, and for its rapid diffusion to domestic firms. This approach underpins the joint-venture legislation applicable to most parts of the manufacturing sector. Using four case studies of foreign affiliates, this article investigates ways in which policy on foreign ownership has shaped the knowledge-management and knowledge-transfer strategies of transnational corporations in China. The obligation to form a joint venture often generates partnerships in which goal conflicts are rife, resulting in the transfer of knowledge diminished in quantity and quality, and slowing the rate of transfer. In most manufacturing industries, ownership restrictions are now largely relaxed, but not so in many services. These findings question the efficacy of policies restricting foreign ownership in order to promote knowledge transfer and foster local technological capacity.

Key words: international knowledge transfer, China, foreign direct investment, government policy, international joint venture

Introduction

The Government of China has employed foreign direct investment (FDI) as a key element in its development strategy

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since the 1970s (Shi, 2001). Disentangling the effects of any one of the myriad of fundamental changes since the adoption of the Open Door Policy in December 1978 is highly problematic. Against a background of radical change, China is now estimated to be the second largest economy in the world in terms of purchasing power parity (World Bank, 2001) and, since 1993, second only to the United States as a destination for global FDI (Ghauri and Fang, 2001). Policy choices clearly influence outcomes, but aggregate studies are unable to trace the effects of individual elements of policy changes. This article uses a case method to examine the effect of the policy of restrictions on foreign equity ownership on the practice and performance of knowledge transfer to foreign affiliates in China. Four transnational corporations (TNCs) from two industries were selected for this analysis.

TNCs, in return for providing capital and technology, are allowed access to the Chinese market (Engardio, Roberts and Symonds, 1996). In the early years of China's liberalization, TNCs were as a rule unable to invest except via international joint ventures with a Chinese partner (Roehrig, 1994). This legal requirement enabled Chinese interests, typically the Government, to retain effective control over foreign affiliates. It was expected that Chinese industrial partners would acquire technical knowledge. It is still the case that certain manufacturing and a number of sensitive service industries are subject to ownership restrictions. However, little is known about the ways in which this policy towards foreign ownership has shaped the internal environment of foreign affiliates. In particular, do joint venture requirements set up conflicts within the foreign affiliate that take years to resolve?¹ If so, what is the impact of ownership restrictions on the policy goal of knowledge transfer to China?

¹ In recent years it has become possible in the liberalized industries to buy out the "unwanted" local partners that TNCs acquired during the earlier policy regime. The French telecommunications company Alcatel, for example, achieved control of Shanghai Bell through this route (Financial Times, 2001).

This article is concerned with policy lessons, as the title suggests. However, to derive these, it is important to study the strategic decisions of firms affected by the policy, as it is through these decisions that the policy has any effect (intended or unintended) at all. If there has been a weakness in the policy literature, it is that there has been inadequate integration of the policy dimension with the strategic responses of firms. This article seeks to rectify this deficiency. However, its treatment of the firm's strategic behaviour should not be misinterpreted as a preoccupation. It is plainly necessary to analyze the opportunity set and decisions made in detail in order to understand the behaviour of a firm in response to policy and therefore the outcome of policy (Buckley, 1996). The innovation in this article is to integrate policy with the strategic decisions of TNCs. The mere enunciation of policy is in itself insufficient to produce outcomes until it is mediated through the actions of firms.

Although the joint-venture requirement has been abolished for much of manufacturing (Lemoine, 2000; Luo, 2000), ownership restrictions remain a central part of the policy toolkit. It still applies to final automobile assembly, and to sensitive industries, notably services, including telecommunications network operation, banking and railways (Luo, 2001). It is therefore important to understand how ownership restrictions influence the strategic decisions and behaviour of foreign affiliates, which are the mediums through which the policy goal of knowledge transfer is targeted. This article addresses this need through an analysis of the operations of four TNCs from developed countries (Motorola, Alcatel Bell, Volkswagen, DaimlerChrysler) in China, based on the collection of original primary data. Of these four firms, Motorola has a wholly owned affiliate in China, the other three have joint ventures established under legal requirements.

Foreign ownership policy and knowledge transfer

This summary of the literature examines the impact of government ownership policy on the knowledge management and transfer strategies of foreign affiliates. This article confines

itself to the primary transfer of knowledge from headquarters to foreign affiliates,² because it concentrates on policies affecting the host country (China), rather than the home countries of FDI.

The definition of knowledge encompasses more than technology, since other forms of knowledge are crucial to primary transfer. In the context of management research, the term “knowledge” refers to the tacit or explicit understanding in a firm about the relationships between phenomena, structured in a scientific manner (Hedlund and Nonaka, 1993). It is embodied in routines for the performance of business operations (Nelson and Winter, 1982), in organizational structures and processes, and in embedded beliefs and behaviour. The transfer process consists of knowledge communicated from one agent to another, such as from one part of a TNC to another part of the firm.

There are several gradations in the policy towards foreign ownership in Chinese industry. First, outright prohibition of equity ownership. Second, the legal requirement to form a joint venture, with either a “sleeping” or an industrial partner. Two situations exist: where the local international joint venture partner is imposed by the Government, or where the partner is freely chosen and simply approved by the Government. In practice, choice may be very limited – not only for reasons of government policy but also because of the scarcity of potential partners. Third, foreign equity ownership may be unrestricted, allowing up to 100% equity, i.e. a wholly owned affiliate. Peter J. Buckley, Jeremy Clegg and Hui Tan (2003) suggest that, when the law requires an international joint venture, ownership structure determines business strategy, in a reversal of the conventional wisdom. In turn, business strategy determines knowledge-management and -transfer strategies, therefore impacting upon the attainment of host country knowledge transfer goals.

Ownership restrictions are part of a broad policy to transplant foreign technology. Local content requirements of

² Studies also exist of reverse transfer, e.g. Buckley, Clegg and Tan (2003), and Håkanson and Nobel (2001).

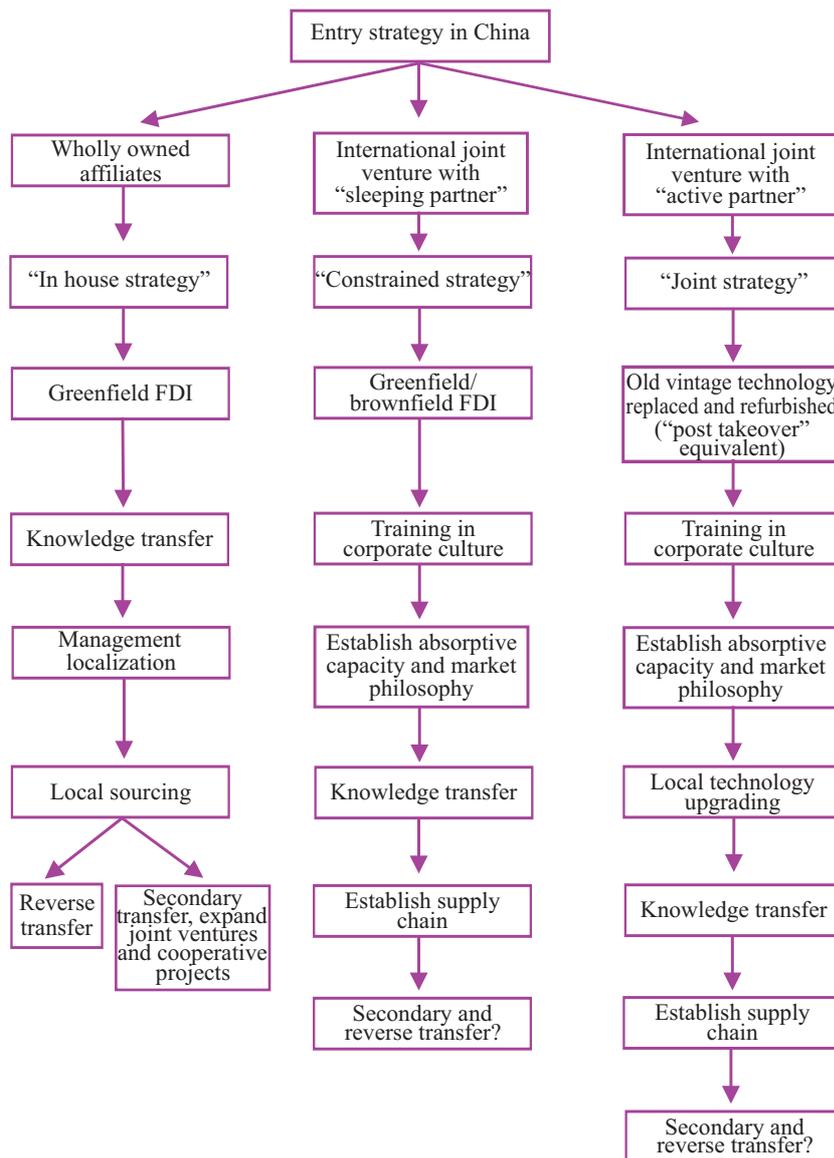
80% and constraints on importing components pressure TNCs to transfer their knowledge to China and then disseminate it to locally owned firms, in the form of spillover benefits (Buckley, Clegg and Wang, 2002). In effect, policy aims to reduce TNCs' appropriability (Hymer, 1960, 1976; Magee, 1977a, b), and to "cause bleedthrough" in international joint ventures (Harrigan, 1985). The challenge for the Government of China has been to devise ways of reducing TNCs' appropriation of the returns on their knowledge, without eliminating the incentive to produce in China altogether.³ Granting a degree of monopoly to international joint ventures, often through the exercise of monopsony power by the State and public bodies, has played a key role here.

Figure 1 sets out the entry strategy set, as determined by the ownership structure and the type of partner (Buckley, Clegg and Tan, 2003). Three strategy sets are outlined: an "in-house" strategy for wholly owned affiliates, a "constrained" strategy for joint ventures with a sleeping partner, and a "joint" strategy for a joint venture with an active partner. The operating mode of wholly owned affiliates follows an international strategy, adapts to the international environment and works with international technology transfer costs (Cannice and Daniels, 2000). The affiliate is free to invest, transfer knowledge and localize management, thus internalizing the development of absorptive capacity (Buckley and Casson, 1976). It can then establish local sourcing of inputs in an organized fashion, avoiding low-quality suppliers.

International joint ventures are constrained by their partners. Joint ventures with sleeping partners are less restricted in that there is a greater likelihood that the partner will have an interest only in profits.⁴ Initially, Chinese industrial partners may not make their true economic circumstances known (Child,

³ Although not strictly a policy, the alleged official Chinese laxity in enforcing foreign investors' intellectual property rights could be viewed as a part of this general approach (Potter and Oksenberg, 1999; Clegg, Cross and Xiao, 2000).

**Figure 1. International joint ventures in China:
the entry strategy set**



Source: Buckley, Clegg and Tan, 2003, p. 74.

2000), which has implications for trust on the part of partners. It is more often the case that an industrial partner aims to transfer its costs to the international joint venture (in the form of surplus labour, and obsolete capital assets), along with human-resources management practices that hinder efficiency (notably Communist Party politics).

The distinction between the two categories of international joint ventures may not always be clear-cut. Nevertheless, the model serves to outline the typical ways in which policy is implemented. The impacts of ownership restriction policy on international joint ventures are poorly addressed in the existing international joint venture literature. This stresses the importance of selecting a partner that offers complementarity in capabilities, compatibility in management strategies and low risk of becoming a competitor (Buckley and Glaister, 2002; Porter and Fuller, 1986). However, the literature has little to say on the consequences of adopting a joint venture when the wholly owned affiliate form would be the optimal mode, or when there is little or no freedom when selecting a local partner.

Both types of local partners may have profound implications for the ability of a foreign affiliate to absorb the primary knowledge transferred. Absorptive capacity is defined as a firm's ability to "[r]ecognise the value of new external knowledge, assimilate it, and apply it to commercial ends" (Cohen and Levinthal, 1990). A sleeping partner will not have unwanted resources to impose, but may disagree with the TNC over the level of investment in creating absorptive capacity (e.g. training⁵), thereby constraining strategy. In addition, in the case of an industrial partner, the resources it contributes to the

⁴ There are arguments both in favour of and against sleeping and industrial partners. One expatriate manager quoted by Rosen on the imperative of avoiding goal conflict says "The JV still works in China, but if you do use it, do so with someone who is not in your industry [...]. Go with someone who just wants to make money..." (Rosen, 1999, p. 50).

⁵ Chinese training norms are far lower than in the West (Zhang, 1995).

international joint venture may not support this capacity. Recent contributions to the literature suggest that absorptive capacity is a relative and not an absolute concept. Thus, the efficiency of inter-organizational learning does not depend simply on capacity residing in the recipient firm (Cohen and Levinthal, 1990), but on the joint characteristics of the donor and recipient firm. Peter Lane and Michael Lubatkin argue: “If student and teacher firms have very different organizational structures, the student will have difficulty assimilating knowledge from the teacher” (Lane and Lubatkin, 1998, p. 465). They find evidence that the efficiency of inter-organizational learning is determined jointly by the structural and knowledge processing mechanisms in both firms.

In the case of such international joint ventures, there are good reasons to believe not only that structures will differ between donor and recipient (Buckley and Glaister, 2002), but that goals may also diverge. Goal conflicts result in under and mis-investment in research and development (R&D) and human resources, hampering the building of absorptive capacity (Buckley and Casson, 1988; Buckley, Clegg and Tan, 2003).

This article argues that structural dissimilarity and goal conflicts between the foreign and local partners will slow and restrict the building of absorptive capacity for an international joint venture compared with a wholly owned affiliate. It is also likely that a TNC will differ with its local partner over the transfer of modern corporate culture into the international joint venture. The literature therefore suggests proposition one:

Proposition one: Primary knowledge transfer – from the parent to the Chinese affiliate – is swifter in a wholly owned affiliate than in an international joint venture under a policy of ownership restrictions.

When products require significant adaptation and development for large host markets, research intensive TNCs typically employ a knowledge creation strategy (Hansen, Nohria and Tierney, 1999). This begins with the transfer of primary

technology to the affiliate, along with the local development of the capacity to innovate. Human interaction and tacit knowledge transfer are appropriate to this strategy. Wholly owned affiliates are free to employ these strategies. However, under the model, for international joint ventures in which absorptive capacity is inadequate, the international joint venture may employ a strategy that simply re-uses the existing technology of the foreign parent (Buckley, Clegg and Tan, 2003). This strategy is inferior, as adaptation is held back. However, the codification of existing knowledge, and its transfer in the form of knowledge objects in databases or libraries, can be seen as a coping strategy. This is also likely to accord with the preference of the Chinese partner for “hard” technology. These various goal conflicts between the partners means that at some point the international joint venture faces a discrete choice in favour of a re-use strategy to avoid escalation in the cost of knowledge transfer (Hansen, Nohria and Tierney, 1999). The model suggests that the primary transfer of knowledge for re-use alone is diagnostic of low absorptive capacity in the affiliate. Propositions two and three follow:

Proposition two: Ownership restrictions requiring international joint ventures with local Chinese firms reduce the affiliates’ absorptive capacity.

Proposition three: Ownership restrictions militate in favour of a knowledge re-use strategy in an international joint venture rather than a knowledge creation strategy in a wholly owned affiliate.

Another aim of the Government of China is to encourage the local embeddedness of foreign affiliates to foster knowledge transfer and the growth of Chinese innovative capacity. For Swedish TNCs, Lars Håkanson and Robert Nobel (2001) found that “embeddedness in the local network” is a positive factor in achieving knowledge (technology) transfer. Embeddedness in the context of a knowledge creation strategy means that local absorptive capacity is developed to create a local extension of the TNC’s own learning network. This begins with the “in-house” development of local full-spectrum absorptive capacity

(including R&D capability), that is subsequently rolled out via collaboration with local firms. Such a network straddles the boundaries of the TNC, encompassing local firms and research bodies, and is associated with two-way, rather than one-way, flows of knowledge and more advanced technologies (Buckley, Clegg and Tan, 2003; Hansen, Nohria and Tierney, 1999). Learning networks develop the abilities of both foreign affiliates and local Chinese firms to generate new knowledge.

In contrast, foreign affiliates that become “embedded” through local linkages inherited from the Chinese international joint venture parent firm, or local joint venture partners, experience a qualitatively different type of embeddedness. Again, structure precedes strategy. Local partners’ goals do not include new knowledge creation. These linkages, propelled by the imperative to meet local content requirements, can only support a knowledge re-use strategy. Rather than promoting full-spectrum knowledge transfer and the local capacity to innovate, this type of embeddedness blocks or holds back the creation of a local learning network. Therefore proposition four is suggested.

Proposition four: A wholly owned affiliate can promote local embeddedness by creating a local learning network based on mutual exchange more effectively than an international joint venture.

Table 1 summarizes the four propositions. A “+” sign indicates that the ownership form under analysis promotes an increase in the variable under scrutiny. Likewise, a “-” sign indicates that the ownership form under analysis demotes or decreases the variable under scrutiny.

Research method

This article employs a multiple-case design of four firms (Yin, 1994). The propositions generated in the theoretical review are explored using these cases. According to Robert Yin: “[c]ase

studies are the preferred strategy when ‘how’ or ‘why’ questions are being posed” (Yin, 1994, p. 1). A case study approach consisting of four firms has been chosen because the research questions centre on the “how” and “why” of knowledge transfer in the emerging market of China. This permits a comparison across cases. Findings from multiple-case research can be generalizable to a wider context based on “analytical generalization” (Yin, 1994, p. 10). In this research, China’s telecommunications manufacturing and automotive industries have been chosen for the case studies. There are many similarities between these two industries, but there are also crucial differences that make them appropriate for case-study analysis. In terms of similarities, both are large-scale industries dominated by FDI in which extensive knowledge transfers have been reported. In respect of their differences, these largely arise in the technology intensity of production and their human capital intensity. The telecommunications manufacturing industry is at

Table 1. The four propositions

Propositions	Ownership form	
	Joint venture	Wholly owned affiliate
Proposition one: Speed of primary knowledge transfer	-	+
Proposition two: Absorptive capacity	-	+
Proposition three: Knowledge re-use or Knowledge creation	+ -	- +
Proposition four: Two-way flow of knowledge to and from the local economy	- (See text for short- and long term effects)	+

Source: the authors.

the forefront of advanced technology,⁶ and cutting-edge technologies are the basis for creating firm competitiveness. The automotive industry, on the other hand, is less technologically intensive, relying on mature technologies and large-scale production to reduce average cost and maintain competitive edge over rivals.

In identifying potential research candidates, TNCs that had been operating in China for a period of at least five years were chosen.⁷ This was deemed necessary so that the selected firms would have at least one key technology transferred and utilized, and the overall success of the transfer(s) could be assessed after a process of knowledge transfer and organizational learning. Thirty-nine companies meeting the above criteria, roughly equal numbers in the two industries targeted in this research, were contacted in order to seek permission for interviews. Twelve firms responded positively, and nine of them were selected. The other three were eliminated because they were either too small or only able to provide access outside the dates of the scheduled fieldwork. Based on the results of the first fieldwork, four firms from the two industries were identified as the cases for further research. As final assemblers, these firms have engaged in greater knowledge transfer and organizational learning than component suppliers. Being at the top of the FDI league table (Reuvid and Li, 2003), they were considered to be of large size and therefore more suitable for comparative analysis than others. In addition, according to the theory of international business,

⁶ “Advanced” or “high” technology normally refers to that which is relatively new and represents the application of recent research and development. “Low technology”, by contrast, refers to older, more mature technologies, arising from research and development carried out some time ago. There is often (but not always) an association between the level of technology and its factor intensity. Advanced technology, arising from recent R&D in high-wage economies, is often associated with relatively capital-intensive manufacturing process, while older technology is often relatively more labour-intensive (Child and Lu, 1996).

⁷ The five-year criterion is consistent with that established in previous research on knowledge transfer and organizational learning, e.g. Inkpen (1995, p. 129) and Lyles and Salk (1996, p. 887).

R&D and knowledge-intensive firms are likely to wish to maintain appropriability over their intellectual assets, either through ownership strategy or through effective internal organization to reduce dissipation (Buckley and Casson, 1976; Harrigan, 1985). The four cases can therefore be seen to seek similarities in respects where these are expected, on the basis of received theory.

There were two phases of data collection. In phase 1, information about TNCs' knowledge transfer and organizational learning in the Chinese telecommunications manufacturing and automotive industries was accumulated through a review of the relevant literature and the study of archives, and the four firms selected were contacted. In phase 2, two rounds of both open-ended and semi-structured in-depth interviews were conducted using multiple interviewees in each company.⁸ The interviewees were senior executives, including those responsible for functional divisions such as business planning, marketing, finance, production and human resources. Some of the top managers experienced the whole process of negotiation on establishing the foreign affiliates and attended numerous discussions on facilitating knowledge transfer and localization. The majority of the senior executives had at least ten years' employment in their respective firms, and participated in the process of knowledge transfer. Members of the knowledge transfer team, such as the training manager, operational manager, project engineer and other technical professionals, were also interviewed. As the interviewees consisted of both foreign expatriates and Chinese, the English version of the questionnaire was carefully translated into Chinese. Back translation, as suggested by Brislin (1970), was carried out to verify the content consistency between the two versions of the questionnaire. Managers, regardless of their positions and nationalities, were

⁸ It is a frequent criticism of case studies in China that they rely on single respondents. This study uses multiple respondents in each foreign affiliate in China. The range of respondents is six to eight in the four firms, with most of them interviewed more than once.

treated equally in interviews. Care was also taken in handling probing to avoid interview bias (Huber and Power, 1985).

Interview data and field notes were recorded by using the “critical incident” approach (Erlandson, Harris, Skipper and Allen, 1993), involving recording significant and meaningful data and structuring them to focus on emerging themes. The interviews were analyzed to focus on the managerial dimensions in the success of the knowledge transfer. Using a “within-case” analysis, theory was first developed by examining the context of knowledge transfer in one case. Then, pattern matching (Miles and Huberman, 1984; Yin, 1994) was adopted to compare the finding from this first case with the other three. Commonalities and differences in knowledge transfer practices between the firms were identified and reasons responsible were established with gained data and through prolonged contacts with interviewees. The findings and conclusions are generated from this process of raw data analysis combined with juxtaposition with the model. Wherever possible, the interview data were checked by triangulation with a second and independent source.

Business strategy and knowledge transfer

Profile of the four firms

Motorola set up its representative office in Beijing in 1987. In 1986 the law on foreign investment was changed, and complete foreign ownership was permitted in the telecommunications equipment industry. The firm established Motorola (China) Electronics Ltd. in Tianjin in 1992 as a wholly owned affiliate. It produces pagers, cellular phones, two-way radios, network equipment, semiconductors, auto electronics and accessories, largely for sale in China and other Asian markets. Motorola (China) had made \$3.4 billion of investment in China. By 2000, Motorola (China) had established one wholly owned company and seven joint ventures. As a wholly owned affiliate, the primary affiliate enjoyed total discretion over recruitment and the sourcing of inputs. At the time of this research it was

the largest foreign investor in China's telecommunications manufacturing industry, and its strong performance was a matter of public record.⁹ From entry, its strategy was to produce for both the Chinese and the global market. Eighty to ninety per cent of its output was for the buoyant and highly competitive local consumer market, with the balance going to exports.

In the case of the international joint ventures, TNCs were in the position of seeking local partners in a process that resembled an "arranged marriage". This was most pronounced for Alcatel Bell, which entered the Chinese telecommunications equipment market at a time when foreign TNCs were legally obliged to form international joint ventures with a local partner. The only partner with whom a TNC could form a joint venture was, in effect, the national State monopoly supplier. Shanghai Bell Telephone Equipment Manufacturing Company Ltd. (Shanghai Bell) was established in 1983 as a joint venture between Belgian Bell (32% of the equity), the Government of Belgium (8%) and China's Postal and Telecommunications Industries Corporation (PTIC), the industrial arm of the former Ministry of Post and Telecommunications (MPT, now Ministry of Information Industry; 60%). Through its monopsony power in fixed telephony, PTIC guaranteed a large market for Shanghai Bell's output. In 1986, Alcatel acquired Belgian Bell, becoming Alcatel Bell. However, Shanghai Bell still reports to Alcatel Bell in Antwerp, Belgium. It specializes in the production and installation of Alcatel 1000 S1240 (S1240 for short) exchanges and related parts and components. By 2000 Shanghai Bell had established 12 affiliates in China and 2 in Europe. The business strategy of Shanghai Bell was to service the local market to replace ageing analogue exchanges with digital, and it became a dominant supplier.

In the automobile final assembly industry TNCs have been, and still are to date, required to enter the Chinese market by

⁹ For example, according to the *Financial Times* ("Manufacturers turn to China's mobile market", 13 December 2001, p. 25), Motorola (China) is the largest supplier of handsets in China and occupies 30-32% of China's handset market, which is the largest in the world.

international joint venture with a local Chinese partner.¹⁰ At the time the two final assemblers entered China, not all locally owned producers were allowed, or wished, to form an international joint venture. Therefore the choice for TNCs was more limited in practice than it might have appeared. The role of the Government was to approve the choices once made. The local partners that were chosen by the two firms had decades of industrial experience.

Beijing Jeep was established in 1983 between Beijing Automotive Works (68.85%) and American Motor Corporation (31.15%), which was acquired first by Renault Group and then by Chrysler Motor Corporation (now DaimlerChrysler Group). It produced the Cherokee XJ series off-road jeeps at a rate of about 30,000 units per year, sold exclusively in China.

Shanghai Volkswagen Automotive Company Ltd (SVW) was established in 1984 between Volkswagen AG of Germany (50%), Shanghai Automotive Industry Corporation (25%), the Bank of China Shanghai Trust and Consultancy Company (15%) and China National Automotive Industry Corporation (10%). It produced the Santana range of cars with an annual output of 300,000 units, and 350,000 engines units, destined for the local market alone. In the 1990s it occupied around 50% of China's car sales.

Knowledge transfer

The purpose of this section is to examine the differences in the process of knowledge transfer between the four firms. If the policies of the Government of China affect knowledge transfer as the propositions suggest, then differences should be discernible in each of the logical stages of knowledge transfer.

¹⁰ It remains the case that, even after China's entry into the World Trade Organization, foreign affiliates cannot hold more than 50% of equity in any final car assembly operation. However, there are no ownership restrictions in other automobile manufacturing industries, for example, components.

Here knowledge transfer is analyzed in four stages: articulation, training, copying and adaptation. The propositions on policy identified above are examined for each of these stages.

Articulation

Articulation is the first stage in the knowledge transfer process, and concerns understanding, testing and sharing the knowledge transferred (Hedlund and Nonaka, 1993). The language difference between western TNCs and their Chinese staff poses a threat to the efficiency and effectiveness of articulation.¹¹ As part of the drive to open China, foreign languages (primarily English) were given priority in secondary schools in 1978. This generated a plentiful supply of graduates with a good command of foreign languages. However, this does not extend to non-graduates. Language differences were singled out by the interviewees across the firms as the biggest concern for management. For example, one senior manager in Shanghai Bell said that “[we] realised that product quality and service all depended on the understanding and assimilation of transferred knowledge by employees. The language barrier must be overcome straight away to enable understanding and assimilation”.

All four firms tackled the language problem early in the recruitment stage. University graduates with a good command of foreign languages are attracted by better pay and modern social facilities. The firms also provided workers with language training as part of their general training programmes. Differences emerge between the four firms. Following Motorola’s worldwide strategy, Motorola (China) employed intensive person-to-person communication in the transfer of knowledge and hence made heavy initial investments to ensure English language ability. Stringent recruitment requirements in language capabilities and

¹¹ For example, Marschan (1996) finds that the lack of language skills obstructed the effective inter-unit communication flows within a single TNC.

continuous in-house training enabled its managers and engineers to communicate efficiently and effectively. Chinese shop-floor employees as well as engineers and managerial staff underwent technical training in English before starting their jobs, with continuing training to improve their production and language skills. Frequent international personnel exchanges took place. The high frequency of personnel exchanges increased the exposure of the Chinese employees to English and the TNC's cultural environment, promoting learning effectiveness (De Geus, 1988; Nevis, DiBella and Gould, 1995). One manager commented that "[we] regularly host engineers and managers from the HQ and sometimes other affiliates. Some engineers and managers from Motorola (China) have also been sent to the HQ for training, placement, or entirely transferred there".

In contrast, in the international joint ventures recruitment and training was constrained by the need to bargain with the local Chinese partners over human resource issues. One former foreign expatriate at Shanghai Bell described it as a "family quarrel". All the international joint venture in-house training programmes involved language content, but this was less widespread. For example, in Shanghai Volkswagen, only after workers had passed German language examinations did they become eligible for further training in Germany.

Although the Chinese management teams and engineers in the international joint ventures generally had a good understanding and command of the foreign partners' language,¹² this did not apply to shop-floor workers, whose proficiency was at best basic. It is nevertheless important for production line workers to assimilate knowledge from the foreign parent. Therefore, in marked contrast to Motorola's (China) universal

¹² Unless they were graduates in the relevant foreign language, managers and engineers had to demonstrate language capability in the recruitment process, e.g. pass examinations in reading, speaking and writing. In-house training continued after they have taken up their posts. Language capability was taken into consideration in terms of promotion or opportunities of assignments in overseas countries, such as conducting joint research or receiving training in the headquarters of the foreign partner.

approach to language training, all three international joint ventures established translation and documentation centres to provide technical materials in Chinese. In Shanghai Bell a translation group screened and selected all the transferred documents. It translated the required materials into Chinese and distributed them to the relevant departments. This is representative of the articulation process in each of the international joint ventures, based on a codification strategy. The translation and documentation centres are repositories for translated knowledge objects, consistent with a knowledge re-use strategy. In the international joint ventures the international movement of knowledge objects substituted for the greater intensity of personnel exchanges and language training in the wholly owned affiliate. While this ensured that the transferred knowledge from the foreign parents was correctly understood and dealt with, articulation of the knowledge needed to build a knowledge creation strategy was absent.

