The Global 500

Mapping the World Economy at Century's End

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Fortune *magazine's listing of the largest corporations in the global economy, the Global 500, is used to inquire into the industrial structure of the world economy and to speculate about the rise and fall of hegemonic states. The authors' data show that about half the firms are involved in basic production and the rest split between finance and service industries, with Asia, Europe, and the United States each accounting for one third of the firms. The authors begin with an overview of the global economy's industrial and regional structure, trace the development of the tripolar world economy since the 1950s, then examine the overall structure of the world economy in the 1990s. They end with speculation about whether the current financial expansion might provide the staging for a financial crash, leading to a Schumpeterian moment of creative destruction, which could help move the center of productive advantage from North America to Asia in the 21st century.*

Today, information, capital, and technology flow across national borders in a truly global world economy.[1] Within this web of global economic activity, the multinational corporation is generally thought of as the basic unit of production. Therefore, an understanding of the distribution of these multinationals across industries provides a good measure of the global web of world economic activity. At the same time, it is obvious that nation-states remain important geopolitical actors, providing the borders that multinational corporations cross but cannot erase. Over the long history of the modern world system (Wallerstein, 1974), various states have held dominant positions in the global economy, from the Dutch in the 17th century, to the British in the 19th century, to the United States in the 20th century. Social scientists have long been interested by the rise and fall of great powers (Bergesen, 1985; Bergesen & Schoenberg, 1980; Bornschier & Chase-Dunn, 1999; Kennedy, 1987), and our data provide an excellent opportunity to examine the hegemonic position of the United States vis-à-vis potential challengers from Europe and Asia.

For our analysis, we will employ *Fortune* magazine's annually published data on the size (ranked by revenues), industry (chemical, autos, banking, etc.), and headquarter country of the 500 largest corporations. *Fortune* first compiled a

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combined list of the world's largest production, financial, and service corporations in 1994, and our analysis will focus primarily on data pooled during the 5 years from 1994 to 1998.[2] We begin with an overview of the global economy's industrial and regional structure, then trace the development of the tripolar world economy since the 1950s, using the techniques of network analysis to examine the dual structures of national and industrial competition.[3] Finally, we turn to the structure of the world economy in the late 1990s and speculate about potential successors to U.S. economic leadership in the 21st century.

The industrial structure of the late 20th-century global economy can be divided into three broad sectors: production, which refers to industries like chemicals, motor vehicles, and petroleum; finance, which refers to industries like banks, insurance, and securities; and service, which refers to industries like health care, hotels, utilities, and waste management.[4] No one industrial sector dominates the world economy. Whereas 44% of the firms are in more basic production, 30% are in service and 26% in finance (see Figure 1). If we examine the number of firms in individual industries, we also see that financial industries such as banking and insurance each have more than twice as many firms in this period as the next closest industry, petroleum production (see Table 1). Since the late 1960s, social scientists have been making arguments about the advent of a *postindustrial* economy (Bell, 1973), although exactly what that term means remains debatable. Gowan (1999) recently described this new economy as one driven by global financial expansion, denominated in dollars, and centered in Wall Street. The fact that more than half (56%) of the Global 500 firms are involved in finance and services seems to lend support to the late 20th-century advent of some kind of postindustrial economy.

We can also examine the different regions[5] in which these firms have their headquarters. There is a very clear three-way split between Asia (29% of the firms), Europe (34%), and the United States (33%), suggesting a tripartite geopolitical division of the world economy (see Figure 2). Japan accounts for the vast majority of Asian firms (87%), whereas European firms are divided among various countries: Germany accounts for 24.4% of the firms, France 23.6%, Britain 20.1%, and the remaining European countries less than 10% each. In total, the top five nations (United States, Japan, Germany, France, and Britain) account for more than 80% of the world's largest 500 firms (see Table 2).

