



CENTRE FOR **I**NTERNATIONAL **B**USINESS **S**TUDIES

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INTERNATIONALIZATION
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WHAT DO INTERNATIONALISATION INDICES MEASURE?

Grazia Ietto-Gillies with Tannis Seccombe-Hett¹

Abstract

The paper analyses two different indicators of internationalisation. The transnationality index developed by the UNCTAD links the internationalisation process to the dichotomy home versus foreign production. The network spread index considers internationalisation in relation to the number of countries in which the companies have production facilities. Following an introduction to the two indicators, estimates are considered and comparisons made at the level of countries and industries. More detailed data are developed for nine of the largest UK TNCs on both indicators. An analysis of meaning and significance and of the relative advantages of the two indicators follows.

¹ Ms Seccombe-Hett has assisted with tables 1, 2, 6, 7 and with editing an earlier version of the paper. I would like to thank Howard Cox for comments on the earlier version.

I. Introduction

Integration across frontiers can take many forms and involve a variety of agents. At the macro level this is reflected in the many components of integration across countries. They range from trade to direct production - via foreign direct investment- portfolio investment, transfer of incomes from investment or labour, royalties for transfer of technology, alliances between companies located in different countries. The agents responsible for these integrative activities are many and include uninational companies (UNCs) who may be responsible for exports, transnational companies (TNCs), governments, individual citizens. Labour as such can contribute towards integration via permanent or temporary migration and corresponding transfers of incomes.

Nonetheless the TNCs are generally considered to be the agents most responsible for international integration in modern economies. They are - directly or indirectly - involved in all the components of integration and therefore they are the focus of attention in any study of internationalisation processes and trends. Yet there is no single way of assessing the degree to which companies or countries are internationalised: it all depends on what patterns and aspects of internationalisation we choose to emphasise and what variables we consider relevant to express those patterns and aspects.

This paper deals with two specific indicators of internationalisation applied to companies. It will stress how behind the two indicators are relevant conceptual elements regarding behaviour of companies, their relationship with other economic players and the possible impact of their activities on the macro economy. To these two indicators we now turn.

The 1995 issue of the *World Investment Report* by UNCTAD, DTCI, chapter I introduces a composite index of transnationality, which attempts to assess the degree to which transnational corporations are engaged in foreign activities compared to home activities. It is designed to give a quick synthetic view of the position of different companies /countries/ industries in the internationalisation process. Estimates are given for each of the 100 world largest transnational corporations (TNCs), as well as for a sample of 50 small and medium -sized TNCs from various developed countries. At the basis of this index - which we shall refer to as the **transnationality index** - is the relationship between home and foreign activities for any particular company. Thus a company is considered to be very internationalised if the ratio of its foreign to domestic activities is very high, independently of whether those foreign activities take place in one single foreign country or in many of them.

A different indicator of internationalisation has been developed and values calculated in Vernon (1979). The indicator assesses the overall spread of activities in terms of the number of countries in which the TNCs have direct linkages (affiliates/subsidiaries). A company is therefore assessed as having a high degree of internationalisation if it operates in many foreign countries. Thus at the basis of this indicator - which we shall refer to as the **network spread index** - is an attempt to measure the overall geographical spread of TNCs subsidiaries according to the number of countries/nations/states in which they are established. Values for the indicator for 1975 and for many countries can be calculated from data in a study of the Commission of the European Communities (1976, table B). An analysis of the network spread and estimates for the UK and for selected years between 1963 and 1990, are also given in Ietto-Gillies (1996).

The first indicator - the transnationality index - focuses on the dichotomy home/foreign activities, the second indicator - the network spread - focuses on the spread of activities across countries/nation/states of the world.

This paper will proceed by presenting, in sections two and three, some results for these two indicators. Section four discusses the meaning and interpretation of the two indices. Section five compares the two indices for a sample of nine large UK TNCs. The last section is on conclusions.

