

New Patterns of Industrial Globalisation

**CROSS-BORDER MERGERS AND
ACQUISITIONS AND STRATEGIC
ALLIANCES**

INDUSTRY, SERVICES AND TRADE



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New Patterns of Industrial Globalisation

Cross-border Mergers and Acquisitions
and Strategic Alliances



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Publié en français sous le titre :

LE NOUVEAU VISAGE DE LA MONDIALISATION INDUSTRIELLE
Fusions-acquisitions et alliances stratégiques transnationales

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FOREWORD

The globalisation of industry is reflected in an evolving mosaic of cross-border business activities. New combinations of international mergers and acquisitions (M&As), strategic alliances and greenfield investments are expanding the scope of global business and increasing the influence of multinational enterprises in national economies. This has profound implications for the performance of firms and government policies.

This publication draws on analyses of globalisation and industrial performance undertaken under the auspices of the OECD Committee for Industry and Business Environment (CIBE). It assesses trends in the globalisation of industry in the 1990s through 2000, with particular emphasis on business restructuring through cross-border M&As and strategic alliances. Geographical trends - in major OECD and non-OECD countries and regions - and sectoral trends - including in telecommunications, automobiles, steel, pharmaceuticals, airlines and financial services - are presented. The drivers of new modes of industrial globalisation and the implications for government policies are assessed. A special section investigates the role of small and medium-sized enterprises (SMEs). The Statistical Annex contains the latest data on cross-border M&As and international strategic alliances by region and sector.

This report was prepared by Nam-Hoon Kang and Kentaro Sakai of the Industry Division, Directorate for Science, Technology and Industry (STI), and benefited from contributions by Thomas Andersson, Marie-Florence Estimé, Thomas Hatzichronoglou, Michael Freudenberg and the Steel Unit of STI, and by Christopher Wilkie, Declan Murphy, Gary Hewitt and Martin Forst of Directorate for Financial, Fiscal and Enterprise Affairs (DAFFE). This book is published on the responsibility of the Secretary-General of the OECD.

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HIGHLIGHTS

Industry is globalising more rapidly and through different modes than previously...

New patterns of globalisation are accelerating the internationalisation of industry and reshaping industrial structure at global level. The international activities of firms now extend far beyond traditional forms of trade and investment. Cross-border mergers and acquisitions (M&As) and strategic alliances are common paths to internationalising operations, research and markets. Whereas firms previously expanded geographically through foreign trade and investment, they now pursue innovative international strategies for complete restructuring of their operations. And, more than before, their exports and imports, mergers, alliances and other investments are interlinked. It is the intensity and multiplicity of these international transactions that are creating a new worldwide economic system.

... prompted by a variety of forces.

Declining computing, communications and transport costs, coupled with regulatory reform and trade and investment liberalisation, have prompted firms to adopt global strategies. Information and communications technologies (ICTs) have greatly lowered transaction costs within and between firms. At the same time, governments have deregulated and privatised vast sections of industry and opened up their borders to foreign entities. Changes in the structure of OECD industry, from manufacturing to services and from lower to higher value-added activities, have led to overcapacity in some sectors and intense competition in others. In this environment, firms need to restructure to enhance flexibility. And they are using competition and co-operation as dual paths to growth.

Industrial globalisation is based on a new set of business dynamics...

Firms are downsizing, focusing on their core competencies and shedding non-core activities. They are becoming more specialised and adopting leaner and flatter business structures. No longer monoliths performing all tasks, they are paring down and outsourcing functions such as research and development, computer systems support and market analysis. At the same time, they seek synergy with other enterprises, including at international level. These leaner firms are buying and selling branches and activities and networking with suppliers and competitors on a global scale. In the new economic paradigm, downsizing and upsizing are employed simultaneously as business strategies.

... related to the rising importance of intangible assets.

Corporations are defining more of their value in terms of intangibles – the creativity of their designers, the proficiency of their software architects, the knowledge of their marketers, the strength of their internal organisation or culture, and their linkages with external partners. It is these assets which are being reorganised on a global basis in the search for efficiency gains. Pooling technology and know-how is now more important than combining plant and equipment or building new facilities. To extend their reach, firms are buying

access to brand names and specialised niche markets. The “dematerialisation” of much economic activity underlies the new patterns of globalisation.

Cross-border merger activity grew more than five-fold in the 1990s...

Cross-border M&As are now the largest component of foreign direct investment (FDI). Firms are buying and selling assets and diverse operations and activities rather than investing in “greenfield plants”. International M&As are outpacing domestic unions. The value of international M&As grew from USD 153 billion to almost USD 1 trillion in 2000, and there is an increasing tendency towards very large-scale deals.

... while international alliances increased more than six-fold...

Growth in merger activity is paralleled by increases in cross-border strategic alliances, which now tend to outnumber domestic alliances. But these inter-firm linkages are different from those of the past in their growing pace, scale and complexity. The majority (57%) of alliances are joint ventures, although non-equity partnerships for co-operative research, production and marketing are growing in importance. Approximately 31% of international alliances in the 1990s were for production, 27% for marketing and 13% for research.

... increasingly through virtual networks.

More firms are forming global alliances through electronic networks, mainly the Internet. They are combining operations for business-to-consumer (B2C) and business-to-business (B2B) electronic commerce in targeted markets. These virtual networks lead to tremendous efficiencies by reducing transaction and search costs when locating suppliers and potential buyers. Electronic alliances involve a wide range of partners in a diversity of product and geographical markets. Manufacturing firms in sectors ranging from electronics to steel are setting up industry-wide B2B exchanges, while service firms in the retail, airlines and finance sectors are leaders in B2C e-commerce alliances.

Global M&As are more frequent in services than in manufacturing...

Services, which account for 60-70% of GDP and employment in OECD countries, are playing a greater role in industrial globalisation. Although many cross-border M&As are still occurring in manufacturing sectors such as automobiles, petroleum and pharmaceuticals, almost 60% of M&As in 1999 took place in service sectors including telecommunications and financial and business services. An even greater share (almost 80%) of international strategic alliances in 2000 were in services rather than in manufacturing. There are also more cross-sectoral deals. They reflect the blurring boundary between manufacturing and services, such as links between computer companies and IT support services, and vehicle manufacturers and financial institutions that provide funds and insurance for car purchasers.

... as a result of different sector-related factors.

Slow growth, excess capacity and increased competition at global level are driving industrial restructuring in sectors such as automobiles and steel. The rising costs of research and of bringing new products to market are spurring technology alliances in sectors such as pharmaceuticals. Deregulation and market liberalisation are stimulating cross-border merger activity in service sectors like telecommunications, electricity and finance. Services such as airlines are joining in alliances (*e.g.* Star Alliance) to serve their global customers more efficiently. Some large-scale mergers are forcing defensive moves by rival companies, as in the oil and gas sector. And smaller suppliers to global industries, such as automotive and aerospace, are being pressured to consolidate.

Although centred on large OECD firms, both mergers and alliances are diversifying geographically...

Cross-border M&As and alliances have been dominated by firms from a few OECD countries. The United States, the United Kingdom, Germany, France and the Netherlands accounted for 62% of international M&As in the 1990s. But the current wave of globalisation is extending to other OECD countries, such as Japan and Korea, which have become more open to foreign investment. And there has been a surge of international mergers and alliances involving non-OECD countries such as China, Argentina and Brazil.

... and benefiting small firms as well as large.

Although globalisation is led by larger multinationals, there are widening opportunities for smaller enterprises. Small firms may have technology, know-how or creativity. They may be more flexible or have presence and brand names in certain market niches. Through mergers or alliances with small firms, large companies can economise on research, minimise the lead time for new products and serve emerging product markets. Small firms can get much needed capital and broader distribution networks. Recent alliances between large pharmaceutical companies and biotechnology ventures, for example, are based on reciprocal advantages. As new communication tools make it easier for small firms to network, they are also reaching across borders to form joint ventures and alliances among themselves.

Cross-border M&As differ in their motives from strategic alliances...

Cross-border M&As are driven largely by the advantages of economies of scale and scope. Firms can merge their decision-making structures and exploit synergistic effects between their own tangible and intangible assets and those of established firms. They can quickly establish a critical mass in particular markets. These unions can also serve to eliminate actual or potential competitors.

... which are more flexible but may entail higher transaction costs.

Strategic alliances are more flexible than M&As as they usually entail no change in the ownership structure of participating firms. Companies have a wide choice of partners in looser forms of co-operation for a variety of business activities. But alliances can be difficult to realise and involve a loss of control and more risks. As a result, they may entail less investment than a full merger but higher transaction costs.

This implies that firms face various trade-offs.

The choice between merger and alliance depends on short- and long-term strategic objectives and related costs. While both reduce business overlaps among partners and promote economies of scale and scope, faster operational results can usually be realised through M&As. While alliances have lower initial transaction costs, M&As may result in higher pay-offs in the longer term. When cross-border mergers or other investments are constrained by governments, alliances may be a viable option. M&As, alliances and greenfield investments may also be complementary strategies for restructuring and entering new markets.

Global industrial restructuring has economic impacts in terms of efficiency...

Cross-border M&As and alliances can yield dividends in terms of company performance and profits. Efficiency gains in research, production and marketing are realised as firms combine their human and other resources. They can generate jobs and wealth by integrating firms into global value-added chains and knowledge networks. Restructuring can also help revitalise ailing firms and local economies. These benefits should spill over from enterprises to countries, which also benefit from technology transfers and growth. Learning effects and related efficiencies should help raise social welfare at the global level.

... as well as competition.

There is concern about the potential anti-competitive effects of these restructuring trends, particularly in “network” industries or when mergers and alliances bring together rival firms. The result may be higher prices for consumers or reduced innovation, output, product quality or related services. However, co-operation through one merger or alliance is usually paralleled by intense competition in other product or technology areas, at subsequent times or through rival alliances. And shorter product and technology life-cycles as well as lower prices resulting from these deals can reduce barriers to entry for other firms.

Governments have a role in ensuring positive spillovers...

To realise the benefits of global restructuring, countries need first to be more open to foreign investment and cross-border collaborations. Because of government policies and corporate culture, some countries have been largely closed until recently. Ongoing liberalisation of foreign investment regimes means that a broader range of countries will profit. Other policies, however, are needed to ensure beneficial spillovers. These include science and technology policies which promote linkages among actors in innovation systems, reforms to corporate governance regimes to promote transparency and flexibility, assistance to smaller firms in their globalisation efforts and outreach programmes that disseminate information on foreign markets and partners.

... and easing adjustment costs.

Global restructuring can lead to adjustment costs for firms, workers, communities and nations. Neither costs nor benefits fall evenly across economies or regions. In sectors such as steel and banking, there have been job losses worldwide. In part, this is because the deals made do not always achieve their objectives or because the cultural difficulties of integrating companies are underestimated. Poorly functioning factor and product markets can also dampen favourable impacts. Governments can ensure efficient labour markets so as to facilitate the contraction, expansion and alteration of business activities and related employment. They can strengthen social safety nets to allow smooth industrial restructuring and minimise social disruptions. They can provide assistance for training and retraining, job search and mobility, and promote the portability of pensions and benefits.

This may require greater co-operation across countries.

The increasing internationalisation of enterprises raises questions of international policy co-ordination. It also presents issues for governments in terms of national sovereignty and control of national economies. For example, the rise in the number and complexity of cross-border mergers has raised similar regulatory concerns in several countries. International antitrust co-operation is needed to minimise anti-competitive effects while avoiding unnecessary burdens and delays resulting from the multiplicity of competition policy regimes worldwide. These and other industry-related policies, particularly those facilitating structural adjustment, need to take into account the growing global nature of firms.

OVERVIEW OF RECENT TRENDS

Introduction

The globalisation of industry is reflected in an evolving pattern of cross-border business activities involving international investment, transnational production and related trade, technology transfer and sourcing and complex cross-border networking for product development, production, sourcing and marketing. Cross-border business activities have accelerated in the last decade, owing to rapid technological change, liberalisation of trade and capital movements and intense global competition. Recent modes of industrial globalisation include greenfield investment, cross-border mergers and acquisitions (M&As) and strategic alliances, including electronic alliances (Box 1.1). In other words, a firm may establish a new plant (greenfield mode) or acquire an existing local firm (M&A mode) in the host country or it may engage in co-operative alliances and partnerships with existing firms (strategic alliance mode). New trends and combinations of cross-border M&As, greenfield investment and strategic alliances are changing the patterns and scope of global business and increasing the presence and influence of foreign companies in national economies.

Although the patterns have changed over time and although industry and country characteristics differ, industrial globalisation has had two distinctive features in recent years. First, cross-border M&As grew rapidly in the 1990s and played an important role in the globalisation and restructuring of industry. Their share in overall M&As has also tended to increase in recent years. An overwhelming share of foreign direct investment (FDI), the prime vehicle for seriously engaging in business across international borders, now goes for M&As rather than greenfield investment. As firms have refocused on their original or core businesses, shelving earlier diversification strategies, they have expanded largely via M&As, so that amounts invested in acquiring equity have risen sharply in comparison to new productive investment (greenfield investment). This is probably linked to the spectacular growth of international financial markets over the last decade. While many M&As have long targeted small and medium-sized enterprises (SMEs), the 1990s have seen an explosion in the number and value of large-scale M&As involving well-known multinationals. In addition, a wider range of sectors (particularly in services) and countries (more non-OECD countries) are represented in the current wave of industrial globalisation.

The second distinguishing feature of recent industrial globalisation is the rapid parallel increase of cross-border strategic alliances, which encompass a wide range of interfirm links, including joint ventures and co-operative research, production and marketing. While strategic alliances are not a new phenomenon, their increasing pace, scale and complexity differentiate them from those of the past. Strategic alliances are now considered one of most powerful mechanisms for combining competition and co-operation and for industrial restructuring on a global basis. Firms enter into alliances for various purposes, such as economising on the costs of production and research, strengthening market position and accessing other firms' intangible assets. Alliances may link firms vertically or horizontally and can be effective tools for outsourcing non-core business activities, streamlining and restructuring. Alliances are being formed across a broad range of sectors, including chemicals and pharmaceuticals, computers and electronic equipment and financial and business services. In addition, the range of partners has widened; firms that long shunned joint ventures or close collaboration with other firms in their core business areas increasingly enter into such co-operative arrangements. To reach global scale, enterprises are choosing international alliances, as well as M&As and greenfield investment. Moreover,

Box 1.1. Modes of industrial globalisation

Greenfield investments

Greenfield investment establishes new productive facilities in the host country and is a traditional (entry) mode for globalisation (Caves, 1982). To establish business in a particular foreign market, greenfield investment requires more time than acquiring existing firms (M&A mode). However, it can be designed and implemented to incorporate the parent company's global strategy from the outset, thereby avoiding the challenging integration process involved in M&As. Traditionally, foreign investment policies favour greenfield investments over M&As, on the assumption that they have more immediate positive effects on capital accumulation and job creation in the host country.

Mergers and acquisitions

M&As take place when operating enterprises merge with (merger) or acquire control of (acquisition) the whole or a part of the business of other enterprises. Cross-border M&As are those undertaken between firms of different national origin or home countries. A merger is the combination of two or more businesses to achieve common objectives. Once the business is combined, the merged company may cease to exist, with the acquiring company assuming the assets and liabilities of the merged company (statutory merger), or the acquired company may become a 100% subsidiary of the parent company (subsidiary merger). Also, two or more companies may join to form an entirely new company, in which case all companies involved in the merger cease to exist and their shareholders become shareholders of the new company (consolidation). Alternatively, the acquiring company may purchase a part of the stocks or assets of the target company and combine it with its own business. M&As allow firms quick entry into a specific market through the acquisition of production facilities and intangible assets.

Strategic alliances

Strategic alliances take a variety of forms, ranging from arm's-length contract to joint venture. The core of a strategic alliance is an inter-firm co-operative relationship that enhances the effectiveness of the competitive strategies of the participating firms through the trading of mutually beneficial resources such as technologies, skills, etc. According to Yoshino (1995), strategic alliances have the following three characteristics:

- The two or more firms that unite to pursue a set of agreed goals remain independent subsequent to the formation of the alliance.
- The partner firms share the benefits of the alliance and control of the performance of assigned tasks.
- The partner firms contribute on a continuing basis in one or more key strategic areas, (*e.g.* technology, products).

Strategic alliances encompass a wide range of inter-firm linkages, including joint ventures, minority equity investments, equity swaps, joint R&D, joint manufacturing, joint marketing, long-term sourcing agreements, shared distribution/services and standards setting. The advantage of strategic alliances over other modes of entry is their flexibility, which allows firms to respond to changing market conditions effectively, without changes in the ownership structure of participating firms.

Electronic alliances

Firms are also forming alliances through electronic networks. As the number of Internet subscribers grows, many firms are establishing their own Web site, not only to provide outsiders with business and product information, but also to engage in business-to-consumer (B2C) Internet commerce, *i.e.* direct sales to individual customers via the Internet. Firms are also joining various industry-wide business-to-business (B2B) exchanges. These may generate tremendous efficiencies by reducing search and transaction costs to find suppliers and potential buyers. Many B2B virtual marketplaces have been created through cross-border alliances; and most B2B exchanges are joint ventures between market participants, *i.e.* suppliers and purchasers, with technology partners providing the electronic commerce solution.

new channels for globalisation such as electronic commerce are supplementing more traditional modes of trade and foreign investment.

