

New Challenges for International Business Research

Back to the Future

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11. The role of FDI in the regionalisation/globalisation debate

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1. INTRODUCTION

In a perceptive and important contribution to our understanding about the geographical distribution of the sales (by destination) of the world's largest companies, Rugman and Verbeke (2004) have uncovered some interesting facts. These facts they use to argue the case that the sales of the great majority of the largest firms in the world (as identified by them)¹ are concentrated either in the region in which their head offices are located, or in that of one other region. Indeed, they found that in 2001, 321, or 84 per cent, of the firms identified were mainly home region oriented, and another 25, or 5 per cent were bi-regional (i.e. they operated in two of the three regions considered by the authors).² In their opinion, only 9 of the 380 firms could be considered genuinely global.³

In the introduction to their paper, Rugman and Verbeke state that most previous research on the geographical distribution of activity by multinational enterprises (MNEs) had used macro level information on the stocks and flows of foreign direct investment (FDI). These they contend (and rightly so) need to be supplemented by sales and other data supplied by individual MNEs. Part of their rationale for this contention rested on the imperfect quality, inconsistency or inappropriateness or some of the macro-data; and part on the observation (the source of which they do not give: Rugman and Verbeke, 2004, p.3) that the largest 500 MNEs account for 90 per cent of the world's FDI stock.⁴

While appreciating much of the analysis and conclusions contained in the Rugman and Verbeke paper, we think it useful to see how far, and in what ways, the macro-data on FDI stocks and flows support or contradict the key contention of the authors that the great majority of the international sales by MNEs is either home region or bi-regionally oriented. However, in doing so, one immediately runs into a definitional problem. In their article,

Rugman and Verbeke allocate sales originating from the home region of the firms analysed (whether these are intended to serve domestic or foreign markets) to the home region. Inevitably, in the case of companies originating from large and richer countries such as the US and Japan, this noticeably lowers their (relative) propensity for globalisation.⁵ Yet most macro-data are concerned with the geographical distribution of that part of the investment, sales or employment of firms undertaken or originating *outside* their national boundaries. Indeed, because of statistical limitations, in only a few cases (notably the US), is it possible to directly compare equivalent ratios for countries to those identified by Rugman and Verbeke for firms.

In this contribution, we shall divide our analysis into two parts. First we shall examine the data we have on (what we shall term) the outward and inward transnationality of countries. As we shall see, such data, although useful for comparing the transnationality of different countries, and the same countries over time, are not as appropriate as their firm level counterparts.⁶ The second part of our analysis examines the regional distribution of both outward and inward FDI stock in a way similar (but not identical) to that undertaken by Rugman and Verbeke.

Basically, the thrust of this chapter is twofold. First, it is to establish the extent to which (the totality of) firms from the leading inward and outward direct investing countries replicate the pattern set out by Rugman and Verbeke. Second, by comparing the relevant data for 1990 and 2003 (or nearest year for which data are available), it examines the extent to which, over the intervening period, the foreign operations (i.e. excluding the domestic operations) of MNEs have become more or less globalised.

In undertaking this exercise, we shall produce three sets of indices, each of which is country based. The first is a *transnationality index* (TNI), which is designed to assess the degree to which a particular country engages in outward, or inward, FDI. This index is defined in the following section. The second consists of two variants of a *globalisation index* (GI), which attempts to assess the extent to which the geographical spread of inward and outward FDI is concentrated or dispersed – the assumption being that the greater the dispersion, the more a country's international direct investment is globalised.

The third index is a *revealed investment comparative advantage* (RICA) or *investment intensity index*. This is intended to measure the extent to which, relative to its share of the world direct investment stock, a country's outward investment in a number of culturally different geographical regions is above or below that average. This last index widens the classification of regions adopted by Rugman and Verbeke to incorporate various elements of psychic or institutional distance, as identified by such writers as Ronen and Shenkar (1985), Shenkar (2001) and Xu and Shenkar (2002).

2. DATA AND METHODOLOGY

2.1 Data

The data we use for this particular exercise are as follows:

1. *Outward and inward FDI stocks* for the years 1990 and 2003, as provided by the United Nations Conference on Trade and Development (UNCTAD).⁷
2. *Outward and inward FDI flows* as a percentage of gross fixed capital formation (GFCF), for two periods, viz. 1990–96 and 1997–2003, as provided by UNCTAD and published in the *World Investment Report* (2004, 2005).
3. *Gross domestic product* (GDP) data for the period 1990 to 2002/3, as compiled by UNCTAD, drawing upon the data from the IMF, World Bank and OECD, and from national sources (e.g. Taiwan).
4. The above data are used to assess the ratios calculated and presented in Appendix 11.A for some 25 countries⁸ that, between them, accounted for 80 per cent of the inward and 89 per cent of the world's outward FDI stock in 2003 (UNCTAD, 2004). In the case of the TNIs and GIs, four geographical regions, which are the home or host to the value added activities of MNEs to and from the 25 countries, are identified. These are (a) the *Americas* (that embracing North, South and Central America), (b) *Europe* (including Central and Eastern Europe), (c) *Asia* and (d) *Other*. In the case of RICA variables, we have used a modified version of the cultural related country clusters identified by Ronen and Shenkar (1985) and Shenkar (2001), which, as Oesterle and Fisch (2000) have observed, depict the 'soft' side of globalisation. By classifying the geographical distribution of FDI in this way, we take account of cultural and institutional diversity as a locational determining variable (Sullivan, 1994; Ietto-Gilles, 1998). Further details are set out in Appendix 11.B. We consider six such clusters, viz. an *Anglo cluster*, a *Germanic/Nordic cluster*, a *Latin American cluster*, a *Latin European cluster*, a *Far Eastern cluster*, and an *'Other'* or *'Mixed'* cluster, which includes all other countries.