II. The UNCTAD index of transnationality

This index is calculated as the average of three ratios: the shares of foreign sales in total sales, foreign assets in total assets and foreign employment in total employment. The three shares are allocated the same weight, and the index is presented as a percentage. UNCTAD, DTCI gives values for the index for the 100 largest world TNCs and for a selection of 50 small and medium-sized TNCs from developed countries. The 100 largest companies in the sample originate from 13 developed countries and cover a variety of industries. The average value for these 100 companies is 47 per cent. The highest value (92 per cent) belongs to Nestle', the food company whose home country is Switzerland, and the lowest value (13.5 per cent) is given for AT&T, the electronics company located in the US. As regards the values for the 50 small and medium-sized TNCs, the average of the index is given as 33 per cent. The highest value (79.9 per cent) in this set belongs to Battle Mountain Gold Company, a gold mining, processing and exploration company located in the US. The lowest value (1.6 per cent) is given for Nishio Rent All Co. Ltd, a Japanese company whose business is the rental of construction equipment.

We shall concentrate on the results for the 100 largest world TNCs. Table 1 gives the averages of the index by country of origin of the TNCs. Some countries - namely Australia, Belgium, and New Zealand - are represented by one company only. The largest number of companies per listed country are those of the US (32 companies), Japan (21 companies), Germany (11 companies) and France and the UK (9 companies each). Table 2 reports the average value of the transnationality index by industry. The industries with the largest representation are: electronics and electrical engineering (17 companies), motor vehicles and parts (13), petroleum and petroleum refinery (11) and beverages, food tobacco (9)². The ranking by countries and industries - tables 1 and 2 respectively - is affected by instances of specific companies (for example Solvay and Thompson Corporation).

The results are both country and industry-specific. On the issue of country-specificity the UNCTAD report states (p. 25):

The transnationality index.... shows that TNCs from small economies (in terms of GDP), such as Belgium, the Netherlands, Sweden and Switzerland, have a strikingly larger proportion of their activities abroad than TNCs based in large economies, such as France, Germany, Japan and the United States. Obviously, the size of their domestic markets is a limitation and provides an additional incentive to expand abroad. Examples are Solvay and ABB, each with 90 per cent of their activities abroad. Generally, TNCs from Japan rank low on the transnationality index, although

² The number of industries in table 2 is less than the number in the original UNCTAD table due to aggregation of companies belonging to similar industries.

this may be partly due to the higher weight of yen-denominated assets at a time when that currency is strong.

I would like to add the following comments on the results in table 1. More than 80 per cent of companies in this sample of the largest 100 are concentrated in five countries only: US, Japan, Germany, UK and France. The average transnationality index for these countries varies from approximately 69 in the UK to 33 in Japan. In terms of size, these countries are a mixture of smallish (UK) to very large (US). The UK shows striking results having both a large value for the index and a large number of companies from within the world top hundred league. Looking at the results for all 13 countries, one gets the impression that size of the domestic market is only one of the elements affecting the index. Other explanations should be sought in the historical background of the home country; for example a history of foreign investment dating back to a colonial past for countries such as the UK, France, Netherlands and Belgium. Another element is the fact that some countries may be chosen as “convenience” homes for companies due to their regulatory regimes (Switzerland). In such cases the share of home activities tends, *ceteris paribus*, to be low.

On industry-specificity the UNCTAD report writes (p. 24):

...the transnationality of the top 100 TNCs as captured by this index is not correlated at all with their size measured in terms of foreign assets. Industry differences play a more important role. By industry, chemical TNCs score highest on the transnationality index,...followed by food... . Firms in electronics -the largest industry in terms of foreign assets - fall in relative importance..., and trading firms have the lowest ranking... .

My impressions from the groupings and results in table 2 are the following. Fifty per cent of companies in the top 100 league belong to: electronics and electrical engineering, motor industry, petroleum and beverages and food. Chemicals, with seven per cent of companies has a high index of transnationality (61 per cent). Industries have a strong specificity in terms of both the number of companies from specific industries belonging to the “top 100 league” and the ranking on the value of the index.

II. The network spread index

This index measures the number of direct “linkages” - subsidiaries, associates or both - of each company within a set band in terms of number of countries in which the company operates. In the studies reported below it is given as number of “linkages” in <6 countries, in 6-20 countries and in 21+ countries.