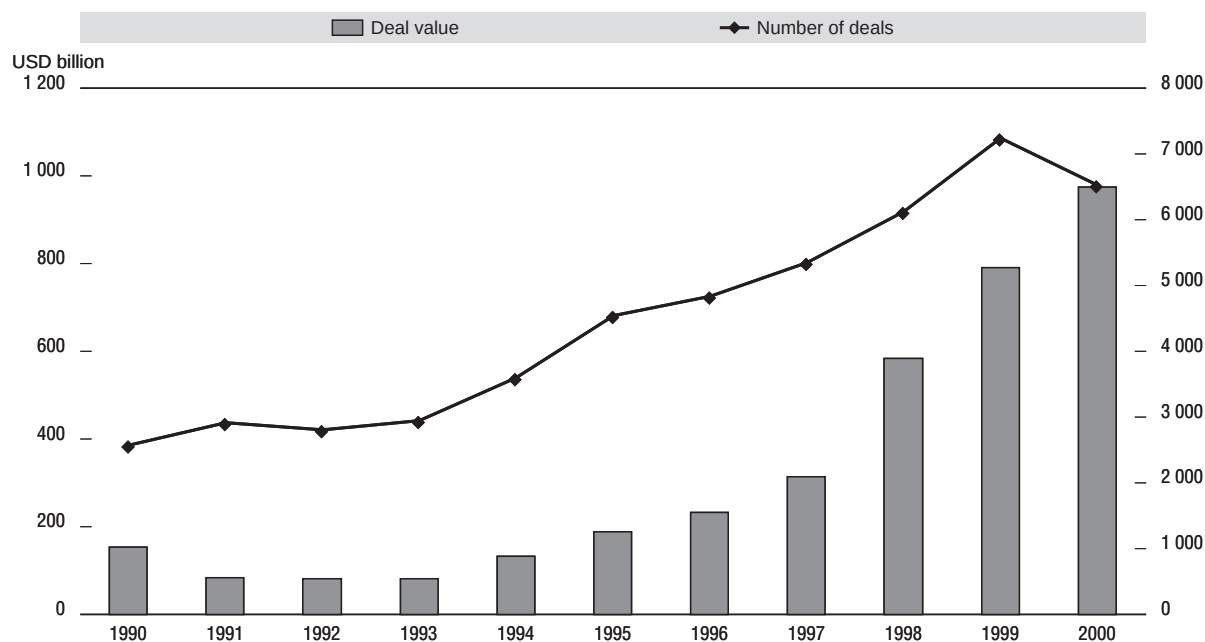
Mergers and acquisitions

Overall trends

The vast wave of cross-border M&As in the 1990s has a number of specific features. The most obvious is doubtless the scale and pace of cross-border M&A activity. The value of cross-border M&As worldwide increased more than five-fold during the period 1990-99, from USD 153 billion in 1990 to USD 792 billion in 1999 (Figure 1.1). It increased particularly rapidly, by almost 50% a year, between 1995 and 1999, with the biggest year-on-year rise (86%) in 1998. The pace of growth slowed in 1999, but these M&As were still worth 36% more than in 1998 and more than twice as much as in 1997. The same trend was apparent, though to a less spectacular degree, in the number of cross-border M&As, which increased three-fold during the period 1990-99, from 2 572 in 1990 to 7 242 in 1999.

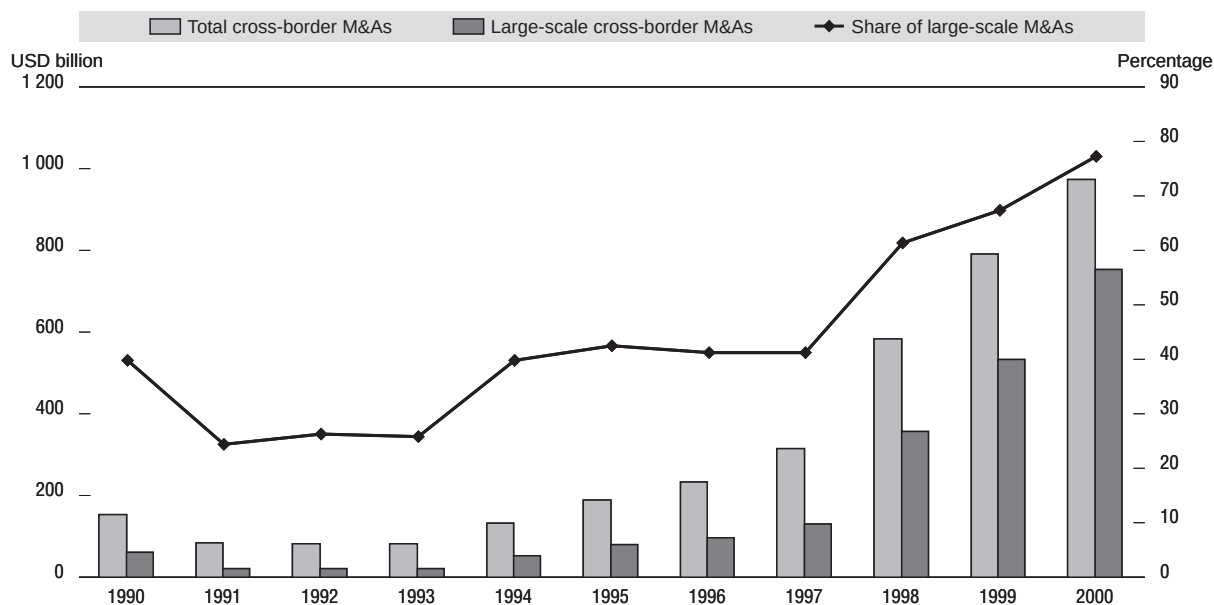
Cross-border M&As are also growing in size, with the average size increasing almost two-fold during the period 1990-99, from USD 59 million to USD 109 million. The tendency toward bigger cross-border M&As has strengthened in recent years: since 1995, the value of cross-border M&As increased more than six-fold, while the number of cross-border M&As only doubled (Figure 1.1). Thus, large-scale cross-border M&As now account for most of the increase in the value of cross-border M&As. For example, transactions worth over USD 1 billion accounted for more than 50% of cross-border M&As worldwide between 1990 and 1999, even though they only represented about 1% of the number of cross-border M&As (Figure 1.2). In particular, these large-scale cross-border M&As accounted for more than 67% of the value of cross-border M&As worldwide in 1999. Table 1.1 shows some typical large-scale M&As completed between 1998 and 2000. The deal between VodafoneAirTouch and Mannesmann (Box 1.2)

Figure 1.1. Trend in cross-border M&As



Note: For 2000, January to October. See also Annex Table 1.1.
Source: Thomson Financial.

Figure 1.2. **Large-scale cross-border M&As**
Deal value



Note: Cross-border M&As worth over USD 1 billion. For 2000, January to October. See also Annex Table 1.2.

Source: Thomson Financial.

Box 1.2. **The mega-merger between VodafoneAirTouch and Mannesmann**

In June 2000, VodafoneAirTouch PLC, a British telecommunications company, acquired its European mobile telephone competitor, Mannesmann AG (Germany). The merger deal held the spotlight as a typical case of the current large-scale cross-border M&A trends in several respects.

First, the transaction value was almost USD 203 billion, including USD 45 billion of net debt outstanding. This transaction was financed by stock swaps, a typical financing mode in mega-mergers; VodafoneAirTouch and Mannesmann shareholders hold 50.5% and 49.5% of the shares of the combined group, respectively.

Second, the mega-deal was initiated by VodafoneAirTouch PLC's hostile take-over bid of USD 106 billion for Mannesmann AG. This initial hostile take-over bid was rejected by Mannesmann's Board of Directors and raised concerns in Germany. However, during the course of merger negotiations, VodafoneAirTouch PLC revised its bid price several times from USD 106 billion (43.7 shares per Mannesmann share) to USD 203 billion (58.96 shares per Mannesmann share).

Third, the deal shows the dynamic characteristic of cross-border M&As in rapidly growing industries. In 1999, Vodafone Group PLC acquired an American telecommunications company, AirTouch Communications, Inc., for USD 60.3 billion and became VodafoneAirTouch PLC. In early 2000, Mannesmann AG also acquired a British telecommunications company, Orange PLC for USD 32.6 billion. Mannesmann AG's merger deal seems to have been a defensive move against potential hostile take-over bids. However, just after the merger deal was completed, VodafoneAirTouch PLC acquired Mannesmann AG by hostile take-over (Orange PLC was sold off to France Telecom SA). Through a series of cross-border M&As, Vodafone transformed itself into a leading player in the rapidly growing global mobile telephone market.

Table I.1. Top 20 cross-border M&As, 1998-2000

	Deal value USD billions	Acquired company	Host country	Acquiring company	Home country
2000	202.8	Mannesmann AG <i>Telecommunications</i>	Germany	Vodafone AirTouch PLC <i>Telecommunications</i>	United Kingdom
1999	60.3	AirTouch Communications Inc. <i>Telecommunications</i>	United States	Vodafone Group PLC <i>Telecommunications</i>	United Kingdom
1998	48.2	Amoco Corp. <i>Petroleum</i>	United States	British Petroleum Co. PLC <i>Petroleum</i>	United Kingdom
2000	46.0	Orange PLC-Mannesmann AG <i>Telecommunications</i>	United Kingdom	France Télécom SA <i>Telecommunications</i>	France
1998	40.5	Chrysler Corp. <i>Automobile</i>	United States	Daimler-Benz AG <i>Automobile</i>	Germany
1999	34.6	Astra AB <i>Pharmaceuticals</i>	Sweden	ZENECA Group PLC <i>Chemicals</i>	United Kingdom
2000	32.6	Orange PLC <i>Telecommunications</i>	United Kingdom	Mannesmann AG <i>Telecommunications</i>	Germany
2000	27.2	ARCO <i>Petroleum</i>	United States	BP Amoco PLC <i>Petroleum</i>	United Kingdom
2000	25.1	Bestfoods <i>Food and kindred products</i>	United States	Unilever PLC <i>Food and kindred products</i>	United Kingdom
1999	21.9	Hoechst AG <i>Chemicals</i>	Germany	Rhône-Poulenc SA <i>Chemicals</i>	France
2000	19.4	Allied Zurich PLC <i>Insurance</i>	United Kingdom	Zurich Allied AG <i>Insurance</i>	Switzerland
1998	18.4	BAT Industries PLC-Financial <i>Insurance</i>	United Kingdom	Zurich Versicherungs GmbH <i>Insurance</i>	Switzerland
2000	14.8	Airtel SA <i>Telecommunications</i>	Spain	Vodafone AirTouch PLC <i>Telecommunications</i>	United Kingdom
1999	13.6	One 2 One <i>Telecommunications</i>	United Kingdom	Deutsche Telekom AG <i>Telecommunications</i>	Germany
1999	13.2	YPF SA <i>Petroleum</i>	Argentina	Repsol SA <i>Petroleum</i>	Spain
1999	12.6	PacifiCorp <i>Electric and gas utility</i>	United States	Scottish Power PLC <i>Electric and gas utility</i>	United Kingdom
2000	11.8	Ernst and Young-Consulting <i>Consulting service</i>	United States	Cap Gemini SA <i>Consulting service</i>	France
2000	11.1	Crédit Commercial de France <i>Banks</i>	France	HSBC Holdings PLC <i>Banks</i>	United Kingdom
2000	11.0	CWC Consumer Co. <i>Telecommunications</i>	United Kingdom	NTL Inc. <i>Media (radio and TV)</i>	United States
1998	10.9	Energy Group PLC <i>Electric and gas distribution</i>	United Kingdom	Texas Utilities Co. <i>Electric and gas distribution</i>	United States

Source: Thomson Financial.

was valued at USD 203 billion, and that between British Petroleum and Amoco at USD 48 billion. The value of other recent cross-border mega-mergers is equally striking, exceeding USD 10 billion.

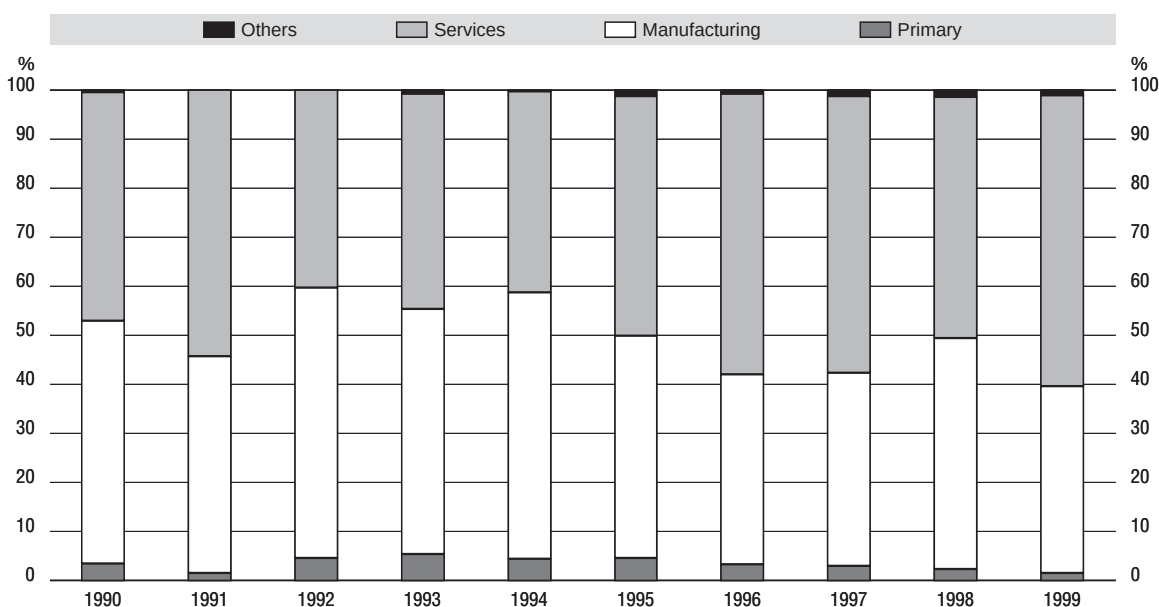
Cross-border M&As are taking place across a broad range of sectors, high-technology and mature manufacturing industries as well as services. Automobiles, petroleum, chemicals and pharmaceuticals, telecommunications and financial and business services are typical examples of industries characterised

by large-scale cross-border M&As. More and more cross-border M&As are taking place in service industries, which account for more than half of cross-border M&As in terms of both deal value and number of deals (Figures 1.3 and 1.4). As the world economy becomes more service-based (services now account for 60-70% of GDP and employment in OECD countries), cross-border M&As are playing a more important role particularly in global restructuring of the services sector. Unlike the cross-border M&As of the 1980s, which often took place between different fields of business or industry, recent cross-border M&As often involve the same or related industries. Most very large-scale M&As were among firms in the same sector (*e.g.* telecommunications, petroleum, automotive, pharmaceuticals, finance, electricity) from 1998 to 2000 (Table 1.1). This may reflect efforts by multinational enterprises (MNEs) to strengthen their global competitiveness in their core businesses or a desire to reduce competition in increasingly globalised markets. Many MNEs choose to concentrate on their core business, taking a long-term perspective on profitability. As a result, they are willing to divest non-core businesses to raise cash and invest in sectors where they can position themselves as leader or challenger on ever larger geographical markets.

Although cross-border M&As are still concentrated in a few countries (*e.g.* the United States, the United Kingdom, Germany), countries that traditionally viewed them unfavourably are becoming more open to take-overs by foreign investors. As in the case of the M&A transaction between Renault and Nissan, for example, many Japanese enterprises are accepting greater foreign participation to tackle problems of surplus industrial capacity and debt overhangs. In Korea, all remaining restrictions on acquisitions by foreign investors were repealed in 1998 as part of the structural reforms in the wake of the economic crisis. M&A investments into Korea are increasing rapidly owing to falling asset prices as well as to changes in business practices and the creation of an environment more favourable to foreign acquisitions. Developing countries such as Argentina and Brazil also accept cross-border M&As as an effective way to globalise and restructure their economies (UNCTAD, 2000).

