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The Cross-Border Mergers and Acquisitions Wave of the Late 1990s

Simon J. Evenett

11.1 Introduction

As nations' markets continue to become more closely integrated through the process commonly referred to as globalization, a concern has arisen both popularly and among policy makers about the consequences for the degree of competition between firms. Critics of globalization often charge that it extends the reach of abusive oligopolies and monopolies,¹ and policymakers in developing countries worry whether or not increased openness to trade and foreign-direct-investment flows makes them more vulnerable to “exploita-

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1. See, for example, the following remarks by Mr. Martin Khor, Director of the Third World Network, to the opening session of the UN's Millennium Forum on 22 May 2000.

Our age is also defined by the process of globalisation. There are different approaches to this phenomenon. Some say it is inevitable and basically good, you just have to adjust to it and learn to reap the benefits. Others worry about the costs and advocate some safety nets to catch the losers as they fall. In truth, the essence of globalisation is the push by big companies and financial institutions to have more power, to grow bigger through taking over others, and make more profits. They have lobbied their governments, of the rich countries, to break down the national barriers that prevent them from totally free access to markets across the world, especially in the developing countries.

The text of this speech can be downloaded from <http://www.twinside.org.sg/title/mk7.htm>.

tion” by multinational firms.² Such policymakers wonder if they have—or can ever have—the national tools to tackle private anticompetitive practices.³

There is also a vibrant debate about the potential for international accords on competition law and enforcement. Policymakers worldwide are engaged in discussions about the desirability and viability of a multilateral framework on competition policy under the auspices of the World Trade Organization (WTO).⁴ Proponents of such a framework have called for disciplines on so-called hard-core cartels, so-called core principles for competition law and enforcement, modalities for voluntary cooperation, and for the progressive strengthening of competition-policy-related institu-

2. See, for example, the following statement in a November 1998 submission by the Government of India to the World Trade Organization’s Working Group on the Interaction Between Trade and Competition Policy.

In contributions of intergovernmental organizations, a dominant theme along with the issue of mergers and acquisitions is the issue of contestability of markets. Although not clearly defined, an impression is created that every aspect of domestic government policy, economic and social—would, in one way or the other, affect fair trade and the contestability of markets. In a more concrete sense this debate on contestability of markets has been witnessed during the so-called Structural Impediments Initiative in the US-Japan context. With developing countries, the dangers of the doctrine of contestability of markets eroding their ability to take domestic social and economic action are even greater. Moreover, in the name of contestability, an increase in market access for MNCs [multinational corporations] may be sought by suggesting that all sectors of WTO, in one way or another, be put to the test of contestability. This may have implications for services, intellectual property rights, subsidies and a host of other areas, not to mention investment. It will, therefore, be necessary to define it clearly and narrowly in relation to specific issues and disciplines that we wish to address in the WTO regime. Some issues to be addressed would be market allocation, refusal to deal (boycott), price fixing, collusive dealing, and differential pricing (all of which are vertical RBPs [restrictive business practices]). All of these practices distort or restrict trade and affect the international contestability of markets. This action is particularly called for as developing country markets and their commercial entities are more vulnerable to the effects of such RBPs and at their receiving end. Experiences with RBPs encountered by developing country firms in developed country markets illustrate how RBPs by the large MNCs put these firms at a competitive disadvantage. Instances of other so-called privately led restrictive business practices such as debarring Indian participation in the Dutch Flower Auction or the Basle Jewellery and Watch Fair are also relevant.

This text was taken from paragraph two of WTO document number WT/WGTCP/W/111, which can be downloaded from the WTO’s website (<http://www.wto.org>). See also the examples described in Mehta and Nanda (2003).

3. A recent study of the experience in implementing competition law in seven developing countries offered the following remark about the ability of these countries’ antitrust enforcers to address international mergers and acquisitions and anticompetitive practices.

Whether countries have special provisions for extra-territorial jurisdiction or apply the “effects” doctrine is not important when they have no means to enforce their decisions. Often the companies involved are beyond the reach of the competition agencies, which also causes problems in obtaining the information necessary to make a decision. (Consumer Union Trust Society [CUTS] 2003, 75)

4. For an excellent overview of the discussions within the WTO’s Working Group on the Interaction Between Trade and Competition Policy, see that Working Group’s Annual Report for 2002 (WTO 2002).

tions in developing countries.⁵ Others argue for the development of best practices for competition law and enforcement in fora such as the International Competition Network and the Organisation for Economic Cooperation and Development (OECD).⁶ And, others have called on industrialized economies to tackle the alleged anticompetitive practices of their multinational firms in developing economies. This proposal would involve antitrust enforcement officials expanding their traditional concern about harm done within their jurisdiction to harm done abroad. It is argued that such an approach would reduce the outlays on antitrust enforcement by developing economies.⁷

In principle, integrating national markets both reduces and enhances the opportunities and viability of anticompetitive conduct by private firms. On the one hand, as countries open up their domestic markets to foreign competition by reducing their tariffs and other trade-distorting policies, domestic incumbents that have been protected from international competition by these trade barriers are now more likely to be forced to abandon their price-raising and anticompetitive practices.⁸ Moreover, the increased opportunities for international mergers and acquisitions can bring cost-reducing efficiencies that may be passed on to customers, be they private consumers, firms, or governments. On the other hand, globalization also presents new opportunities for firms to form hard-core cartels⁹ with international reach and other various anticompetitive arrangements. Thus, whether globalization promotes or reduces competitive behavior, on balance, is largely an empirical rather than theoretical issue.

In this chapter, I first describe in considerable detail the nature of the wave of cross-border mergers and acquisitions (M&A) that occurred during the period of rapid globalization in the 1990s and then focus on one particular service sector, namely banking, to investigate if there is evidence

5. The European Commission is one of the leading proponents of such a framework. Its proposals can be downloaded from the WTO's website (<http://www.wto.org>). The Commission has further clarified its proposals in discussions at the WTO's Working Group (see WTO 2002). The doubts of critics and skeptics are also reported in WTO (2002). For an analysis of the implications of such a framework for the design and implementation of national competition law, for industrial policy and development policy options, and for the resource costs faced by developing countries, see Evenett (2003a).

6. For several proposals on best practices in the merger-enforcement area, see the contributions to Rowley (2002). More generally, discussions on best practices in competition law and enforcement are undertaken often in the OECD's Competition Committee. Many of the relevant documents can be found at <http://www.oecd.org/EN/document/0,,EN-document-768-nodirectorate-no-22-20233-768,00.html>. A number of interesting and informative documents on best practices in merger review can be found on the website of the mergers working group of the International Competition network (<http://www.internationalcompetitionnetwork.org/wg1.html>).

7. See Hoekman and Mavroidis (2002).

8. For a classic statement of this perspective, see Bhagwati (1968).

9. For evidence on private international cartels see Evenett (2003a), Levenstein and Suslow (2001), and OECD (2003).

that cross-border M&A in this industry resulted in greater spreads between the interest rates paid by borrowers and those rates paid to depositors. Of course, there are limits to what can be learned from a single sector study, but hopefully this analysis will contribute to the factual record and to the literature on consolidation in the banking sector, as well as shedding light on the importance of a number of factors that should be considered when coming to a view on the welfare consequences of the latest wave of cross-border mergers and acquisitions.

My analysis yields several findings. First, the recent cross-border M&A wave is in real terms at least five times larger than its predecessor in the 1980s. Even after correcting for the rising price of financial assets,¹⁰ in this latest wave of cross-border M&A is much much larger. Second, although the latest wave involved firms from more countries than in the 1980s, the overwhelming bulk of such M&A still took place among the members of the OECD. Third, despite its greater scale in real terms, the latest wave of cross-border M&A represents purchases of only a small fraction of the publicly traded corporate assets in industrial economies, especially in the Group of Seven (G7) leading industrial economies. Foreigners are, therefore, not taking over large tranches of national economies through cross-border M&A. Fourth, the preponderance of cross-border M&A in the late 1990s were in service sectors, many of which are pretty much immune to import competition.

Fifth, in one important service sector—banking—estimating the effects of cross-border mergers and acquisitions requires paying careful attention to sample composition. Furthermore, controlling for changes in regulatory regimes and other changes in market structure in banking are important. Of the thirteen OECD nations' banking sectors considered here, eight are members of the European Union (EU). The determinants of the latter's banking spreads during the 1990s are found to be much different from those in non-EU economies. In the banking sectors of EU member states, domestic M&A and strategic alliances are found to have no net effect on bank spreads. Cross-border mergers and acquisitions are found to depress spreads, suggesting that substantial efficiencies resulted from such consolidation. In contrast, the evidence suggests that cross-border strategic alliances result in higher spreads—a finding that is consistent with the view that some such alliances have been formed to forestall further market integration and to preserve the independence of banks in Europe.

The parameters in the non-EU sample are less precisely estimated, reflecting in large part a smaller number of observations. Only cross-border strategic alliances are found to influence bank spreads in a statistically significant manner—in this case depressing them (which is the opposite of my finding in the EU sample). Nevertheless, taken together, this chapter's re-

10. As proxied for by national stock-market indexes, see following discussion.

sults for the banking section imply that it is hazardous to make sweeping generalizations about the net effect of cross-border transactions, especially as the latter can have both procompetitive and anticompetitive effects.

Sixth, the estimated parameters are used to forecast the net effect of all of these domestic and cross-border interfirm agreements on bank spreads in each of the thirteen countries considered in my EU and non-EU samples. In each EU member state, the combined effect of cross-border interfirm agreements on interest-rate spreads is an order of magnitude larger than for domestic interfirm agreements. Moreover, the overall beneficial effect of cross-border M&A in banking¹¹ in the EU has, in all of the eight EU members considered here, been completely reversed by the harm done by cross-border strategic alliances. This implies that the combined effect of the latter may not be as benign or as inconsequential as they first appear.¹² Moreover, as the number of cross-border strategic alliances in banking in the EU appears to have increased considerably after the cross-border M&A spurt began, my findings are consistent with the explanation that banks eventually took rearguard actions to increase their market power after the spread-reducing effects of efficiency-enhancing cross-border mergers and acquisitions were felt. If this view is correct, then regulators in the banking sector and competition policy officials should not focus solely on the potential consequences of mergers and acquisitions and should keep a beady eye on perhaps more innocent-looking public announcements of strategic alliances.

This paper is organized as follows. The next section describes the recent wave of cross-border mergers and acquisitions. The third section focuses on the consolidation in the banking systems in thirteen industrialized economies, establishing the factual record first and then conducting econometric analyses. The final section contains some concluding remarks.

11.2 The Cross-Border Mergers and Acquisitions Wave of the Late 1990s

11.2.1 Preliminaries

Before turning to the factual record, it may be helpful to clarify the terms used in this chapter. An important distinction is between foreign direct investment (FDI) and cross-border mergers and acquisitions. As the principal source of data on cross-border M&A used here is the United Nations Conference on Trade and Development's (UNCTAD's) annual *World In-*

11. This is not to say that every cross-border merger or acquisition in the banking sector generates enough efficiencies that bank customers benefit.

12. This is not to say that every cross-border strategic alliance detrimentally affects the welfare of bank customers.

vestment Report, I reproduce below UNCTAD's description of the difference between cross-border M&A and FDI.

A firm can undertake FDI in a host country in either one of two ways: greenfield investment in a new facility or acquiring or merging with an existing local firm. The local firm may be privately or state owned: privatisations involving foreign investors count as cross border M&As, which entails a change in the control of the merged or acquired firm. In a cross border merger, the assets and operation of the two firms belonging to two different countries are combined to establish a new legal entity. In a cross border acquisition, the control of assets and operations is transferred from a local to a foreign company, the former becoming an affiliate of the latter. (UNCTAD 2000, 99)

Although this quotation clarifies the distinction between investments in *new* productive entities and investments in *existing* entities it would be incorrect to infer that, in practice, the reported value of cross-border M&A transactions is always less than the reported amount of FDI. In fact, measured cross-border M&A received by a nation is taken to be the sum of (a) foreign investments in existing domestic firms that result in equity stakes greater than 10 percent, (b) foreign investments in existing domestic firms that result in equity stakes less than 10 percent, and (c) foreign investments in existing domestic firms that are paid for using capital or funds raised in the nation of the acquiring firm. In contrast, the reported amount of FDI received by a nation includes (a) and (c), plus the value of overseas investments paid for by reinvested earnings of foreign firms already resident in the nation. Consequently, as UNCTAD (1996) notes,

It is, therefore, possible to witness a large increase in M&As that is not fully reflected in FDI flows . . . [and] . . . movements in FDI flows can take place independently of movements in M&A. In practice, however, there is a close relationship between movements in M&As and FDI flows. (UNCTAD 1996, box I.1).

To underscore the differences between measured cross-border M&A and FDI into industrial countries, table 11.1 reports the ratio of the former to the latter in thirteen OECD nations during 1995 to 1999. In some countries (Australia, France, Japan, and Spain), the ratio is far from 1—suggesting that recorded cross-border M&A and FDI differ markedly.

In collecting data on cross-border M&A, the source used by UNCTAD attempts, whenever possible, to establish the location of the “ultimate” corporate owner of a given firm, not an “intermediate” owner that may also be owned by another firm. This is done by examining newspaper announcements of actual and proposed transactions complemented by the use of databases that identify which firms own other firms. By locating the headquarters of an ultimate corporate owner, one can assign a nationality to the owner. This, of course, sidesteps the fact that a publicly traded com-

Table 11.1 Ratio of Inward M&A Flows to Inward FDI Flows for 13 OECD Economies

Economy	1995	1996	1997	1998	1999	Mean ratio
Spain	20.40	22.22	63.91	48.05	56.14	42.14
France	31.81	61.82	76.59	57.25	59.02	57.30
Sweden	65.39	76.19	30.35	56.71	99.42	65.61
The Netherlands	29.52	23.51	131.73	46.44	113.95	69.03
Belgium and Luxembourg	18.62	63.82	78.65	30.41	153.98	69.10
The United States	90.58	80.60	77.46	112.47	84.57	89.14
Canada	124.95	112.48	72.36	75.71	99.07	96.92
Switzerland	166.08	143.18	53.42	71.25	120.54	110.89
Germany	62.34	181.44	106.84	90.00	156.36	119.39
Italy	84.72	77.95	90.86	146.17	225.24	124.99
The United Kingdom	182.24	127.98	119.50	143.10	152.59	145.08
Australia	140.27	213.79	191.33	232.26	192.77	194.09
Japan	1387.18	859.50	96.34	126.00	124.46	518.70
Weighted mean (across economies)	84.60	87.16	86.75	96.89	102.75	
Coefficient of variation	4.32	2.51	0.47	0.58	0.48	

Source: UNCTAD (2000, appendixes).

pany may have shareholders or stockholders who are resident in more than one country—a wrinkle that is easy (and important) to state but is difficult to address adequately.

