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# U.S. Corporations in Globalization

John B. Davis

Marquette University, john.davis@marquette.edu

Joseph P. Daniels

Marquette University, joseph.daniels@marquette.edu

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### 1. INTRODUCTION

The major force affecting corporations and economic institutions over the last two decades is globalization. A recent survey of the members of the American Economic Association, interpreted by Pryor (2000) reveals that economists see globalization as that factor (out of ten) most likely to have a major impact on the economic system or its important institutions. In contrast to past theories of trade, where firms could choose between exporting goods or exporting capital, that is, producing abroad, globalization has given rise to a 'disintegration of the production process in which manufacturing or service activities done abroad are combined with those performed at home' (Feenstra, 1998, p. 31). Hence, the old views of location of production activity are no longer appropriate and relationships between trade, investment and production activity are much more complex.

In the broadest sense, corporate governance consists of an interrelated set of mechanisms relating boards of directors, ownership structures, institutional and relational investors, and government and other stakeholder groups that influence firm-level decisions over resource allocation aimed at maximizing shareholders' returns.<sup>1</sup> The purpose of this chapter is to understand these firm-level decisions in terms of the evolution and extent of globalization of US industries as revealed by trade, production and investment data, and relate these findings to theories regarding different systems of corporate governance. We offer a number of insights into how the distinctive characteristics of the US corporate governance system have helped US firms respond to opportunities presented by global integration through changes in trade, production and investment activities. We do not present original empirical work, but rather use the empirical findings of other studies to throw light on the US system. We also conclude that further research based on a similar attempt to link evidence and theories will require much more disaggregated data.

We begin our analysis in Section 2 by considering the duality of forces at work, the strategic pursuit of profits as influenced by the corporate

governance system and the pressures and opportunities of increased globalization. Section 3 examines the extent of globalization of US industries, quantifying the trade and investment channels of the process, as well as the disintegration of the production process and increased global outsourcing. In Sections 4 and 5 we use the economic theory of corporate governance to explain how the US system of corporate governance influences how US firms are likely to approach global competition given the strengths and weaknesses of that system in promoting capital investment. Section 5 relates the theories of capital allocation to the quantitative data presented earlier. Section 6 offers general conclusions on the globalization of US corporations in relation to the US model of governance.

## 2. GLOBALIZATION AND CORPORATE GOVERNANCE: DUALITY OF FORCES

As the economies of the world become increasingly integrated, the extent and effects of globalization have received greater and greater attention. The political economy literature has rightly tended to focus on the macroeconomic effects of globalization. Issues such as earnings inequality, employment security, tax base stability and the role of the welfare state challenge free trade positions grounded on the welfare gains from exchange (for example, Rodrik, 1997). Less research has been done on how corporate governance influences global trade and investment in light of the strengths and weaknesses of different types of governance structures in promoting capital investment.

As is well known, the forces of globalization and deeper integration are numerous and affect different industries and firms unevenly. The effects of globalization can be both direct and indirect, with contagion occurring far down the customer and supply chain. Few industries and firms, then, can escape the effects of globalization regardless of their choice to participate in, or avoid, the international arena. Hence, corporate governance necessarily occurs in a global environment. In addition, the globalization process and corporate governance structures each influence one another, and accordingly we must consider a duality of forces at work. The globalization process forces changes in corporate governance structures through direct and indirect channels, requiring that these structures adapt to the new opportunities available and the competition firms face, as determined by political and economic forces. At the same time, structures of different corporate governance systems influence firms' strategic approaches, and therefore the pace and pattern of globalization.

In the past, US firms exercised influence over the formation of trade policy and management decisions of suppliers and competitors by acquiring sizable

market shares. More recently, however, soaring levels of US global equity holdings combined with the advantages of the US securities-based system of corporate governance have given US firms and institutions new channels of influence. Consider, for example, that the California Public Employees' Retirement System (known as Calpers) garnered support from an array of German pension funds, and forced changes in the two-tier shareholder structure of a large German utility. Steinmetz and Sesit (1999, p. 1) comment that the most significant effect of the surge in US global equity investment is that it 'forces European companies to change the way they do business and adopt American corporate values'.

Regarding corporate governance, we distinguish between management thinking on corporate governance, and appropriate an international political economy perspective and the economic analysis of corporate governance, based on the theory of efficient capital allocation. An economic analysis of corporate governance explains how principal-agent and insider-outsider relationships affect firms' investment plans and, therefore, location of production activity. Management thinking on corporate governance, built upon general systems theory, describes how firms may be constrained by possible conflicts with stakeholders, or groups affected by, and/or that can affect, a firm's decisions, policies and operations. Though we focus on the economic perspective, we contend that both perspectives are necessary, since one reflects how unhindered firms would choose to invest domestically and internationally, while the other reflects the political economic realities involved in globalization.

The US system of corporate governance is a securities-based system of corporate governance (sometimes called a neoclassical system of regulation) which favours competitive capital markets, discourages intercorporate cooperation, tips the balance of power between shareholders and corporate management in the direction of the former, and tends to be associated with a relatively unconcentrated corporate ownership structure, all reinforced by a competition policy based in antitrust law. We argue that the US system of corporate governance creates strong incentives for US firms involved in certain types of production to avoid regulatory exposure through foreign operations, while US firms involved in other types of production will have weak incentives to do so. These developments, it should be noted, need not be consistent with US macromanagement goals (cf. Daniels and Davis, 2000).