The structure of the global economy, evenly split among Asia, Europe, and the United States, is very different than it was just 50 years ago, when the United States unequivocally dominated the global economy. Before examining the world economy of the 1990s in more detail, we will trace the history of postwar U.S. dominance through an analysis of regional competition in the top 50 production firms for selected years between 1956 and 1998.[6] The data are limited to the top 50 firms because *Fortune* did not compile an integrated list of service, financial, and production firms until 1994 (see Note 2). Although we are dealing with only very large firms, these over-time data provide insight into the regional

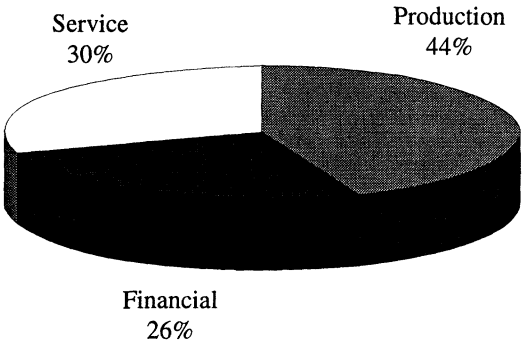

Figure 1: Global 500 Firms by Economic Sector (1994-1998)

distribution of multinational corporations since the mid-1950s. This data set does not include Asia as a whole, but Japan will serve as an indicator of more general Asian economic growth.

Table 3 shows clear American dominance in the early postwar period. In 1956, 42 of the world's 50 largest production firms were American. This number would drop over the years to 16 by 1998. Similarly, the number of industries in which these American firms participated also declined from 13 to 9. This is a clear sign of hegemonic decline within the world economy, at least as reflected in the proportion of the world's 50 largest production firms and industries. Now let us examine two ascending regions, Europe and Asia (represented here by Japan). Both regions show an increase in their number of firms in the top 50. Table 3 shows Europe rising from 8 to 21 firms and Japan from 0 to 11. On just this basis, we see a growing proportion of the world's largest firms being taken over by these two regions.

When we examine the number of different industries in which these firms compete, the picture becomes more interesting. Europe stays at about the same number of industries throughout the period; however, the number of European firms grows, in what appears to be economic expansion within a rather set number of industries. European industrial growth within the global economy, then, could be described as a deepening of already existing industrial strength. The picture for Japan is different. Here, not only does the number of firms grow over the years, at least up to 1994, but so does the number of industries, suggesting Japan was not only increasing its number of large firms but also widening its industrial base into new markets and industrial sectors. Where the European path appears to be one of deepening within industrial sectors already established, the Japanese path appears to be a widening of more firms in more industrial areas.

TABLE 1: Number of Global 500 Firms by Industry and Year

	1994	*1995*	*1996*	*1997*	*1998*	*Total*
Banks (commercial and savings)	61	67	69	68	63	328
Insurance (stock and mutual)	52	56	57	54	54	273
Petroleum	30	29	31	31	27	148
Electronics/electrical equipment	31	30	26	27	25	139
Food and drug stores	26	25	27	28	30	136
Motor vehicles and parts	26	26	27	25	24	128
Telecommunications	21	22	22	22	20	107
Trading companies	22	21	22	19	21	105
Utilities (electric and gas)	17	16	14	16	18	81
Chemicals	17	18	14	16	14	79
General merchandising	15	17	14	13	13	72
Metals	16	15	14	13	9	67
Engineering and construction	13	13	13	10	10	59
Food	12	11	12	13	10	58
Pharmaceuticals	10	10	10	10	13	53
Computers and office equipment	8	8	9	11	11	47
Industrial and farm equipment	10	8	9	8	10	45
Wholesalers	8	7	9	9	10	43
Aerospace	9	8	8	8	9	42
Airlines	9	8	7	9	9	42
Specialist retailers	8	5	5	9	13	40
Mail, package, and freight delivery	7	8	8	8	8	39
Railroads	8	8	7	7	8	38
Forest and paper products	5	5	7	6	7	30
Beverages	6	6	4	5	5	26
Diversified financials	7	4	5	4	4	24
Publishing and printing	5	5	4	4	4	22
Entertainment	1	3	6	5	6	21
Energy (with oilfield services)	1	2	3	7	6	19
Scientific, photo, and control equipment	5	5	3	3	3	19
Metal products	4	3	3	3	3	16
Soaps and cosmetics	4	3	3	3	3	16
Tobacco	4	3	3	3	3	16
Securities (brokerage)	2	4	4	3	3	16
Rubber and plastic products	3	3	3	3	3	15
Building materials	3	3	3	2	3	14
Health care	1	1	2	3	7	14
Mining and crude-oil production	2	3	3	3	3	14
Hotels, casinos, resorts, and travel	2	2	2	2	1	9
Food services	2	2	2	1	1	8
Shipping	2	2	1	1	1	7
Advertising	1	1	1	1	2	6
Real estate	1	1	1	1	1	5
Waste management	1	1	1	1	1	5
Transportation equipment	1	1	1	1	0	4
Textiles	1	1	1	0	0	3
Apparel	0	0	0	1	1	2