The Commission of the European Communities (1976, table B) conducted a wide-ranging study of all TNCs, large and small at a particular point in time, the year 1975 for all OECD countries. By suitable adaptation of the results, we can arrive at a comparison of the network spread of operations across countries. The adapted results are presented in table 3 which concentrates on the EU countries and on seven non-EU selected countries. Results for the current EU members are reported first, followed by the other developed countries. The USA has the highest share of companies in the sample (28 per cent) followed by the UK (18 per cent) and the Federal Republic of Germany (14 per cent). In 1975, the countries reported in table 3 had, on average, 79.3 per cent of their MNCs with affiliates in less than 6 countries, and only 20.7 per cent in 6+ countries. The

countries with a geographical network well above the average are: Sweden, the USA, the UK and France. They have, respectively, 28.6, 25.6, 24.6 and 24.6 per cent of the affiliates in 6+ countries. The listed EU countries had together 52 per cent of the companies in the sample. In terms of their network spread, 78.8 percent had linkages in less than six countries and only 3.8 percent in 21+ countries.

Vernon, 1979 analyses trends in the globalisation power of TNCs in the 1950s and 1970s by looking at the network spread of foreign subsidiaries of the largest MNCs in the US and Europe. He uses data from the Harvard Multinational Project. An adaptation of his results is presented in table 4. They show that the majority of the largest TNCs increased their geographical network of operations considerably between the 1950s and 1970s. Specifically, 76 percent of US companies and 86 percent of European ones had a network in less than 6 countries in 1950. The network widened through time, and in the 1970s it shows 95 and 77 per cent of US and European companies, respectively, having subsidiaries in 6 or more countries.

The differences between the results in tables 3 and 4 are partly due to the type and size of samples (all TNCs are represented in table 3 only the largest ones in table 4), partly to the number of countries included, partly to the year to which the observations refer and partly to the type of industries and “linkages” involved. Vernon’s study refers to manufacturing industries only and the linkages are considered in terms of their subsidiaries only, while in the study by the Commission we have TNCs from all sectors and their linkages include both subsidiaries and associates. Nonetheless it is interesting to note that in the 1970s the majority of the largest US and European manufacturing companies (87 per cent) had subsidiaries in 6+ countries according to Vernon’s data. The figures in

table 3 related to all companies large and small - and from all sectors - give a different picture: only 21.2 percent of European companies and 25.6 per cent of US ones had affiliates in 6+ countries.

A more recent study (Ietto-Gillies, 1996) follows the trend in the network spread of affiliates of the largest UK TNCs over the last 30 years. The results are reported in table 5. They show that in 1963, 23 percent had affiliates in less than 6 countries and only 20 percent in more than 21 countries. By 1990 the corresponding percentages are 3 and 72 respectively, showing a clear increase in the spread of affiliates. These results for the largest TNCs are corroborated by the results - not reported here - for the overall geographical spread of UK FDI in the same period (Ietto-Gillies, 1996). Note the considerable difference between the results for the UK in table 3 and in table 5 for the years 1970 and 1980. Table 3 gives only 3.5 per cent of companies as having a network in 21+ countries, while in table 5 the corresponding value is 70 per cent and over. The difference is due to the fact that the sample of companies in the two tables is different. Table 3 refers to all TNCs, large and small, while table 5 refers to the largest UK TNCs. Thus the difference in the value of the network spread indicators is due to the impact of smaller TNCs: as expected, these have a more narrow geographical/countries network.

The overall inference from all the results of the network spread indicator reported in tables 3, 4 and 5, is that the largest companies have a much wider spread leading to the conclusion that size of the company and international spread of activities are related. This result is consistent with expectations.

IV. Meaning and significance of the two indices

The two indices have different conceptual and operational features. In terms of the conceptual framework there are two issues: (a) the aspects of TNC's activities on which the index concentrates, and (b) the geography of internationalisation. At the operational level we may want to consider which variables are chosen to represent those aspects of the internationalisation process.