2.2 Statistical Methodology

The methodology we used for evaluating the extent, pattern and changes in the TNI, GI and RICA indices is very simple and straightforward, and is described in more detail in the sections that follow. Here we would simply observe that the main differences between our approach and that

of Rugman and Verbeke are: first, we normalise the geographical distribution of MNE activity by size of country (as proxied by GDP); second we have computed RICA or investment intensity indices;⁹ and third, we have added a cultural diversity component to our classification of home and host regions in order to estimate both the RICAs and the path followed by our 25 countries between 1990 and 2002, towards regionalisation or globalisation.

3. THE INTERNATIONAL (TRANSNATIONAL) DIRECT INVESTMENT POSITION OF COUNTRIES

It is an unfortunate fact that macro-data do not allow us to directly relate the proportion of the global sales or value added of firms from particular home countries which is undertaken outside of their national boundaries.¹⁰ Estimates by UNCTAD (2005, p. 17) set out in Table 11.1 suggest that, in 2003, some 54 per cent of the global sales, 50 per cent of the global assets and 50 per cent of the global employment of the world's leading 100 MNEs – ranked by foreign assets – were accounted for by their foreign affiliates.¹¹ Table 11.1 also shows that these ratios increased quite markedly between 1990 and 2003, although more so for some countries than others. These figures however are very skewed. Other data reveal that the majority of MNEs do not record such high ratios of transnationality. According to UNCTAD (2005, p. 15), in 2003 the 100 largest MNEs accounted for only

Table 11.1 *Degrees of transnationality of the 100 largest non-financial MNEs,^a 1990 and 2003*

Variable	1990 (%)	2003 (%)	% change 2003 cf. 1990 (%)
Assets	37.8	49.8	31.7
Sales	48.4	54.1	11.8
Employment	43.0	49.5	15.1
TNI	43.1	51.1	18.6

Note: Figures for assets, sales and employment in columns 1 and 2 represent the share of foreign in global operations. TNI is the Transnationality Index. See the text for the definition.

^a Largest defined in terms of foreign assets.

Source: UNCTAD (1993) p. 28; (1994), p. 9; (2005), p. 17.

18 per cent of foreign sales, 12 per cent of foreign assets¹² and 14 per cent of the foreign employment of all MNEs.¹³

The most comprehensive data on the relative significance of the transnationality of countries are provided by relating the stock of their inward and outward FDI to GDP, and the ratio between their inward and outward investment flows and their gross fixed capital formation.¹⁴ Table 11.2 sets out these ratios for 1990 and 2002 in the case of the former, and an average of the ratios for the years 1990–1996 and 1997–2003 in the case of the latter.¹⁵

Columns 3 and 4 of Table 11.2 suggest that in 2003, on average, outward FDI stocks accounted for 23.0 per cent of world GDP and inward FDI stocks for 22.9 per cent of world GDP. Both figures represent a large increase over their 1990 counterparts of 8.6 per cent and 9.3 per cent respectively (see columns 1 and 2). This shows a sharp upward movement in the degree of the TNI (the extent to which the 25 countries engage in, or are engaged by, MNE activity) over the intervening years.

The trends shown in the above data are broadly confirmed by our second set of data set out in columns 5–8 of Table 11.2. These show that, on average, the ratio of the outward FDI flows of a country to its domestic gross fixed capital formation (GFCF) rose from 5.0 per cent in the 1990–1996 period to 11.5 per cent in the 1997–2003 period. The corresponding ratios for inward FDI were 4.5 per cent and 12.2 per cent. Finally, we might mention a composite outward and inward TNI compiled by UNCTAD for the year 2002 (UNCTAD, 2005, p. 16). This consists of an average of four sets of ratios. The first two have just been described for the year 2003. The third is an estimate of the value added of all foreign affiliates as a percentage of the GDP of their home and host countries in 2002; and the fourth is an estimate of the employment of all foreign affiliates as a percentage of the total employment of their home and host countries in that same year.¹⁶ The relevant data are set out in Table 11.3.¹⁷ The outward TNIs range from 0.3 in the case of Poland to 100.6 per cent in the case of Hong Kong. The inward TNIs likewise vary a great deal, from 1.0 per cent in the case of Japan to 81.6 per cent in the case of Hong Kong. The average outward and inward TNIs are respectively 22.2 and 23.0. However, whereas in the case of the outward FDI, and in line with expectations, the TNIs are considerably higher in (most) developed countries than in (most) developing countries, in the case of inward FDI, the two regions record on average very similar TNIs.

The main reason why these macro-data reveal lower TNIs than the micro-data set out by Rugman and Verbeke is that the former embrace those of all firms, both private and public, and not just large MNEs. In fact, since by far the greater part of the value added activities of most

Table 11.2 Outward and inward FDI stock as a percentage of gross domestic product, and outward and inward FDI flows as a percentage of gross fixed capital formation, 1990-2003

Country	Stock as a % of GDP				Flows as a % of GFCF			
	1990		2003		Average 1990-1996		Average 1997-2003	
	Outward	Inward	Outward	Inward	Outward	Inward	Outward	Inward
Europe	9.1	7.1	36.7	24.7	9.5	6.6	30.0	14.9
France	8.8	7.1	25.8	22.6	5.9	1.0	11.7	12.3
Germany	24.0	71.5	22.5	129.7	4.4	14.0	14.9	69.2
Ireland	5.2	5.3	16.2	11.8	3.1	1.7	5.6	4.5
Italy	36.3	23.3	75.0	65.6	25.7	14.0	52.8	42.2
Netherlands	0.2	0.2	0.9	24.9	0.1	10.1	0.4	15.8
Poland	12.8	24.7	27.4	24.9	3.2	8.7	20.2	15.0
Spain	21.3	5.3	62.7	47.5	17.0	14.0	46.0	48.7
Sweden	28.9	15.0	111.2	49.7	16.3	4.2	42.7	20.7
Switzerland	23.2	20.6	62.7	37.4	14.9	10.2	43.9	23.4
United Kingdom	8.8	8.0	11.0	25.8	0.5	3.1	1.0	19.7
America	14.7	19.6	35.5	31.8	7.1	6.1	21.4	19.1
Canada	0.4	8.5	2.2	26.5	0.4	11.6	1.5	14.2
Mexico	7.5	6.9	18.8	14.1	6.4	4.9	7.6	8.8
United States								