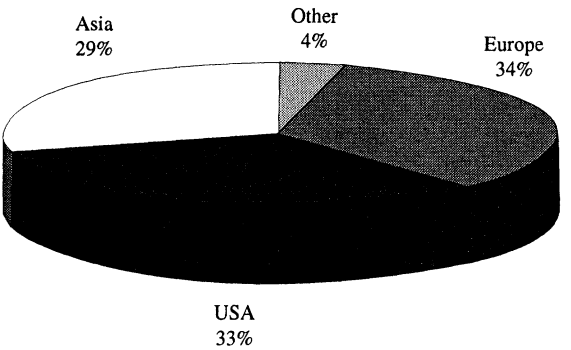

Figure 2: Global 500 Firms by Region (1994-1998)

The history of hegemonic successions shows that the slipping economic dominance of a hegemonic state weakens international order and opens the door to competition from other states.[7] We can see the development of this competition in Table 3. Reading across the rows, we can see that in 1956, about half of the American firms (23 out of 42) competed with European firms in five commonly shared industries. By 1998, 60% of American firms (10 out of 16) were competing with European firms. The same holds for Japan: In 1956, no Japanese firms were in competition with American firms in the top 50; by 1998, 50% of the American firms (8 out of 16) were competing with Japanese firms in the same industries. When we look at how many European and Asian firms must compete with U.S. firms, we can get a sense of the continuing strength of the United States in the world economy. As recently as 1998, 86% of Europe's 21 firms competed with the United States, and 100% of Japan's firms did.

This brings us back to the 1990s and to the Global 500. To get a general picture of the relationships between regions and industrial sectors, we can combine the information in Tables 1 and 2 to show how many firms, in which industries, belong to each of the three regions in the 5 years between 1994 and 1998. Figure 3 shows that Asia, Europe, and the United States have about the same percentage of firms in the production and service sectors, with the United States in a slight lead. In the financial sector, however, Europe has a distinct numerical superiority, with almost twice as many financial firms as the United States or Asia. We can examine the composition of these broad economic sectors in more detail by constructing a cross-classification of industries and regions for the late 1990s (see Table 4).[8]

From Table 4, we can see that about 60% of Europe's financial sector is composed of commercial banks, many of which are publicly owned, which is a sharp contrast to the United States, where only 28% of financial firms are commercial banks (Asia has 46%). And whereas insurance companies are important in all