The UNCTAD transnationality index concentrates on both demand and supply side of internationalisation: the variable related to sales captures demand and markets, the variable related to assets and employment capture the production/supply side and its location. This composite nature gives a good feel for the overall interest of companies in foreign countries. However, from the point of view of the home country - or indeed the foreign countries - it does not allow us to distinguish between the locations where markets are and those where production takes place. Thus the possible dichotomy location of production - and thus employment - at home versus abroad is not obvious. It can, of course, be captured by decomposing the index into its three separate elements. As regards the geographical configuration, the index concentrates on the dichotomy home versus foreign countries.

The network spread index considers the overall spread of countries rather than the home/foreign configuration. This index relates to the location of activities in general not to the value or "quantum" of those activities. Similarly to the transnationality index it does not distinguish between the propensity to spread

sales across countries and the propensity to spread production facilities. Some of the linkages are sales points, some are production plants; some are large in terms of value added and/or employment, some are very small.

The two indices are trying to assess different aspects of internationalisation. The UNCTAD index looks at internationalisation as a dichotomy in the location of business interests and activities between home and foreign countries. Thus it assesses the percentage of activities which are not in the home country of the TNC. At the micro level the index tells us something about the extent to which the TNCs' business and interests are outside the home country. The reasons for a higher foreign projection could be many. They range from a desire to locate in countries where raw materials can be found, to bypassing trade barriers, to securing new or established foreign markets through direct production. There are many situations in which foreign markets are more easily captured and/or maintained through direct production than through exports. Another important element in the home/foreign dichotomy is the fact that some countries are chosen as convenient locations for holdings due to their regulatory and fiscal framework in relation to companies.

What is the significance of such indicator for the home country of the TNCs? In any interpretation and conclusion we must bear in mind that we are dealing with the largest only companies; their size and growth is bound to be linked to their foreign operations. The more so if the companies originate from small countries where the scope for growth via domestic-only markets may be limited. In theory high foreign sales are compatible with low foreign production if the company produces at home and exports. However, in practice new markets are secured partly through a production presence where the market is. Moreover, new locations may also facilitate exports to third countries which might have been

more inaccessible - geographically or politically - from the home country base. An example of this is the location of many Japanese companies in the UK which allows them to jump barriers to the markets of other EU economies.

At the macro level, a high average index of transnationality is an indication of a high propensity for home-based TNCs to invest abroad. Whether this is the outcome of factors which are industry-specific, regulation-specific, or specific to country size is something that can be analysed on a country-by-country and/or industry-by-industry basis. However, in all cases a very high propensity to do business away from the home country has a significant impact on some structural features of the macro economy, and on the possible effectiveness of policies. Among the structural features which may be affected in the domestic economy are the following. First of all is the industrial and geographical structure of trade. Transnational companies as a whole are known to have a high propensity to trade in general, and to engage in considerable amount of intra-firm trade. The existence of a large number of companies whose production facilities are largely abroad may influence the direction, structure and pattern of trade. This, and the related issues of transfer pricing to which it gives scope, may influence the structure of the balance of payments. Another structural element with very significant implications for the balance of payments is the by-product of large outward foreign investments in relation to the size of the country: the amount of inward foreign earnings from investment. These can be particularly significant for countries with a very long tradition of foreign direct investment. For example, for the OECD countries as a whole, the average flow of earnings from portfolio and direct investment in the last two decades outstrips the combined flow of foreign direct investment and portfolio investment (OECD, 1994: 19).

Thus and *ceteris paribus*, a high index of transnationality is an indication of considerable structural impact by TNCs on the home country which can also have policy implications. Some of these may be linked to the possible effects on the balance of payments just mentioned, some to the structure of trade and some to the effectiveness of industrial policy.