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Asia	China	0.7	5.8	2.6	35.6	1.2	12.2	0.7	11.9	51.4	-2.2	0.6	3.4	13.5	44.4	3.9	8.5	16.1	10.5	12.2
	Hong Kong	15.9	269.6	211.9	236.5	44.3	16.8	49.2												
	Indonesia	0.1	34.0	1.3	27.5	2.0	5.9													
	Japan	6.6	0.3	7.8	2.1	2.0	0.1	2.6												
	Korea	0.9	2.1	5.7	7.8	1.6	0.7	2.5												
	Malaysia	6.1	23.4	28.8	57.2	5.3	18.4	6.2												
	Singapore	21.3	83.1	99.5	161.3	15.0	30.8	27.9												
	Taiwan	8.0	6.1	22.8	11.9	5.8	2.5	8.6												
Other	Australia	9.8	23.7	23.0	34.3	4.4	8.8	6.9												
	New Zealand	14.7	18.2	11.3	49.1	3.8	23.2	2.9												
	South Africa	13.4	8.2	14.8	18.5	4.8	1.8	2.2												
World		8.6	9.3	23.0	22.9	5.0	4.5	11.5												

Source: Compiled by the authors based on data supplied by UNCTAD.

Table 11.3 Composite outward and inward TNIs for selected countries, 2002

Country	Outward	Inward
Europe		
France	21.7	13.2
Germany	18.4	19.7
Ireland	20.4	69.4
Italy	10.1	6.0
Netherlands	52.3	38.4
Poland	0.3	15.6
Spain	18.2	21.3
Sweden	41.9	28.3
Switzerland	55.6	19.3
United Kingdom	38.1	17.5
America		
Brazil	5.4	14.5
Canada	21.9	20.5
Mexico	1.3	15.3
United States	8.9	7.7
Asia		
China	1.4	16.6
Hong Kong	100.6	81.6
Indonesia	0.1	11.0
Japan	4.9	1.0
Korea	3.6	4.9
Malaysia	7.1	16.5
Singapore	77.8	60.2
Taiwan	16.1	9.8
Other		
Australia	10.4	18.9
New Zealand	3.8	27.6
South Africa	15.7	19.6
Average above	22.2	23.0

Source: Data supplied by UNCTAD. See also text for explanation of how these indices were compiled.

economies is domestically oriented, we would argue that the UNCTAD data provide a better indication of the extent to which an economy (taken as a whole) is internationalised. On the other hand, we accept that if one chooses to focus on the wealth creating activities of a country, then, since most of these are undertaken by the larger and medium sized firms in the private sector, the micro-data may well give a more realistic approximation

of the significance of 'outward' globalisation to a nation's competitiveness and its long-term economic prosperity.

As is shown in Tables 11.2 and 11.3, the TNIs vary enormously between countries. As far as outward FDI is concerned, the degree of transnationality would appear to be negatively related to the size of the investing country but positively related to its income levels and to the (global) competitive advantages of its firms. However, mergers and acquisitions (M&As) which accounted for such a high proportion of FDI outflows in the 1990s,¹⁸ are more likely to reflect firm specific strategies and the growth rates of countries than are the other variables.¹⁹ Similarly, indices for asset exploiting FDI are likely to reflect the size of domestic (or adjacent and regional) markets, labour, production and spatial transaction costs – and, for asset augmenting FDI, exchange rates, profitability and the technological and managerial competences of marketing opportunities offered by indigenous firms.

What then, in summary, do these disparate data show? First, for the leading MNEs, their international, or transnational, operations are an important part of their global activities. For all firms, they are less important, but still significant, while macro measures suggest that both inward and outward TNIs average one-quarter of the GDPs of home and host countries.

Second, between 1990 and 2002, all transnational indices – both at the macro and micro level – have increased, and in most cases, quite substantially.²⁰ Third, the outward and inward TNIs vary considerably between countries, as does the balance between the two indices. This is illustrated in Figure 11.1, which sets out the relationship between these variables for the year 2002. Countries in the top right quadrant (which record above average outward and inward TNIs)²¹ include Canada, Germany, the Netherlands, Singapore and Sweden; those in the top left quadrant (with above average outward and below average inward TNIs) include France, Taiwan and the United Kingdom. Those in the bottom right hand quadrant (with below average outward and above average inward TNIs) include Australia and South Africa,²² and those in the bottom left hand corner comprise (with below average outward and inward TNIs) all the rest, including Brazil, China, Italy, Japan, Korea and the US.

4. GLOBALISATION AND TRANSNATIONALITY INDICES

4.1 A Set of Crude Globalisation Indices

We first consider the regional distribution of *outward* FDI stocks for each of the 25 countries in 2002. As the following six tables are quite detailed

TNI ₀	High	Canada, Germany, Hong Kong, Ireland, Netherlands, Singapore, Spain, Sweden and Switzerland
	Low	Brazil, China, Indonesia, Italy, Japan, Malaysia, Mexico, Poland, Korea and the United States
		TNI ₁
		High
		Low

Note: The dividing line between high and low is the median value of the indices.

Source: Compiled by the authors based on data supplied by UNCTAD.