TABLE 2: Number of Global 500 Firms by Country and Year

	1994	*1995*	*1996*	*1997*	*1998*	*Total*
United States	151	153	162	175	185	826
Japan	149	141	126	112	100	628
Germany	44	40	41	42	42	209
France	40	42	42	39	39	202
Britain	33	32	34	35	38	172
Switzerland	14	16	14	12	11	67
Italy	11	12	13	13	11	60
South Korea	8	12	13	12	9	54
Netherlands	8	8	8	9	7	40
Canada	5	6	6	8	12	37
Spain	6	6	5	5	5	27
Australia	3	4	5	7	7	26
Brazil	2	4	5	5	4	20
China	3	2	3	4	6	18
Sweden	3	3	4	4	4	18
Belgium	4	5	3	3	2	17
Norway	2	2	2	2	3	11
Britain/the Netherlands	2	2	2	2	2	10
Finland	1	2	1	2	4	10
Taiwan	2	1	1	2	2	8
Mexico	2	1	1	1	1	6
Belgium/the Netherlands	1	1	1	1	1	5
India	1	1	1	1	1	5
Venezuela	1	1	1	1	1	5
Hong Kong	1	1	2	0	0	4
Netherlands Antilles	1	1	1	1	0	4
Malaysia	0	0	1	1	1	3
Russia	0	0	1	1	1	3
Turkey	1	1	1	0	0	3
Austria	1	0	0	0	0	1
Luxembourg	0	0	0	0	1	1

three regions, securities and diversified financials are located overwhelmingly in the United States, which has 94% and 83% of the firms in these industries. This indicates that although Europe maintains a numerical lead in the finance sector, the center of expanding "money-dealing capital" (as opposed to productive capital) appears to be Wall Street (Gowan, 1999). An interesting comparison is the case of trading companies, where Asia has 84%. This reflects the growth of strong regional networks of trade and production in Asia, both Japanese and overseas Chinese (Frank, 1998; Gowan, 1999).

One possible explanation of the continuing European strength in banking finance involves the sequencing of advantage in the process of attaining economic hegemony within the world economy. Here, it is generally believed that advantage is gained first in trade, then in production, and finally in finance. In the

TABLE 3: Number of Firms and Industries Competing by Region for 1956, 1972, 1989, 1994, and 1998

	United States		*Europe*		*Japan*		*Other*	
	Firm	*Industry*	*Firm*	*Industry*	*Firm*	*Industry*	*Firm*	*Industry*
United States								
1956	42	13	23	5	0	0	0	0
1972	27	10	21	5	10	3	0	0
1989	17	9	12	5	5	3	1	1
1994	14	7	12	5	6	3	7	2
1998	16	9	10	5	8	3	3	1
Europe								
1956	7	5	8	6	0	0	0	0
1972	15	5	17	6	8	3	0	0
1989	18	5	21	8	9	3	3	1
1994	20	5	22	7	11	3	9	2
1998	18	5	21	7	10	2	5	1
Japan								
1956	0	0	0	0	0	0	0	0
1972	6	3	6	3	6	3	0	0
1989	9	3	9	3	10	4	5	1
1994	10	3	10	3	12	5	5	1
1998	11	3	10	2	11	3	0	0
Other								
1956	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0
1989	2	1	2	1	2	1	2	1
1994	2	2	2	2	1	1	2	2
1998	2	1	2	1	0	0	2	1

American case, this would be represented by the advantages of earlier Yankee Clipper ships in trade, of mid-century Detroit in production, and of late 20th-century Wall Street in finance. It is also believed that in the process of hegemonic decline, advantage is lost in the same order: First trade is lost, then production, and finally financial advantage slips away. It may be that Europe's numerical edge in commercial banks is a lingering residue of its earlier hegemonic position—in effect, financial advantage being the last advantage to disappear.

What is the significance of the structure of the financial industries for the future of national hegemonies? The rise of finance and service industries may reflect the long prophesied shift to a postindustrial economy, but it may also be a particular cyclic phase of the capitalist world economy, where

