

Industrial restructuring in European transition economies and TNCs' investment motivations

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Abstract

Using survey evidence the paper characterises TNCs' strategic positioning in central and eastern European economies in terms of the relative status of seven motives for investing and the degree of use of seven sources of technology. As a key theme the ways in which the diverse objectives and technological positioning of TNCs' operations in the transition economies can affect both the initial industrial transformation and further sustained development of such host countries is analysed. The entry of TNCs to the transition economies is found to target the supply of the local markets, using the groups' mature technologies as embodied in established products. However, the presence of various secondary motives and supporting localised technology sources demonstrates the presence of significant evolutionary processes. These may lead to individualised (export-oriented) roles of subsidiaries in transition economies using local technology and creative competences.

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Introduction.

It was expected that the industrial restructuring of the Central and Eastern European (CEE) transition economies would benefit from international competition and greatly improved access to international markets. The securing of such benefits of internationalisation, it was normally suggested, would both require and facilitate immense improvements in the efficiency of industry located in these economies. Alongside such manifestations of increasing openness we can discern, as a distinctively separate (but also significantly supportive) objective, the need to inculcate the practices of normal market-economy behaviour in these economies. Here local firms and customers should learn the competitive norms of their beneficial mutual interdependence, and factor markets (for labour of various skills, energy, local inputs, etc.) should move towards operating in ways that routinely support efficient industrial behaviour and performance.

The successful initial addressing of the aims of *marketisation* and *internationalisation* would then secure the great increase in economic *efficiency* that is expected to be available in transition economies, through a vastly improved activation of latent sources of static comparative advantage. Thus unemployed or underemployed productive factors can be drawn, through the processes of industrial restructuring, into an internationally competitive manufacturing sector. This argument can then be seen to imply the inevitable, probably (and preferably) quite prompt, emergence of another developmental priority, in the form of the generation of *new* sources of competitiveness. Full employment of qualitatively unimproved inputs would lead to higher factor rewards that raise costs in ways that undermine the newly-asserted international competitiveness. Within the emerging processes of orderly economic development (gradually, in transition

economies, superseding more fundamental restructuring) the (desirable) higher factor rewards are supported competitively by higher productivity (upgraded skills, new production techniques) and higher-value products (innovation of new goods embodying new technologies). The activation of static comparative advantage is substantially replaced by generation of dynamic (or created) sources of competitiveness.

The analysis here investigates the issue of how the operations of TNCs in the CEE transition economies can address the multi-faceted and evolving needs of these economies as they progress through industrial restructuring towards sustainable development. We suggest that the strategic heterogeneity of contemporary TNCs' subsidiaries (their operation as a dynamic differentiated network) provides the potential to encompass the different host-country needs, and to embrace their changes in a positive manner through complementary processes of strategic evolution.¹ Sustained growth and development in CEE countries need not alienate TNCs' operations, but instead can provide the basis for an impulsion towards upgrading and deepening of their commitment to the local economy (Pearce, 2001).

Technology is seen as central to the potential for mutually-shared evolutionary processes. Naturally the expectation would be that the technological status of subsidiaries would, at their setting up, be based around the local activation of elements of the standardised existing competences of the parent TNC group. However, studies of the developmental possibilities available to individual TNC subsidiaries have argued and

¹ The key conceptualisations of the modern TNC that underpin this line of argument, and the central themes of the paper, are the heterarchy (Hedlund, 1986, 1993; Hedlund and Rolander, 1990), the transnational (Bartlett and Ghoshal, 1989, 1990) and the horizontal organisation (White and Poynter, 1990). The ability to build global competitive capacity through networks of subsidiaries playing differential roles (including learning and knowledge generation) has been suggested in the work of Bartlett and Ghoshal (1986), Ghoshal and Bartlett (1990, 1998) and Ghoshal and Nohria (1989). The potentials for subsidiary evolution within such networks are analysed by Birkinshaw and Hood (1997, 1998), Birkinshaw, Hood and Jonsson (1998), Birkinshaw (1996, 1997), Delany (1998) and Egelhoff et al (1998).

demonstrated the potential for movements to higher-value-added (notably product development) roles through their in-house generation of distinctive technological capabilities (Pearce, 1992, 1999; Papanastassiou and Pearce, 1999). In turn the ability to achieve such technological individuality at the subsidiary level is expected to reflect the availability of knowledge and expertise (e.g. strong R&D experience and capacity) from its host-country science base. The availability of a commercially underdeveloped potential of this type, inherited from high levels of scientific commitment (research funding, education and training) during central planning, may be an unexpected resource in CEE economies that enters the strategic thinking of entrepreneurial subsidiary managers at an early stage (Manea, 2002; Manea and Pearce, 1997).