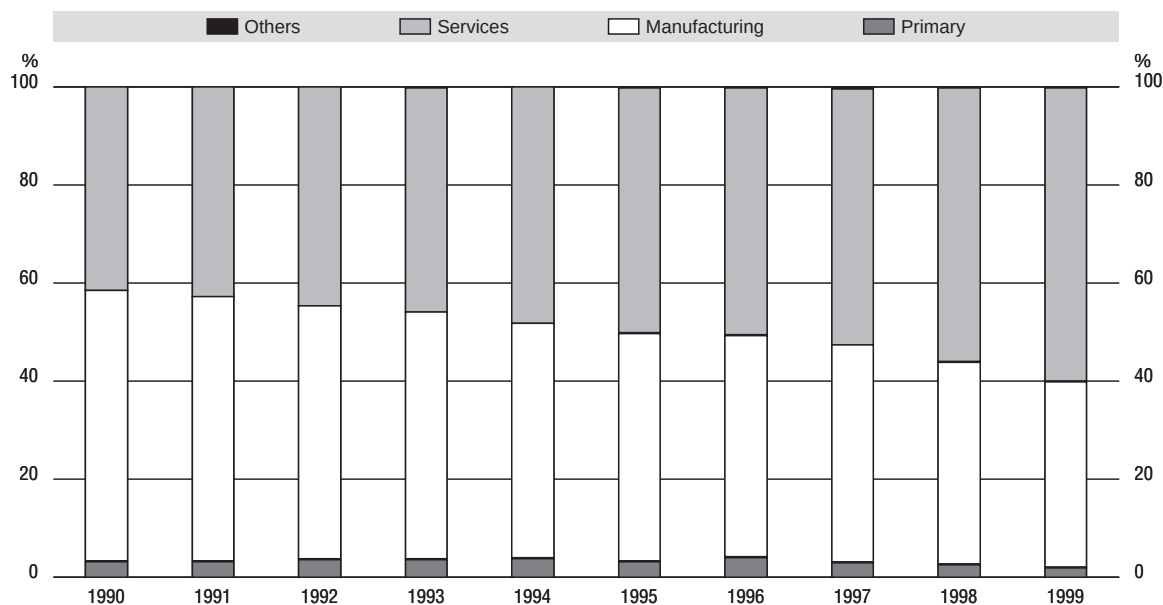
The increasing trend towards cross-border M&As is more apparent when compared with worldwide FDI flows (Box 1.3). In 1999, the value of total cross-border M&As rose to 92% of total world FDI inflows

Figure 1.3. Cross-border M&As, by sector
Deal value



Note: See also Annex Table 1.4.
Source: Thomson Financial.

Figure 1.4. **Cross-border M&As, by sector**
Number of deals



Note: See also Annex Table 1.4.

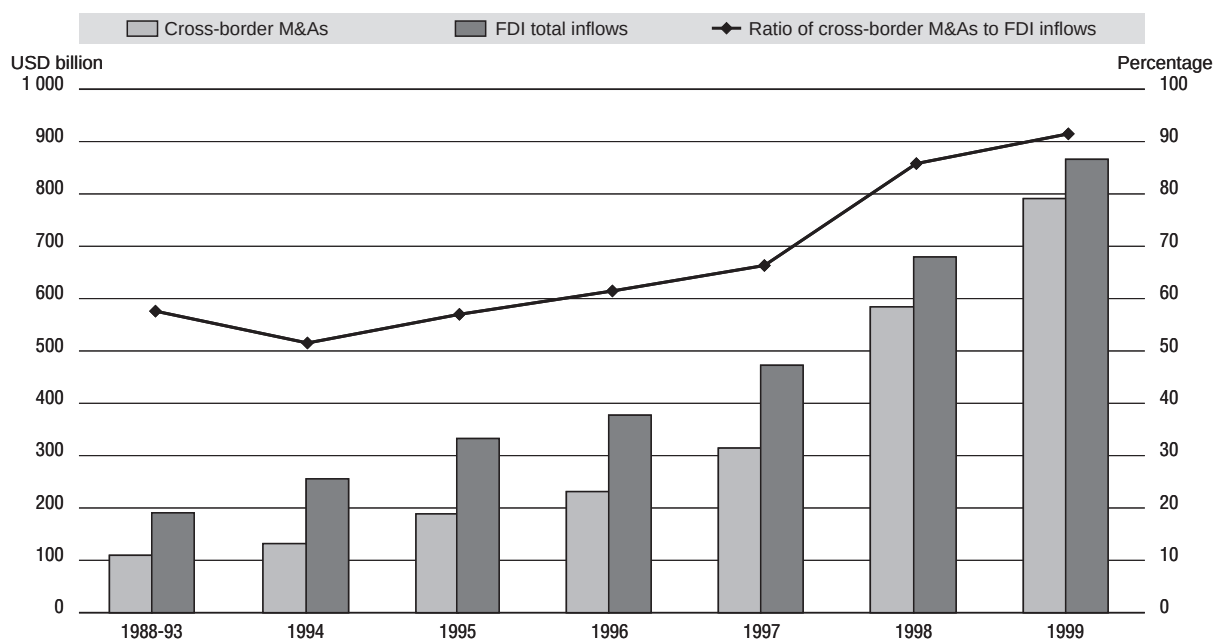
Source: Thomson Financial.

Box 1.3. Cross-border M&As and FDI statistics

Cross-border M&A transactions account for a significant share of cross-border capital flows. *Inward* cross-border M&As may incur an inward capital movement through the sale of domestic firms to foreign investors, while *outward* cross-border M&As may incur an outward capital movement through the purchase of all or parts of foreign firms. However, for several reasons there may be discrepancies between cross-border M&A statistics and FDI statistics (OECD, 2000a). First, M&A statistics record capital transactions without deducting disinvestment, while FDI statistics deduct disinvestment from capital transactions. Second, cross-border M&A transactions may be financed by external and domestic settlements, while FDI may be financed by external settlements and reinvested earnings. In some extreme cases, cross-border M&As (*e.g.* M&A transactions by stock swaps) may not incur cross-border capital movements. For example, if cross-border M&A transactions are undertaken by exchange of stock or are financed solely by local funding in the host country (M&A sale), they may not incur any cross-border capital flows between the sale and purchase countries. Finally, M&A statistics record the total amount of capital, disregarding the amount of M&A holdings, while holdings of more than 10% of the capital qualify as FDI.

This volume excludes all cross-border M&A transactions with less than 10% of capital holdings (portfolio investments) to be consistent with FDI statistics as much as possible. According to Thomson's database on worldwide cross-border M&A transactions, such portfolio investments accounted for 4.5% of total cross-border M&As in terms of deal value and 10.9% in terms of number of deals between 1990 and 1999.

Figure 1.5. Cross-border M&As and FDI inflows



Source: Thomson Financial and UNCTAD, 2000.

(Figure 1.5), up from 52% in 1994. Clearly, cross-border M&As played a dominant role in increasing flows of FDI in the 1990s.

The surge in cross-border M&As in recent years reflects the wave of domestic as well as cross-border M&A activity worldwide. The total value of M&As worldwide increased more than five-fold between 1990 and 1999, from USD 407 billion to USD 2 245 billion (Figure 1.6). The total number of M&As worldwide increased almost three-fold during the same period, from 8 585 in 1990 to 24 113 in 1999 (Figure 1.7). Cross-border M&As represented 30% in deal value and 28% in number of M&A transactions worldwide between 1990 and 1999. In 1999, their share in worldwide M&As rose to 35% in deal value and 30% in number of deals.

Types of cross-border M&As

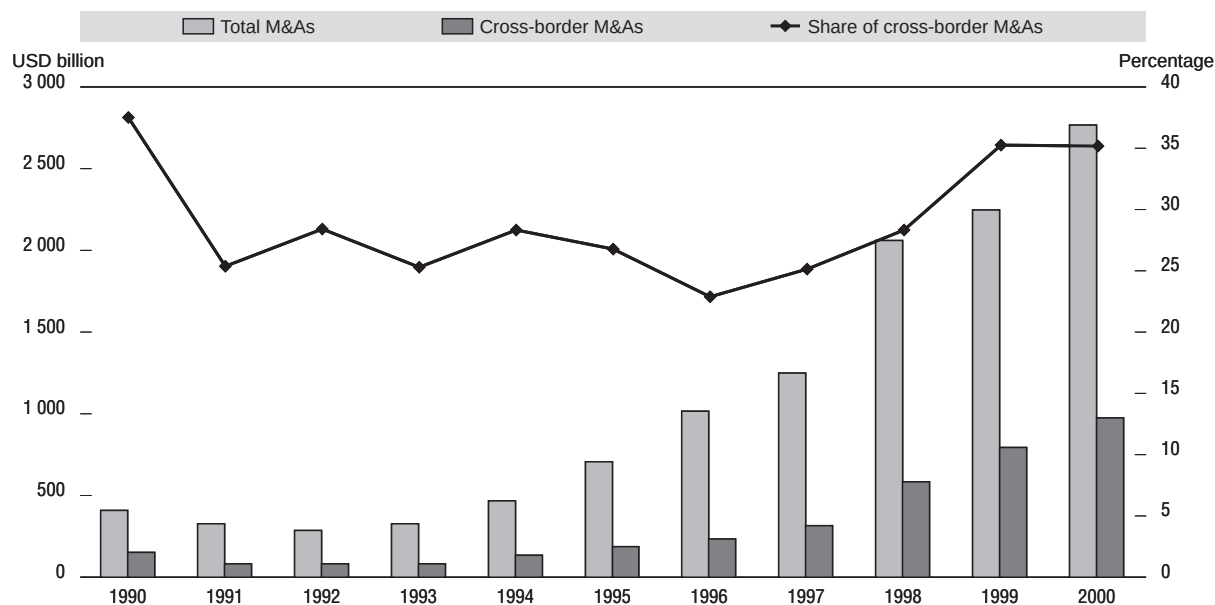
Mergers or acquisitions

Figures 1.8 and 1.9 show trends in different modes of cross-border M&A transactions. In terms of deal value, mergers (including subsidiary mergers) accounted for almost 40% of cross-border M&A transactions worldwide during the period 1990-99, while acquisition of stock and assets accounted for 35% and 25%, respectively. However, in terms of number of deals, acquisition of assets is the most frequent mode, accounting for more than half of cross-border M&As worldwide over the period, while acquisition of stock and mergers accounted for 35% and 15%, respectively. This trend reflects the fact that most large-scale M&As are carried out through stock swaps.

Related or unrelated M&As

M&As can be classified as related or unrelated according to the relative closeness of the core businesses of the firms involved in M&A transactions. In a broad sense, related M&As may be either horizontal or vertical; an M&A transaction may take place between competitors in the same industry (horizontal M&A) or between firms with a buyer-seller relationship (vertical M&A). Typical examples of

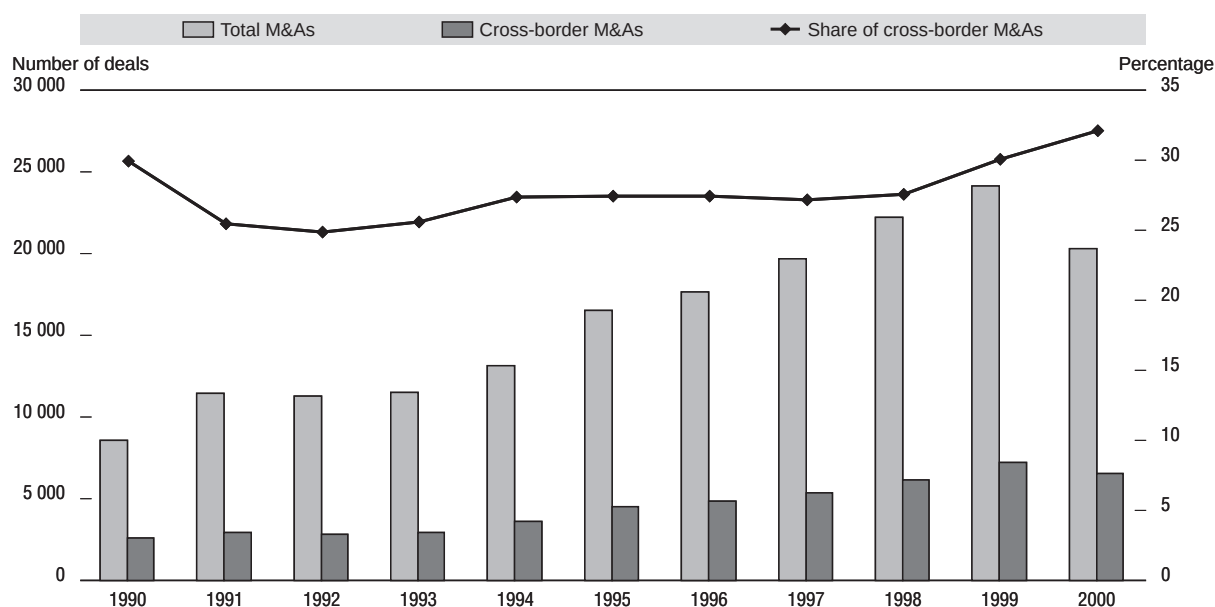
Figure 1.6. **M&As worldwide**
Deal value



Note: For 2000, January to October. See also Annex Table 1.1.

Source: Thomson Financial.

Figure 1.7. **M&As worldwide**
Number of deals

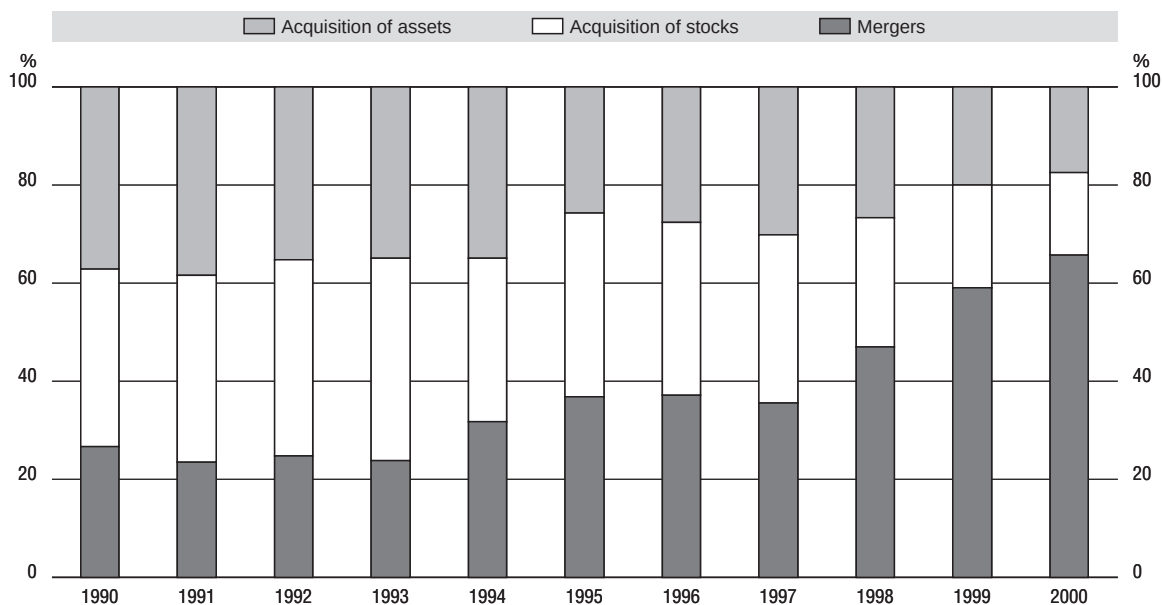


Note: For 2000, January to October. See also Annex Table 1.1.

Source: Thomson Financial.

Figure 1.8. Cross-border M&As, by transaction mode

Deal value

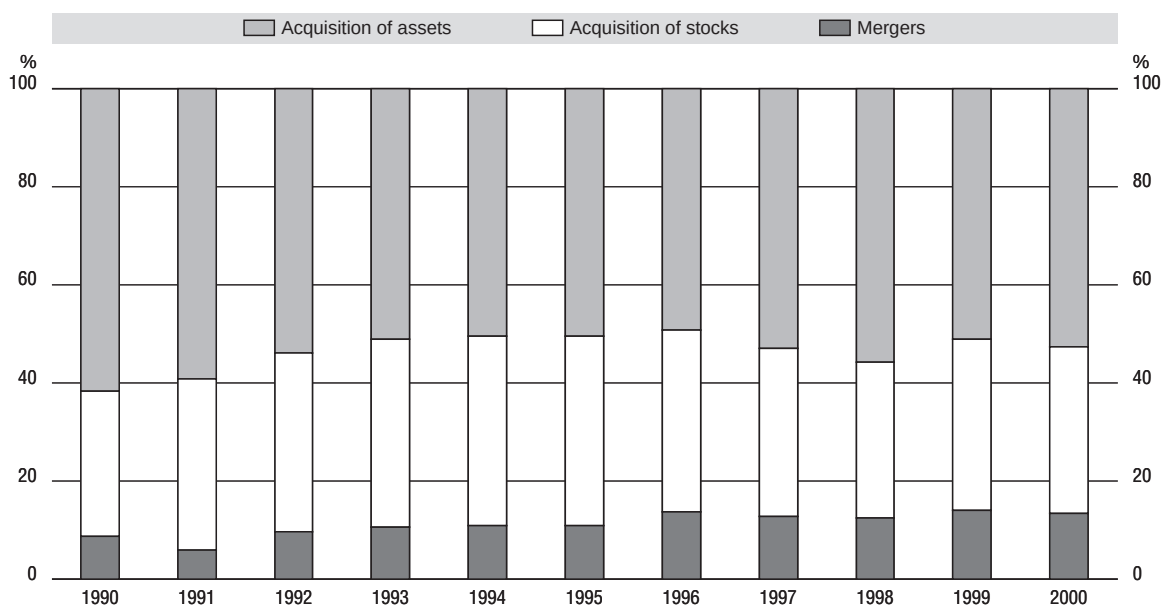


Note: For 2000, January to October: See also Annex Table 1.5.

Source: Thomson Financial.