### 3. THE EXTENT OF US GLOBALIZATION: TRADE, PRODUCTION AND DIRECT INVESTMENT

Dunning (1993, p. 54) argues that the activities of multinational enterprises

are motivated by stakeholder interest, where stakeholders include employees, management and shareholders. In contrast, neoclassical economic theory asserts that residual income accrues to a firm's shareholders in the form of profits paid as dividends, and that therefore profits motivate the actions of the firm (and its managers). In discussing the 'OECD Principles of Corporate Governance' Emmons and Schmid (Chapter 2, this volume) observe that both shareholder and stakeholder rights are acknowledged, but ask whether conflict between the two is not inevitable. Dunning also stresses that multi-national activities may produce conflict between shareholders and stakeholders. Further, globalization strategies and the various exposures to risk globalization may generate considerable stress between these constituencies even when each includes profit maximization in their objective functions. Hence, globalizing firms may pursue a variety of different paths reflecting conflict over both objectives and strategies.

Trade economists have generally considered two routes of global expansion; globalizing through trade or globalizing through foreign direct investment (FDI). Traditionally these strategies were viewed as being separate or alternative means to globalization. That is, the exports of goods and capital substitute for each other. Recent theoretical (for example, Markusen and Venables, 1995) and empirical research (for example, Fontagné and Pajot, 1997) show that the relationship between trade and foreign direct investment is much more complex, and that trade and foreign direct investment may actually complement each other. That is, foreign direct investment may spur greater amounts of trade, and trade may spur greater amounts of foreign direct investment. Hence, the pursuit of profit maximization and the attempt to balance various stakeholder groups may well require a mixed approach to globalization. The approach in some industries may be increased trade channels, in others the acquisition of a controlling share in a foreign establishment, and yet others a mix of both.

There is a further reason that the relationship between trade and investment is complex. Global integration may be accompanied by a 'disintegration' of the production process (Feenstra, 1998, p. 31) whereby a formerly integrated domestic production activity becomes fragmented as portions of the production process are outsourced to foreign production. This outsourcing activity allows firms to concentrate on the highest value-added portions of the total production process, making many US firms only responsible for final stages of production. This complicates our standard model of comparative advantage which explains advantage in terms of *final* goods and services. In effect, a US manufacturing firm may find that it has a comparative advantage in high value-added stages such as design and marketing, but a comparative disadvantage in mass production. This may not be reflected in industry-level data, and thus makes clear-cut

conclusions about trade, production and investment difficult, though not impossible.

### 3.1 Manufacturing

We begin our analysis of the evidence by considering global integration in the manufacturing sector. We are not concerned with defining globalization or integration *per se*. Neither do we classify industries as domestic or global (see, for example, Makhija and Williamson, 2000). Rather we consider industries along a continuum from relatively low to relatively high degrees of integration.

#### 3.1.1 Integration of the manufacturing sector

Campa and Goldberg (1997) examine the external orientation of manufacturing in four different countries by considering the share of exports, imports and imported inputs for 20 categories of manufactures. The purpose of their study is to ascertain the exposure of these industries to international events such as changes in trade policies and exchange rates. Their results are particularly interesting in that they illustrate both direct and indirect exposures that may exist from globalization. Direct exposures refer to changes that affect the firm directly through effects on its price competitiveness or costs of inputs used in the production process. Indirect exposures refer to changes that affect the firm indirectly by impacting upon the firm's competition, suppliers and customers.

Campa and Goldberg capture direct exposure by measuring the extent to which an industry relies on exports and imported inputs. They capture part of a firm's indirect exposure through the degree of import competition. The levels of these shares are provided in Table 6.1 as are the changes in these shares over a 20-year period.

Campa and Goldberg calculate each industry's external orientation by netting the export and imported-input shares. The rationale for this measure is that it shows how export-oriented firms are at least partially insulated against exchange rate movements. For example, a firm facing appreciation of its currency and loss of export sales, benefits from the reduced domestic currency cost of imported inputs. Industries with the highest external orientation, such as instruments and related products (15 per cent), industrial machinery and equipment (14.8 per cent), electronic and other electrical equipment (12.6 per cent), and tobacco products (11.9 per cent), do not rely heavily on imported inputs, and therefore may be hurt by a domestic currency appreciation. Goldberg and Crockett (1998) claim that industries with more labour-intensive production processes are likely to have a lower imported-input share and, therefore, a higher external orientation. Comparing capital

Table 6.1 *Export and import market shares for manufacturing, 1995*

	Export share	Import share	Imported-input share	Change in export share*	Change in import share*	Change in input share*
Food and kindred products	5.9	4.2	4.2	2.6	0.5	1.4
Tobacco products	14.9	0.6	2.1	8.0	0.0	0.7
Textile mill products	7.6	9.1	7.3	2.5	4.8	4.3
Apparel and other textiles	7.4	31.4	3.2	5.4	22.9	1.9
Lumber and wood products	7.6	10.3	4.3	0.4	3.4	2.1
Furniture and fixtures	5.5	14.1	5.7	4.2	11.1	2.1
Paper and allied products	9.0	10.0	6.3	3.1	4.1	2.1
Printing and publishing	2.4	1.6	3.5	0.8	0.6	0.8
Chemicals and allied products	15.8	11.0	6.3	5.7	7.4	3.3
Petroleum and coal products	3.9	5.7	5.3	2.2	-4.0	-1.5
Rubber and miscellaneous products	9.2	12.8	5.3	4.4	7.9	2.6
Leather and leather products	14.4	59.5	20.5	10.5	41.8	14.9
Stone, clay and glass products	5.6	9.5	4.7	2.2	6.1	2.6
Primary metal products	11.2	17.4	10.6	6.1	7.6	5.6
Fabricated metal products	7.9	8.5	8.7	1.6	5.5	4.0
Industrial machinery and equipment	25.8	27.8	11.0	2.5	21.5	6.9
Electronic and other electric equipment	24.2	32.5	11.6	13.1	24.0	7.1
Transportation equipment	17.8	24.3	15.7	2.0	13.9	9.3
Instruments and related products	21.3	20.1	6.3	4.5	12.7	2.5
Other manufacturing	13.5	41.1	9.9	3.6	27.7	5.3
Total manufacturing	13.4	16.3	8.2	5.0	10.0	4.1

Note: \* Change from 1975 level.