11.2.2 Factual Record

Turning now to the data, using 1987 constant dollars, table 11.2 and figure 11.1 report the extent of cross-border mergers and acquisitions activity from 1987 to 2000, the peak year of the latest boom.¹³ (In 2001, reports suggest that cross-border M&A fell 40 percent in nominal terms.) As figure 11.1 makes clear, the recent wave of cross-border M&A accelerated after 1996 and reached a peak of \$828 billion in 2000 (which is equivalent to \$1.1 trillion dollars in year 2000 dollars). The previous wave of cross-border M&A, which took place from 1987 to 1990, reached a peak of \$135 billion in 1990—less than one-fifth of the peak in the latest wave. Furthermore, developing economies played next to no role in the 1980s wave and a modest role in the most recent wave.¹⁴ Perhaps for this reason, it might be more accurate to call the latest wave an international wave, rather than a global wave, of cross-border M&A.

For further perspective on the growth of cross-border M&A in the

13. For two descriptions of the factual record that include more discussion than is presented here of mergers and acquisitions in selected sectors, see Kang and Johansson (2000) and OECD (2001). For a recent account and analysis of foreign mergers and acquisitions in the United States, see Feliciano and Lipsey (2002).

14. Having said that, see Mody and Negishi (2000) for an account of the growing role of cross-border M&A in overseas investments in the East Asia in the late 1990s.

Table 11.2 Total Cross-Border Mergers and Acquisitions 1987–2000, Constant 1987 U.S.\$ billions

Class of Economies	Year													
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All	74.51	111.81	130.76	135.00	69.84	66.95	68.50	102.65	147.44	175.89	232.06	400.02	567.59	828.43
Developed countries	71.87	109.67	126.47	128.40	67.18	62.86	59.79	94.16	137.27	153.61	207.08	384.81	523.48	792.38
Developing countries	2.61	2.11	3.72	6.31	2.65	4.08	8.61	8.21	10.10	21.79	24.77	14.45	42.75	30.52

Source: UNCTAD (various years).

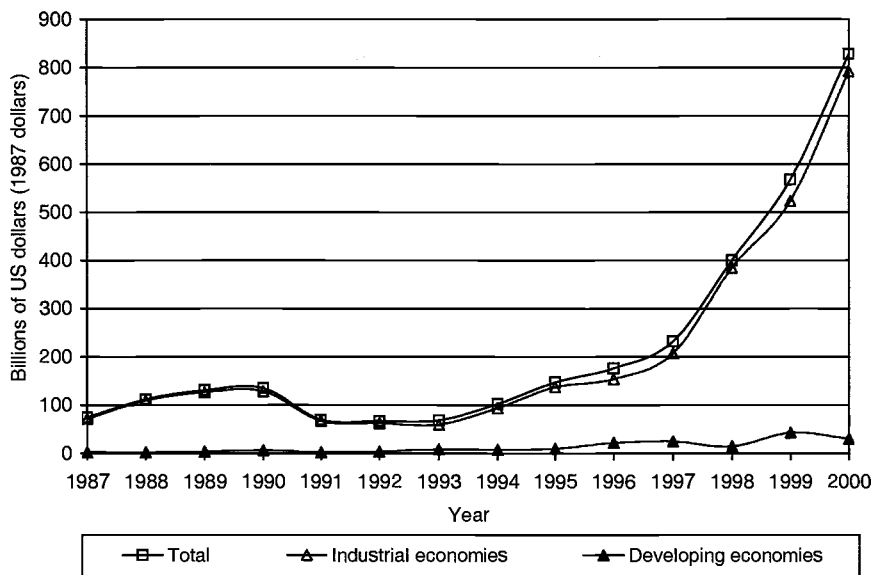


Fig. 11.1 The latest wave of cross-border M&A (1997–2000) is much larger than its predecessor (1987–1990)

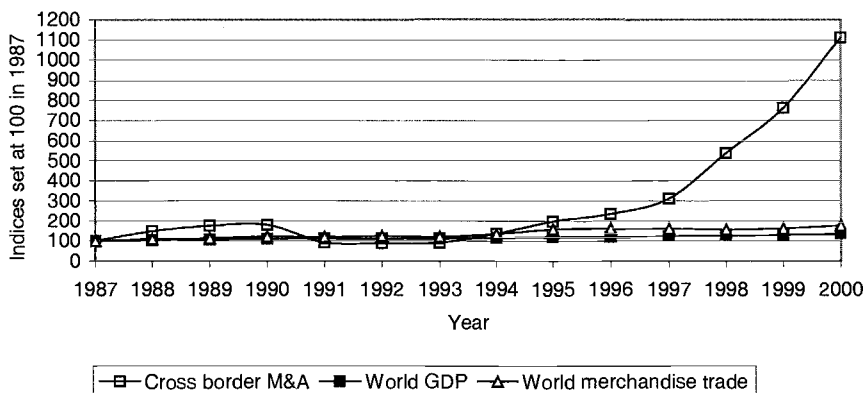


Fig. 11.2 The real increase in cross-border M&A throughout the 1990s dwarfs that of world trade and GDP

1990s, see figure 11.2. This shows that the real growth of cross-border M&A dwarfs that of world GDP and of world merchandise trade, the latter of which almost doubled in real terms in the 1990s. In figure 11.2, I deflated current values of total cross-border M&A by the same gross domestic product (GDP) deflator that I used to compute real world GDP—a procedure which can be objected to on the grounds that stock markets

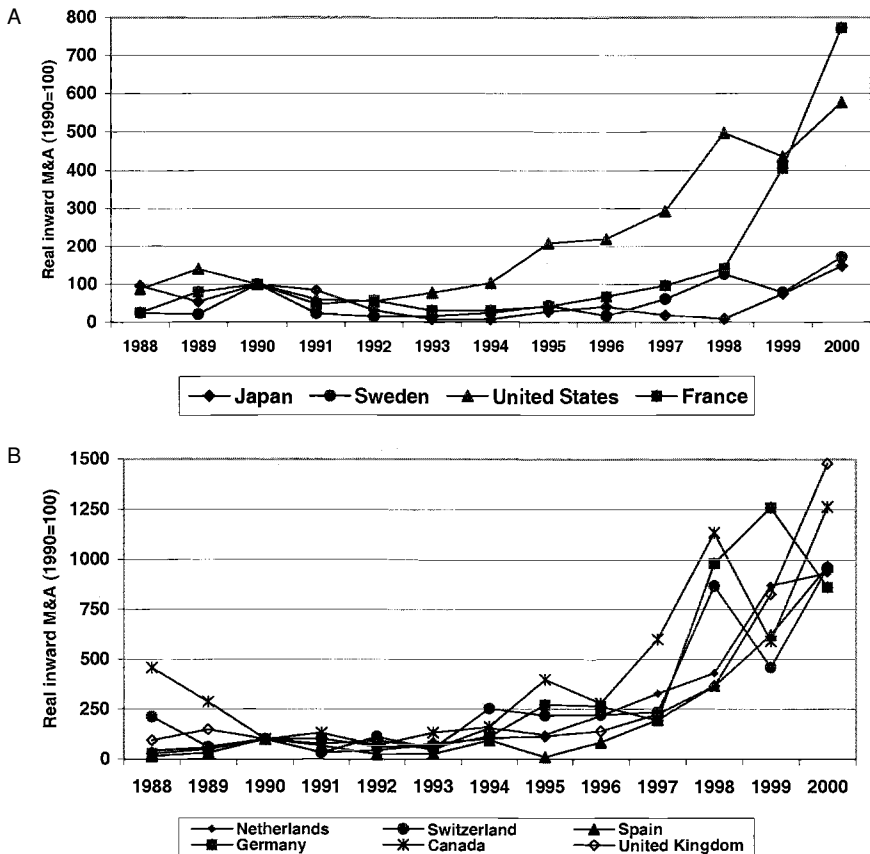


Fig. 11.3 Comparing inward M&A across booms: *A*, Economies with relatively moderate increases; *B*, Economies with large increases

soared in the 1990s, raising the possibility that the price of financial capital has grown more quickly than the GDP deflator. To examine this matter further, I deflated country-by-country values of nominal inward cross-border M&A by the changes in the value of each country's major stock-market index,¹⁵ and normalized the amount of cross-border M&A received in 1990 at 100. (The year 1990 was the peak of the wave of cross-border M&A that started in the late 1980s.) Figure 11.3 reports this new calculation of the real value of cross-border M&A received by the ten industrialized economies throughout the 1990s. In all but two economies, real inward M&A is much lower in 1990 than in 2000, confirming that, for the

15. For nine of the ten industrialized economies, choosing the major stock-market index was straightforward. For the United States, however, one could choose either the Standard & Poor's (S&P) 500 index or the Dow Jones Industrial Index. I chose the latter index, but note that both indexes rose by similar percentages throughout the 1990s.

Table 11.3 Total Value of Annual Cross-Border M&A Deals as a Percentage of Stock-Market Capitalization

Economy	1980s Wave				1990s Wave			
	1988	1989	1990	Mean	1997	1996	1999	Mean
Luxembourg	0.01	0.00	5.08	1.70	10.30	0.10	20.48	10.29
Sweden	0.19	1.55	4.58	2.11	1.22	3.98	15.99	7.06
Belgium	1.35	1.08	6.83	3.08	4.34	2.79	13.51	6.88
Norway	1.67	2.38	2.56	2.20	4.00	2.10	13.66	6.59
New Zealand	10.03	5.00	41.92	18.98	4.41	9.28	5.64	6.44
Austria	2.85	0.14	1.65	1.55	6.32	10.41	1.15	5.96
The Netherlands	1.04	2.51	1.24	1.60	4.06	3.21	5.61	4.30
Australia	3.17	3.34	2.34	2.95	5.00	4.48	2.80	4.10
The United Kingdom	2.58	3.21	3.43	3.07	1.99	3.84	4.52	3.45
Denmark	0.72	0.56	1.27	0.85	0.60	3.85	4.38	2.94
Canada	3.61	3.57	2.37	3.19	1.50	3.02	2.99	2.50
France	1.23	0.91	2.60	1.58	2.63	1.70	1.62	1.98
Germany	0.52	1.18	1.75	1.15	1.44	1.74	2.76	1.98
Finland	0.27	0.75	0.22	0.41	1.00	3.09	0.90	1.67
Spain	0.79	1.30	3.44	1.84	1.40	1.42	1.35	1.39
The United States	2.29	1.96	1.79	2.01	0.72	1.56	1.51	1.26
Italy	2.29	1.77	1.46	1.84	0.98	0.79	1.54	1.10
Switzerland	1.67	0.57	2.85	1.70	0.62	0.78	0.59	0.66
Portugal	0.15	7.23	2.31	3.23	0.22	0.68	0.32	0.41
Japan	0.00	0.04	0.01	0.01	0.14	0.16	0.36	0.22
Greece	0.51	0.00	0.76	0.42	0.29	0.03	0.09	0.14

Note: Countries in bold are members of the Group of Seven Industrialized Nations (G7).

major markets in the world economy, the latest cross-border M&A wave was on a much larger scale than its predecessor in the 1980s.

Having said that, the growth of cross-border M&A is from a relatively small base and, when the level of cross-border M&A that a nation received in the late 1990s is compared to its stock market's capitalization, the amount of assets acquired by foreign firms tends to be quite small (see table 11.3). Only the smaller—and relatively more open—industrial economies saw the total value of foreign mergers and acquisitions exceed 5 percent of their total stock-market capitalizations. For the G7 leading industrial economies, the inflows of cross-border M&A are even smaller relative to the size of their stock markets. The image of aggressive foreign executives snapping up large shares of productive domestic assets conjured up during the contentious merger of Vodafone and Mannesmann AG in 2000, for example, finds little support in the data.

Figures 11.4 and 11.5 provide further indications of the broader participation in the latest wave of cross-border M&A, compared to its predecessor in the 1980s. The latter was essentially an American and British affair, with some French firms making acquisitions towards the end of the boom

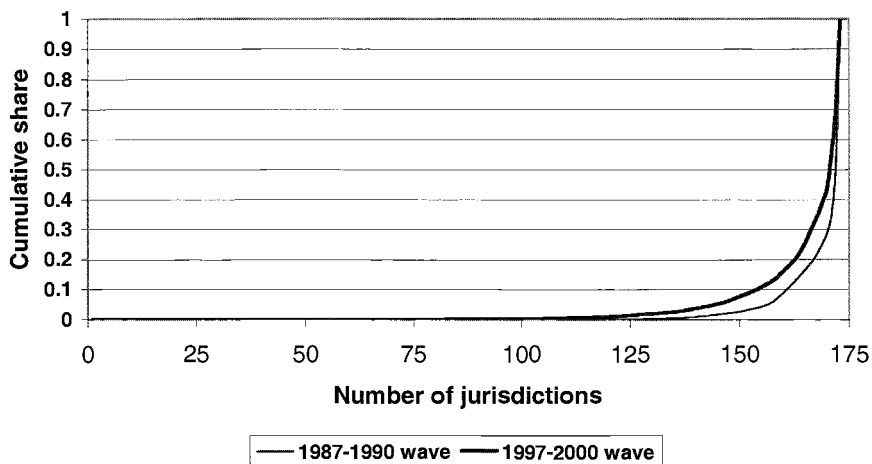


Fig. 11.4 Cumulative distribution of cross-border M&A in 1987-1990 and 1997-2000

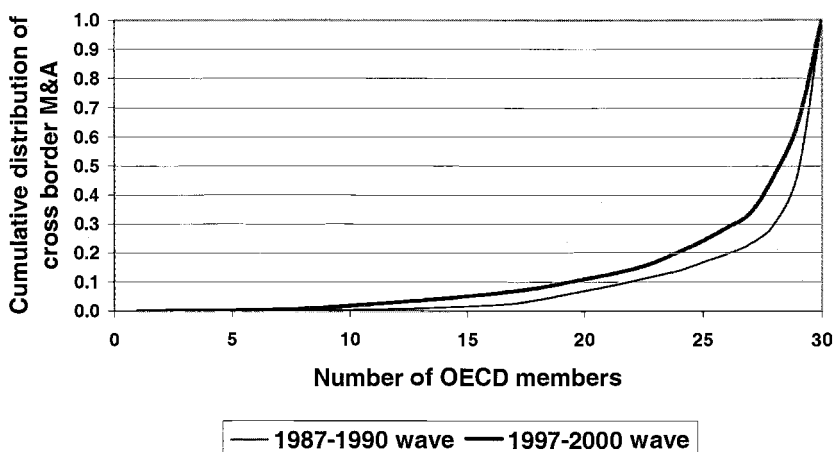


Fig. 11.5 The latest M&A wave involved more OECD nations

(principally in 1990). In contrast, the current wave involved considerable transactions by German, French, Spanish, and Nordic firms that joined the long standing Anglo-American interest in cross-border M&A. Figure 11.5 compares the cumulative distribution of cross-border M&A across OECD nations in both waves, confirming the less skewed nature of the latest wave.