Figure 1.9. Cross-border M&As, by transaction mode

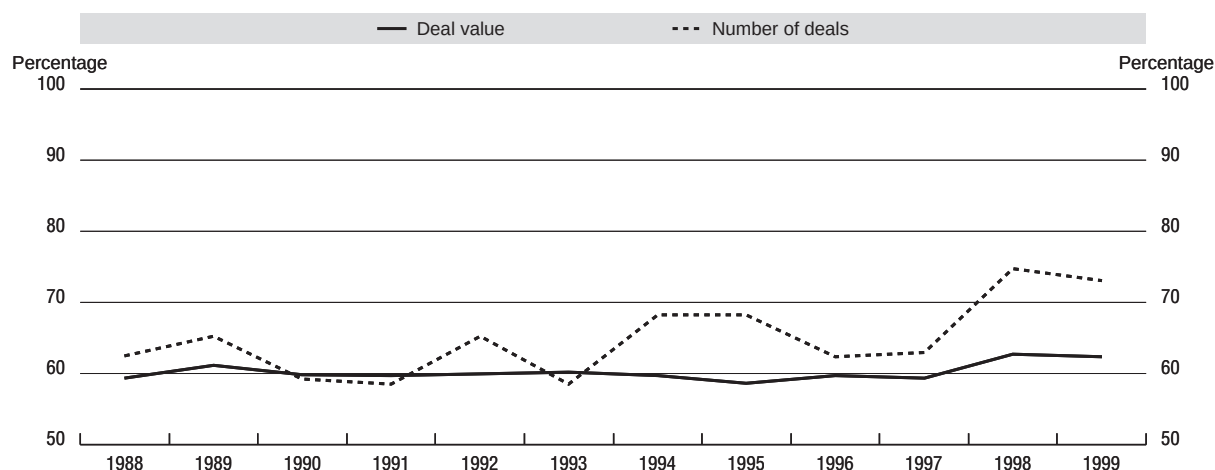
Number of deals



Note: For 2000, January to October. See also Annex Table 1.5.

Source: Thomson Financial.

Figure 1.10. Share of related M&As in cross-border M&As



Note: See also Annex Table 1.6.

Source: Thomson Financial and UNCTAD, 2000.

horizontal M&As include VodafoneAirTouch's acquisition of Mannesmann in telecommunications, British Petroleum's acquisition of Amoco in the oil industry and Daimler-Benz's acquisition of Chrysler in the automobile industry. A horizontal M&A may give the merged company greater market power and is subject to fairly close review by antitrust regulators. Unrelated (or conglomerate) M&As are all other types of transactions which occur between firms in different lines of business without a specific relationship between them (*e.g.* a food company acquiring a telecommunications company or a financial company).

One of most distinctive trends in recent years is the preponderance of related cross-border M&As, which accounted for almost 75% of the value of cross-border M&As worldwide in 1998 and 1999 (Figure 1.10).

Friendly or hostile M&As

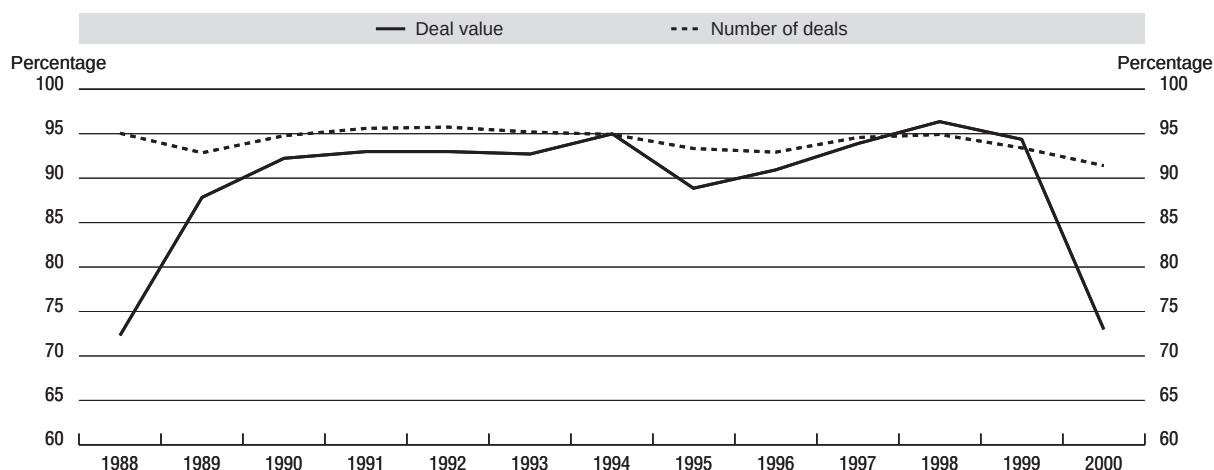
M&As may be friendly or hostile, depending on the attitude or recommendation of the target company's management or board of directors. If the board recommends accepting the take-over offer, it is considered to be friendly; if the board officially rejects the offer, the take-over is considered hostile. The attitude of the board sometimes changes during negotiations. Friendly and hostile M&As are different in terms of the opportunity to access the target company's detailed financial data. In a friendly transaction, the acquiring company may obtain this information from the target company. However, in a hostile transaction, the acquiring company needs to resort to publicly available information, since the target company usually only provides the legally obligated minimum information. Examples of hostile cross-border M&As completed in recent years include Mannesmann (Germany), acquired by VodafoneAirTouch (United Kingdom), and Bestfoods (United States) acquired by Unilever (United Kingdom).

Cross-border M&As tend to be friendly: between 1990 and 1999, almost 95% of cross-border M&As, in terms both of value and number of deals, were friendly (Figure 1.11). In particular, the share of hostile cross-border M&As (deal value) decreased rapidly in the 1990s, from 22% in 1988 to 1% in 1999.

Majority or minority M&As

A firm may acquire either more than 50% of the shares of the acquired firm (majority M&A) or up to and including 50% (minority M&A). The former enables the acquiring company effectively to incorporate the acquired business into its own businesses and have full control over the acquired company.

Figure 1.11. Share of friendly M&As in cross-border M&As



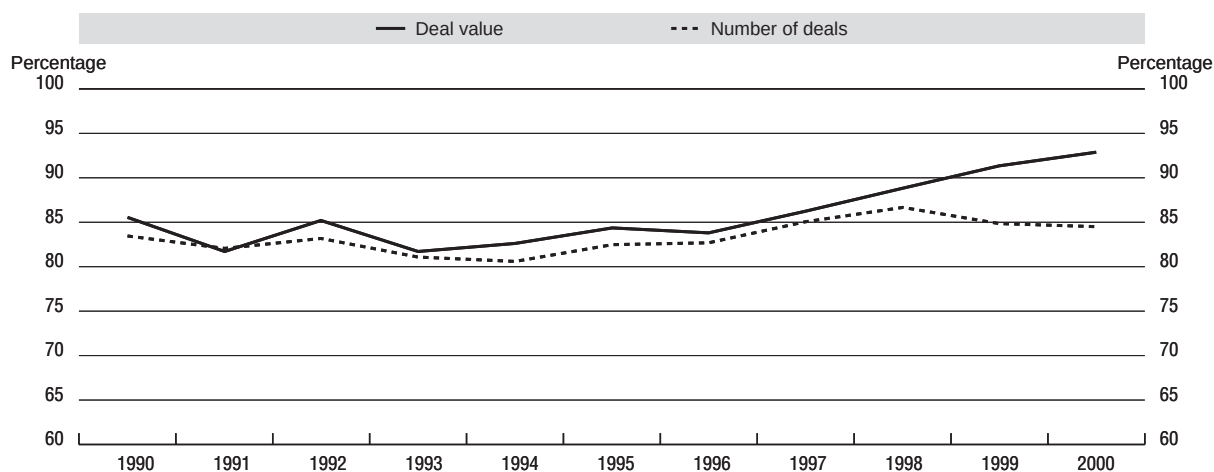
Note: For 2000, January to October. See also Annex Table 1.7.
Source: Thomson Financial.

Minority M&As are frequently used in strategic alliances and partnerships with other firms. Figure 1.12 shows that majority M&As accounted for more than 85% of cross-border M&As, in terms of both value and number of deals over the period 1990-99. The share of majority M&As in cross-border M&As has increased in recent years, and this may reflect a change in the pattern of strategic alliances, with firms making increased use of non-equity forms of strategic alliances.

Financing and modes of payment

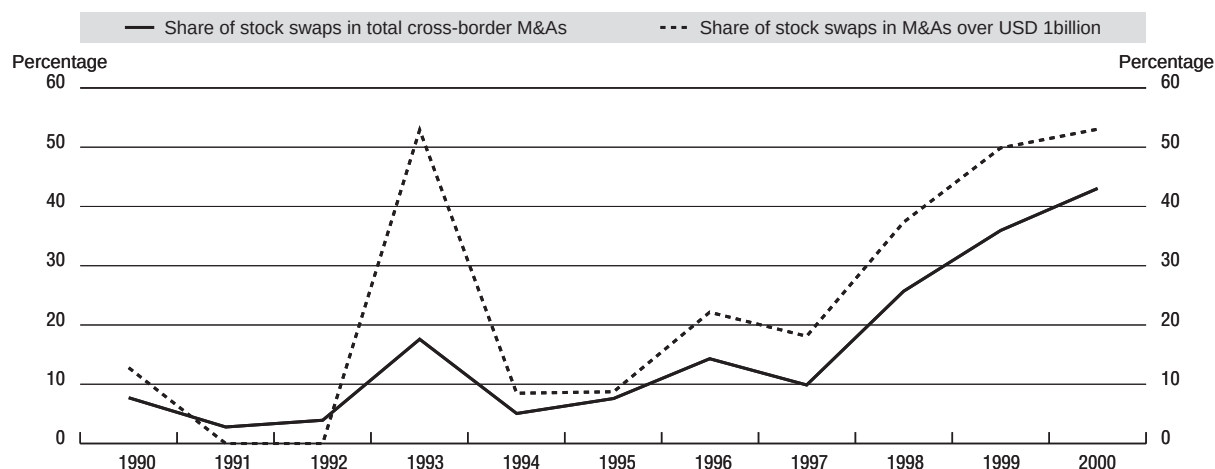
Cross-border M&As are financed in various ways, including cash payment in exchange for shares acquired, the most liquid mode of payment; financing through debt instruments, *e.g.* by issuance of

Figure 1.12. Share of majority M&As in cross-border M&As



Note: For 2000, January to October. See also Annex Table 1.8.
Source: Thomson Financial.

Figure 1.13. **Share of stock swaps in cross-border M&As**
Deal value



Note: For 2000, January to October. See also Annex Table 1.9.
Source: Thomson Financial.

bonds on domestic or international markets, loans from financial institutions and inter-company loans; and stock swaps, where equity in the acquiring firm is exchanged for equity in the target company.

The increasing size of cross-border M&A transactions may be an obstacle for financing in cash or through debt instruments. In particular, the sheer size of mega-mergers makes it almost impossible for acquiring companies to finance the transaction solely with cash or leverage. In fact, recent cross-border M&As tend to finance the deals by stock swaps. For example, in 1999, in terms of transaction value, the share of M&As financed by stock swaps represented 36% of all cross-border M&A transactions and almost half of large-scale cross-border M&As (Figure 1.13).

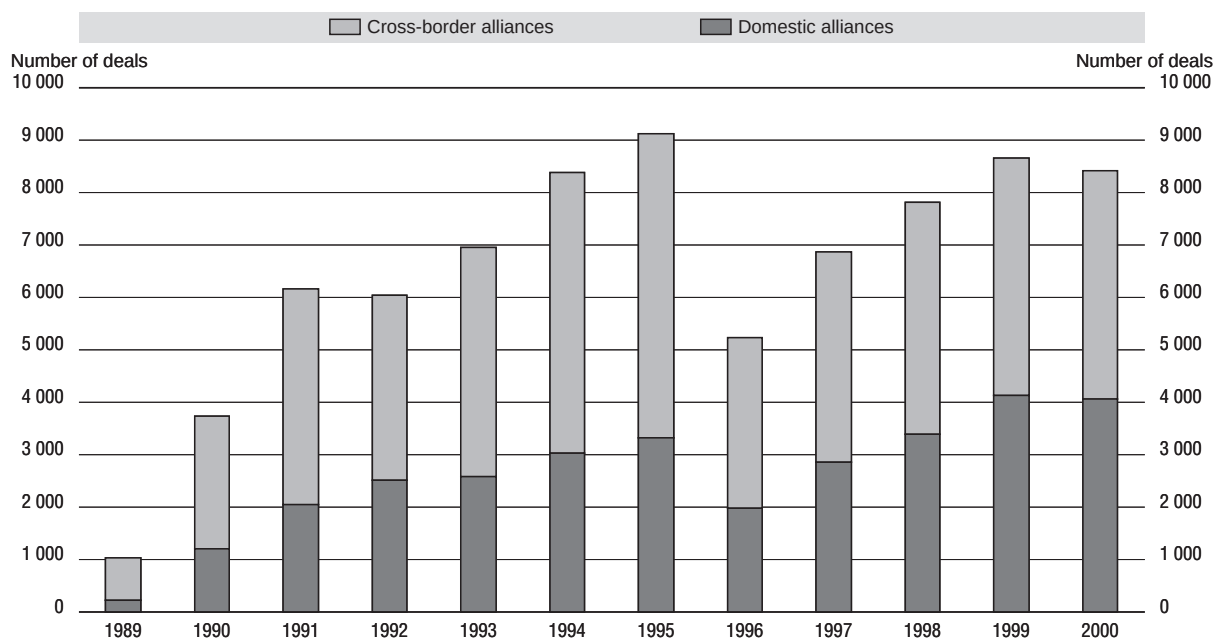
Strategic alliances

Overall trends

The number of new strategic alliances (both domestic and international) increased more than six-fold during the period 1989-99, from just over 1 050 in 1989 (of which around 830 cross-border deals) to 8 660 in 1999 (of which 4 520 cross-border deals) (Figure 1.14). Even though formation of strategic alliances fluctuated between a low of less than 4 000 in 1990 and a high of more than 9 000 in 1995, the number of strategic alliances was significantly higher in the 1990s than in the 1980s. There are also indications that recent alliances, particularly joint ventures, are far larger in scale and value terms than earlier partnerships.

In each year of the 1990s, international partnerships linking firms from different national economies represent the majority of alliances. International strategic alliances accounted for 61% of all 69 000 alliances between 1990 and 1999. On average, there are about two international strategic alliances for every domestic partnership, an indication that globalisation is a primary motivation for strategic alliances. Cross-border alliances are being formed across a broad range of sectors, including chemicals and pharmaceuticals, computers and electronic equipment, and financial and business services. A greater number of partnerships are taking place in service industries than in manufacturing (Figure 1.15).

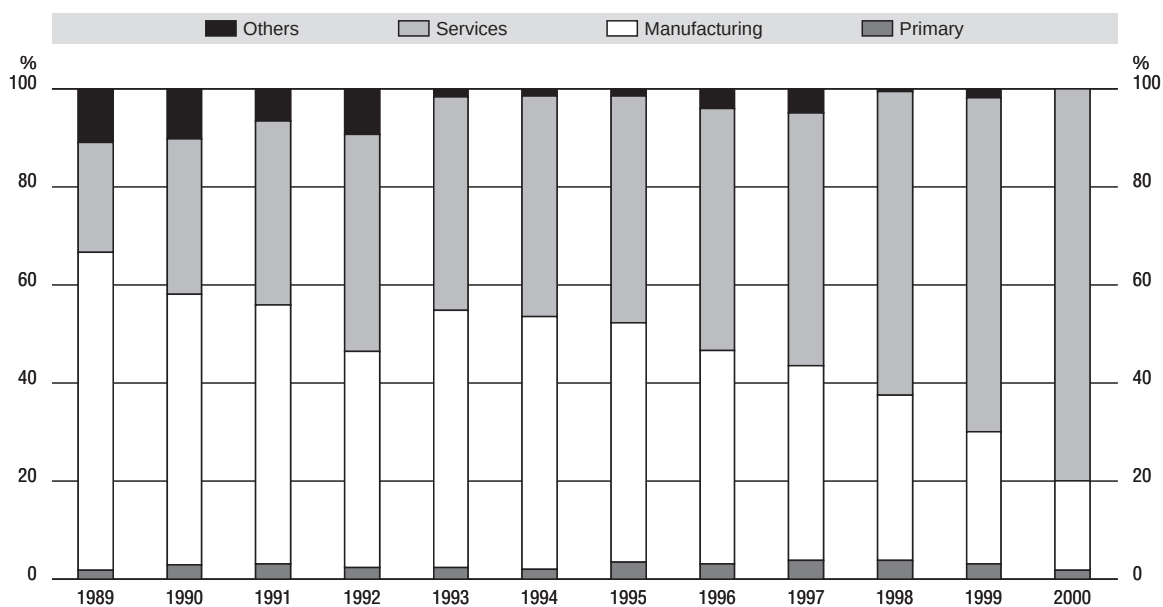
Figure 1.14. Cross-border and domestic strategic alliances



Note: For 2000, January to October. See also Annex Table 1.10.

Source: Thomson Financial.

Figure 1.15. Cross-border strategic alliances, by sector



Note: For 2000, January to October. See also Annex Table 1.11.

Source: Thomson Financial.