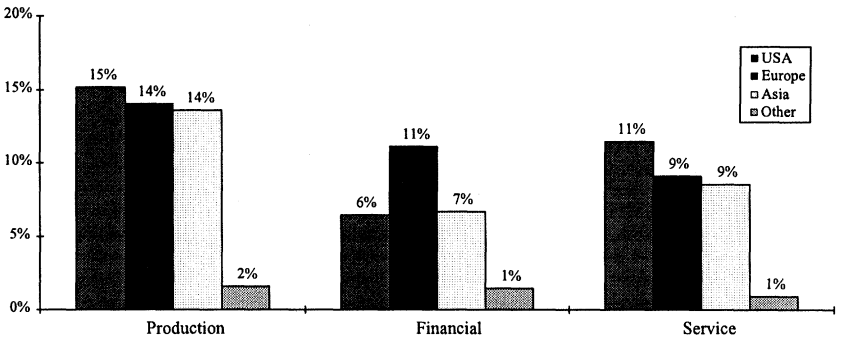

Figure 3: Global 500 Firms by Economic Sector and Region (1994-1998)

> financial expansions are taken to be symptomatic of a situation in which the investment of money in the expansion of trade and production no longer serves the purpose of increasing the cash flow to the capitalist stratum as effectively as pure financial deals can. (Arrighi, 1994, p. 8)

Such a finance-dominated economy "privileges the interests of rentiers and speculators over the functional requirements of productive investment" (Gowan, 1999, p. 12), creating instabilities in the system. Material disinvestment on the part of capital seems to be part of the transition process at the end of a period of expansion in production and trade, in anticipation of the movement of the geopolitical center of accumulation from one political entity to another.

The history of the 17th-century Dutch and 19th-century English hegemonies in world production and trade suggests that in their later stages, profit taking shifts from production of commodities to financial investment, giving capital a much more liquid form. If it is the end of a historic production cycle based on some basic industrial innovation, then the process seems purely economic in logic. But there is also a geopolitical aspect to these cycles of accumulation—the shift from one hegemony to another—and it may very well be that the move of capital from plant, technology, and commodity to finance is part of an uprooting process that may help facilitate the shift to the new center of world production.

The issue, however, is perhaps more than the mere liquidity of capital and the ease of its movement in times of uncertainty and transformation in the world economy. Financial expansions often end dramatically with a financial crash, and although this involves a great deal of suffering, there may very well be some of what Schumpeter called "creative destruction" in economic downturns. That is, transitions in the geopolitical site of the global economy's leading edges of production are perhaps unwittingly aided when the advantage of the declining hegemony is wrapped up in financial speculation that is easily destroyed with

TABLE 4: Number of Firms by Region and Industry, 1994-1998

	United States	*Europe*	*Asia*	*Total*
Production				
Petroleum refining	52	40	45	137
Electronics and electrical equipment	40	38	56	134
Motor vehicles and parts	27	48	53	128
Chemicals	18	47	14	79
Metals	5	26	33	64
Engineering and construction	6	13	40	59
Food	32	19	7	58
Pharmaceuticals	32	21	0	53
Computers and office equipment	32	0	15	47
Industrial and farm equipment	11	18	16	45
Aerospace	32	10	0	42
Forest and paper products	19	4	7	30
Beverages	14	5	4	23
Publishing and printing	0	10	10	20
Scientific, photo, and control equipment	14	0	5	19
Entertainment	15	2	0	17
Energy (with oilfield services)	8	8	0	16
Soaps and cosmetics	7	8	1	16
Tobacco	6	5	5	16
Rubber and plastic products	5	5	5	15
Metal products	3	5	6	14
Building materials	0	9	5	14
Mining and crude-oil production	0	8	0	8
Advertising	0	1	5	6
Transportation equipment	0	0	4	4
Textiles	0	0	3	3
Apparel	2	0	0	2
Total production	380	350	339	1,069