Another critical feature of the latest cross-border M&A wave is the important role played by so-called megadeals, those transactions whose value exceeded one billion U.S. dollars. The number of such deals nearly quadrupled from 1996 to 2000 (see fig. 11.6), and the (constant dollar) value of such transactions more than quadrupled (see fig. 11.7). In appendix table 11A.1, I have listed the megadeals that were announced in 2000.

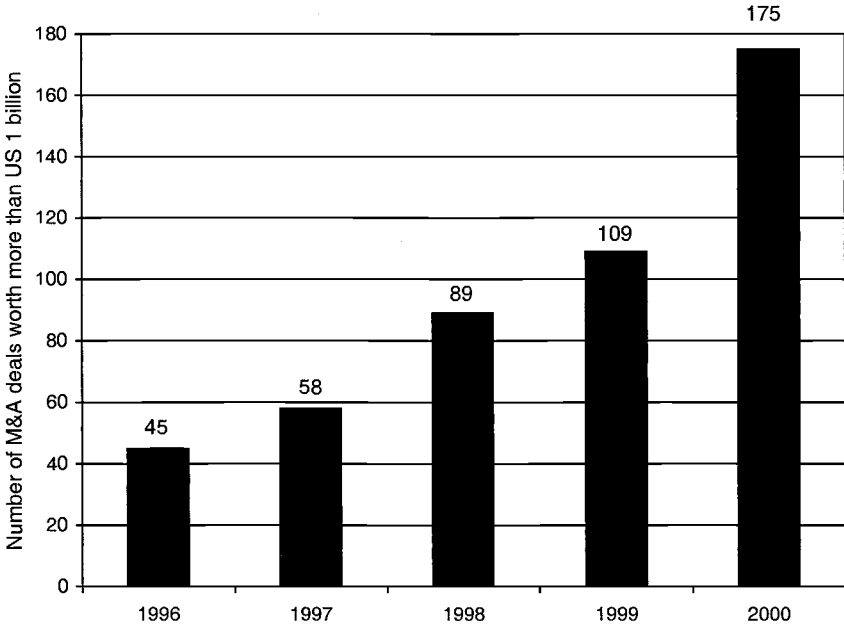


Fig. 11.6 The growing number of billion-dollar-plus M&A deals

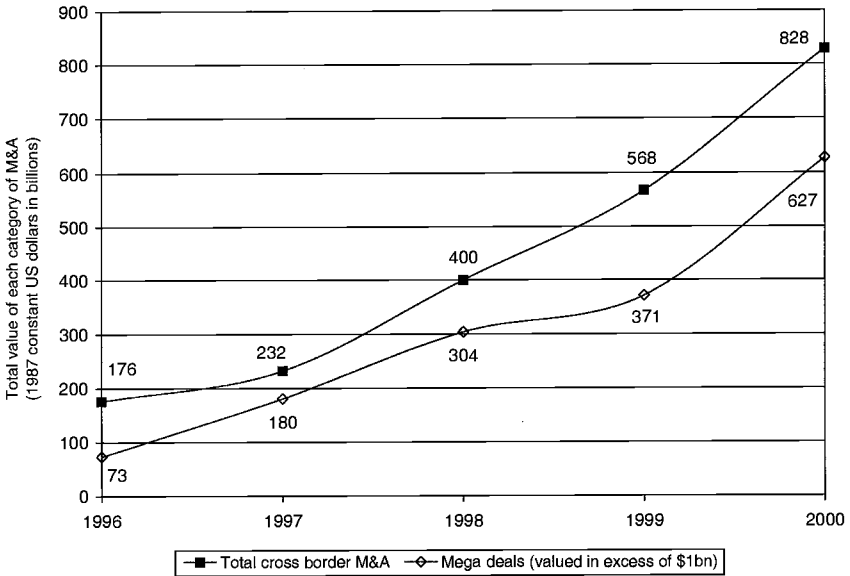


Fig. 11.7 Mega deals drove the latest wave of cross-border M&A

Table 11.4 Sectoral Composition of Cross-Border M&A

Sector/Industry	Share of Total Cross-Border M&A	
	1987–1990	1997–2000
Primary	5.04	1.43
Agriculture, hunting, forestry, and fishing	0.72	0.38
Mining, quarrying and petroleum	4.32	1.04
Manufacturing	62.24	35.11
Food, beverages, and tobacco	8.16	4.28
Textiles, clothing, and leather	0.95	0.41
Wood and wood products	3.93	1.72
Publishing, printing, and reproduction of recorded media	5.89	1.11
Coke, petroleum, and nuclear fuel	9.38	5.33
Chemicals and chemical products	12.17	6.70
Rubber and plastic products	2.03	0.48
Nonmetallic mineral products	2.30	1.39
Metal and metal products	2.86	1.67
Machinery and equipment	1.75	1.69
Electrical and electronic equipment	8.14	5.44
Precision instruments	2.20	1.21
Motor vehicles and other transport equipment	1.94	3.60
Other manufacturing	0.53	0.11
Tertiary	32.72	63.46
Electric, gas, and water	0.36	5.44
Construction	0.46	0.38
Trade	8.08	5.07
Hotels and restaurants	3.77	0.82
Transport, storage, and communications	1.84	21.94
Finance	11.03	16.19
Business services	4.39	9.44
Public administration and defence	0.00	0.08
Education	0.00	0.02
Health and social services	0.17	0.20
Community, social- and personal-service activities	2.62	3.87
Other services	0.01	0.01
Unknown	0.00	0.00

It is evident that the majority of such deals involved the service sector, notably the financial and telecommunications sectors. Few manufacturing firms can be found on this list, a point I shall return to below.

An examination of the sectoral breakdown of cross-border M&A during the 1980s and 1990s waves is revealing too (see table 11.4 and fig. 11.8). One striking finding is the relatively smaller importance of manufacturing cross-border M&A in the late 1990s, accounting for only 35.1 percent of the total value of such transactions. In the previous wave, such transactions accounted for 62.2 percent of the total. What is more, just

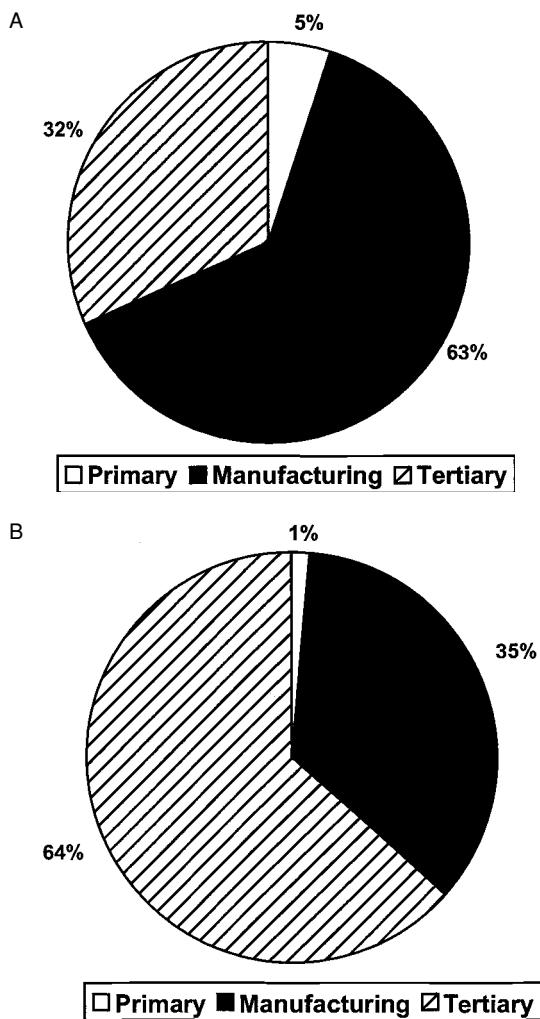


Fig. 11.8 Manufacturing dominated the 1987–1990 wave but services dominated the 1997–2000 wave: *A*, 1987–1990; *B*, 1997–2000

three service sectors (transport, storage, and communications; finance; and business services) account for just under one-half of total cross-border M&A in the late 1990s.

11.2.3 Policy Regimes Facing Cross-Border Mergers and Acquisitions

Much has been made in the literature and in the reports of international organizations¹⁶ of the falling barriers to greenfield FDI during the 1990s.

16. See, for example, World Bank (2000) and the annual *World Investment Reports* published by UNCTAD (various years).

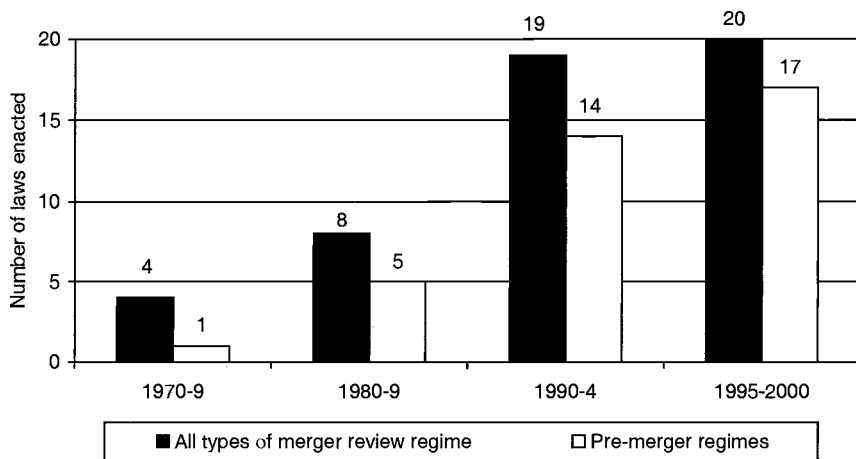


Fig. 11.9 The spread of merger-review laws 1970–2000

The UNCTAD goes so far as to tally up, on an annual basis, the number of economies that have relaxed or tightened their FDI regimes.¹⁷ However, in industrialized economies (and in some developing economies too), cross-border mergers and acquisitions are typically influenced by two different policy regimes: merger-review policies (which are described in some detail below) and sectoral regulations. The latter can involve reviews of M&A deals (both domestic and cross-border) that occur within a given sector. Regulators in financial services, banking, telecommunications, and air transportation have been active in the 1990s reviewing proposals to merge or acquire firms. What is more, some jurisdictions allow for M&As in some sectors to be reviewed both by the relevant sectoral regulator and by the national competition-enforcement agency.¹⁸ This raises the question of the extent to which observed levels of cross-border M&A are affected by the potential for multiple official reviews within the same jurisdiction.

In contrast to policies toward greenfield FDI, it is quite possible that, as a general proposition, policies toward M&As have become more stringent throughout the 1990s. For starters, the number of jurisdictions with merger-review regimes rose sharply in the 1990s (see fig. 11.9).¹⁹ According

17. See UNCTAD's (various years) annual *World Investment Reports* for details.

18. For examples, see the case studies in Evenett, Lehmann, and Steil (2000).

19. Figure 11.9 reports not only the total number of merger review laws enacted since 1970, but also the total number of such laws requiring notification of proposed mergers and acquisitions before deals are completed. Among legal practitioners and scholars, the latter type of merger-review regime is, by and large, regarded as the most stringent form of merger-review law (see ICPAC 2000 for a statement of what might be called conventional legal wisdom in this regard). See, also, Evenett (2002), which confirms that, of the three main types of merger-review laws, those requiring mandatory prenotification curtail cross-border M&A the most. In the light of these remarks, it is noteworthy that a growing proportion of the merger-review

to White and Case (2001), a publication of an international law firm that conducts an annual survey of merger enforcement around the world, sixty-five economies had merger review laws in 2000 (plus the European Commission's supranational merger-enforcement regime). Thirty of these merger-review laws have been enacted since 1990. It is also noteworthy that merger-review laws are a relatively new phenomenon in some industrial economies; in other words, the spread in the last twenty years is not just a phenomenon found in developing countries. For instance, the European Commission's merger regulation only came into force in 1990, Italy's merger-review regime was enacted in 1990, Denmark's and the Netherlands' in 1997, and France's antitrust authority only celebrated its fifteenth birthday in 2002. Finally, these remarks suggest that, when studying cross-border flows associated with corporate investments abroad, it is important to locate which policy regime or regimes has the greatest bearing on the flows being examined. In many cases, measures of (or proxies for) the strength of the policy regime towards greenfield investments may provide a misleading guide to the strength of the merger-review regime or of the sectoral regulatory regime.