The network spread indicator tells us something about the propensity of companies to spread their business wings across the world as a whole. In how many countries are they operating? At the micro level, at the level of companies strategies, how does this affect their propensity to locate their new investment? How does it affect their competitive power and strategies towards rivals? Vernon (1979) argues that this indicator shows an increased potential for “global scanning” on the part of TNCs, and that this affects their strategies *vis-à-vis* location at home versus abroad. He uses the results to argue that the changed economic environment of the 1970s may have affected the operations and sequence of the international product life cycle. Dunning (1977 and 1981) in his analysis of ownership advantages includes multinationality as one of the elements that gives an advantage to companies. Cowling and Sugden (1987) argue that a high degree of internationalisation gives TNCs “detection power” which they can use in dealing with rivals and labour. In their analysis, a high degree of transnationalism can lead to increased monopoly power with effects on the macro economy. The effects of a large spread of transnational activities on labour are considered in Ietto-Gillies (1992: ch.14) where it is argued that a wide spread of activities by TNCs leads to the fragmentation of labour employed by the single company, with effects on labour’s strength and ability to organise. This is due to the fact that while companies are able to plan and organise themselves internationally, labour has, so far, been unable to organise beyond the confines of the single nation.

At the macro level, a high degree of network spread of TNCs may raise the same issues we discussed in relation to a high index of transnationality both in terms of effects on the economic system and policies implications. Moreover, companies operating in many countries, while able to spread their risks wider, may also be able to profit from the knowledge of wider opportunities not only to strengthen their position towards rivals and labour, but also in their bargaining with governments. Institutions which are global in their ability to plan, devise strategies and organise, face institutions which - by their own nature - are national, including governments.

V. A comparison of results for the two indices

Table 6 puts together various indicators for the largest nine UK companies. The value of assets, sales and index of transnationality are taken from UNCTAD, DTCI (1995: table I.7 pp. 20-23). The data refer to 1993. I have calculated the network spread for 1990. This is part of a larger work, some of whose results are in Ietto-Gillies, 1996. The network spread indicator, as already mentioned in the previous sections, assesses the geographical (by nations/states) spread of the TNCs' operations by giving the number of countries in which they have direct business activities. It is related to the number of affiliates, not to the value of investment, assets, sales or employment in those affiliates.

A few specific points on the results in table 6. The nine UK companies have an average index of transnationality higher than the average for the top hundred in the UNCTAD list as already noted in section two. The analysis by industry leads to the following comments. RTZ, a mining company, has most of its activities

outside the UK as shown by the high value for the index of transnationality (almost 85 per cent); however the affiliates related to these activities are concentrated in relatively few countries as shown by the low value - compared to the average - for the network spread (38 countries). The two companies whose major activities are listed within the food industry (Unilever and Grand Metropolitan) have very similar values for the network spread (52 and 50 countries respectively). The highest network spread is for the companies in the petroleum (Shell and BP) and tobacco industries (BAT): in all three the search for new markets for their products may have led to a large network spread and conversely the involvement in a large number of countries helps to locate in new ones.

Table 7 gives correlation coefficients for the variables whose values are reported in table 6. The high correlation coefficient (0.88) between total sales and total assets is as expected. Assets and sales are correlated to the UNCTAD index by negative coefficients of -0.49 and -0.39 respectively. Both the values and the sign of the coefficients do not - technically - come as a surprise given the fact that these two variables are each one of the three components of the index, and that their overall value for the company (as in table 6) appear on the denominator of the three components of the index.

Though the correlation coefficients of the UNCTAD index with total assets and sales are in accordance with the mechanics of the way the indicator is constructed, it is nonetheless surprising and counterintuitive that the size of the companies - measured by the scale of sales and assets - should be negatively correlated to internationalisation. In contrast to this, the two coefficients of correlation for network spread and assets, and network spread and sales show values of 0.70 and 0.85 respectively. This is a clear indication of strong

correlation between size of the company and international spread of their activities. Those companies that manage to capture more locations for their production/markets are also those that can reach very large size. Conversely, the very large companies can afford to try operations in more and more countries. The existing geographical breadth of their operations and the historic international background give them intangible ownership advantages which put them in a strong position to penetrate new locations. Whether we call this “detection power” or power of “global scanning” it amounts to a position of strength due to the knowledge of different locations. Equally, given their size, further growth can be achieved through new locations as well as, possibly, new products. In any case, size seems a good predictor of the geographical/countries spread of operations and viceversa.