Although language differences are the major problem in the articulation of knowledge transfer, there are others. The understanding of technical terminology, differences in operational norms and practices between parent firms and the Chinese affiliates, also come into this category, but have less impact on articulation than language.

Examining the four propositions, one can conclude from the case comparisons of the articulation stage that the foreign parent's sole ownership of the Motorola (China) venture made it possible to implement the type of articulation that increases the speed of knowledge transfer from the foreign parent firm, improves local absorptive capacity and, as a result of that, enhances local embeddedness. It is also consonant with the knowledge-creation strategy of the foreign parent. In contrast, local Chinese interests produced a lower investment in language training in the international joint ventures, and relied on translation centres to help tackle language barriers. This resulted in a slower speed of primary knowledge transfer from the foreign parent and complicated the process of absorption, which hindered local embeddedness. International joint ventures'

comparative deficiency in treating the language issue dictated articulation of the kind suitable only for a knowledge re-use strategy.

Training

The technologies and complementary management skills transferred by TNCs dictate a higher level of training for Chinese employees than is the norm in China.¹³ All four firms established training centres with dedicated facilities and special training officers. Every new employee undergoes a training programme to qualify for work. Training continues after each member's appointment and is a process that continues beyond the conclusion of the primary knowledge transfer.¹⁴

Training in Motorola (China) is the responsibility of Motorola University, an internal training organization in charge of training throughout the worldwide group. Training is systematic and intensive and part of Motorola's competitiveness strategy for local and global markets.¹⁵ Investment in training is high, in terms of training officers and in extensive personnel exchanges with headquarters. The scope of training is also wide, with local officials and tutors drawn from prominent Chinese universities contributing to in-house programmes. Fast track management localization takes place via the "Chinese Accelerated Management Program" (CAMP). Training was also used to transfer knowledge from headquarters and from

¹³ Chinese firms do have training systems, but training is carried out usually only for newly recruited employees. After the pre-employment training, it is normally the case that employees are expected to carry on learning on their own. Very few Chinese firms can afford large-scale post-employment training on regular basis. Training budgets are always the first to be cut when the business performance is unsatisfactory.

¹⁴ Primary knowledge transfer pertains to the knowledge specified in the parent-affiliate or joint venture contract. It usually concerns the technologies for producing a certain product or a range of products.

¹⁵ Training is a key element of Motorola's four-point business strategy: investment and technology transfer; management localization; local sourcing; joint ventures and cooperative projects.

established affiliates to new affiliates, to transform them into world competitors. As one training officer put it: “[t]raining is not for special people, or for a special period, but for all of the people all of the time”.

Each employee, including heads of companies, attends at least 40 hours of training each year arranged by the university. This training is extended to employees of the joint ventures of Motorola (China), its cooperative projects and component suppliers. In the affiliate, training is not limited to job-related technical and managerial knowledge, and encompasses social knowledge (including corporate culture) to create “Motorola people”. This integrates local and worldwide operations. The combination of training and learning strategies was expressed by a training officer as follows: “Learning does not stop after training. Instead, learning starts from training”. The spread of training beyond the boundaries of the firm, and the dual use of training as a means of transferring skills and technical and social knowledge, points to the building of a learning network and pursuit of a knowledge creation strategy in China.

In at least two of the international joint ventures social knowledge had been identified as important. A senior manager in the foreign parent firm stated that social knowledge was regarded as the “secret weapon” of Shanghai Bell’s performance. Training programmes were held in both Shanghai and Antwerp in Belgium, taught by Belgian managers. They were credited with being an effective way of injecting the belief, company-specific knowledge (internal jargon, management style, technical system, etc.) and corporate culture of Alcatel Bell. Shanghai Bell’s training scheme also covered employees in its affiliates and suppliers, clearly differentiating it from wholly Chinese-owned firms in its attempt to build absorptive capacity. In Beijing Jeep, training comprised seminars, professional short courses, case analysis within workshops, and sending trainees to the United States (including sponsored American university degrees). To equip employees with Volkswagen’s tradition of innovation and sense of quality, Shanghai Volkswagen sent managers and engineers to Germany for between 3-4 months to

2 years, and invited German experts to China to run training programmes and to exchange information.

The international joint ventures instituted training programmes that appeared capable of developing learning networks, following the parent TNCs' practice. But the international joint ventures' training was less systematic and intensive than in the wholly owned affiliate. The level of investment in training in an international joint venture depends on consensus between the partners. The Chinese partners undervalued training, consistent with local Chinese practice. In general, less frequent post-employment training programmes were provided by the international joint ventures than in Motorola (China). The training behaviour of the international joint ventures differed most with the wholly owned affiliate when they faced difficult times, when training was treated lightly, or even ignored. For example, training was scaled down dramatically when Beijing Jeep experienced serious market difficulties in the middle of the 1990s. The outcome of such behaviour was that the international joint ventures adopted levels and limitations on training consistent with a knowledge re-use, rather than a knowledge creation strategy. There appears little difference in the approach to training between the sleeping and the active Chinese international joint venture partners. For local partners, training is less seen as a strategic issue to promote competitiveness, but more a budgetary one, being a charge against the profits of the international joint venture. This is illustrated in one interviewee's comment: "Training is important, but profits always come first".

In terms of the propositions, one can discern no obvious relationship between training and speed of knowledge transfer. But the wholly owned affiliates enhanced absorptive capacity more effectively than the international joint ventures and are more supportive of a knowledge creation strategy, whereas the international joint ventures' training encouraged knowledge re-use. This difference comes out in the attitude towards the degree of priority afforded to human capital development as opposed to short-term goals.

Copying

Primary knowledge transfer from foreign parent firms to the Chinese affiliates is essentially a one-way process. Copying involves assembling business operations in the Chinese affiliates, based on the blueprints of the foreign parent firms. Its efficiency relies on the absorptive capacity that has been established. It requires the direct application of all the transferred technologies (product design, manufacturing process, product testing and quality control), and the employment of management skills (marketing, accounting and finance, planning, purchasing and supply, and stock control). In primary transfer, the aim is to achieve a “cloning” of the production system of the foreign parent firm, which requires that absorptive capacity is established (Cohen and Levinthal, 1990).

There are two strong pressures to produce components locally. First, importing components into China is very costly and subject to considerable delays (Zhang, 1995). Second, government policy imposes tax, profit repatriation and tariff penalties on firms achieving localization rates of under 80% of the value added. This has forced foreign affiliates to accelerate the transfer of technologies into China even when faced with weak local absorptive capacity (Zhang, 1995).

Component production may be localized either in-house or purchased from local suppliers. In the 1980s, Chinese firms lagged 30 years behind their counterparts abroad in production quality, and more in component production. Corporate culture was dominated by communist ideology, not professionalism. These shortcomings imposed heavy costs on foreign affiliates searching for reliable suppliers. Affiliates also risked “inappropriate internalization”, producing in-house in the absence of good independent suppliers.

From the outset Motorola (China) copied three product lines simultaneously, beginning production in 1992 of semiconductors, pagers and cellular phones. A software centre, a mobile telecommunications products development centre, a

manufacturing technology research centre, and a paging R&D centre were founded first. The centres established absorptive capacity, enabling the primary Chinese affiliate, secondary affiliates and subcontractors to assimilate efficiently and quickly the knowledge required for production. They also enabled the in-house production of a number of components in the absence of good local suppliers. Motorola (China) did not simply copy the technology of Motorola, it also copied the capacity to produce new technology and to innovate.

The principal differences between Motorola (China) and the international joint ventures in copying lies in breadth, volume and sequence. The three international joint ventures started with the assembly of only one product, i.e. the S1240 digital exchange in Shanghai Bell, the Cherokee in Beijing Jeep and the Santana passenger car in Shanghai Volkswagen. Hence, the range and volume of copying was greater in the wholly owned affiliate than in the international joint ventures. In contrast with Motorola (China), there was a “from-easy-to-difficult” sequence in copying in the international joint ventures. They began with the easiest parts of the production process: assembling and testing. Complete components were imported from the foreign parents to the international joint ventures for assembling. Copying within the international joint ventures firms was primarily a process of “learning by doing” (Nonaka and Takeuchi, 1995; Lall, 1980). In each case the establishment of the appropriate absorptive capacity did not take place in time to enable the primary knowledge transfer schedule to be met.

A signal of delay in the copying process is when expatriates from the foreign parent firms are retained longer in the recipient transfer teams and in key positions in the affiliate. In 1997, Shanghai Bell employed 15 Belgian expatriates, Shanghai Volkswagen 10-15 German experts, and Beijing Jeep 9 United States experts. Keeping expensive expatriates longer than planned is not decided lightly, and points to difficulties.

From the timing of the founding of the translation and documentation centres it appears that they were a response to

low absorptive capacity in the international joint ventures. Shanghai Bell founded its centre in 1985, to accelerate the rate of primary transfer. Beijing Jeep did the same in 1985 and Shanghai Volkswagen in 1986, two-to-three years after their establishment. The selection of knowledge re-use strategies was therefore a coping response to the low absorptive capacity of the international joint ventures. In contrast to the pro-active training in Motorola (China), the international joint ventures employed a system that removed the need for much of the workforce to absorb technical material directly in the foreign language. This codification strategy, with its selective nature, also worked against organizational integration within the international joint venture across the language barrier, and between the international joint venture and the foreign parent firm. It also militated against teamworking, which has been referred to as the single most important factor in facilitating the direct transfer of knowledge (Nonaka and Takeuchi, 1995). All three international joint ventures identified joint R&D with foreign parent firms on new products to be a crucial part of firm success. However, none of them was successful, partly due to a lack of effective teamworking. The outcome was that these international joint ventures still relied heavily on the transfer of the latest technologies at the time of the study. This is in stark contrast with Motorola (China), which had established R&D centres for the Chinese as well as Motorola's global markets.

The shortcomings in primary transfer point to fundamental goal conflicts in the international joint ventures. The TNC partners were all large firms with extensive experience in establishing operations abroad. Yet in the joint venture contract of Shanghai Bell there was no provision for the transfer of management and soft skills, and no recognition of the role of social knowledge. The exclusive focus on hard production technologies reflected the Chinese partner's preferences.¹⁶

¹⁶ The excluded elements were transferred later by the foreign partner outside the contract, when the impact of their omission had become evident.

For these foreign affiliates the choice of knowledge re-use strategies represents strategy following structure. It precluded knowledge creation. In the case of Shanghai Bell, the coping of the ability to conduct research was obstructed primarily by a fundamental conflict of goals with the Chinese partner:

The reason for this is that the market situation is so wonderful that the Chinese side just doesn't listen to you. We have no choice. [...] When production is six million lines a year and the joint venture's major shareholder and biggest customer is MPT, why should they worry about the next generation products? They try to extend the life cycle of the present products, which is wrong. In a one billion people market, it is not difficult to find customers (Senior manager, Alcatel Bell).

Government policy, local demand and competitive pressures obliged the board of directors of Beijing Jeep to set a target of 80% localization by 1987, i.e. three years after the establishment of the international joint venture. However, primary knowledge transfer was obstructed by two factors: weak in-house absorptive capacity and the cost and scarcity of good quality bought in components.¹⁷ The United States partner was bound by the joint venture contract to a target that reflected the preferences of the Chinese partner to transfer technology rapidly to the international joint venture, but without the investment in local absorptive capacity that this required. The target localization rate was achieved in 1994, ten years after the establishment of the international joint venture. Poor local management skills and outdated corporate culture contributed strongly to the local problems.¹⁸ As one manager said: "We and our suppliers are not up to the stringent standard to achieve a

¹⁷ According to Zhang (1995), a sample of 20 localized products indicated that their cost on average was 1.4 times of those imported which was composed of: manufacturer selling price + packaging + sea transportation + tariff + unloading at the port + surface transportation.

¹⁸ For Beijing Jeep's experiences, see Mann (1989); for a theoretical discussion of the topic, see Li and Shenkar (1996).

fast transfer and localization of the foreign technology. We have to learn the western way of management step by step which takes time, especially when people are reluctant to say no to their past.” In the short term, the flow of knowledge was reduced to match Beijing Jeep’s absorptive capacity. But eventually the international joint venture adopted a “localization community” approach in 1987, comprising itself and component producers, research institutions and universities, to build in-house and external local absorptive capacity. This enabled the international joint venture to conduct joint design with local interests, essential for product adaptation. In effect, Beijing Jeep constructed a learning network, but in a rearguard action. Learning was extended from the transferred technology alone to encompass technical, managerial and cultural inputs. For instance, Beijing Jeep applied the same quality control system of Chrysler and demanded quality to be maintained by all the employees instead of only the assembly line workers.

In the case of Shanghai Volkswagen, goal conflicts between partners were evidenced in product development. The German partner preferred a gradual approach in upgrading existing models (Santana cars) while the Chinese partner wished to develop new products for both the Chinese and global markets. Given the weak base of absorptive capacity,¹⁹ the German approach was adopted. Shanghai Volkswagen jointly developed the second generation of the Santana (Santana 2000) along with colleagues in Volkswagen in Germany and Brazil during 1992-1993. The Santana 2000GTI followed in 1997, and a much advanced model was also in development. While Chinese engineers have increasingly played a more important role in the product development process, it has taken an undue length of time to accomplish this.

The findings on the four propositions in this phase are that the speed of copying was more rapid in the wholly owned affiliate because of its greater absorptive capacity. In the

¹⁹ Shanghai Volkswagen achieved a localization rate of 80% only nine years into its establishment.

international joint ventures knowledge re-use strategies were a copying response to this low absorptive capacity. Both ownership forms created locally embedded networks of exchange.²⁰

Adaptation

The ability to modify products for the host market is a competitive advantage (Dunning, 1993). Technical and infrastructural differences between China and developed markets require product adaptation. For example, in mobile phone telephony there is a need for Chinese language text services on pagers and handsets. Motorola (China) established R&D centres in order to adapt and develop Motorola's existing product range, and to develop new products. Motorola's global structure enabled it to assign the Chinese affiliate to develop and manufacture for the Chinese and world markets.

Motorola's (China) approach was to manufacture a number of components in-house (as in the model), and simultaneously establish a number of research centres with local partners and potential suppliers to develop new products. This strategy raises local embeddedness within a knowledge creation strategy, and is congruent with internal organizational integration of the TNC and the creation of a learning network. This and the rapid localization of management enabled the affiliate quickly and effectively to acquire local knowledge (Inkpen and Beamish, 1997) with which to address the adaptation issue.

The main adaptation problem for Shanghai Bell was that the software of the S1240 exchange could not cope with the wide variation of network quality in China. As one senior manager commented:

The telephone system in China was then very complicated, with various systems installed at different times being

²⁰ Elsewhere it is shown that the wholly owned affiliate's network was of a high quality, particularly its local R&D network (Buckley, Clegg and Tan, 2003).

integrated into the national grid. The Belgian software was not capable of meeting the needs of the Chinese system. This gave us many nightmares. We had to carry out lots of modifications, or even develop some new functions, to meet the requirements of specific customers. We also had to revise the defects of the original system that became magnified only in the new environment.

Adaptation was conducted within Shanghai Bell by a dedicated customer development engineering department (with expatriates assigned to Shanghai Bell) on every component of the exchange, and by the technical transfer team in the headquarters of Alcatel Bell.²¹ Adaptation was therefore shared with the foreign parent, because the requisite capacity was not copied in its entirety to China. The local joint ventures' production role was limited to maturing items formerly produced by Shanghai Bell, rather than comprising the production of innovative products within a learning network. This indicates a dominance of knowledge re-use local embeddedness over knowledge creation. This is borne out in Shanghai Bell's choice of local partners. These were government bodies, such as local bureaux, rather than industrial partners, whose main role was to circumvent local market access barriers for Shanghai Bell products.

The poor road conditions in most cities and the countryside of China causes unusually high wear and tear on cars. Adaptation was therefore crucial. Substantial modifications, e.g. to the braking system, car horn and engine were required for the Beijing Jeep's Cherokee and Shanghai Volkswagen's Santana. One manager of Shanghai Volkswagen considered their capability for adaptation and modification to be an important firm specific advantage:

We have always regarded adaptation and modification as the only way of making the foreign product acceptable in the Chinese market. Indeed, we never ignored R&D.

²¹ This resembles the process of "learning by adapting" (Lall, 1980).

However, our R&D started with adapting the transferred product (the Santana) according to road conditions and customer needs.

Local knowledge is important to adaptation. In contrast to the network approach to joint production of Motorola (China) the international joint ventures draw principally on the Chinese partners. One senior manager in Shanghai Bell commented:

Lots of westerners don't listen to the Chinese. They think they know everything in this market. But the Belgians have been listening to us, they are very flexible, and can compromise if we are reasonable [in interpreting the customer needs and putting forward proposals for modifications]. So, if you [foreign investors] want to succeed in the Chinese market, you must have patience, you must be flexible, you must listen to the Chinese when coming to this market. You cannot say I am number one here.

Shanghai Volkswagen and Beijing Jeep also relied heavily on the local knowledge of their Chinese partners in the automobile industry in their adaptation processes. While they both benefited from the fact that their Chinese partners had been established passenger car producers for a long time, the linkages that this conferred were a mixed blessing. The extensive knowledge of, and links with, local government, component suppliers, financial institutions and marketing channels were not of the type essential for the joint design and implementation of rapid and efficient product adaptation. Their local embeddedness was predominantly knowledge re-use rather than knowledge creation. As a result, product adaptation in the international joint ventures took far longer than it would have had the targets set in the business plans for localization been reached on time.²² The cumulation of delays outlined in the first

²² The length of time in reaching a localization rate of 80% in the three international joint ventures was as follows: Shanghai Bell had not achieved this target by 1997; Beijing Jeep took 11 years; Shanghai Volkswagen took 9 years.

three stages of the knowledge transfer process in the international joint ventures therefore held adaptation back. This contrasts markedly with the organization and scheduling of adaptation by the wholly owned affiliate, which had constructed a knowledge-creation learning network.

In terms of the propositions, speed of adaptation to local conditions was swifter in the wholly owned affiliate than the international joint ventures. The international joint ventures were over reliant on their Chinese partners in securing feedback in adaptation, consequently the wholly owned affiliate was more successful in the adaptation stage of knowledge transfer.

Knowledge transfer to the Chinese parents in international joint ventures

International joint ventures with local partners have the potential to lower the costs of doing business in host markets. The resource-based view of the firm (Penrose, 1956, 1958; Wernerfelt, 1984; Grant, 1991; Foss, 1997) as applied to international joint ventures shows that firms can increase the returns on their assets when partners with complementary assets cooperate.²³ One of the motives for international joint ventures, especially in high-technology industries, is that of knowledge sharing and learning as part of a knowledge creation strategy (Inkpen, 1995; Lane and Lubatkin, 1998). In such instances knowledge transfers not only from the parent firms of the joint ventures but also, and not infrequently, back to the parent firms themselves. Such transfers are provided for, and governed by, the joint venture contract and supporting contracts relating to the transfer of technology. Informal transfers of knowledge (for instance, about markets) may also flow between the partners, and from the international joint venture to the partners (Buckley, Clegg and Tan, 2003). Although not governed by contracts, these

²³ This point can be related to that on the economies of common governance (Ot) advantages identified by John H. Dunning (1993). The resource-based view sees the firm as strategically acquiring Ot advantages.

non-proprietary transfers are generally considered reasonable by the partners.

Knowledge from operating an international joint venture can therefore be used by the parent company to enhance its own strategy and operations. The acquisition of this type of knowledge, called “output knowledge” by Eleanor Westney (1988), has been suggested as one of General Motors’ objective in its joint venture with Toyota (Keller, 1989). However, the situation in which transfers are legally governed or expected within an international joint-venture relationship must be contrasted with those in which they are not. International joint ventures may become a vehicle for the dissipation of proprietary input knowledge when there is non-contractual learning by another parent firm. Partners may specifically wish to prevent the “bleedthrough” of input knowledge assets to each other by attaching separate licensing agreements and through the design of the corporate governance structure (Harrigan, 1985).

Host government policies that restrict equity ownership by foreign TNCs are introduced both to facilitate knowledge transfer to local firms, as well as to protect local industries from foreign takeover (UNCTAD, 2003). The ownership restriction policy of the Government of China is intended to improve the transfer of foreign technology to domestic firms. However, ownership restrictions frequently interfere with a key stage in the formation of international joint ventures, that of partner search and selection (Li and Shenkar, 1996). The primary objective of partner search and selection is to ensure that the partners share the same goals for the international joint venture. Ownership restriction policy as practiced by the Government of China frequently involved the pre-selection of potential partners.²⁴ This practice considerably raises the likelihood of goal conflicts between the partners, and a resulting lack of trust.

²⁴ This is still the case in the automotive assembly industry where each foreign entrant is allowed to establish joint ventures with not more than two designated Chinese players in China as a whole. Similar patterns can be observed in other sensitive service industries, such as telecom service, insurance and stock brokering.

Knowledge transfers to the Chinese parent firms of these four firms²⁵ are largely in the form of the acquisition of foreign management skills and corporate culture. For example, some managers that received management training in Beijing Jeep later moved back to employment in the Chinese parent firm (Beijing Automotive Works), which launched a new international joint venture with Hyundai (Republic of Korea) in 2002. Using its pool of knowledge generated through working with Volkswagen, Shanghai Automotive Industry Corporation (Shanghai Volkswagen's Chinese parent) established an equally successful joint venture with General Motors (United States) and was also involved in purchasing Daewoo (Republic of Korea), so embarking on its own transnationalization process. Shanghai Bell's Chinese parent firm also employed managers that had worked in its international joint venture. In this case the staff were pivotal in setting up further international joint ventures with the foreign parent firm, Alcatel Bell. While they are not happy about the establishment of rival international joint ventures, the foreign parent firms in the above automotive assembly international joint ventures have to accept the fact that they lost appropriability of their input knowledge and now have to face increased competition from new international joint ventures established by Chinese parent firms with other foreign firms. Alcatel Bell has minimized the loss of its input knowledge by working with the Chinese parent firm of Shanghai Bell on new international joint ventures with different lines of business.

In the case of Motorola (China), the Chinese parent firms of its joint ventures obtained access to Motorola's unique system of management training and gained experience of its corporate culture. In addition, technology spillovers occurred in those cases in which Motorola (China) is keen on outsourcing components based on mature technologies. In this respect, Motorola (China) is more effective in bringing new knowledge (technology) to its Chinese partners.

²⁵ Motorola (China) only has Chinese joint venture parents at the secondary affiliate level, i.e. the wholly owned affiliate is a parent in local joint ventures with Chinese parent firms.

Chinese parent firms are the beneficiaries of any transfer of output knowledge from an international joint venture, or of input knowledge via the international joint venture from the foreign parent firm. This potential for the transfer of knowledge from the affiliate to the parent firm entirely changes the value equation, not only for the firm but also for the host Government.²⁶ However, insofar as these transfers are of proprietary input knowledge and are unintended by the foreign partner, they oblige the partner to transfer technology of lower value to the international joint venture, to limit the dissipation of its knowledge assets. It is this that underlines the weakness of a host policy designed to raise the quality and quantity of knowledge transfer, but which results in the truncation of the flow.

The findings of this article offer lessons for the design of government policy in China. Given that the objective of knowledge transfer to China is ostensibly shared by both foreign investors and the Chinese authorities and local international joint venture partners, it would make sense to adopt a regime that maximizes the quantity and quality of transfer to the Chinese economy. While ownership restrictions may maximize the short run bleedthrough of foreign partners' knowledge, it is at the expense of the greater long-run transfer of superior knowledge. The evidence is that the ownership restriction policy designed by the Government of China has not facilitated the flow of new knowledge into local industry as intended. On the contrary, it has created barriers to the maximization of knowledge transfer because the foreign parent firm has no incentive to dilute its bargaining power by releasing key assets. Consequently, knowledge re-use strategies are employed by foreign parent firms of international joint ventures formed under ownership restrictions to maximize the short-term return on investment. On the other hand, full equity ownership can encourage foreign entrants to transfer more knowledge to local component suppliers based on a knowledge creation strategy.

²⁶ The authors of this article are grateful to one of the referees for this insight.

Conclusions

This article has attempted to open ways to identify and analyze the inherent conflict within host-country policies between goals founded upon ownership restrictions and the policy goal of knowledge transfer to the host country. The case research suggests that foreign ownership restrictions cause goal conflicts, which in turn compromise both internal (to the international joint venture) and external absorptive capacity, so hindering the pursuit of knowledge transfer. Through the comparison of a liberalized and a non-liberalized industry, the case analysis provides evidence that full ownership liberalization actually promotes primary knowledge transfer to the host country. Evidence shows that the process of liberalization moves an industry forward in accelerating the transfer of knowledge to foreign affiliates and to the host country. The study suggests that ownership restrictions have profound and potentially damaging effects both on primary knowledge transfer and on the quality of local embeddedness of foreign affiliates. Such a policy limits the direct and the indirect benefits (via spillover effects to local firms) of knowledge transfer.

The case studies support the propositions set out in the article (table 2). They find support for the contention that there is an important policy conflict between an ideology of local ownership through international joint ventures and the speed of knowledge transfer (proposition one). They find that absorptive capacity is enhanced in wholly owned affiliates in the articulation, training and copying stages (proposition two). When policy requires the formation of an international joint venture, this reduces the absorptive capacity of the affiliate and biases knowledge transfer towards knowledge re-use rather than creation (proposition three). Degrees of embeddedness in local linkages are also affected by ownership policies. Wholly owned affiliates are better placed to create a “local loop” in their international learning network, rather than merely a local re-use enclave (proposition three). In the absence of local discrimination against them, wholly owned affiliates will create

a local learning network more rapidly and effectively than “forced” international joint ventures (proposition four).

The four-stage dynamic model of knowledge transfer (articulation, training, copying and adaptation) shows policy impacting on TNC strategy at every stage. The findings are of importance for the crafting of policy. Clearly, if the goal is knowledge transfer to the host country, but the policy tool actually inhibits this, then a re-think of policy is required.

A number of policy recommendations can be drawn from the study. First, the policy towards foreign equity ownership should be liberalized in restricted industries, up to and including 100% ownership. At present the Government of China fears that unfettered foreign entry, given the competitive disadvantage of Chinese industry, will mean extensive negative spillovers to locally owned firms. The cost of this approach is that establishing

Table 2. The four propositions and the knowledge transfer process

Item	Proposition 1: Speed (Rate of knowledge transfer)	Proposition 2: Absorptive capacity	Proposition 3: Re-use vs. creation	Proposition 4: Mutual exchanges
Articulation	+	+		+
Training	- (Takes more time because more thorough)	+	See text	- ^a
Copying	+	+		See text
Adaptation	+	? ^b		+

Source: the authors.

Note: The sign concerns wholly owned affiliate versus international joint venture.

^a International joint ventures create “shallow” links more rapidly while wholly owned affiliates internalize training.

^b Net effect of (+) result of intensive training and local embeddedness and (?) use of global standard and product mandate.

a strong capacity to create new knowledge is denied to Chinese industry. Part of this recommendation is the imperative to improve opportunities for outsourcing from local Chinese firms. These are the firms that will become part of the local loop in the learning network, and that have the potential to grow to be strong competitive firms in their own right. It is important that TNCs have a free choice of local suppliers, as this will maximize local embeddedness within a knowledge creation strategy that brings positive spillovers to Chinese industry.

Infrastructural improvements are also important, as these raise the rate of return to investment and therefore the rate of investment by TNCs and Chinese firms alike. The analysis has shown that there are reasons why one should expect international joint ventures' human-resources management policies to lag behind those of wholly owned foreign affiliates. The human-resources problems faced by international joint ventures are related to those endemic in Chinese owned industry. Reform of human-resources policies, in particular to detach politics from the process, is essential for Chinese firms to improve their competitiveness and ability to benefit from the presence of TNCs. Lastly, the standard of managerial and social knowledge needs to be raised. From the study it is concluded that there are reasons to believe that wholly owned affiliates are better placed to address this as goal conflicts are removed. However, existing international joint ventures and Chinese firms need their own approach. The first step is to challenge the ingrained tendency to relegate this important dimension to the status of an optional extra. If Chinese industry is to make the most of its opportunities to learn from TNCs, then progress along these lines is essential. This has the potential to be the best long-term guarantor of improvement in absorptive capacity and in the capacity to create new knowledge on the part of Chinese industry.

China has been outstandingly successful in recent years in attracting FDI. However, in terms of effective technology transfer and learning, many imperfections remain. These imperfections are often policy induced. They often result in higher costs and excessive internalization for TNCs unable to

find good quality local firms and institutions with which to create linkages. If China is to continue to forge ahead in attracting FDI, and making the best use of it, the policy conflicts outlined above must be addressed. As noted in this article, ownership restrictions are still in force in the final assembly stage of the automobile industry and in many services. Further research is needed to evaluate the way in which a policy of ownership restriction influences knowledge transfer in other industries.

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FDI and local capabilities in peripheral regions: the Etna Valley case

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This article analyzes the locational preferences of transnational corporations across provinces (sub-regional political and economic territorial units) of Sicily (Italy) at 2001 in the light of an incentives programme granted under a new regional development policy. The issue is particularly timely due to the rediscovery of space as a crucial element in economic activity. Scholars are paying increasing attention to sub-national units. However, they have focused mostly on core regions, neglecting the peripheral ones. Moreover, even the few studies investigating the activities of transnational corporations in peripheral regions have disregarded intra-regional disparities due to constraints of data availability. This article, based on a unique set of data, shows through a Poisson regression model that, unlike what is predicted by the current literature, the locational preferences of transnational corporations in Sicily are driven by local high-skilled competences (also reflected in high wages), high degrees of trade openness, proximity to universities, and low information costs. The econometric results also suggest an agglomeration of foreign affiliates in electronics, and chemicals and pharmaceuticals in what has been named the “Etna Valley”. However, while local productive (and indirectly technological) competences in chemicals and pharmaceuticals have acted as a catalyst for foreign direct investment in the province, these competences were initially lacking in electronics.