11.2.4 Commentary and Related Literature

The observed change in the sectoral composition of cross-border M&A reflects a number of factors. First, lower trade barriers and more intense competition in world markets for manufactures are likely to reduce the incentive to engage in cross-border M&A in order to accumulate market power or to jump tariffs. Indeed, any increments in market power are likely to result in greater supplies from competitors located at home and abroad. This suggests the following hypothesis: In those industries where international competition is fiercest, M&A is more likely to be motivated by cost-cutting rationales. Second, the increase in service-sector M&A reflects deregulation, privatization, and the relaxation on restrictions on foreign ownership in many industrial economies. Although such reforms began in the 1980s in a few industrial economies (notably Britain, New Zealand, and the United States), in many other countries they were not implemented on a wider scale until the 1990s. This is not to say that all the major service sectors are deregulated, but rather that the pace of deregulation picked up in the 1990s and that this presented opportunities for foreign investors. In many continental-European economies, the pace gathered in response to the Single Market Programme and the liberalization initiatives that ensued.

Although the corporate-finance literature on the causes and financial

laws enacted in the 1980s and 1990s are of the mandatory prenotification type (see fig. 11.9). This is further evidence in favor of the proposition that the *worldwide* policy regime toward M&A has become stricter over time. (It may well be the case that the policy regimes towards M&A in individual countries have been relaxed throughout the 1990s.)

effects of mergers and acquisitions is quite voluminous, there are relatively few papers on the determinants and consequences of *cross-border M&A*²⁰ and on *economic analyses* of the policy regimes governing such cross-border transactions.²¹ Black (2000a,b) describes a number of political and economic factors that, in his opinion, account for the recent surge in cross-border M&A. He points to the “breakdown of the old antitakeover coalition” (Black 2000a, 10). Unions have weakened, and managers own more stock options, which ties their remuneration more closely to corporate performance—which, he claims, reduces the incentive to defend against the takeover of a poorly performing firm. Lower inflation and a surging stock market, it is argued, have reduced the costs of financing M&A (although this explanation surely applies to domestic M&A as well as to cross-border M&A). Finally, Black notes that there is now less opposition to concentrations of wealth and that integrating national markets have encouraged firms to aspire to activities on a worldwide scale. Pryor’s (2001) focus, in contrast, is on documenting the consequences for the United States of the recent boom in domestic and cross-border M&A. He argues that such transactions have increased the concentration of manufacturing industries in the 1990s and, in his opinion, can be expected to continue to do so in the future.

An econometric approach was taken in Evenett (2002, 2003b). Employing a gravity-equation approach in both studies, Evenett estimated the contribution of different factors to the value of the American outward M&A that forty-nine foreign economies received in 1999, including the effect of national merger-review regimes. In both studies, several nation-specific factors are found to be important determinants of cross-border M&A, including the recipient nation’s gross domestic product, the distance from the United States, the recipient nation’s corporate-tax rate and average tariff rate, and whether or not the recipient nation was once a British colony (and is, therefore, more likely to use English as the language of business and to share a common law system with the United States). Evenett (2003b) also found that the presence of merger-review laws tends to cut in half the amount of American M&A received. This constitutes a substantial barrier to the international trade in corporate assets and is especially important given that the 1990s saw more and more developing economies adopt merger-review laws—in particular, those developing nations that hoped to join the EU at some point in the future.

Evenett (2002) also found that the combined effect of merger enforcement by national authorities in the EU and by the European Commission curtailed American overseas M&A by the same percentage²² as compa-

20. This paucity of studies on cross-border M&A is to be contrasted with the voluminous literature on FDI, which the earlier discussion suggests is a distinct but related phenomenon.

21. There are a number of legal analyses of the policy regimes influencing cross-border mergers and acquisitions.

22. In this case, fifty percent.

rable non-European merger enforcement agencies. This finding may be of interest in the light of the sharp transatlantic dispute over the proposed merger between General Electric and Honeywell in 2001, in which accusations were made that the European merger authorities discriminated against proposed American mergers.²³

The economic impact of cross-border M&A depends on a number of considerations that make it unlikely that sweeping claims can be made with any confidence about the desirability (or otherwise) of such international trade in corporate assets. By reducing the number of firms that supply a market, cross-border M&As may enhance the market power of the surviving firms. However, such changes in ownership may also result in the combined entity attaining greater economies of scale and scope, which, in turn, may benefit consumers in the form of lower prices, a wider range of services offered, or higher-quality goods and services. One mechanism often-mentioned is that foreign firms transfer so-called cutting-edge technologies and better managerial practices to domestic firms that they have merged with or acquired—suggesting that the beneficial effects of mergers and acquisitions could be greater in the cross-border case compared to a domestic transaction. However, there are no guarantees that these procompetitive aspects of cross-border M&As will necessarily completely offset any anticompetitive effects of such transactions.²⁴

The strength of each of these considerations is likely to vary from industry to industry. For example, as noted above, those sectors that face aggressive import competition are *ceteris paribus* less likely to see cross-border M&A result in higher prices. In sectors such as banking, where firms increasingly offer a wide range of financial products to customers, gains are likely to occur when mergers take place among financial institutions that sell complementary products. Another sector, telecommunications, has seen rapid technological progress in the 1990s, and cross-border M&As are often mentioned as one of the conduits by which such innovations are diffused across national borders—along with the managerial practices that are needed to make good the profitable opportunities created by these technological improvements. In terms of general findings, there-

23. Note that this finding in Evenett (2002) does not speak to the issue as to whether *EC* merger enforcement procedures tends to discriminate more against transactions involving American firms than transactions involving non-American firms.

24. One important—and contentious—issue is to what extent ownership changes are needed to secure the procompetitive benefits of mergers and acquisitions. Direct contracting and collaborative (or so-called strategic) alliances may provide the means by which a domestic firm can market a foreign firm's range of products, or by which a domestic firm can expand its output (potentially reaping economies of scale) by producing goods under contract for a foreign firm. This raises the possibility that all the resource-allocation benefits of cross-border M&As can be obtained by signing interfirm agreements that do not involve reducing the number of suppliers. However, the point need not to be taken too far because transactions-costs arguments often point to the need for cross-holding of equity to attenuate incentive problems. Furthermore, members of an interfirm alliance or contracting, that starts off with procompetitive effects, may well soon figure out how to turn their collaboration to price-raising ends.

fore, a sector-by-sector evaluation of the effects of cross-border M&A is probably the most one can ever realistically expect, and, in the next section, I attempt such an evaluation of the recent consolidation in the banking system in thirteen OECD nations.

A final point, whose implications tend to be thought through in many other international economic policy matters but which has, until now, received less attention in discussions of international-antitrust matters, is that cross-border M&A may well have economic effects that spill across national borders, and that national antitrust or competition authorities tend to focus only on the effects within their own jurisdictions. Therefore, no government entity exists to aggregate the effects of a proposed transaction across all the affected national markets.²⁵ This may lead to situations where a transaction is vetoed in some jurisdictions (where the economic consequences are thought to be adverse), even though there is a positive effect *on net* across all the affected markets.

Essentially, the *absence of any compensation mechanism* between states implies that multiple national vetoes can lead to suboptimal enforcement of cross-border mergers and acquisitions. In recent years, a leading antitrust American official has given attention to the issue of multiple national vetoes (see Muris 2001), but the importance of the lack of any compensation mechanism for resource misallocation has yet to receive much attention in legal and economic discourse on merger reviews. Indeed, the absence of such a mechanism is one of the key characteristics that differentiates the international effects of the national antitrust enforcement from trade-policy negotiations. In the latter, it has long been understood that any losses to a nation in one sector are compensated for by concessions in other sectors by trading partners. Without suggesting that cross-sectoral trade-offs are the optimal means to conduct multijurisdictional merger reviews, there is probably some value in thinking through the implications of compensation mechanisms across merger cases that prevent a proposed merger or acquisition, whose worldwide total effects are welfare improving, from being blocked by a single jurisdiction in which it is thought that the transaction's effects are adverse.²⁶

11.3 Consolidation of the Banking Systems in Thirteen Industrial Nations

I now turn to an econometric evaluation of the effects of cross-border mergers and acquisitions in the banking systems of thirteen industrial economies. When conducting such evaluations, the importance of controlling for changes in regulatory structure, for sample composition, and for

25. Within the EU, for example, the European Commission could play such an aggregating role. This is not to say that it does play such a role!

26. For more discussion on the potential for resource misallocation in multijurisdictional merger review, see Evenett (2003c) and Neven and Roller (2001).

other determinants of market structure in the banking sector—such as domestic M&As, domestic entry and exit of banking, and the formation of joint ventures and strategic alliances between banks—will become evident. But, first, I review the facts on banking consolidation as presented in tables 11.5 and 11.6, which were assembled from a detailed report on bank consolidation during the 1990s that was published by the Bank of International Settlements (BIS 2001). This report referred to consolidation in thirteen OECD nations, namely, Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

During the 1990s, these thirteen OECD economies experienced 3,563 mergers and acquisitions that involved a domestic bank and another domestic bank. This domestic consolidation dwarfed in number (and in value) the amount of cross-border M&A in banks (which totaled 338 transactions worth, in current dollars, approximately \$73 billion; see table 11.5). What is more, many banks engaged in joint ventures and in strategic alliances during this period, particularly in the United States, Japan, and Canada (table 11.6). In short, cross-border M&A was not the only factor influencing the concentration and the market structure of these nations' banking systems.

Research on banking mergers points to a number of rationales for this observed consolidation. Carow and Kane (2002), for example, point to the following potential benefits to firms of such mergers and acquisitions: cost-based economies of scale, brand-based economies of scale, revenue-based economies of scale, safety-net-based economies of scale, revenue-based economies of scope, *X*-inefficiency, market power, and managerial-agency costs (Carow and Kane 2001, table 1). Dermine (1999), whose analysis Carow and Kane developed, noted that the following attractions to bank M&As have been asserted in the literature: first, size can bring “defense based economies of scale,” that is, “achieving size . . . that acts as a defensive measure against takeovers” (Dermine 1999, 16), and, second, the long-standing “quiet life” hypothesis. Moreover, strategic alliances also can generate cost efficiencies to the extent that alliance partners can reduce any duplication in distribution networks.

My interest here is in the market power and efficiency-related aspects of bank mergers and acquisitions. In particular, I focus on the effects on one important observable variable, the interest-rate spread, which is the difference between the interest rates paid by borrowers and those paid to depositors. Part of that spread will be determined by the costs associated with collecting deposits, but also by the costs associated with locating and screening potential borrowers. Another determinant of the spread is market power, and this depends on the number of options available to both depositors and the borrowers. If potential depositors have few choices as to where to place their savings, then incumbent banks can offer lower deposit

Table 11.5 Mergers and Acquisitions in the Banking Sector in 13 OECD Nations during the 1990s

Type of Transaction	Characteristics	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
<i>Deals Classified by Country and Sector of Selling Firm</i>												
Within border/Within industry	Number	139	244	318	390	433	435	395	425	417	367	3,563
	Total value	16.77	27.74	23.65	26.68	31.02	122.35	38.92	172.04	257.25	241.11	957.53
	Mean value	0.18	0.22	0.14	0.10	0.10	0.43	0.15	0.53	0.78	0.98	0.39
Within border/Cross industry	Number	37	39	40	45	59	58	53	71	62	79	543
	Total value	10.66	3.00	0.92	1.44	1.54	4.79	1.65	4.21	99.53	8.27	136.03
	Mean value	0.48	1.36	0.05	0.06	0.06	0.17	0.06	0.11	2.21	0.16	0.44
Cross-border/Within industry	Number	14	18	14	19	24	30	21	30	36	29	235
	Total value	2.34	0.56	0.23	1.16	1.85	8.51	3.17	5.70	13.48	13.79	50.80
	Mean value	0.39	0.07	0.08	0.17	0.15	0.47	0.29	0.34	0.75	0.77	0.43
Cross-border/Cross industry	Number	9	10	9	7	9	9	11	8	18	13	103
	Total value	1.27	0.23	1.85	0.42	0.15	0.59	2.63	5.12	2.77	7.10	22.14
	Mean value	0.32	0.05	0.26	0.11	0.03	0.10	0.44	0.64	0.21	0.65	0.32
<i>Deals Classified by Country and Sector of Acquiring Firm</i>												
Within border/Within industry	Number	139	244	318	390	433	435	395	425	417	367	3,563
	Total value	16.77	27.74	23.65	26.68	31.02	122.35	38.92	172.04	257.25	241.11	957.53
	Mean value	0.18	0.22	0.14	0.10	0.10	0.43	0.15	0.53	0.78	0.98	0.39
Within border/Cross industry	Number	13	25	22	35	36	52	60	49	45	72	409
	Total value	0.25	1.13	0.52	4.49	0.77	2.09	5.06	20.34	5.67	9.71	50.02
	Mean value	0.04	0.16	0.09	0.20	0.04	0.09	0.16	0.60	0.20	0.19	2.20
Cross-border/Within industry	Number	22	20	19	22	25	44	34	42	51	50	329
	Total value	2.83	0.37	0.99	1.28	1.65	10.25	5.12	10.70	15.50	20.26	68.95
	Mean value	0.28	0.06	0.20	0.14	0.15	0.38	0.30	0.51	0.60	0.61	0.42
Cross-border/Cross industry	Number	6	8	7	7	9	21	15	17	15	17	122
	Total value	0.18	0.19	0.27	0.13	0.75	0.65	1.06	1.22	0.85	3.59	8.89
	Mean value	0.06	0.05	0.14	0.04	0.75	0.13	0.21	0.17	0.09	0.33	0.18

Note: Total value and mean value are in U.S.\$ billions. These magnitudes are in current dollars.