Figure 11.1 Classification of countries by outward and inward TNIs, 2002

and the text describing them relatively short, we have placed them together in Appendix 11.A as Tables 11.A1–11.A6. In Table 11.A1 (for 23 countries only because of unavailability of data for Indonesia and Mexico) in lines designated as (a) we set out the percentage distribution of FDI stocks accounted for by each of the four regions, and also calculate the standard deviation (s.d.) of the distribution. The presumption is that the nearer the s.d. approaches zero (which would mean the distribution of FDI is 25 per cent for each region), the more FDI stock is globalised. We refer to this measure as the *crude globalisation index* (CGI). Taking France as an example, line (a) of column 1 of Table 11.A1 reveals that the largest share of that country's outward FDI stock is concentrated in Europe (its home region) around an (unweighted) average of 56.6 per cent. Adding the next region with the highest share (which in France's case is the Americas) gives a cumulative figure of 91.6 per cent. Adding the third largest region – the Rest of the World – gives a share of 97.4 per cent and adding a fourth – Asia – raises it to 100 per cent.

The data in Table 11.A1 suggest that the majority of FDI by MNEs tends to be of a uni- or bi-regional kind, and this largely accords with Rugman and Verbeke's findings. However, the home region is not always first choice of outward MNEs. In the case of the largest capital exporter, namely the US, Europe is seen to account for the largest share of the outward FDI stock (52.4 per cent) whereas only 19.1 per cent of Japanese FDI was directed elsewhere in Asia. In all, 7 of the 23 countries recorded the largest share of their MNE activity outside their home regions.²³

These observations are confirmed by the s.d. indices. Among the least globalised of the 23 countries (*i.e.* those with the highest s.d.s) are Sweden

and Italy from developed countries, and Brazil, South Africa and Taiwan from developing countries. Among the most globalised are Japan, the US, Australia and Switzerland from developed countries, and Malaysia, Korea and Singapore from developing countries. Rather surprisingly, there is no evidence to suggest that MNEs from developing countries are less globalised than those from developed countries; nor indeed, that small countries are more globalised than their larger counterparts.²⁴

Table 11.A2 presents details on the spatial origins of the inward geographical FDI stock of the 25 countries. Here, among European countries and Canada, there would seem to be a greater regional concentration than in the case of outward FDI. However, for the majority of developing and other countries, the reverse appears to be the case. Some 10 countries recorded the largest share of that investment from outside their home regions. Inbound FDI was the least geographically diversified in the case of Poland, France, Italy, Germany and Sweden; and most diversified in the case of most of the developing Asian countries, Australasia, South Africa and the UK.

4.2 A Set of Adjusted Globalisation Indices

One of several problems with CGIs and their respective s.d.s is that they take no account of the size of the host and home regions receiving or generating FDI stocks. Moreover, the regions, as defined, *include* the countries that are home and host to MNE activities. Consider the outward FDI stock of the US as an example. In 2002 only 28.4 per cent of its outward stock was directed to (the rest of) the Americas, as compared with 52.4 per cent to the European region (Table 11.A1). But if one normalises for the size of the GDP of these regions (excluding the GDP of the US in the case of the Americas²⁵) these percentages change to 54.6 per cent and 24.3 per cent respectively. Lines designated as (b) in Tables 11.A1 and 11.A2 present the *adjusted globalisation indices* (AGIs) for the inward and outward FDI stock of countries, which, we believe, better reflect the relative importance of particular regions to home or host country investors. The final column of Tables 11.A1 and 11.A2 sets out the respective s.d.s.

Comparing the AGIs with the CGIs in Tables 11.A1 and 11.A2 reveals the following two conclusions. First, in the majority of cases, AGIs demonstrate a reduced significance of the region of the home country as a generator for outward FDI, and of the host country as a recipient of inward FDI. In respect of outward FDI this is particularly noticeable for Ireland, Italy, China and Singapore; and in respect of inward FDI for Ireland, Italy, Sweden, Indonesia, Korea and Singapore. These data largely reflect

the omission of the country being considered in calculating the GDP of its home region. Second, relative to the CGIs, the AGIs reveal a lower s.d. (i.e. a higher globalisation index) in the majority of countries (16 out of 23 countries in the case of outward FDI and 18 out of 25 countries in the case of inward FDI).²⁶ The average s.d. for the outward AGIs in 2002 was 22.9 compared with that of 25.3 for the CGI. The corresponding inward globalisation s.d.s were 25.2 and 26.2.²⁷

4.3 Changes Since the 1990s

In Tables 11.A3 and 11.A4 we set out details of the outward and inward CGIs and AGIs for the same countries in 1990. Comparing these data with those in Tables 11.A1 and 11.A2 enables us to assess the extent to which the globalisation of MNE activity might have increased between that year and 2002. The findings we draw are as follows:

1. The extent to which extra-regionalism has increased during this period is somewhat different in the case of inward FDI as compared with that of outward FDI. To give some examples, with respect to inward AGIs, only 8 countries (Australia, Canada, China, Hong Kong, Korea, Malaysia, Mexico and Taiwan) out of 24 (one country less in 1990 due to unavailability of data) recorded an increase in their degree of globalisation (i.e. a fall in their s.d.s). By contrast, in the case of outward FDI, which, of course, is the main interest of Rugman and Verbeke, 14 countries (France, Poland, Spain, Brazil, Canada, US, China, Hong Kong, Japan, Malaysia, Korea, Taiwan, Australia and South Africa) out of 23 countries (for which the data are available) showed increases in their degrees of globalisation, as proxied by a fall in their s.d.s.
2. The average s.d.s for inward FDI rose marginally from 22.5 in 1990 to 25.2 in 2002, whereas those for outward FDI fell slightly from 24.2 to 22.9. *None of these figures suggests any marked trend towards geographical diversification over the past decade.* It is nevertheless true that the majority of non-European countries have increased the share of their inward and outward FDI stocks outside their home regions.
3. The countries that became less globalised, or more regionalised, between 1990 and 2002 were mainly European. While only 3 of 10 European countries (France, Poland and Spain) increased their outward AGIs between these years (i.e. their s.d.s fell), 10 of the 13 countries from other regions did so. The corresponding figures for inward AGIs were 0 and 8. The opportunities offered by the completion of the European internal market, and the opening up of Central

TNI _o	High	Singapore and Sweden	Hong Kong, Netherlands, Switzerland and United Kingdom
	Low	Australia, Brazil, China, Ireland, Italy, New Zealand and South Africa	Canada, France, Germany, Japan, Malaysia, Poland, Korea, Spain, Taiwan and United States
		Low	High
		AGI ^c	

Notes:

- ^a Covers 23 countries for which data for both transnationality index (TNI) and the adjusted globalisation index (AGI) are available.
^b Data for AGI refer to 2002 or latest year available. Please see notes for Table 11.A1.
^c High (low) AGI means low (high) standard deviation.

