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**Players and Driving Forces in World Insurance Services:
Locations and Governance**

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ABSTRACT

This paper has two objectives. The first is the documentation of the relative importance of the largest insurance or reinsurance companies in the world and changes that may have occurred in the past fifteen years. The second objective is to identify some of the factors that may explain the increased internationalization and most-favoured locations of insurance groups.

The results of this study have two important implications. First, they indicate that location-specific advantages such as size, cultural distance, does provide an explication of the internationalization of insurance firms. Second, they show that good governance has a strong impact on the choice of countries by insurance firms.

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Players and Driving Forces in World Insurance Services: Locations and Governance

1. Introduction

Recent years have seen a rapid growth in global trade, foreign direct investment (FDI) and portfolio investment in the services sector. All services industries that, until recently, were largely national, are becoming transnational. All countries are affected by the rise of services FDI and the broad-based growth of transnational corporations (TNCs) and European (EU) TNCs are taking the lead (UNCTAD 2004).¹ The insurance industry has also succumbed to the general trend towards global markets and risks (SwissRe 2000)

Fifteen years ago, a United Nations study² revealed that the United States was the single most important home country for service TNCs. In the second half of the 1990s, EU source TNCs, having acquired experience within Europe, expanded into over countries in pursuit of the more ambitious goal of having a global presence.

The United States TNCs still have a strong presence in many services, but they are less dominant than 15 years ago, and in some industries they no longer occupy leading positions. In insurance, the home country composition of the largest TNCs has changed dramatically. European TNCs have taken over the lead from the United States and Japanese firms. The rise to prominence of European TNCs has occurred in parallel with their increasing participation in cross-border mergers and acquisitions (M&As) (SwissRe 2001).

Market-seeking motivations and strategies dominate TNCs activities in services, but integrated international production networks are also emerging as efficiency-seeking TNCs take advantage of the growing tradability of many service products. A large group of new TNCs has emerged in service industries that are new for FDI – notably telecommunications, electricity, water and postal services. Many of the top players in these services are former State-owned monopolies from Europe as in the case of the telecom industry.

In the insurance sector, Moshirian (1999) concluded that premium growth, strategic diversification and the national income of the host countries was the main motivation of insurers to seek transnational activities. The deregulation of insurance markets and the liberalization of FDI policies have created opportunities for increased participation of international competitors in emerging economies.

This paper has two objectives. The first is the documentation of the relative importance of the largest insurance or reinsurance companies in the world and changes that may have occurred in the past fifteen years. The second objective is to identify some of the factors that may explain the increased internationalization and location of insurance groups.

¹ We use the term *transnational* in preference to *multinational* because our measures are based on the number of countries (home and host) in which companies operate. The term *multinational* implies some degree of globalization of activities in some key locations.

² United Nations Centre on Transnational Corporations (UNCTC) 1989. Foreign Direct Investment and Transnational Corporations in Services (New York: United Nations),

In the next section the data used for the largest insurance companies in the world is described. In the following section, the transnational power of companies and the analysis of the internationalization of these companies are presented.

2. The world largest insurance and reinsurance companies.³

In 1989, the largest US insurance company (Prudential of America) would not rank in the top 50 of the world's biggest corporations according to the data published by the review *Fortune* in July 1990. In 2003, according to the same source, the world's largest financial services company from Germany (Allianz) ranked 12 in the same ranking, and seven insurance companies from the Triad (United States, EU and Japan) are ranked in the top 50 of the world's largest corporations.

Obtaining comparable data for all companies around the world is a difficult task because of different reporting procedures. The list of the largest insurance and reinsurance companies in the world has been compiled using company websites and the information published in the business literature.⁴

The listing of the 45 largest companies (Appendix 1) provides information on global insurance income, total assets and total number of employees worldwide. The list includes 15 companies from the United States, 18 companies from the EU, 7 companies from Japan, 4 companies from Switzerland and one company from the Republic of Korea. This list could be compared with the list of the world's largest insurance companies in 1986 published by UNCTC (1989) (Appendix 2).

If only the top 20 companies are considered, in 1986 they were 8 companies from the United States, 6 from Japan and 6 companies from European countries, compared with 2003 with only 3 companies from the United States, 5 company from Japan and 12 companies from European countries. The relative decline in economic power of the United States has been well documented in the literature, in banking (Rhoades, 1983 and Goldberg and Hanweck, 1991), insurance (Puleo and Butler, 1997) and in reinsurance (Outreville, 1998).