Table 11.6 Joint Ventures and Strategic Alliances in the Banking Sector in 13 OECD Nations during the 1990s

Economy	Characteristics	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
The United States	Within border	22	25	36	48	85	134	67	160	318	241	1,136
	Cross border	25	32	12	11	24	33	28	42	75	57	339
	Total	47	57	48	59	109	167	95	202	393	298	1,475
Canada	Within border	5	5	0	1	3	7	3	11	21	28	84
	Cross border	3	5	1	4	3	5	6	9	29	16	81
	Total	8	10	1	5	6	12	9	20	50	44	165
Japan	Within border	4	2	5	4	5	4	1	4	20	47	96
	Cross border	7	9	2	5	4	6	4	17	64	65	183
	Total	11	11	7	9	9	10	5	21	84	112	279
Australia	Within border	0	3	3	5	12	21	5	11	33	52	145
	Cross border	2	1	2	4	7	18	9	12	21	42	118
	Total	2	4	5	9	19	39	14	23	54	94	263
Belgium	Within border	0	0	0	0	1	1	1	1	1	1	6
	Cross border	1	1	2	1	3	1	1	0	2	3	15
	Total	1	1	2	1	4	2	2	1	3	4	21
France	Within border	2	2	4	1	4	3	2	4	1	4	27
	Cross border	9	3	7	4	3	5	3	6	12	11	63
	Total	11	5	11	5	7	8	5	10	13	15	90
Germany	Within border	2	4	4	8	2	3	0	5	8	4	40
	Cross border	3	7	1	6	5	6	2	4	16	6	56
	Total	5	11	5	14	7	9	2	9	24	10	96
Italy	Within border	1	2	13	2	2	2	0	1	1	3	27
	Cross border	4	2	9	4	2	4	1	10	8	8	52
	Total	5	4	22	6	4	6	1	11	9	11	79

(continued)

Table 11.6 (continued)

Economy	Characteristics	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
The Netherlands	Within border	0	2	2	2	1	3	1	1	1	2	15
	Cross border	1	4	2	1	1	2	1	1	7	6	26
	Total	1	6	4	3	2	5	2	2	8	8	41
Spain	Within border	0	0	2	2	2	0	0	0	1	2	9
	Cross border	4	8	5	2	5	2	2	2	5	5	40
	Total	4	8	7	4	7	2	2	2	6	7	49
Sweden	Within border	2	0	0	0	0	0	1	0	0	0	3
	Cross border	1	2	0	0	1	0	1	0	4	4	13
	Total	3	2	0	0	1	0	2	0	4	4	16
Switzerland	Within border	1	1	1	1	5	3	0	0	0	4	16
	Cross border	2	1	0	0	3	0	0	2	3	3	14
	Total	3	2	1	1	8	3	0	2	3	7	30
The United Kingdom	Within border	7	13	3	8	11	39	11	25	29	47	193
	Cross border	11	15	7	5	17	24	15	16	38	60	208
	Total	18	28	10	13	28	63	26	41	67	107	401

rates which *ceteris paribus* raises spreads. Likewise, if potential borrowers have few alternatives to seeking funds from the incumbent banks, then the interest rate paid by the former will be higher, thus raising spreads.

In the absence of efficiencies, bank M&As can be expected to raise spreads as the number of banking options facing depositors and borrowers declines. Only if there is sufficient rivalry between banks after a merger takes place will any efficiencies created by the merger be passed on to consumers in the form of lower spreads.²⁷ It is an empirical question whether market power or efficiencies dominates. To date, the empirical literature on bank mergers is mixed on the relative importance of these two factors (see the discussions in Berger et al. 2000; Calomiris and Karceski 2000; Vives 2001).

To estimate the effects on interest-rate spreads of the changes in the national banking sectors documented in tables 11.5 and 11.6, I assembled from BIS (2001) and the World Bank's *World Development Indicators* (WDI) an unbalanced panel comprising the thirteen nations in the BIS study. The unbalanced nature of the panel resulted from the fact that in some countries the five firm-concentration ratios in the banking sectors were not reported in the BIS study for every year from 1990 to 1999. The BIS study provided annual data on the number of banks in each country, the number and types of strategic alliances, and the number and types of M&A.

The dependent variable for this study—the interest-rate spread—was taken from the WDI CD-ROM. This source defines the interest spread as “the interest rate charged by banks on loans to prime customers minus the interest paid to by commercial or similar banks for demand, time, or savings deposits” (WDI CD-ROM).²⁸

The mean value of this spread for each economy is reported in table 11.7, which sorts the economies according to the annual average number of cross-border mergers and acquisitions. The highest mean spread (6.35 percent) is in Germany and the lowest spread is in Canada (1.34 percent). Data on three macroeconomic series—GDPs, GDP-price deflators, and stock-market capitalization—used to form control variables (which are described later) was also assembled from the WDI. Both GDP growth and the inflation rate are intended to proxy for the stage of the business cycle, whereas the size of a nation's stock market is supposed to proxy for the extent to which financial markets can act as an alternative source of finance for borrowers and as an alternative destination for personal savings.

The objective of the econometric strategy is to discern—after stripping

27. For a more sophisticated overview of the causes and consequences of market power in banking, see Vives (2001, section 3).

28. Some seminar participants have questioned the accuracy of the WDI data on bank spreads. I checked other available series on bank spreads—specifically, those from the International Monetary Fund and the comprehensive DATASTREAM financial database—and found that these confirmed the data on spreads reported in the WDI.

Table 11.7 Summary Statistics for the Unbalanced Panel Data Set

Economy	Years in Unbalanced Panel	Mean Value of Annual Observations									
		Five-Firm Concentration Ratio	Number of Banks	Strategic Alliances		M&A		Interest-Rate Spread (%)			
				Within Border	Cross Border	Within Border	Cross Border				
Canada	1990–1999	70.9	61.0	8.4	8.1	9.8	0.4	1.34			
Japan	1990–1998	30.6	161.1	5.4	13.1	6.1	0.4	2.59			
Sweden	1990–1998	80.2	196.3	0.3	1.0	5.0	0.6	5.85			
The Netherlands	1990–1999	77.8	172.4	1.5	2.6	3.2	1.2	5.03			
Italy	1992–1999	32.3	280.9	3.0	5.8	23.6	1.5	5.62			
Spain	1990–1997	45.8	317.4	0.8	3.8	6.4	1.9	3.16			
Belgium	1990–1998	58.9	321.0	0.8	2.2	2.4	2.1	5.14			
Australia	1991–1998	71.8	40.1	11.6	9.3	7.8	2.4	4.19			
Germany	1990–1998	17.4	3969.7	4.0	5.6	16.6	2.8	6.15			
Switzerland	1990–1997	53.5	418.4	2.1	2.1	9.1	3.1	2.21			
France	1990–1997	66.2	1520.5	2.8	5.0	16.1	3.9	4.33			
The United Kingdom	1990, 1995–1998	44.3	466.8	26.0	23.3	22.5	6.0	2.79			
The United States	1990–1999	18.3	12392.1	113.6	33.9	283.6	7.5	2.73			

out the variation created by the business cycle and any competition for funds created by the stock market and by the impact of regulatory changes—whether or not interest-rate spreads in the 1990s have been influenced by the formation of the numerous strategic alliances and the consummation of bank M&As. Of special interest is whether or not cross-border M&A and cross-border strategic alliances have different effects from their domestic counterparts. So that my econometric estimates are not determined entirely by the boom years of cross-border M&A (1997–2000), the data set used covers as much of the 1990s as the data sources employed here would allow.

I proceed from a parsimonious specification to richer ones. The first specification purges the variation in bank spreads of variation associated with a set of macroeconomic controls and includes country-specific fixed effects. The estimation equation is

$$(1) \quad \ln\left(\frac{1 + L_{it}}{1 + D_{it}}\right) = a_i + \bar{b} \ln(\mathbf{M}_{it}) + \varepsilon_{it},$$

where

$$\ln(\mathbf{M}_{it}) = b_1 \ln\left(\frac{\text{GDP}_{it}}{\text{GDP}_{i(t-1)}}\right) + b_2 \ln\left(\frac{P_{it}}{P_{i(t-1)}}\right) + b_3 \ln(\text{SM}_{it}) + b_4 \ln(t) + \dots$$

and

$i = 1, \dots, N, N = 13;$

$t = 1990, \dots, 1999;$

a_i is a country-specific fixed effect for economy i ;

L_{it} is the prime rate paid to borrowers from banks in economy i in year t ;

D_{it} is the interest paid to depositors in banks in economy i in year t ;

GDP_{it} is the GDP of economy i in year t ;

P_{it} is the GDP deflator in economy i in year t ; and

SM_{it} is the total stock-market capitalization of economy i in year t as a percentage of GDP_{it} .

The vector \mathbf{M}_{it} includes the four macroeconomic controls previously outlined plus the (six) two-way interaction between these four controls. The parameter estimates, obtained by confronting specification (1) with the data from my unbalanced panel of thirteen economies, account for 6.43 percent of the within variation, see table 11.8. The estimation procedure used weighted least squares to take account of any country-specific (or group-wise) heteroskedacity.²⁹

29. Specifically, the weight applied to each country's data in a second-stage regression is the absolute value of the estimate of the standard deviation of the residuals that were recovered from an unweighted first-stage regression using ordinary least squares.

Table 11.8 Estimating the Determinants of Bank Spreads in all 13 OECD Nations from 1990 to 1999

Independent Variable	Specifications						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Parameter Estimate	Parameter Estimate	Parameter Estimate	Parameter Estimate	Parameter Estimate	Parameter Estimate	Parameter Estimate
	<i>t</i> -ratio	<i>t</i> -ratio	<i>t</i> -ratio	<i>t</i> -ratio	<i>t</i> -ratio	<i>t</i> -ratio	<i>t</i> -ratio
	Included	Included	Included	Included	Included	Included	Included
Macroeconomic controls							
Five-firm concentration ratio		0.0070	2.8769	0.0088	3.2230		
Five-firm concentration of the variation associated with the following independent variables							
ratio after being purged							
Total number of strategic alliances			0.0028	1.9024	1.8099	0.0026	1.8099
Total number of mergers and acquisitions			-0.0011	-1.0396	-0.0006	-0.5964	-0.9484
Strategic alliances							
Domestic							
Cross border						0.0045	2.0285
Mergers and acquisitions						0.0020	0.7445
Domestic							
Cross border						0.0030	1.7634
Total number of banks						-0.0028	-1.8473
Controls for regulatory changes	Not included	Not included	Not included	Not included	-0.0067	-1.5067	-1.1480
Within R^2	0.0643	0.0609	0.0780	0.0780	0.0881	0.1144	0.2597
No. of observations	97	97	97	97	97	97	97

Note: Boldface indicates a parameter estimate that is statistically different from zero on a one-tail test.

Specifications (2) and (3) in table 11.8 include parsimonious controls for changes in market structure. Specification (2) includes the logarithm of the five firm-concentration ratio as an independent variable. Specification (3) goes further and introduces as two additional distinct independent variables the logarithms of (1 plus) the number of annual strategic alliances and (1 plus) the number of annual M&As consummated since 1990. Both specifications yield the traditional finding that increases in the concentration ratio raises interest-rate spreads. Specification (3) provides the first evidence that strategic alliances appear to raise interest-rate spreads, whereas M&As tend to have no statistically significant effect on them.

One objection to specification (3) is that the observed concentration ratio in a given year may well, in turn, be influenced by the number of strategic alliances and mergers and acquisitions that have occurred in the past or are taking place currently. Consequently, in addition to allowing for time-invariant country-specific determinants of concentration, I also purged the variation of the five firm-concentration ratio of the observed levels of strategic alliances and M&As.³⁰ This purged concentration ratio was used in specification (4) instead of the actual concentration ratio in specification (3). The upshot: precious little changes.³¹

Another objection to specifications (1) through (4) is that they do not take into account the entry and exit of domestic banks that is independent of M&A. Specification (5) includes as an independent variable the logarithm of the number of banks in an economy. With this additional explanatory variable, the effect of the concentration ratio on interest-rate spreads still has the correct sign and the parameter estimate on the strategic-alliance variable remains little changed. Entry of banks is found to depress spreads, but not in a statistically significant manner.

As the BIS data source enables me to differentiate between domestic and cross-border strategic alliances and between domestic and cross-border M&A, I entered them as separate independent variables in specification (6). Interestingly, domestic M&A and domestic strategic alliances are found to raise spreads, with the estimated parameter on the former 50 per-

30. Specifically, in specification (4), I regressed the concentration ratio on country-specific dummies and the logarithm of 1 plus the total number of strategic alliances and the total number of mergers and acquisitions. Following standard procedures, the estimate of the purged concentration ratio is the estimated residual of the regression described above in this footnote.

31. Note that in specifications (4) through (7) I purged the concentration ratio of country-specific fixed effects plus each of the M&A and strategic-alliance variables included in a given specification. Moreover, in specifications (5) through (7), I also purged the concentration ratio of the logarithm of the number of banks. In specification (7), I also purged the concentration ratio of the explanatory power of the dummies picking up changes in bank regulatory regimes. In each specification, the goal of this purging procedure is to identify that component of the concentration ratio that cannot be attributed to the changes in national market structures in the banking sector, to national regulatory changes, or to other national characteristics that do not vary over the years of data in the sample (1990–1999).

cent larger than on the latter. In contrast, cross-border M&A does appear to reduce spreads. However, in specification (6) these findings do not survive the inclusion of controls for regulatory changes in the thirteen OECD nations during the 1990s.³² Specification (7) includes these controls, and the parameter on the cross-border M&A variable loses its significance. Nonetheless, the estimated parameters do suggest that domestic consolidation and strategic alliances in the banking system have raised spreads whereas their cross-border counterparts do not.

The next step was to examine whether these qualitative findings held up to changes in sample composition. First, I eliminated each country one at a time from the sample and reestimated the parameters. The new parameter estimates varied little from the previous. Second, I eliminated the North American economies (Canada and the United States) from the sample, again with little effect. Third, I eliminated Japan and Australia from the sample and found not much changed. This seemingly robust set of regression findings was overturned when I split the thirteen nation sample into a sample comprising of EU members and a sample comprising the rest. Arguably, the former's banking sectors have been affected by the implementation of two European Banking Directives (and other measures to enhance the integration of European markets). Such considerations may result in banking consolidation in Europe that has different effects than in other parts of the industrialized world. Tables 11.9 and 11.10, which report the parameters estimated in table 11.8 for the eight-nation EU sample and the five-nation non-EU sample, respectively, confirm that differences do exist between these samples.

In the EU sample, cross-border strategic alliances are found to increase spreads. Perhaps such alliances in Europe were formed to frustrate entry and segment markets, rather than to enhance economies of scale and scope. Interestingly, where EU banks have gone beyond such alliances and have actually merged with banks located in another EU member, the evidence suggests that spreads do fall (see specification (7), table 11.9). In contrast, domestic interbank alliances in EU member states appear to have no effects on bank spreads—suggesting that any economies reaped are probably offset by a diminution in competition.