Building on the work of Dunning (1993) and Behrman (1984) our analysis encompasses three types of primary motivation for TNC expansion into CEE. The first of these imperatives is *market seeking* (MS). The crucial host-country attribute here is the potential of its market, and the TNC investment is thus made to strengthen its position in the supply of that market. In this case TNCs may have previously supplied these CEE countries to some degree through trade (notably from sites in Western Europe) but now respond to the opportunities of political and economic transformation by relocating at least some substantial parts of the value-chain into the region, in order to address the distinctive needs of competitiveness in these markets more completely and responsively.

An alternative initial motivation for investment takes the form of *efficiency seeking* (ES). In its pure form ES behaviour would see no change in the market to which goods are to be supplied, but instead involves relocation of their production to sites providing lower input-costs and therefore securing a sharpening of efficiency and competitiveness. Thus an early prediction was that TNCs might assist the

internationalisation of CEE economies by moving the production of some of their currently most price-sensitive goods to low-cost parts of the region, with these then being mainly exported back to their established (notably Western European) markets. A concern with such ES activity is that it only remains viable as long as the relatively standardised inputs retain their cost competitiveness. As already indicated, however, the potential for subsidiary evolution may provide an escape route from the alternative of closure, and thus from the perception of TNCs' ES operations as innately footloose.

The basis for subsidiary upgrading will often take the form of the use of local knowledge and skill inputs to enhance the quality and individuality of its products (essentially acceding to product development status) and/or the productivity of its manufacturing processes. Building these subsidiary-level capabilities from local technologies, skills and research results and capacities, represents one manifestation of *knowledge seeking* (KS) as a third key imperative within the globalised aims of the contemporary TNC.

This paper develops these themes using material from a survey of global or regional HQs of leading TNCs, which asked them to evaluate a number of factors relating to their operations in CEE. The questionnaire was sent to 408 leading manufacturing and resource-based TNCs,² with replies received from 50 of these. Twenty-eight of these had manufacturing operations in CEE economies and 11 more had subsidiaries there which carried out other significant parts of the value-added chain (marketing, distribution,

² The starting point was the *Fortune* listing of leading global corporations, published in August 1996. Since this, for the first time, covered all areas of business, only 207 relevant manufacturing and extractive enterprises were found. To increase the population the last listing of 500 industrial companies (*Fortune*, July 1994) was consulted and 201 firms not already derived from the 1996 listing were added to the 207.

resource exploitation, strategic planning offices).³ The respondents reported on in this paper covered those with manufacturing operations, along with a selection of those with other forms of substantive value-adding activities in CEE economies. Though this yields a relatively small sample of HQs it does provide quite clear perspectives on the strategic nature of early TNC entry into the CEE transition economies, and also a basis for more speculative indicators of evolutionary potentials.

In the next section we report the respondents' evaluation of seven possible influences on TNCs' investment in CEE economies. These seven factors are interpreted in terms of response to one (or more) of the three core strategic imperatives outlined earlier. The manner in which current and emerging sources of technology define subsidiaries' roles and evolutionary potentials is also central, and the third section reviews the status of seven such sources (intra-group or host country; embodied in products or newly available for commercial adaptation). The concluding section distils the key themes of the analysis and indicates how this can inform CEE country policies towards TNC participation in processes of dynamic restructuring and sustained development.

Factors influencing investment in transition economies.

The first TNC aim, potentially supporting investment in a particular CEE economy, which respondents were asked to evaluate was defined as 'to establish a strong position in the market of the host country' (HOSTMARKET). MS is clearly at the core of this reason for investing, and would certainly define the dominant motivation impelling the initial establishment of a subsidiary targeting this objective. Thus this

³ The remainder answered questions relating to their general evaluation of aspects of transition economies, reasons why they had not invested and their future approach to the region.

motivation sees the particular CEE economy in terms of a significant extension of the TNC's geographical market areas, and perceives the establishment of a subsidiary there as providing the most effective way of obtaining a secure and well-rooted application of the group's existing sources of competitiveness in that country. The potential offered to subsidiaries that are initially mainly driven by this host-market imperative to pursue locally-responsive product and process adaptation may, however, very quickly bring elements of, at least low-level, KS-supported creativity into their operations.

Though production efficiency will clearly be a routine concern of HOSTMARKET behaviour (including through process adaptation, as already suggested), we do not see ES as significantly relevant to the primary motivation for the initial implementation of such operations. If this is so then a prevalence of KS over ES in supporting the achievement of the primary MS imperative of the HOSTMARKET reason for investment may also point towards the nature of the evolutionary potentials being generated within such local-market operations.