Source: Campa and Goldberg (1997, p. 57).

expenditure-labour unit ratios with the external orientation measure, as shown in Table 6.2, does not reveal such a pattern.<sup>2</sup> Goldberg and Crockett also argue that exchange rate changes disproportionately affect profitability and investment spending in industries with the highest external orientation.

*Table 6.2 Capital expenditure to labour unit and external orientation*

	Capital expenditures to labour	External orientation
Leather and leather products	1 386.8	-6.1
Petroleum and coal products	50 971.5	-1.4
Printing and publishing	4 293.8	-1.1
Fabricated metal products	5 407.6	-0.8
Furniture and fixtures	2 654.8	-0.2
Textile mill products	4 538.8	0.3
Primary metal industries	11 383.4	0.6
Stone, clay and glass products	9 114.9	0.9
Food and kindred products	8 058.2	1.7
Transportation equipment	8 916.3	2.1
Paper and allied products	15 355.6	2.7
Lumber and wood products	5 061.9	3.3
Misc. manufacturing industries	3 861.6	3.6
Rubber and misc. plastics products	7 670.5	3.9
Apparel and other textile products	1 192.7	4.2
Chemicals and allied products	24 927.2	9.5
Electronic and other electric equipment	15 081.0	12.6
Tobacco products	18 837.2	12.8
Industrial machinery and equipment	6 696.0	14.8
Instruments and related products	6 698.4	15.0

The data for all three measures shows that manufacturing has become much more integrated in the global economy over the 20-year period, as the share of exports increased an additional 5 per cent representing a 60 per cent gain overall. The share of imports increased an additional 10 per cent, a 159 per cent increase, while the share of imported inputs doubled to 8.2 per cent. Campa and Goldberg further compare the ranking of the twenty industries for the three share measures over the 20-year period. The industry rank correlations are positive and significant, indicating that the most export-



oriented industries remained so over the entire period. Likewise, the most import-oriented remained so, though the increase in import shares differs significantly across industries. The authors find that the difference in the import shares widens considerably with import penetration increasing at a much faster rate in high import-share industries, such as leather and leather products, as compared to low import-share industries, such as tobacco and printing and publishing. Using Spearman rank correlations, we find that capital expenditures-labour unit ratios and *changes* in import shares are significant and negative indicating that the increasing spread in import penetration falls disproportionately on labour-intensive industries – industries in which the US is at a comparative disadvantage.

### **3.1.2 Disintegration of production in manufacturing**

The industry import and export shares cited above do not reveal the extent of international trade in intermediate products. Advances in technology, particularly communications technology, coupled with reductions in transportation costs have allowed firms to outsource various stages of the production process, and focus on those segments of the value-added chain in which the firm has a comparative advantage. For firms in the US, this means increasingly that the manufacturing component of production is contracted out to foreign sources, allowing traditional manufacturing enterprises to concentrate on such high value-added activities as design and marketing. Firms such as Ford now see their future in design, branding, marketing and service operations, as opposed to automobile manufacture and traditional final assembly (Burt, 1999). Others, relying on new information technology combined with robotics and advanced production techniques, concentrate on 'mass customization' or customization of products on a large scale. Huffy, for example, recently announced that the last of its US bicycle plants would shut down, completing the firm's evolution into a 'multibrand design, marketing and distribution company' (Aepfel, 1999, p. A1).

Evidence that outsourcing has become more important for the United States is suggested by the rising ratio of US merchandise trade (the average of imports and exports) to merchandise value-added since the 1980s (Irwin, 1996). A higher ratio of merchandise trade to value-added indicates a greater share of imported inputs in final product value. Also, that advanced countries' final product value tends to be high relative to final product value in developing countries suggests that a higher share of imported inputs reflects inputs having a higher degree of processing. Further evidence that this higher share may reflect an increasing tendency on the part of advanced countries to outsource the low-wage stages of the production process associated with light assembly and manufacturing, while retaining domestically the high-wage portions of the production process associated with design and more complex,

less standardized forms of manufacture, comes from changing shares of US exports and imports by end-use categories. To estimate the extent of outsourcing, Feenstra (1998), following Irwin (1996), calculates the share of exports and imports by end-use categories for the US. For the United States, as shown in Table 6.3, the first half of the century saw higher shares of raw materials and industrial supplies in exports and imports, while since the 1980s manufactured goods, including capital goods, at increasingly advanced stages of processing, have occupied a larger share of total end-use categories.

Thus the US appears to be importing products that are closer and closer to the final stage of production, allowing more and more of the earlier stages of the production process to occur in foreign countries. But industry-level trade data aggregates all stages of the production process and does not reveal the degree to which US firms concentrate on the high value-added stages of production, the stages of production in which they have a comparative advantage. A more thorough examination of this phenomenon would require us to consider firm-level data, which is generally unavailable.

### **3.1.3 Foreign direct investment shares in manufacturing**

Expanded trade activity, whether vertical or horizontal, is but one path of globalization. Another is through foreign direct investment: investment in the form of capital, technology, management skills and so on, which is outside of the country but within the structure of the investing company (Dunning, 1993, p. 5). Table 6.4 provides the stock of FDI (historical basis) and share of outstanding stock for the 20 manufacturing industries considered in Table 6.1.