It is worth noting that the UNCTAD index and the network spread have very low correlation coefficients between themselves as is to be expected since they measure different aspects of internationalisation. Location away from the home country does not necessarily mean location in many countries. The motivations and opportunities for locating in many countries may be different from the motivations for locating in a country other than the home one. This is particularly evident in view of the above discussion about the motivations for locating away from the home country in relation to its size or the regulatory regime within it.

VI. Conclusions

Following a general discussion on internationalisation, the paper has considered two different indicators of internationalisation: the UNCTAD index and network spread. They correspond to two different approaches to the analysis of

internationalisation. The index of transnationality focuses on the dichotomy home versus foreign involvement. The motivations and opportunities for business activities away from the home country are many and some have been mentioned in section two. The network spread indicator has been linked to strategies of companies and to their power *vis-à-vis* rivals, governments, labour. A full comparison of specific results of the two indicators has been given in section V for nine large UK companies operating in various industries. It shows that the size of company and spread of activities in many countries are highly and positively correlated; however, this is not the case in relation to the transnationality index.

The paper stresses that measuring internationalisation by a simple indicator is very tricky. Any indicator must be used with caution and the underlying theoretical implications of each indicator must be clearly spelt out. Both indicators presented have their usefulness provided we are clear about what we want to use the indicator for. One point to note is that it would have been useful to have network spread indicators based on values (of investment or assets or sales or employment) besides the ones based on the number of affiliates. Current available data does not allow this. Nonetheless, the results presented and the comparisons between specific results from the two indicators may help to clarify their scope in terms of usefulness for strategies and policies.

Both types of indicators are useful in assessing the effects of domestic TNCs on trade, balance of payments, and in the design and implementation of industrial policy. The indicator of geographical spread of activities can assist in the assessment of the competitive environment in specific industries and on the bargaining power of companies versus governments or labour in those industries.

Table 1. UNCTAD index of transnationality for the 100 largest world-wide companies by country, 1993 (percentages)

Country	Number of companies	UNCTAD index
Belgium (Solvay) **	1	88.30
Switzerland	5	84.58
Canada	3	79.17
Sweden	3	73.80
Netherlands	3	68.93
UK	9	68.59
N Zealand (Fletcher Challenge)**	1	57.20
France	9	54.01
Germany	11	45.74
US	32	36.70
Italy	3	35.63
Japan	21	32.99
Australia (BHP)**	1	28.70
Total number of companies	102	
Average, all companies		47.48

Source: derived from UNCTAD, DTIC, ch. I, Table I.7: 20-23

* *Two companies included here have headquarters in both the UK and the Netherlands (Shell and Unilever); they have been counted as nationals of both of these countries.*

** *For those countries represented by one company only; the name of the company is included in brackets*

Table 2. Average index of transnationality by industry. Largest 100 world companies. 1993. Percentages

Industry	Number of firms*	UNCTAD index of transnationality
Publishing and Printing (Thompson Corp.)	1	91.30
Building materials	3	71.90
Tobacco (BAT Industries)	1	66.40
Pharmaceuticals	3	63.40
Rubber and plastics	2	63.20
Mining, forestry products	4	62.35
Chemicals	7	61.00
Beverages, food and tobacco	9	54.24
Computers	4	51.13
Soaps and cosmetics (Proctor & Gamble)	1	50.50
Petroleum, petroleum refining	11	46.78
Aerospace (United Technologies)	1	44.10
Electronics, electrical engineering	17	43.76
Machinery, telecommunications	3	42.37
Metals	7	41.77
Motor vehicles and parts	13	37.62
Scientific and photo. equipment	2	35.15
Restaurants, diversified services	3	33.37
Trading	7	29.33
Paper (International Paper)	1	25.00
Total number of TNCs	100	
Average for all industries		47.21

Source: derived from UNCTAD, DTCL, ch.I, Table I.7: 20-23.