In the survey 33 HQs provided information on the investment motivations for each of their individual CEE subsidiaries. Overall 135 subsidiaries were covered through separate replies reported in table 1. As table 1 demonstrates in summary form, HOSTMARKET emerges as the strongest currently perceived reason for investing⁴, being rated as a 'major' reason for investment for 78.4% of subsidiaries and as 'not' a reason for only 8.6%.

The second predominantly MS reason for investing in a CEE economy was defined as 'to achieve better access to a new regional market (i.e. other CEE countries)'

⁴ Such dominance of market-seeking behaviour has been a pervasive result of survey studies (Svetlicic and Rojec, 1994; Rojec and Svetlicic 1993; Lankes and Venables, 1996; Mutinelli and Piscitello, 1997; Meyer, 1998; and case studies (Estrin et al, 1997).

(CEEMARKET). Once again the initial impulsion to the investment comes from pursuit of the most effective means of securing an enhanced degree of commitment to the supply of a newly-emergent market space. Though the motivation is thus defined by the MS imperative of achieving a competitive positioning in a specific market area, the supporting status of ES and/or KS in securing and developing this position from a particular CEE economy are also a crucial part of the analysis.

Since the market targeted here is one comprising several national economies, the initial MS decision to supply from within the region is followed by another involving the choice of the precise location of such a production facility. To the extent that this decision relates to the cost-efficiency of production of those parts of the TNC's standard product range that provide the basis for its successful entry of the new regional market, then ES becomes the main supplementary element embodied in securing the aims of CEEMARKET. However, as with HOSTMARKET, the full achievement of the MS objective is likely to ultimately benefit from individualising the supply capabilities so as to better respond to the tastes and conditions of the target market area. Since the customer base in the case of CEEMARKET is likely to be both more diverse and more extensive than for HOSTMARKET it may well need and justify a more thorough individualisation of supply (i.e. movement away from the current standardised norms of the TNC group), with a more complete product development process superseding mere adaptation of existing goods. This may then call into play much more comprehensive and profound KS behaviour in the CEE-country subsidiary. In this case creative capabilities may become part of those local attributes that sustain operations in one CEE economy as a supply base for the wider region.

Though less prevalent than HOSTMARKET, CEEMARKET confirms the overall predominance of MS in the early CEE activity of TNCs by revealing clearly the second highest average response (AR) in Table 1. In fact CEEMARKET was rated as a 'major' reason for investing for 43.9% of subsidiaries, and as a 'minor' (supporting) reason for another 34.5%.

Rather than extending markets geographically, as in the two previous motives for investing, the aim of ES is here to deepen (or defend) an already fully-formulated position in a familiar area, by sharpening the competitiveness of those goods around which this presence has been built. This broad perspective of ES was defined in the survey as 'to improve our TNC group's competitiveness in supplying its established markets (e.g. EU)'(EFFSEEK).

Put Table 1 here

In its pure form, as envisaged by HQ observers or planners, such ES behaviour would involve the effective operationalisation of standardised technologies and practices, in order to replicate existing production processes, at lower cost, in a new CEE location. As such its cost stringency would be assumed to normally limit the likelihood of approval for any KS resource commitment. However, this might be less readily accepted at the subsidiary level, where the technological dependency and strategic vulnerability of a severely truncated functional capability might generate serious frustration (especially in countries where creative potentials and competences can be clearly discerned). Where such frustration can be manifested around clearly articulated and persuasive KS potentials, an ES subsidiary might occasionally be provided with a basis for some degree

of speculative investigation where this does not compromise the coherence of its primary network-supply role. Though subsidiaries that manifest the EFFSEEK reason for investment may well supply some of their output to CEE markets, this would be seen as a spillover from the success of their ES aims and not as active MS behaviour. Against the expectations of much early theorising on TNC entry into CEE, this form of ES behaviour was reported as relatively rare. Thus it was not considered to have been a reason for investing in the case of 75.5% of the subsidiaries covered, and was rated a major one for only 13.7%.⁵

The three reasons for investing in CEE countries reviewed so far can be interpreted as representing forms of a strategic need for TNCs to geographically extend their supply capacity, in response to varied demand-side requirements (i.e. to secure a more complete and responsive access to emerging CEE markets in the MS cases, and to reinforce the competitiveness of provision to existing markets in the ES one). The remaining four factors relate more to what may be considered as supply-side characteristics, i.e. a CEE economy's ability to supply those inputs that can support a local subsidiary's capacity to play a particular role at a particular time (and, perhaps, to achieve evolution in its role over time).