It is important to note that the measures in Table 6.1 are flow measures as they reflect the flow of goods and services over the course of a given period whereas the measures in Table 6.4 are stock measures, indicating the level of accumulated direct investment. Nonetheless, it is interesting to note that three of the five industries with the highest FDI shares (chemicals, industrial machinery and electronic equipment) are also in the top five for export shares, yet no relationship appears to exist at the bottom of the categories. In general, however, a positive ordinal relationship does appear to exist between FDI shares and export shares. No relationship is evident between FDI shares and import shares or imported input shares, or the changes in these shares. Spearman rank correlations lead us to the same conclusion.<sup>3</sup> We conclude, therefore, that the relationship between trade patterns and FDI stocks are complex and FDI is not a clear substitute for exports. This relationship is revisited later in the chapter.

## **3.2 Services**

The service sector is extremely important to the US economy as most recent

*Table 6.3 Shares of exports and imports by end-use categories*

Category		1925	1950	1965	1980	1995
Foods, feeds and beverages	Imports	21.9	30.0	19.1	11.3	5.0
	Exports	18.7	15.5	19.2	16.9	9.2
Industrial supplies and materials	Imports	68.2	62.4	53.3	31.3	18.2
	Exports	59.8	45.5	34.8	32.2	25.6
Capital goods (except autos)	Imports	0.4	1.3	7.1	19.0	33.6
	Exports	8.7	22.4	31.4	35.0	42.4
Consumer goods (except autos)	Imports	9.4	6.1	16.0	21.5	24.3
	Exports	6.0	8.9	7.0	7.8	11.7
Automotive vehicles and parts	Imports	0.02	0.3	4.5	16.9	18.9
	Exports	6.8	7.8	7.5	8.1	11.2

Source: Feenstra (1998).

*Table 6.4 Stock and shares of FDI for manufacturing, 1995*

Industry classification	FDI stock*	FDI share
Food and kindred products	28 896	11.8
Tobacco products	3 962	1.6
Textile mill products	1 538	0.6
Apparel and other textiles	1 248	0.5
Lumber and wood products	1 861	0.8
Furniture and fixtures	805	0.3
Paper and allied products	11 748	4.8
Printing and publishing	2 344	1.0
Chemicals and allied products	61 374	25.2
Petroleum and coal products	19 597	8.0
Rubber and miscellaneous products	5 291	2.2
Leather and leather products	134	0.1
Stone, clay and glass products	2 786	1.1
Primary metal products	3 927	1.6
Fabricated metal products	7 628	3.1
Industrial machinery and equipment	29 626	12.1
Electronic and other electric equipment	27 514	11.3
Transportation equipment	34 076	14.0
Instruments and related products	11 676	4.8
Other manufacturing	7 520	3.1
Total manufacturing	243 954	100.0

*Note:* \*Millions of US\$. Historical cost basis.

*Source:* Bureau of Economic Analysis, *International Accounts Data*.

figures show (OECD, 1999a) that services contribute over 70 per cent of GDP whereas manufacturing contributes slightly more than 18 per cent. It is unfortunate, however, that private services transactions and US direct investment abroad are not classified the same and are not directly comparable.<sup>4</sup> Table 6.5 provides the export and import shares of total private services for the 11 broad categories used by the Bureau of Economic Analysis.

Table 6.6 provides the levels and shares of foreign direct investment for the major categories tracked by the Bureau of Economic Analysis.

Because the import and export shares and FDI shares are not directly comparable, there is little we can draw from their patterns. We note, however,

Table 6.5 Industry share of total private services exports and imports, 1995

Private services transactions	Share of total exports	Share of total imports
Travel	31.1	34.2
Passenger fares	9.4	10.7
Other transportation	13.4	21.0
Royalties and licence fees	13.4	4.8
Affiliated services	9.9	10.1
Education	3.7	0.7
Financial services	3.4	1.8
Insurance, net	0.7	4.0
Telecommunications	1.6	5.8
Business, professional and technical	8.7	3.5
Other	4.8	3.3

Source: Bureau of Economic Analysis, *Private Services Transactions by Type*.

the importance of exports to business services. We also note that the overall stock of FDI in finance and services is slightly higher than in manufacturing, though one would expect this to be a recent phenomenon. The relatively high FDI shares in finance, insurance and business are also apparent.

### 3.3 The Link Between FDI, Trade and Production Activity

The data presented thus far shows that there are complex relationships among trade, FDI and production activity. To add further support to this while trying to clear the picture as much as possible, we next present data on the geographical distribution of FDI and recent empirical evidence on the relationship between trade and FDI.

#### 3.3.1 The geographical distribution of FDI

The geographical pattern of FDI is likely to vary across sectors as were export, import and FDI shares. Table 6.7 provides recent data on the geographical distribution of FDI stocks, delineating between the service sector and manufacturing sector.

The geographical pattern of FDI stocks reveals the concentration of investment in the United Kingdom and Canada. For manufacturing, these two countries account for 32 per cent of the share of FDI among the top 15 destinations. For the service sector FDI stocks are even more concentrated in

Table 6.6 Stock and shares of FDI for finance and services, 1995

Industry classification	FDI stock*	FDI share
Finance	68 135	27.5
Insurance	32 767	13.2
Real estate	1 194	0.5
Holding companies	11 6217	46.9
Services		
Hotels and lodging	2 044	0.8
Business services	15 043	6.1
Automotive rental and leasing	2 795	1.1
Motion pictures	1 682	0.7
Health services	267	0.1
Engineering	1 094	0.4
Management and public relations	2 354	0.9
Other		
Automotive parking and repair	68	0.0
Miscellaneous repair	235	0.1
Amusement and recreational	1 076	0.4
Legal services	145	0.1
Education	41	0.0
Accounting and auditing	225	0.1
Research and development	980	0.4
Other commercial services	1 670	0.7
Total finance and services	248 032	

Note: \*Millions of US\$. Historical cost basis.