Source: Compiled by the authors based on data supplied by UNCTAD.

Figure 11.2 Relationship between outward TNI and AGI of selected countries, ^a 2002^b

and Eastern Europe to inbound FDI was almost certainly one of the main reasons for the continued regionalisation of European MNEs in the 1990s (Dunning, 2002).

4. In the Americas, while the share of intra-regional outward and inward FDI of Canada and Mexico remained high between 1990 and 2002, there is little evidence to suggest that the formation of NAFTA caused a divergence of that FDI from other regions. Indeed, the s.d.s for both countries fell over that period.
5. In Asia, while China, Hong Kong, Korea, Malaysia and Taiwan increased their AGIs (or reduced their s.d.s) between 1990 and 2002 (despite the growing attraction of China to foreign MNEs) in respect of both inward FDI and outward FDI, the opposite is true for Singapore.

4.4 Combining Transnational with Globalisation Indices

Combining the two sets of data set out in the sections 'The international (transnational) direct investment position of countries' and 'Globalisation and transnationality indices' of this chapter, we are able to demonstrate the relationship between the extent of inward and outward transnationality and that of globalisation. We shall illustrate our point by considering outward TNIs and AGIs for 2002. Figure 11.2 plots this relationship by classifying countries into four quadrants. The first relates to the group of countries with below average TNIs and below average AGIs. These

TNI _i	High	Hong Kong, Ireland and Singapore	Netherlands, New Zealand and Sweden
	Low	Australia, Brazil, Canada, Indonesia, Japan, Malaysia, Mexico, Korea, Taiwan, United Kingdom and United States	China, France, Germany, Italy, Poland, South Africa, Spain and Switzerland
		Low	High
		AGI ^c	

Notes:

^a Covers 23 countries for which data for both transnationality index (TNI) and the adjusted globalisation index (AGI) are available.

^b Data for AGI refer to 2002 or latest year available. Please see notes for Table 11.A5.

^c High (low) AGI means low (high) standard deviation.

Source: Compiled by the authors based on data supplied by UNCTAD.

Figure 11.3 Relationship between inward TNI and AGI of selected countries,^a 2002^b

countries may be regarded as the least globalised. In this quadrant we place 7 of the 23 countries. These include Australia, Brazil, China, Ireland, Italy, New Zealand and South Africa. The second quadrant identifies countries with below average TNIs and average or above average AGIs. This quadrant comprises 10 countries, among which are France, Germany, Japan, Korea, Taiwan and the US. The third quadrant identifies countries with average or above average TNIs and AGIs. These countries may be considered the most globalised. Four countries – Hong Kong, Netherlands, Switzerland and the UK – are assigned to this quadrant. The final quadrant identifies countries with low TNIs and average or above average AGIs. Only two countries – Singapore and Sweden – are classified to this quadrant.

A similar classification to that just described may be used to relate inward TNIs and AGIs. Figure 11.3 illustrates the position of 23 countries (for which both indices are available) for 2002. It can be seen that, while the classification of the larger developed countries broadly matches that set out in Figure 11.2, there are some noticeable differences. Perhaps the most noticeable of these is the UK, which switches position from being among the least to being among the most globalised countries. The differences are, however, more marked in the case of the smaller developed and developing countries. Sweden, for example, switches from being in the top left hand quadrant to the top right hand quadrant, whereas Hong Kong does the reverse. China switches from the bottom left hand quadrant to

the bottom right hand quadrant, while Korea and Taiwan join the US in transposing from the bottom right hand quadrant to the bottom left hand quadrant. More generally, however, the combined indices of TNI and AGI show less extra-regional diversification in the case of inward FDI than in that of outward FDI.

5. COMPARATIVE ADVANTAGES IN REGIONALISATION OR GLOBALISATION: AN INVESTMENT INTENSITY RATIO

The final set of data we wish to present is intended to reflect the comparative advantage of our 25 countries in investing in, or being invested by, particular regions. Here our hypothesis is that countries tend to most heavily invest in, or be invested by, their home regions, and least in regions most far removed in terms of physical, cultural or institutional distance. Similarly, inward FDI is most likely to be made by firms originating in the same region. A caveat to this hypothesis is that natural resource seeking and some kinds of efficiency and strategic asset seeking FDI tends to be more cross regional in character.²⁸

For this exercise, as we indicated in the introduction to this paper, we widened our classification of regions to embrace six, which Ronen and Shenkar (1985) and Shenkar (2001) have identified as being culturally distinctive. These are described in Appendix 11.A, and are set out in Tables 11.A5 and 11.A6. For each of the 23 countries (24 for Table 11.A6) for the year 2002 we computed regional RICA, or FDI intensity ratios for each of the six regional clusters in respect of both their outward and inward investment stocks.

Our formula for RICA₀ is

$$RICA_0 = \frac{O_{ai}}{O_{at}} \div \frac{O_{wi}}{O_{wt}}$$

and for RICA₁

$$RICA_1 = \frac{I_{ai}}{I_{at}} \div \frac{I_{wi}}{I_{wt}}$$

where 0 and 1 represent the outward and inward stock of FDI, a = a particular country, t = a particular region, t = all countries invested in (or by) a particular region or countries, and w = all making or receiving FDI.