The size and concentration patterns of the largest 30 companies may be examined and compared between 1986 and 2003 using the information available (table 1).⁵ The most widely used indexes are the k-firms concentration ratio and the Herfindhal-Hirschman index ($H = \text{the sum of the shares of all } n \text{ firms weighted by themselves}$). This later measure makes it possible to calculate a "number equivalent" of companies ($N^* = 1/H$) where N^* is the potential number of companies of the same size which could exist for a given degree of concentration.

³ In this paper, large is defined in relation to insurance income (excluding investment related income). There is a significant correlation between income and assets (0.83) and between income and employment (0.81).

⁴ The list has been compiled using company names published in *Fortune* 500, *Business Week* Global 1000 and with the help of the French Federation of Insurers which provided its own list. Because reporting procedures are not similar across countries and net premiums written or earned are not available in several countries, the concept of gross premiums has been used as far as possible.

⁵ Data for 1980 are incomplete in UNCTC (1989) study and only part of the analysis is reported.

Another static measure is Kwoka's (1977) Dominance index, which emphasizes the gap between successive firms when they are ranked by size. The values of this measure range from 1 to 0, with the former value indicating a monopolistic market. Conversely, the closer to zero the measure is, the lower is the power of any single company.

Casual observation reveals that the market shares of the largest companies have remained stable over time. The value of the Herfindahl index is almost the same and the dominance index has slightly increased between 1986 and 2003, confirming a larger spread among the top 10 companies and others than before.

Grossack (1965) suggested for determining whether a change in concentration is statistically significant or not, to regress the market shares from one period to the other. If the slope coefficient is significantly greater than 1, then concentration as measured by the Herfindahl-Hirschman index has increased. Similarly, if it is less than 1, concentration has decreased. The result of the regression of market shares of 2003 over market shares of 1986 gives a value of 0.848 (0.218), which is lower than 1.0, but not significantly different.

Insert table 1 here

Table 1 also reports some measures of efficiency. The ratio of assets over income generated has doubled from 1986 to 2003 and today, this ratio is significantly higher for the 5 largest companies (this was not the case in 1986). The ratio of income over employment (the dollar amount of premiums generated on average by one staff) has more than doubled during the same period but this figure is largely affected by inflation and exchange rates fluctuations. In constant US dollars the amount of premiums written would have been multiplied by 1.4 on average but only by 1.25 for the 5 largest companies.

3. The international presence of the largest insurance TNCs

The degree of international involvement of a firm can be measured in various ways. Transnationality is a function of the extent to which a firm's activities are located abroad. The concept of eclectic or OLI paradigm explained by Dunning (1977) and updated in later work (Dunning 1988, 1995) was put forward to identify and evaluate the significance of factors explaining the activities of Transnational Corporations (TNCs) outside their national boundaries.⁶

The paradigm asserts that international activities are dependent on the value of and interaction between three main variables, which are not necessarily independent of each other:

⁶ The argument is that the classical Heckscher-Ohlin-Samuelson theory of trade fails to take into account positive transaction costs, which may explain the internationalization of production.

(i) *Ownership-specific advantages (O)* like technological, managerial and marketing advantages of TNCs vis-à-vis indigenous firms in the host country. The ability to create a successful brand name and image by offering services from multiple locations is central to the competitive advantage of TNCs. Insurance relies on information and technical knowledge and, the ability to spread risks confer a sizeable advantage to some companies.

(ii) *Location-specific advantages of host countries (L)* like distance (cultural differences),⁷ level of infrastructure (education, telecommunications, legal) and the potential size of the market. The reduction (or elimination) of barriers to trade in insurance services has been a major factor in the expansion of insurance TNCs abroad.

(iii) *Market internalization (I)* like the exploitation of resources to participate in global activities, the need for sharing risks (reinsurance) or government's requirements for local equity participation.

The index of transnationalisation (TNI) used here is a composite of two ratios – foreign income/total income and foreign employment/total employment.⁸ The conceptual framework underlying this index helps to assess the degree to which the activities and interests of companies are embedded in their home country activities or in economies abroad. A high value of this index may raise questions about a home country's locational advantages (a small market for example) or indicate strong international competitiveness on the part of the home country firms. A drawback of this index is that it does not take into account the size of the home country and does not distinguish between companies whose activities are concentrated in a few foreign countries, and companies whose activities are spread across numerous host countries.

An approach that measures this dimension of transnationality is captured in the number of host countries in which a company is established. This measure may indicate high levels of ownership advantages as well as high knowledge of market conditions in many countries. However, it does not take into account the magnitude of a company's activity in a given host country.

A correlation analysis of these two measures usually gives a low value (UNCTAD 2004). This underlines the fact that companies can transnationalize their activities without having to spread their foreign assets. In insurance activities, this value would be largely affected by host countries regulations.

Table 2 below presents the list of the largest insurance TNCs based on the amount of foreign business, foreign employment, the TNI index and the number of host countries.