Source: Bureau of Economic Analysis, *International Accounts Data*.

Canada and the United Kingdom as their combined share is in excess of 40 per cent. In addition, US FDI stocks are highly concentrated in the developed economies, particularly so in the service sector with 95 per cent of stocks located in Canada and the EU. Though the developed economies account for the majority of FDI stocks in both manufacturing and services, and though Canada and the United Kingdom are the top two nations in each sector, rank correlations show no significant relation among the pattern of nations across the two sectors. Hence, location strategies are likely to differ between the service and manufacturing sectors.

Table 6.7 Geographical distribution of FDI for manufacturing and services, levels and shares, 1995

Manufacturing	FDI* stock	FDI share	Services	FDI* stock	FDI share
Canada	41 248	19.0	United Kingdom	5 764	24.1
United Kingdom	27 865	12.9	Canada	4 014	16.8
Germany	23 671	10.9	Belgium	2 829	11.8
Brazil	17 651	8.1	France	2 324	9.7
Japan	16 664	7.7	Switzerland	1 440	6.0
France	16 555	7.6	Italy	1 257	5.2
Netherlands	10 451	4.8	Australia	1 055	4.4
Sweden	10 377	4.8	Netherlands	1 040	4.3
Italy	9 822	4.5	Germany	955	4.0
Mexico	8 856	4.1	Japan	686	2.9
Belgium	8 508	3.9	Denmark	651	2.7
Australia	8 466	3.9	Ireland	621	2.6
Ireland	6 894	3.2	Sweden	488	2.0
Spain	5 806	2.7	Spain	421	1.8
Switzerland	3 843	1.8	Mexico	412	1.7

Note: \* Millions of US\$. Historical cost basis.

Source: von der Ruhr (1999).

### 3.3.2 The impact of FDI on bilateral trade flows

Traditionally FDI and exports were viewed as being substitutes to each other. In other words, a firm could choose between exporting goods or capital. Recent theoretical and empirical research show that the relationship between trade and foreign direct investment is much more complex, with trade and foreign direct investment actually complementing each other.

Table 6.8 provides recent empirical evidence by Fontagne and Pajot (1998) on the impact of FDI flows on trade for the manufacturing sector. Because the authors consider FDI flows, the results below indicate the impact of *bilateral* FDI flows on *bilateral* trade. Countries in the columns are the exporting countries and countries in the rows are importing countries. The measures are generated from log-linear export equations that control for such things as market distance, income levels and market sizes, and reflect the change in trade flows resulting from the bilateral FDI flows.

As an example, the table indicates that Japan's exports to the United States

Table 6.8 Trade creation resulting from bilateral FDI flows, 1994

	US	Japan	Germany	UK	France	Italy	Netherlands	Denmark	Sweden	Switzerland	Spain	Canada	Australia
US	-	86	70	98	63	35	0	7	14	47	18	99	17
Japan	149	-	12	22	5	2	16		1	2		8	13
Germany	9	1	-	38	21	-7	20	0	-3		8	0	0
UK	101	3	21	-	14	9	62	2	9	-1	8	-3	33
France	42	2	19	35	-	14	15	1	-2	6	7	2	0
Italy	6	1	4	7	11	-	14	1	0	3	4	1	0
Netherlands	17	0	17	38	7	6	-		20	20		3	3
Denmark	11	0	3	13	2	0	5	-	9	2	10	1	0
Sweden	10	1	-4	6	-10	0	58	15	-	7		0	
Switzerland	47	-2	16	23	11	1	11	1	8	-	-1	1	0
Spain	21	3	15	-1	14	9	12	0	0		-		0
Canada	86	6		-14								-	
Australia	20	2	0	29	3		3					2	-

Note: Expressed as a percentage, the additional trade created by bilateral FDI flows.

Source: Fontagné and Pajot (1998).



are 149 per cent higher than they would have been in lieu of bilateral FDI flows. In turn, US exports to Japan are 86 per cent higher than they would have been without the bilateral FDI flows. Hence, the US's FDI relationship with Japan results in a trade deficit as the FDI flows generate more exports to the US than imports to Japan. In contrast, the bilateral FDI flows between the United States and Canada and the United Kingdom, whose importance is demonstrated in the previous table, appear to be trade-balance neutral as they spur roughly equal amounts of imports and exports. What is evident in the table is that the bilateral FDI flows complement US imports *and exports* as opposed to substituting for them. The authors conclude that because exports increase, rather than being substituted for, US FDI results in greater US competitiveness in foreign markets boosting exports from home. Likewise the increase generated in imports reflects global relocations strategies with exports from foreign subsidiaries to home.

Fontagné and Pajot consider FDI stocks as well as FDI flows. The complementary relationships hold for stocks as well as each dollar of outward FDI stock results in 70 cents of new exports and \$1.3 of imports. Hence, outward US FDI stocks are trade-deficit generating. Inward FDI stock, on the other hand, has a net substitution effect as each \$1 of inward stock results in a 16 cent decline in imports and a 10 cent decline in exports. Fontagné and Pajot (1997) include FDI stock for services in these estimates and find that the negative trade effect of outward FDI and the positive effect of inward FDI disappear. The authors reason that FDI in services pertain to subsidiaries in wholesale trade which explains this outcome.