The performance of the specifications in the non-EU sample is rather mixed. For sure, with the inclusion of the regulatory controls (in specification (7), table 11.10), over half of the variation in the dependent variable is explained. However, few of the market structure variables—such as the purged concentration ratio—are found to have had a statistically significant effect on interest-rate spreads. This may reflect the fact that the degrees of freedom in the sample are quite small (less than 30). Even so,

32. Table 11A.2 lists the major banking-sector-related changes identified in annex II.3 of BIS (2001).

Table 11.9 Estimating the Determinants of Bank Spreads in 8 EU Nations from 1990 to 1999

Independent Variable	Specifications													
	(2)		(3)		(4)		(5)		(6)		(7)			
	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio		
Macroeconomic controls	Included		Included		Included		Included		Included		Included			
Five-firm concentration ratio		0.0050	1.4113		0.0106		2.6792							
Five-firm concentration ratio after being purged of the variation associated with the following independent variables														
Total number of strategic alliances				0.0049	1.4210	0.0106	2.6792	0.0108	2.8411	0.0087	2.3710	0.0057	1.3474	
Total number of mergers and acquisitions				0.0002	0.0760	0.0010	0.4133	0.0005	0.1727					
Strategic alliances														
Domestic										0.0065	1.6049	0.0012	0.2677	
Cross border										0.0018	0.3823	0.0132	2.3059	
Mergers and acquisitions										0.0039	1.2051	-0.0008	-0.2424	
Domestic										-0.0077	-2.0304	-0.0056	-1.7620	
Cross border										-0.0125	-1.2596	-0.0159	-1.8156	
Total number of banks										Not included				
Controls for regulatory changes	Not included			Not included		Not included		Not included						
Within R^2	0.1943	0.1903	0.2361	0.2361	0.2361	0.2361	0.2973	0.2973	0.4403	0.4403	0.4403	0.4796		
No. of observations	65	65	65	65	65	65	65	65	65	65	65	65	65	

Note: Boldface indicates a parameter estimate that is statistically different from zero on a one-tail test.

Table 11.10 Estimating the Determinants of Bank Spreads in 5 Non-EU Nations from 1990 to 1999

Independent Variable	Specifications													
	(2)		(3)		(4)		(5)		(6)		(7)			
	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio	Parameter Estimate	<i>t</i> -ratio		
Macroeconomic controls	Included		Included		Included		Included		Included		Included			
Five-firm concentration ratio		0.0002	0.0313	0.0036	0.4322									
Five-firm concentration ratio after being purged of the variation associated with the following independent variables					0.4322									
Total number of strategic alliances						0.0036	0.4322	0.0040	0.4394	0.0042	0.4248	0.0066		
Total number of mergers and acquisitions														
Strategic alliances														
Domestic														
Cross border														
Mergers and acquisitions														
Domestic														
Cross border														
Total number of banks														
Controls for regulatory changes	Not included	Not included	Not included	Not included	Not included	Not included	Not included	Not included	Not included	Not included	Not included	Not included		
Within R^2	0.1633	0.1611	0.2896	0.2896	0.2896	0.2896	0.3357	0.3357	0.3214	0.3214	0.5322	0.5322		
Number of observations	45	45	45	45	45	45	45	45	45	45	45	45		

Note: Boldface indicates a parameter estimate that is statistically different from zero on a one-tail test.

outside the EU, cross-border strategic alliances were found to depress interest-rate spreads, suggesting that such corporate agreements generate efficiencies.

The parameter estimates from specification (7) in both tables 11.9 and 11.10 can be used to quantify the total effect of the observed domestic and cross-border consolidation in the banking sectors that occurred in the 1990s, as well as the total effect of the formation of strategic alliances. Table 11.11 reports country-by-country the point estimates of the total effect on interest-rate spreads of the domestic and cross-border banking changes observed throughout the 1990s. In every non-EU country considered here, the combined effect of the domestic banking changes was to raise spreads, but this was offset by the beneficial effects created by cross-border strategic alliances and M&A. In each EU economy, the net effect of domestic banking changes on spreads is almost zero and is dominated by the spread-increasing effects of cross-border strategic alliances. Indeed, had those cross-border strategic alliances not occurred in the 1990s, bank spreads (as measured by the dependent variable) in each EU country considered here would have been at least two whole percentage points lower in 1999. In contrast, in the five non-EU economies, cross-border strategic alliances and mergers have helped reduce spreads by between 1.3 and 3.0 percentage points.

These findings suggest that interbank agreements and consolidation in the 1990s had important effects on interest rates and, therefore, on the welfare of lenders or borrowers. What is doubtful, however, is that sweeping statements about the effects of cross-border interbank agreements can be made with any confidence. Indeed, the emphasis in much commentary on globalization regarding the role of cross-border M&A is somewhat misplaced at least in banking, since it appears that the consequences of cross-border strategic alliances are a more important part of the story.

11.4 Concluding Remarks

The cross-border mergers and acquisitions wave of the 1990s was on a different scale than its predecessor in the late 1990s: It included more firms from more countries; saw a greater number of transactions, many of which were megadeals; and was dominated by service-sector transactions. In fact, three sectors (namely, transportation and communication, finance, and business services) accounted for just under half of the value of all M&A from 1997 to 2000. An evaluation of this recent cross-border mergers and acquisitions wave is, thus, in large part an evaluation of its effects on these three sectors. What is more, in each case there are good reasons for suspecting that cross-border M&A was not the only major change in their market structures in the 1990s. The telecommunications sector saw much deregulation and technological advances, as did business services. In

Table 11.11 Contribution of Within Border and Cross-Border Transactions to Changing Spreads throughout the 1990s

Economy	Within-Border Transactions 1990–1999					Cross-Border Transactions 1990–1999					Combined Effect of Within-and Cross-Border Transactions on Interest-Rate Spreads (%)	
	Point Estimate of Effect on Interest-Rate Spreads (%)		Number		Strategic Alliances	Point Estimate of Effect on Interest-Rate Spreads (%)		Number		Strategic Alliances		
	Strategic Alliances	M&A	M&A	Strategic Alliances		M&A	M&A	M&A	Strategic Alliances			Combined Effect
						<i>Members of the European Union</i>						
Belgium	5	21	0.215	-0.247	15	21	3.728	-1.716	1,948	1,915		
Sweden	3	47	0.166	-0.309	13	7	3.545	-1.158	2,346	2,200		
The Netherlands	15	32	0.333	-0.279	26	12	4.447	-1.426	2,957	3,012		
Spain	9	68	0.277	-0.338	40	21	5.024	-1.716	3,222	3,157		
France	27	150	0.401	-0.401	63	50	5.643	-2.178	3,343	3,341		
Germany	40	186	0.447	-0.418	56	32	5.482	-1.939	3,437	3,465		
Italy	27	212	0.401	-0.428	52	16	5.381	-1.574	3,722	3,692		
The United Kingdom	193	200	0.634	-0.423	208	44	7.306	-2.109	5,043	5,262		
							<i>Economies That Are Not Members of the European Union</i>					
Japan	96	102	0.827	1.259	2,096	183	6	-4.684	-0.214	-4.888	-2,894	
Australia	145	75	0.901	1.176	2,088	118	22	-4.302	-0.344	-4.631	-2,640	
The United States	1,136	2,836	1.275	2.170	3,472	339	75	-5.221	-0.475	-5.672	-2,397	
Canada	84	98	0.803	1.248	2,061	81	4	-3.973	-0.177	-4.143	-2,167	
Switzerland	15	79	0.500	1.190	1,696	14	28	-2.461	-0.370	-2.821	-1,173	

banking, whose consolidation was studied in more detail in this chapter, strategic alliances and domestic M&As were consummated in large numbers in the 1990s. Correcting for these other developments was found to be important when accurately gauging the effect of cross-border mergers and acquisitions in the banking sector.

My empirical analysis of thirteen OECD economies' banking sectors points to a discernable impact of openness to foreign banking activities on bank spreads. In eight EU economies, the beneficial consequences of cross-border M&As was more than offset by the deleterious impact of cross-border strategic alliances. In contrast, the net effect of openness to foreign banking activities has been to benefit customers in non-European industrialized economies.

This chapter speaks to a number of themes discussed throughout this book. First, by documenting the factual record on cross-border mergers and acquisitions, a better sense of the scale of this phenomenon emerged. Facts replace assertions. For sure, cross-border mergers and acquisitions in the late 1990s were greater than in the late 1980s. However, the former still only represent a small fraction of the stock-market capitalizations of all but the smallest industrialized economies. Indeed, in almost every industrial country, foreigners are hardly snapping up domestic assets at a rate that some might find alarming.

The second important finding of this chapter relates to the concern that changes in the global economy in recent years have sought to reinforce the market power of corporations. The sectoral study of banking presented here points to the importance of correctly identifying all of the changes in a given sector's structure and its regulations before drawing any inferences about the effects of consolidation on customers. In the EU banking sector, the evidence suggests that cross-border M&As have actually benefited bank customers rather than harming them. In contrast, cross-border strategic alliances have probably hurt customers in the EU, suggesting that not all cross-border corporate acts have the same effects. More nuance is clearly needed in policy debates so that cross-border interfirm measures are not automatically branded as bad or anticonsumer.

Appendix

Table 11A.1 Megamegers and Acquisitions in 2000

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
1	202.8	Vodafone AirTouch PLC	Radiotelephone communications	Mannesmann AG	Radiotelephone communications	The United Kingdom	Germany
2	46.0	France Telecom SA	Telephone communications, except radiotelephone	Orange PLC (Mannesmann AG)	Telephone communications, except radiotelephone	France	The United Kingdom
3	40.4	Vivendi SA	Water supply	Seagram Cc Ltd.	Motion picture and videotape production	France	Canada
4	27.2	BP Amoco PLC	Petroleum refining	ARCO	Petroleum refining	The United Kingdom	The United States
5	25.1	Unilever PLC	Creamery butter	Bestfoods	Dried fruits, vegetables, and soup mixes	The United Kingdom	The United States
6	19.4	Zurich Allied AG	Life insurance	Allied Zurich PLC	Life insurance	Switzerland	The United Kingdom
7	16.5	UBS AG	Banks, non-U.S. chartered	PaineWebber Group Inc.	Security brokers, dealers and flotation companies	Switzerland	The United States

8	14.4	Vodafone AirTouch PLC	Radiotelephone communications	Airtel SA	Radiotelephone communications	The United Kingdom	Spain
9	13.5	Credit Suisse First Boston	Security brokers, dealers and flota- tion companies	Donaldson Lufkin & Jenrette	Commodity con- tracts, brokers, and dealers	The United States	The United States
10	11.8	Cap Gemini SA	Business consulting services, nec	Ernst & Young Consulting Bus.	Business consulting services, nec	France	The United States
11	11.1	HSBC Holdings PLC	Banks, non-U.S. chartered	Credit Commercial de France	Banks, non-U.S. chartered	The United Kingdom	France
12	11.0	NTL Inc.	Cable and other pay television services	CWC Consumer Co.	Telephone commu- nications, except radiotelephone	The United States	The United Kingdom
13	10.2	Telefonica SA	Telephone commu- nications, except radiotelephone	Telecom municacoes de Sao Paulo	Telephone commu- nications, except radiotelephone	Spain	Brazil
14	9.4	BellSouth GmbH (KPN, BellSouth)	Telephone commu- nications, except radiotelephone	E-Plus Mobilfunk GmbH (Otelo)	Radiotelephone communications	The Netherlands	Germany
15	8.3	America Online Inc.	Prepackaged software	AOL Europe, AOL Australia	Information retrieval services	The United States	Germany
16	7.7	Chase Manhattan Corp., N.Y.	National commer- cial banks	Robert Fleming Holdings Ltd.	Security brokers, dealers, and flota- tion companies	The United States	The United Kingdom
17	7.6	ING Groep NV	Life insurance	Aetna Financial Services & Interna- tional Bus.	Security and com- modity services, nec	The Netherlands	The United States

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
18	7.1	British American Tobacco PLC	Cigarettes	Imasco Ltd.	Eating places	The United Kingdom	Canada
19	7.1	Alcatel SA	Telephone and tele- graph apparatus	Newbridge Networks Corp.	Telephone and telegraph apparatus	France	Canada
20	7.1	Nortel Networks Corp.	Telephone and tele- graph apparatus	Afeon Websystems Inc.	Electronic compo- nents, nec	Canada	The United States
21	6.7	DaimlerChrysler Aerospace AG	Aircraft parts and equipment	Aerospatiale Matra	Aircraft	Germany	France
22	6.3	RWE AG	Electric and other services combined	Thames Water PLC	Water supply	Germany	The United Kingdom
23	6.2	Terra Networks (Telefonica SA)	Information- retrieval services	Lycos Inc.	Information- retrieval services	Spain	The United States
24	6.0	ING Groep NV	Life insurance	ReliaStar Financial Corp.	Life insurance	The Netherlands	The United States
25	5.7	NTT Communications Corp.	Telephone commu- nications, except radiotelephone	Verio Inc.	Data-processing services	Japan	The United States
26	5.4	PowerGen PLC	Electric services	LG&E Energy Corp.	Electric services	The United Kingdom	The United States

27	5.3	CLT-UFA (Cie Luxembourgise)	Radio broadcasting stations	Pearson Television (Pearson)	Television broadcasting stations	Luxembourg	The United Kingdom
28	5.2	Leconport Estates	Investors, nec	MEPC PLC	Land subdividers and developers, except cemeteries	Multinational	The United Kingdom
29	5.0	British Telecommunications	Telephone communications, except radiotelephone	AT&T Worldwide Assets, Ops	Telephone communications, except radiotelephone	The United Kingdom	The United States
30	5.0	WPP Group PLC	Advertising agencies	Young & Rubicam Inc.	Advertising agencies	The United Kingdom	The United States
31	4.9	Stora Enso Oyj	Paper mills	Consolidated Papers Inc.	Paperboard mills	Finland	The United States
32	4.9	Tiscali SpA	Telephone communications, except radiotelephone	World Online International NV	Information-retrieval services	Italy	The Netherlands
33	4.8	Nordbanken Holding AB	Offices of holding companies, nec	Media Oy	Banks, non-U.S. chartered	Sweden	Finland
34	4.8	Alcan Aluminium Ltd.	Aluminum foundries	Alusuisse Lonza Group Ltd.	Packaging paper & plastics film, coated & laminated	Canada	Switzerland
35	4.6	Telefonica SA	Telephone communications, except radiotelephone	Endemol Entertainment NV	Motion-picture and videotape production	Spain	The Netherlands
36	4.4	MeritaNordbanken	Banks, non-U.S. chartered	Unidanmark A/S	Banks, non-U.S. chartered	Finland	Denmark