** For those industries represented by one company only, the name of the company is given in brackets.*

Table 3. Multinational companies and the geographical spread of their affiliates - EU and other developed countries, 1975 (percentages)

Country of Origin of MNC	Total affiliates	Percentage of Total	Percentage of MNCs with links in:		
			<6 countries	6-20 countries	21+ countries
France	565	6	75.4	20.0	4.6
Belgium	252	3	81.0	16.3	2.7
Netherlands	467	5	83.2	14.7	2.1
F.R. Germany	1 222	14	80.8	16.9	2.3
Italy	213	2	85.0	8.5	6.5
UK	1 588	18	75.4	19.3	5.3
Ireland	32	...	100.0	0.0	0.0
Denmark	137	2	77.4	21.2	1.4
Luxembourg	56	1	82.1	16.1	1.8
Portugal	10	...	90.0	10.0	0.0
Spain	35	...	82.9	17.1	0.0
Total EU*	4 577	52	78.8	17.4	3.8
Australia	228	3	93.0	6.6	0.4
Canada	268	3	92.2	7.1	0.7
Japan	211	2	80.6	17.1	2.3
New Zealand	117	1	96.6	3.4	0.0
Sweden	301	3	71.4	22.6	6.0
Switzerland	756	8	89.7	9.3	1.0
USA	2 567	28	74.4	21.2	4.4
Total above countries	9 025	100	79.3	17.2	3.5

Source: Adapted from Commission of the European Communities, 1976; Table B: p.39.

* Greece is not included in the study

Table 4. Geographical network of foreign manufacturing subsidiaries of largest MNCs - USA and Europe, 1950 & 1970s (total and percentages)

Area of Origin of Company	Year	Number of companies in sample	Companies with a network in					
			< 6 countries		6-20 countries		21+ countries	
			total	%	total	%	total	%
USA	1950	181	138	76	43	24	0	0
	1975	181	9	5	128	71	44	24
Europe	1950	135	116	86	16	12	3	2
	1970	135	31	23	75	56	29	21
USA + Europe	1950	316	254	80	59	19	3	1
	1970	316	40	13	203	64	73	23

Source: Adapted from Vernon, 1979.

Table 5. UK largest TNCs in manufacturing and mining: network of affiliates abroad by number of countries, 1963-1990 (total and percentages)

	Companies with a network in					
	< 6 countries		6-20 countries		21+ countries	
	total	%	total	%	total	%
1963	10	23	25	57	9	20
1970	0	0	14	30	32	70
1980	1	2	20	36	35	72
1990	2	3	16	25	45	72

Source: Ietto-Gillies, 1996: table 1, p.200.

Table 6. Nine Large UK Companies. Assets, Sales, Index of transnationality, Network Spread and Percentage of Linkages. 1990's

Company	Industry	Total Assets (\$billion)	Total Sales (\$billion)	UNCTAD Index (%)	Network Spread (No. of countries)
Shell	petroleum	100.8	95.2	63.1	96
BP	petroleum	28.1	52.4	72.2	88
Unilever	food	24.7	40.0	58.8	52
BAT	tobacco	50.5	33.2	66.4	75
Hanson	building materials	37.9	15.4	58.1	32
Grand Metropolitan	food	14.7	10.2	74.6	50
Glaxo	pharmaceuticals	11.1	8.0	72.8	57
Cable & Wireless	telecommunications	9.7	6.5	66.6	28
RTZ	mining	6.8	5.3	84.7	38
Averages (approx)		31.6	29.6	68.6	57

Source: Assets Sales and Index of Transnationality: UNCTAD, DCTI, 1995, Table I.7: 20-23; Network Spread, calculated from Dun and Bradstreet, 1990.

Table 7. Correlation coefficients

	Total Assets	Total Sales	UNCTAD Index	Network Spread
Total Assets	1.00	0.88	-0.49	0.70
Total Sales		1.00	-0.39	0.85
UNCTAD Index			1.00	-0.07
Network Spread				1.00

Source: Assets Sales and Index of transnationality: UNCTAD, DCTI, 1995, Table I.7: 20-23; Network Spread, calculated from Dun and Broadstreet, 1990.

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