Taking the outward FDI intensity ratios first, Table 11.A5 shows that, whereas in 9 of the 23 countries, the RICA₀ was the highest for their home

regional clusters, this was not the case for some of the leading source countries of MNE activity, namely the US, UK and Japan. The highest $RICA_0$ for these countries were recorded in clusters *other* than their home clusters.

The picture for $RICA_1$ set out in Table 11.A6 is broadly comparable. In 7 of the 25 countries, this ratio was the highest for firms investing in their home regional clusters. These data suggest that the pattern of extra-regional FDI activity is very similar to that set out in earlier tables, except that there tends to be more inter-regional clustering of outward FDI *within* developing countries, than there is in the case of inward FDI.

Table 11.A5 compares the $RICA_0$ s for our sample countries in 2002 with those in 1990. The data suggest that there is a decline in the intra-regional $RICA_0$ in 18 countries – including all the major originators of FDI – and an increase in the case of 5 countries. There has also been a similar fall in the intra-regional $RICA_1$. Again, this trend is consistent with the data on CGIs and AGIs for 16 countries, and an increase in $RICA_1$ in the case of 8 countries (out of 24 countries identified in Table 11.A6). In the case of 5 countries – Germany, the Netherlands, Switzerland, the UK and Brazil – a positive intra-regional $RICA_0$ (greater than 1) in 1990 turned into a negative (less than 1) in 2002; while China and South Africa recorded $RICA_0$ below 1 in 1990 and above 1 in 2002. The corresponding figures for $RICA_1$ were 2 (Ireland and the Netherlands) and 0.

6. ANALYSIS AND CONCLUSIONS

The macro-data presented on both the internationalisation of value added activity by countries and the regional distribution of such activity broadly confirm the micro-data contained in Rugman (2000) and Rugman and Verbeke (2004). The fact that our data show that the geographical distribution of outward FDI is somewhat more dispersed than that found by Rugman and Verbeke is, we think, due to two main reasons. The first is that our data exclude the activities of firms in their home countries – hence the intra-regional ratios are bound to be smaller – and significantly so in the case of large countries like the US. The second is that, in their calculation of the proportion of foreign to total sales of the 382 leading MNEs, exports from the home, as well as the sales of foreign affiliates, were included (hence raising the intra-regional share of total sales); whereas using direct investment data, such exports are excluded from the TNI ratios.

In addition, in this chapter we have been able to add three further dimensions to firm level analyses of the geography of MNE activity. The first is the incorporation of *inward* MNE activity as part of the regionalisation/

globalisation debate. In doing so, we have pinpointed some of the differences between the geography of countries recipient to FDI and that of investing countries. The second dimension is that we have normalised our data on FDI to take account of the size of the GDPs of the regions identified.²⁹ In examining the regional distribution of the inward and outward FDI stock, we have also omitted the country making or receiving any intra-regional investment.

Third, we have extended the Rugman/Verbeke analysis to include an additional measure that, we believe, helps shed light on the regionalisation/globalisation debate, namely a revealed comparative (FDI) index ($RICA$). For this exercise, we chose six main regions based more on their common cultural characteristics than geographical advantage. Our proposition here is that the closer the $RICA$ s in respect of regions identified are to 1, the more globalised is the FDI stock of countries. In doing so, we attempted to assess the extent to which the geographical pattern of FDI was related to psychic or cultural distance; and how this has changed over the 1990s and early 2000s. In doing so, we found that, in 2002, both sets of $RICA$ ratios were highest in the case of culturally similar countries; but that, in the last decade, these ratios had fallen.

What, then, do these data imply for our theorising about the geography of MNE activity and FDI? To what extent is such a geography driven by the strategies of MNEs, and to what extent by exogenous changes in the global economy?

We believe that it is a mixture of both determinants, but that it is primarily a reflection of the latter. This is essentially because, as Table 11.4 reveals, the world's distribution of output and trade is very uneven across regions. Therefore it is not surprising that the geography of FDI is quite concentrated (UNCTAD, 2001). However, because of their significant and growing contribution to world output and trade, the strategy of MNEs is, itself, an influence on these variables.

In our exercise, we adjusted our CGIs to take account of the size of the GDPs of the regions which were both home and host to MNE activity. In doing so, as Tables 11.A1–11.A6 have shown, this increased the geographical dispersion of (foreign based) MNE activity. But there are several other exogenous features which may also affect the geography of FDI. These include the extent and form of regional economic integration (notably in Europe); the role of government policy towards FDI (e.g. the restrictive stance taken by Japan towards inbound MNE activity); the degree of the openness of economies; and the institutional infrastructure and the cultural and ideological mores of regions and countries.

We have further suggested that within regions – as both Rugman and Verbeke and ourselves have defined them – there is a specific 'in country'

Table 11.4 Regional distribution of FDI, GDP, exports and imports, 2004 (%)

Region	FDI inflows	FDI outflows	FDI inward stock	FDI outward stock	GDP	Exports	Imports
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Developed economies	58.6	87.3	72.7	88.5	77.1	65.4	68.4
Europe	34.5	42.4	47.8	58.1	32.6	44.2	42.4
European Union	33.4	38.3	45.2	53.3	31.0	41.7	40.4
Other developed Europe	1.1	4.1	2.6	4.8	1.5	2.5	2.0
North America	15.8	37.9	20.0	24.5	31.1	14.0	19.3
Other developed countries	8.4	7.0	4.9	5.8	13.4	7.2	6.7
Developing economies	36.0	11.4	25.1	10.6	20.6	31.3	28.9
Africa	2.8	0.4	2.5	0.5	1.9	2.4	2.4
North Africa	0.8	0.1	0.8	0.0	0.7	0.9	0.8
Other Africa	2.0	0.3	1.7	0.4	1.2	1.5	1.6
Latin America and the Caribbean	10.4	1.5	8.2	2.8	5.2	4.9	5.1
South and Central America	8.9	2.0	6.4	1.5	4.7	4.6	4.3
South America	5.8	1.4	4.1	1.2	2.9	2.5	1.9
Central America	3.0	0.5	2.4	0.3	1.9	2.1	2.3
Caribbean and other America	1.6	-0.5	1.8	1.3	0.4	0.3	0.9
Asia and Oceania	22.8	9.5	14.4	7.4	13.5	23.9	21.4