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Introduction

Studies on the location of foreign direct investment (FDI) embracing a macroeconomic perspective have traditionally adopted the nation State as the unit of analysis. Following some major theoretical developments that have re-discovered the role of *space* in economic activity, some articles have started to analyze FDI at a more detailed geographical level (Dunning, 2000). Despite some exceptions (e.g. Mariotti and Piscitello, 1995), the territorial unit of analysis of these more recent streams of research has been the sub-national region. Empirical analysis has been concerned mainly with FDI in production or technology localized in *higher-order* centres disregarding peripheral sites (e.g. Cantwell and Iammarino, 2001). Few studies have been devoted to investigate the location of the activities of transnational corporations (TNCs) *in* or *within* peripheral regions (e.g. Amin *et al.*, 1994), while a large literature investigates the determinants of the location of TNCs in developing countries (e.g. Dunning and Narula, 1996).

However, the understanding of the interplay between the global and local dimensions has become crucial for both corporate managers and local governments for the sake of global competitiveness and local development, respectively. On the one hand, the new role of the foreign affiliate within the corporate network and its greater interaction with the local environment (Birkinshaw, 1996) can be exploited fully if local geography is appreciated correctly. At the intra-regional level, for instance, the agglomeration of potential local capabilities in peripheral centres may attract FDI and, then, shape corporate location strategies by diverting them from mere market-oriented motives. On the other hand, *vicious cycles* of local socio-economic conditions can be inverted by attracting TNCs, which, in turn, act as an engine of local development. Inward FDI is, indeed, an additional channel through which new ideas, working practices

and technologies are sourced into the host economy (Barrell and Pain, 1999). If, in favour of peripheral locations, potential gains have risen from the decentralization of corporate activities generated by new corporate organizational forms and by the emergence of information and communications technology (ICT), some skeptical views have been expressed on their long-run sustainability due to the immobile nature of knowledge (Camagni, 1992). As shown empirically elsewhere (Cantwell and Santangelo, 2002), far from reducing geographical differentials in terms of local capabilities, the ICT revolution has enhanced spatial imbalances both across and within borders.

Within this theoretical framework, the surge of FDI in Sicily in the mid-1990s represents an emblematic case of locational choice by TNCs in a region classified as peripheral both in the national and European context.¹ However, the implications of the implementation of the European Union's (EU) regional policy should be taken into account when evaluating this pattern. Due to the take-off of the EU regional policy, the development of depressed Italian regions is nowadays pursued mainly through the attraction of production by incentives. Nonetheless, although the boom of FDI in high-technology industries in the island may be attributed to the new incentive policy, within Sicily FDI may be distributed unevenly across provinces suggesting the presence of differential basic location determinants.

The aim of the article is twofold: to analyze the geographical and sectoral distribution of production activities carried out by TNCs across Sicilian provinces; and to explain locational preferences of TNCs across provinces and industries once they have chosen to establish their productive activities in Sicily. Within this framework, the study attempts to evaluate whether potential emerging areas of local expertise acting as catalysts for TNCs' investments can be identified within the island. The analysis is carried out by combining territorial data

¹ Sicily is classified as an Objective 1 region within the European Union's regional policy.

(drawn from different sources) with inward FDI data.² The FDI data refer to 48 manufacturing foreign-affiliate plants located in the nine Sicilian provinces (corresponding to level 3 of the Nomenclature of Territorial Units for Statistics (NUTS3) adopted by the European Commission³) in May 2001.

The next section of this article sets the theoretical scene. The subsequent section sketches the situation of FDI in Sicily in the late 1990s in geographical and sectoral terms. Then a description of the variables and the models adopted follows. The pen-ultimate section discusses the econometric results. A few brief policy implications are drawn in the concluding section.

The renewed importance of the location advantage

The issue of FDI location is traditionally linked with a theoretical attempt to explain the existence of TNCs.⁴ More recent literature drawing on Stephen Hymer's (1970) work (i.e. new trade theory, and geography and trade) has emphasized the significance of an imperfect market environment and an imperfect industrial structure as primary conditions creating advantages for FDI. Imperfections of the market environment allow TNCs to obtain monopolistic advantages through FDI *vis-à-vis* local companies. An imperfect industrial structure enables firms to become TNCs by obtaining intangible assets from their investments in

² The data are the result of the updating of the 1998 Reprint (Cnel-R&P-Politecnico of Milan) database up to May 2001. The updating has been conducted by consulting the local and national press as well as by interviewing local agencies involved in local development. Consistently with the Reprint (Cnel-R&P-Politecnico of Milan) database and in line with the 1997 criteria of the International Monetary Fund, FDI is defined as corporate acquisitions of control or (minority or majority) long-term interests embodying a certain degree of involvement of the investor in the direction and management of the company.

³ For a comprehensive description of the NUTS classification, see Eurostat, 1995.

⁴ For a review on international production theories, see e.g. Ietto-Gilles, 1992.

advertising and research and development (R&D) (Markusen, 1995). Conversely, internalization theory (Buckley and Casson, 1976) has stressed the importance of asymmetric information in operations carried out abroad, arguing that high information costs (and more general transaction costs) push firms to internalize rather than licensing foreign operations. A more comprehensive framework has been provided by John H. Dunning's (1993) eclectic paradigm, which, moving away from the predictive theories of TNCs, identifies the determinants of international production in ownership, location and internalization (OLI) advantages. According to this framework, TNCs have competitive *ownership* (O) advantages by comparison to their competitors in terms of both intangible and productive assets. Ownership advantages can be utilized to establish affiliates in sites that are attractive for their *location* (L) advantages. Across different locations, TNCs can enjoy *internalization* (I) advantages rising from the ease of appropriating returns and from the exploitation of complementary assets within their integrated corporate structure. Major attention has been devoted to the study of I advantages in explaining the existence and growth of the firms so far. Nonetheless, although firm-specific determinants of international economic activity is still a major topic of academic research, international business scholars have shown a renewed interest in the spatial aspect of FDI (Dunning, 1998).

Due to the drastic technological, economic and political changes of the past two decades, as well as to the theoretical attempts (i.e. new trade theory, economic geography, and international political economy) to analyze further and integrate this aspect into mainstream research, L advantages have gained increasing relevance in academic investigation. Among the changes that have geared the rethinking of L advantages, the emergence of knowledge as a crucial asset and the technological revolution starting in the late 1960s have doubtless played a major role. These two aspects have, indeed, generated concurrent centripetal and centrifugal forces in the sense that, if technological advantage has eased the transfer of knowledge across and within borders, the production of knowledge is still

embedded locally. Thus, contrary to what is sometimes alleged, globalization and national/regional specialization are complementary parts of a common process, and not conflicting trends (Archibugi and Michie, 1997). Along these lines, it has been stressed that TNCs arise “not out of the failure of markets for the buying and selling of knowledge, but out of its superior efficiency as an organizational vehicle by which to transfer this knowledge across borders” (Kogut and Zander, 1993, p. 625). Besides FDI motives dictated by adaptation to host markets (i.e. home-base exploiting motives (Kuemmerle, 1996)), TNCs’ decisions on setting up foreign affiliates are geared increasingly by the need to tap into local capabilities (i.e. home-base augmenting motives (*ibid.*)). The recent growth of strategic asset-seeking FDI – and consequently the more embedded ties of foreign affiliates with the local environment – bear testament to this view. Accordingly, empirical evidence on FDI as a strategy to source abroad knowledge-intensive assets (Dunning and Lundan, 1998), as well as to acquire know-how reinforcing the strengths or complementing the weakness of investors (Chen and Chen, 1998), has been gathered. Therefore, TNCs are increasingly looking for high-value capabilities in order to complement their core competences, with the due exceptions for some labour and resource investments in developing countries.

This new techno-socio-economic situation raises two orders of implications. The first order concerns corporate organization: at the inter-firm level, a relational, collective and collaborative form of capitalism, “alliance capitalism” (Dunning, 1995), has emerged; at the intra-firm level, TNCs are coordinating increasingly their internal networks through heterarchical (as opposite to hierarchical) organizational forms. The interaction of affiliates with the local environment, which results from broad mandates granted by the parent company, enables the whole corporate structure to tap into locally specific and differentiated streams of innovation in each site, and reinforces local strengths. The second order of implications refers to the paradox of “sticky places within slippery regions” (Markusen, 1996) resulting from the more pronounced

geographical concentration of production and technology within countries and regions. FDI may, indeed, lead to the establishment of local manufacturing industries (Markusen and Venables, 1999).

The growing significance of knowledge-related infrastructures and the theoretical stream of research started by Paul Krugman's (1991) work have drawn attention to sub-national spatial units (mainly sub-national regions) based on the idea that increasing returns are essentially a regional and local phenomenon arising from economic agglomeration and specialization.⁵ This implies that the locational factors attracting TNCs can be analyzed at local levels since those environments are "the product of historical processes that are not easily imitated or altered" (Saxenian, 1994, p. 162). Unlike classical locational theory (Lösch, 1954) – which explains agglomeration economies mainly in terms of a reduction in transaction costs and cheap labour – the theoretical developments which have taken place since the 1980s have underlined the importance of localized high value added and its cumulative and path-dependent nature in explaining economic agglomeration and performance.⁶

However, economic agglomerations may show a more specific spatial pattern as a result of intra-regional disparities. Agglomerations rise from the immobile nature of knowledge, which may further feed intra-regional disparities. John Cantwell and Lucia Piscitello (2002), for instance, show the significance of potential intra- and inter-industry knowledge spillovers as crucial locational determinants of R&D in foreign affiliates. In turn, TNCs can play a role as flagship firms in the establishment

⁵ For a survey on the new economic geography see e.g. Ottaviano and Puga, 1997.

⁶ These theoretical lines can be summarized in the neo-Marshallian model of industrial districts and local production systems (concerning mainly the studies on the "Third Italy"); the development of the evolutionary theory and the notion of "innovative milieu" (Maillat, 1995) and 'technopole' (Castells and Hall, 1994); and the extension of work on the organization of industrial production (Piore and Sabel, 1984).

of new high-technology clusters (Arora *et al.*, 2000), in which cascading effects due to the observation of other investors can reinforce this process (Mody and Srinivasan, 1998). Thus, countries/regions engage in international tournaments to attract FDI in order to improve their locational advantages and local-firms ownership advantages through spillovers and linkages generated by activities of foreign affiliates (Cantwell and Narula, 2001). However, the impact of TNCs' activities on host economies depends greatly on the type of the local affiliate, its technical capabilities (relative to the corporate network), the scale of its innovative activity, as well as on the positions of the home and host locations in the field in which the affiliate operates (Frost, 2001). As argued by Catherine Beaudry and Stefano Breschi (2000), clustering *per se* is not sufficient to explain firms' innovative performance since it needs to be complemented by innovative persistence and accumulated stock of knowledge. Thus, in the emergence of high-technology clusters, the *coevolution* of emergent and guided processes should be accounted for. As far as the former is concerned, the unintentional impact of firms, for instance, on the creation of locational advantages, are the relevant factors. Conversely, guided processes are the intentional results of institutional actors (i.e. Governments) aiming at contributing to the development of L advantages.

The findings concerning incentives are controversial despite of the recognized role of governments in promoting FDI-assisted growth (Dunning and Narula, 1996) and the worthwhile participation of governments in location tournaments (Mudambi, 1995). If evidence has been provided on the irrelevance of incentives in attracting FDI in Italy in the 1980s (Mariotti and Piscitello, 1995), it has also been shown that there is not single recipe as far as incentive are concerned since different kinds of incentives attract different kinds of FDI (Rolfe *et al.*, 1993). Accordingly, at a more theoretical level, it has been argued that the impact of incentives seems to be more effective in R&D intensive industries (Sanna-Randaccio, 2002). The Irish case appears to be indicative in this respect due to the successful attraction of FDI in high-technology industries in the 1990s

through a policy of trade liberalization and locational incentives (Barry and Bradley, 1997). However, this model seems to have provided only a short-term solution to the development issue, given the recent intention of some major TNCs to move outside Ireland (see e.g. *Business Week*, 30 July 2001). This suggests a structural weakness of the local system in absorbing foreign capabilities and feeding them locally in order to invert the vicious cycle.⁷ Local absorptive capacity is a key factor for local firms to benefit from optimal potential spillovers and linkages, which are the outcome of the “right kind” of FDI. In fact, if local technological capabilities are weak in the sector of TNCs’ activity, FDI may drive out local competition and further reduce local technological expertise (Cantwell, 1987). Conversely, strong local capabilities are reinforced by a dynamic interaction with foreign investors. Thus, the success of incentive for high quality inward investment requires the host location to have a rich resource base (Cantwell and Mudambi, 2000).

The debate on the role of incentives in enhancing the L advantages of depressed regions through the attraction of FDI and, consequently, that of TNCs in the take-off of local high-technology clusters gains particular momentum in the case of Sicily, for two reasons. First, radical changes in governmental policy towards depressed regions in the early 1990s (entering into force in the mid-1990s), stimulated by the take-off of the EU regional policy,⁸ transferred the right to implement economic policies to sub-national regional governments. Within this new

⁷ As shown empirically by Barry and Bradley (1997, p. 1801): “FDI inflows in Ireland have not gone primarily into industries in which the economy has a traditional comparative advantage”. Therefore, a TNC’s threat of relocating its investment from the country once an incentive policy comes to an end seems to be revealing of a lack of local competences in the industries of interest for TNCs.

⁸ Up to then, the issue of Italy’s *Mezzogiorno* was tackled through a national policy inspired by a model of basic industrialization targeting the development of depressed regions by locating there public companies operating in energy industries in order to boost the local economy. Given the weakness of the industrial structure of southern regions (mainly based on traditional manufacturing industries), this policy had the effect of further hampering their economic development.

political approach, incentives have been granted for the establishment of productive activities in depressed Italian regions. Second, in the mid-1990s, massive FDI flows into the southern regions (as compared to the rest of the country) took place (Mariotti and Mutinelli, 1999). Moreover, inward FDI flows targeted especially high-technology industries and Sicily.

Given that new kinds of incentives are available for all Sicilian provinces, the aim of this article is to investigate whether there are specific drivers to locational decisions of TNCs once they have decided to establish their production plants in the island in order to investigate whether some provinces show greater agglomerations of FDI than others. International, national and local newspapers, as well as some major consulting companies (e.g. KPMG, 2002, Appendix C), have claimed increasingly that a phenomenon of agglomeration in high-technology industries (such as electronics, chemicals and pharmaceuticals) appears to be at work in the Sicilian province of Catania, wishfully labelled “Etna Valley” after the nearby volcano. Thus, this may suggest that the locational preferences of TNCs may be driven by local capabilities and embedded value-added.

The geography and sectoral structure of inward FDI in Sicily

Before evaluating the determinants of the decisions of TNCs, the geographical and sectoral structure of inward FDI in Sicily is analyzed briefly. FDI inflows into the island have originated in different home countries. United States TNCs own by far the greatest number of foreign affiliates (more than 40%), followed by French TNCs, which account for almost 23% (table 1). German and United Kingdom FDI is more contained (each of them represent slightly more than 6%), although it is more important than FDI from other Western European countries (such as Sweden and Switzerland, whose shares equal those of Canada and Japan). If this suggests that geographical distance does not matter for United States TNCs and, to a lesser extent, for the Canadian and Japanese one, it does for European TNCs accounting for small shares of FDI in the region (with the

exception of French TNCs). These disparities may be due to different degrees of experience across national groups of TNCs (Davidson, 1980). Firms with extensive experience (such as United States TNCs) exhibit less preference for near and similar markets. Conversely, less experienced firms (e.g. European TNCs) may perceive Sicily as less attractive because of high uncertainty due to the lack of an inward FDI record. However, international trends should be also borne in mind when reading these figures since the 1990s witnessed a rise in United States outward FDI, showing a peak in the years 1996 and 1997 (UNCTAD, 1997). This pattern is also confirmed when looking at the distribution of foreign affiliates by country of origin in Italy as a whole (table 1). It is worth noting the presence, although contained, of Swedish TNCs in Italy, despite their traditional preference for high-income locations (Blomström *et al.*, 1997).

Table 1. Share of foreign-owned plants located in Sicily and Italy, by firm national group
(Per cent)

Country of origin	Sicily	Italy
Canada	4.2	1.3
Finland	2.1	1.2
France	22.9	13.9
Germany	6.3	19.1
Japan	4.2	5.7
Kuwait	2.1	0.0
Netherlands	2.1	4.5
Sweden	4.2	1.4
Switzerland	4.2	12.0
United Kingdom	6.3	11.8
United States	41.7	29.0
European total	47.9	63.9
North American total	45.8	30.3
Asian total	6.3	5.7
Total	100.0	100.0

Source: author's calculations, based on *Italia Multinazionale 1998* (1999).

The idea of an uneven distribution of foreign affiliates across the nine Sicilian provinces gathers support from a two-way ANOVA analysis – grouping foreign affiliates by province and industry – which aims at identifying significant effects of specific factors (namely, PROVINCE and SECTOR) on the distribution of FDI. The results of the analysis reported in table 2 show that the factor PROVINCE is statistically significant ($p < 0.05$) while the factor SECTOR is not, thus confirming the uneven distribution of foreign affiliates across the Sicilian provinces, but not across industries. These results have been further plotted in figure 1, in which Catania is by far the province hosting the highest number of foreign affiliates, followed by Syracuse. Although the ANOVA analysis does not enable to identify a statistically significant difference in the distribution of foreign affiliates across the 10 industries considered, table 3 shows that “mechanical equipment and metal products” (which in the database mainly contains electronics firms), “chemicals and pharmaceuticals” and “oil and energy products” represent together almost 80% of the total number of manufacturing foreign affiliates located in the island.⁹ However, if the significance of the latter industry is understandable due to the

Table 2. Two-way ANOVA results^a

Item		Sum of Squares	df	Mean Square	F
Main Effects	(Combined)	93.02	17	5.472	1.83 ^b
	PROVINCE	52.40	8	6.55	2.19 ^b
	SECTOR	40.62	9	4.514	1.51
Model		93.02	17	5.472	1.83 ^b
Residual		215.38	72	2.99	
Total		308.40	89	3.47	

Source: author’s calculations.

^a Unique method: all effects entered simultaneously

^b significant at $p < 0.05$.

⁹ The author of this article is aware of the drawback of the aggregate sectoral level. However she had to accept a trade-off between the detailed geographical unit of analysis adopted and the sectoral disaggregation available at this spatial level.

availability of natural resources,¹⁰ the presence of foreign affiliates in the former two high-technology industries is surprising given the socio-economic conditions of the region.

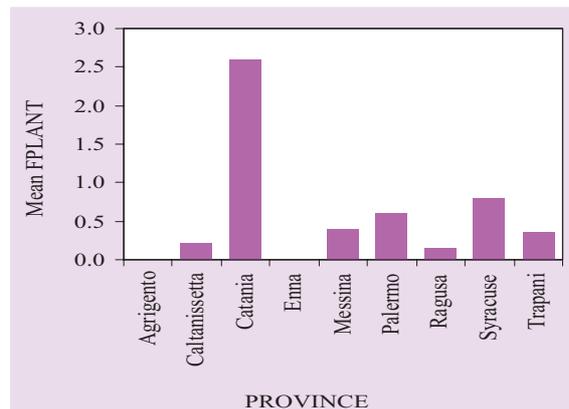
Table 3. Distribution of foreign affiliates in Sicily by industry

Industry	Share (%)	Number of plants
Food, drink and tobacco	6.3	3
Textiles, clothing and leather products	0.0	0
Wood, rubber and other manufacturing	6.3	3
Paper and publishing	4.2	2
Chemicals and pharmaceuticals	25.0	12
Oil and other energetic products	10.4	5
Non-metallic ores ^a	4.2	2
Metallic ores	-	-
Mechanical equipment and metal products	41.7	20
Vehicles and other means of transport	2.1	1
Total	100.0	48

Source: author's calculations, based on *Italia Multinazionale 1998* (1999).

^a Estimate.

Figure 1. Means of firms, by province



Source: author's calculation.

¹⁰ Syracuse is a major national pole of oil extraction.

The econometric models and the specification of the variables

The phenomenon under investigation is the location preferences of TNCs between alternative provinces once they have decided to locate their technological activities in Sicily. The dependent variable is the number of foreign affiliates located in each province i and manufacturing industries j . That provides the following equation:¹¹

$FPLANT_{ij}$ = number of foreign affiliate plants in province i and industry j at May 2001: $i = 1, 2, \dots, 9$ and $j = 1, 2, \dots, 10$.

A Poisson regression model was fitted to the data when considering a series of covariates that account for factors affecting the location preference of TNC activity across provinces and industries.¹² Since the phenomenon under analysis is the locational preferences of foreign affiliates established in Sicily by 2001, the independent variables have been calculated over the period 1996-1998, in which the incentives were offered. It should be highlighted that the variables considered do not intend to be comprehensive due to constraints of data availability at the level of geographical disaggregation. The variables used and the relative sources are reported in annex table 1.

The first set of variables considered refers to *traditional locational factors* such as availability of labour and market size. If availability of labour may attract potentially FDI by lowering labour costs (Markusen and Venables, 1998), it also reveals the

¹¹ Clearly, considering this channel of FDI only limits the generalizability of the results since different channels of FDI (such as joint venture and greenfield plants) may have a different impact on the local sourcing of knowledge (Cantwell and Mudambi, 2003). However, constraints in data availability should be taken into account.

¹² Although the theory prescribes a negative binomial model to deal with the overdispersion generated by the count-data nature of the dependent variable (Green, 2000), the test of overdispersion was not statistically significant. Conversely, the test of goodness of fit of the Poisson regression model insures robust results.

backwardness of the island. This factor has been proxied for each province i by the average percentage of unemployed people over the period 1996-1998 ($UNEMP_i$). Similarly, the size of the local market may be a crucial variable in the locational decision of TNCs since, the larger the local market, the greater the opportunities of adapting and customizing production locally without incurring in further costs (*ibid.*). Thus, for each province (i), the size of the local market is proxied by the average *per capita* value added calculated over the period considered ($MSIZE_i$).

A second set of variables concerns variables related to *local competences and intangible assets*. The quality of the labour force is a recognized factor of attracting of FDI seeking high skills (Audretsch and Feldman, 1996). For each province i in each industry j , the average share of managers and white-collar employees in total employment in the manufacturing industry ($SKILL_{ij}$) is calculated. Similarly, high-quality competences may be also reflected in high wages. Thus, for each province i in each industry j the weighted average of the annual average retribution of managers and white-collar employees over the period under analysis ($WAGE_{ij}$) is taken into account. Innovative capabilities are proxied by the share of patents granted to residents in the province (i) relative to the total regional patenting activity (PAT_i).¹³ The presence of a university in the province should also act as a factor of attraction in terms of potential access to local R&D, as well as of a source of skilled labour. Therefore, for each province (i) a dummy variable (UNI_i) equalling 1 if the province has a university and equalling 0 otherwise is inserted. The commitment to higher education may be seen by TNCs as a potential local source of knowledge. In order to capture this aspect, for each province (i) the average number of full-time students enrolled in secondary education (EDU_i) over the period 1996-1998 is considered. Local

¹³ Following an established stream of literature (e.g. Pavitt, 1985), patents are adopted as alternative indirect measures of knowledge creation as they capture the generation of new knowledge and, accordingly, provide some indirect evidence on the establishment of tacit capabilities, which make such knowledge operational (*ibid.*).

productive (and indirectly technological) competences have, instead, been included in the analysis by calculating the average of the revealed comparative advantage (RCA) index (RCA_{ij}) calculated for each province (i) in each industry (j) over the period 1996-1998.¹⁴ The breath of local productive (and technological) competences (DIV_i) has been captured in each province (i) across the 10 industries (j) by the average of the inverse of the coefficient of variation of the RCA distribution.¹⁵ A variable related to the *economic policy*, which can influence FDI location, is the presence of incentives. For each province (i), the proxy used is a dummy variable ($INCE_i$) equal to 1 if any of the foreign affiliates located in province (i) and operating in industry (j) has been granted incentives to locate its productive activity there over the period under analysis, and 0 otherwise.¹⁶

A third set of variables covers the *information costs* TNCs face when establishing production plants abroad. Firstly, the

¹⁴ RCA_{ij} is the average of the following index calculated over the period considered:

$$rca_{ij} = (X_{ij}/S_jX)/(S_iX_{ij}/S_{ij}X_{ij})$$

where X_{ij} is the total export of province (i) in industry (j). Therefore, the nominator is the share of exports of province (i) in industry (j) relative to all other industries, while the denominator is the share of exports of all provinces in that industry relative to the regional total in all industries. Values greater (lower) than 1 denote specialization (despecialization) of province i in industry j .

¹⁵ DIV_i can be formalised as the average of the following index:

$$div_i = m_{RCAi}/s_{RCAi}$$

where m_{RCAi} and s_{RCAi} are the mean and the standard deviation of the RCA_{ij} distribution, respectively. The drawbacks of using these indicators based on exports to proxy technological capabilities needs to be acknowledged (Kumar, 2001): firstly, a province may be able to export a particular good by serving as export-platform for foreign TNCs as a result of imported knowledge and, therefore, it has not the corresponding local technological competences in that particular industry; secondly, local technological capabilities in certain industries may not be reflected adequately by exporting behaviour because of the relocation from the home base by local enterprises.

¹⁶ The incentives considered refer to incentives granted to the TNCs in the sample under law 488/92 for production investment in each of the Sicilian province from 1997 to the year 2000.

degree of trade openness (TOP_{ij}) of each province (i) in each industry (j) may lower information costs for TNCs as provinces more active in the international trade arena display a trade history for TNCs interested in selecting local production sites. TOP_{ij} is defined as the average of the following index over the period of time under analysis:

$$top_{ij} = (X_{ij} + M_{ij})/VA_i \quad (1)$$

where X_{ij} are the exports of province (i) in industry (j), M_{ij} are the imports of province (i) in the same industry, and VA_i is the province's value added in manufacturing. Uncertainty will be also lower in provinces in which large foreign affiliates are already operating, insuring diffusion of information within the international business community. For each province (i) the number of firms with 500 or more employees as compared with the total number of manufacturing firms in 1996 has been considered ($F > 500_i$).

Variables related to the *socio-economic context* can play a role in the locational decision of TNCs. Given the characteristics of Sicily, a variable accounting for the presence of crime, which may obviously act as a deterrent for the location of economic activities (Gastanga *et al.*, 1998), has been included in the analysis. This variable ($CRIME_i$) has been defined for each province (i) by the average number of illegal acts per inhabitant over the years 1996-1998. Moreover, the turnover of local firms has been considered as a deterrent to FDI location since it reveals instability of the local market. The variable ($FTURNOVER_{ij}$) included is given for each province (i) in each industry (j) by the average of the following index over the period considered:

$$fturnover_{ij} = (R_{ij} + C_{ij})/A_{ij} \quad (2)$$

where R_{ij} is the number of firms registered at the Chamber of Commerce of province (i) in industry (j), C_{ij} and A_{ij} are the number of firms that have closed down and the number of active firms in that province and industry, respectively.

A final variable is related to *transport infrastructure*, which may be a determinant in the location of foreign activities. Given the geography of Sicily, in this study the presence of airports in the Sicilian provinces is taken into account. For each province (i), a dummy variable ($AIRP_i$) is considered equal to 1 if in the province under consideration there is an airport, equal to 0 otherwise.

The summary statistics of the variables and the correlation matrix are reported in tables 4 and 5, respectively.¹⁷

Table 4. Summary statistics

Dependent variable	Mean	Std. Dev.	Min	Max
FPLANT _{ij}	0.53	1.86	0	15
Independent Variable	Mean	Std. Dev.	Min	Max
UNEMP _i	0.24	0.05	0.13	0.31
MSIZE _i	30.05	28.73	8.06	105.02
SKILL _{ij}	0.24	0.46	0.00	3.64
WAGE _{ij}	71512146	147725332	0	732744730
PAT _i	0.11	0.11	0.01	0.31
UNI _i	0.33	0.47	0.00	1.00
EDU _i	29023	18192	9394	63836
RCA _{ij}	2.46	3.53	0.01	20.18
DIV _{ij}	2.24	2.59	0.58	17.37
INCE _i	0.06	0.23	0.00	1.00
TOP _{ij}	0.17	0.71	0.00	6.13
F>500 _i	0.00	0.00	0.00	0.00
CRIME _i	0.03	0.01	0.01	0.05
FTURNOVER _{ij}	0.12	0.06	0.00	0.33
AIRP _i	0.33	0.47	0.00	1.00

Source: author's calculations.

¹⁷ Given the high correlation between UNI_i, and PAT_i and EDU_i (0.94 and 0.87, respectively), and between PAT_i and EDU_i (0.94), only UNI_i has been considered in the econometric exercise. Similarly, DIV_{ij} has been excluded because of its high correlation with SKILL_{ij}.

Table 5. Correlation matrix

	UNEMP _i	MSIZE _i	SKILL _{ij}	WAGE _{ij}	PAT _i	UNI _i	EDU _i	RCA _{ij}	DIV _{ij}	INCE _i	TOP _{ij}	F>500 _i	CRIME _i	FTURNOVER _{ij}	AIRP _i
UNEMP _i	1.00														
MSIZE _i	-0.82	1.00													
SKILL _{ij}	-0.09	0.28	1.00												
WAGE _{ij}	-0.25	0.02	0.11	1.00											
PAT _i	-0.77	0.78	-0.05	0.44	1.00										
UNI _i	-0.61	0.72	-0.09	0.42	0.94	1.00									
EDU _i	-0.665	0.80	-0.02	0.45	0.94	0.87	1.00								
RCA _{ij}	0.13	-0.08	0.02	0.02	-0.07	-0.05	-0.07	1.00							
DIV _{ij}	0.16	-0.18	0.05	0.99	-0.20	-0.19	-0.16	0.20	1.00						
INCE _i	0.01	-0.03	0.34	0.32	0.12	0.14	0.10	-0.02	0.06	1.00					
TOP _{ij}	0.01	-0.02	-0.01	-0.01	-0.06	-0.06	-0.04	-0.03	0.10	0.11	1.00				
F>500 _i	-0.10	-0.28	0.08	-0.14	-0.20	-0.43	-0.30	-0.09	0.02	-0.04	0.02	1.00			
CRIME _i	-0.34	0.15	0.31	0.27	0.35	0.29	0.27	-0.26	-0.10	0.20	0.20	0.15	1.00		
FTURNOVER _{ij}	0.01	-0.15	-0.12	-0.06	-0.04	-0.10	-0.06	-0.08	0.01	-0.05	-0.14	0.35	-0.02	1.00	
AIRP _i	-0.43	0.51	-0.03	0.31	0.63	0.50	0.73	-0.05	-0.13	0.03	-0.04	0.21	0.07	0.08	1.00

Source: author's calculations.