### 3.4 Conclusions

Our general conclusions in this section are summarized as follows:

- Manufacturing has become much more integrated in the global economy. Market shares of export, imports, and imported inputs have all increased significantly since 1975.
  - The most export-oriented and the most import-oriented industries in 1975 remained so over the last 20 years.
  - Import penetration increased at a much faster rate for high-import share industries than low-import share industries.
- (a) Changes in import shares are negatively related to the industry's capital-labour ratio. Hence, increasing rate of import penetration fall disproportionately on labour-intensive industries.
- The rising ratio of US merchandise trade to merchandise value-added

indicates that outsourcing has become more important for the United States. Data on the share of exports and imports by end-use categories confirms this conclusion. Hence:

- (a) The US is importing products that are closer to the final stage of production and concentrating on the high value-added stages of production.
  - (b) The phenomenon of outsourcing clouds the industry-level data as comparative advantage now takes place at a level of production rather than at the industry level. Firm-level data is required to conduct a more thorough examination.
- Manufacturing industries with the highest FDI shares (chemicals, industrial machinery, electronics) tend to have the highest export shares.
  - (a) Overall, a positive ordinal relationship exists between FDI shares and export shares.
  - (b) There is not an apparent relationship between FDI shares and import and imported-input shares.
  - (c) Hence, the relationship between trade and FDI appears to be more complex than the traditional export substitution hypothesis.
- US manufacturing FDI shares are highly concentrated in the United Kingdom and Canada, and even more so in the service sector. Canada and Europe account for a high share of FDI stocks, particularly in services.
  - (a) Though Canada and the United Kingdom are the top two locations of US FDI stocks, rank correlations between manufacturing and services do not verify an ordinal relationship among the pattern of nations.
- Bilateral FDI flows between the US and partner countries have differing effects on the US trade balance.
- Bilateral FDI flows are complements to both US imports and exports. Hence, FDI flows result in greater US competitiveness abroad in addition to global relocation strategies which result in exports from foreign subsidiaries.
- Outward US manufacturing FDI stocks complement US exports and imports whereas inward FDI stocks substitute for both imports and exports. Adding service stocks mitigates the trade deficit effects of outflows and positive trade effect of inflows.

In a more general sense, the evidence above shows that US corporations have effectively pursued globalization strategies over the last 30 years. In regard to production activity and FDI, outsourcing of low-value-added stages of production has become more important to US corporations while FDI continues to be directed to developed nations. In addition, FDI appears to complement trade as opposed to substituting for it. We conclude, therefore, that FDI strategies are primarily driven by ownership characteristics with acquired assets, whether tangible or intangible, complementing the corporation's existing comparative advantage.

#### 4. CORPORATE GOVERNANCE AND CAPITAL ALLOCATION: ALTERNATIVE MODES<sup>5</sup>

The economic theory of corporate governance is rooted in theories of efficient allocation of capital. Efficient allocation of capital depends first upon investors having the knowledge needed to correctly estimate the expected return and risk of available investment portfolios. (1) *Misallocation costs* arise in the absence of such knowledge when scarce capital is not allocated to its highest yield use, and reflect costly efforts on the part of investors to acquire better knowledge regarding future states of the world and their probabilities. But capital markets also link investors who provide capital to firms which use it for investment purposes, so that the efficient allocation of capital also depends upon the relationship between investors and firms. (2) *Governance costs* are incurred when investors and corporate executives pursue conflicting goals, and adopt costly measures to achieve their respective goals. They include: (2a) agency costs (Jensen and Meckling, 1976; Spence, 1973; Stiglitz, 1975), including signalling costs on the part of firms seeking to demonstrate reliability and trustworthiness to investors and screening/monitoring costs on the part of investors; and (2b) non-diversification costs incurred by investors who increase their degree of governance in order to lower screening and monitoring costs.<sup>6</sup>

Alternative modes of capital allocation and corporate governance may be distinguished according to the different regulatory regimes countries adopt to manage misallocation costs and governance costs. Dietl (1998, pp. 23ff) identifies two polar extremes in a wide spectrum of regulatory regimes, neoclassical and relational systems of regulation, and uses these polar extremes and a hybrid combination of the two to characterize the US, German and Japanese modes of capital allocation and corporate governance.

*Neoclassical regulation*, based on theoretical neoclassical economics, emphasizes allocative efficiency and competitive capital markets, and concentrates on removing capital market imperfections due to information

asymmetries, manipulated markets and market power. Information asymmetries are addressed through accounting, disclosure and auditing rules, manipulated markets by prohibiting insider trading, and market power with anti-takeover laws and prohibition of universal banking (separation of commercial and investment banking). The latter combined with strict diversification requirements prevents financial intermediaries from acquiring control over non-financial institutions. Competitive capital markets are consequently associated with ownership fragmentation. One consequence of this is that investors do not commit themselves to long-term investment relations, since inability to earn governance rents means that investors discount future cash flows at high rates. Another consequence is that small corporations have good access to capital markets, since investors are protected by accounting, disclosure and auditing rules, insider restrictions, and so on.

*Relational regulation*, based on the property rights literature, focuses on governance efficiency and the economics of governance. Ownership concentration and market manipulation are not considered capital market imperfections, but rather as means of economizing on governance costs. Ownership fragmentation favoured in neoclassical regulation is seen as likely to attenuate property rights, and discourage efficient investments in governance and control. Concentrated ownership internalizes governance costs while it limits risk diversification. To compensate for undiversified investment portfolios, higher returns to investments in governance are needed. This implies weak accounting, disclosure and auditing rules, an absence of prohibitions against insider trading and market manipulation, and takeover-oriented regulations. Universal banking, the combination of commercial and investment banking, is also favoured in order to protect highly specific investments in corporate governance. Banks acquire greater ability to govern loans to non-banks, while the latter avoid credit rationing and undergo smoother restructuring when in financial distress. The resulting investment perspective is long term in contrast to neoclassical regulation.