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Asia	22.8	9.5	14.4	7.4	13.5	23.8	21.4
West Asia	1.5	-0.0	1.1	0.2	2.5	3.3	2.6
South, East and South-East Asia	21.2	9.5	13.2	7.2	11.0	20.5	18.7
East Asia	16.2	7.3	9.0	5.9	6.9	13.3	12.4
South Asia	1.1	0.3	0.6	0.1	2.0	1.3	1.1
South-East Asia	4.0	1.9	3.6	1.2	2.1	5.9	5.3
Oceania	0.0	0.0	0.0	0.0	0.0	0.1	0.1
South-East Europe and CIS	5.4	1.3	2.2	0.9	2.3	3.3	2.7
South-East Europe	1.7	0.0	0.5	0.0	0.4	0.6	0.9
CIS	3.7	1.3	1.7	0.9	1.8	2.7	1.8

Note: Data for exports and imports cover goods and services.

Source: UNCTAD FDI/TNC database (for FDI data, www.unctad.org/fdistatistics) and IMF and the World Bank (for GDP and trade data).

or 'intra-regional' effect. In other words, MNEs might be attracted to particular sub-regions or countries in a region rather than to the region as a whole. Portuguese FDI in South America is almost entirely confined to Brazil. Australian FDI in Europe is highly concentrated in the UK. Michael Porter's and Michel Enright's work demonstrates how sub-national clusters of very specific economic activities can supply global markets (Porter, 1998; Enright, 2003). While often such FDI represents long established historical ties, and lower psychic or institutional distance, there is a more recent and different reason for 'in country' FDI. Increasingly, in our contemporary knowledge based economy and in cross border M&A data (UNCTAD, 2000), MNEs are engaging in FDI to protect or enhance their technological, organisational and managerial competences. As such assets tend to be highly concentrated in particular countries (rather than in regions), it follows that asset augmenting investment by MNEs is also likely to be so directed.

The 'in country' effect is also likely to vary between sectors. For example, the UK is very much the financial centre of Europe. In Asia, 90 per cent of the region's innovative capacity is centred in Japan. In North America almost all of the pharmaceutical R&D is carried out in the US. As we have already indicated, there is also a great deal of clustering or agglomeration of particular activities intended to serve international markets *within* countries. Many minerals and other natural resources are also not only location bound, but are very unevenly spread across countries.

The point we wish to stress is that, even if the sales or FDI of MNEs are shown to be located in only one or two regions, it cannot be inferred that MNE decision makers deliberately or consciously choose a regional, rather than a global, strategy towards their transactions and value added activities. To our way of thinking, an MNE's strategy towards its locational profile is less demonstrated by the *actual* distribution of its sales and FDI, and more by the extent to which these are relatively more or less geographically concentrated, than that of a country or region's share of world GDP or trade. Here, the data do suggest that this, in fact, is marginally the case, although how far regionalisation may be interpreted as an alternative to globalisation and how far a step towards it remains unresolved.

In the light of these data, do theories of the determinants of MNE activity need to be modified? Our answer would be 'generally no' but our findings do throw up some interesting hypotheses worthy of more research. Thus, while much of the geographical pattern of MNE activity is consistent with received locational theory – and particularly that of the Uppsala School – there are emerging trends which do not fit entirely comfortably into that theory. For example, the data offer little guidance as to whether firms undertake less investment in more distant regions because of falling

ownership or firm specific advantages, or because of the increased spatial or transaction costs involved. Another concerns the role of institutions both in affecting the competitive advantages of firms and countries. For example, Ozawa in his recent book (Ozawa, 2005) has shown that the transfer of institutional advantages by US firms has helped make Japan a more open and desirable country in which to invest. Another relatively neglected area, as identified by Buckley and Ghauri (2004), relates to the geographical implications of the increasing variety and complexity of the non-equity cross border economic relationships involving MNEs, which do not come within the scope of either the Rugman and Verbeke or our own data analyses. Yet often these are an integral part of the strategy of MNEs, and national governments to both exploit and to augment the amount and quality of their resources and capabilities within their jurisdiction. A final challenge to traditional FDI analysis is the recent rapid growth of cross border investment by private equity firms.³¹

As far as the impact of globalisation and related events of the 1990s on the location of MNE activity is concerned, we think the main conclusion of Tables 11.A1–11.A4 is that it is the extension and deepening of European economic integration which has been the main factor leading to more rather than less FDI by European firms in their home regions. Again, we do not believe this is evidence of a less globalising strategy on the part of the MNEs any more than we would aver that the increasing FDI now being directed to China and India is making for a more globalised strategy. What both are doing is to affect the conditions under which firms can choose to better exploit their ownership advantages and locational strategies (Dunning, 1998).

On the other hand – and perhaps rather surprisingly – there is little suggestion that the wave of intra-Triad M&As in the 1990s has affected the geographical pattern of either outward or inward FDI. Nor, except in the case of Korea and Japan, is there much evidence of any asset augmenting FDI affecting the locational profile of Third World MNEs. Perhaps, with the growing attractions of Chinese and Indian economies to foreign investors, and the fact that the main thrust of European integration has been completed, this will show itself in the coming decade. Certainly we would hypothesise that current trends in the world economy are likely to lead to a more dispersed rather than geographical distribution of MNE activity and FDI; and to a realisation of more globally oriented transactions and valued added by MNEs.