The results

The results of the econometric analysis are reported in table 6.¹⁸ In order to assess whether TNCs show locational preferences for Catania, the province hosting the largest number of foreign affiliates (figure 1) and in which the “Etna Valley” effect is apparently taking place within the electronics and chemicals and pharmaceuticals industries (the industries in which the highest number of foreign affiliates operate; table 3), variables controlling for that effect ($EtnaValley_i$), as well as for an interaction between electronics ($EtnaValley(electronics)_i$), and chemicals and pharmaceuticals ($EtnaValley(chemicals)_i$) industries have been introduced.

The estimates obtained illustrate the significance of local high-skilled competences ($SKILL_{ij}$ is significant at $p < 0.05$ and $p < 0.01$) as a determinant of the locational choice of TNCs across Sicilian provinces. As already highlighted in some studies investigating locational determinants of FDI in southern Italy (e.g. Dell’Aringa *et al.*, 1999), quality of labour appears to be a major strength of southern Italian regions. Contrary to the predictions of more traditional theory on FDI location (Markusen and Venables, 1998), the results of the econometric analysis suggest, too, that high labour costs affect positively the locational decisions of TNCs within the island ($WAGE_{ij}$ is significant at $p < 0.01$). In line with a more heterodox stream of theory (Audretsch, 2000; Cantwell and Piscitello, 2002), since high wages usually reflect high skills, this result may suggest that foreign affiliates seem to rely on a competitiveness based on tacit competences more than low production costs when choosing among Sicilian provinces. Accordingly, proximity to universities seems to act as a factor of attraction (UNI_i is significant at $p < 0.05$) as it allows potential access to the production of local basic scientific research and knowledge

¹⁸ In order to solve the problem of odd-ratio interpretation due to the log-linear nature of the Poisson model (Green, 2000, Chapter 19), the coefficients have been transformed into incident-rate ratio (IRR), which are directly interpretable as elasticities (STATA 7 Manual, 2002).

Table 6. Poisson estimation results

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	IRR	Z-ratio	IRR	Z-ratio	IRR	Z-ratio	IRR	Z-ratio	IRR	Z-ratio
Traditional location factors										
UNEMP _i	2.00E+07	0.77								
MSIZE _i	1.005586	0.17								
Local competences and intangible assets										
SKILL _{ij}	7.819316	2.99***	7.313207	4.78 ***	4.706789	4.40 ***	3.910143	5.55 ***	3.932888	5.64 ***
WAGE _{ij}	1	3.27***	1	5.39 ***	1	2.53 **	1	5.77 ***	1	3.85 ***
UNI _i	354.7195	2.35**	12.25567	3.23 ***	10.10247	3.14 ***	11.22167	3.31 ***	13.36428	3.55 ***
RCA _{ij}	1.046447	0.57					1.146034	2.27 **	1.108392	1.42
Economic policy										
INCE _i	1.468004	0.63								
Information costs										
TOP _{ij}	3.188607	3.23***	3.239543	4.76 ***	2.473	4.20 ***	2.258147	5.86 ***	2.212212	5.40 ***
F>500 _i		1.82*		1.84 *		1.75 *		1.75 *		1.89 *
Socio-economic context										
CRIME _i	9.17E-41	-1.59	1.01E-43	-2.22**	4.81E-22	-1.32				
FTURN _{OVER,ij}	0.0059225	-0.9								
Transport infrastructures										
AIRP _i	0.2720881	-1.00								
Control Variables										
Etna Valley _i			3.761899	2.06 **			2.199119	1.83 *	1.553753	0.75
Etna Valley (chemicals) _i					4.549687	2.7 ***				
Etna Valley (electronics) _i					4.585332	2.14 **				
No of obs.	90		90		90		90		90	
Log likelihood	-46.003		-50.015		-47.946		-49.924		-51.069	
	LR chi2(12)	156.26***	LR chi2(7)	148.23***	LR chi2(8)	152.37***	LR chi2(7)	148.41***	LR chi2(7)	146.13***
	chi2(77)	46.890***	chi2(82)	54.914***	chi2(81)	50.776***	chi2(82)	54.734***	chi2(82)	57.022***

Source: author's calculations.

*** Significant at p < 0.01

** Significant at p < 0.05

* Significant at p < 0.10

(Anselin *et al.*, 1997) as well as to skilled labour (Bresnahan *et al.*, 2000). The significance of quality of labour, wages and university in the locational decisions of TNCs also reveals a major interaction between the local environment and foreign affiliates, which, being sensitive to these factors, are likely to establish competence-creating affiliates driven by assets-seeking motives (Kuemmerle, 1996; Cantwell and Narula, 2001), and not so merely market-oriented ones. Coherently, market size and availability of labour force do not appear to be determinants of TNC preferences. Thus, these results confirm that different locations within a peripheral region can attract high-quality FDI with skilled labour and innovative capacities (O'Donnel and Blumentritt, 1999).

Like in previous studies (Mariotti and Piscitello, 1995), information costs come out as relevant factors in shaping the locational decisions of TNCs. The degree of trade openness seems to affect positively the locational preferences of foreign affiliates (TOP_{ij} is significant at $p < 0.05$ and $p < 0.01$), consistently with findings at the country level (Narula and Wakelin, 1998). This may suggest that TNCs are more akin towards locations that are already active in international trade when deciding to disperse geographically their operations abroad. Provinces that are heavily trading internationally lower information costs for TNCs interested in investing locally thanks to the existence of past international trade records. This result also suggests that FDI may not be a substitute for export-oriented strategies as suggested by new trade theory (Markusen, 1995; Baldwin and Ottaviano, 2001). Conversely, the two strategic approaches seem to be complementary (Guerrieri and Manzocchi, 1996) as argued in Dunning's (1997a, and b) analysis of the formation of the Common Market and the Single Market Programme, in which FDI flows complemented rather than displaced trade flows. Similarly, TNCs appear to be sensitive to the presence of large companies already operating locally ($F > 500_i$ is significant at $p < 0.10$) since it lowers uncertainty by insuring diffusion of information within the international business community.

Given that incentives are available equally to all provinces within Sicily, the incentives granted under the new subsidies policy cannot explain the locational preferences of TNCs that have decided to locate their production somewhere in the island. By linking this result with the others discussed above, locations showing high-skilled labour, relatively high wages, high degrees of trade openness and hosting universities and large companies seem to be able to attract FDI (Haaparanta, 1996), one can conclude that embedded local value-added is particularly important.

As illustrated by the two-way ANOVA results, which, plotted in figure 1, show that Catania is by far the province hosting the highest number of foreign affiliates, TNCs do discriminate among provinces when locating their plants. This is confirmed when introducing a variable controlling for the “Etna Valley effect” (model 2), which captures, other things being equal, the fact that the province of Catania has some specific (unobservable) characteristics attracting FDI.¹⁹ Although on the grounds of the ANOVA analysis sectoral differences do not seem to matter, the positive and significant sign of *EtnaValley(electronics)_i* ($p < 0.05$) and *EtnaValley(chemicals)_i* ($p < 0.01$) bears witness to the fact that TNCs seem to show a statistically significant preference in locating their production plants in Catania as far as electronics, and chemicals and pharmaceuticals are concerned (model 3). This result is fairly remarkable when considering the context-dependent and tacit nature of these science-based industries characterized by a greater geographical concentration in centres of excellence (Cantwell and Santangelo, 2000). Nonetheless, Bresnahan *et al.* (2000) argue that highly skilled labour is a precondition for the growth of ICT-based entrepreneurial clusters as shown, for instance, by the Silicon Valley story. Accordingly, strong university traditions are widely recognized factors of

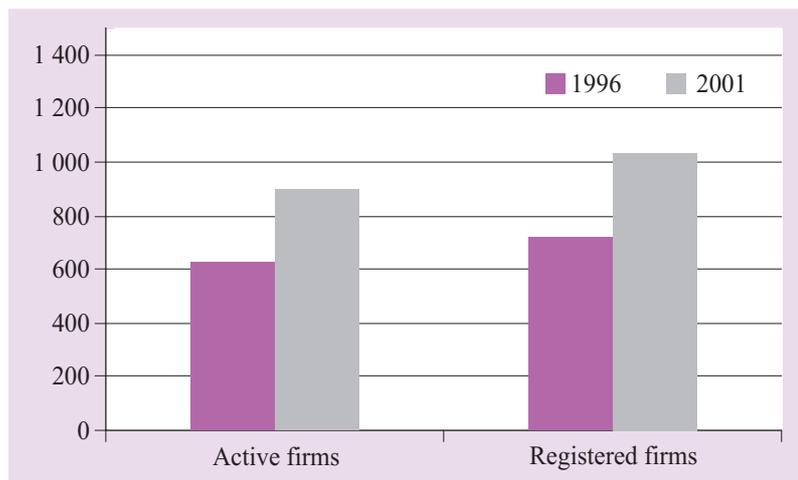
¹⁹ It should be mentioned that, when introducing the “Etna Valley” control variable the socio-economic context also seems to be relevant to FDI location as high degrees of crime (*CRIME_i* is significant at $p < 0.10$) deter foreign affiliates to sit their production plants locally.

attraction in high-technology clusters (*ibid.*) as well as in peripheral regions, as illustrated in Scotland (United Kingdom) (Santangelo, 2002), due to the more localized nature of academic knowledge spillovers (Adams, 2001). Both factors seem to be present in Catania, in which the active cooperation between the university, research laboratories and high-technology firms on one side, and foreign affiliates on the other may have initiated a process that could turn a marginal area into a high-technology district. Established research collaborations between Catania University and some major foreign affiliates operating in the province (e.g. ST-Microelectronics) have led to several United States patents in high-technology industries and to graduate training programmes.

However, the econometric results point out that in Catania differences exist as far as local productive (and indirectly technological) competences are concerned. While TNCs locate their production plants in Catania in chemicals and pharmaceuticals as a result of local capabilities ($EtnaValley(chemicals)_i$) is significant at $p < 0.10$ and RCA_{ij} is significant at $p < 0.05$ in model 4), in electronics local expertise seemed to lack in the middle-1990s ($EtnaValley(electronics)_i$ and RCA_{ij} are not significant in model 5). By comparing model 3 with model 4 and 5 in table 6, it emerges that Catania is an appealing location in electronics when export specialization (RCA_{ij}), which is a proxy for the profile of local capabilities, is excluded from the model (model 3); it maintains its attractiveness in chemicals and pharmaceuticals (but not in electronics) when including such an explanatory variable (models 4 and 5, respectively). Therefore, in chemicals and pharmaceuticals, Catania was targeted by TNCs because of local capabilities, which may have developed further through dynamic interaction with some of the world's largest TNCs (e.g. Arch Chemicals and Wyeth Lederle). Like in the formation of the Israeli Silicon Wadi (de Fontenay and Carmel, 2000), in the Etna Valley case comparative advantage forces in this industry seem to have acted as a catalyst for TNCs ensuring a critical mass of absorptive capacity for future local development. Conversely, like in Ireland (Barry and Bradley, 1997) and in Bangalore, India

(Arora *et al.*, 2000), in Catania electronics TNCs (such as IBM and ST-Microelectronics) have targeted a location initially lacking comparative advantages. Nonetheless, if the mushrooming of local firms operating in information technology and related industries active in Catania and registered to the local Chamber of Commerce between 1996 and 2001 (see figure 2) can be attributed to the fast-rising nature of the underlying technologies, the presence of electronics TNCs (e.g. Nokia and IBM), may have also played a role, as in the Silicon Valley case (Moore and Davis, 2000).

Figure 2. Number of firms operating in “information technology and related activities” and located in the province of Catania, 1996-2001



Source: author's calculations.

Having said so, it should be borne in mind that, as suggested by the Cambridge high-technology cluster story, the formation of new firms and university-industry links do not necessarily ensure the same degree of globalization as in Silicon Valley (Athrey, 2000). For this purpose, “right” linkages creation with indigenous firms is needed to promote local development and clusters formation through technology and knowledge

spillovers (Zanfei, 2000). In turn, positive effects of FDI are likely to increase with the level of local capabilities, which can be enhanced through spillovers and linkages to TNCs' operations (Blomström and Kokko, 1998). If local capabilities were present in chemicals and pharmaceuticals already in the mid-1990s, they might have developed in electronics in the meanwhile as signalled by the mushrooming of the local firms operating in information technology and related industries. However, the phenomenon of agglomeration of TNCs in the province of Catania (i.e. Etna Valley) is still in a gestation period as *backward* and *forward* linkages generated by TNCs with the local economy (Rodriguez-Claire, 1996) have not yet fully displayed their results. In fact, as far as the former are concerned, the increase in the demand for specific inputs may not have been yet able to generate positive externalities to other potential firms without relying on an incentive-based attraction policy. In the case of forward linkages, although the number of firms operating in ICT-related industries has experienced a massive growth, the local network of specialized producers supplying more complex goods at competitive costs is heavily dependent on the foreign affiliates established in the province. This scenario implies that, although promising, Etna Valley can still not be considered a high-technology cluster due to the cumulative and self-reinforcing nature of clustering phenomena (Arthur, 1990). As shown by the recent renegotiations carried out by foreign electronics affiliates on the locational conditions with local governments, incentives (rather than *backward linkages*) are still the main sources of local attraction.

Conclusions and policy implications

Recently, research in economics has rediscovered *space* as a crucial factor in economic activity. Due to recent theoretical developments as well as to the technological, economic and political events of the past two decades, the rediscovery of *space* has pushed investigation on FDI location to look at host locations in greater geographical detail in order to better understand the interplay between the *local* and the *global*. The result has been flourishing of studies going beyond the country as unit of

analysis by focusing on sub-national regions. So far, most of the attention has been devoted to successful regions in order to understand the elements of their socio-economic performance. Conversely, despite the large literature on FDI in developing countries, peripheral regions have been neglected. The few exceptions have mainly treated regions as homogeneous entities without analyzing them *within* their borders. However, nowadays this issue is of particular interest when considering the interplay between location and ownership advantages of the host site, and ownership and internalization advantages of the TNCs. On the one hand, territorial units can increase their location advantage and, consequently, the ownership advantage of local firms by benefiting from knowledge spillovers stemming from the local activity of TNCs. On the other hand, TNCs can enhance their ownership advantage by choosing appropriate locations in which sourcing local value-added into the corporate network through the benefits coming from their internalization advantage. If this is obvious in the case of *core* regions, it can be less clear if considering peripheral regions as a whole without discriminating *within* them, in which centres of excellence may flourish.

In the context of the mid-1990s surge of FDI in Sicily, the concentration of foreign affiliates in the Etna Valley area *versus* other areas of the region can be attributed to basic locational factors. The econometric results gathered in this analysis show that, within Sicily, TNCs' locational decisions are driven by high local skills (also reflected in high wages), high degrees of trade openness and proximity to a university and large companies. Therefore, once TNCs have decided to locate their production plants in the island, they are sensitive to basic factors, which dominate TNCs' locational preferences, while investment incentives may help upgrade the role of a local affiliate in its international network, e.g. by helping to acquire strategic mandates (Cantwell and Mudambi, 2000). Similarly, TNCs appear to discriminate across provinces and industries as shown by their preference for locating their activity in the province of Catania and particularly in electronics, and chemicals and pharmaceuticals (generating the Etna Valley agglomeration). However, while in chemicals and pharmaceuticals local

productive (and indirectly technological competences) have acted as a catalyst for FDI in the province, these competences seemed to lack initially in electronics.

These results points to some policy implications. First of all, factors enhancing local valued added should be nurtured in order to maintain the relative competitiveness of currently more appealing provinces once the subsidies policy comes to an end. On the grounds of the econometric exercise, this means targeting industries of productive (and technological) specialization, promoting labour training programmes, boosting university research and teaching and encouraging international trade. Secondly, note should be taken of the phenomenon of Etna Valley since the fortunate agglomeration of TNCs in science-based industries and the flourishing of complementary local enterprises may, if looked after correctly, generate a district in the industry in question as already happened in the Silicon Valley (Arora *et al.*, 2000). Following Ram Mudambi's findings (1998), this should be pursued by seeking to keep in the province TNCs with current operations, rather than attempting to attract new investors. TNCs already having affiliates in the province are the firms with the highest probability to undertake new investment. Thirdly, attempts should be also made to fill the gap between the more dynamic provinces and the laggards to achieve a more balanced intra-regional development. Nonetheless, although this point should not be disregarded in the medium-term, a balanced intra-regional development may not be a priority for the time being. At this stage, balanced intra-regional development may be risky in the sense that it can divert resources from the most promising areas. Conversely, resources should be concentrated on the more dynamic sites of the island, which may act as engines for the others in the future. ■

Annex table 1. List of variables and relative description, time consistency and source

Variable	Description	Period	Source
<i>Dependent</i>			
FPLANT _{ij}	number of plants acquired by foreign investors and located in Sicilian provinces	2001	Author's updating on 1998 Reprint, Cnel-R&P-Politecnico di Milano database
<i>Independent</i>			
Traditional location factors			
UNEMP _i	number of people on the unemployment lists per inhabitant (%)	average 1996-1998	Confindustria
MSIZE _i	per capite value-added (Lit. billions)	average 1996-1998	Istituto Guglielmo Tagliacarne
Local competences and intangible assets			
SKILL _{ij}	managerial and white collar components to total employees on the manufactory industry (%)	average 1996-1998	INPS
WAGE _{ij}	annual average retribution (Lit. thousand)	weighted average 1996-1998	INPS
PAT _i	share of patents relative to the regional total patenting activity (%)	1995	ISTAT
UNI _i	Dummy variable equals 1 if the province hosts a University, and 0 otherwise.		
EDU _i	number of full-time students enrolled in secondary educations	average 1996-1998	ISTAT
RCA _{ij}	degree of export specialisation (Lit. millions)	average 1996-1998	ISTAT
DIV _i	degree of export diversification	average 1996-1998	ISTAT
Economic policy			
INCE _i	Dummy variable equals 1 if any firm in province (i) and sector (j) has been granted an incentive, and 0 otherwise	1996-2000	Ministry of Industry Trade and Craft
Information costs			
TOP _{F>500i}	trade openness (Lit. millions) number of firms with 500 or more employees (normalised with the total number of manufacturing firms) (%)	average 1996-1998	ISTAT
Socio-economic context			
CRIME _i	number of illegal acts per inhabitant (%)	1996	Census ISTAT
FTURNOVER _{ij}	turnover of active firms (%)	average 1996-1998	ISTAT
Transport infrastructures			
AIRP _i	Dummy variable equals 1 if the province hosts an airport, and 0 otherwise.	average 1996-1998	Unioncamere

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Are incentives a good investment for the host country? An empirical evaluation of the Czech National Incentive Scheme

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This article discusses the relative merits of investment incentives in the light of the current competition for foreign direct investment among economies in transition. The case of the Czech National Incentive Scheme is evaluated in terms of three major interrelated issues: “crowding in” additional foreign direct investment, cost-benefit considerations and quality of investment. It may be hard to meet by these criteria establishing *ex ante* conditions for investors applying for incentives. The Czech scheme has “crowded in”, at best, 10% more foreign direct investment than in a hypothetical case of no incentives. The decisive question is really whether the programme has succeeded in improving the quality of investment. The findings of this article suggest that screening rules as applied by the Government of the Czech Republic may have been successful in this respect. However, as the scheme is being scaled up, quantity targets start to threaten quality concerns. A simple cost-benefit calculation suggests that, under a worst-case scenario of maximum tax relief to foreign investors, the absence of spillovers and capture of comparative advantages by investors, the social price may be in excess of \$40,000 per job created. This price can be compensated only by such opportunity costs as the burden of unemployment outlays, or losses due to not attracting higher-quality foreign direct investment.

Key words: foreign direct investment, incentives, crowding-in, upgrading, Czech Republic

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Introduction

Before 1989, foreign direct investment (FDI) in Central and Eastern Europe (CEE) was limited to a few joint ventures, with State-owned firms being the only local partners. Since then, the CEE countries have undergone a fast transformation and are now competing for FDI flows along with other European countries and developing countries. No other mechanism of international technology transfer appears to offer the same number of benefits to these host countries. This has been a decisive factor behind the launching of recent investment incentive programmes that target foreign investors in particular all over CEE (World Bank, 2002; Anderson, 2001; Hirvensalo, 2000; DAW, 2002).

The time series for FDI flows into economies in transition are not yet long enough to draw strong conclusions about the relationship between FDI and growth in economies in transition since these flows started to intensify only by the mid- to late 1990s. Meanwhile, there has been little or limited evidence on the presence of technology spillovers from foreign affiliates to domestic firms in economies in transition (Bosco, 2001; Zemplerova and Jarolím, 2001; Smarzynska, 2001; Jensen, 2003). FDI as an alternative to other channels of international technology transfer may also come at long-term costs. These problems shed doubts over the merits of the recent wave of expensive incentive schemes launched by the Governments of CEE countries (Mitra and Stern, 2002).

The question whether FDI incentives are effective as an instrument of development or industrial policy in host countries is an issue of increasing importance. It is a concern for policy makers at the local, national, regional and global levels (UNCTAD, 2003; Blomström and Kokko, 2003; Narula and Dunning, 2000; Oman, 2000; Lall, 1996; UNCTAD, 1996). The literature offers limited conclusions on the issue, and views often diverge on the merits of incentive programmes. Part of the controversy results from the different levels of analysis these studies apply.

To resolve this analytical and policy debate, more country case studies are needed to throw further light on the costs and benefits of incentives. This article examines the case of the Czech National Incentive Scheme (NIS), launched by a then new Social Democrat Government in 1998. It examines whether the incentives resulted in more benefits than costs for the host country. The following section reviews the literature on investment incentives. It looks at three major aspects of the issue: crowding in, cost-benefit considerations and the quality of FDI. A more consistent interpretation of the relationship between these approaches is given at the end of that section, along with a number of hypotheses to be tested in the rest of the article. The next section examines the methodological issue that will be relevant for the empirical test. The subsequent section tests the four hypotheses raised. It is followed by a discussion on the results of the article, as compared to the findings of previous literature. The analysis is wrapped up in a concluding section.

Analysis and evaluation of incentive programmes

This section reviews selected and recent literature on incentives. It starts with broader global and regional issues such as the question of whether incentive programmes crowd-in additional FDI. Then the survey turns to the issue of the relative merits, or costs and benefits, of offering incentives at the national level. The last issue is microeconomic in nature: can incentive programmes shift the profile and quality of individual FDI projects to higher levels?

Crowding-in issues

The most fundamental question posed to incentive programmes is whether they crowd in¹ additional FDI. The answer may not be the same depending on the level of analysis: local, national, regional or global. Moreover, a high degree of

¹ With crowding-in defined as a situation in which incentives succeed in attracting investment projects that would not have taken place in the absence of incentives, e.g. they do not substitute for FDI that would have taken place irrespective of the availability of incentives.

sensitivity surrounds this crowding-in issue (Oman, 2000). While it is possible that incentive programmes do crowd in FDI at both the national and global levels, they also are potentially part of a beggar-thy-neighbour policy. Research on the United States economy (of FDI across United States regions) suggests that incentives do matter, especially when selecting among locations presenting marginal differences in other aspects of locational advantages and costs (Fisher and Peters, 1997). The results suggest that trade-offs may exist in cases in which incentives do make a difference in the final investment decision.

Dirk te Velde (2001) chooses two highly successful cases of having combined incentives with FDI: Ireland and Singapore. These country case studies suggest that incentive programmes can be successful in achieving their target. Te Velde (2001) shows apparent commonalities between the programmes in these two countries. They may have been successful in crowding in FDI because of their emphasis on alleviating informational constraints rather than only offering tax holidays.

But many studies, even at the national or local level, suggest that incentive programmes generally fail to crowd-in FDI (Morriset and Pirnia, 2000; Oman, 2000). Country case studies tend to be inconclusive in this respect. A time-series study of Indonesia by Louis Wells and Nancy Allen (2001) shows that, despite changes in government policy, the presence or absence of incentives had little impact on cumulative FDI inflows.

J. Beyer (2002), in a panel analysis of the economies in transition, concludes that the announcement of incentive programmes among other factors in CEE countries has had little impact on their ability to attract FDI. An earlier review of tax incentives in economies in transition by David Holland and Jeffrey Owens (1996) also concludes that incentives appear to play a marginal role in attracting FDI. Milan Semidhradsky and Stansilav Klazar (2001) even find a negative correlation between annual inflows of FDI into the Czech Republic, Hungary and Poland. They take this as a sign of distribution wars among similar locations in CEE.

Cost-benefit considerations

The cost-benefit analysis of incentives looks at not only crowding in but also at the relative merits of incentive programmes. Because of the potential transfer of technology resulting from FDI, the latter may create a social multiplier over and above what has been created by domestic projects channelled through wage and tax payments in the host country. Benefits should in principle also include spillovers or externalities that may impact positively on the productivity and competitiveness of domestic firms (Blomström and Kokko, 1993).

On the top of the cost-benefit research agenda is the issue of the costs of incentive programmes (Morriset and Pirnia, 2000). Various social costs may result from these programmes, ranging from administrative costs and loss of foregone taxes, to the actual neglect of other important legislative issues. Charles Oman (2000) argues that incentive programmes of using fiscal incentives are popular in environments that offer low legal protection of firms and that are plagued with red tape and corruption. Holland and Owens (1996) also argue that other impediments to FDI should be tackled, instead of the great importance attached to tax incentives.

Only a small number of studies have conducted actual evaluations of the cost-benefit profiles of incentive programmes. Peter Fisher and Alan Peters (1997) review the studies connecting the level of regional taxes with regional growth or investment rates in the United States. They conclude that the relationship between taxes and growth depends mainly on how taxes are spent on regional development objectives. Wells and Allen (2001) investigate the cost-benefit profile of the Indonesian incentive programme and find that costs have by far outweighed the benefits. Te Velde (2001) estimates the costs of the Irish incentive programme per job created and sustained; they declined from above Irish £ 30,000 per job in the 1980s to £ 10,000 in the 1990s. However, this study offers no calculation of benefits to offset or partially offset this cost.

Selection biases and screening rules affecting the quality of FDI

The last issue to be reviewed is FDI quality. This is a relevant topic at all levels of analysis, even though it is rarely discussed at the global level in which the distributional issue tends to dominate (Oman, 2000). However, increasingly rules-based competition undertaken within the framework of national and international rules could help improve the overall quality of FDI.

The quality of FDI² matters a lot in the cost-benefit analysis of incentives. In other words, concerns over quality should take precedence over quantity targets when designing incentive programmes. According to Sanjaya Lall (1996) and John H. Dunning and Rajneesh Narula (2000), this is a key consideration, and hence there is no “one-size-fits-all” advice to be given to developing countries on how to use incentive programmes. Lall (1996) also points to the importance of specific policy objectives when understanding and evaluating individual country cases. Some countries may target quantity, others quality, or both. Quality targets may relate to upgrading through inter-industry (moving between industries) or intra-industry goals (deepening of capabilities, improving quality, increased value added), or both. According to Lall (1996), the upgrading of the FDI profile itself is one avenue for intervention. The externalization of technology transfer is another possible strategy such as placing equity restrictions on foreign ownership. Te Velde (2001) suggests that countries successful with incentive programmes maximize the benefits and minimize the costs by targeting specific types of projects. Ireland, for example, specifically targeted human-capital-intensive industries. Both Ireland and Singapore adopted a national linkage programme

² The quality of FDI is defined as a three-dimensional vector, made up of direct effects (social multiplier – further discussed below), indirect effects (various spillover effects such as training, diffusion of technology and creation of backward linkages) and, finally, the capture of comparative advantage in strategic industries (with above normal returns to capital accumulation).

complementing their incentive programmes to maximize spillover benefits.

On the basis of ill-adopted policies and screening rules in four countries of the Association of South-East Asian Nations, Stephen Thomsen (1999) demonstrates how incentive programmes can be directly harmful and costly to the host country. Too much focus on incentives given to export-oriented FDI only resulted in losing many of the potential benefits that FDI could have had as regards disciplining domestic industries.

There is no general consensus on the merits of using screening rules and other selective approaches to FDI. The European Bank for Reconstruction and Development (EBRD) (2002) and other international institutions, for example, advocate that incentive programmes be combined with a hands-off approach to selection, due to the dangers of the Government picking winners. UNCTAD (2002) advocates the targeting of quality benefits through attracting export-oriented FDI that improves the comparative advantage of the host country (UNCTAD, 2003). The Organisation for Economic Co-operation and Development (OECD) advocates (Oman, 2000) an approach to incentive programmes that is rules-based rather than competition-based.

In practice, selection biases (such as natural self-selection among applicants) and screening rules combined, may decide what type of FDI is attracted with incentive programmes. Selection biases can be discussed in general terms, whereas screening rules reflect political realities behind individual programmes. But it is also difficult to evaluate the success of a given programme without taking into account the policy objectives even though one could disagree with those objectives (Thomsen, 1999).