The first of these supply-side influences was described as 'the availability of low-cost input factors (e.g. cheap labour; energy; raw materials)'(LOWCOST). This may be seen as mainly supporting the ability to take an ES position within a TNC's supply capabilities. As Table 1 shows, LOWCOST was in fact somewhat more strongly

⁵ Other studies reinforce the view of the rather secondary relevance of either the ES motivation (Lankes and Venables, 1996; Rojec and Svetlicic, 1993) and of input costs (Svetlicic and Rojec, 1994; Rojec and Svetlicic, 1993; Meyer, 1998) though labour seeking was a quite significant factor in Italian investment in CEE economies (Mutinelli and Piscitello, 1997).

endorsed than the demand-side form of ES (EFFSEEK), being considered as a major reason for investment in 22.8% of subsidiaries and a minor reason for a further 32.4%. This does indicate that though cost-consciousness is not a dominant motive for investing in CEE its influence does extend beyond those subsidiaries with an EFFSEEK orientation into support of the predominantly MS subsidiaries. Again the expectation would be that strong response to LOWCOST would mitigate against simultaneous KS behaviour.

The second factor that relates to immediate supply capability was 'the skill quality of local labour' (LABSKILL). Such skilled labour may support ES, by enhancing productivity in established production processes. In MS contexts its scope may go beyond this by manifesting specific locally-oriented capabilities and awareness that can assist in product or process adaptation. Indeed such localised skill dimensions can provide an input to KS activity, by helping with the individualisation of subsidiary competence that supports product development. Despite this eclectic range of possibilities, however, LABSKILL was rarely perceived as a significant influence on TNC expansion into CEE, being a major reason for investing for only 3.6% of subsidiaries and rated as irrelevant for 70.5%.

The final two possible influences on investing encompass the availability of local attributes that can support the implementation of KS behaviour. The first of these, 'availability of scientific inputs' (SCIENCEINPUT), provides a generalised basis for implementing creative and product differentiating activity in a subsidiary. The second KS influence was formulated as 'to access particular national research and technological expertise' (NATRES). Here the specification is of particularly unique elements in the host-country's technology and research capabilities, that can be accessed by a subsidiary

in order to build a basis for offering a very explicit and distinctively original contribution to the extension of the product and knowledge scope of its TNC group. Whereas SCIENCEINPUT provides the in-house competence to benefit from evolutionary processes in the TNC, NATRES seeks to tap into more radical local knowledge potentials with the intention of attempting to assert a contribution to the more revolutionary dimensions of the group's technological and product progress. As Table 1 shows neither of these capacities have so far asserted sustained influence, with SCIENCEINPUT only relevant in 12.2% of subsidiaries and NATRES in 15.9%.

Sources of technology applied in TNCs' CEE operations.

The HQs that responded to the survey were asked to evaluate the degree of importance of each of seven sources of technology that might be applied, or generated, within their CEE operations.⁶ In this section we describe these types of technology, indicate their possible associations with the investment motivations already outlined, and report their current relative prevalence (table 2).

The first source of technology evaluated was defined as 'existing technology of the TNC group that is already embodied in established products that the subsidiaries undertake to produce' (ESTPRODTECH). Whatever the broad strategic reason for entering into the CEE economies, and however much awareness there is of the need for embeddedness and generation of evolutionary potentials once there, this form of standardised technology, underpinning the established product range and supply practices, is likely to be central to the early phases of operations. Thus entry into such

⁶ Thirty-one respondents offered evaluation of the technologies used in their CEE operations. In the case of those that did not have producing subsidiaries in the region the reported technologies are those relevant to the activities carried out and/or the technologies embodied in products distributed there.

new, unfamiliar, and potentially unstable emerging economic environments, is likely to be built around sources of competitive advantage with which the TNC *is* very familiar and in which it has fully verified confidence. Its core standardised product and process technologies are likely to exemplify this.

ESTPRODTECH is thus the defining core of the ES (EFFSEEK; LOWCOST) reasons for investing in CEE, since the dominant imperative is to pursue cost-effective supply of those successful goods that embody these standardised technologies. Similarly the MS operations (HOSTMARKET; CEEMARKET) will be decisively initiated around ESTPRODTECH, to secure confident market penetration based around familiar goods of proven success. Here, though, there may be some innate impetus towards eventual subsidiary-level technological diversification, invoking other sources of technology (accessed or generated by the subsidiary) so as to secure competitive benefits of local responsiveness through product adaptation or development. As these core positionings would suggest ESTPRODTECH proved to be by far the most prevalent of the seven types of technology investigated. In fact 87.9% of respondents considered it a 'main' source of technology in their CEE operations, and 9.1% more a 'secondary' one.

A second source of technology that was expected to originate at the corporate level was defined as 'TNC group technology from which the subsidiaries develop new products for their markets' (GROUPTECH). These are technologies that have not yet been systematically embodied in products, but which are available in sufficiently precisely-defined forms to be disseminated to subsidiaries that can then pursue their incorporation in specific localised processes of product development. Thus here we can envisage the possibility of MS CEE subsidiaries accessing GROUPTECH as a crucial input into the processes through which they develop new goods that seek to respond in a

unique way to the precise needs of their specific local (host country or wider CEE) market space.