Insert table 2 here

⁷ Cultural distance is different from geographical distance. Empirical evidence suggests the importance of geography in determining international economic interactions and in shaping the structure of production across space (Overman et al. 2001).

⁸ A transnationality index can be compiled by choosing a single key variable (like assets) or by combining several variables. Since information on foreign assets is almost never available, the second approach is used in this paper.

As hypothesized by the OLI paradigm, the highest degree of transnationality and the widest spread of activities are found in TNCs originating in smaller economies (the Netherlands, Switzerland and Sweden).

In the ranking by total insurance business written abroad, European insurance companies from five different countries dominate the top 5. If we rank the TNCs by their TNI index, then the top company is a Swiss reinsurer and the small countries (Switzerland, Sweden and the Netherlands) are present in the top 5. Looking at the number of host countries (or economies) also confirms the importance of a brand name (AIG, Allianz, ING are in the top 3).⁹

The network-spread index (NSI) is calculated as the ratio of the number of host countries over the number of potential host countries. It is more likely than a TNC reaches significant market shares in a few foreign countries than it expands in many countries and therefore, the NSI value is usually small compared to the TNI value.

The average NSI is 21 for the world's 25 largest non-financial TNCs reported in UNCTAD (2004), compared to an average TNI of 59. Considering that the number of potential host countries is equal to the number of countries where at least one foreign insurance company from the list has a branch/office (128 countries or economies), the network spread index (NSI) calculated for the 25 largest insurance TNCs is equal to 24 compared to an average TNI of 54. It is important to note that the internationalization of the 10 largest insurance companies, measured in terms of TNI or NSI, is significantly higher than the average top 25. This is not the case for non-financial corporations as reported in Table 3.

Insert table 3 here

A closer look at the distribution of host countries gives a validation to the hypothesis of location-specific advantages (Table 4). Companies from the United States have a dominant presence in Latin America and the Caribbean (LAC) with the exception of Spain (Mapfre) which has a network of branches or offices in almost all LAC countries for obvious ethnic and cultural ties reasons. European companies have expanded mainly in Europe and in Asia. From a company point of view, AXA (France) and Fortis (Belgium), again for cultural reasons, are dominant in Africa and it is interesting to note that Allianz (Germany), which acquired the French company AGF, is more represented in French speaking countries of Africa than any other company. The involvement of German companies in Central and Eastern Europe (CEE) is noteworthy.¹⁰

Insert table 4 here

⁹ Internationalization is affected by the size and volume of resources of the organization (Javalgi et al. 2003).

¹⁰ Eight of these countries have joined the EU in 2004.

Developing countries from Eastern and South-Eastern Asia have become considerably more important as host countries for insurance TNCs than countries from any other developing region. This is in line with the overall trends in foreign direct investments in the developing world (UNCTAD 2004).

4. Determinants of international presence

In recent years there has been a strong increase in the demand for insurance in emerging markets. The average annual growth rate has been twice as high as in industrialized countries in both life and non-life business (SwissRe 2000). Faced with limited local opportunities and encouraged by trends in financial deregulation and globalisation, North American and European insurers have been looking to stake out new territory. These new opportunities based on expectations – market size potential, rapidly expanding economy- come also with many challenges – technical risk, cultural environment, country risk assessment – and are supported by recent developments in information technology.

At the same time, FDI in the financial sector of emerging economies surged in the 1990s as some countries were eager to attract a number of FDI-based activities by insurance TNCs - Greenfield projects, mergers and acquisitions, partnership and alliances and the like. This new situation also may help understand some of the factors that are contributing to international expansion of insurance activities.

A number of studies have investigated issues related to the determinants of FDI in various countries and industries, but only recently papers by Moshirian (1999) and Ma and Pope (2003) have examined the determinants of international insurers' participation in foreign markets. Moshirian concluded that insurance premiums and the national income of host countries contribute to the expansion of insurance TNCs. Ma and Pope found that countries with higher GDP tend to attract more international insurers participation.¹¹

In recent years there has been a surge of interest in the consequences of governance and misgovernance for development and how a country risk could have an impact on global investment strategies by transnational corporations.¹² Corruption is commonly defined as the abuse of public office for private gain. Governance is a much broader notion, which is defined as the traditions, and institutions that determine how authority is exercised in a particular country. This includes (i) the process by which governments are selected, held accountable, monitored and replaced; (ii) the capacity of governments to manage resources efficiently and formulate, implement and enforce sound policies and regulations; (iii) the respect of citizens and the state for the institutions that govern economic and social interactions among them (Kaufmann et al. 2000).

¹¹ These studies are limited to insurance markets of the industrialized countries of the OECD.