Several natural selection biases are highlighted in the literature on incentives. Ram Mudambi (1998) shows that there may be a selection bias in favour of new and greenfield FDI. Several authors suggest a natural selection bias in favour of more

footloose projects since these types of investors are more likely to be affected in their cost calculation by tax holidays (Fisher and Peters, 1997; Bergsman, 1999; Morriset and Pirnia, 2000). Attracting FDI that is likely to relocate anew within the near future poses unnecessary structural problems for a host economy. To give incentives to such investors may incur larger long-term costs for society than those immediately incurred with the provision of incentives. A similar argument applies to declining or sunset industries. In general, export-oriented projects are more cost- and incentive-sensitive than domestic-market-seeking projects (Te Welde, 2001; Thomsen, 1999).

The literature review of Jacques Morriset and Neda Pirnia (2000) also suggests that small firms may be more cost-sensitive and hence more likely to be affected by incentives. Fisher and Peters (1997) on the contrary suggest that incentives are relatively more important in global industries involving very large projects. However, the two arguments do not exclude one another. The type of incentives given to large projects will typically be on a case-by-case basis, whereas smaller projects may more likely be affected by rules-based incentives.

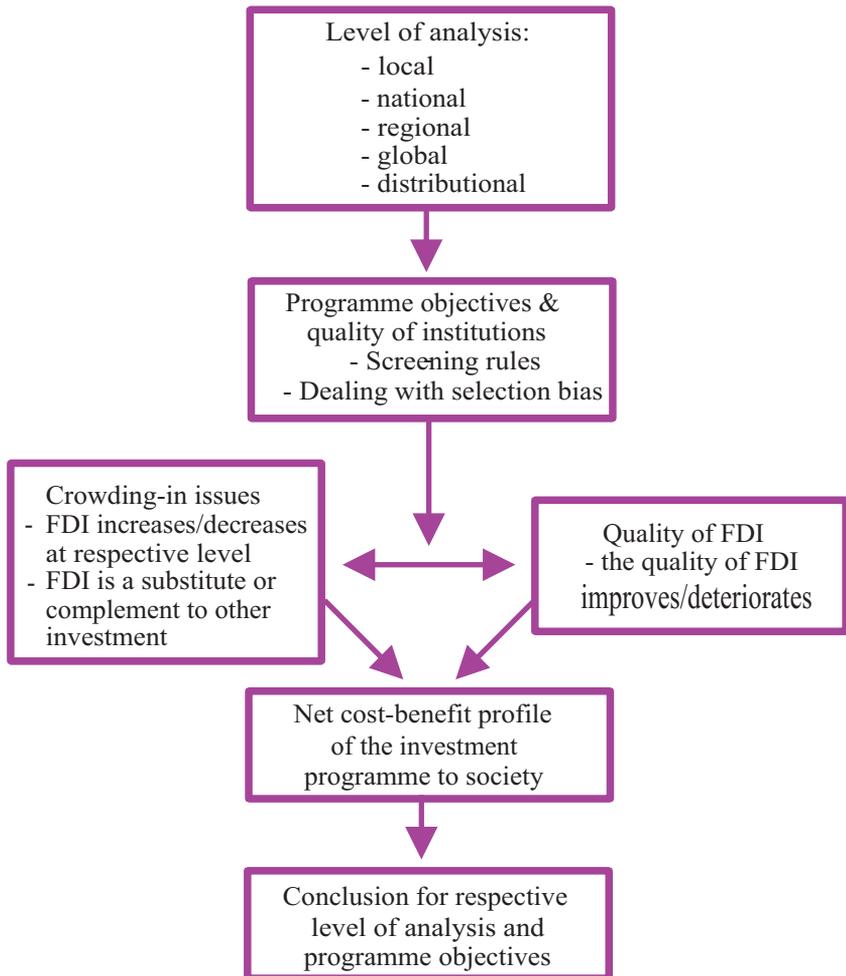
Natural selection biases may endanger the benefits of the programmes as they could reduce, rather than increase, the quality of FDI. Hence active policy rather than a *laissez-faire* approach would appear to be important for avoiding unnecessary harm. For this reason, incentive programmes should not generally be pursued if not combined with other national policies aiming at upgrading FDI, as well as national competences and comparative advantages (Lall, 1996; Dunning and Narula, 2000; Blomström and Kokko, 2003).

Analytical framework and hypothesis

Based on this literature review, an analytical framework is developed in this article. In the evaluation of incentive programmes, it is necessary to distinguish local and national objectives from global ones. The focus of the rest of the article is on the national level. Some of the basic questions to be raised

are: what particular screening rules exist, if any? How does the programme intend to deal with selection biases? Based on this information, the incentive programme's performance can be evaluated in regard to crowding in, cost-benefit considerations and the quality of FDI (figure 1).

Figure 1. The analytical framework of evaluating FDI incentive programmes



Source: authors.

The analytical framework stresses that these factors are difficult to evaluate in isolation. A good cost-benefit analysis should take into consideration both the issues of crowding in and the possible impact the programme has on upgrading FDI. Both of these factors should in principle feed back into the cost-benefit analysis when asking questions such as: are public funds spent unnecessarily to attract FDI that would have taken place anyway? Or: are public funds spent in a meaningful way whereby attracting FDI actually coincides with other development objectives of the host country? Based on this analytical framework, the following research hypotheses are investigated with empirical data in the subsequent sections of this article:

H1 The NIS crowds in FDI inflows into the Czech Republic.

H2 The NIS leads to a natural selection bias in favour of smaller, cost- and export-oriented investors from traditional industries.

H3 Specific screening rules under the NIS have a partially offsetting and hence the positive effect on the quality of FDI.

H4 The social benefits of the NIS outweigh its social costs.

Methodology

To investigate the above hypotheses, secondary data from Czech statistical sources such as CzechInvest and the Czech Statistical Office were combined with primary data collected through a focused survey questionnaire. The questionnaire method was selected because it provided such information on the recipients of incentives that was not available from any other secondary or primary sources. Two techniques were used during the survey. The first set of semi-structured interviews (pilot study) had two types of questions giving respondents the

freedom to express their opinion and feelings concerning the subject at hand. Secondly, scaled items were used in a formal questionnaire, in which respondents were required to identify their views with statements of pre-determined responses.

The questionnaire (see annex) was attached to an e-mail message explaining the objectives of the study. The questionnaire was made available in both the Czech and English languages. Investors who did not reply in the first round were contacted in a second wave with a new e-mail; finally, a third wave of telephone calls was made to increase the number of respondents.

The questionnaire was sent to 341 large foreign affiliates in the Czech Republic. The number of returned questionnaires was 155 – representing a good response rate (45%). Half of the respondents were expatriate managers sent to the Czech Republic; the rest were local managers of the foreign affiliates. Because some of the respondent firms were from service industries that did not have access to the NIS until 2002, the number of observations was further reduced to 135. Out of these 135 firms, 22 firms receive incentives, reflecting well the proportions of the entire population receiving incentives (table 1). There were however some deviations, in particular in terms of the size, industry distribution and entry mode, where there appears to be significant biases in the sample. However, no full picture of the whole foreign affiliate population is available. The population in table 1 was from a selected list of foreign affiliates in the Czech Republic, as published by CzechInvest. This list is biased in the favour of larger projects. In part this may explain why, for example, firms in “other manufacturing” and services were over-represented. This corresponds well to the fact that the survey results were drawing on a population with a higher number of smaller affiliates and typically engaged in auxiliary manufacturing activities and services.

Based on the questionnaire survey, a number of variables were constructed for the descriptive and statistical analysis. Annex table 1 provides an overview and description of these variables. The first variable concerns the information based on

Table 1. Sample compared to population characteristics
(Number of projects)

	Sample	Population	Deviation ^a
1. Industry			
Total ^b	133	938	
-Food and tobacco	4%	5%	-
-Textiles and apparel	4%	3%	+
-Wood and paper	4%	3%	+
-Chemicals	11%	16%	-
-Nonmetallic products	17%	14%	+
-Machinery and equipment	21%	36%	--
-Electronics	11%	14%	-
-Other manufacturing	14%	2%	++
-Commercial & o. services	14%	7%	++
2. Entry mode			
Total	134	390	
-Greenfield	42%	33%	++
-Acquisition/JV	54%	52%	+
-Expansion project	4%	15%	--
3. Project size			
Total	125	697	
-Small firms (L<50)	26%	9%	++
-Medium-sized firms (50<L<250)	34%	40%	-
-Large firms (L>250)	40%	51%	-
4. Year of investment			
Total	134	602	
-1995 or before	53%	49%	+
-1996	6%	5%	+
-1997	10%	7%	+
-1998	9%	8%	+
-1999	10%	8%	+
-2000	5%	7%	-
-2001	6%	11%	-
-2002	1%	5%	-
5. Incentives			
Total	134	974	
-with incentives	16%	19%	-
-without incentives	84%	81%	+

Source: CzechInvest, 2002, and primary survey data.

^a "Deviation" marks a negative or positive deviation of the sample from "population" characteristics according to CzechInvest's list of "Selected Foreign Investors". Note that this list is biased towards large investors in the Czech Republic.

^b "Total" denotes the number of available observations that the characteristics are based upon. The total sample size is 135 and the population size is 974, but observations on some characteristics are missing. Hence, totals are not equal across the various characteristics.

which a firm decides to invest in the Czech Republic, where a dummy of 1 was assigned to firms relying on local networks (*LOCNET*). Three dummy variables were used for the entry mode: cooperative (*COOP*), greenfield (*GREEN*) and follow-up (*FOLUP*) projects. Firms are differentiated by size according to their number of employees as captured by the variable (*SIZE*). Further, a dummy was included for export market orientation (*EXP*), applied to firms that not only cater to domestic or regional CEE markets but to wider European or global markets. Also, a dummy reflects whether firms have a long-term orientation towards operating in the Czech Republic, namely when answering whether they plan to reinvest in the future (*REINV*). Additional dummies reflect whether firms applied for incentives (*APINC*), and a dummy for motives: cost-oriented firms were classified under the variable *COST*. The *AGE* of the affiliate was adopted as a numerical variable. Finally, a dummy variable was adopted to differentiate foreign affiliates by the nationality of their management team, where a value of 1 is assigned to firms with a local Czech team (*LOCALM*).

Evaluation of the NIS

In this section, the four hypotheses are discussed and tested against the data for the Czech incentive programme. But before turning to the specific issues of the hypotheses, the objectives of the NIS and its institutional setting are introduced.

Programme objectives and institutional quality

Since 1998, the Czech Republic has been offering an incentive package to foreign and domestic investors based on the principle of national treatment. However, *de facto*, the scheme has targeted large foreign investors with the aim of stimulating a massive inflow of FDI into new greenfield projects.³ Some incentive packages were also offered prior to

³ However, acquisitions may also be involved as CzechInvest distinguishes between acquisitions and so-called brownfield investments (a brownfield investment is regarded more as a greenfield investment since it involves a very low purchase price and an almost 100% remake of the plants involved).

1998, but on a very selective basis (Anderson, 2001). The most recent law on the NIS is from 2000 (the Investment Incentive Act).⁴ Under this law, enterprises enjoy corporate tax relief for up to 10 years, can import inputs duty free and are exempted from paying the value-added tax on new machinery. Companies may also deduct (on top of depreciations) 10-15% of the costs of new machinery and technologies from their tax base, provided that they are the first owners or leaseholders. Also offered are job creation grants ranging from Czech crown (CZK) 80,000 to CZK 200,000 per employee and re-training grants covering up to 35% of training cost per employee. The re-training grants depend on regional unemployment levels. However, the size of grants in practice also depends often on the availability of funds in the local labour office (MPO, 2002; CzechInvest, 2002). Land and designated infrastructure at less than commercial prices is also part of the NIS.

Several features of the screening rules under the NIS may reduce a natural selection bias. A special feature of this programme is for example that it does not target greenfield investors only, but also firms investing in existing plants according to Section 2 of the Investment Incentive Act. However, special capital requirements also related to the granting of full tax holidays should indirectly lead to a bias favouring greenfield investors.

Other aspects of screening rules deal with FDI quality. The acquisition of new machinery with up to 40% of the total value of assets is a requirement under the NIS. Projects must be environmentally friendly, in line with the most recent Czech laws. Size requirements regarding total assets also apply, even though these requirements are reduced in the case of investments into high-unemployment regions.

⁴ The Investment Incentives Act (72/2000 Coll.) is officially called the “Act on Investment Incentives and the Amendment of Certain Acts, as amended by Act No. 453/2001” (adopted by the Parliament of the Czech Republic). For a non-legal presentation see KPMG, 2001.

Services were not covered by the NIS until 2002, except for certain “strategic” services such as research-and-development (R&D) facilities (KPMG, 2001). Furthermore, capital and size requirements together may act as a deterrent for incentives being given to service projects.⁵ Specific mention is made of certain manufacturing industries in the Investment Incentive Act, with emphasis on the more technology-intensive⁶ ones. This suggests that the NIS aims to upgrade FDI towards certain strategic industries.

CzechInvest is the main institution implementing the NIS, as well as providing information about potential local suppliers. However, some specific aspects of the incentive package are negotiated independently between the investor and the relevant part of the State apparatus, such as the local authorities.

Does the NIS crowd in national investment?

The Czech Republic is one of the most successful economies in transition in attracting FDI (UNCTAD, 2003). Has the NIS been an important factor for this success? After the introduction of the incentive programme, annual FDI inflows have more than doubled compared to their previous levels in the early 1990s. This section discusses the hypothesis (H1) about a causal relationship between the NIS and the recent jump in inflows.

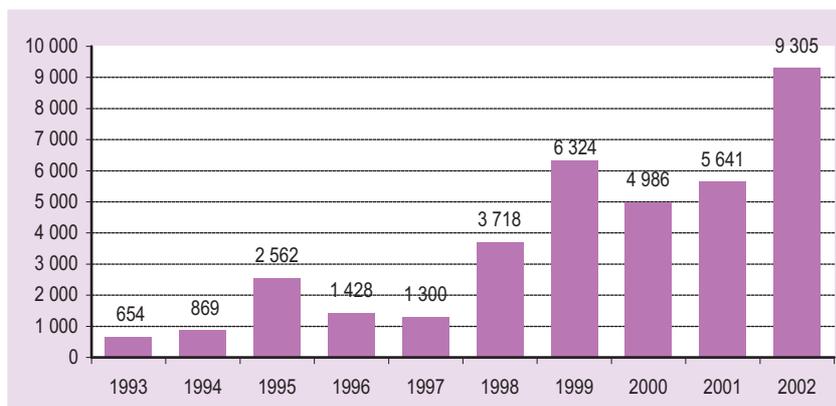
FDI inflows into the Czech Republic increased from \$3.7 billion in 1998 to \$6.3 billion in 1999 (figure 2). However, coinciding with this, there was a turnaround in privatization policies that until 1998 discriminated against foreign investors. Before 1998, to get around certain legal restrictions on property ownership and reduce start-up costs, many foreign investors preferred going into joint ventures with local partners rather than to undertake greenfield investments (ILO, 1995). This all

⁵ As amended by changes to the NIS introduced after 2002.

⁶ With technology-intensive industries defined as those using physical and/or human capital intensively.

changed when a new Social Democrat Government came into power in 1998 (Anderson, 2001). But according to information from the National Property Fund (NPF, 2001), most new privatizations that were taking place with foreign capital in 1998-2001 were in the form of “brownfield” FDI (acquisition of Czech firms and brands).⁷ Also, an important part of recent investment projects was the expansion of existing facilities (stimulated by the NIS initiative).

Figure 2. FDI inflows into the Czech Republic, 1993-2002
(Million dollars)



Source: CNB, 2003.

When FDI projects with and without incentives are compared against each other by industry and in terms of size of investments (table 2), one finds that the incentive programme might have crowded in a few extra projects, especially over time. This is seen by the fact that the ratio between subsidized and total projects reached 1 by 2001, implying that by 2001 less than 10% of all new investments in manufacturing took place beyond the NIS. However, a large and increasing segment of FDI inflows was in service industries, not affected by the NIS until 2002.

⁷ These data contain only FDI-related privatization revenues flowing to the responsible government agency, hence underestimating the real level of privatisation-related FDI.

Table 2. FDI projects with and without affiliates by industry
(Million dollars)

	Cumulative FDI		Inflows		Inflows		Inflows		Cumulative FDI	
	End 1998	SP ^a	1999	SP	2000	SP	2001	SP	End 2001	
Primary sectors	108		255		85		48		496	
Service sectors	4 401		4 061		2 851		3 435		16 748	
Manufacturing	4 022	692	2 008	525	2 050	1 334	1 433	1 328	9 513	
Hereof in percentage:										
-Food and tobacco	18	-	18	-	9	3	6	1	14	
-Textiles and apparel	4	7	2	13	3	1	6	1	4	
-Wood and paper	7	-	10	-	3	4	10	4	7	
-Chemicals	15	-	20	-	14	13	13	25	15	
-Nonmetallic prod.	13	-	16	12	6	9	9	7	12	
-Basic metals and products	10	-	9	-	12	1	6	3	10	
-Machinery and equipment	30	93	23	75	51	69	48	59	36	
-Recycling and other n.e.s.	3	-	2	-	2	-	2	-	2	

Sources: CNB, 2002; CzechInvest, 2002.

^a Subsidized projects in million dollars for manufacturing FDI, and percentage distribution by industry.

The survey also shows that few investors entered the country or chose to expand their existing operations because they were offered incentives. According to the survey, only 5 respondents (4% of all respondents, 22% of respondents with incentives or 10% of respondents investing in 1998 or after) were directly motivated by the availability of incentives. According to the sample data, it was somewhat more than marginally the case that incentives were a co-determining factor of choosing to invest in the Czech Republic among those firms receiving incentives in the manufacturing sector.

But while the macroeconomic data presented here also seemed to indicate a strong correlation between the NIS and the jump in inflows of FDI into the Czech Republic from 1999 onwards, the correlation may still not be as strong as appears from these data, for several reasons. Firstly, the NIS was introduced along with radical changes in Czech policies due to a change in Government. The most important changes concerned the opening up of the privatization process to outsiders and the general attitude and political climate with respect to welcoming FDI. Secondly, among all investors that entered the

manufacturing sector, only around 10% appeared to be attracted specifically by the provision of investment incentives. Thirdly, and most importantly, the NIS supports an increasing share of manufacturing investment over time, culminating in almost complete participation of FDI projects in the NIS in 2001. Hence the conclusion is that some crowding in occurred, but it was not a dominant phenomenon since actual crowding in is only around 3%⁸ when taking into consideration that the bulk of FDI is now taking place in service industries.

Does the NIS improve the quality of FDI?

Table 2 also provides some initial observations on industry upgrading in FDI. Compared to the total sample, the population of subsidized projects here shows that the industry structure was not neutral. Most of the projects involving engineering and technical skills fell into the category of subsidized projects. Also, the chemical industry received increasing FDI mainly within the NIS. This suggests that the programme has been somewhat successful in terms of its industry upgrading objective. Possibly also by aiming for agglomeration effects, these industries captured dynamic comparative advantages in areas in which the Czech Republic may have an obvious potential in terms of human skills.

The rest of this section draws on the primary survey data, discussing further the next two hypotheses (H2 and H3) about the impact that a natural selection bias and screening rules may have had on the quality of FDI. Among the investors interviewed, only 38% expressed any interest in the NIS,⁹ and only 19%

⁸ Calculated as 10% of one third of all investors when including FDI into services.

⁹ The questionnaire (compared to the interview technique) may introduce a bias since the interviewer conveys information about the NIS that the survey does not. Furthermore, the difference between responses of the interviewed and surveyed firms may also relate to the fact that many more firms were self-selected out of the application process to the NIS before 1998 as it was a much more limited incentive programme. Furthermore the data of interest and application are not directly comparable since self-selection separates those firms showing an interest in, from those firms that take steps to apply for, incentives.

applied for incentives (but 50% of firms investing after 1998 applied for incentives). However, most of the firms with incentives entered the country after the incentive programme was introduced in 1998. This is a general problem with the sample since it is skewed in terms of firms having opportunities to invest within the NIS. Among the group of firms within this narrower interest group ending up applying for incentives, only 15% were not finally admitted to the NIS as they probably did not fulfil essential criteria related to screening procedures. (More about this below.) Hence some natural selection took place from a broader interest group of firms to an actual group of firms applying for participation in the NIS. And, secondly, some screening took place among the firms in the sample that applied for incentives to a smaller group of firms finally admitted to the programme.

In several respects the NIS may have had a neutral effect on the structure of FDI projects (table 3). This appears to be the case regarding factors such as investment motives and initial contacts upon entry. However, table 3 also suggests that subsidized projects differ from other projects in most other aspects: notably they are larger, more likely to be greenfield projects, export oriented, having plans to reinvest, and to occur in technology intensive industries. The one-way Anova results in table 3 are largely in accordance with the rather significant Pearson correlation coefficients in annex table 1 for the same firm characteristics.

Some of these differences disappear when only focusing on projects without incentives in 1998 or after as the relevant sub-sample to compare with because of a massive scaling up of the NIS in 1998 (second column in table 3). Hence, the passing of time in itself is likely to have had a rather deep impact in terms of some of the differences observed being attributable to the age of the affiliate and changing production conditions in the host economy. Focusing on the more narrow comparison, it is clear that firm size and indirectly the greenfield entry mode, including lesser probability of having a local Czech manager, are now the most important factors standing out as significantly different for firm characteristics in column 2 and 3 in table 3.

Table 3. Are they better? Comparing projects with and without incentives^a

Item	Projects without incentives for all years (Total 113)	Projects without incentives from 1998 onwards (Total 27)	Projects with incentives (Total 22 ^f)
1. Contacts			
-Local network	46%	37%	45% (0.93, 0.41)
2. Entry mode			
-Co-operative ^b	60%	69%	32% (0.02, 0.01)
-Greenfield	40%	31%	45% (0.66, 0.40)
-Expansion	0%	0%	23% (0.00, 0.00)
3. Size			
-average employment	318	210	574 (0.01, 0.07)
-average investment (CZK million)	146	23	217 (0.00, 0.00)
4. Export orientation	72%	88%	91% (0.06, 0.89)
5. Plans to reinvest	58%	63%	77% (0.09, 0.42)
6. Applied for incentives	7%	22%	100% (0.01, 0.00)
7. Motives			
-Cost related ^c	57%	63%	59% (0.83, 0.41)
8. Age ^d	7.7	2.8	3.9 (0.00, 0.37)
9. Czech management	61%	63%	41% (0.08, 0.05)
10. Hi-tech ^e	35%	48%	55% (0.08, 0.20)

Source: primary survey data.

^a The data in this table report the percentage number of firms in the relevant sample population reporting an affirmative answer to the individual question or category of questions if not otherwise indicated. For further clarification please consult the questionnaire in the annex and annex table A3.

^b "Co-operative" includes joint ventures, acquisitions and so-called brownfield investments.

^c "Cost-related" incentives include all those projects for which a firm reports cost-related factors or investment incentives as being important.

^d Number of years having passed since the investment (2002 minus "year of investment").

^e Industries that are so-called high-technology or use inputs such as human capital and R&D intensively. The current sample includes the following industries as hi-tech: chemicals, machinery and equipment and electronics.

^f One-way non-parametric Anova test of comparing observations in the 1st and 3rd columns and the 2nd and 3rd columns, respectively, are shown in parenthesis after the descriptive statistics in the 3rd column. The numbers in parenthesis indicate, for individual variables, the statistical significance of correctly rejecting the hypothesis that the two samples with and without incentives are identical.

To investigate whether these descriptive statistics can be supported as significant in a multiple regression framework, a probit regression was performed. A secondary purpose was to test whether a selection bias or screening procedure appears to dominate when FDI projects participate in the NIS. In other words, it was investigated whether there was a significant difference (on the various project characteristics) between:

1. the whole sample having invested in 1998 or after;
2. the sub-sample of 1) having applied for incentives; and
3. the sub-sample of 2) ending up receiving incentives.

Even though particular investors may be encouraged or discouraged from applying for incentives depending on the Government's announced screening rules, it is also possible that self-selection applies to the relative importance to the firm of receiving incentives and other practical issues, including those of information. The best results are obtained by focusing only on the part of the sampled firms investing after 1998, for the reasons mentioned earlier. This reduces the number of observations to 38 and 19, respectively; but this sample is still sufficient to undertake the desired tests.

Hence, first the exercise from table 3 was repeated with running the regression on the sample of firms having invested in 1998 or after, as reported with model 2 (table 4). But related hereto, model 1 investigated the probability of firms to apply for incentives in the first place, the difference between models 1 and 2 being those firms that did not receive incentives. Finally, model 3 focused on the selection taking place among the much narrower sample of firms applying for incentives. Hence, models 1, 2 and 3 together tell us something about the screening process that occurs from application to rejection (difference between models 1 and 2) or admission (model 3).

The first two columns in table 4 compare the probabilities of applying for and receiving incentives, respectively. The sample size is sufficiently large to include all possible relevant explanatory variables available with the survey data. As

expected, several of the variables significant in models 1 and 2 are identical (access to local network, larger size, lower age, and expatriate management). This could imply that a lot of selection takes place at the pre-screening stage through self-selection among each other on the basis of the pre-announced

Table 4. Probit regression results, only for firms investing in 1998 or after
(X^2 -statistics are reported in parenthesis)

Dependent variable	Prob (APINC=1) (Model 1)	Prob (RECINC=1) (Model 2)	Prob (RECINC=1) ^a (Model 3)
Explanatory variable			
INTERCEPT	-1.425 (0.65)	-4.428** (2.68)	-3.208* (1.87)
LOCNET	0.983* (2.54)	1.775*** (3.83)	9.694 (0.00)
GREEN	-0.063 (0.01)	1.144* (2.46)	14.134 (0.00)
COST	-0.498 (0.86)	-1.621** (3.32)	-2.173 (1.46)
Log (SIZE)	0.444*** (3.88)	1.238*** (7.23)	1.266** (3.42)
Log (AGE)	-0.954* (2.57)	-1.567*** (4.58)	-3.364* (2.24)
LOCALM	-1.233*** (5.11)	-2.445*** (5.99)	-7.528 (0.00)
EXP	0.421 (0.08)	-0.538 (0.07)	-
REINV (0.15)	-0.226 (0.07)	0.186	-
HI-TECH	0.368 (0.45)	0.036 (0.00)	-
Log likelihood	-18.63	-13.58	-3.12
Goodness of fit (Pearson X^2)	34.35*	24.05	5.93
N	38	38	19

Source: authors' calculation.

* The coefficient estimate is significant at the 20% level.

** The coefficient estimate is significant at the 10% level.

*** The coefficient estimate is significant at the 5% level.

^a Model 3 is tested for the somewhat different data sample of firms having applied for incentives.

screening rules. The importance of pre-announced screening rules relates especially to the observation that larger investors are more likely to apply for, and receive, incentives. Natural selection biases may instead relate to information issues, such as access to local networks or the general low age of typically first-time investors applying for these types of incentives.

However, it also appears from the results in table 4 that more of the explanatory factors become significant when exclusively focusing on the group of firms that receive incentives. Firms receiving incentives compared to firms applying for incentives are much more likely to be greenfield investors (obviously because of the application of screening rules), and they are also more likely to be motivated by factors unrelated to overall operational cost or labour cost. At the same time, all of the factors explaining why firms apply for incentives appear to increase in relevance when going from column 1 to column 2 in the table, suggesting that government screening in some areas is unsuccessful in reducing natural selection biases, such as the high propensity of first-time investors to enter these programmes rather than follow-up investors (age is negative), and the importance of access to local knowledge. So is the pre-eminence of firms managed by expatriates in the sample that ends up receiving incentives (since the estimated coefficient for *LOCALM* is significant and negative).

But the results show equally that screening is successful in other aspects: of increasing the size of projects and securing greenfield investment, including a de-selection of firms that may be overtly focused on access to cheap labour. Since coefficients are greater and more significant for these factors in column 2, this should not only be because of self-selection but also because screening rules appear to matter. This suggests that some screening does take place after firms apply for incentives, and that it matters for project quality. This question is further investigated with model 3 in table 4 where the sample size is reduced to firms having applied for incentives, and again focusing on the factors explaining the probability of firms receiving incentives – but now within this much narrower group of firms having applied to the NIS.

This analysis confirms that screening rules do apply through the application process and tend to favour firms of larger size and lower age, in particular. The observations of comparing columns 1 and 2 also hold. However, some of the results for model 3 are problematic due to the low size of the sample. In fact, the results suggest, for those variables for which the parameter estimates now are very large (but insignificant), that only firms with these characteristics end up receiving incentives (with local network, which are greenfield and with an expatriate management team). But the statistical procedure breaks down if there is perfect separation of the sample for dummy characteristics with respect to the dependent variable. This is verified when looking at the raw data: there is perfect or close to perfect separation for these variables.

Overall one can conclude that government screening appears to have been successful in raising FDI quality (with respect to size, attracting greenfield projects and de-selection of overtly cost-oriented investors). In other areas, government screening has not been very successful in terms of raising the quality of FDI (with respect to age and reinvestment, both related to investors with higher durability and to secure investments in hi-tech industries).¹⁰ Therefore the survey data lead to the conclusion that the scaling up of the NIS in 1998 involved a certain trade off between quantity and quality.

Do benefits outweigh costs in the NIS?

Taking into account that the involvement of foreign firms in the economies in transition began from scratch, FDI has undoubtedly contributed to the growth of the workforce in private manufacturing and service enterprises (Mallya, 2001).

¹⁰ The contradictory evidence (compared to table 2) may be because the sample is biased in the aspect of industry composition (see table 1 above). But it may also in part owe to the fact that the incentive programme prior to the new NIS had more effective screening rules in terms of raising this qualitative aspect of FDI with incentives, *re.* table 2 (which registers the cumulative profile on industries with and without incentives both before and after 1998).

Alena Zemplerova and Jana Rajdlova (2001), when comparing the performance of domestic firms and foreign affiliates in the Czech Republic, found that, on average, foreign affiliates outperform domestic enterprises. They also found that foreign affiliates have on average twice as high productivity, higher export per sales ratio and invest five times more per employee than domestic enterprises, and they are more profitable.