Comparing actual national systems of regulation in terms of how well they address misallocation costs and governance costs requires that we consider the types of industrial production in which they specialize. Two characteristics of industrial development are central to this evaluation: industry maturity and investment plasticity. (1) *Industry maturity* occurs when market expansion is limited and typically occurs at the expense of competitors, product improvement is gradual and insiders have large amounts of knowledge for predicting the return and risk of new investments (for example, auto, steel). Immature industries have low entry barriers and high rates of innovation, while instability reduces the advantage of insider knowledge (for example, biotechnology, telecommunications, entertainment, financial services).

(2) *Investment plasticity* (Alchian and Woodward, 1987) concerns the relationship between the investor as principal and corporate executives as agents. High investment plasticity is associated with discretionary use of investment funds on the part of corporate executives, and occurs most commonly in industries especially reliant on human skills (for example, research laboratories, software, education). More technologically rigid industries (for example, mining, rail, power generation) have more implastic investments as investments are more clearly dedicated to identifiable purposes.

Here we focus on what these two industrial characteristics specifically imply about national systems of regulation that tend toward the neoclassical end of the spectrum, since this best describes the US case with which we are concerned.<sup>7</sup> Though US anti-trust law dates from the beginning of the century, much important legislation dates from the Depression of the 1930s. Key shareholder-oriented laws include: the 1933 Securities Act and the 1934 Securities Exchange Act which require registration and extensive disclosure concerning securities offerings, provide criminal penalties for false and misleading statements, and prohibit insider trading and market manipulation; the 1933 Glass-Steagall Act and subsequent laws that separate commercial and investment banking; and in the 1980s a variety of Supreme Court decisions allowing states to pass anti-takeover laws. In general, small investors in the US have many protections and corporate ownership is highly fragmented compared to Germany and Japan.

As a result of these laws and regulations, the US capital market is the largest in the world, yet US banks are not large relative to their German and Japanese counterparts. US holding companies are different from German joint stock companies and the Japanese equivalent (*kabushiki-kaisha*) in being subject to anti-trust regulation, so that intercorporate relationships are less common in the US. Finally, in recent years the power of corporate insiders has been increasingly curtailed through the greater presence of outside directors on corporate boards, a greater role for institutional and relational investors, shareholder resolutions, separation of CEO and board chair functions, and so on.

(1) *Mature vs. immature industries*. Neoclassical systems of regulation such as the US system are likely to have lower misallocation and governance costs in connection with immature rather than mature industries. In *immature industries* with considerable innovation and product development, the neoclassical system of regulation has low misallocation costs because competitive capital markets transmit knowledge on the part of outside investors, who have an informational advantage over insiders. Governance costs of the screening/monitoring variety are low, because accounting,

auditing and disclosure rules protect small investors and limit the control of executives. At the same time, accounting, auditing and disclosure rules also reduce signalling costs on the part of firms seeking investment funds. In contrast, since in *mature industries* insider knowledge is necessary and outside investors are at an informational disadvantage, a system that encourages their participation may actually impair allocative efficiency. In addition, screening/monitoring governance costs will be high for outside investors when insider knowledge does not transfer readily. These latter costs are likely to deter investment, and thus unintermediated capital markets tend to direct insufficient investment funds to firms.

One organizational response to this is the intermediation of capital markets. Intermediated capital markets in the form of investment banking allow outsiders to direct capital to mature industries, lowering both misallocation and screening/monitoring costs. But diversification requirements in neoclassical systems of regulation prevent banks from acquiring strong positions in non-bank firms, and thus capital markets are still likely to under-allocate financial resources to mature industries. Holding companies and multidivisional organizations<sup>8</sup> are a further organizational response to the presence of mature industries in neoclassical systems of regulation, because they channel investment funds to insiders while allowing them flexibility in their use. However, anti-trust law and enforcement in neoclassical systems of regulation also limits this organizational response.

(2) *Plastic vs. implastic investment.* Neoclassical systems of regulation such as the US system are also likely to have lower misallocation and governance costs in industries having implastic rather than plastic investments. Completely *implastic investments* create no governance problems, as screening/monitoring costs are minimized, and investors may be confident that executives will use investment funds as anticipated. At the same time, unintermediated capital markets are efficient as misallocation costs are minimal in the presence of accounting, auditing and disclosure rules. But with *plastic investments* firms exercise more discretion over use of investment funds and high screening/monitoring costs tend to deter investment, producing insufficient capital flows to firms. Additionally, should regulations favour outsiders at the expense of insiders, high misallocation costs are also likely since investors are unlikely to be in a position to recognize best investment fund uses.

Bank intermediation is an organizational response that may permit higher levels of investment in virtue of banks' specialization in screening and monitoring. However, diversification requirements still limit banks and other financial intermediaries from exercising control over non-bank firms. Holding companies and multidivisional organizations are also an efficient organizational response, since they may integrate firms engaging in highly

plastic investment in larger organizations with stronger governance structures (especially where there are strong markets for corporate control). Again, anti-trust law and its enforcement limit this organizational response.

## 5. IMPLICATIONS FOR US CORPORATION GLOBALIZATION

We turn to implications of this analysis for US firms in global competition. As a neoclassical system of regulation, we expect US firms that are successful in the global economy to more often be in immature industries and involved in implastic types of investment.