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
37	4.4	Tyco International Ltd.	General industrial machinery and equipment	Mallinckrodt Inc.	In-vitro and in-vivo diagnostic substances	Bermuda	The United States
38	4.3	France Telecom SA	Telephone communications, except radiotelephone	Global One Cc	Telephone communications, except radiotelephone	France	The United States
39	4.3	Same Group PLC	Computer related services, nec	LHS Group Inc.	Computer-programming services	The United Kingdom	The United States
40	4.3	Investor Group	Investors, nec	TPSA	Radiotelephone communications	France	Poland
41	4.2	National Grid Group PLC	Electric services	New England Electric System	Electric services	The United Kingdom	The United States
42	4.0	Alliance Capital Management	Investment advice	Sanford C. Bornstein & Co. Inc.	Investment advice	The United States	The United States
43	3.9	BASF AG	Industrial organic chemicals, nec	American Cyanamid Agricultural Product	Pesticides & agricultural chemicals, nec	Germany	The United States
44	3.7	NTL Inc.	Cable and other pay television services	Cablecom Holding AG	Cable and other pay television services	The United States	Switzerland

45	3.6	France Telecom SA	Telephone communications, except radiotelephone	MobilCom AG	Telephone communications, except radiotelephone	France	Germany
46	3.6	Koninklijke Ahold NV	Grocery stores	U.S. Foodservice Inc.	Groceries, general line	The Netherlands	The United States
47	3.6	NTT Mobile Communications Network Inc.	Telephone communications, except radiotelephone	KPN Mobile (KPN Telecom NV)	Telephone communications, except radiotelephone	Japan	The Netherlands
48	3.6	Corning Inc.	Telephone and telegraph apparatus	Pirelli SpA-Optical Components	Drawing & insulating of nonferrous wire	The United States	Italy
49	3.5	AXA	Life insurance	Sun Life and Provincial	Life insurance	France	The United Kingdom
50	3.5	Interbrew SA	Malt beverages	Bass PLC-Brewing Operations	Malt beverages	Belgium	The United Kingdom
51	3.4	WPD Holdings U.K.	Electric services	Hyder PLC	Engineering services	The United Kingdom	The United Kingdom
52	3.4	Rodamco North America NV	Real-estate investment trusts	Urban Shopping Centers Inc.	Real-estate-investment trusts	The Netherlands	The United States
53	3.3	Nortel Networks Corp.	Telephone and telegraph apparatus	Xros Inc.	Telephone and telegraph apparatus	Canada	The United States
54	3.3	Nortel Networks Corp.	Telephone and telegraph apparatus	Qtera Corp.	Telephone and telegraph apparatus	Canada	The United States
55	2.9	Hellenic Bottling Cc SA	Bottled & canned soft drinks and carbonated waters	Coca-Cola Beverages PLC	Bottled & canned soft drinks and carbonated waters	Greece	The United Kingdom

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
56	2.8	Cemex	Cement, hydraulic	Southdown Inc.	Cement, hydraulic	Mexico	The United States
57	2.8	Global Crossing Ltd.	Telephone communications, except radiotelephone	IPC Communications (Citicorp)	Information retrieval services	Bermuda	The United States
58	2.8	Investor Group	Investors, nec	Deutsche Telekom AG-North	Telephone communications, except radiotelephone	The United States	Germany
59	2.8	MeritaNordbanken	Banks, non-U.S. chartered	Christiana Bank	Banks, non-U.S. chartered	Finland	Norway
60	2.8	Havas Advertising SA	Advertising agencies	Snyder Communications Inc.	Business services, nec	France	The United States
61	2.7	Preussag AG	Travel agencies	Thomson Travel Group PLC	Tour operators	Germany	The United Kingdom
62	2.7	Norske Skogindustrier AS	Pulp mills	Fletcher Challenge Paper	Pulp mills	Norway	New Zealand
63	2.7	Ford Motor Co.	Motor vehicles and passenger-car bodies	Land Rover (BMW)	Motor vehicles & passenger-car bodies	The United States	The United Kingdom
64	2.6	Flextronics International Ltd.	Printed circuit boards	DII Group	Electronic components, nec	Singapore	The United States

65	2.6	General Sekiyu (Esso Eastern)	Petroleum refining	Tonen Corp. (Exxon Mobil)	Petroleum refining	Japan	The United States
66	2.5	Hanson PLC	Men's footwear, except athletic	Pioneer International Ltd.	Ready-mixed concrete	The United Kingdom	Australia
67	2.5	Dexia Belgium	Security brokers, dealers and flotation companies	Finland Security Assurance Holdings	Surety insurance	Belgium	The United States
68	2.5	Pearson PLC	Books: publishing, or publishing & printing	National Computer Systems Inc.	Computer- peripheral equip- ment, nec	The United Kingdom	The United States
69	2.5	Tyco International Ltd.	General industrial machinery and equipment	Lucent Tech Inc.- Power System Unit	Electronic compo- nents, nec	Bermuda	The United States
70	2.5	Carrefour SA	Grocery stores	Gruppo GS SpA (Schemaventuno)	Variety stores	France	Italy
71	2.5	Bayer AG	Medicinal-chemicals and botanical prod- ucts, radiotelephone	Lyondell Chemical- Polyfs Bus.	Petroleum-refining production	Germany	The United States
72	2.4	Telefonica SA	Telephone commu- nications, except radiotelephone	Telesudeste Celular	Telephone commu- nications, except radiotelephone	Spain	Brazil
73	2.4	General Motors Corp.	Motor vehicles and passenger-car bodies	Fiat Auto SpA (Fiat SpA)	Motor vehicles & passenger-car bodies	The United States	Italy

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
74	2.3	Atos SA	Computer-programming services	Origin (Philips Electronics NV)	Prepackaged Software	France	The Netherlands
75	2.3	T-Online International AG	Information-retrieval services	Club Internet (Lagardere Group)	Information-retrieval services	Germany	France
76	2.3	General Electric Capital Corp.	Personal-credit institutions	Toho Mutual Life	Life insurance	The United States	Japan
77	2.3	Unilever NV	Creamery butter	Slim Fast Foods Cc	Food preparations, nec	The Netherlands	The United States
78	2.2	Investor Group	Investors, nec	EPON NV (EDON, NUON)	Electric services	Belgium	The Netherlands
79	2.2	Investor Group	Investors, nec	ETSA Utilities, ETSA Power	Electric services	Hong Kong, China	Australia
80	2.2	Telefonica Internacional SA	Telephone communications, except radiotelephone	CEI Citicorp Equity Holdings	Offices of holding companies, nec	Spain	Argentina
81	2.2	Salomon Smith Barney Holdings	Security brokers, dealers and flotation companies	Schroders-Worldwide Investment	Security brokers, dealers and flotation companies	The United States	The United Kingdom

82	2.2	CDC Asset Management Europe	Management-investment offices, open end	NVEST LP	Investment offices, nec	France	The United States
83	2.2	Investor Group	Investors, nec	Mark IV Industries Inc.	Rubber and plastics hose and belting	The United Kingdom	The United States
84	2.2	Thomson-CSF	Guided-missile and space-vehicle parts, nec	Racal Electronics PLC	Electronic computers	France	The United Kingdom
85	2.2	BT Hawthorn Ltd.	Telephone communications, except radiotelephone	Esat Telecom Group PLC	Communications services, nec	The United Kingdom	Ireland
86	2.1	Cisco Systems Inc.	Computer-peripheral equipment, nec	Pirelli-Fibre Optic Operations	Optical instruments and lenses	The United States	Italy
87	2.1	Metsa-Seria Oy	Paper mills	MoDo Paper AB	Paper mills	Finland	Sweden
88	2.1	Rio Tinto Ltd.	Iron ores	North Ltd.	Gold ores	The United Kingdom	Australia
89	2.1	Siemens Corp. (Siemens AG)	Communications equipment, nec	Shared Medical Systems Corp.	Computer-facilities-management services	The United States	The United States
90	2.0	Cie de Saint-Gobain SA	Abrasive products	Meyer International PLC	Lumber, plywood, millwork and wood panels	France	The United Kingdom
91	2.0	Finalrealm	Food preparations, nec	United Biscuits (Holdings) PLC	Frozen specialties, nec	France	The United Kingdom
92	2.0	Rexam PLC	Sanitary-paper products	American National Can Group	Metal cans	The United Kingdom	The United States

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
		93	2.0	Worms et Cie	Life insurance	Ado Wiggins Appleton PLC	Paper mills
94	2.0	AXA	Life insurance	Nippon Dantai Life Insurance	Life insurance	France	Japan
95	1.9	Allianz AG	Life insurance	PIMCO Advisors Holdings LP	Investment advice	Germany	The United States
96	1.9	DaimlerChrysler AG	Motor vehicles and passenger-car bodies	Mitsubishi Motors Corp.	Motor vehicles & passenger car bodies	Germany	Japan
97	1.9	Nodal Networks Corp.	Telephone and tele- graph apparatus	CoreTek Inc.	Telephone and tele- graph apparatus	Canada	The United States
98	1.9	Telenor AS	Telephone commu- nications, except radiotelephone	Sonofon	Telephone commu- nications, except radiotelephone	Norway	Denmark
99	1.9	Nortel Networks Corp.	Telephone and tele- graph apparatus	Clarify Inc.	Prepackaged software	Canada	The United States
100	1.8	Suez Lyonnaise des Eaux SA	Water supply	United Water Resources Inc.	Water supply	France	The United States
101	1.8	British Telecommu- nications PLC	Communications services, nec	Telfort	Radiotelephone communications	The United Kingdom	The Netherlands

102	1.8	NTT DoCoMo Inc.	Telephone communications, except radiotelephone	Hutchison 3G U.K. Holdings Ltd.	Telephone communications, except radiotelephone	Japan	The United Kingdom
103	1.8	Netcom AB	Communications services, nec	Societe Europeenne de Commun	Telephone communications, except radiotelephone	Sweden	Luxembourg
104	1.8	Alcatel SA	Telephone and telegraph apparatus	Genesys Telecommun Labs	Prepackaged Software	France	The United States
105	1.8	Koninklijke Numico NV	Dry, condensed & evaporated dairy products radio-telephone	Rexall Sundown Inc.	Pharmaceutical-preparations production	The Netherlands	The United States
106	1.8	Amvescap PLC	Investment advice	Trimark Financial Corp.	Security brokers, dealers and flotation companies	The United Kingdom	Canada
107	1.7	Clariant AG	Alkalies and chlorine	BTP PLC	Industrial inorganic chemicals, nec	Switzerland	The United Kingdom
108	1.7	Investor Group	Investors, nec	Shoppers Drug Mart (Imasco Ltd.)	Drug stores and proprietary stores	The United States	Canada
109	1.7	Publicis SA	Advertising agencies	Saatchi & Saatchi PLC	Advertising agencies	France	The United Kingdom
110	1.7	Elan Corp. PLC	Pharmaceutical preparations	Dura Pharmaceuticals Inc.	Pharmaceutical preparations	Ireland	The United States
111	1.7	Skandinaviska Enskilda Banken	Banks, non-U.S. chartered	Bank fur Gemeinwirtschaft AG	Banks, non-U.S. chartered	Sweden	Germany

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
112	1.7	BAE SYSTEMS North America	Aircraft engines and engine parts	Lockheed Martin-Aerospace	Search, detection, and navigation equipment	The United States	The United States
113	1.7	AES Corp.	Electric services	CA La Electricidad de Caracas	Electric services	The United States	Venezuela
114	1.6	Nationwide Mutual Insurance Co.	Fire, marine, and casualty insurance	Gartmore Investment Management	Investment offices, nec	The United States	The United Kingdom
115	1.6	EM TV & Merchandising AG	Motion-picture and videotape distribution	SLEC Holdings Ltd.	Offices of holding companies, nec	Germany	The United Kingdom
116	1.6	Fortis (NQ NV)	Life insurance	Banque Generale du Luxembourg	Banks, non-U.S. chartered	The Netherlands	Luxembourg
117	1.6	Volkswagen AG	Motor vehicles and passenger-car bodies	Scania AB (Investor AB)	Truck and bus bodies	Germany	Sweden
118	1.6	BP Amoco PLC	Petroleum refining	Vastar Resources Inc.	Crude petroleum and natural gas	The United Kingdom	The United States
119	1.6	US Foodservice Inc.	Groceries, general line	PYA/Monarch Inc.	Groceries, general line	The United States	The United States
120	1.6	Spirent PLC	Electronic components, nec	Hekimian Labs Inc.	Electrical apparatus and equip	The United Kingdom	The United States

121	1.6	Banco Santander Central Hispan	National commercial banks	Cia de Seguros Mundial	Life insurance	Spain	Portugal
122	1.5	Banco Santander Central Hispan	National commercial banks	Grupo Financiero Serfin SA de	Banks, non-U.S. chartered	Spain	Mexico
123	1.5	Volvo AB	Motor vehicles and passenger-car bodies	Renault VI/Mack (Renault SA)	Industrial trucks, tractors, trailers and stackers	Sweden	France
124	1.5	British Sky Broadcasting Group	Cable and other pay television services	KirchPayTV GmbH (Kirch Gruppe)	Cable and other pay television services	The United Kingdom	Germany
125	1.5	Saudi Telecommunications Cc	Telephone communications, except radiotelephone	FLAG Telecom Holdings Ltd.	Telegraph and other message communications	Saudi Arabia	Bermuda
126	1.5	Adecco SA	Employment agencies	Olsten Corp.	Help supply services	Switzerland	The United States
127	1.5	Old Mutual PLC	Life insurance	United Asset Management Corp.	Investment advice	South Africa	The United States
128	1.5	Cadbury Schweppes PLC	Candy and other confectionery products	Snapple Beverage Group Inc.	Bottled & canned soft drinks and carbonated waters	The United Kingdom	The United States
129	1.4	Foster's Brewing Group Ltd.	Malt beverages	Beringer Wine Estates Holdings	Wines, brandy, and brandy spirits	Australia	The United States
130	1.4	Citizens Financial Group, RI	Savings institutions, not federally chartered	UST Corp. Boston, MA	State banks, member-fed reserve	The United States	The United States
131	1.4	Corning Inc.	Telephone and telegraph apparatus	Siemens AG-Optical Fiber, Cable	Drawing and insulating of nonferrous wire	The United States	Germany