Foreign affiliates have also been the driving force behind the Czech Republic's increasing exports. In 1993, foreign affiliates were responsible for a very small percentage of Czech exports. By 1999, they were responsible for producing 65-70% of all manufactured exports and reported strong export growth (CzechInvest, 2002).

These observations suggest that there are considerable social benefits associated with the hosting of FDI projects which may merit providing incentive packages. However, such a type of analysis typically ignores the cost side of providing incentive programmes.

In the following, a cost-benefit analysis is therefore undertaken, in which only some of the above mentioned advantages are accounted for as accruing to domestic society, since gains are split between the investor's home country and the host country (Dunning, 1993). Advantages to the host country come mainly in the form of a social multiplier through the extra wages and taxes accruing to society due to the higher efficiency of foreign compared to domestic firms.

Furthermore, this cost-benefit analysis does not take into account potential spillover effects from e.g. the capture of comparative advantage in specific industries (Lall, 1999) or simply additional and more productive job creation in domestic firms if there are spillovers from foreign affiliates (Dunning, 1994; Blomström et al., 2001; Blomström and Kokko, 2003). Also, the analysis is performed under the assumption that there is full employment in the economy. Hence benefits may be higher than suggested by this analysis.

On the other side of the analysis are some costs also unaccounted for, such as the dynamic impact of rendering tax holidays over a longer time period (Mitra and Stern, 2002). The tax-holiday effect is entirely absent from the cost side. Other costs left unaccounted for are associated with the retraining of workers paid by the national government, including the costs of raising taxes for the financing and administration of the incentive programme and possible bureaucratic losses associated herewith.

The cost-benefit analysis should hence be complemented by observations on the quantity and quality of FDI to give a more complete picture of the impact incentives have on a host country. One should be careful to rely singularly on results of cost-benefit studies since the results are as much a product of the rather static assumptions as of the actual economic situation at hand. This is also the case in the present study since the cost-benefit analysis can only be undertaken making rather strict and simple assumptions.

Tables 5 and 6 show the calculation of costs and benefits associated directly with the NIS. Both tables include a low and high estimate. Furthermore benefits are calculated both as static benefits and dynamic ones, where the dynamic benefits assume a job maintenance rate of 3 years rather than only 1 year.

The low estimate for cost is derived from information by CzechInvest regarding its annual expenses according to the State budget. The high estimate is calculated as the maximum permissible public support (MPPS), which is 50% of the total investment. It is reasonable to believe that the MPPS estimate is realistic since investment incentives are negotiated with several government bodies. Since it is difficult to obtain data on what all these incentives amount to in terms of cost (not to mention administrative and bureaucratic loss), it is simply assumed that the extensive negotiation process exploits the full MPPS.

The low estimate for benefits is derived from the assumption that workers earn wages in the order of 25% above wages in domestic or State owned enterprise. The calculations by Zemplinerova and Rajdlova (2001) suggest that in 2000

Table 5. Estimated social costs of providing incentives, 1993 prices
(CZK thousand or million)

Item	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total, PV
Low estimate ^a (million)	5.15	7.51	12.02	14.83	19.38	22.92	32.32	51.87	84.92	57.06	349.31
High estimate ^b (million)	187	883	871	1 923	2 944	6 785	7 494	17 707	22 388	5 604	74 716
No. of jobs created	570	1 392	1 323	1 995	1 837	5 687	5 268	18 358	14 162	8 289	58 881
Cost per job											
-Low estimate (thousand)	9	5	9	7	11	4	6	3	6	7	6
-High estimate (thousand)	328	634	658	964	1 605	1 193	1 423	965	1 581	676	1 269

Sources: CzechInvest, 2002; EBRD, 2001.

- ^a Calculated as the State budget contribution to CzechInvest in current prices and deflated with the GDP-deflator.
^b Calculated as the maximum permissible public support (MPPS), which stands at 46-50% of total investment depending on the region, except for the region of Prague where the MPPS is much lower (20%). However, none of the projects given incentives are located in the region of Prague. Since MPPS is similar and close to 50% for all relevant investment projects the figure is simply calculated as 50% of total investments given incentives. The figures have been converted from dollars to CZK, using the official exchange rate at the end of the year.
^c "Total" is calculated as the present value using a discounting rate of 5% per year.

Table 6. Estimated social benefits of providing incentives, 1993 prices

Item	1993	1994	1995	1996	1997	1998	1999	2000	2001 ⁴	2002 ⁴	Total, PV ⁵
Average real wage rate in manufacturing (CZK per annum)	70 716	72 889	78 158	84 653	88 340	88 755	92 041	97 706	98 825	103 394	-
Social benefit per job (thousand of CZK)											
-Low estimate ¹	17.68	18.22	19.54	21.16	22.09	22.19	23.01	24.43	24.71	25.85	-
-High estimate ²	39.78	41.00	43.96	47.62	49.69	49.93	51.77	54.96	55.59	58.16	-
No. of jobs created	570	1 392	1 323	1 995	1 837	5 687	5 268	18 358	14 162	8 289	58 881
Static social benefit (million CZK)											
-Low estimate	10.08	25.37	25.85	42.22	40.57	126.19	121.22	448.42	349.89	214.26	1 567.58
-High estimate	22.67	57.07	58.16	95.00	91.28	283.92	272.74	1 008.95	787.26	482.08	3 859.67
No. of jobs created and maintained ³	570	1 962	3 285	4 710	5 155	9 519	12 792	29 313	37 788	40 809	-
Dynamic social benefit (million CZK)											
-Low estimate	10.08	35.75	64.19	99.68	113.85	211.22	294.35	716.01	933.60	1 054.85	3 527.05
-High estimate	22.67	80.44	144.42	224.28	256.16	475.23	662.28	1 611.03	2 100.61	2 373.41	8 684.26

Sources: CZSO, 2002; CzechInvest, 2002; EBRD, 2001.

- a Calculated under the assumption that labour earns 25% higher wages in foreign affiliates, and that the social multiplier is 1. Hence the social benefit per job equals W*0.25.
- b Calculated under the same assumption that labour earns 25% higher wages in foreign affiliates, but now that the social multiplier is 2.25, where 0.25 . is paid out by firms as indirect wages or fringe benefits while a share of 1.0 accrues to society as taxes on the extra capital gain from higher labour productivity in foreign affiliates. Hence the social benefit per job equals W*0.25*2.25.
- c Assuming a maintenance rate of 3 years on average per job.
- d Estimated, assuming an annual growth rate of 6% for nominal wages
- e Total is calculated as the present value using a discounting rate of 5% p.a.

wages were 17% above, not taking into account differences between small and medium-sized and large foreign affiliates. The wage premium is typically twice as high in large foreign affiliates as in small ones. Hence, on the basis of recent information on wage differentials, the assumption of 25% may be more realistic (CZSO, 2002). Unfortunately a time series is not available, so it must be assumed that the premium is the same for the whole period. The difference between the low and high estimates is then simply the assumption about the size of the social multiplier setting it to 1¹¹ and 2.25,¹² respectively. Finally, the benefit side of the analysis also makes estimates depending on the assumption about job maintenance rate – e.g. whether jobs are created only for a one-year period or whether they are created as more permanent jobs over time. This is the difference between the static and dynamic estimates in table 6.

Table 7 provides a calculation of the NIS's net benefits based on the above calculations, offering a worst and best case scenario. Since the tax-holiday effect is entirely absent from the cost side, a worst-case scenario (high estimate cost, low estimate benefit) with a very low multiplier is calculated taking into account a scenario of lengthy tax holidays, either in isolation or in combination with other types of incentives. Furthermore, the worst-case scenario uses the purely static benefit for job creation since it is unclear at the present time to which extent jobs created through these incentive programmes are maintained over time.¹³ On the other hand, the best-case scenario is

¹¹ No taxes or extra benefits accrue to the host country or the workers.

¹² Both taxes and extra benefits accrue to the host country and the workers. Note that the social multiplier only includes direct effects referring to the earlier definition of FDI quality (see note 2). Hence the cost-benefit analysis only takes into account one of the three relevant quality vectors.

¹³ According to CzechInvest (2002), 79% of the foreign affiliates surveyed in 1999 indicated that they were planning to increase their staff levels in the near future. However, this argument holds only if they do not have a hidden agenda of exploiting the current available locational benefits and later divest as some of them have done recently. Two major foreign investors have left the south Moravian region and moved to neighbouring locations in CEE, with a significant negative impact on the local labour market. It is hard to predict whether the Government's effort to recover some of the lost revenue due to the incentive packages provided will prove successful.

Table 7. Weighing cost and benefits: worst, medium and best case scenarios

Item	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total, PV
<i>Worst case</i> (million. CZK) ^b	-177	-857	-845	-1 881	-2 908	-6 659	-7 373	-17 258	-22 039	-5 390	-73 148
-public deficit per job (Thousand CZK)	311	616	639	943	1 583	1 171	1 400	940	1 556	650	1 242
<i>Best case</i> (million. CZK)	18	73	132	210	237	452	630	1 559	2 016	2 316	8 335
-public surplus per job (Thousand CZK)	30	52	100	105	129	80	120	85	142	280	142

Source: tables 5 and 6.

^a Total is calculated as the present value using a discount rate of 5% p.a.

^b Where total cost is the high estimate and total benefit is the static low estimate.

^c Where total cost is the low estimate and total benefit is the high dynamic estimate.

calculated on the basis of the most optimistic assumptions (high dynamic benefit and low cost in combination). The results are shown in table 7.

Depending on the assumption of the analysis, there is a social net loss or gain associated with the provision of incentives, the pivotal questions being those of unemployment and spillovers. For example, if there is high unemployment and a lot of spillover effects associated with FDI, the provision of net incentives per year of CZK 1.2 million (\$40,000) per job may be a rather cheap solution, compared to unemployment benefits and other channels of seeking foreign technology. On the other hand, if there is full employment it would probably be better to invest money in the provision of public goods rather than in investment incentives. Since the Czech unemployment rate is relatively low (the national average being 8.8 in 2001 according to the Czech Statistical Yearbook, 2001), the latter is more likely to be a relevant policy conclusion at present. However, the cost-benefit analysis also suggests that, by taking out the tax holidays from the investment incentive package, leaves it as overall more beneficial to society by bringing the economy closer to a net surplus situation.¹⁴ This makes incentive packages more similar to the provision of public goods (as many of the non-tax incentives are of this type) being beneficial to all types of firms, no matter their origin.

Discussion

This article has presented an analytical framework based on a review of the literature on incentive programmes in host countries. The purpose was to improve the validity of research seeking to evaluate national incentive programmes that target FDI specifically. The overall research question was whether it really pays off in the perspective of host countries to offer these types of incentive programmes.

¹⁴ One should also take into consideration the competitive disadvantage that these policies potentially places smaller or older local firms in Jensen, 2004.

Subsequently, the analytical framework was tested using the Czech NIS as an empirical case, with emphasis on the national level. The overall proposition is that a cost-benefit evaluation of an incentive programme can be strongly improved by enquiring into the interrelated issues of whether the programme succeeds in crowding in FDI in quantitative as well as qualitative terms.

The relationship between these targets is revealed by the fact that quantity matters less as long as quality targets are met. For example, if the quality of FDI is raised either at the local, national or global level it matters less whether an incentive programme succeeds in crowding in FDI. Conversely, if an incentive programme succeeds in crowding in FDI, but at the same time causes a decline in the quality of FDI, then a programme's cost-benefit profile can easily turn negative.

These different propositions were tested with Czech data. The analysis revealed many of the problems that are involved when using cost-benefit analysis. Foremost, it is difficult to judge whether the NIS has really crowded-in additional FDI in the Czech Republic. The analysis suggests an at-best 10% positive crowding-in impact of the NIS on manufacturing FDI in the Czech Republic after 1998. This means that most of the benefits from FDI could be obtained without incurring the sizeable social cost of using incentives.

However, the analysis of the quality of FDI under the NIS shows that screening rules have had a certain positive impact, in the sense that screening has an effect especially with regard to both capital investment size and employment creation, offsetting any natural selection bias with respect to attracting small investors. But the analysis also reveals that government screening exacerbates natural selection, because first-time rather than follow-up investors are favoured by the NIS. Screening was found less successful also in obtaining hi-tech investments after the NIS was scaled up in 1998. Furthermore, the quality of FDI in the Czech Republic could also be improved by linking the NIS to the Government's national linkage programme.

However, no data are available to make an evaluation of this question.

Finally, with these lessons in mind a general cost-benefit calculation was made for the Czech NIS. Based on the simple assumption of granting full tax holidays to all foreign investors under the NIS, the cost-benefit analysis suggests a net-cost to society of CZK 0.6-1.2 million per job created through this incentive programme. Opportunity costs such as unemployment benefits in the case of domestic or regional unemployment lying above the natural rate of unemployment may partially offset this cost. More importantly, the analysis confirms that crowding-in is much less important to the evaluation. Crowding in would hardly affect the conclusions of the cost-benefit analysis since more FDI of the same type is likely just to scale up both sides of this societal analysis. But it also suggests that society incurs unnecessary cost by providing incentives in the first place, unless FDI quality is improved. Conversely, if the quality of FDI is improved, there is a large potential gain that can be added only or mostly to the benefit side of the analysis, shifting the conclusions more in the direction of the best-case scenario.

Conclusion

The overall balance of the current NIS programme in the Czech Republic may be negative at present, but with a strong promise to improve the overall quality of FDI, especially if the national linkage programme can deliver the benefit that it aims for. However, it may just be too early to characterize the Czech Republic as a successful case alongside Ireland and Singapore.

The general lessons to be derived from this article are that governments should focus on constructing national incentive programmes that improve the quality of FDI rather than programmes that set quantitative targets. Furthermore, governments should use instruments that are likely to crowd-in domestic investment and spillovers. Tax holidays as policy instruments are in this respect not very useful.

In particular, governments should direct their attention to issues related to the targeting of FDI. But the problem with screening rules is exacerbated by two general factors: the natural selection bias and information problems. The selection bias concerns the fact that below-average quality FDI is likely to be attracted by incentives. Government screening must overcome this problem and furthermore should aim at securing above-average quality FDI. In this respect the information problem may, however, be tantamount. Hence screening is only likely to be successful in relation to predetermined characteristics of an investor that can be observed prior to granting incentives, such as size and industry affiliation. Otherwise, incentives should be tied to *ex post* performance variables such as linkage creation. Incentives granted to training programmes by the local labour offices in the Czech Republic are an example of such ex-post performance related incentives.■

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Annexes

Annex table 1. Qualitative data derived from the survey data

Variable	Description
APINC	Dummy variable for firms having applied for incentives, assuming a value of 1 when a firm applied for incentives.
RECINC	Dummy variable for firms receiving incentives, assuming a value of 1 when a firm receives incentives.
LOCNET	Dummy variable assuming the value of 1 when the first point of contact is related to the local business network in the Czech Republic.
GREEN	Dummy variable assuming the value of 1 when an investment is a greenfield investment.
COOP	Dummy variable assuming the value of 1 when an investment is a joint-venture, acquisition or brownfield investment.
FOLUP	Dummy variable assuming the value of 1 when an investment is a follow-up investment or expansion project.
COST	Dummy variable related to motives, assuming the value of 1 when a firm reports cost-related factors or investment incentives as motives.
SIZE	Size is captured with the number of employees in a firm.
AGE	A cardinal variable reflecting the actual age of an investment, calculated by subtracting the first year of investment from 2002.
LOCALM	Dummy variable for nationality of the top management team, assuming a value of 1 when a firm has a local or Czech top management team.
EXP	Dummy variable for export-oriented firms, assuming a value of 1 when a firm reports its market-orientation to be beyond the domestic and regional (CEE) market.
REINV	Dummy variable for firms planning to invest further in the future, assuming a value of 1 when a firm has plans to invest again.

Annex: Questionnaire for foreign investors

1. Point of first contact with Czech Republic?
 - Local business people
 - Governmental mission abroad
 - CzechInvest
 - Local chamber of commerce
 - Other:.....
2. Main markets for your products?
 - Czech Republic
 - Western Europe
 - Eastern Europe
 - USA
 - Others:.....
3. Main motivating factor for investing in Czech Republic?
 - Geographical position of CR
 - Cost of labour
 - Well skilled and educated labour
 - Low operating cost
 - Governmental investment incentives
 - Previous trade relations with CR
 - My competitors made similar move first
 - Other:.....
4. Did you apply for government investment incentives?
 - Yes
 - No
5. Did you get government investment incentives?
 - Yes
 - No
6. What are the main problems in operating business?
 - Lack of well skilled and educated labour
 - Bureaucracy and corruption
 - Imperfect law
 - Working culture
 - Poor infrastructure
 - Other:.....
7. Do you plan to reinvest in Czech Republic?
 - Yes
 - No
 - Not decided yet
8. What do you think about Czech economical and political situation?
 - Stable
 - Uncertain

Annex table 2. Pearson correlation coefficients

Variable	RECINC	APINC	LOCNET	COOP	GREEN	FOLUP	COST	SIZE	AGE	LOCALM	EXP	REINV	HITECH
RECINC	-	0.825 (0.00)	-0.007 (0.93)	-0.208 (0.01)	0.038 (0.66)	0.443 (0.00)	0.018 (0.83)	0.172 (0.05)	-0.167 (0.05)	-0.150 (0.08)	0.163 (0.05)	0.146 (0.09)	0.152 (0.07)
APINC		-	-0.067 (0.43)	-0.163 (0.06)	0.023 (0.79)	0.365 (0.00)	-0.004 (0.96)	0.186 (0.03)	-0.198 (0.02)	-0.120 (0.16)	0.228 (0.00)	0.170 (0.04)	0.245 (0.00)
LOCNET			-	0.103 (0.24)	-0.064 (0.46)	-0.101 (0.248)	0.055 (0.52)	-0.091 (0.31)	-0.023 (0.78)	0.132 (0.12)	0.044 (0.61)	0.136 (0.11)	-0.097 (0.26)
COOP				-	-0.925 (0.00)	-0.220 (0.01)	0.058 (0.51)	0.044 (0.62)	-0.049 (0.57)	0.024 (0.78)	-0.010 (0.90)	0.007 (0.92)	0.030 (0.72)
GREEN					-	-0.166 (0.05)	-0.034 (0.69)	-0.010 (0.90)	0.103 (0.24)	0.002 (0.97)	0.000 (0.99)	-0.038 (0.661)	-0.064 (0.46)
FOLUP						-	-0.063 (0.47)	-0.084 (0.35)	-0.135 (0.125)	-0.069 (0.43)	0.027 (0.75)	0.078 (0.37)	0.086 (0.32)
COST							-	0.070 (0.43)	-0.124 (0.152)	0.045 (0.59)	0.220 (0.01)	-0.065 (0.45)	-0.064 (0.45)
SIZE								-	-0.012 (0.89)	-0.147 (0.10)	0.035 (0.69)	0.057 (0.52)	0.135 (0.13)
AGE									-	0.091 (0.29)	-0.052 (0.54)	-0.141 (0.10)	-0.144 (0.09)
LOCALM										-	-0.046 (0.589)	0.027 (0.75)	0.016 (0.84)
EXP											-	0.042 (0.62)	0.276 (0.00)
REINV												-0.056 (0.51)	-
HITECH													-

Source: authors.

RESEARCH NOTE

South-South FDI flows: how big are they?

Dilek Aykut and Dilip Ratha*

This research note seeks to calculate the volume of South-South foreign direct investment flows in the 1990s. Indirect estimates, using data from several sources, suggest that more than one-third of such inflows into developing economies have originated in other developing economies. South-South foreign direct investment is driven by similar “push” and “pull” factors as drive North-South flows. A non-negligible part of South-South investment however may reflect round tripping of own capital motivated by policies that favour foreign investors over domestic ones.

Key words: foreign direct investment, transnational corporations, developing countries, round tripping

Introduction

Foreign direct investment (FDI) flows to developing countries and territories¹ increased from \$43 billion in 1991 to \$246 billion in 2000.² It is commonly believed that this surge in

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¹ In this research note, the term “developing countries” is used to denote both developing countries and territories, which together are also referred to as “developing economies”.

² See UNCTAD, FDI/TNC database at: <http://stats.unctad.org>.

FDI flows to developing economies (the “South”) originated in the developed countries (the “North”). The 1990s were also marked by a surge in FDI *outflows* from developing countries, from \$12 billion in 1991 to \$99 billion in 2000,³ as a result of a rapid growth of income and wealth in many developing countries. Considering the economic slowdown in the North in the early 1990s, the increasing attractiveness of developing countries as a destination for FDI, and the rapid growth of intra-regional trade, it should be only natural to expect that some part of these investments from the South would flow to the other countries in the South. In other words, one would expect the share of South-South FDI flows in the inflows of developing countries to have increased in the 1990s.

This argument is consistent with the considerable literature on the increasing globalization of transnational corporations (TNCs) from the South. Several studies show that TNCs from the South have gradually accumulated technological capability and firm specific advantages and expanded their operations to other countries. According to the investment development path (IDP) approach, developed by John H. Dunning in 1979, these companies tend to invest initially in resource- and market-seeking activities in neighbouring or other developing countries, and then expand their presence worldwide (Dunning, 1979, 1993; Narula, 1995). Country case studies (Dunning *et al.*, 1997; Dunning and Narula, 1996; Zhang and van den Bulcke, 1996; Whitmore *et al.*, 1989; Lall, 1983) show that individual developing countries are at very different stages of their IDP.

Unfortunately, estimating the extent of such South-South FDI is not easy, as data are not available at the desired level of disaggregation. This research note pools together data from several sources: the World Bank, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD) and UNCTAD, to estimate indirectly South-South FDI flows in the 1990s. Such flows rose in the 1990s to account for more than one third of the FDI inflows reported by developing countries in 2000.

³ *Idem.*

Highlighting the role of the South as a source of FDI is useful for several reasons. First, the growing importance of South-South FDI flows in the 1990s indicates that developing countries are more financially integrated with one another than previously believed. Second, South-South FDI may follow cycles different from the ones followed by North-South FDI. For example, South-South FDI flows may be more resilient to a crisis in a developing country. TNCs from the South often have lower overhead costs, and they often employ local managers. Therefore, they possess more expertise in dealing with the economic and political conditions of a host developing country than TNCs from developed countries (Wells, 1983). Third, the growing importance of South-South FDI indicates that investment promotion policies and agencies (in the South as well as the North) should target not only companies from the North, but also those from the South. This is particularly important for small economies, as TNCs from the South, because of the nature of their comparative advantages, tend to invest in countries that are at a similar or lower level of development than their home countries (Wells, 1983).

The structure of this research note is as follows. The next section describes two different ways of estimating South-South FDI flows and discusses the pitfalls of these methods. The subsequent section discusses possible causes behind the growth of South-South FDI flows. The last section concludes with a few remarks.

Estimation of South-South FDI flows

Definition of the “South”

The terms “North” and “South” have been used loosely in the literature to denote, respectively, the developed countries and the developing economies. This research note follows a categorization as described below (annex table 1):

- The “South” is defined as the 31 developing countries for which reasonably detailed FDI data are available. These

countries account for almost 90% of the total flows to developing countries.

- The “North” comprises 22 high-income OECD member countries. This group includes the donor countries belonging to the Development Assistance Committee (DAC) plus Greece and Iceland.
- The high-income non-OECD group comprises the 30 high-income economies that are not members of the OECD.

This classification follows the categories established by the World Bank, but it does not necessarily follow those established by the United Nations or UNCTAD (annex table 1). For example, the definition of the South as used in this research note excludes various newly industrializing economies such as Hong Kong (China), Singapore and Taiwan Province of China, as well as other high-income countries outside the OECD (e.g. Kuwait). Thus, the definition of the South in this study is narrower than, for example, in UNCTAD’s *World Investment Report 2001* (UNCTAD, 2001).

Methodology

Conceptually, FDI flows can be represented for the above three groups in the following inflow-outflow matrix:

Table 1. Inflow-outflow matrix

Outflows/inflows	High-income-OECD or the North	High-income non-OECD	Developing countries or the South	Outflows
High-income-OECD or the North	F_{11}	F_{12}	F_{13}	O_1
High-income non-OECD	F_{21}	F_{22}	F_{23}	O_2
Developing countries or the South	F_{31}	F_{32}	F_{33}	O_3
Inflows	I_1	I_2	I_3	Total flows $= I_1 + I_2 + I_3$ $= O_1 + O_2 + O_3$

Source: authors.

where F represents total FDI flows from country group i to country group j ,^{*i*} and I and O respectively indicate inflows to group i and outflows from group i . In this table, South-South FDI is represented by F_{33} and can be calculated using either the inflow equation (1) or the outflow equation (2) below:

$$I_3 = F_{13} + F_{23} + F_{33} \quad (1)$$

$$O_3 = F_{31} + F_{32} + F_{33} \quad (2)$$

Data

Data on inflows reported by countries tend to be more reliable than data on outflows, especially in the case of developing countries that have restrictions on the capital account or exchange controls, or preferential treatment for non-resident investment (see below for further discussion). So, one can compute South-South FDI flows using equation (1) as:

$$F_{33} = I_3 - F_{13} - F_{23} \quad (3)$$

where

I_3 = Total FDI inflows to 31 developing countries.

F_{13} = Total FDI inflows from high-income OECD countries to 31 developing countries.

F_{23} = Total FDI inflows from high-income non-OECD countries to 31 developing countries.

The World Bank's *Global Development Finance database* and the IMF's *Balance of Payments Yearbook* provide total FDI inflows to each developing country, but they do not identify the source countries. The OECD's *International Direct Investment Database* provides FDI outflows from OECD member countries to these countries (F_{13}). FDI flows from high-income non-OECD countries (F_{23}) are not readily available; these are approximated as the difference between total outflows from high-income non-OECD countries reported in the IMF's *International Financial Statistics*, and total inflows to high-income-OECD from high-

income-non-OECD countries reported in the OECD database (i.e., $O_2 - F_{21}$).⁴

Results

The results on South-South FDI for the period 1994-2000⁵ (table 2) show that, while both North-South and South-South FDI flows surged during that period, South-South FDI flows appear to have risen faster, from under \$5 billion in 1994 to

Table 2. Estimation of South-South FDI flows, 1994-2000
(Billion dollars)

Item	1994	1995	1996	1997	1998	1999	2000
FDI inflows to developing countries:							
From all countries (1)	76.4	94.0	112.4	148.4	153.7	160.6	148.0
Less: from high-income-OECD countries (2)	42.7	51.3	58.8	69.8	74.1	93.6	85.5
Equals: from other than high-income-OECD countries (1-2)	33.7	42.7	53.6	78.6	79.5	66.9	62.5
Less: from high-income-non-OECD (3)	29.1	27.4	28.6	21.2	23.0	17.2	8.6
Equals: implied South-South Flows (1-2-3)	4.6	15.3	25.0	57.4	56.6	49.7	53.9
<i>as share of total FDI flows to developing countries (%)</i>	<i>6.0</i>	<i>16.2</i>	<i>22.3</i>	<i>38.7</i>	<i>36.8</i>	<i>31.0</i>	<i>36.4</i>

Source: authors' calculation.

^a Adjusted for round tripping of flows between Hong Kong (China) and China (see below).

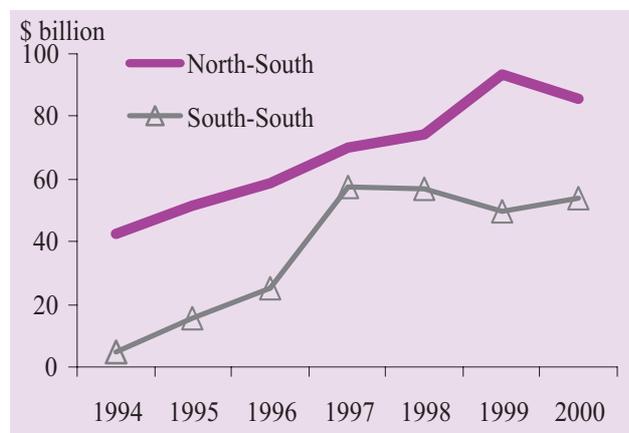
⁴ Conceptually, $F_{23} = O_2 - F_{21} - F_{22}$, when using the categories of table 1. However, because of the lack of data, F_{22} , which is believed to be strictly positive, had to be ignored. The calculation, therefore, should overestimate F_{23} and underestimate South-South FDI flows. On the other hand, if outflows were underreported by high-income-non-OECD countries, this would overestimate South-South FDI flows. There is unfortunately no way for checking which of these opposite effects is stronger.

⁵ Data for years earlier than 1994 are not available at the desired level of disaggregation. Also OECD data on FDI outflows are not yet available for years after 2000.

about over \$50 billion in 2000 (figure 1). Indeed, at the end of the decade more than a third of FDI flows to developing countries could be estimated to have originated in other developing countries, as compared to negligible amounts in the early 1990s (figure 2).⁶ In other words, in the early 1990s FDI flows to developing countries originated almost entirely in the North; but in the late 1990s, the share of North-South FDI in total FDI flows to the South appears to have declined to, and stabilized at, the 55-60% range.

Interestingly, South-South FDI appears to have remained resilient in the post-Asian crisis period, while North-South FDI from the United States, Japan and Germany declined (figures 1 and 3). The increase in North-South flows (seen in figure 1) was almost entirely due to a surge in Spain's mergers-and-acquisitions-related investments in Latin America (figure 3).⁷

Figure 1. FDI flows to developing countries



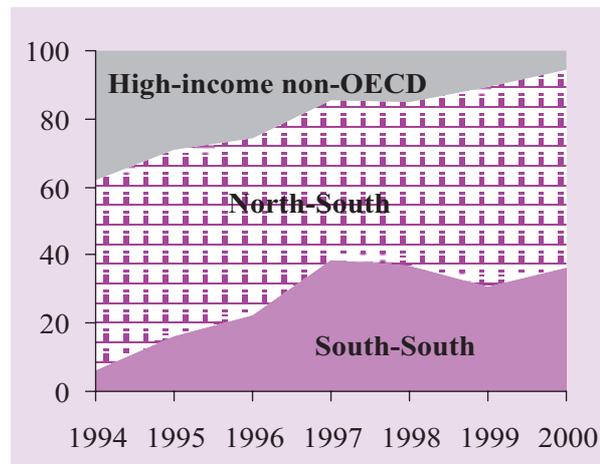
Source: authors' calculation.