¹² Knack and Keefer (1997) found that the institutional environment for economies activity generally determines the ability of emerging economies to catch up to industrial country standards. Further work has been carried out by Galan and Gonzales-Benito (2001), Habib and Zurawicki (2002), Javalgi et al. (2003), La Porta et al. (1999, 2000); Kaufmann, D. and A. Kraay (2002); Kaufmann, D. (2003); Rodrick et al. (2002); among others.

A wide variety of cross-country indicators are produced by a range of organizations (government agencies, commercial-risk-rating agencies, international organizations, think tanks, and other non-governmental organizations) and cover various dimensions of governance. Macroeconomic factors played a crucial role in the past in attracting FDI, but the dynamics of FDI require an analysis beyond such macroeconomic variables and a simple review of the recent data suggests a much higher correlation between FDI and governance (both from the public and private sector) than between FDI and macroeconomic variables. Other factors are diverse, ranging from the business climate (WEF, 2005), the presence of natural resources (Easterly and Levine, 2002), infrastructure, skills and technologies.

Much recent studies of governance and corruption, based on simple empirical observations, using available worldwide indices, have shown that, on average, per capita income and the quality of governance are also strongly positively correlated across countries. The ranking of developing countries in terms of the frequency of host country for insurance TNCs is compared with several indicators of governance and economic and political stability. OECD countries are excluded to avoid biases due to the perceived relationship between rich countries and good governance.¹³ Spearman rank correlation values are calculated between the ranking of the most frequent host countries and the ranking of the following governance indices for the same period 2002-2003:

The Euromoney Global Political Risk Map gives a measure of country risk on the basis of political risk, economic performance, debt indicators, credit rating and access to finance and capital markets.¹⁴

The Economist Intelligence Unit (EIU) country risk index is calculated using two distinct perspectives: (1) broad risk, i.e. political and economic; (2) specific risk, i.e. currency, banking sector risk and sovereign risk.¹⁵

The Corruption Perception Index (CPI), compiled at the University of Passau (Germany), is based on the aggregation of multiple surveys.¹⁶

Government effectiveness published by the World Bank Institute, combines perception of the quality of public service provision, the quality of bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies. It is one of the six indices published by WBI on governance.¹⁷

To verify the effect of size, Spearman rank correlations are also calculated with GDP of the country for 2002, the size of the population, the penetration rank (premiums/GDP) and the density rank (premiums/population).

¹³ The causality link between income and governance is far from being explained: (1) better governance exerts a powerful effect on per capita income; (2) higher incomes lead to improvements in governance; and (3) there are other factors to be considered. In a recent paper Kaufmann and Kraay (2002) discussed the surprising finding of negative feedback from incomes to governance attributed, at least partly, to a consequence of state capture by largest institutions (private or public).

¹⁴ The methodology is available at www.euromoney.com

¹⁵ See www.eiuresources.com

¹⁶ Information on data and methodology are available at www.transparency.org

¹⁷ Available at www.worldbank.org/wbi/governance

The human resources base is generally measured by educational enrolments and literacy rates. The Human Capital Index used in this study is a weighted average of the literacy rate and enrolment ratios (secondary school and tertiary education).

Data are available for 48 countries for which at least two insurance TNCs have an office (branch and/or affiliate). The most popular locations are China and Hong Kong (China), followed by Brazil, Mexico, Argentina, India and Singapore in that order. The breakdown by region is as follows: Latin and Central America (17 countries), Asia (14), Africa (9) and Middle-East (West Asia) (8).

Results of Spearman rank correlations show that the highest correlation is with the size of the country as measured by GDP. Other size measures are also significantly correlated. As expected, the Human Capital Index is significantly correlated and gives support to the hypothesis of location-specific advantages of some host countries.

Governance measures such as country risk and Government effectiveness are also significantly correlated. The weakest link is with the corruption perception index. This result may be due to the construction of the variable itself (a compounded value of several indices which may smooth the data) or to biases in the traditional definition of corruption. Kaufman (2003) argued that some forms of perceived corruption may be legal in some countries and that this situation is not correlated with the level of development (for instance, some forms of political funding are legally permitted in some countries).

Insert table5 here

5. Conclusion

The opening up of the insurance markets in developing countries to foreign competition has long been a contentious issue. Numerous arguments, including the unfavourable balance-of-payment effect and the need to protect infant industries, have been advanced to justify measures to limit foreign investments. Today, most policymakers have concluded that liberalizing financial intermediation would strengthen financial markets and would be more conducive to sustainable economic growth.¹⁸

The results of this study have two important implications. First, the results indicate that location-specific advantages such as size, education and cultural distance, does provide an explication of the internationalization of insurance firms. Second, they show that good governance, as hypothesized, has a strong impact on the choice of countries by insurance firms.