	United States	*Europe*	*Asia*	*Total*
Services				
Food and drug stores	44	60	21	125
Trading	0	16	86	102
Telecommunications	51	42	7	100
Utilities (electric and gas)	20	26	35	81
General merchandising	35	17	18	70
Wholesalers	31	11	1	43
Airlines	20	15	7	42
Specialist retailers	28	12	0	40
Mail, package, and freight delivery	15	14	10	39
Railroads	11	10	17	38
Health care	14	0	0	14
Hotels, casinos, resorts, and travel	4	0	5	9
Food services	8	0	0	8
Shipping	0	5	2	7
Real estate	0	0	5	5
Waste management	5	0	0	5
Total services	286	228	214	728
Financial				
Banks (commercial and savings)	45	173	77	295
Insurance (stock and mutual)	80	101	89	270
Diversified financials	20	4	0	24
Securities (brokerage)	15	0	1	16
Total financial	160	278	167	605
Grand total	826	856	720	2,402

financial collapse. If the economic power that is to be passed is lodged in plant and equipment, skilled labor, or technologies, then the movement from region to region is more difficult than if capital resides in financial speculation. Hegemonic transition, then, is eased when the accumulated advantage of the past hegemony is something that can be instantaneously evaporated by a financial crash, which brings a quicker end to the declining hegemony's position than does a gradual decline of plant, equipment, or skill level of the labor force.

The historical record seems to support the notion that financial expansions, and with them the very real possibility of financial crash, appear at the tail end of a cycle of accumulation that has been underwritten by a dominant hegemonic state (Arrighi, 1994; Arrighi & Silver, 1999). The association between the financial phase, and possible burst bubble, and the rise of another hegemonic state may be spurious, but this recurring fact suggests that something more systematic is operating here. What we know about the end of the 20th century is that it was preoccupied with a great financial expansion in which the United States was a leading participant, despite the decline of its production industries relative to Asia and Europe. And although Europe is usually thought of as the home of capitalism, Frank (1998) has argued that the spectacular growth of Asian production and trade marks the resurgence of Asia as the center of the world economy. Whether there is another crash of 1929 coming, which would signal the end of American hegemony and mark the ascendancy of Asia, is yet to be seen, but it is a provocative hypothesis to contemplate.

The current structure of the world economy, and the changes in it since 1956, suggest three different developmental paths since the 1950s. The first is relative decline in production and growth in finance, as seen in the United States. The second is absolute economic ascent seen in Japan with an increase in both the number of firms and the industries in which they are active. The third is the path of relative ascent, an increase in the number of firms but not industries, the European path. These trajectories suggest that the relatively equal proportion of firms in the late 1990s may merely reflect a temporary parity between the United States, Japan, and Europe. Whether this is just a conjunctional phenomenon or a permanent feature of global political economy awaits the passage of time and further data. We will present two possible interpretations of how the current three-way division in the global economy has developed and might change in the future.

The first is that the global division of large firms into equal thirds may result from the temporary intersection of three separate trend lines: (a) U.S. decline, (b) Asian ascent, and (c) European leveling off. With the Dutch, British, and American hegemonies, productive advantage was centered in a single state, and if that pattern continues, Japan is much closer than any European nation to potential hegemonic status, having more than three times the number of Global 500 firms than the next closest European nation, Germany. If it is assumed that these trend lines continue in their current direction, we would expect the United States to continue to decline, Japan to continue to rise, and Europe to continue at

the same level. In this interpretation, the economic crisis that has engulfed Japan throughout the 1990s is seen as temporary. The possibility of a future rise of Asia to global economic dominance is consistent with the arguments made by Frank (1998) and in prior research on the *Fortune* top 50 (Bergesen & Fernandez, 1999; Bergesen, Fernandez, & Sahoo, 1987; Bergesen & Sahoo, 1985).

There is another possible interpretation of the rise and possible continuance of a world economy geographically divided among three major regions. As noted above, Europe had the narrower growth path in the postwar years, mainly reestablishing itself in industries previously occupied. Japan had a much wider growth, in both number of firms and number of industries, and the United States has had relative decline in both firms and industries. This pattern holds until 1989, but with the advent of the Japanese economic downturn, in some ways, this pattern has reversed. Between 1994 and 1998, Japan consistently lost firms (going from 149 to 100) and industries (35 to 31) within the Global 500, whereas the United States had a commensurate increase in number of both firms (from 151 to 185) and industries (from 36 to 39).