⁶ Beginning in 2003, the World Bank began to classify the Republic of Korea as a high-income OECD country. If the Republic of Korea were excluded from the "South" and included in the "North", the estimate of South-South FDI would decline marginally to \$48 billion (or 34% of FDI flows received by developing countries) in 2000.

⁷ Spain's total FDI outflows reached \$53.1 billion in 2000, up from \$4.1 billion in 1995. Between 1997 and 1999, Spain invested more in the South than in the North.

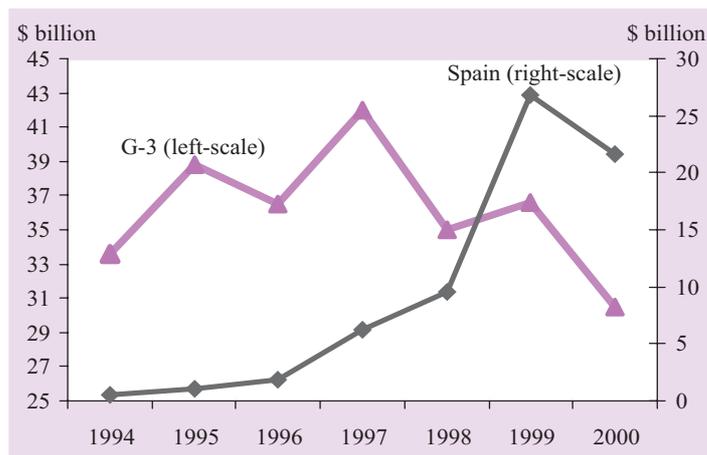
This is also evident from figure 4, which shows that FDI flows to developing countries outside Latin America declined during this period.

Figure 2. South-South and North-South shares
(Per cent)



Source: authors' calculation.

Figure 3. Major North-South investors, 1994-2000
(\$ billion)



Source: OECD International Direct Investment Database.

Figure 4. FDI flows to developing countries, excluding Latin America and the Caribbean, 1994-2000
(Billion dollars)



Source: OECD International Direct Investment Database.

Some other studies have also noted an escalation of intra-regional FDI flows in Africa (UNCTAD, 1998) and Latin America (ECLAC, 1998) during the second half of the 1990s. The growth of South-South FDI is also supported by the fact that the *World Investment Report's* transnationality index (UNCTAD, 2001) — an average of three ratios: foreign sales to total sales, foreign assets to total assets, and foreign employment to total employment — of TNCs from developing countries experienced significant increase in late 1990s, as these companies continued to expand their activities abroad (table 3). This surge may also be complemented by the emergence of the former centrally planned economies as outward investors: given their old political and economic links, this group of economies in transition tended to invest within its own group. According to UNCTAD (2001, p 114), the internationalization efforts of the top 25 TNCs of Central and Eastern Europe focus heavily on the European continent.

Such a tendency to invest in neighbouring countries at similar or lower levels of per capita income appears to be another interesting feature of South-South FDI. The competitive advantage of TNCs from South, small and medium-sized companies in particular, lies in their ability to function in a similar economic environment; these advantages are to be found only in countries with similar or relatively lower levels of development (Wells, 1983). Examples are investment by South African Breweries in Botswana, Lesotho, Swaziland, the United Republic of Tanzania, and Zambia; by Pepkor (South Africa's biggest retailer) in Zambia and Mozambique; and NetGroup (South African electricity company) in the United Republic of Tanzania. Similarly, Bulgaria has attracted FDI mostly from Turkey (Faf Metal, Ceylan Holding, Isiklar Holding, Ziraat Bank, Demir Bank), Hungary (Videoton), the Czech Republic (Pramet), the Russian Federation (Lukoil, Investment Bank and Vneshekonombank), and Slovakia (Skalica). According to the Fundación Invertir (Argentina), Chile and Brazil are among the major sources of FDI in Argentina (after United States, France and Spain).⁸

The Republic of Korea, China, Malaysia, South Africa, and Chile are major sources of FDI in the developing world. However, the list of developing economies investing in other developing economies is by no means limited to these countries. For example, according to UNCTAD data, the number of developing countries reporting positive FDI outflows rose from 43 in 1990 to 77 in 1999 (UNCTAD, 2001).

In the late 1990s, as the technology boom collapsed and privatization programmes in many developing countries encountered difficulties (re-nationalization, renegotiation, disappointing returns; see Lora and Panizza, 2002), some global infrastructure TNCs began to withdraw from the South. The resulting void was in part filled by TNCs from the same region.

⁸ Leading Brazilian TNCs in Argentina include Petrobras (fuel and petrochemicals), Brahma (beer) and Banco Itau (banking). The foremost Chilean investors are Gener (thermoelectric power), Masisa (chipboard), Luksic Group (beer) and Grupo Ibáñez (supermarkets).

For example, NetGroup (South Africa) and Electricity Distribution Management (Namibia) are expanding operations in southern and eastern Africa. The IPS Power affiliate of the Aga Khan Foundation is investing in Tajikistan, and Barmek Holding (Turkey) in Azerbaijan.

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Table 3. The transnationality index of the largest TNCs from the South, 1993 and 1999
(Per cent)

Country	1993	1999
India	6.4	9.6
Philippines	6.9	25.0
Chile	12.1	35.4
Mexico	12.5	48.0
Brazil	17.4	30.2
Malaysia	20.0	24.1
Republic of Korea	20.2	27.8
Argentina	..	24.5
South Africa	..	44.3
Venezuela	..	29.8
Latvia	..	87.3
Russian Federation	..	42.7
Czech Republic	..	37.7
Hungary	..	34.9
Croatia	..	34.1
Slovenia	..	32.2
Slovakia	..	17.0
Poland	..	5.4
Romania	..	3.7

Source: UNCTAD, 2001.

In the late 1990s, as the technology boom collapsed and privatization programmes in many developing countries encountered difficulties (re-nationalization, renegotiation, disappointing returns; see Lora and Panizza, 2002), some global infrastructure TNCs began to withdraw from the South. The resulting void was in part filled by TNCs from the same region. For example, NetGroup (South Africa) and Electricity Distribution Management (Namibia) are expanding operations in southern and eastern Africa. The IPS Power affiliate of the Aga Khan Foundation is investing in Tajikistan, and Barmek Holding (Turkey) in Azerbaijan.

Accuracy of the estimates

Although care was taken to use the most accurate data possible in computing South-South FDI flows, the estimates may suffer from the following weaknesses:

- outflows may be underreported even by high-income-OECD countries;
- inflows may be underreported by some developing countries;
- round-tripping of flows can lead to an overestimation of South-South FDI flows;
- transactions channelled through offshore financial centres may produce errors in the estimates if some of these flows are wrongly misclassified as FDI; and
- FDI from the North may get channelled through a developing country, causing an overestimation of South-South flows.

These problems are discussed one-by-one below.

Underreporting of outflows

As mentioned earlier, South-South FDI flows (F_{33}) could have been computed using equation (2). Such a calculation, too, would show a significant increase in South-South FDI flows during the second half of the 1990s. That volume, however, would be much smaller (\$12 billion in 1998) than the results

obtained using equation (1), which considered the scenario of underreporting of outflows by source countries.

The problem of under-reporting of FDI outflows is believed to be particularly acute in the case of developing countries. Some developing countries (even major emerging markets like Malaysia and Mexico) do not identify FDI outflows in their balance-of-payments statistics. Moreover, underreporting of outflows is pervasive, particularly when outward-investing TNCs attempt to avoid capital and exchange controls, or high taxes on the investment income. Lax accounting standards, weak tax administration and differences in the definition of FDI between the source and destination countries introduce further “noise” in the FDI data.

Evidence of underreporting can be seen by comparing FDI inflows reported by the United States with outflows to the United States reported by developing countries. Mexico’s FDI outflows were under \$1 billion in 2000 (UNCTAD, 2002a), while the United States reported inward FDI from Mexico of \$5.3 billion. Hungary reported a total FDI outflow of \$0.3 billion in 2001,⁹ while the United States alone reported receiving \$5.9 billion from Hungary. Other examples of underreporting abound. Investors from the Islamic Republic of Iran purchased Irish Telecom Eireann for \$4.4 billion in 1999 – this transaction was not reported at all in the statistics of the Islamic Republic of Iran. China’s outward FDI numbers are much smaller than those reported as inflows from China in Hong Kong (China)’s official statistics (more discussion on this issue provided below).

There may be conceptual problems in identifying FDI outflows. By definition, equity investment in excess of 10% of the outstanding stock of an entity is considered as direct investment. While there is little confusion about this rule, it may be easier for the government of a host country to judge (than for the government of the home country) whether a particular equity investment meets this criterion. If so, this would cause

⁹ While Hungary reported less than \$1 billion, United States reported inflows from Hungary as \$0.8 in 1999 and \$2.2 billion in 2000.

underreporting of outflows in the source country. These measurement problems are likely to be more acute in the case of the developing countries that have weaker accounting systems than developed countries.

Underreporting of inflows by developing countries

FDI inflow data are also often underreported by host countries. Two examples are India and Indonesia. In difference with the IMF definition of FDI, until recently India's FDI statistics excluded reinvested earnings, other direct investment (intra-company loans between the parent companies and the foreign affiliates), data on branches and associates, and investments by offshore and domestic venture-capital funds set up by foreigners (EIU, 2002). If these items were taken into account, India's actual FDI inflow would rise from \$2-3 billion per year reported to as much as \$8 billion, the latter representing about 1.7% of the gross domestic product (EIU, 2002). The Government of India has recently proposed to adopt the IMF's definition of FDI as required under the IMF's Special Data Dissemination Standard. As part of this exercise, the Reserve Bank of India revised up in 2003 its FDI inflow statistics upwards by more than \$1 billion.

Similarly, Indonesia's FDI is underreported. Indonesian balance-of-payments data indicate that, between 1998-2001, total *disinvestments* (negative FDI inflows) in the country reached over \$10 billion. While this is in part consistent with the decline in outward FDI to Indonesia reported by high-income OECD countries (these countries accounted for 70% of total FDI stock in Indonesia until 1998), it is not consistent with the fact that the volume of their total FDI still remained positive. One reason for this discrepancy may be that Indonesia does not include reinvested earnings as FDI inflows (IMF, 2001).

Round tripping of FDI

If non-resident investors are offered preferential treatment in taxation, land rights, exchange controls etc., resident

investors may have an incentive to take capital across the border and bring it back as inward FDI. In such cases, capital may leave the country in the form of bank deposits (or other means), but would return as FDI inflows. Such round tripping may generate distortions in FDI statistics. For example, if round tripping uses another developing country, then such flows would be included in estimates of South-South FDI flows, even though there is no net inflow into the developing country concerned. If round tripping uses a developed (either high-income OECD or non-OECD) country, that would only be included in total inflows reported by the developing country, but not in South-South FDI (provided that the developed country reports outflows accurately). It may also well be that the developing country which is the source of round-tripping outflows does not have consistent reporting on the phenomenon (as in the case of round-tripping of flows between China and Hong Kong (China), for example), and the estimation of South-South FDI may be affected.

Round tripping of capital flows between China and Hong Kong (China)

FDI inflows to China surged in the 1990s, especially since 1993, as the country accelerated market reforms and introduced incentives for FDI, including concessions on tax, leasing of land and property, government guarantees for investments, and special arrangements regarding the retention and repatriation of foreign exchange. Such discriminatory treatment of foreign capital relative to resident capital is believed to have encouraged Chinese firms to move money offshore and then bring it back to China disguised as FDI (Sicular, 1998). Some early studies estimated such round tripping to account for nearly a quarter of FDI inflows to China in 1992 (Lardy, 1995; Harrold and Lall, 1993). The extent of round tripping may have increased in recent years.

Throughout the 1990s, FDI inflows to China originated mostly outside the high-income OECD countries, notably in Hong Kong (China). For example, FDI inflows from Hong Kong

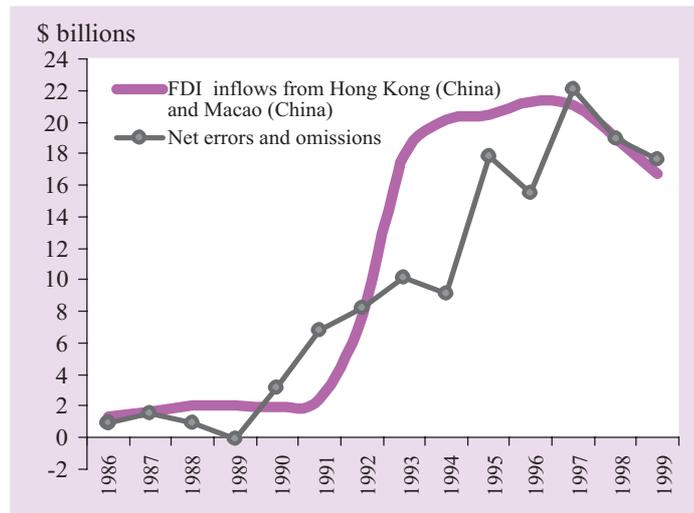
(China) constituted nearly half of total FDI flows to China in 1996. This share declined after 1997, when Hong Kong (China) was returned to China, to below 40% by 2000 (table 4); but in the meanwhile, this decline was offset by a comparable increase in FDI inflows from the British Virgin Islands (suggesting round tripping through this offshore financial centre). FDI inflows from Hong Kong (China) and British Virgin Islands appear to be highly correlated with outflows from China in the form of “other investment assets” – mostly bank deposits held abroad by Chinese residents – and errors and omissions in China’s balance of payments (figure 5).

Table 4. FDI inflows of China by economy of origin, 1996-2000
(Per cent of total FDI inflows)

Economy	1996	1998	1999	2000
Hong Kong (China)	49.56	42.29	40.38	37.89
British Virgin Islands	-	9.21	6.56	9.39
United States	8.25	8.91	10.40	10.72
Singapore	-	7.78	6.52	5.31
Japan	8.82	7.77	7.34	7.13
Taiwan Province of China	8.33	6.66	6.41	5.61
Korea, Democratic People’s Republic	0.03	4.12	3.15	3.64
Germany	-	1.68	3.39	2.55
Netherlands	-	1.64	1.34	1.93
France	1.02	1.63	2.18	2.09
Oceania	-	1.22	1.26	1.70
Macau, China	-	0.96	0.76	0.85
Malaysia	-	0.78	0.59	0.50
Australia	0.46	0.39	0.41	0.49
Canada	0.81	0.45	0.50	0.44
Italy	0.40	0.39	0.30	0.33
Russian Federation	0.05	0.03	0.03	0.03
South Africa	-	0.01	0.01	0.01
Sweden	0.14	-	0.25	0.25
United Kingdom	3.12	-	-	-

Source: China, Ministry of Foreign Trade and Economic Cooperation.

Figure 5. Round tripping between China and Hong Kong (China), 1986-1998
(Billion dollars)



Source: IMF International Financial Statistics, and China, Ministry of Foreign Trade and Economic Cooperation.

Hong Kong (China), in turn, reported large amounts of FDI inflows from China and offshore financial centres such as Bermuda and the Virgin Islands during this period. Moreover, OECD sources reported only small amounts of inward FDI in Hong Kong (China), thus ruling out the possibility that high FDI numbers reported by Hong Kong (China) reflected routing of investments to China. It appears, therefore, that round tripping of investment in China was substantial in recent years.

In 2000, Hong Kong (China) reported a record \$ 46 billion outflows of FDI to China, an increase of about \$ 36 billion compared to the previous year,¹⁰ apparently funded by a sharp increase in FDI inflows from British Virgin Islands (table 5).

¹⁰ The spike in FDI outflows was entirely caused by a \$32 billion deal by China Mobile (Hong Kong), which bought seven mobile phone networks in the People's Republic of China in 2000.

However, China did not report any significant increase in FDI inflows from Hong Kong (China) in this year and, in fact, reported a decline in total FDI inflows. Calculations of South-South FDI flows for 2000 compensated for this misreporting (presumably because of round-tripping) by assuming that Hong Kong's (China) outflows to China remained the same as in 1999.

Table 5. FDI inflows and outflows reported by Hong Kong (China), 1999-2000
(Billion dollars)

Economy	Inflows			Outflows		
	1999	2000	Change (%)	1999	2000	Change (%)
China	5.0	14.2	9.2	10.1	46.4	36.3
British Virgin Islands	6.3	30.6	24.3	4.3	9.1	4.8
Singapore	0.8	7.8	7.0	0.5	0.4	-0.1
Bermuda	3.2	4.7	1.6	0.8	1.6	0.8
Total	24.6	61.9	37.4	19.3	59.4	40.1

Source: Hong Kong Census and Statistics Department.

Role of offshore financial centres

FDI outflows from offshore financial centres may be estimated on the basis of data reported in UNCTAD's *World Investment Reports*. However, outflows reported by some offshore financial centres may be underestimated. The inconsistency between inflow and outflow statistics is evident when looking at United States data. The latter data series distinguish between: (i) the residence of the firm making an investment (reported as the source country in the usual statistics); and (ii) the residence of the owners of a firm, and hence the original source of the funds (referred to in the United States reports as the "ultimate beneficiary owner"). For example, in 2001, FDI to the United States from Switzerland equalled \$56.3 billion. However, using the ultimate beneficiary criterion, FDI from Switzerland was close to zero. The bulk of the funds

reported as FDI from Switzerland actually originated in a third country and were channelled through Switzerland. Even this correction, however, cannot always identify the source of FDI flows. For example, using the ultimate beneficiary criterion, FDI from Bermuda and Hong Kong (China) totalled \$42 billion in 2001 (table 6). However, it is unlikely that these financial centres were the original source of substantial amounts of FDI.

Table 6. FDI inflows into the United States and ultimate beneficiary owners, 2001
(Billion dollars)

Home economy	FDI inflows	Ultimate beneficiary
Bermuda	-2.8	19.5
Hong Kong (China)	-	22.4
Switzerland	56.3	-0.6

Source: United States Department of Commerce.

Financial centres also may distort the global amount of FDI flows. For example, during 1999-2000, Belgium-Luxemburg reported huge surges in both inward and outward FDI flows. According to the OECD database, this surge was almost entirely in financial activities (most likely financial intermediation). These transactions increased the total size of global FDI flows by about \$200 billion.

Routing FDI through locations in the South

The South-South FDI flows reported above include cases such as when an affiliate or a branch of a United States company – e.g. located in Mexico – undertakes FDI in Brazil (say, to exploit brand name recognition or some advantages offered by bilateral arrangements between countries in the South). Is this really a South-South flow or a form of North-South flows? It is empirically difficult to separate this effect in the estimates of South-South FDI. Nevertheless, even that type of South-South FDI, too, fosters global economic integration.

Factors behind the rise in South-South FDI flows

There are several “push” factors that motivate companies from the South to invest abroad and “pull” factors that attract them to other developing countries. In fact, most of these factors had been in place already decades before. What triggered the recent South-South FDI surge, however, was the rising wealth in some emerging economies that increased the supply of capital, and capital account liberalization in other developing countries that enabled TNCs to invest into or from developing countries.

Companies from the South, similar to those from the North, are searching for higher returns and lower risks through portfolio diversification. Faced with increased competition and limited market-growth opportunities in domestic markets, these TNCs are investing in market-seeking activities in other developing countries.¹¹ Some recent examples include Malaysian telecommunication and leisure TNCs’ investment in Asia, that of South African retailing and brewing companies in Africa, and that of Mexican retail stores in other Latin American countries.

Other push factors are the need to improve export competitiveness and to defend the exports markets after increased competition (Wells, 1983). Some TNCs from developing countries invest in efficiency-seeking activities abroad following an erosion in their export competitiveness (due to, say, currency appreciation; see Mirza, 2000; Whitmore *et al.*, 1989; Lall, 1983). Tariff and non-tariff barriers to imports and exports imposed on a (developing) country may also

¹¹ The reasons for the increase in North-South flows include “push” factors such as economic slowdown and lowering of interest rates in capital-exporting developed countries. Other reasons for the rise in inflows are “pull” factors in developing countries such as high growth rates, capital account opening, liberalization of the domestic economy and other policy reforms (World Bank, 1997; Calvo *et al.*, 1993; Chuhan *et al.*, 1998; Ul Haque *et al.*, 1997; Dasgupta and Ratha, 2000). For a detailed survey of literature and empirical evidence on trends and causes of capital outflows from developing countries, see World Bank, 2002a, chapter 3; Powell *et al.*, 2002.

encourage its TNCs to invest in other countries as a means of obtaining or delivering goods.¹²

Procurement of raw materials (including oil and gas) is the other push factor behind the rise of outflows from the South. Demand for raw materials has increased in tandem with economic development and population in developing countries. In order to secure provision of these materials, some TNCs from developing countries invest in critical inputs such as oil in other developing countries. Recent examples are China's FDI in pulp projects in Chile and the Russian Federation, iron ore and steel mills in Peru, oil in Angola and the Sudan (Chhabra, 2001; Liu, 2001), and Malaysian State-owned Petronas' investments in South Africa, Viet Nam, Cambodia and the Lao People's Democratic Republic.

Certain developing-country governments offer fiscal and other incentives to outward investing TNCs. For example, the Government of China is promoting outward FDI by providing loans on preferential terms, tax rebates, and investment insurance (UNCTAD, 2002b). The Government of Malaysia encourages South-South FDI flows through special deals signed with countries like the Philippines, Viet Nam, India and the United Republic of Tanzania (Mirza, 2000).

Major "pull" factors for FDI flows in developing countries include low labour costs, market access both the domestic and export markets through preferential treatments, investment incentives, capital account liberalization and financial deregulation in developing countries in the early 1990s.

In addition to these, there are other pull factors for South-South FDI, however, including familiarity with the local business environment (for example, through trading relations), geographic proximity, ethnic and cultural ties. The cost of acquiring reliable information about foreign markets can be high

¹² Such "barrier hopping" is discussed in Kumar, 1996; UNCTAD, 2002b.

for relatively small TNCs from the South. Thus, they tend to invest in neighbouring countries where they have acquired certain familiarity through trade, or ethnic and cultural ties. For example, because of ethnic ties, some ethnic Korean companies invest in China and Kazakhstan, and some ethnic Chinese companies invest heavily in the East Asia and Pacific region. Interestingly, sometimes ethnic and cultural ties can triumph over the proximity problems. In recent years, TNCs from China, Malaysia and the Republic of Korea have become significant players in construction and communications in Africa as formerly resident Asians returned large amounts of private capital to eastern and southern Africa (Bhinda *et al.*, 1999; Padayachee and Valodia, 1999; Kimei *et al.*, 1997). Studies show that the importance of ethnical ties are much more relevant for Asian TNCs than for Latin American ones, although significance declines as TNCs gain experience in particular countries (Wells, 1983; Kumar, 1996; Lecraw, 1996).

Based on a literature survey, table 7 provides a summary of these push and pull factors. Each category is further separated into structural, cyclical and institutional or policy factors.¹³ In addition to the above “push-pull” factors, South-South FDI may have been guided by strategic or geopolitical considerations. Preferential treatment of FDI may also have encouraged round tripping of resident capital, which would imply an increase in South-South FDI flows (but no change in net inflows).

Conclusion

South-South FDI is difficult to estimate, but indirect estimates based on combined data from the World Bank, IMF, OECD and UNCTAD indicate the following patterns:

- South-South FDI flows rose faster than North-South flows in the 1990s; by 2000, they accounted for more than one-third of FDI flows to developing countries.

¹³ A similar format was used in Dadush, Dasgupta and Ratha, 2000. Note that these categories are not watertight.

Table 7. Factors affecting South-South FDI in the 1990s

Item	Structural factors	Cyclical factors	Institutional/policy factors
Push factors	Rising wealth in some emerging market economies increased supply of capital.	Low interest rates and low growth in industrial countries encouraged diversion of outflows from developing countries to other fast-growing developing countries.	Capital account liberalization allowed resident companies to invest abroad.
	Rising costs of labour and non-tradables encouraged relocation of production units to cheaper locations.		Growth of South-South trade through regional trading arrangements was often associated with investment agreements.
	Domestic deregulation to improve competition by breaking up monopolies prompted some large companies to branch into other other countries.		Tariff and non-tariff barriers to trade encouraged the relocation of production units to other developing countries.
	New technology and telecommunications improved information sharing and reduced transaction costs.		Government policies encouraging the outflow of investment.
Pull factors companies	Large and growing domestic markets.		Permitting foreign ownership of domestic encouraged FDI through mergers and acquisitions.
	Geographic proximity and ethnic and cultural ties.		Special tax and other incentives to attract FDI attracted more foreign investment.
	Supply of cheap labour.		Preferential treatment of FDI over resident investment encouraged round tripping of resident capital.
Strategic reasons	Abundance in raw materials.		Export markets through preferential treatment.
	The desire to procure critical inputs such as oil.		Geopolitical considerations.

Source: authors.

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- The rise in South-South FDI flows was motivated by similar push and pull factors and similar structural, cyclical and policy factors as the surge in North-South FDI flows in the 1990s. These factors included increased wealth in many emerging market economies, TNCs' search for higher risk-adjusted returns through diversification; capital-account opening in some developing countries that allowed local companies to invest abroad; and financial deregulation in host countries that allowed foreigners to own domestic companies. Regional trading arrangements also contributed to the growth of South-South FDI.
 - A large part of South-South FDI may also be of a round-tripping nature, motivated by a desire to receive preferential treatment offered by many governments (e.g. in China) to foreign investors.

The growing importance of South-South FDI flows in the 1990s indicates that developing countries were more financially integrated with one another than previously believed. Thus, a typical developing country had access to more sources of investment in the late 1990s than before. This means that investment promotion agencies in developing countries should target not only investors in the North, but also from the South. This also applies to investment promotion agencies in the North.

The findings of this research note, however, should be treated with some degree of caution. One might question the quality and consistency of data reported by various organizations. Also, the above estimates of South-South FDI flows may not be accurate if outflows are underreported by some countries (offshore financial centres in particular); and to the extent that there is a round tripping of flows as in the case of China. Moreover, these estimates do not distinguish between North-South flows routed through locations in the South (e.g. a Mexican affiliate of a United States company investing in Brazil) and genuine South-South flows. ■

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Annex table 1. Definition of country groups used in this research note

Developing countries	High-income OECD countries	High-income non-OECD economies
Algeria	Australia	Andorra
Argentina	Austria	Aruba ^b
Brazil	Belgium-Luxembourg	Bahamas ^b
Bulgaria ^a	Canada	Barbados ^b
Chile	Denmark	Bermuda ^b
China	Finland	Brunei Darussalam ^b
Colombia	France	Cayman Islands ^b
Costa Rica	Germany	Channel Islands
Czech Republic ^a	Greece	Cyprus ^b
Egypt	Iceland	Faeroe Islands
Hungary ^a	Ireland	French Polynesia ^b
India	Italy	Greenland ^b
Indonesia	Japan	Guam ^b
Iran, Islamic Republic of	Netherlands	Hong Kong, China ^b
Korea, Republic of	New Zealand	Israel
Libyan Arab Jamahiriya	Norway	Kuwait ^b
Malaysia	Portugal	Liechtenstein
Mexico	Spain	Macao, China ^b
Morocco	Sweden	Malta
Panama	Switzerland	Monaco
Philippines	United Kingdom	Northern Mariana Islands ^b
Poland ^a	United States	Netherlands Antilles ^b
Romania ^a		New Caledonia ^b
Russian Federation ^a		Qatar ^b
Saudi Arabia		Singapore ^b
Slovakia ^a		Slovenia ^c
South Africa		United Arab Emirates ^b
Thailand		Virgin Islands
Turkey		(United States) ^b
Ukraine ^a		Taiwan Province of
Venezuela		China ^b

^a Classified by UNCTAD not as a developing but Central and Eastern European country.

^b Classified by UNCTAD as a developing economy.

^c Classified by UNCTAD not as a “high-income non-OECD” but Central and Eastern European country.

BOOK REVIEWS

World Investment Report 2003 *FDI Policies for Development: National and* *International Perspectives*

United Nations Conference on Trade and Development (UNCTAD)
(New York and Geneva: United Nations, 2003), xix+303 pages

This widely acclaimed annual series is the most authoritative source of information on trends in foreign direct investment (FDI) flows, on merger and acquisition activities and on the scale and scope of transnational corporations (TNCs). It is also an essential research tool for government officials, foreign investors, international financial institutions, journalists, academics and others interested in FDI.

The *World Investment Report 2003 (WIR03)* is divided in two parts. The first offers data and analysis on FDI flows. The second part, as indicated by its subtitle, is devoted to FDI policies for development.

FDI flows declined by 20% in 2002. According to the *Report*, the impact of this downturn was uneven. Among developing countries, the worst hit region was Latin America and the Caribbean. In Africa, after some adjustments, there was no significant decline. In Asia the decline was small, but this was largely due to a record inflow of \$53 billion into China. It is likely that, in the near future, FDI will bounce back, fuelled by a recovery of economic growth, an increase in corporate profitability and a revival of merger and acquisition activities. What is uncertain, however, is whether FDI will continue to gravitate around a handful of successful economies in the developed and developing world, or whether it will spread to countries that, so far, have been unable to attract it. The revival of global FDI will inevitably raise two questions that have a

long pedigree among development practitioners: what should countries do to attract FDI and how should they ensure that FDI contributes to economic development?

Although it is generally accepted that individual countries do not control all the factors that drive the growth and location of FDI, there is much that governments can do to enhance the prospects of attracting it. Governments in the developing world are fully aware of this fact. As *WIR03* shows, despite the decline of FDI in 2002, investment liberalization has continued at a vigorous pace. A survey of 70 countries shows that nearly all of their 248 regulatory changes in investment regimes were designed to increase and facilitate FDI inflows. Developing countries thus seem to recognize that a sound institutional framework is necessary for attracting investment.