Provided that liberalization is promoted against the backdrop of a solid set of prudent supervision – the recent shift towards solvency-based supervision in many emerging markets is in this line of approach – consumer protection, competition, as well as proper disclosure of information, the opening up of the insurance markets should bring long-term benefits to the countries. The privatization of the social security system and excellent growth perspectives will open new opportunities for foreign insurers.

¹⁸ See a survey paper by Skipper (1997) on these issues.

Table 1: Measures of Size and Concentration of the 30 Largest Insurance Companies, 2003, 1986, 1980

Measure	2003	1986	1980
Total insurance income			
Percentage share of the first 5	33.8	34.6	33.6
Percentage share of the first 10	60.5	58.1	57.1
Herfindahl index	0.0446	0.0427	0.0451
Number equivalent	22	23	22
Dominance index	0.00089	0.00043	0.00048
Relative size of insurance business			
Assets/Income (total 30)	7.32	3.67	
Assets/Income (first 10)	7.8	3.52	
Assets/Income (first 5)	9.8	3.86	
Income/Employment (total 30)	715.6	295.7	
Income/Employment (first 10)	738.1	340.8	
Income/Employment (first 5)	789.4	371.2	

Table 2: The World's 30 largest insurance TNCs, 2003

(ranked by foreign insurance income)
(million of dollars and number of employees)

Rank	TNC	Home country	Insurance income		Employment		TNI (%)	Number of host countries
			Foreign	Total	Foreign	Total		
1	Allianz	Germany	75,230	107,180	90,350	173,750	61.1	62
2	AXA	France	65,120	84,800	85,490	117,113	74.9	46
3	ING	Netherlands	47,990	57,350	80,407	114,344	77.0	58
4	Zurich Financial Services	Switzerland	44,520	48,920	n.a.	58,667	91.0	46
5	Ass. Generali	Italy	38,155	62,500	49,671	60,638	71.5	42
6	AIG	United States	32,718	70,319	n.a.	86,000	46.5	92
7	Munich Re	Germany	27,900	50,900	11,060	41,430	40.7	36
8	Aviva	United Kingdom	26,180	53,480	23,555	56,000	43.8	32
9	Swiss Re	Switzerland	25,540	26,940	n.a.	7,949	94.8	28
10	Winterthur	Switzerland	19,680	27,060	13,865	20,281	66.7	16
11	Aegon	Netherlands	19,650	24,530	21,674	27,708	79.2	12
12	Prudential (a)	United Kingdom	12,980	24,480	9,540	21,000	49.2	18
13	Fortis	Belgium/Netherlands	12,940	26,230	15,268	25,785	54.2	48
14	Hannover Re	Germany	12,000	14,290	1,183	1,972	72.0	22
15	Royal and Sun Alliance	United Kingdom	10,600	19,800	18,935	31,980	56.4	30
16	Swiss Life	Switzerland	8,944	15,160	n.a.	10,015	59.0	6
17	Skandia	Sweden	8,650	10,035	4,245	5,936	78.8	20
18	Prudential Financial	United States	5,655	13,233	n.a.	39,400	42.7	18
19	Berkshire Hathaway	United States	5,484	22,454	n.a.	25,395	24.4	21
20	GE-Employers Re	United States	4,071	9,729	n.a.	3,300	41.8	22
21	Standard Life	United Kingdom	4,058	16,910	3,244	14,586	23.1	8
22	Ergo	Germany	3,800	20,330	7,263	31,470	20.9	21
23	Liberty Mutual	United States	3,671	18,319	6,000	38,000	18.0	11
24	Groupama	France	2,780	13,010	2,683	10,806	23.1	11
25	Mapfre	Spain	2,010	9,475	8,541	18,605	33.5	36
26	Chubb	United States	1,975	11,338	n.a.	12,300	17.4	16
27	Metlife	United States	1,950	23,170	49,030	84,810	33.1	11
28	Millea Holdings	Japan	1,302	23,736	4,400	32,900	9.4	48
29	Legal and General	United Kingdom	1,196	9,965	603	8,547	9.5	4
30	CNP Assurances	France	1,005	24,520	1,010	3,580	16.2	5

Source: Based on company's websites.

(a) For Prudential, foreign figures means other than U.K. and European business.

n.a. = not available. All companies were contacted by e-mail but only a few answered to the request for information.

Note: The transnationality index is calculated as the average of two ratios: foreign income to total income and foreign employment to total employment. When employment is not available only one ratio has been calculated.