Cross-border strategic alliances often involve rival firms. Furthermore, not only rival firms and firms in different countries, but also firms in different sectors are being linked in strategic alliances. Typical examples include the Du Pont/Sony partnership to develop optical memory storage products; the Motorola/Toshiba union to develop manufacturing processes for microprocessors; the General Motors/Hitachi partnership to develop electronic components for automobiles; and the Fujitsu/Siemens joint venture for manufacture and sale of computer products.

These examples suggest that strategic alliances are an instrument for combining co-operation and competition in corporate strategies. Patterns of co-operation and competition can be categorised in three groups: *i*) co-operate, then compete: when companies are not ready to compete in a particular area, they first co-operate with competitors to achieve short-run objectives; once they build competence or achieve a common standard, the co-operating firms compete among themselves; *ii*) co-operate while competing: companies may continue to compete while they co-operate in some business areas (as illustrated by GM's partnership with Toyota). Such an alliance is generally aimed at mutual learning to strengthen weak areas; *iii*) co-operate among themselves and compete with others: companies may formulate co-operative agreements to compete with third parties (Culpan, 1993).

Types of strategic alliances

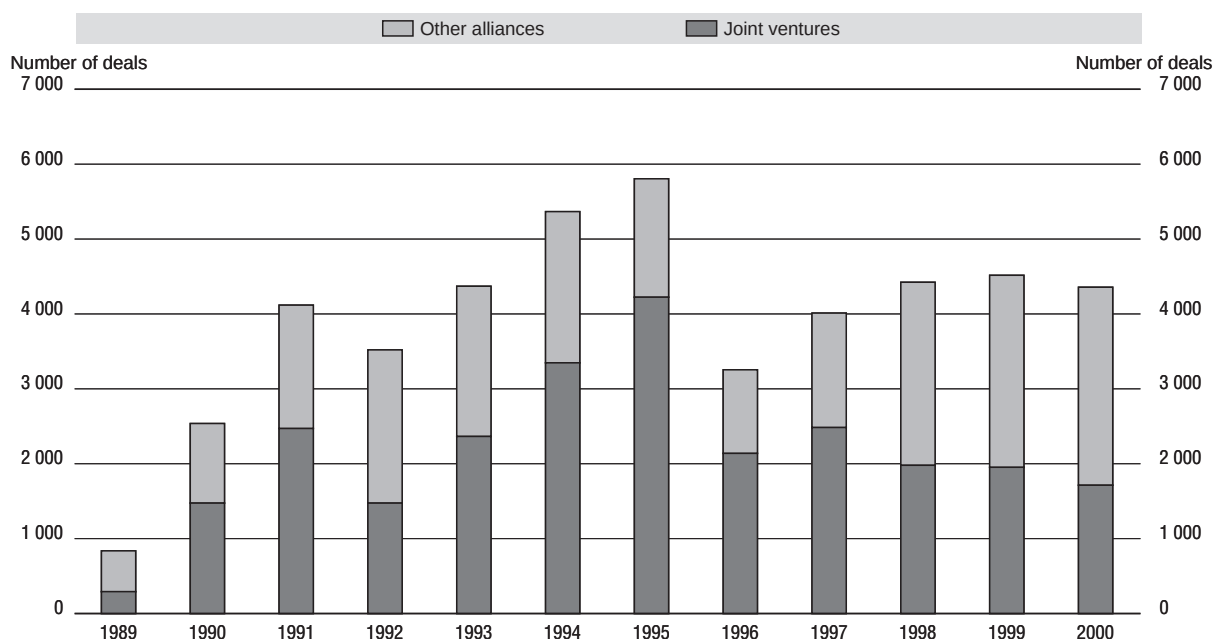
The various types of alliance reflect the full range of firm interdependency and levels of internalisation (*i.e.* vertical integration). Alliances range from relatively non-committal short-term project-based co-operation to more inclusive long-term equity-based co-operation (Narula and Hagedoorn, 1999). They may fall anywhere between complete interdependency and total internalisation (*e.g.* wholly owned subsidiaries) and free market transactions (*e.g.* completely independent firms engaged in arm's-length transactions). At the same time, strategic alliances can be grouped into two broad categories – equity and non-equity alliances – which represent different degrees of interdependency and internalisation (Box 1.4). Both equity and non-equity forms of

Box 1.4. Equity and non-equity alliances

Equity alliances include joint ventures, minority equity investments and equity swaps. A joint venture, the most common form of equity alliance, implies the creation of a separate corporation, whose stock is shared by two or more partners, each expecting a proportional share of dividends as compensation. More specifically, a joint venture is defined as a co-operative business activity, formed by two or more separate firms for strategic purposes, which creates a legally independent business entity and allocates ownership, operational responsibilities and financial risks and rewards to each partner, while preserving each partner's identity or autonomy. The independent business entity can either be newly formed or a combination of partners' pre-existing units and/or divisions. Even though the partners' stakes in the new business may vary, all the partners are considered owners or parents of the new entity. They normally provide finance and other resources, including personnel, until the venture is able to function on its own. Joint ventures generally aim at making the new company a self-standing entity with its own aims, employees and resources.

Non-equity alliances include a host of inter-firm co-operative agreements such as R&D collaboration, co-production contracts, technology sharing, supply arrangements, marketing agreements and exploration consortiums. The non-equity alliance is often a preliminary step to creating a joint venture. It is therefore the most flexible and potentially the least committed form of alliance (at least at the outset). Companies can form a minimal non-equity co-operative contract to see how the enterprise develops and allow it to deepen and broaden by introducing new projects over a period of time. As the collaboration requires no major initial commitment, it has no limitations. It is probably the most appropriate form of co-operation when the extent of the relationship is impossible to foresee at the outset, when the alliance is not bound by a specific business or set of assets and when joint external commitment at a certain level is not specifically sought. The non-equity collaborative form may be most appropriate if the activity concerned is a core activity of the partners; if it is non-core, a joint venture may be more appropriate (Faulkner, 1995).

Figure 1.16. Cross-border strategic alliances, by type



Note: For 2000, January to October. See also Annex Table 1.10.

Source: Thomson Financial.

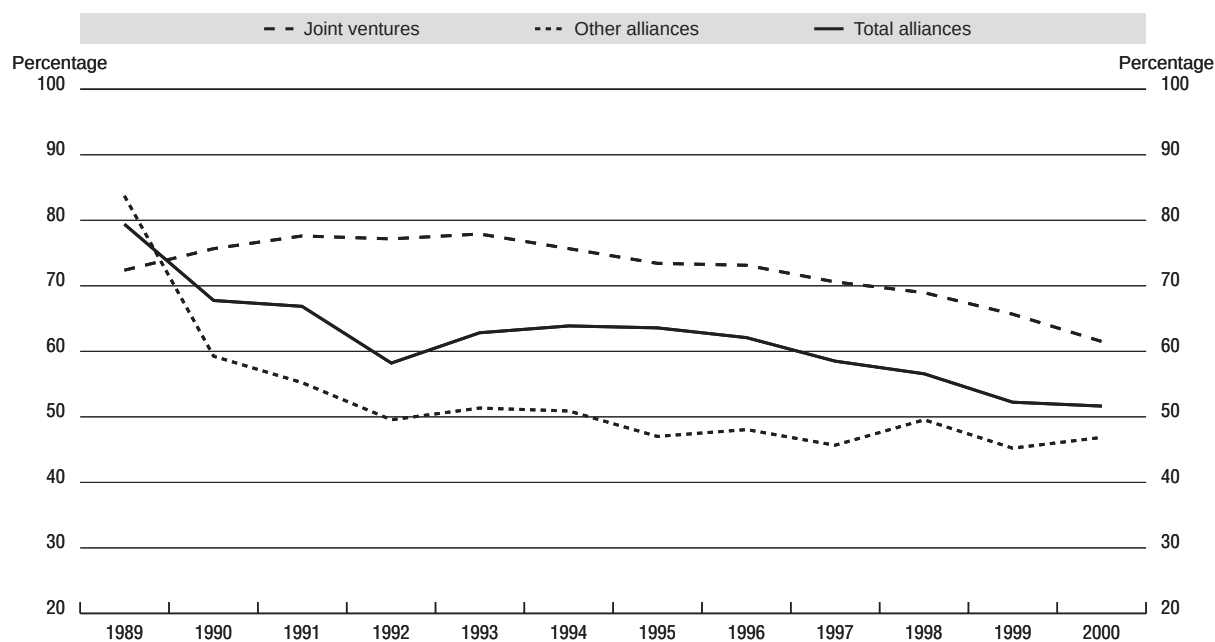
alliances can be long-term relationships which provide individual firms with the means to broaden their scope and share risks without expanding.

Figure 1.16 shows trends in types of cross-border strategic alliances. About 57% of the strategic alliances observed over the period 1990-99 were joint ventures. The non-joint venture alliances consisted of co-production and marketing agreements, joint research and development agreements and various other co-operative agreements, including technology sharing. The share of joint ventures as a percentage of total alliances fluctuated over the decade. The slight decrease in the share of joint ventures in total alliances since 1995 implies greater use of non-equity forms of strategic alliances. Developed countries tend to use more non-equity alliances than developing countries, particularly for R&D alliances. However, as Figure 1.17 shows, joint ventures tend to be more international than non-joint ventures: about 74% of joint ventures formed during 1990-99 were international, compared to only 50% of non-joint ventures.

Purposes of strategic alliances

Strategic alliances are formed for various purposes, such as joint sales and marketing, joint product development (R&D), a production partnership or a combination of these (Figure 1.18). The largest number of co-operative alliances during the period 1990-99 were formed to engage in joint manufacturing and production activities (31%). R&D strategies were the primary reason for forming an alliance in 13% of cases, and joint sales and marketing activities in 27%. However, in the last years of the decade, the share of three major traditional purposes of strategic alliances has decreased significantly and now accounts for less than half of recent alliance activities, partly as a result of the rapid increase of strategic alliances in service sectors such as information and communication technologies (ICT) (or computer-related) business services. However, manufacturing alliances tend to be more international than service alliances: about 77% of manufacturing alliances formed during 1990-99 were international, compared to only 48% of business service alliances (Figure 1.19).

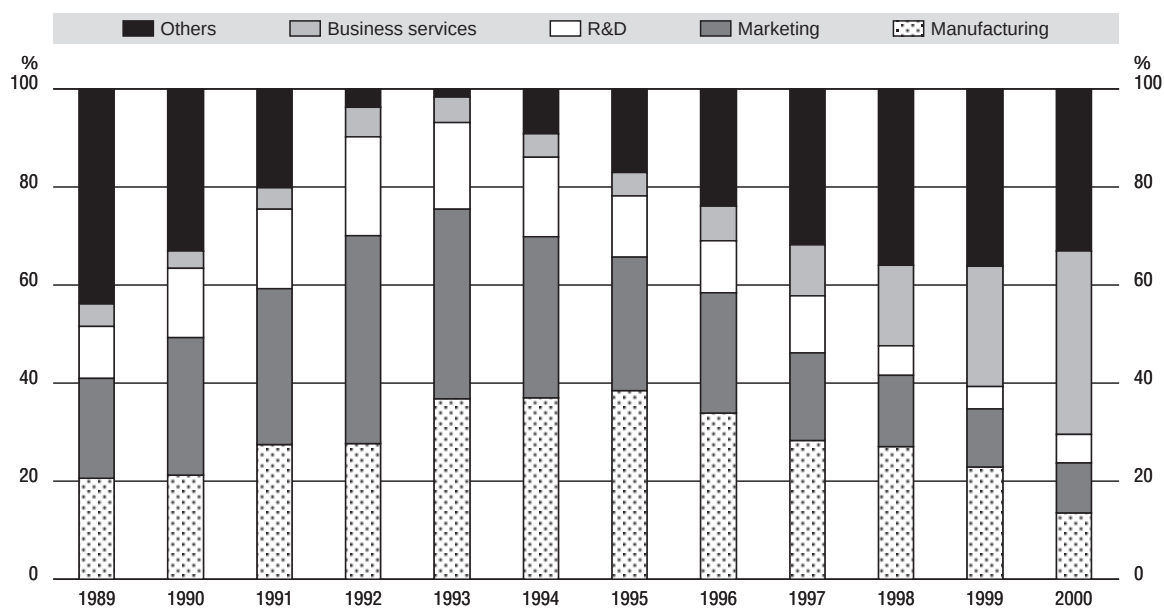
Figure 1.17. Share of cross-border alliances in total, by type



Note: For 2000, January to October. See also Annex Table 1.10.

Source: Thomson Financial.

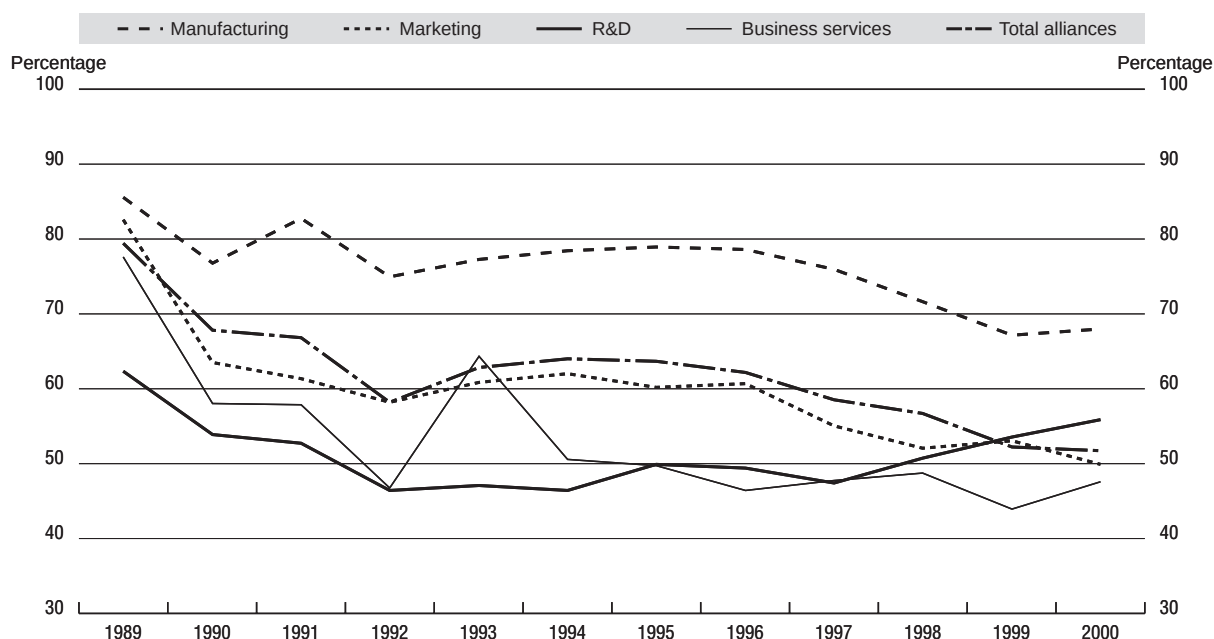
Figure 1.18. Cross-border strategic alliances, by purpose



Note: For 2000, January to October. See also Annex Table 1.12.

Source: Thomson Financial.

Figure 1.19. Share of cross-border alliances in total, by purpose



Note: For 2000, January to October. See also Annex Table 1.12.

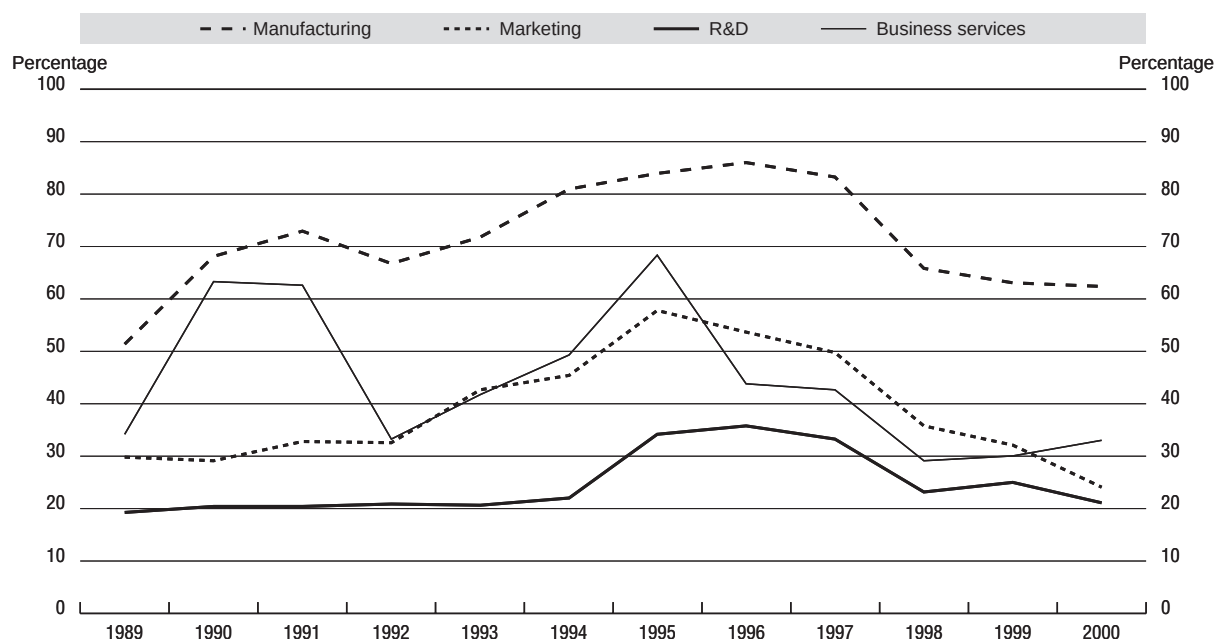
Source: Thomson Financial.