What is less certain, however, is whether governments in the developing world can successfully achieve the right policy mix so that FDI inflows make an effective contribution to national development objectives. Thus, the decision of the editors of this *Report* to devote the second Part of this work to FDI policies for development is wise and timely. Unfortunately, the focus of the materials in this Part is not as comprehensive as suggested by the *Report's* subtitle. Within this framework, the stated objective is to understand development related issues that countries should take into account when they negotiate international investment agreements (IIAs). Thus, instead of a substantive discussion of development strategies and FDI, this Part is mainly devoted to a technical analysis of IIAs – a term that includes bilateral investment treaties, plurilateral investment agreements contained in various regional trading agreements, such as the North American Free Trade Agreement (NAFTA) and the Southern Common Market (MERCOSUR), and the network of double taxation agreements.

WIR03 identifies eight key issues in the negotiation of IIAs: definition of investment, national treatment requirement, rules on nationalization and expropriation, dispute settlement procedures, performance requirement provisions, investment

incentives, technology transfer and competition policy. These areas are rightly identified as critical since the capacity of countries to attract FDI is generally measured by their willingness to make credible concessions that will enhance the legal, political and economic security of foreign investors. Thus, for example, countries are generally expected to sign up to agreements that contain broad definitions of investment and strict rules on expropriation or measures tantamount to expropriation. They are also expected to remove foreign investment disputes from the jurisdiction of local courts. The *Report*, though not hostile to investment liberalization, suggests that when developing countries negotiate investment agreements they should ensure that concessions made in any of these eight policy areas are in tune with national development strategies. In other words, they must ensure that their foreign investment policies are closely linked to their development objectives.

It is difficult to disagree with the proposition that FDI policies should have a development-orientated approach and that, ultimately, a balance should be struck between the concessions countries make in the area of FDI and national development policies. It is also difficult to disagree with the argument for development friendly solutions. Yet, *WIR03* does not address the crucially important question: what is a development friendly solution? It could well be argued that an answer to this question is found in the prevailing economic policy paradigm, as embodied in the so-called Washington consensus. Yet, if this is the case, then advice to governments should be that they subordinate national development priorities to the priorities of foreign investors, as otherwise they would be erecting undesirable barriers to the process of investment liberalization. Under the Washington consensus paradigm the way to achieve positive development outcomes is through full and unimpeded liberalization.

The authors of the *Report* do not appear to share such optimistic views about the virtues of unchecked liberalization. They are especially concerned that, in many areas of policy, IIAs seem unduly to restrict government choices. Thus, *WIR03*

advises developing countries to find a balance between liberal FDI policies and their national development objectives. But calling for a balance is far too vague to be helpful. How, in the absence of a substantive set of development objectives, can governments find this balance? How does the balance metaphor help government officials, who are under constant and intense pressure to accept ever more comprehensive commitments that restrain their policy-making capacity not only in the area of investment, but in virtually every policy area that has a bearing on international economic relations?

Despite minor technical differences – all superbly identified and analysed in *WIR03* – investment agreements are remarkably similar. As a consequence, the scope that countries have to negotiate “development friendly” agreements is indeed limited. This is reflected in the modest and somewhat disappointing recommendations that the *Report* offers to those involved in the negotiation of IIAs. In the area of services, for example, *WIR03* suggests that countries should liberalize slowly, adopting the cautious positive list approach of the General Agreement on Trade in Services rather than the wider, or negative list, approach found in some regional trade agreements where parties are required to identify the specific sectors that they are not liberalizing. In the area of performance requirements, *WIR03* suggests that developing countries should be given more scope to decide for themselves the costs and benefits of liberalization.

The authors of the *Report* are rightly concerned that IIAs restrict the scope for policy-making at the national level. This is why they are keen to ensure these agreements do not restrict the capacity of governments for independent policy development. Yet, it is not self-evident that having more space available for policy-making is necessarily a good thing. The important question is whether and how, under the prevailing development paradigm, national priorities can be successfully linked to FDI.

The *Report*'s excellent analysis of IIAs demonstrates, paradoxically, that tinkering with the clauses in IIAs will not resolve the strategic question as to how FDI can further development objectives. Yet, this Part of *WIR03* also shows the

importance of understanding the architecture and content of IIAs. IIAs can and do have a major impact on policy. This is the case, for example, of the so-called “regulatory takings”. These are legislative or administrative decisions that may be deemed to be inconsistent with commitments undertaken by governments under IIAs. In the past, these measures were known as “creeping expropriation”; that is, measures that ostensibly seek a public policy objective, but which, according to TNCs, have the effect of depriving foreign investors of their property. In recent years, this issue has become a matter of serious concern among NAFTA countries. TNCs based in the United States and Canada have invoked the investment provisions of the NAFTA Agreement to challenge a wide range of government regulations including some that are only remotely connected to investment. The irony of this development is that while these international investment rules were meant to restrain Mexico, foreign investors have instead used them mainly to target decisions by the Governments of the United States and Canada.

The tendency of foreign investors to make claims under investment agreements that have the effect of restricting national policy choices has brought into sharp focus the nature and adequacy of dispute resolution mechanisms. Under most investment agreements, the decision as to whether a specific government measure constitutes creeping expropriation or a regulatory taking is entrusted to arbitrators who are experts in international commercial law and with generally little knowledge of local political and legal issues. This raises the question as to whether dispute resolution mechanisms in IIAs can ever become “development friendly”. Thus, not surprisingly, some have floated the idea of setting up an appeals procedure, modelled on the Appellate Body of the World Trade Organization, in order to ensure not only consistency in the interpretation of IIAs, but also to ensure that public policy considerations are duly taken into account.

Recent practice under IIAs has also exposed the fragile legal foundations of the current process of economic globalization. Those who are not familiar with the intricacies of international law will be surprised to learn that, despite the

intensity of the current process of globalization, the meaning of such fundamental concepts as international law and customary international law is highly disputed and nebulous. Here again, the experience of NAFTA is revealing. In an attempt to contain the flood of complaints brought by TNCs, the NAFTA governments were forced to issue an interpretation of some key concepts contained in NAFTA's investment chapter. This interpretation restricts the scope of customary international law. It also states that the minimum standard of treatment guaranteed by NAFTA does not protect foreign investors from breaches of NAFTA provisions that are unrelated to investment, or from the breach of provisions in other international treaties binding on NAFTA parties. This interpretation undoubtedly has the effect of enhancing the policy-making space of national governments. On the other hand, it is also an implicit rejection of the much flaunted notion that globalization forges broad and unavoidable linkages.

The study of IIAs shows that national governments confront numerous constraints in the formulation of national policies for development. The materials in the second part of *WIR03* make a useful contribution towards understanding the nature and extent of these constraints. Yet, much work remains to be done. I hope UNCTAD and the team that produces the *World Investment Report* continue to take seriously this important dimension of foreign investment policy.

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The Future of the Multinational Company

Edited by Julian Birkinshaw, Sumantra Ghoshal, Constantinos Markides, John Stopford and George Yip
(Chichester: Wiley, 2003), 282 pages

Like most books about the future, this book is also very much about the past and the present as it sets out to present a microcosm of the global economy and its key player, the transnational corporation (TNC). It is probably helpful to know that that book initially came into being as a *Festschrift* for John Stopford. Since a *Festschrift* is generally intended for a small, if devoted, readership, the editors have made substantial efforts to broaden the appeal of the book beyond this group. The chapters are stripped of excessive weight by containing few, if any, references, and they are aimed at an informed generalist readership. In some cases the required transformation has resulted in a somewhat simplified version of an academic paper, but in most cases the transition is quite successful and the resulting chapters are very readable and thought-provoking. Given the number of chapters, 18 in total, and the origins of the book as a *Festschrift*, it is probably not reasonable to expect an overarching chapter that would join together all the contributions. While there is indeed no such integrative chapter, there is an attempt to divide the book into three themed sections, following the titles of three of the most influential books by Stopford: *Rival States, Rival Firms*; *Managing the Multinational Enterprise*; and *Rejuvenating the Mature Business*.

At the beginning of Section One, Louis Turner reminds us that, while TNCs are increasingly political animals, they are not so ferocious that they could not be held in check by competent governments. In the following chapter, John Dunning echoes the sentiment that business should not be left to regulate itself, but he calls for more attention to be paid to the moral underpinnings of capitalism, not just at the national but also at the individual level. This is followed by Örjan Sölvell, who presents the most lucid and de-mystified account of the

connection between modern knowledge-intensive TNCs and their location choices that one is likely to encounter anywhere. Finally, in chapter four, Alan Rugman and Alain Verbeke deliver their by now familiar argument that the world's largest TNCs are in fact regional rather than transnational, whether measured in terms of their sales, assets or employment abroad.

In Section Two, eight chapters tackle the structural issues within TNCs and the global-local dilemma. The trio of chapters by Lawrence Franko (chapter eight), Julian Birkinshaw and Siri Terjesen (chapter nine) and Eleanor Westney (chapter ten) are particularly enjoyable as they all deal with the structural transformation of some of the transnational *causes célèbres*, such as ABB, IBM and Hewlett-Packard, and their eventual retreat away from global matrixes towards simpler forms. These chapters are very provocative in posing the question of the extent to which structure is indeed a design variable. Given the idiosyncrasies of each business sector and the location preferences of global customers, how many degrees of freedom are there left for large TNCs to choose their form? The most recent structural solution involving front-end and back-end divisions solves much of the global-local dilemma, but at the cost of splitting the organization into two or more parts, and once again raising the question of how the organizational boundary should be drawn. If the front-end is where the “rubber hits the road”, populated with dedicated teams who respond to the customers’ needs and deliver tailored solutions, while the back-end is a mixture of production and logistics with increasing degrees of outsourcing, it is not always obvious why one firm should maintain control of both parts.

Section Three presents another interesting trio of papers by John Stopford and Charles Baden-Fuller (chapter thirteen), Sumantra Ghoshal and Heike Bruch (chapter fourteen) and Peter Williamson (chapter fifteen) on the subject of exploring, prospecting, sensing and identifying new markets and opportunities. All three chapters paint a picture of corporate transformation as a process that relies heavily on the personal leadership of top management. In addition to possessing

enthusiasm and projecting an inspiring vision for others to follow, all of these top managers act as entrepreneurs in the market making sense of Mark Casson (2003). Such entrepreneurial talent is a scarce factor, and it is not surprising that even firms that have managed to rejuvenate themselves in the past eventually find it necessary to do so again. It seems that inertia is always just around the corner, and Costas Markides argues, in chapter sixteen, that large TNCs should not even attempt to stay at the leading edge of innovation, but rather counteract the smaller innovators with improvements to their core product or service. Similarly, Williamson argues that since commercialization is what large TNCs are particularly well suited for, they should cultivate new growth opportunities as a portfolio of options, ranging from the idea stage to small scale pilot projects of a new product or service.

In reading through the volume, two themes in particular resonated with me, namely that TNCs face a more complex regulatory, political and social environment and not just increased product market diversity, and that geography matters even if you do not want it to matter. This is partly because of technological change in the global economy over the past few decades, but it is also due to the unique role of the (very) large TNCs in the political economy of their home and host markets.

The *Fortune Global 500*, which include many of the firms discussed in this book, are a curious group of firms. The majority of these giants have their origin (in whole or in part) in the late nineteenth century, and their structural evolution is linked to the historical development of global capitalism, as described by Alfred D. Chandler (1990). These are rather conventional large firms with a heavy reliance on regional sales and production. It is unquestionable that today such firms face acute pressures to develop more customer-oriented organizations. But in contrast to their medium-sized or even smaller transnational brethren, they also have a life force that is at least in part derived from market dominance and cash reserves, at least if they have restrained the urge to overspend on corporate acquisitions. While large TNCs are trying to find their entrepreneurial essence and

prospect for new value-added combinations to present to the customer, they are being challenged by “dragon multinationals” (Mathews, 2002) and metanationals, as described in the chapter by Yves Doz, Jose Santos and Peter Williamson (chapter twelve). In spite of having arrived late on the global scene, these new TNCs are able to tap into various resources around the world with great agility.

As the chapter by Dunning shows, many of today’s hot-button issues, such as concerns over working conditions in sweatshops, are remarkably similar in comparison to the Victorian era. But there is a key difference: just as the new technologies of transportation, communication and computing have transformed production, they have transformed civil society as well. And it is the size and visibility of the established TNCs that make them most relevant in the discussion concerning political legitimacy, and wider concerns about the consequences of globalization. Large TNCs may well find that, unlike many product markets, legitimacy is local, and geography matters when it comes, for example, to decisions on whose standards should apply.

In his concluding remarks, Stopford notes that “senior managers in multinationals will become part of the new diplomacy” and that “governance issues are moving center stage, both inside the firm and between firms and society” (p. 241). The personal example of leadership and self-reliance of top management may well inspire the organization to rejuvenate itself, but moral leadership is also required to acquire legitimacy and to fulfill the expanded political role of TNCs in the global economy. While research is just beginning to come to grips with the new role of TNCs in issues such as the setting and upholding of environmental standards in the global economy (e.g. Lundan, 2004), managers are not necessarily very keen on this challenge, and business schools have done little so far to prepare them for their new role.

Even readers who are reasonably familiar with the international business literature will have many discoveries in

this book, and I particularly welcome the opportunity given to the authors to express some broader thoughts on the evolution of the global economy. To the non-specialist reader, the book offers a wealth of useful information in a concise manner, and I can see it being used very successfully as a primer for discussions in executive education programmes, for instance. This book is a commendable use of the occasion of a *Festschrift* to present an interesting collection of writings that is relevant to academics but also to a much wider audience.

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International Business

Oded Shenkar and Yadong Luo
(New York, John Wiley & Sons, 2004), 748 pages +
GeoDiscoveries CD-ROM

Have you asked yourself why two distinguished, tenured, professors enter the saturated market of textbooks of international business? If you visited an on-line bookshop (let us say a generalist such as amazon.com), you would immediately find more than 40 competitors of Shenkar and Luo's *International Business*. Why did they accept the high risk of failure?

For those who are following the latest research in international business, the names of Oded Shenkar and Yadong Luo should be familiar. They are prolific not just in terms of quantity, but, more importantly, in terms of quality of output. They share the passion for trying to understand emerging trends in the global economy and are renowned for their edge-cutting research, especially in explaining the Chinese foreign direct investment (FDI) magnet. It comes as no surprise, therefore, that the materials covered in this volume are reassuringly up to date.

The authors did not compromise on presentation and other details. The book is simply pleasant to look at and the referencing/sourcing is perfect (although the indexing might be further improved). The book is accompanied by standard tutorial tools and a GeoDiscoveries CD-ROM. The latter, an experimental tool, can surely be improved further in later editions. But it is original and offers a host of information, especially for students in the United States, who are usually less familiar with the global economic geography.

The textbook is divided into six parts and comprises 19 chapters. In the introductory chapter ("International Business in the Age of Globalization"), the authors introduce basic concepts, such as globalization and international business in a

straightforward and elegant manner. It is only after that introduction that they move on to Part One, which is also entitled “Concepts and Theories in International Business”. The difference with the introductory chapter is that Part One explores a wide range of concepts in more detail. The authors evaluate these concepts one by one; the “International Trade Theory and Application”, “Foreign Direct Investment—Theory and Application” and “The Multinational Enterprise”. As for the theory of FDI, they quite rightly start off with the question of what benefits can be derived from it. They echo, on page 60, the main message of *World Investment Report 2001* (UNCTAD, 2001), which recognized the primary importance of the linkages of foreign affiliates with local enterprises and organizations. Within that framework, it is supplier links (“backward linkages”) that matter most. This is a small scientific revolution, deviating from the customary treatment of the development impact of FDI, which focuses on horizontal spillovers.

In Part Two, three topics are grouped together into the generic title of “Endowment and Environments of International Business”: country competitiveness, the cultural environment and the political and legal environment. The authors take the position that the concept of “country competitiveness” is meaningful and important, contrary to the view expressed in, for example, Paul Krugman (1994). In chapter 5, on page 129, the authors produce a chart based on Michael E. Porter’s concept of *The Competitive Advantage of Nations* (Porter, 1990) which traces back country competitiveness to productivity, and differentiates between individual-level, firm-level, industry-level and country-level determinants (with mutual linkages hypothesized between the various determinants).

In chapter 6, the authors go well beyond the stereotypes used on the basis of a reductionist and overmathematized treatment of Geert Hofstede’s cultural classification (Hofstede, 1980). One can only agree with the authors’ observation that culture is far from being linear and unidimensional. The masterly treatment of the topic and the focus of the GeoDiscoveries CD ROM are testimony to the fact that one of the authors of the

textbook, Shenkar, is one of the finest analysts of the issue (see Shenkar, 2001).

Chapter 7 contains a fairly general discussion on “The Political and Legal Environment”. That text, however, falls short of a discussion of the intricacies of general and specific FDI promotion policies. It would perhaps be useful in future editions to divide and further substantiate them.

Part Three is devoted to analysis of “Global Markets and Institutions” in great detail. “International Economic Integration and Institutions” and “The International Monetary System and the Financial Markets” are examined in separate chapters. It would have been more interesting if the discussions had included the compatibility (or otherwise) of international agreements and institutions with national policies.¹ The authors could have asked the question: to what degree do international agreements and institutions enhance or hinder the effectiveness of national policies directed towards maximizing the benefits and minimizing the eventual negative impact of FDI? But, instead, they decided to devote most of Part Three to a general discussion of global institutions without specifically focusing on investment agreements and their links to domestic policies. In future editions, they might re-consider this approach.

From Part Four onwards (with the exception of the last chapter), the book focuses on various aspects of business strategies. They start this long journey from the issues of establishment abroad (“International Entry Strategies”) in chapter 10. A key decision for firms expanding overseas is their selection of the strategy between FDI and non-FDI modes. Within the former, the main question is how they should choose, whenever they are feasible, between the greenfield mode and the merger and acquisition mode. Indeed, one may have expected

¹ Additionally, the textbook reproduces, in an annex, *The OECD Guidelines for Multinational Enterprises* (2000), jointly addressed to governments and TNCs. It is another material that would call for a stronger link with the analysis of national FDI policies.

a longer analysis of the latter question, the pros and cons of the two options, given the pre-eminence of the issue in the current downturn of global FDI flows.

In chapter 11, the analysis continues with the organization of global operations. This is a very interesting discussion in the light of the ongoing debate on global versus regional versus local strategies. The authors remain very pragmatic and empirical. They study concrete corporate structures of large TNCs, such as Nestlé, Ford and Dow Chemical, highlighting the importance of (global and regional) headquarters in shaping the corporate structure. What the reader may perhaps miss is a head-on polemic with some of the great debate-provokers, such as Alan M. Rugman (2000), who argues that almost all corporate strategies are regional, and hence globalization has never existed.² Chapter 12 is entitled “Building and Managing Global Strategic Alliances (GSAs)”. It is an extension of the discussion on modes of entry (chapter 10), benefiting from the authors’ expert insights in the area of joint ventures and partnering. Chapter 13 deals with “Managing Global Research and Development (R&D)”. It contains an obligatory box on “R&D centers of global companies in India” (p. 340). What comes out from this exploration of new trends is the gradual offshoring of this functional area, which traditionally used to be heavily concentrated in corporate headquarters. What could perhaps be added is the offshoring of all business services, in addition and beyond R&D (A.T. Kearney, 2003). This is an increasingly prominent and hotly debated business trend. On the recipient side, there is not only India, but also Brazil, China (even in services), the Czech Republic, Mexico, the Philippines and the Russian Federation, just to mention some of the locations in the developing world and economies in transition emerging as potential magnets.

Part Five focuses on functional areas such as financial

² It is an interesting coincidence that Alan M. Rugman, too, is having a new (third) edition of his *International Business* textbook (co-authored with Richard M. Hodgetts) ready for the beginning of 2004 (Rugman and Hodgetts, 2004). So let the competition between textbooks continue!

management (chapter 14), international accounting (chapter 15), marketing and supply chain management (chapter 16) and human resources management (chapter 17), all of which are examined from a global perspective. The authors manage to present this “purely technical” material in a quite attractive manner. For example, they have inserted a discussion on “tax havens” (pp. 405-406) into the chapter on accounting. Under marketing, there is an interesting discussion on global brands versus localization. In human resources management, they create links with their analysis of the impact of cultures and cultural differences.

In Part Six, under the heading of “Emerging Issues in International Business”, the authors complete the picture of business strategies with a discussion on the Internet and e-commerce. Probably this topic will not be described as “emerging” for very long as the Internet is becoming a basic tool of business. It also raises the challenge of the “digital divide”. Those who hoped that modern communication technologies alone were enough to lift developing countries from poverty would be disappointed. Rather, access versus non-access to these technologies further accentuates the existing difference. Thus, the fight against poverty should also deal with ways of closing the digital divide. It is likely that the topic of the Internet and e-commerce will move not just into the mainstream of international business research but become *the* number one topic.

Complementing the substantive chapters, the book contains 17 case studies in its annex, written by various authors in the field. Although many would find them interesting, these case studies are, unfortunately, very dissimilar in quality and style.

The authors discuss exhaustively almost all subjects related to international business in a manner that is readable and didactic (in the positive sense, for students) at the same time. The only area in which the reader may remain unsatisfied is government policies as mentioned above. The world of policy analysis has evolved fast since the late Raymond Vernon established in 1971 (in *Sovereignty at Bay*; Vernon, 1971) the

basic tenets of interdependence between transnational corporations and governments. It is not difficult to foresee that the next edition of this textbook will need to devote a whole part to national FDI policies, including chapters on general policies; specific policies (attracting FDI), especially incentives; and home country measures.

Another area that future editions would require a more detailed treatment (a whole part, perhaps) is the role of civil society (“non-governmental organizations”) and corporate social responsibility in shaping business strategy. Social responsibility is moving fast from the margins of business strategy towards its core. As public scrutiny and pressures on business enterprises increase, good corporate citizenship is simply good business; in fact, in various areas it is becoming a *conditio sine qua non*. One segment of corporate social responsibility, *viz.* ethics and corruption, are explored in the last part of the book, under the heading of “Emerging Issues in International Business”. It would be more logical to move it to a new section on social responsibility together with other relevant topics.

Overall, this is a very nicely written and presented textbook. It is evident from the choice of topics, however, that it is written by professors teaching in the United States, and mostly for students in the United States. For example, a textbook from Europe would devote more length to the European Union, the accession countries and the implications of enlargement in 2004 in general. It would also avoid some of the errors in the maps on pages 213 and 234 representing wrongly the accession countries. (In defence of the authors, these are maps taken over from elsewhere, and it is the original sources that created the mistake in the first instance.) The reflection of interests mostly prevalent in the United States, however, does not mean that it would be impossible to adapt this textbook to local tastes, for example, by providing additional readings to students.

This book can be recommended to professors and students for adopting as a course text, and practitioners of international business for the refreshing and updating their knowledge. It is

likely that this volume will be a best seller, firmly establishing itself in the textbook market.

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JUST PUBLISHED

**Доклад о мировых инвестициях: Политика в
области ПИИ в целях развития: национальные и
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[World Investment Report 2003. FDI Policies for
Development: National and International Perspectives]
(ISBN 5-7777-0292-9)(Russian rouble 600)
(Published for, and on behalf of, the United Nations by Ves
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Investment Policy Review of Sri Lanka

(UNCTAD/ITE/IPC/2003/8)

http://www.unctad.org/en/docs//iteipc20038_en.pdf

Led mostly by the privatization programme started in the 1990s, FDI into Sri Lanka is on the rise. This report considers the improvements and reforms needed for private investment to accelerate and FDI inflows to expand markedly. Sri Lanka has the potential to regain its past glory when its economic performance (in 1965) had even surpassed the present day dynamic economies of East and South East Asia. The *Investment Policy Review of Sri Lanka* recommends a proactive policy through regulatory and tax reforms and more effective investment generation through institutional reforms. Chapter I assesses Sri Lanka's performance in generating private

investment including FDI. Chapter II reviews the investment framework, outlining reforms that can lead to a more attractive investment climate. Chapter III focuses on the future role of the Board of Investment, the main institution in charge of shaping and implementing the investment strategy. Chapter IV highlights the main conclusions and recommendations of the *Investment Policy Review of Sri Lanka*.

**Transfer of Technology for Successful Integration
into the Global Economy**

(Sales No.E.03.II.D.31)(\$40)

http://www.unctad.org/en/docs//iteipc20036_en.pdf

This book examines the factors that could enable firms in developing countries to upgrade technologies or develop new technologies with a view to enhancing their productivity and integrating successfully into the world economy. The three cases analyzed in detail – Embraer in Brazil, the pharmaceutical industry in India and FDI in the automotive industry in South Africa – are expected to provide lessons, in terms of best practices, to other developing countries. One common thread of these cases is that they are examples of created comparative advantages, i.e. cases in which a country's factor endowments were modified through investment in physical capital, human resources and the building up of capacities. Another common element is the fact that technology upgrading was accomplished through policies applied successfully in today's relatively more open and rules-based global trading environment. Capacities were created by a combination of market signals and government policies and institutional support.

Press materials on FDI issued in January and February 2004
(Please visit <http://www.unctad.org/press> for details)

Title	Date	Document symbol	http:
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Can Performance Requirements Help Meet Development Objectives?	26.01.2004	UNCTAD/PRESS/IN/2004/002	http://www.unctad.org/Templates/webflyer.asp?docid=4385&intItemID=1634&lang=1
High-Level Meeting for Foreign Investors	28.01.2004	UNCTAD/PRESS/PR/2004/002	http://www.unctad.org/Templates/webflyer.asp?docid=4388&intItemID=1634&lang=1
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Many African Countries See Declining FDI in 2002; but Uganda Bucks Trend	20.01.2004	UNCTAD/PRESS/EB/2004/002	http://www.unctad.org/Templates/webflyer.asp?docid=4374&intItemID=1634&lang=1
FDI Inflows Recovering in Seven African Countries	06.02.2004	UNCTAD/PRESS/EB/2004/004	http://www.unctad.org/Templates/webflyer.asp?docid=4419&intItemID=1634&lang=1
For Five African LDCs, 2002 a Bad Year For FDI	13.02.2004	UNCTAD/PRESS/EB/2004/005	http://www.unctad.org/Templates/webflyer.asp?docid=4433&intItemID=1634&lang=1

Submission statistics

Figure 1. *Transnational Corporations*: breakdown of manuscripts as of 31 December 2003

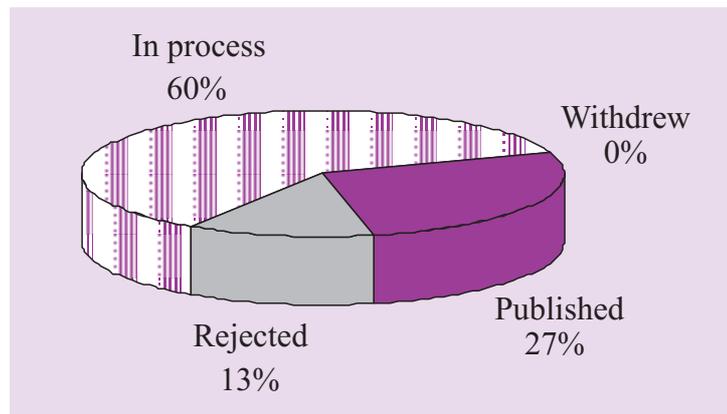
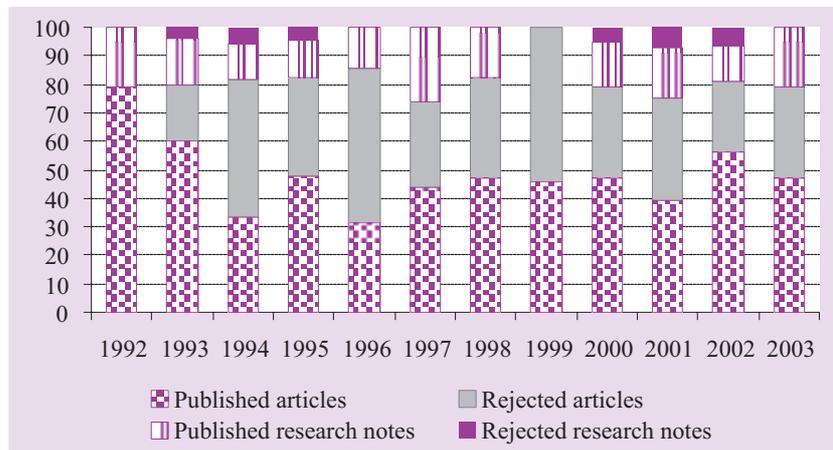


Figure 2. *Transnational Corporations*: breakdown of manuscripts since inception



GUIDELINES FOR CONTRIBUTORS

I. Manuscript preparation

Authors are requested to submit three (3) copies of their manuscript in English, with a signed statement that the text (or parts thereof) has not been published or submitted for publication elsewhere, to:

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Division on Investment, Technology
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CH-1211 Geneva 10
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Tel: (41) 22 907 5707
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Articles should, normally, not exceed 30 double-spaced pages (12,000 words). All articles should have an abstract not exceeding 150 words. Research notes should be between 10 and 15 double-spaced pages. Book reviews should be around 1,500 words, unless they are review essays, in which case they may be the length of an article. Footnotes should be placed at the bottom of the page they refer to. An alphabetical list of references should appear at the end of the manuscript. Appendices, tables and figures should be on separate sheets of paper and placed at the end of the manuscript.

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A. **Quotations** should be double-spaced. Long quotations should also be indented. A copy of the page(s) of the original source of the quotation, as well as a copy of the cover page of that source, should be provided.

B. **Footnotes** should be numbered consecutively throughout the text with Arabic-numeral superscripts. Footnotes should not be used for citing references; these should be placed in the text. 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:

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E. **Abbreviations** should be avoided whenever possible, except for FDI (foreign direct investment) and TNCs (transnational corporations).

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All citations in the list of references should be complete. Names of journals should not be abbreviated. The following are examples for most citations:

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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.

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

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