Japan's decline and the United States' gain in the late 1990s is a significant reversal of the postwar trajectories of the United States and Japan and might be directly related to the expanding power of the "Dollar–Wall Street Regime." Paul Krugman (1999) has argued that speculation and bad banking may have been major causes of the downturn of the 1990s, but these financial problems were not purely Asian in origin. The power of U.S. financial institutions over Asian economies was shown most dramatically by speculative attacks by U.S.-based hedge funds against the Thai baht in May 1997, attacks that eventually triggered a wider Asian financial crisis (Gowan, 1999, pp. 98-99). International Monetary Fund bailout programs were directed from Washington not Tokyo, and the United States is unlikely to use its current position of strength to help these economies resume their upward trajectory. In sum, it is possible that the Japanese and other Asian economies may be more fragile than they appeared, so that the extended downturn (the "Asian flu") might indicate structural weaknesses in those economies.[9]

Only time will tell whether the Japanese and other Asian economies will resume the same upward trajectory enjoyed for most of the postwar era or whether the extended recession of the 1990s indicates that this basic upward trajectory is over. The change in these historical patterns does not necessarily indicate that U.S. hegemony will continue indefinitely; instead, it is possible that no one nation will ever achieve the kind of economic power once held by the United States. As Arrighi, Ahmad, and Shih (1999) have argued, there appears to be a "structural differentiation" of economic and military power in Asia, with Asia retaining significant economic strength (even as it is currently weakening) but the United States retaining military dominance. Arrighi et al. argue that this situation "makes it extremely unlikely that any single state operating in the region, the United States included, will acquire the capabilities needed to become hegemonic regionally and globally" (p. 269). This situation could change, with Asia

rising again as an economic and military power, or a new kind of organization of the world system could emerge, one that does not concentrate both military and economic power, the main components of national hegemony, in any one nation.

NOTES

1. Although the idea of globalization has become popular recently, some have argued that a global world economy has existed for centuries (Frank, 1998; Wallerstein, 1974).

2. *Fortune*'s top 500 list has changed over the years as the global economy has changed. The list was first published in 1955 for the largest industrial firms in the United States. Then, in 1956, *Fortune* added Top 50 lists for U.S. commercial banks and merchandising, transport, life insurance, and utility companies. A list of the Top 100 foreign industrial corporations was added in 1957. These early lists reflected the postwar hegemony of U.S. corporations. As Europe and Japan rebuilt and expanded their economies, and as financial and service industries grew (especially after the 1960s), the lists were expanded. The list for non-American production corporations expanded from 100 in the late 1950s to 200 in the late 1960s and was up to 500 by 1976. The list of U.S. commercial banks was expanded from 50 to 100, and separate Top 50 lists were added for diversified service companies, diversified financial companies, and savings institutions. The Top 50 foreign commercial banks were first listed in 1969, expanding to 100 in the mid-1980s.

In the 1970s, *Fortune* also started to publish truly global lists, which included both U.S. and non-U.S. firms. This started as the Top 50 global production firms in 1974, expanding to the Top 500 by 1990. A global Top 50 commercial banking list was added in 1989, expanding to a Top 100 list a year later. In 1991, *Fortune* created a Top 500 global service corporations list, which included the same categories as the U.S. service list. This format was used for 4 years, until a single unitary list was first published in 1995. This latest list ranks the Top 500 global corporations, including production, financial, and service companies in one list. To make firms comparable, the firms were ranked by revenues (where the industrial lists were previously ranked by sales, banks by assets, and some service lists by revenues, etc). Also note that the data contained in any list are drawn from the previous year (i.e., the 1995 list contains data from 1994).