In general, there is a close relationship between the objectives (purposes) of alliances and their type of governance structure (Sachwald, 2000). For example, as co-operation comes closer to production and distribution, it tends to become more tightly organised. In fact, in the 1990s, 76% of manufacturing alliances were joint ventures, while those for marketing and R&D were only 42% and 25%, respectively (Figure 1.20). Firms also tend to choose a tighter co-operation structure involving equity investments when alliances involve high risk and large assets to reach their objectives. Common assets, as in the case of equity joint ventures for production, may contribute to establishing long-term relationships among partners. Alliances covering several functions, such as common distribution, knowledge transfer and exchange of components may also involve minority equity holdings. This is frequently observed in the automobile industry (*e.g.* Ford-Mazda or Renault-Nissan alliances).

Electronic alliances

As the Internet continues to grow at a fast pace and play a more important role as a communication medium for conducting business and exchanging information and data, more firms are forming alliances for selling and buying on line. Companies are creating an Internet homepage to provide interested parties with their business and product information. By July 2000, the number of Internet hosts in the OECD area stood at 97 million, up from 68 million a year earlier. At the end of 1999, there were more than 121 million Internet subscribers in OECD countries (OECD, 2001a). The infrastructure for conducting secure electronic transactions via the Internet, such as secure servers, is being constantly expanded, and firms are using the Internet to improve the procurement process for goods and services through business-to-business electronic commerce (B2B) and to expand their markets and sales through B2C electronic commerce. By 2002, B2B Internet commerce is expected to represent 70-85% of total e-commerce, which IDC estimates to reach USD 1.1 trillion worldwide in 2003, and new industry-wide online exchanges are being established in various sectors (Table 1.2).

Figure 1.20. Share of joint ventures in cross-border alliances



Note: For 2000, January to October. See also Annex Table 1.13.

Source: Thomson Financial.

Many B2B electronic marketplaces have been established as a joint venture by business suppliers and/or buyers and technology partners such as software developers. For example, Covisint, an online B2B procurement network for the automobile industry, was jointly established by five car manufacturers (General Motors, Ford, DaimlerChrysler, Renault and Nissan) and two information technology (IT) firms (CommerceOne and Oracle). B2B exchanges have the potential to generate tremendous efficiencies by reducing transaction costs, from placing an order to settlement, compared to traditional communication means such as phone and fax, which may be more time-consuming and less accurate. By reducing search costs and fostering efficient bidding mechanisms, B2B can also increase price transparency; buyers can find more suppliers at lower search costs, while sellers (suppliers) can gain greater and cheaper access to a broader range of potential customers. Joint purchasing through B2B exchanges can enable large firms as well as small to take advantage of quantity discounts.

On the other hand, B2B markets could facilitate price co-ordination among suppliers and exclude certain participants (companies) by denying them access and increase exclusivity (*i.e.* obliging buyers and sellers to deal exclusively with particular B2B markets). Since many online exchanges are not yet operational and since relatively small volumes of goods and services are being traded, it is not yet possible to see to what extent these B2B ventures may raise these concerns.

The Internet also offers direct and interactive interface with customers. For B2C e-commerce, services firms, including wholesalers and retailers, passenger airlines, travel agencies and banks, are among the leaders in establishing online shops for individual customers. In the finance sector, many commercial banks and security brokerage firms have formed international alliances with Internet service providers (ISPs) for Internet banking and trading services, which allow customers to check accounts, execute various transactions and buy and sell stocks over the Internet (Figure 1.21). From January to October 2000, more than 40 such alliances were formed with participation by Internet service providers (ISPs), computer programming services and software companies. Although alliances between

Table 1.2. B2B on-line exchanges in selected sectors

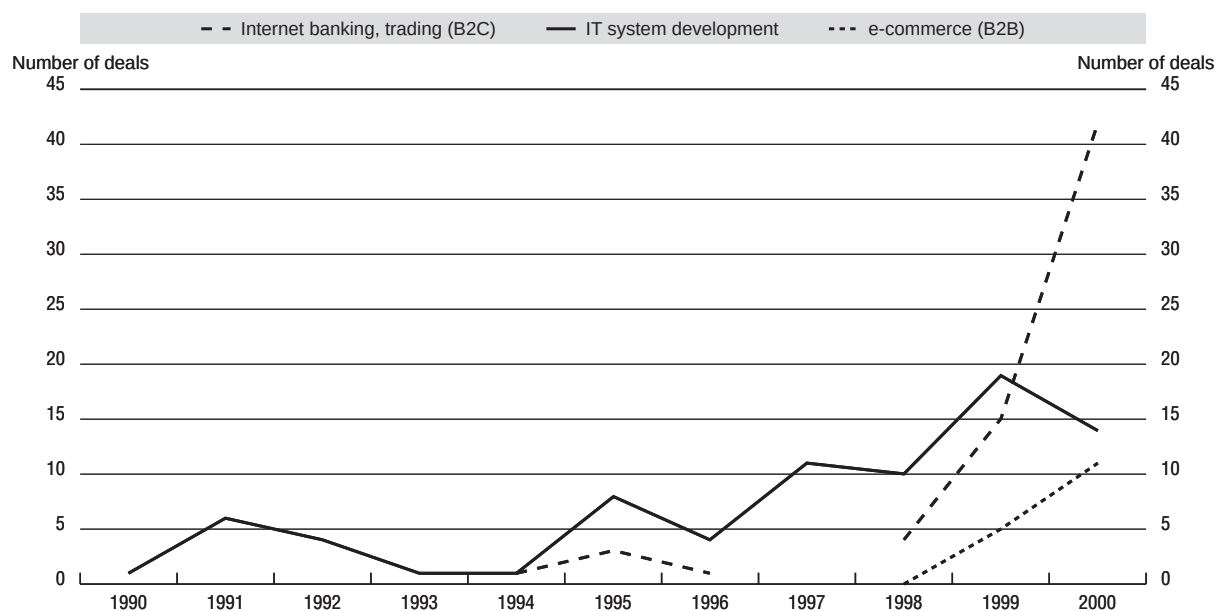
Sector	Name	Major participants	Products/services	Started
Automobiles	Covisint	DaimlerChrysler, Ford, GM, Renault/Nissan, auto parts suppliers	Auto parts for new cars	October 2000
	iStarXchange	Toyota, i2 technologies, auto parts suppliers and traders	After-sales (replacement) auto parts	February 2000
Electronics	QuestLink	Avnet, OKI, Philips, Texas Instruments	More than USD 2 billion inventory and 165 000 parts, including semiconductors, software and other equipment	September 1998
	Hyporium.com	IBM, Compaq, Hewlett Packard, SCO, 3Com	Storage/memory and output devices, software, audio and video parts	October 1999
	Free Trade Zone (Partminer)	5 000 firms in 52 countries	Hard-to-find electronic parts, data on 12 million parts	June 2000
Pharmaceuticals	Medibuy.com	Medical/non-medical equipment manufacturers, healthcare services firms	Medical devices/equipment, healthcare products, hospital and other office supplies	November 1998
	ProxyMed	50 000 physicians and thousands of healthcare organisations	Prescription drugs, electronic transaction processing services	November 1999
Steel and other metals	e-Steel	3 600 companies in 100 countries including US Steel, Ispat International, Posco and Ford	Steel products	September 1999
	Aluminium.com	1 300 companies in aluminium and other non-ferrous metals industry	Aluminium, copper, nickel, zinc, lead, tin, silicon metal and magnesium	April 2000
Aerospace	Avolo	Airlines, aircraft parts suppliers, airline services providers	Aircraft parts, maintenance, repair and other services	May 2000
Finance	Creditex	Liquidity providers including Deutsche Bank, JP Morgan, Credit Suisse, Bank of America and Morgan Stanley	Transactions and information on over-the-counter (OTC) credit derivatives	April 1999
	TradeWeb	14 large bond dealers including Goldman Sachs, Lehman Brothers and Merrill Lynch, and over 600 buy-side institutions	Bills, notes, bonds, strips and liquid agencies	1st quarter 1998

Source: Company profiles and press releases available on the relevant B2B site.

financial institutions and computer-related services and software developers have been common for a long time, most deals in the past involved computer and information system development for the former. In addition, financial firms are now seeking more technology partners for new online services.

Many B2C sites in other sectors have also been created through alliances with ISPs or other computer-related services firms, and some manufacturers have also started to ship a part of their product lines directly to customers via B2C Internet commerce. In addition to traditional mail-order articles such as clothes and books, software, personal computers, consumer electronic products and even more bulky durable goods, such as automobiles, are now Internet shopping items. However, some large manufacturers have tended to limit their direct B2C commerce to avoid a drastic impact on sales through traditional marketing channels. A large portion of their sales still rely on exclusive (and non-exclusive) distribution channels, and B2C Internet commerce could severely affect traditional distributors and retailers, since B2C sites can reach customers far beyond their local market "territory". For example, every car producer has established its Web site, and some have started to receive customer inquiries on price and other vehicle specifications. In many cases, however, the customer

Figure 1.21. Finance: cross-border alliances with IT firms, by objective



Note: For 2000, January to October.

Source: Thomson Financial.

must go to the nearest dealer recommended by the manufacturer, and the rest of the purchase process is the traditional one. In August 2000, Ford announced its plans to establish FordDirect.com, a joint venture between the company and affiliated dealers, as a way to reach customers via the Internet. A major rationale for the venture is not to promote direct B2C sales but to strengthen the link between customers and local Ford dealers, which take on after-sales service such as vehicle maintenance.

Although B2C Internet commerce could bring new marketing opportunities, particularly for small companies, as it allows them to reach potential customers via the Internet without establishing physical shops to market their products, it competes directly with sales through traditional wholesalers and retailers. While some services companies can take full advantage of B2C commerce as a means to reach more customers, some manufacturers may have to maintain traditional distribution channels and retailers not only for marketing but also for after-sales services, which are needed for many durable goods. The growth in B2C sites through alliances between goods and services providers and Internet technology companies may be uneven across industries.

DRIVERS OF INDUSTRIAL GLOBALISATION

Introduction

The new patterns of industrial globalisation – the waves of cross-border mergers and acquisitions (M&As) and strategic alliances – are the economic consequence of globalisation and the restructuring strategies of multinational enterprises (MNEs), which face increasing global competition and technological changes. In the 1990s, MNEs have been accelerating the diversification of their foreign operations to take full advantage of their global reach by redeploying their assets and reorganising their operations on a global basis, through both internal restructuring and external growth. They have also been setting up international networks which involve various types of partners around the world.

Traditionally, MNEs drive globalisation through foreign direct investment (FDI) to gain access to markets in foreign countries. The market-seeking motive of globalisation by MNEs is often explained by the OLI (Ownership Location Internalisation) paradigm, which takes into account the firm's competitive advantage, transaction costs and the characteristics of the host country (Dunning, 1977; 1995). According to the OLI paradigm, a firm needs to have a firm-specific competitive advantage (ownership advantage) to undertake FDI successfully. This competitive advantage generally arises from firm-specific intangible assets such as production knowledge and skills, marketing capabilities and brand name or superior management capabilities. These intangible assets have two major characteristics: they have the attributes of a public good with large economies of scale and scope so that they can be applied repeatedly and simultaneously to multiple locations in a non-rival manner; and they must have high transaction costs so that they cannot be traded efficiently on regular markets. Thus, as a firm accumulates more intangible assets, it has stronger incentives to exploit them through geographical diversification (via FDI) or other modes of internalisation (Morck and Yeung, 1999). The OLI paradigm represents an internalisation of markets aimed at extending the exploitation of a competitive advantage abroad.

Firms also engage in globalisation to seek strategic assets (resources) such as technology and management capabilities (Sachwald, 1998). In general, a firm needs external complementary resources and competencies to fill the gap between its internal capabilities and its strategy, which has tended to expand owing to rapid technological change and the globalisation process. MNEs are therefore driven to seek complementary resources and technology internationally through an internal network of geographically dispersed affiliates. For example, firms that are unable to develop technology in house owing to time or resource constraints may choose M&As or strategic alliances as a speedy way to acquire technological and human resources (Miotti and Sachwald, 1999). In this case, globalisation is motivated by a missing resource rather than by some pre-existent ownership advantage as described by the OLI paradigm. Moreover, the process of globalisation aims at creating or reinforcing competitive advantages through an efficient global production network. This reflects the rapid expansion of FDI by established MNEs and of FDI from a wider range of home countries in the 1990s.

Recent studies of MNEs outline several other motivations for globalisation through cross-border M&As and strategic alliances (*e.g.* Vasconcellos and Kish, 1998). MNEs seek to realise efficiency gains by restructuring their businesses on a global basis. In particular, large-scale cross-border M&As take place because large firms need to adapt to a changing global environment by consolidating their position on the world stage. Thus, cross-border M&As tend to reflect an economic and industrial rationale based

principally on size advantages which have been amplified by recent institutional, technological and organisational changes. They can also serve to eliminate actual or potential competitors. Virtually all developed countries and many developing countries have competition laws which prohibit anti-competitive mergers; horizontal mergers, particularly in highly concentrated markets, are generally subject to fairly close scrutiny by competition authorities to verify efficiency effects, although this may not always be completely effective (OECD, 1996a). To reduce risk, firms may acquire companies in other economies on the basis that the covariance of industry returns is likely to be smaller across economies than in one economy. Firms also often choose strategic alliances in order to share risks and costs and to speed up their entry into new markets.

The patterns of globalisation of MNEs primarily depend on their motivation for globalisation and their competitive advantages, as well as the available options (M&A, greenfield operation, strategic alliance). In order to achieve their strategic objectives, MNEs choose specific globalisation modes in a competing or complementary way. Industry and country characteristics and the global economic environment also affect the process of globalisation.

Choice of globalisation mode

M&As vs. greenfield investment

As an entry mode, speed is the biggest advantage of M&As over greenfield investment or other entry modes. M&As enable the acquiring firm to establish an immediate critical mass of production facilities and intangible assets in a particular industry. This is important in the automobile and telecommunications industries and in insurance and banking services, for example, which need vast investments in production facilities or distribution and service networks to ensure a minimum level of scale economies. In fact, it is almost impossible to enter these industries quickly through greenfield investment. This partly explains the surge of recent large-scale cross-border M&As in these industries. However, owing to cultural and organisational barriers, cross-border M&As may present more risks than greenfield investments in the post-merger restructuring process. To establish business in a particular market, greenfield investments take longer than M&As, but can be designed and implemented so as to incorporate the parent company's strategy from the beginning. Furthermore, in some cases, cross-border M&As may not be allowed owing to regulatory constraints. Thus, M&As and greenfield investment are generally realistic alternatives, but the choice can be restricted in some cases.

Empirical research identifies several firm-level factors that influence the choice of entry modes for FDI. First, it has been observed that M&As are more desirable when a firm has greater organisational and managerial skills, while greenfield operations are preferable when the firm has greater technological skill (Andersson and Svensson, 1994). Organisational and managerial skills are associated with the ability to absorb and utilise existing knowledge, while technological skill is linked to technology development and the ability to innovate in relation to investment in research and development (R&D). Since a firm's international experience is generally related to its organisational and managerial skills, firms with more international experience tend to favour take-overs. Previous presence in a host country also increases the attractiveness of take-overs. For a firm with established affiliates in the host country, there are likely to be greater benefits from take-overs than from greenfield operations, as new investments in plant and equipment may increase capacity and competition in the host country market, thereby leading to lower prices and profits and hurting the firm's existing affiliates. This implies that as multinational operations increase, use of take-overs may rise.

Firm strategies *vis-à-vis* competitors may also affect entry modes. If a firm's intangible assets are insufficient for it to be competitive, it may seek these through acquisition of an existing local firm which has such assets. On the other hand, if a firm has technological and competitive advantages it wishes to retain control over, it may prefer greenfield investment (Yamawaki, 1994). For instance, it has been observed that when Japanese MNEs enter Europe, they rely on greenfield investments in industries where they have a competitive advantage but tend to rely more on M&As when the European industry is relatively more competitive. Furthermore, greenfield investments have tended to be made in

European countries with relatively low competitiveness in these sectors, while M&As take place in countries that are more competitive, *e.g.* greenfield investment in semiconductors and transport in the United Kingdom and M&As in chemicals in Germany and the Netherlands.

M&As vs. strategic alliances

Cross-border M&As and strategic alliances share much common ground. Both are driven by a desire to reduce the transaction and co-ordinating costs of arm's-length market transactions. They also aim to share risks and investment for new business (products) and to ensure synergy effects by making the most of partners' complementary tangible (*e.g.* production facilities and distribution channels) and intangible (*e.g.* market knowledge and managerial skills) assets. However, strategic alliances differ from M&As in several respects. They may entail no change in the ownership structure of the participating firms. They give firms greater flexibility for responding to changing market conditions and the unexpected emergence of new competing products. In particular, non-equity alliances enable participating firms to change their strategies quickly by dissolving or leaving a joint project which no longer provides substantial benefit. Alliances are also flexible in terms of areas of co-operation. Compared to M&As, in which an acquiring firm generally takes on all assets of the acquired company, including failing business operations, alliances allow firms to collaborate only in those areas considered to be of value to both. Strategic alliances can thus create a "win-win" situation for the partners, with benefits for all participants (Parkhe, 1998). Some alliances can allow firms to achieve the benefits of a merger at less cost, such as the firm's restructuring, if they are carefully designed and implemented (Lorange and Roos, 1992).