Initially we would expect pure-ES behaviour (EFFSEEK responding to LOWCOST) to preclude product development and, therefore, to exclude any role for GROUPTECH. However, sensitive and strategically-adept HQs may be aware of growing frustration in ES-oriented CEE subsidiaries that believe they can access and activate local creative scopes and, indeed, come to see this as a positive evolutionary potential. To harness such creative potentials in those CEE subsidiaries that are already well-positioned in the TNC's wider supply networks, they may be allocated responsibility for developing a particular piece of GROUPTECH into a new product that they can supply to their major established market areas. This would serve to allow creative potentials to be fully realised in these subsidiaries in a manner that is properly understood

Put Table 2 here

and authorised by central authority. Use of centrally-provided GROUPTECH would then keep the product development process in these subsidiaries coherent with the evolution of the wider supply network of which they are part and, by limiting the use of locally-derived knowledge inputs, lessen the potential for disruptive and contentious overlaps with goods produced by other subsidiaries. Furthermore, where GROUPTECH is invoked to support MS or ES operations it can also drive a complementary recognition of KS-oriented reasons for investing in the form of local expertise (LABSKILL) or science (SCIENCINPUT and NATRES).

As table 2 shows GROUPTECH emerged as the second most relevant source of technology activated in TNCs' CEE subsidiaries, at least as perceived by HQ respondents. Thus it was rated as a main source of technology in 22.6% of cases and as a secondary one in a further 51.6%. This degree of prominence certainly seems to indicate that TNC HQs recognise the potential for innovation processes to be activated in their CEE subsidiaries. That GROUPTECH emerges here as the strongest of the technology inputs likely to support such CEE product development may reflect HQs' undervaluation of possible local inputs and/or a desire to constrain these creative processes towards group authorised aims by control over a key resource (i.e. original technology perspectives).

The third technology source investigated was 'established host-country technology' (LOCALTECH). This represents a technology that has been originated in a CEE economy, and has achieved some degree of commercial activation there. TNCs' CEE operations can access LOCALTECH either as part of the competence of an indigenous enterprise that is acquired, or by licensing it from a local firm that remains independent (but which had failed to fully realise the scope of the technology). We can most clearly associate LOCALTECH with the HOSTMARKET and CEEMARKET motivations, since the localised preoccupations of such MS operations provide both opportunity for detecting the availability of these technologies and scope to apply them in locally-responsive individualisation processes. This would position LOCALTECH as a potentially supporting technology in the dominant MS operations. Thus LOCALTECH did emerge as the most pervasive of the local technology inputs; as a secondary source for 38.6% of respondents, but a major one for only 6.5%.

Whereas LOCALTECH may have some scope to impel evolutionary processes in TNCs' operations a more profound and sustainable contribution would be expected to be made by the results of in-house R&D activity. Thus respondents were asked to evaluate 'results of R&D carried out in CEE subsidiaries' (OWNLAB) as a source of technology. In fact OWNLAB was never rated as a major source of technology, and only 16.1% of respondents even considered it to be a secondary one. A number of factors may contribute to this. Firstly, the reasons for investing that would be expected to most decisively require a local R&D unit (SCIENCINPUT, NATRES) have themselves been shown to be the least relevant to the early CEE operations of TNCs. Secondly, possession of an R&D unit is likely to be strongly alien to the strategic priorities of ES, since it involves initially non-productive overhead expenditures and, also, may generate new capacities (technology and products) which do not fit neatly into a group-networked position. Thirdly, though in-house R&D would be a logical element in MS operations seeking to generate a systematic ability to individualise their competitive capabilities, such a deepening of functional scope would be a gradual evolutionary development that is not yet yielding dividends in the form of activated technology.

An alternative means through which TNCs may internalise particular aspects of local technological creativity in their CEE operations is in the form of tacit knowledge that is reflected in the distinctive capacities of personnel employed. Thus respondents were asked to assess 'development and adaptation carried out less formally by members of subsidiaries' engineering units and production personnel' (ENGUNIT), as a technology input into their CEE operations. We would expect ENGUNIT to be particularly relevant to the HOSTMARKET and CEEMARKET reasons for investing. Thus, in such MS cases, the types of locally-oriented understandings implied by

ENGUNIT can help to not only assimilate ESTPRODTECH initially (as would also be relevant to ES), but then facilitate (before possible recourse to OWNLAB) its active adaptation to local needs and build from it the knowledge platform for stronger (product development) localisation processes. It also seems routinely plausible that where LABSKILL is a reason for investing one manifestation of this is the availability of ENGUNIT as a source of skill-related tacit technology. Though ENGUNIT does emerge in table 2 as the second most significant local source of technology, it was still only applicable to less than half of respondents, with 32.3% considering it a secondary source of technology and 6.5% a major one.