3. This study will continue the use of network analysis as employed in Bergesen, Fernandez, and Sahoo (1987) and Bergesen and Fernandez (1999). We classify the largest firms by the country and region in which the firm bases its operations and the primary industry in which the firm operates for each year. These data can then be formatted into matrices by arranging the regions in the columns and the industries in the rows, creating a table of cross-classifications. This data format enables us to examine the duality (Breiger, 1974) of countries and industries, that is, how countries are composed of groups of industries and industries are composed of groups of countries. See Note 6 for more on this method.

4. For lists before 1995, *Fortune* listed production, financial, and service corporations separately. Our classification of firms uses the same categories *Fortune* previously used in compiling these lists. Production Sector: Advertising, Aerospace, Apparel, Beverages, Building materials/glass, Chemicals, Computers/office equipment, Electronics, Energy (including oilfield services), Engineering/Construction, Entertainment, Food, Forest and paper products, Industrial and Farm equipment, Metal products, Metals, Mining/crude-oil production, Motor vehicles and parts, Petroleum refining, Pharmaceuticals, Publishing/printing, Rubber/plastic products, Scientific/photo/control equipment, Soaps/cosmetics, Textiles, Tobacco, Transportation equipment. Financial Sector: Banks (commercial and savings), Diversified financials, Insurance (stock and mutual), Securities/brokerage. Service Sector: Airlines, Food and drug stores, Food services, General merchandising, Health care, Hotels/casinos/resorts/travel, Mail/package delivery, Railroads, Real estate, Shipping, Specialist retailers, Telecommunications, Trading, Utilities (gas and electric), Waste management, Wholesalers.

5. Countries were classified into regions in the following manner: Asia includes China, Hong Kong, India, Japan, Malaysia, South Korea, and Taiwan. Europe includes Austria, Belgium, Britain, Finland, France, Germany, Italy, the Netherlands, Norway, Russia, Spain, Sweden, Switzerland, Turkey, and firms with joint ownership in Britain and the Netherlands and Belgium and the Netherlands. Other includes Australia, Brazil, Canada, Mexico, Netherlands Antilles, and Venezuela. The United States, because of its size, is assigned to its own regional category.

6. Data for years prior to 1994 are taken from Bergesen and Fernandez (1999) and combined with our data. We use Breiger's (1974) method of analyzing overlapping memberships to construct this table. We begin with binary matrices (those containing only zeros and ones) for each year, with industries along the rows and countries along the columns, where the entries denote the countries' industrial affiliations on the basis of the largest firms. We then manipulate these binary matrices to examine the relationships of countries to countries and industries to industries. The binary matrices are labeled A; then, matrices describing relations among countries based on sharing of industries, denoted C, are computed by premultiplying A by the transpose of A (denoted A^T). This procedure, $C = A^TA$), is repeated for each year and yields country-by-country matrices where the entries denote the number of industries shared by pairs of countries. The C matrices will be used to study patterns of industrial competition among nations.

The examination of the second structural pattern (relations among industries based on shared nations) is based on constructing a set of industry-by-industry matrices (one for each year) where the entries are the number of nations that pairs of industries share. These matrices, labeled I, are constructed by postmultiplying A by the transpose of A, that is, $I = A^TA$.

7. The competitive process appears first in the economic sphere as seen in trade, price, and tariff wars, then political rivalry as seen in various forms of imperialist rivalry; finally, the system degenerates into overt conflict. The clearest example of this sequence is the decades leading up to World War I (Bergesen, 1985; Bergesen & Schoenberg, 1980; Bornschier & Chase-Dunn, 1999).

8. Numbers presented in this table are pooled from the 5 years 1994 to 1998, so they represent a region's (or industry's) size as an aggregate of these 5 years. Table 4 represents 96% of the firms in our data. The remaining 4% (or 98 out of 2,500 over 5 years) were firms based in countries outside of the three main regions, either British Commonwealth countries (Australia, Canada) or Latin American countries (Brazil, Mexico, Netherlands Antilles, and Venezuela).

9. In addition to the arguments about the future of Asian economies, it is also possible to argue that Europe, in the form of the European Union, could provide competition for hegemonic status in the next century, but our data do not seem to support this possibility.

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