However, compared to M&As, strategic alliances also have disadvantages. They may entail more problems (risks) for control and implementation, while M&As can provide the merged firm with a more integrated decision-making structure. Strategic alliances can be difficult to establish and involve certain risks, as their implementation is generally beyond the control of a single party. Partnerships make decision-making and control processes more cumbersome. Shared ownership arrangements can also create problems resulting from the roles assumed by the partners in the venture, since parties may not be clear about their respective roles. A partner may establish co-operative linkages with competing firms and thus hamper the alliance. As firms enter into more alliances, it may be more difficult for them to maintain a balance among their alliances. Some partners may gain more than others, and unequal benefits can damage a partnership when expectations differ and stakes are high. Large partners tend to dominate smaller ones and can shape relationships by changing strategies unexpectedly. As a result, a strategic alliance may entail higher transaction costs than a full merger.

In general, firms choose between M&As and alliances in an attempt to strike an appropriate balance between short- and long-term strategic objectives and the financial and time costs they bear. While both alliances and M&As are expected to provide synergy effects in the long run, by reducing business overlaps and cutting costs among partners, for example, M&As may be a better strategy for achieving immediate results by creating a critical mass in a particular market, adding new lines of business and providing ailing firms with a financial boost. The results (*e.g.* new products) of alliances tend to take longer, several years in some cases, and their scope may be more limited. R&D alliances may require some time to invent new technologies, for example, and many joint development activities tend to be launched as a one-shot collaboration in a specific field.

Other considerations include the relatively high initial costs involved in M&A transactions, which amount in some cases to billions of dollars. While alliances can be initiated with relatively lower transaction costs, firms may prefer M&As when the costs are likely to be compensated by long-term synergy effects. In this respect, strategic alliances may better allow small and medium-sized enterprises (SMEs) to be competitive on international markets. Furthermore, SMEs with unique technological advantages may prefer strategic alliances, since collaboration with (large) firms with considerable financial resources enables them to enhance their core competencies while remaining independent. In addition, foreign acquisitions tend to be more costly than co-operative agreements, especially for sourcing technology. Moreover, acquisitions of high-technology firms abroad by large groups may pose

specific management problems related to corporate cultures, as a result of which strategic alliances may remain attractive.

However, M&As are not always a viable alternative to strategic alliances. For example, where cross-border M&As are not allowed, owing to constraints on competition (*e.g.* oligopolistic industries) or foreign ownership regulations (*e.g.* telecommunications and airline industries), cross-border strategic alliances are the only way for firms to respond to increasing globalisation and technological change. The popularity of alliances in the airline industry is mainly due to foreign ownership restrictions on national carriers. In earlier periods, regulations and preferences of host governments were one of the major reasons why MNEs resorted to joint ventures, in particular in regulated industries and developing countries (Sachwald, 1998). There may also be complementary effects between strategic alliances and other types of strategic options, such as M&As or greenfield investment. According to the MERIT-CATI database on strategic alliances for the period 1980-94, strategic alliances are not used as an alternative to subsidiaries or mergers but can complement them as a means of access to markets and other resources (Narula and Hagedoorn, 1999). Strategic alliances may also develop into M&As involving partner firms at a later point. Finally, both alliances and M&As tend to succeed when partners have complementary tangible and intangible assets.

Driving forces

New trends and a combination of cross-border M&As and strategic alliances have been changing the pattern and scope of global business. They have also been the mainspring of growth and of the current wave of industrial and financial restructuring at global level. Even though the surge in cross-border M&As and strategic alliances reflects firms' global business strategies, recent economic, institutional, technological and organisational changes have also played a role. M&As are not a new phenomenon, although their motivation and characteristics may have changed. For example, they have occurred in waves throughout the past century, with increased activity when stock market prices were high (Mueller, 1989). Economic recessions or booms can also affect the level of M&A and alliance activity and their focus.

Technological change encourages both cross-border M&As and strategic alliances. For example, the new information and communication technologies (ICTs) such as the Internet, electronic mail and electronic data interchange (EDI) make cross-border business expansion far easier and more practical than before. These ICTs also help to create new businesses and markets and have changed market conditions rapidly. Technical competence and market know-how, flexibility and ability to innovate have increasingly become strategic corporate assets, while the speed of technological developments shows no sign of slowing. At the same time, with the soaring costs of R&D and the uncertainties of technological change, companies are forced to look for partners from whom such intangible assets can be obtained and absorbed. In fact, innovation and the development of leading-edge technologies drive most alliances in high-technology sectors.

Liberalisation and privatisation policies and regulatory reform influence cross-border unions by opening up opportunities and increasing the availability of targets for M&As and alliance partners. With greater market deregulation and liberalisation, competition is increasing at international level and stimulating cross-border consolidation and new and different alliances between enterprises. Recent changes in corporate governance also play a role, as they have tended to enhance firms' transparency, responsiveness and flexibility, making it easier for them to engage in M&As and strategic alliances. In particular, the current wave of M&A activities is stimulated by the emerging influence and role of institutional investors with respect to the creation of shareholder value.

Industry characteristics, such as growth prospects, market structure and competition, have a strong influence on cross-border M&As and alliances. Slow growth, excess capacity and increased global competition typically drive industrial restructuring, pushing companies to seek partners in order to reduce costly overlaps and exploit synergies. Thus, recent large-scale unions have tended to be concentrated in major sectors such as automobiles, pharmaceuticals, finance and telecommunications, which are experiencing intensified global competition and market pressures (Box 2.1). For example,

Box 2.1. The merger of Daimler-Benz and Chrysler

In 1998, Daimler-Benz, Germany's most profitable car producer, merged with Chrysler, the smallest but most efficient of America's Big Three car producers. The merger was mainly driven to realise global economies of scale, against a background of increasing global consolidation in the automobile industry. The merger was expected to create a range of efficiency gains and benefits, including cost savings, by consolidating operations; to expand markets by combining complementary sets of products (*i.e.* Daimler-Benz's premium cars and Chrysler's minivans) in America and Europe; and to achieve synergy effects in developing new cars by combining Daimler-Benz's high technology and Chrysler's speedy product development.

It may take some time for the anticipated efficiency gains of the merger to be translated into successful new cars, larger market share and higher profits. At this early stage, the merger seems to fall short of initial expectations, as reflected in the declining share price of DaimlerChrysler just after the merger. One reason for DaimlerChrysler's poor performance is its loss-making Chrysler division. Chrysler was profitable before the merger but has since faced financial difficulties, partly due to the slowing US economy and tougher competition in the United States, in particular in the high-margin minivan sector which it had long dominated. As a result, in early 2001, DaimlerChrysler announced a far-reaching restructuring of the Chrysler division: slashing annual vehicle production by about 15%; cutting its workforce by 20% (about 26 000 workers); and closing six factories in North and South America. The difficult task of post-merger integration may be another reason. In fact, the success of a merger primarily depends on successful post-merger integration, a process that may be more difficult for cross-border M&As, which involve a host of offices and factories with different national and corporate cultures, as in the case of Daimler-Benz and Chrysler.

excess capacity in banking services in Europe and in the automobile industry worldwide motivates the search for economies of scale. In contrast, in telecommunications and pharmaceuticals, M&As and alliances are motivated by anticipated increases in demand and greater competition owing to deregulation and rapid technological change (telecommunications), and by the rising cost of bringing new products to market (pharmaceuticals).

In addition, M&A activities may have ripple effects, forcing competitors and smaller companies into defensive mergers. Thus, a large-scale M&A deal tends to lead to another in the same or a related industry. In the oil industry, for example, the merger between British Petroleum and Amoco led to a merger between Exxon and Mobil. The financial and telecommunications industries show similar patterns. Smaller suppliers to global industries, such as the automotive and aerospace sectors, are pressured to consolidate to achieve international coverage. Ongoing concentration in steel production may also be a consequence of the structure of production and ownership in customer markets. Steel's main clients are the construction, automotive and domestic appliance industries. The latter two have global presence and are highly concentrated. Thus, while the top ten producers in the automotive industry now represent over half of global production, the top ten steel producers account for only a third. Globalisation on the demand side is pushing steel producers to organise global delivery of services.

The driving forces behind cross-border M&As and strategic alliances are discussed below in terms of economic, technological and government factors. These factors tend to affect motivation as well as patterns (modes) of globalisation by MNEs.

Economic factors

The macroeconomic environment influences both the supply of and demand for cross-border M&As. Economic expansion in home countries increases earnings and equity prices and hence the pool of capital available for investment abroad. In particular, high stock prices tend to facilitate large-scale

M&A transactions, as highly valued corporate equities can be used as currency to pay for acquisitions. In fact, in 1999, in terms of deal value, almost half of large-scale cross-border M&As (worth over USD 1 billion) were financed by equity. Similarly, an economic boom in host countries increases the short-term profitability of potential target firms for acquisition. The prolonged economic expansion and highly valued stock markets in the United States and the United Kingdom over the past decade have played an important role in the continued and rapid increase of both inward and outward cross-border M&As. In fact, the United States and the United Kingdom were the largest M&A investors and recipients in the 1990s.

Conversely, slower economic growth tends to work against cross-border M&As. As Japan's recession persisted over the 1990s, outward FDI from Japan, including outward M&As (purchases), slowed rapidly. Outward acquisitions by Asian countries, where the currency crisis of 1997-98 resulted in a serious economic recession, also decreased sharply in 1998. Volatile stock prices and uncertainty about markets may also slow M&A activity. For example, M&A deals in the telecommunications sector, which drove European mergers in recent years, slowed substantially in 2000 as the stock prices of several telephone companies plunged and market uncertainty persisted. However, an economic slowdown on domestic markets may promote industrial restructuring through M&As and alliances. For example, inward M&As have increased in recent years in Japan and many Asian countries, particularly Korea, owing to falling asset prices as well as changes in business practices and an environment more favourable to foreign acquisitions.

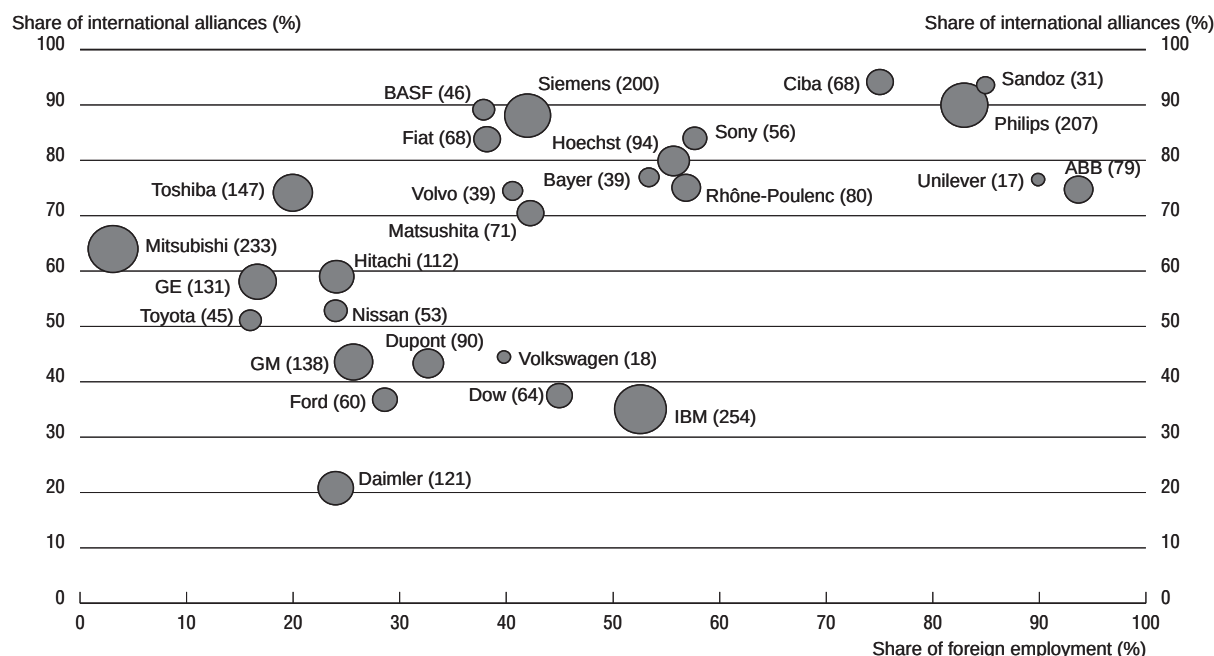
Intensified global competition in many manufacturing and service sectors and the consequent need to restructure at global level also drove the growth in both cross-border M&As and strategic alliances in the 1990s. MNEs enter into cross-border M&As and alliances in their sector to seek economies of scale and scope and cut costs by streamlining operations, while concentrating on their core activities. As a result, both cross-border M&As and strategic alliances have been accompanied by intensified sectoral and product specialisation.

A considerable portion of cross-border M&As and strategic alliances seek to consolidate and/or access tangible assets, such as production facilities and distribution networks. In this respect, many cross-border M&As and alliances are a defensive reaction to increased global competition. Falling prices and excess capacity in sectors such as automobiles and steel lead to consolidation and collaboration to economise on costs and diversify risk. Alliance agreements which seek mainly to minimise net costs are generally (but not always) customer-supplier agreements or vertical relationships in a value-added chain and embody a shorter-term perspective. While such alliances may increase profits, they do not usually raise the value of the firm beyond the short term.

Cross-border M&As and strategic alliances are also undertaken to combine and/or access intangible assets, such as management skills, technical know-how or brand names. Such arrangements aim to enhance the value of the firm's assets and to optimise profits over the long term, rather than to cut costs in the shorter term. Corporations are defining more of their value in terms of intangibles, *e.g.* the creativity of their designers (software), the knowledge of their markets (consumer goods) and even the extent of their alliances (airlines). For example, in-depth knowledge of particular markets and customers is a valuable asset, and alliances between firms for "affinity marketing" build on a partnership with a company with a well-established product or brand name to boost sales of a different product. There are also alliances between manufacturing firms and Internet service providers with a rich and valuable customer database. Electronic commerce and the spread of online shopping enable firms to approach customers in any country via the Internet.

Cross-border M&As and strategic alliances are also aimed at opening up markets and are undertaken by firms wishing to offer new services on domestic markets and to gain entry to new markets and diversify their operations. According to the MERIT-CATI database on strategic alliances, for example, there is a strong positive relationship between the extent to which firms have overseas production (measured by the percentage of foreign employees) and their participation in international alliances (Figure 2.1).

Figure 2.1. International alliances and foreign production



Note: (●) = each firm's total number of alliances (domestic and international).
Source: MERIT-CATI database.

Technology factors

Technology is driving both M&As and the formation of strategic alliances at international level in several different but intertwined ways, owing to the growing ease of communication, the high cost of research and the need for international standards. First of all, falling communication and transport costs have facilitated the international expansion of firms seeking to exploit and consolidate their competitive advantage. Recent developments in ICTs, in particular, tend to expand the range and span of corporate control, making optimal firm size larger than was previously possible. MNEs can expand and strengthen their global market position through M&As while maintaining efficiency and flexibility in their management through the new ICTs, such as the Internet, electronic mail and EDI.

The new communication tools also make cross-border collaboration far easier and more practical. These tools have rapidly reduced the costs of establishing and maintaining co-operative linkages with other firms (OECD, 2000b). They have changed the manner of doing business in many sectors and have enabled firms in different locations to share know-how, information, distribution networks and other assets simultaneously. As a result, firms in a distant country can adopt and adapt without delay another firm's knowledge assets, such as new product designs and ideas. Thus, rapid advances in information and communication technology have created a more favourable business environment for partnerships and spurred growth in international strategic alliances and in phenomena such as cross-border patenting (Box 2.2).

At the same time, the soaring costs of R&D, coupled with the uncertainties of technological change, have forced firms to co-operate with others in global markets in various ways to share resources and risks for developing new products (Duysters *et al.*, 1998). For example, the large R&D costs for developing new generations of drugs is considered the major driving force behind recent alliances and M&As in the pharmaceuticals sector. Technology-related alliances among firms are generally aimed at gaining economies of scale and scope in R&D, whereas the major objective in alliances for production,

Box 2.2. Cross-border patenting

Over the period 1980-95, international technology-related collaboration, including joint research and cross-border patent ownership, more than doubled. The share of patents in OECD countries involving at least two inventors from different countries increased from 2.1% in 1980 to 4.7% in 1995, so that about five patents in 100 invented in the OECD area are the fruit of international collaboration. Although the degree of internationalisation of technology (measured by cross-border patent ownership) varies among OECD countries, smaller countries (Belgium, Austria, Ireland) and more recent OECD Members (Mexico, Poland), which have relatively smaller domestic knowledge and research bases, are highly internationalised. Among the larger countries, the United Kingdom is the most internationalised. Four sectors (chemicals, petroleum refining, pharmaceuticals, food and beverages) are the most global in terms of cross-border patenting. Sectors such as shipbuilding and aerospace, perhaps because they are more dependent on government subsidies, are the least internationalised.

marketing and distribution is to gain access to new markets by sharing facilities and networks. While some of this co-operation involves research ventures among large multinationals, many smaller companies and laboratories also need capital to maintain their technological advantage in specific fields. This has prompted alliances between larger, richer companies and smaller firms with unique skills or technologies, as in the biotechnology sector.