The number of potential countries is equal to the number of countries where at least one foreign company has a branch/Office = 128

Japanese companies are missing from this list for lack of information on foreign activities. Life companies usually report only 4 to 6 host countries.

Table 3: Internationalization of the Largest Insurance TNCs

Measure	TNI	NSI
Largest insurance TNCs		
Average value of the first 10	66.8	36.9
Average value of the first 25	53.8	24.1
Largest non-financial TNCs		
Average value of the first 10	58.0	24.8
Average value of the first 25	59.1	20.7

Table 4: Geographical Repartition of the Insurance TNCs

(based on the number of companies for which geographical breakdown is available)

Home Country	Host Region					
	Europe	CEE	Africa	LAC	Asia&Pacific	West Asia
United States (5)	24.8	10.3	4.1	25.6	28.3	6.9
United Kingdom (4)	37.7	6.5	1.3	7.8	40.2	6.5
France (3)	43.4	1.5	5.9	17.1	28.4	3.7
Germany (3)	34.1	20.6	12.1	9.5	21.1	2.6
Netherlands (3)	38.1	15.5	10.4	7.8	24.9	3.2
Switzerland (3)	36.8	12.3	8.7	5.5	31.8	4.8
Spain (1)	25.0	5.5	2.8	55.6	8.3	2.8
Italy (1)	35.9	17.9	2.6	23.1	12.8	7.7

LAC = Latin America and the Caribbean

CEE= Central and Eastern Europe

West Asia is the new terminology for Middle East

In (.) is the number of companies in the calculated average value.

Table 5: Spearman rank order correlation coefficient

<u>Explanatory variables for Governance</u>	Rs	t
Euromoney political risk 2002	0.426	3.19
EIU country risk	0.331	2.38
Government effectiveness	0.342	2.47
Corruption perception index	0.231	1.61
<u>Explanatory variables for Size</u>		
GDP 2002	0.742	7.50
Population size	0.377	2.76
Penetration rank	0.316	2.26
Density rank	0.353	2.56
<u>Human Capital Index (2001)</u>	0.453	3.45

References

Dunning, J.H., 1977, "Trade Location of Economic Activity and the Multinational Enterprise: A Search for the Eclectic Paradigm," *The International Allocation of Economic Activity*, B. Ohlin, P.O. Hesselbom, and J.J. Wiskman (Eds), London: MacMillan.

Dunning, J.H., 1988, "The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions," *Journal of International Business Studies*, vol. 19, pp. 1-31.

Dunning, J.H., 1995, "Reappraising the Eclectic Paradigm in an Age of Alliance Capitalism," *Journal of International Business Studies*, vol. 26, pp. 461-491.

Easterly, W. and R. Levine, (2002), "Tropics, Germs and Crops: how endowments influence economic development," National Bureau of Economic Research Working Paper 9106, Cambridge, MA. Online //papers.nber.org/papers/W9106

Galan, J.I. and J. Gonzales-Benito, 2001, "Determinants factors of foreign direct investment: some empirical evidence," *European Business Review*, vol. 13(5), pp.: 269-278.

Goldberg, L.G. and G.A. Hanweck, 1991, "The Growth of the World's Largest Banking Organizations by Country," *Journal of Banking and Finance*, vol. 15, pp. 207-223.

Grossack, I.M., (1965), "Towards an Integration of Static and Dynamic Measures of Industry Concentration," *Review of Economics and Statistics*, vol. 47, no.3, pp. 301-308.

Habib, M. and L. Zurawicki, (2002), "Corruption and foreign direct investment," *Journal of International Business Studies*, vol. 33(2), pp. 291-307.

Javalgi, R.G., D.A. Griffith and D.S. White, 2003, "An empirical examination of factors influencing the internationalization of services firms," *Journal of Services Marketing*, vol. 17, pp.: 185-201.

Kaufmann, D., A. Kraay and P. Zoido-Lobaton, (2000), "Governance Matters: From Measurement to Action," *Finance and Development*, vol. 37, no. 2.

Kaufmann, D. and A. Kraay, (2002), "Growth without governance," *Economia*, vol. 3(1), pp.: 169-229.

Kaufmann, D, (2003), "Rethinking Governance: empirical lessons challenge orthodoxy," World Bank research paper, Washington, DC: World Bank, www.worldbank.org/wbi/governance/

Knack, S. and P. Keefer, (1997), "Does social capital have an economic payoff?: a cross-country investigation," *Quarterly Journal of Economics*, vol. 112(4), pp.: 1251-1288.

Kwoka, J.E., (1977), "Large Firms Dominance and Price-Cost Margins in Manufacturing Industries," *Southern Economic Journal*, vol. 44, pp. 183-189.