The last two sources of technology represent the output of joint research between TNCs and CEE associates. The first of these was 'R&D carried out for the subsidiary by local scientific institutions (e.g. universities; independent laboratories; industry laboratories), (UNIRAD). This can be seen as a KS attempt to secure access to original creative potentials that are embodied in the technology stock and ongoing research momentum of the local scientific community. In fact UNIRAD was only rated as even a secondary source of technology by 9.6% of respondents. The second source of technology deriving from joint research was defined as 'R&D carried out in collaboration with local firms' (COLLABRAD). The immediate commercial context of a subsidiary may be more influential on COLLABRAD (compared with the perhaps more scientifically speculative UNIRAD), with local enterprise inputs to such research possibly supporting distinctive localisation aims of TNCs' MS facilities. Thus COLLABRAD was, marginally, more prevalent than UNIRAD, though still only relevant to 16.2% of respondents.

Conclusions

Our evidence indicates that the predominant strategic positioning of TNCs' initial operations in CEE economies is to use their mature standardised technologies and practices to supply already successful goods to subsidiaries' local national markets. Such prioritising of market-seeking behaviour is seen to serve two purposes for TNCs. Firstly, to assert a first mover involvement within distinctive and potentially significant newly-open markets. Secondly, to leverage the confidence and strength in the local market that derives from the initial use of well-understood and highly competitive firm-level attributes to learn about the less understood supply potentials of the local economy.

We can thus characterise early (market seeking) TNC entry into these transition economies as adopting an essentially bounded rationality decision process, which aims to explore the highly plausible potentials of an innately incoherent, unformulated, unfamiliar and risky new economic environment on the most secure basis available. An implied element of this is to avoid negative externalities from these initial uncertainties, by limiting interdependencies with other group operations (notably wider supply networks). All understandings of contemporary TNCs would suggest, however, that their growing familiarity with CEE economies would then lead towards a more optimised role for subsidiaries, with this increasingly oriented towards serving wider group-level needs and aims. These can involve extending the supply network for established goods (efficiency seeking) or adding to product range and technological scope (knowledge seeking). Our evidence is not taken to suggest that such potentials are not available in the formerly centrally-planned economies, but rather that their detection, evaluation and adoption is part of evolutionary learning processes in new environments and not often amenable to *a priori* optimised decisions. This, in turn, suggests that the most important

aspects of host-country policy towards TNCs in these countries will be more in securing the most appropriate embedding of subsidiaries in developmental processes than in the initial attraction of strategically unstructured FDI.

The first aspect of logical host-governmental priorities is simply to underline the need for CEE economies to provide an improved basis for informed decisions, in terms of policy transparency and consistency and the emergence of normalised market behaviour. Whilst TNCs *need* this we suggest that, through the activation of their early MS behaviour, they can also contribute significantly to key aspects of such growing marketisation. The ultimate aim of such an assertion of normal market behaviour is, of course, competitive integration into international markets. TNCs' contribution to this would be the emergence of export-oriented ES behaviour. The evidence does suggest some limited early exporting from CEE subsidiaries, especially to other parts of the transition economy region, but also into the TNCs' traditional market areas. Specific policies to encourage this facet of subsidiaries' strategic evolution need to be carefully moderated, however. Certainly better information about unrealised input potentials, along with appropriate quality enhancement (notably education and training of labour), can encourage TNC involvement in export-oriented industrial restructuring. But artificial policy inducements to ES behaviour, in the form of downward pressure on factor rewards or subsidies, are inappropriate in developmental terms and ultimately probably not conducive to sustained TNC participation.

Finally, science and technology policy are crucial to embedding TNC operations into any country's processes of sustainable development. There is little indication in our evidence, however, that TNCs are so far reacting to any perceived technological strength in the CEE economies resulting from the strong science commitments of the centrally-

planned era. Therefore it is crucial that those transition economies with a heritage of commitment to scientific research recognise the potential of persisting stocks of technology and R&D capacity as attributes relevant to TNCs' needs and global strategic priorities.