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
132	1.4	Littauer Technologies Cc Ltd.	Computer-related services, nec	AsiaNet (Linkage On-Line)	Information-retrieval services	The Republic of Korea	Hong Kong, China
133	1.4	Investor Group	Investors, nec	Powercor Australia (PacifCorp)	Electric services	Hong Kong, China	Australia
134	1.4	Smurfit-Stone Container Corp.	Paperboard mills	St. Laurent Paperboard Inc.	Paperboard mills	The United States	Canada
135	1.4	BNP Paribas SA	Banks, non-U.S. chartered	Cie Benelux Paribas SA	Misc business credit	France	Belgium
136	1.4	Koninklijke PTT Nederland NV	Telephone communications, except radiotelephone	Hutchison 3G UK Holdings Ltd.	Telephone communications, except radiotelephone	The Netherlands	The United Kingdom
137	1.3	Dimension Data Holdings PLC	Prepackaged software	Comparex-Eur Networking Ops	Computer-programming services	South Africa	Germany
138	1.3	Standard Chartered PLC	Investment advice	ANZ Grindlays Bank Ltd.	Banks, non-U.S. chartered	The United Kingdom	Australia
139	1.3	Standard Chartered PLC	Investment advice	Chase Manhattan-HK Banking	Banks, non-U.S. chartered	The United Kingdom	Hong Kong, China

140	1.3	Telia AB	Telephone communications, except radiotelephone	NetCom ASA	Investors, nec	Sweden	Norway
141	1.3	AES Corp.	Electric services	Gener SA	Electric services	The United States	Chile
142	1.3	BT Bumi Modern	Crude petroleum and natural gas, radiotelephone	Gallo Oil Ltd.	Crude petroleum and natural gas production	Indonesia	The United States
143	1.3	Vivendi SA	Water supply	Elektrim Telekomunikacija Sp	Telephone communications, except radiotelephone	France	Poland
144	1.3	Singapore Power Pte Ltd.	Electric services	GPU PowerNet Pty Ltd.	Combination utilities, nec	Singapore	Australia
145	1.3	Eni SpA	Crude petroleum and natural gas	British Borneo Oil & Gas PLC	Crude petroleum and natural gas	Italy	The United Kingdom
146	1.3	Intel Corp.	Semiconductors and related devices	Giga A/S (NKT Holding)	Electronic components, nec	The United States	Denmark
147	1.2	Telia AB	Telephone communications, except radiotelephone	NetCom ASA	Investors, nec	Sweden	Norway
148	1.2	Infosources SA	Information-retrieval services	Belgacom Skynet SA	Information-retrieval services	France	Belgium
149	1.2	Assa Abloy AB	Hardware, nec	Williams PLC-Yale Locks	Hardware, nec	Sweden	The United Kingdom
150	1.2	Reliant Energy	Electric services	Energieproduktiebedrijf UNA NV	Electric services	The United States	The Netherlands

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
151	1.2	Unicredito Italiano	Banks, non-U.S. chartered	Pioneer Group Inc.	Investment advice	Italy	The United States
152	1.2	Heidelberger Zement AG	Cement, hydraulic	Cimenteries CBR (Heidelberger)	Cement, hydraulic	Germany	Belgium
153	1.2	Investor Group	Investors, nec	Fairchild Aerospace Corp.	Aircraft	Germany	The United States
154	1.2	GN Store Nord A/S	Radio & TV broadcasting and communications equipment	Photonetics SA	Measuring & controlling devices	Denmark	France
155	1.2	Morgan Stanley Real Estate	Real-estate-investment trusts	Fonspa-Non-Performing Loans	Personal-credit institutions	The United States	Italy
156	1.2	K-L Holdings Inc. (KKR)	Investors, nec	Laporte-Non Speciality Organic	Inorganic pigments	The United States	The United Kingdom
157	1.1	Investor Group	Investors, nec	Long Term Credit Bank of Japan	Banks, non-U.S. chartered	The United States	Japan
158	1.1	Danzas Holding AG	Arrangement of transportation of freight and cargo	Air Express International Corp.	Arrangement of transportation of freight and cargo	Switzerland	The United States
159	1.1	Allianz AG	Life insurance	PIMCO Advisors LP	Investment advice	Germany	The United States

160	1.1	Deutsche Telekom AG	Radiotelephone communications	Polska Telefonia Cyfrowa Sp	Communications services, nec	Germany	Poland
161	1.1	Billiton PLC	Miscellaneous metal ores, nec	Rio Algom Ltd.	Uranium-radium vanadium ores	The United Kingdom	Canada
162	1.1	Danone Group	Fluid milk	McKesson Water Products Cc	Bottled & canned soft drinks and carbonated waters	France	The United States
163	1.1	Thomson Corp.	Newspapers: publishing or publishing and printing	Primark Corp.	Computer-related services, nec	Canada	The United States
164	1.1	Thames Water PLC	Water supply	E' town Corp.	Water supply	The United Kingdom	The United States
165	1.1	Falck Holding A/S	Detective, guard, and armored-car services	Group 4 Securitas (Intl) BV	Detective, guard, and armored-car services	Denmark	The Netherlands
166	1.1	Diamond Technology Partners	Management-consulting services	Cluster Consulting	Business consulting services, nec	The United States	Spain
167	1.1	United Pan-Europe Comm NV	Communications services, nec	Eneco C&T	Cable and other pay television services	The Netherlands	The Netherlands
168	1.1	General Motors Corp.	Motor vehicles and passenger-car bodies	Fuji Heavy Industries Ltd.	Motor vehicles and passenger-car bodies	The United States	Japan
169	1.1	Bipop-Carrire	Banks, non-U.S. chartered	Enrium Direct Bankers AG	Information-retrieval services	Italy	Germany

(continued)

Table 11A.1 (continued)

Rank	Value of Cross-Border Transaction (\$ billions)	Acquiring Company		Acquired Company		Headquarters Location	
		Name	Industry	Name	Industry	Acquiring Firm	Acquired Firm
170	1.0	Koninklijke Philips Electronic	Household audio and video equip- ment	MedQuist Inc.	Data-processing services	The Netherlands	The United States
171	1.0	Amdocs Ltd.	Computer-program- ming services	Solect Technology Group	Prepackaged software	The United Kingdom	Canada
172	1.0	Wengen Acquisition PLC	Investors, nec	Wassail PLC	Motor-vehicle parts and accessories	The United States	The United Kingdom
173	1.0	Investor Group	Investors, nec	Cia Energetica de Pernambuco	Electric services	Spain	Brazil
174	1.0	Kyocera Corp.	Semiconductors and related devices	QUALCOMM- Land-Based Wirele	Radiotelephone communications	Japan	The United States
175	1.0	Banco Santander Central Hispan	National commer- cial banks	Banco Bozano Simonsen SA	Banks, non-U.S. chartered	Spain	Spain Brazil

Table 11A.2 Major Regulatory Changes Affecting the Banking Sectors of the Thirteen OECD Nations Considered in This Paper

OECD Nation	Year	Short Description of Regulatory Change
The United States	1994	Implementation of the Reigle Neal Interstate Act
	1999	Implementation of the Gramm-Leach-Bliley Act
Canada	1992	Phasing out of banking-reserve requirements
	1999	Relaxation of rules allowing establishment of foreign banks
Australia	1992	Relaxation of rules allowing establishment of foreign banks
	1997	End of the so-called Six Pillars policy
France	1993	Privatization of some banks
	1995	Implementation of a deposit-insurance directive
Germany	1992	Implementation of second European Banking Directive
Italy	1993	Implementation of second European Banking Directive
	1994	Privatization of some banks
The United Kingdom	1998	Financial Services Authority takes on some bank regulatory powers

Source: BIS (2001, annex II.3).

Note: This table is not supposed to summarize all of the regulatory changes in the thirteen OECD nations during the years 1990 to 1999. Rather, using BIS (2001), it identifies that major regulatory changes that affected a nation's banking sector during the years that it was in the unbalanced panel. Therefore, if a nation was in the unbalanced panel from 1990 to 1993, changes in the regulatory regime for banks after 1993 would not be reported.

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Comment Rod Falvey

The success of multilateral trade negotiations in reducing barriers to trade and investment flows, and the extensive programs of deregulation and privatization that have taken place in many countries, have opened up their domestic markets to greater competition from foreign firms. In traded-goods markets this competition can come through increased flows of products across borders. For nontraded goods it comes from the establishment of foreign-owned suppliers, through greenfield FDI or cross-border mergers and acquisitions (CBMA).

This chapter investigates the CBMA wave of the late 1990s. Section 11.2 describes this wave in some detail. This material provides us with a useful picture of the characteristics and magnitudes of the CBMA wave of the 1990s, both in absolute terms and relative to the smaller wave that occurred in the previous decade. Two points stand out: the relative importance of “mega deals” (those involving assets over \$1 billion), and the concentration in a small number of service sectors, which are “pretty much immune to import competition.”

I have two comments on this part of the paper, both concerned with the role and measurement of regulatory policies. The author observes that, in contrast to the general liberalization of policies toward greenfield FDI, national policies toward mergers and acquisitions (both within and across borders) may have become more stringent throughout the 1990s. The specific point made is that there has been an increase in the number of jurisdictions (including both developed and developing countries) with merger review requirements. Although the two are not inconsistent, this claim does sit rather awkwardly with the evidence on the magnitude of this merger wave, and appears to deserve further investigation. Controls for regulatory changes are included in the econometric analysis in section

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11.3, and appear to have significant effects, but it is not clear whether this evidence indicates that regulators have become less lenient.

The author also comments that CBMAs may have economic effects that spill across national boundaries and that will not be taken into account by regulators. Thus, a CBMA may be vetoed in some jurisdictions even though its net global effects are positive. Of course, the same can be true of within-border MAs, whose economic effects can also extend across international boundaries. One might be concerned that a merger toward monopoly is more likely to be approved by national regulators in cases where exports are significant. Mergers and acquisitions can generate terms-of-trade effects which are gains for some jurisdictions, but which net out at the global level. The case for international cooperation may be stronger than is claimed.

Section 11.3 then undertakes an econometric investigation of whether CBMAs in the banking sector have resulted in greater or smaller interest rate spreads in thirteen OECD countries. This analysis raises a number of interesting issues.

First, the underlying argument is that the output of banks is financial intermediation, and that the interest rate spread is the “price” of such intermediation. Unless the diversity of spreads across nations (as shown in table 11.7) can be argued to reflect differences in other charges (e.g., fixed fees and transactions charges) for financial intermediation across jurisdictions, this seems to provide strong evidence that these national markets are far from internationally integrated.

Second, the summary statistics in table 11.7 (particularly those relating to the number of banks and the five-firm concentration ratios) suggest that it is very unlikely that all banks are offering the same range of financial intermediation services. This heterogeneity may help to explain the limited explanatory power of the model.

Third, both the summary data in tables 11.5 and 11.6 and the econometric results suggest that (a) mergers and acquisitions and (b) joint ventures and strategic alliances (JVSA) perform rather different roles in the banking sector. While within-border mergers and acquisitions are far more common than CBMAs, for nine of the countries cross-border JVSA are the more common. It would be useful to know more about the similarities and differences between these linkages, particularly since the econometric results indicate that JVSA tend to raise the interest rate spread. Are JVSA allowing banking firms to circumvent regulatory controls? In particular, can firms substitute some form of JVSA, where they suspect a merger or acquisition would not be approved?

Fourth, the author notes that mergers and acquisitions have two potentially opposing influences on the interest rate spread in general: they reduce the number of competitors (the “market power” effect) and (may) increase average efficiency. That CBMAs will reduce the number of com-

petitors seems relatively straightforward for traded goods, but is less clear cut for nontraded goods and services, where the CBMA could signal the entry of an efficient foreign competitor. In common with the rest of the empirical literature, the econometric analysis uses a number of variables to explain the interest rate spread. Unfortunately, the links between these variables and the two effects are not always clear cut. Perhaps a simple Cournot model might clarify the issues. Let s denote the interest rate spread, and suppose the demand for financial intermediation can be represented by a simple linear function $d = D - s$. There are n banks, and bank j has constant unit cost c_j . Then the equilibrium spread is $s^e = (D + n\bar{c}) / (n + 1)$, where $\bar{c} = (\sum_{j=1}^n c_j / n)$ is the average unit cost. The macroeconomic controls would then work through D . In general, we would expect mergers and acquisitions to reduce both n and \bar{c} . The former would raise the equilibrium spread, but the latter would reduce it. Since the regression equations control for the number of firms, the merger and acquisition variables should be capturing the effect on "average efficiency." The evidence suggests that CBMAs into the European Union (EU) have increased average efficiency. There is no evidence that the corresponding CBMAs outside the EU have changed average efficiency at all. One can also use this model to solve for the five-firm concentration ratio, which turns out to be

$$\frac{5}{n} \left[1 + \frac{(n+1)(\bar{c} - \bar{c}_5)}{D - \bar{c}} \right],$$

where \bar{c}_5 is the average unit cost of the five largest (i.e., most efficient) firms. The value of this variable will also be affected by mergers and acquisitions but not in any straightforward fashion.

Finally, although this point should be fairly obvious, when the author uses the estimated parameters to quantify the effects of mergers and acquisitions and of strategic alliances on interest rate spreads, readers should recall that some of these calculations are based on parameters estimated with very limited precision.