- La Porta, R., F. Lopez-de-Silanes, A. Sheifer, and R. Vishny, (1998), "The quality of governments," *Journal of Law, Economics and Organization*, vol 15(1), pp.: 222-279.
- La Porta, R., F. Lopez-de-Silanes, A. Sheifer, and R. Vishny, (2000), "Investor protection and corporate governance," *Journal of Financial Economics*, vol 58(1), pp.: 3-27.
- Ma Y.L. and N. Pope, (2003), Determinants of International Insurers' Participation in Foreign Non-Life Markets," *Journal of Risk and Insurance*, vol. 70, no. 2, pp.: 235-248.
- Moshirian, F., (1999), "Sources of Growth in International Insurance Services," *Journal of Multinational Financial Management*, vol. 9, pp.: 177-194.
- Outreville, J. François, (1998), "Size and Concentration Patterns of the World's Largest Reinsurance Companies," *Geneva Papers on Risk and Insurance*, vol. 23, No. 86, pp.: 68-80.
- Overman, H.G., S. Redding and A.J. Venables, (2001), "The Economic Geography of Trade Production and Income: A Survey of Empirics," Centre for Economic Policy Research, Discussion Paper no. 2978.
- Puleo, Victor Jr. and A. Butler, (1997), The Growth of the World's Fifty Largest Insurance Organizations by Country, 1985-1993," *Journal of Insurance Issues*, Vol. 20, no.1, pp.: 37-50.
- Rhoades, S.A., (1983), "Concentration of the World Banking and the Role of the US Banks among the 100 Largest," *Journal of Banking and Finance*, vol. 7, pp.: 427-437.
- Rodrick, D, A. Subramanian and F. Trebbi, (2002), "Institutions Rules: the primacy of institutions over geography and integration in economic development," CID Working Paper n0. 97, Cambridge, MA: Center for International Development at Harvard University. www.cid.harvard.edu/cidwp/097.htm
- Skipper, Harold D., (1997), Foreign Insurers in Emerging Markets: Issues and Concerns, Washington, DC: International Insurance Foundation, Occasional Paper no.1.
- Swiss Re, (2000), Emerging markets: the insurance industry in the face of globalization, Zurich: Sigma, no.4.
- Swiss Re, (2001), World financial centres: new horizon in insurance and banking, Zurich: Sigma, no. 7.
- United Nations Centre on Transnational Corporations (UNCTC), (1989), Foreign Direct Investment and Transnational Corporations in Services, New York: United Nations, No.E.89.II.A.1.
- United Nations Conference on Trade and Development (UNCTAD), (2004), World Investment Report: The Shift Towards Services, Geneva: United Nations, No.E.04.II.D.33.
- World Economic Forum, (2005), The Global Competitiveness Report 2004-2005, Geneva.

Appendix 1: The World's largest insurance companies, 2003
ranked by world insurance income (million of dollars and number of employees)

Rank	Company	Home country	Insurance Income	Total Assets	Employees
1	Allianz	Germany	107,180	1178,750 (b)	173,750 (b)
2	AXA	France	84,800	566,000	117,113
3	AIG	United States	70,320	678,350	86,000
4	Ass. Generali	Italy	62,500	289,700	60,638
5	ING	Netherlands	57,350	981,200 (b)	114,344 (b)
6	Aviva (CGNU)	United Kingdom	53,480	370,650	60,740
7	Zenkyoren (Agricultural Coop)	Japan	53,050	398,720	6,433
8	Munich Re	Germany	50,900	263,830	41,430
9	Zurich Financial Services	Switzerland	48,920	317,900	58,667
10	State Farm	United States	48,900	139,410	76,000
11	Nissay (Nippon Life)	Japan	48,260	424,700	72,784
12	Dai-Ichi Mutual	Japan	31,360	277,440	55,134
13	Meiji-Yasuda Life	Japan	31,100	239,600	49,412
14	Winterthur	Switzerland	30,230	129,910	20,281
15	Swiss Re	Switzerland	26,940	137,140	7,949
16	Fortis	Belgium/Netherlands	26,230	133,520	25,785
17	Sumitomo Life	Japan	25,830	200,610	53,000
18	Allstate	United States	25,187	134,200	39,630
19	Aegon	Netherlands	24,530	295,500	27,708
20	CNP Assurances	France	24,520	210,800	3,580
21	Prudential	United Kingdom	24,480	287,250	21,930
22	Millea Holdings (Tokio Marine)	Japan	23,736	104,137	32,900
23	MetLife	United States	23,170	326,840	84,810
24	Berkshire Hathaway	United States	22,454	180,559	25,395
25	Ergo	Germany	20,330	141,000	31,470
26	Royal & Sun Alliance	United Kingdom	19,800	94,500	31,980
27	Liberty Mutual	United States	16,949	64,422	38,000
28	Standard Life	United Kingdom	16,910	156,910	14,586
29	Cigna	United States	15,440 (a)	90,953	32,700 (c)
30	Swiss Life	Switzerland	15,160	131,305	10,015
31	Travelers Corporation	United States	14,976	64,872	21,300
32	Hartford Financial Services	United States	14,910	225,853	30,000
33	Aetna	United States	14,900 (a)	40,950	27,600 (c)
34	Hannover Re	Germany	14,290	41,550	1,972
35	Samsung Life	Korea (Rep. Of)	13,765	70,000	6,300
36	Massachusetts Mutual Life	United States	13,508	96,779	18,500
37	Predica (Crédit Agricole)	France	13,500	125,550	284 (d)
37	Prudential Financial	United States	13,233	321,274	39,400 (c)
39	Groupama	France	13,010	78,270	10,806
40	Mitsui-Sumitomo	Japan	12,140	69,245	13,675
41	CNA Financial (Loews)	United States	11,716	68,503	11,000
42	Chubb	United States	11,338	38,360	12,300
43	Northwestern Life	United States	10,300	113,822	7,900
44	Skandia	Sweden	10,035	47,340	5,936
45	Legal and General	United Kingdom	9,965	223,137	8547