References

- Bartlett, C.A. and S. Ghoshal (1986). "Tap your subsidiaries for global reach." *Harvard Business Review*, 64(b), pp.89-94.
- Bartlett, C.A., and S. Ghoshal (1989) *Managing Across Borders: the Transnational Solution*, (London: Hutchinson Business Books).
- Bartlett, C.A. and S. Ghoshal (1990). "Managing innovation in the transnational corporation." In C.A. Bartlett, Y. Doz and G. Hedlund, eds. *Managing the Global Firm*. (London: Routledge).
- Behrman, J.N. (1984). *Industrial Policies: International Restructuring and Transnationals*. (Lexington, Mass: Lexington Books).
- Birkinshaw, J.M. (1996). "How multinational subsidiary mandates are gained and lost". *Journal of International Business Studies*, 27(3), pp.467-95.
- Birkinshaw, J.M. (1997). "Entrepreneurship in multinational corporations: the characteristics of subsidiary initiatives." *Strategic Management Journal*, 18(3), pp.207-29.
- Birkinshaw, J.M., and N. Hood (1997). "An empirical study of development processes in foreign-owned subsidiaries in Canada and Scotland." *Management International Review*, 37(4), pp.339-64.
- Birkinshaw, J.M., and N. Hood (1998). "Multinational subsidiary evolution: capability and charter change in foreign-owned subsidiary companies." *Academy of Management Review*, 23(4), pp.773-95.
- Birkinshaw, J.M., Hood, N., and S. Jonsson (1998). "Building firm-specific advantages in multinational corporations: the role of subsidiary initiative." *Strategic Management Journal*, 19, pp.221-41.
- Delany, E. (1998). "Strategic development of multinational subsidiaries in Ireland." In J.M. Birkinshaw and N. Hood, eds *Multinational corporate evolution and subsidiary development*. (London: Macmillan).
- Dunning, J.H. (1993). *Multinational Enterprises And The Global Economy*. (Wokingham: Addison Wesley).
- Egelhoff, W., Gorman, L., and S. McCormick (1998). "Using technology as a path to subsidiary development." In J.M. Birkinshaw and N. Hood, eds. *Multinational Corporate Evolution And Subsidiary Development*, (London: Macmillan).
- Estrin, S., Hughes, K., and S. Todd (1997). *Foreign Direct Investment In Central And Eastern Europe*, (London: Pinter).

- Ghoshal, S. and C.A. Bartlett (1990). "The multinational corporation as an inter-organisational network." *Academy of Management Review*, 15(4), pp.603-25.
- Ghoshal, S. and C.A. Bartlett (1998). *The Individualised Corporation*, (London: Heinemann).
- Ghoshal, S., and N. Nohria (1989). "Internal differentiation within multinational corporations." *Strategic Management Journal*, 10, pp.323-37.
- Hedlund, G. (1986). "The hypermodern MNC: a heterarchy?" *Human Resource Management*, 25, pp.9-35.
- Hedlund, G. (1993). "Assumptions of hierarchy and heterarchy, with applications to the management of the multinational corporation." In S. Ghoshal and E. Westney, eds. *Organisational Theory And The Multinational Corporation*, (London: Macmillan).
- Hedlund, G., and D. Rolander (1990). "Action in heterarchies - new approaches to managing the MNC." In C.A. Bartlett, Y. Doz and G. Hedlund, eds. *Managing The Global Firm*. (London: Routledge).
- Lankes, H-P., and A.J. Venables (1996). "Foreign direct investment in economic transition: the changing pattern of investments," *Economics of Transition*, 4(2), pp.331-47.
- Manea, J. (2002) *Multinational Enterprises' Strategies and Their Implications for the Processes of Transformation and Development in Central and Eastern European Transition Economies..* PhD Thesis, University of Reading.
- Manea, J., and R.D. Pearce (1997a). "The potential role of Romania's technological and scientific capacity in attracting FDI: an exploratory analysis of its national system of innovation." In R. Pearce, *Global Competition and Technology*. (London: Macmillan).
- Meyer, K. (1998). *Direct Investment In Economies In Transition*. (Cheltenham: Edward Elgar).
- Mutinelli, M., and L. Piscitello (1997). "Differences in the strategic orientation of Italian MNEs in Central and Eastern Europe. The influence of firm-specific factors." *International Business Review*, 6, pp.185-205.
- Papanastassiou, M. and R. Pearce (1999). *Multinationals, Technology And National Competitiveness*. (Cheltenham: Edward Elgar).
- Pearce, R. (1992). "World product mandates and MNE specialisation." *Scandinavian International Business Review*, 1(2), pp.38-58.

- Pearce, R. (1999) "The evolution of technology in multinational enterprise: the role of creative subsidiaries." *International Business Review*, 8(2), pp.125-48.
- Pearce, R. (2001). "Multinationals and industrialisation: the bases of 'inward investment' policy." *International Journal of the Economics of Business*, 8(1), pp.51-73..
- Rojec, M., and M. Svetlicic (1993). "Foreign direct investment in Slovenia." *Transnational Corporations*, 2(1), pp.135-51.
- Svetlicic, M., and M. Rojec (1994). "Foreign direct investment and the transformation of Central European economies." *Management International Review*, 34(4), pp.293-312.
- White, R.E., T.A. Poynter (1990). "Organisation for world-wide advantage." In C.A. Bartlett, Y. Doz and G. Hedlund eds. *Managing The Global Firm*, (London: Routledge).