First contrast the case of mature industries. We distinguish among mature industries according to low or high capital expenditure-labor ratios. The US should have a sizable comparative disadvantage where this ratio is low, and we would accordingly expect the US to have low levels of FDI shares and high import shares in these industries. Corresponding to this, the six industries with the lowest FDI shares (leather and leather products, furniture and fixtures, apparel and other textiles, textile mill products, lumber and wood products, and paper and allied products) also have the lowest capital-labour ratios. (The category of other manufacturing is the exception.) These industries also have the lowest external orientation, ranging from a negative 6.1 per cent to just 4.2 per cent. Alternatively, in mature industries in which the capital expenditure-labour ratio is high (and where economies of scale can be achieved), US firms may overcome comparative disadvantage by locating outside the reach of US laws and regulations. While US firms are prevented from forming domestic intercorporate relationships by antitrust law, they may form joint ventures in foreign markets (recent examples include DaimlerChrysler, and Mattel-Bandai). This would imply high levels of foreign direct investment in such industries, and indeed we find that five of the six industries with the highest FDI shares (chemicals and allied products, petroleum and coal products, food and kindred products, electronic equipment and transportation equipment) have among the highest (top half) capital-labour ratios. (Industrial machinery is the exception.) Other than food and petroleum, these industries also have high export shares. However, their respective external orientation varies.

In the case of immature industries where US antitrust law is not at issue, we expect FDI to be low, both because there is no need to escape US laws and regulations, and because the domestic market is still being developed. We take engineering, management, legal, accounting and research and development services to be examples of immature industries, and find that their FDI shares are indeed low. We also expect the import share to be relatively low in

immature industries, since US firms should be highly competitive in the domestic market. Examples here include business, professional and technical services where the export share is more than double the import share. But there is likely to be additional support for supposing that US firms have comparative advantage in immature industries when we emphasize the increasing importance in the global economy of the disintegration of production. Though there is not sufficient firm-level data on this development, the tendency of US firms to outsource low value-added stages of production and retain high value-added stages reinforces our conclusion that business, professional and technical services, such as design, branding, marketing and service operations, are areas of US comparative advantage.

It is more difficult to determine whether US firms are more successful in regard to relatively implastic as compared to more plastic investments, since an efficient organizational response of firms in neoclassical systems of regulation is the development of holding companies to carry out modest levels of plastic investment within comparatively large volumes of implastic investment. Thus firms in industries where plastic investments do occur, such as biotechnology giants with important laboratory divisions (for example, a Cargill or an Archer Daniels Midland), also engage in large amounts of relatively implastic investment. At the same time, the tendency of US firms to retain the high value-added portions of the production process may still provide some evidence of an emphasis on implastic forms of investment. When a firm such as Ford announces that it will reduce its involvement in manufacturing and assembly in order to concentrate on design, branding, marketing and service operations, it signals its intention to concentrate on implastic forms of investment, since these are relatively stable and transparent forms of business activity (though they are also relatively undeveloped and immature). Thus we take US firms' observable global activity in business and professional services as reflecting an increasing comparative advantage in immature industries and implastic forms of investment.

## 6. CONCLUSION

The continuing global integration of markets presents US corporations with an interesting landscape of opportunities for expansion and profit realization. The corporation governance system, the set of relationships that yield a structure through which the corporations' objectives and means are determined and its progress in reaching those ends are monitored, influences management's approach to global market opportunities. The forces of global competition and the relational aspects of the governance system create a duality of forces that corporations encounter when expanding globally, and



this duality is captured in the complex relationship that exists among trade and FDI strategies.

This chapter attempts to detail the alternative paths of globalization that US industries have followed, and relate this to views of corporate governance theories of capital allocation and market penetration. The economists' traditional view of comparative (dis)advantage at the industry level, at least in manufacturing, now only pertains to a few industries, primarily the most labour-intensive industries. Rather what exists today is a 'kaleidoscope comparative advantage' (Bhagwati and Dehejia, 1994) where US corporations outsource low-value-added levels of production and focus on high-value-added levels of production in which the US has a comparative advantage.

Furthermore, the traditional view that corporations may either export goods or export capital, which means that trade and investment are substitute strategies, has given way to a realization that the relationship between trade and FDI is quite complex with a complementary relationship existing, at least among the developed nations. The bulk of US FDI, as it is directed to other developed nations, is directed by ownership-specific characteristics that complement US corporations' comparative advantage in the high-innovation, high-value-added levels of production. Hence, the empirical evidence on the complex trade-investment relationship reflects a complicated pattern of US corporations in globalization.

Because we need to relate the data and theories at a much more disaggregated level, the clear predictions of the neoclassical economic model of corporate governance are somewhat blunted. Nonetheless, we do find evidence that US firms are successful in the global economy in immature industries and also mature industries which engage in high FDI and/or focus on high value-added stages of the production process. In addition, we find good reason to suppose that US firms are also successful in relatively implastic forms of investment, whether these types of investments are carried out in mature or immature industries. Further research into US firms' areas of comparative advantage in the world economy awaits better evidence and better understanding of the processes causing the disintegration of production while creating 'kaleidoscopic comparative advantage'.

## NOTES

1. The OECD defines corporate governance as a set of relationships between a company's management, its board, its shareholders and other stakeholders, providing a structure through which the objectives of the company are set, the means of attaining those objectives are determined and performance is monitored (OECD, 1999b).
2. These ratios were calculated from the 1996 *Annual Survey of Manufactures*, Department of Commerce. Capital expenditures include new and used capital expenditures.
3. The Spearman Rank Correlation between the rank of FDI shares and export shares, 48 per

cent, is positive and significant at the 1 per cent level. The Spearman Rank Correlation between the rank of FDI shares and external orientation, import shares, imported-input shares are statistically insignificant.

4. See Quijano (1990) for information on the Bureau of Economic Analysis' statistics on foreign direct investment.
5. This section draws on Dietl (1998).
6. Misallocation costs may also take the form of non-diversification costs.
7. Dietl (1998) argues that Germany exhibits a relational system of regulation, and Japan exhibits a hybrid system of regulation with origins in the relational system.
8. Holding companies and multidivisional organizations own 100 per cent of their subsidiaries and are entitled to allocate 100 per cent of their subsidiaries' earnings. The legal structure of the former places more restrictions on doing so than that of the latter.

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