Source: Based on company's websites. Figures are in US\$ converted as of 31 Dec. 2003 except for Japanese firms (31 March 2004).
 (a) Health insurance business. (b) Figures are for global activities.
 (c) Information is provided for 2002. (d) Sales through 7260 bank agencies and 35,000 bank representatives.

Note: Insurance income is gross premiums written (when available) because net premiums are not reported in most European and Japanese companies.
 On April 28, 2004, Manulife (Canada) acquired John Hancock Financial (USA). Consolidated insurance income for 2003 would amount to \$12,256.
 On April 1, 2004, St Paul Travelers was formed by the combination of Travelers Corporation and the St. Paul Companies.
 Consolidated insurance income for 2003 would amount to more than \$22,000 and the company would have been ranked in the top 25.
 Two Japanese companies may be missing in the list for lack of recent information (Mitsui Mutual Life which became a stock company in early 2004 and Asahi Mutual Life which postponed plans to be fully integrated into Millea Holdings).
 China Life is missing in this list for lack of information on the exact insurance income. TIAA-CREF is excluded from the list.

Appendix 2:**The World's largest insurance companies, 1986**

ranked by world insurance income

(million of dollars and number of employees)

Rank	Company	Home country	Total revenue	Total Assets	Employment
1	Prudential of America	United States	23,602	103,317	62,400
2	Nippon Life	Japan	21,777	70,171	90,496
3	Metropolitan Life	United States	18,855	81,581	35,900
4	Cigna	United States	17,064	50,016	50,100
5	Zenkyoren	Japan	14,004	62,443	7,900
6	Aetna Life	United States	13,637	42,957	25,700
7	Dai-Ichi Mutual	Japan	12,791	46,483	68,082
8	Sumitomo Life	Japan	11,211	38,910	71,821
9	American International Group	United States	9,704	21,023	28,000
10	Allianz	Germany	8,850	n.a.	28,300
11	Equitable Life	United States	8,234	48,578	25,000
12	Meiji Mutual Life	Japan	7,461	25,424	46,532
13	Trans-America Corporation	United States	7,120	16,182	14,800
14	Zurich Insurance Group	Switzerland	6,704	17,156	23,800
15	Prudential Corporation	United Kingdom	6,516	38,023	29,900
16	Assicurazioni Generali	Italy	6,435	16,688	18,500
17	Nationale Netherlanden	Netherland	6,423	31,877	22,500
18	Travelers Life	United States	6,396	27,210	40,900
19	Union des Assurances de Paris	France	6,371	15,673	16,700
20	Asahi Mutual Life	Japan	6,229	22,775	41,570
21	Royal Insurance	United Kingdom	6,146	17,253	22,000
22	Continental Corporation	United States	6,002	13,623	17,000
23	Lincoln National	United States	5,999	16,244	14,000
24	New York Life	United States	5,890	29,794	18,300
25	John Hancock Mutual Life	United States	5,580	27,213	18,300
26	TIAA/CREF	United States	5,433	27,887	2,800
27	Mitsui Mutual Life	Japan	4,942	17,072	31,024
28	Winterthur Group	Switzerland	4,545	15,337	13,200
29	Assurances Générales de France	France	4,533	11,979	12,200
30	Principal Mutual Life	United States	4,504	16,994	9,700

Source: UNCTC (1989, p. 184-186).