Table 1: TNCs' evaluation of reasons for investing in CEE countries

	Reasons for investing (average responses) ¹						
	HOST MARKET	CEE MARKET	EFF SEEK	LOW COST	LAB SKILL	SCIENCE INPUT	NATRES
<i>By home region</i>							
Asia	2.25	3.00	2.25	3.00	2.00	1.43	1.38
North America	2.73	2.30	1.34	1.55	1.39	1.18	1.18
West Europe	2.93	2.07	1.36	1.92	1.24	1.07	1.18
<i>By host country</i>							
Bulgaria	2.70	1.90	1.10	1.44	1.18	1.09	1.09
Czech Republic	2.81	2.38	1.62	1.95	1.48	1.10	1.10
Hungary	2.71	2.38	1.47	1.90	1.33	1.19	1.19
Poland	2.88	2.32	1.60	2.04	1.44	1.08	1.16
Romania	2.91	2.18	1.18	1.64	1.27	1.09	1.18
Russia	2.94	2.18	1.29	1.82	1.24	1.31	1.47
Slovakia	2.63	2.19	1.25	1.80	1.44	1.13	1.13
Slovenia	2.80	2.00	1.10	1.44	1.22	1.10	1.20
<i>By industry</i>							
Chemicals	2.69	1.92	1.26	1.31	1.16	1.05	1.05
Electronics	2.90	2.23	1.38	1.74	1.62	1.31	1.31
Mechanical Engineering	2.86	2.48	1.48	2.29	1.18	1.09	1.36
Motor vehicles	2.86	2.86	2.29	2.86	1.57	1.33	1.43
Miscellaneous	2.70	2.30	1.33	2.04	1.35	1.00	1.00
Total	2.80	2.24	1.40	1.83	1.35	1.14	1.18

Reasons for investing.

HOSTMARKET - to establish a strong position in the market of the host country.

CEEMARKET - to achieve better access to a new regional market (i.e. CEE countries).

EFFSEEK - to improve our TNC group's competitiveness in supplying its established markets (e.g. EU).

LOWCOST - availability of low-cost input factors (e.g. cheap labour; energy; raw materials).

LABSKILL - the skill quality of production labour.

SCIENCEINPUT - availability of scientific inputs.

NATRES - access to particular national research and technological expertise.

Note:

1. Respondents were asked to evaluate each reason, for each country in which they had investments, as (i) a major reason for investing, (ii) a minor reason for investing, (iii) not a reason for investing. The average response was calculated by allocating 'major' reason the value of 3, 'minor' reason the value of 2, 'not' a reason the value of 1.

Table 2: TNCs' evaluation of sources of technology used by their subsidiaries in CEE countries

	Sources of technology (average responses) ¹						
	ESTPROD TECH	GROUP TECH	LOCAL TECH	OWN LAB	ENGUN IT	UNIRAD	COLLAB RAD
<i>By home region</i>							
Asia	3.00	2.33	1.33	1.00	2.00	1.00	1.33
North America	2.79	2.14	1.50	1.14	1.29	1.14	1.14
Western Europe	2.88	1.71	1.57	1.21	1.50	1.07	1.14
<i>By industry</i>							
Chemicals	2.67	1.83	1.83	1.17	1.50	1.00	1.00
Electronics	2.78	2.13	1.38	1.25	1.50	1.25	1.38
Mechanical Engineering	2.83	1.80	1.60	1.00	1.80	1.00	1.00
Motor vehicles	3.00	1.67	1.33	1.00	1.00	1.00	1.33
Petroleum	3.00	1.67	2.00	1.33	1.33	1.33	1.33
Miscellaneous	3.00	2.33	1.17	1.17	1.33	1.00	1.00
Total	2.85	1.97	1.52	1.16	1.45	1.10	1.16

Sources of technology

ESTPRODTECH - existing technology of our TNC group that is already embodied in established products that the subsidiaries undertake to produce.

GROUPTECH - TNC group technology from which the subsidiaries develop new products for their markets.

LOCALTECH - established host-country technology.

OWNLAB - results of R & D carried out in the CEE subsidiaries.

ENGUNIT - development and adaptation carried out less formally by members of subsidiaries' engineering units and production personnel.

UNIRAD - R & D carried out for the subsidiary by local scientific institutions (e.g. universities; independent laboratories; industry laboratories).

COLLABRAD - R & D carried out in collaboration with local firms.

Note:

1. Respondents were asked to grade each source of technology as (i) a main source, (ii) a secondary source, (iii) not a source. The average response is calculated by allocating 'main' the value of 3, 'secondary' the value of 2 and 'not' the value of 1.