There remains much more macro level data mining that could be done. This is a rich avenue for further research into the globalisation/regionalisation debate. The role of increasing regional integration (particularly concerning an enlarged EC, and plans to extend NAFTA and ASEAN)

is one such area of research. Another concerns splitting the FDI data by activities and functions, by forms (M&As v. greenfield), by type (vertical and horizontal) and by motive for FDI. Better use might also be made of the data for examining differences in the geography of FDI by different groups of countries, e.g. developing cf. developed, and so on (Dunning, 2004).

In short, while we agree with Rugman and Verbeke that a great part (although we would find it difficult to accept a figure of 90 per cent) of FDI is currently undertaken by the world's leading 500 MNEs, and also that the data on sales provide one of the most useful measures of the geographical distribution of economic activity, we consider such micro-data or firm level data need to be supplemented by the kind of macro or country level data set out in this paper and in the publications of national governments and supranational entities, and most noticeably those of UNCTAD.³² Although still imperfect, the coverage and quality of such data are improving all the time. We believe international business scholars should make much more use of them than they do.

NOTES

1. Rugman and Verbeke note that not all these 500 firms are multinational, but claim the majority produce and/or distribute products and/or services across national boundaries.
2. The three regions were North America (US, Canada and Mexico), Europe (including Central and Eastern Europe) and Asia-Pacific. The difference between the share of sales accounted for by these three regions and 100 per cent represents that accounted for by other regions, for example Latin America, Africa and the Middle East. In their analysis, Rugman and Verbeke did not consider this group of regions as comprising a fourth, that is, 'other' region. Yet in the case of some of the firms identified, they recorded more of their sales in this region than in some of the three identified.
3. Rugman and Verbeke defined global firms as those with at least 20 per cent of their sales in all three regions but less than 50 per cent in any one region.
4. Apart from that, see one of the authors (Rugman, 2000). Drawing upon their own figures of the global sales of the largest 500 firms and relating these to the estimates of UNCTAD (2005), we believe this is a considerable exaggeration of the true figure.
5. To give just two examples, the export propensity of parent firms of US and Japanese MNEs was 9 per cent (1999) and 22 per cent (2001) respectively (United States Department of Commerce, 2004; Japan, Ministry of Economy, Trade and Industry, 2004).
6. Based on the proportion of the global sales, assets, value added or employment of firms accounted for by their foreign affiliates.
7. Most of the data on FDI and activities of MNEs collected by UNCTAD are available from www.unctad.org/fdistatistics. UNCTAD collects these data directly from national governments. For detailed explanation on sources and methodologies of data, see the definitions and sources in the *World Investment Reports* (www.unctad.org/wir) and country profiles contained in the *World Investment Directories* (www.unctad.org/directories).
8. Occasionally, where data are not available, for 23 or 24 countries.
9. Which, in essence, are gravity indices (Petri, 1994).

10. The few exceptions include the US and Japan.
11. In their analysis Rugman and Verbeke (2004) did not calculate this particular ratio.
12. The foreign assets of the largest 100 MNEs accounted for approximately 46 per cent of the total outward FDI stock in 2004 (UNCTAD, 2005).
13. The concentration of MNE activity among the largest firms would appear to have fallen since 1990. The corresponding transnationality values reported by UNCTAD for that year were 27 per cent, 21 per cent and 21 per cent respectively.
14. This latter is by no means an ideal measure as it relates a financial flow to capital expenditure. But it is the best measure we have. Data from the US on the ratio of foreign to total capital expenditure of US firms confirm that each of the ratios are similar.
15. We chose to take an average of a seven year period, primarily to help even out fluctuations caused by 'lumpy', for example M&A FDI's.
16. Both of which are extrapolations of the actual data supplied by some of the leading world international investors.
17. It should be observed that such multiple measures have two drawbacks. The first is that the different elements of internationalisation represent different dimensions. The second is that they are assumed to be equally important.
18. Estimated by UNCTAD at two-thirds between 1990 and 2004 with the assumption that one dollar of cross border M&As is equivalent to one dollar of FDI flows as reported in respective statistics.
19. See EIU (2003) for an analysis of the significance of these determinants.
20. Exceptions are where firms and countries that recorded lower than average TNI ratios have increased their participation in the global economy faster than those which record higher than average ratios. On the other hand, a rising average TNI ratio might conceal the cases of firms and countries whose ratios have not risen at the same rate.
21. Because of the wide spread of both TNI's and TNI's, we have calculated the median rather than the arithmetic mean as the average.
22. South Africa is a large recipient in Africa for FDI. Thus this country is selected for the analysis and included together with Australia and New Zealand under the 'other' category.
23. In the case of exports from 25 countries, the home region was the largest destination of exports from all 25 countries except 2 (Australia and New Zealand) in 2002.
24. The export data also suggest a similar pattern for globalisation and regionalisation. Japan, Korea, New Zealand and the US are most globalised (lowest s.d.) and Mexico, Poland and Canada the least globalised (highest s.d.s).
25. By weighting the share of outward FDI stock in particular regions by their GDPs less that of the investing recipient country and recalculating their share of total adjusted FDI stock.
26. More particularly, each of the major European and North American outward and inward foreign investors recorded either a lower or the same AGI as compared with their CGI.
27. A similar pattern is also observed for exports from these major host/home countries. The average s.d. is 25.1 for CGI and 24.3 for AGI in 2002.
28. Especially vertical FDI in the case of developed/developing country FDI and asset acquiring FDI in the case of intra-Triad M&As.
29. We accept this could be done in any explanation of the extent of globalisation by countries, but we consider it useful to do so in the description of the data. By contrast, we would consider the particular features of the investing or recipient countries (e.g. their size income levels) as an explanatory variable.
30. Though, as UNCTAD (2005) shows, such capacity is becoming more dispersed.
31. According to UNCTAD (2006) private equity and hedge funds accounted for 24 per cent of the value of all cross border M&As in 2004 and 2005.
32. See their various *World Investment Reports* (www.unctad.org/wir) and *World Investment Directories*.

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