The growing complexity of technology also requires firms to co-operate with others in different sectors (OECD, 2000c). Even the large leading firms in an industry cannot have full expertise in all related fields, so that successful innovation now requires learning through co-operative networks. For example, the automobile industry has engaged in more R&D alliances since the early 1990s. Carmakers increasingly require not only mechanical expertise to produce efficient vehicles, but also new materials technologies (for lighter car bodies and components), telecommunications systems (for more advanced car navigation), and electronic parts such as semiconductors (for controlling fuel injection). Developing a new vehicle is extremely expensive and exploiting the intangible assets of other companies, including leading-edge technologies and specific types of know-how (*e.g.* expertise on durability tests for various car components), is essential to achieve savings in time and costs. Pharmaceutical companies also use alliances to outsource a major share of R&D in order to accelerate needed product breakthroughs.

Technological change creates new businesses and markets, as in communications and information-related industries. The recent surge of acquisitions and alliances in the telecommunications, media and information industries reflects firms' efforts to capture new markets created in particular by the growth of the Internet and mobile telephony and to provide more integrated global services. Technological change also tends to shorten product life cycles and promote new entrants with innovative technology. As in the case of telecommunications and steel, this alters competitive conditions and market structure.

Cross-border R&D alliances are also effective for developing global product and system standards with potential competitors and steering the path of technological change. In high-technology sectors, such as electronics and information technology, studies show that the formation of alliances tends to be cyclical. The early stages of new technological systems, during which no dominant design or standards exist, are characterised by uncertainty and large numbers of strategic alliances. Later, when a dominant design emerges and economies of scale and standardisation become more evident, co-operative ventures diminish (Pyka, 2000). Creating a new global product standard and holding a patent in this respect increases the long-term prosperity of firms in high-technology sectors. co-operation is particularly sought with leading MNEs because of their global brand name recognition and market power. Once a breakthrough product or system (and a possible candidate for a new global standard) is developed, an allied company can exploit its partners' assets, including its sales and marketing networks. An example is the alliance between Sony (Japan) and Philips (Netherlands) which created a

global standard for compact discs. Alliances with industrial champions also help firms monitor the direction of technology development and innovation in their field.

The literature on R&D co-operation suggests that, as firms build global R&D networks, they source technology in foreign countries to a larger extent (Sachwald, 1998). In the case of R&D, the role of co-operative agreements in matching firms' internal capabilities with external complementary capabilities of other firms is very important. As a consequence, firms often look for R&D partners who have developed specific and complementary technological resources. They may find them more easily in foreign partners, since countries' specific characteristics, in terms of both natural resources and institutions, generate different specialisation and innovation patterns. This partly explains the frequency of R&D alliances between European, American and Japanese firms.

Government factors

Market liberalisation and deregulation across the OECD area accelerated the process of industrial globalisation, in particular through cross-border M&As. In the 1990s, liberalisation of international capital movements and FDI led to cross-border transactions on a larger scale and involved a wider range of countries. As globalisation heightens the interdependency and interlinkage of economies, foreign ownership of national enterprises and cross-border business collaboration are becoming the norm.

Regulatory reform in regulated industries such as telecommunications (the WTO agreement on basic telecommunications services entered into force in 1998), electricity and finance play an important role in the dramatic increases in M&As and strategic alliances by creating new markets and M&A opportunities in both developed and developing countries. These industries are beginning to open up to foreign investors in many countries, and full or majority ownership by foreigners is gradually being allowed.

Privatisation is also contributing to cross-border merger activity by increasing M&A targets and opening up economies to increased competition. Significant increases in inward M&As in Latin America and in Central and Eastern Europe are linked to privatisation of state enterprises in telecommunications, energy and other sectors (UNCTAD, 1999). In the case of Brazil, partly owing to the privatisation of public enterprises, inward M&As increased rapidly in recent years from USD 4.7 billion in 1996 to USD 12.6 billion in 1997 and USD 24.8 billion in 1998.

Integration of regional markets in Europe and North America has encouraged firms to expand their operations geographically, leading to more M&A transactions and new sales and marketing alliances. Joining a winning network or alliance at global level is becoming crucial to firms' survival in a greater number of sectors. In particular, the introduction of the euro may accelerate the current wave of M&As and alliances throughout the euro zone. In fact, cross-border M&As in Europe reached USD 390 billion in 1999 (after USD 229 billion in 1998 and USD 139 billion in 1997). The euro will reduce exchange rate risk and transaction costs across the European Union and thus support trade and business expansion. It will also increase price transparency in the euro zone, thereby increasing competition and price discipline and also promoting industrial restructuring, including through cross-border M&As and alliances. However, fundamental location decisions for foreign investment and mergers in Europe will likely remain dependent on factors linked to economic geography, including the relative cost of production factors and the proximity to core markets (OECD, 1999a).

The regulatory landscape may also affect the level of M&A activities. The slowdown of M&A activities in Europe in 2000 partly reflects heightened regulatory scrutiny. For instance, a three-way merger between Canada's Alcan Aluminium, Ltd., France's Pechiney SA and Switzerland's Algroup was blocked by regulators because of concerns about competition, as was Time Warner Inc.'s deal with EMI Group. For co-operative R&D, innovation policy may also play a role. Since the late 1980s, innovation policies have promoted co-operative R&D on the basis that it leads to knowledge spillovers and economies of scale. EU innovation policy has mainly promoted co-operative R&D among European partners, thus creating a strong incentive to choose European partners.

Globalisation and liberalisation are also prompting changes in corporate governance that facilitate cross-border M&As and alliances in a broader range of countries. In Japan, for example, the evolving nature of corporate relationships with shareholders, stakeholders and banks is leading to record numbers of alliances and M&As, both domestic and international. In countries (*e.g.* Japan, Korea, France, Germany) which previously had more tightly knit corporate governance regimes based on close relations with other firms, suppliers and banks and which were characterised by higher levels of cross shareholdings, there is a trend towards more widely dispersed ownership and greater transparency. In addition to raising the level of competition in product markets, changes in corporate governance are increasing the responsiveness and flexibility of firms. Enterprises find it easier to access a wider range of financing, adopt new approaches to organisation and management and realise savings through information technology, as has been the case in the United States. Corporate governance regimes also affect firms' ability to restructure, whether by downsizing to smaller units or by upsizing to gain complementary assets.

Integration of financial markets and changes in corporate governance – increased shareholder power, greater influence of international institutional investors and restructuring against the background of a financial convention based on the “creation of shareholder value” – also seem to drive M&As in some countries. For example, a study of M&As involving French firms between 1997 and 1999 shows that the current wave of M&A activity in France has been stimulated by the emerging influence and role of institutional investors (Box 2.3).

Box 2.3. New trends in French M&As

In France, M&As are flourishing, in line with the rapid increase in M&As worldwide. Some M&As are carried out for financial reasons which to some extent have their origins in the changing relations between shareholders and managers. This financial rationale, sustained by the “creation of shareholder value”, is a radically new feature of M&A transactions by French firms in recent years. The new trend is reflected in corporate choices concerning growth strategies, which are characterised in particular by a narrower focus and the use of financial techniques designed to enhance the extraction of value.

This new trend raises a number of questions, such as how to create economic value in the long term through industrial investment, and above all whether “creating shareholder value” is consistent or compatible with the creation of wealth. In practical terms, this is reflected in the enhanced valuation of firms that apply relative specialisation strategies and concentrate their assets on their core business. At the same time as the vast wave of M&As, the last three years have seen a rise in corporate debt levels and a proliferation of programmes by firms to buy back their own stock, especially in 1999. These two trends may be interpreted as the result of shareholder choices about the allocation of corporate resources.

Debt, in the form of bonds and bank borrowing, is a classic form of financial leverage, while buying back stock – and destroying capital if it is subsequently retired – is another way of leveraging the creation of shareholder value. Even with plenty of spare cash and strong profits, French firms have opted to finance their external growth in part through bank loans or bond issues in a context of low interest rates. This use of debt may also be interpreted as a way to create shareholder value. Debt is contracted in order to leverage the return on equity by increasing earnings per share (Commissariat Général du Plan, 2000).

Chapter 3

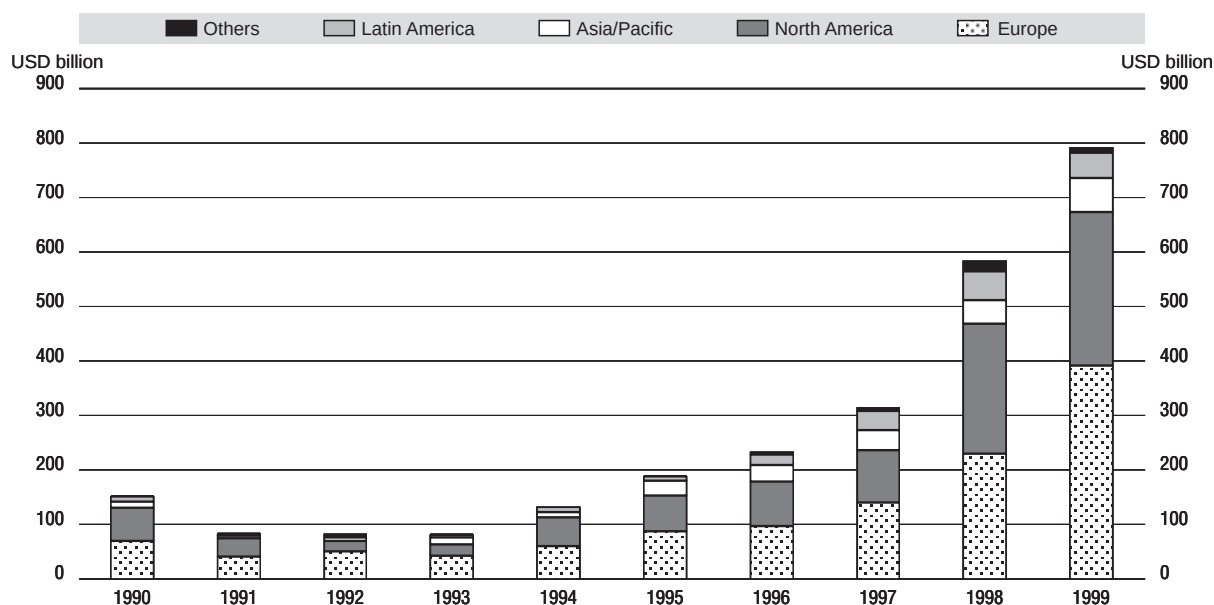
REGIONAL TRENDS

Overview: mergers and acquisitions

Although large multinational firms increasingly regard the world as a global marketplace, most cross-border M&As continue to be carried out between the main OECD regions (Europe, North America and, to a lesser extent, Asia/Pacific). In terms of transaction value, Europe and North America hosted 46% and 36%, respectively, of all inward cross-border M&As (M&A sales) worldwide during the 1990s (Figure 3.1). The Asia/Pacific region represented only 9% of all inward M&As worldwide during the same period, with peaks of close to 15% in the mid-1990s.

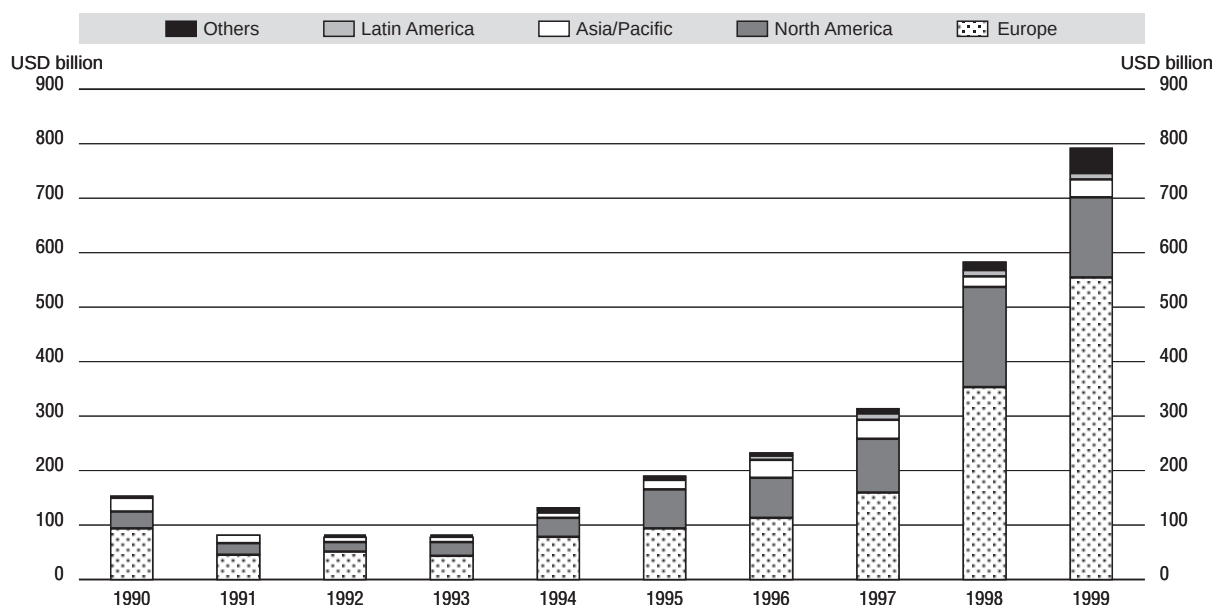
This configuration is more apparent in outward M&As (M&A purchases). Europe accounted for almost 60% of the value of total outward cross-border M&As worldwide during the 1990s, while North America and Asia/Pacific regions represented 27% and 8%, respectively (Figure 3.2). However, trends in cross-border M&As differ among countries and regions, in particular between OECD and non-OECD developing countries.

Figure 3.1. Inward M&As, by region



Note: See also Annex Tables 3.1 and 3.2.
Source: Thomson Financial.

Figure 3.2. Outward M&As, by region



Note: See also Annex Tables 3.3 and 3.4.

Source: Thomson Financial.

Inward M&As

OECD countries play a major role as hosts of inward M&As, accounting for 87% (USD 2 302 billion) of the total value (USD 2 641 billion) during the 1990s (Table 3.1 and Annex Table 3.5). Within this group, Europe and North America accounted for the bulk of inward M&As, 45% and 36%, respectively, during

Table 3.1. Inward M&As, by region and country

	USD billions									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
OECD total	137.9	77.6	72.4	68.8	117.8	173.0	196.7	251.8	495.1	710.7
Europe	67.4	40.1	48.7	40.8	59.2	84.8	92.9	130.4	226.3	385.3
United Kingdom	29.1	14.1	8.0	9.0	12.5	35.6	31.1	46.2	96.0	133.0
France	8.2	2.6	9.4	8.6	16.3	7.8	14.7	20.3	23.6	25.2
Germany	5.3	3.4	5.5	2.3	4.5	7.5	12.0	11.9	20.1	47.1
Netherlands	1.8	3.5	9.4	4.8	2.8	3.6	3.4	17.1	20.0	40.0
Sweden	4.5	2.3	2.5	1.8	6.2	9.8	3.9	3.8	11.6	59.9
North America	61.1	32.6	18.8	21.4	52.3	67.0	81.3	95.5	237.6	283.3
United States	55.3	29.0	16.0	19.0	47.7	55.2	70.4	86.0	220.4	253.1
Canada	5.7	3.7	2.8	2.3	4.5	11.8	10.9	9.5	17.2	30.2
Asia/Pacific	9.4	4.9	4.9	6.7	6.3	21.2	22.5	25.9	31.2	42.1
Japan	0.1	0.2	0.3	0.1	0.8	0.5	2.5	0.4	4.3	16.5
Australia	3.2	2.6	2.5	3.3	3.2	17.4	13.2	15.1	15.4	12.9
Non-OECD	10.2	4.3	5.7	9.1	10.8	13.2	28.5	47.4	65.8	70.2
Europe	1.0	0.5	1.1	0.6	0.6	1.1	3.7	9.0	3.2	4.8
Asia/Pacific	1.8	0.8	2.5	5.6	2.8	5.5	7.8	10.8	12.2	19.7
Latin America	7.3	2.9	2.1	2.9	7.4	6.6	17.0	27.6	50.4	45.8
Unspecified	4.7	1.4	3.0	4.1	3.1	3.3	7.0	14.8	22.3	10.7
World total	152.7	83.3	81.1	82.0	131.7	189.4	232.2	314.0	583.2	791.6

Source: Thomson Financial.

the period. The United States (32%), the United Kingdom (16%), France (5%), Germany (5%), and the Netherlands (4%) played a dominant role in attracting inward M&As, absorbing 62% (USD 1 629 billion) of total inward M&As over the period. Other OECD countries, including Japan and Australia, accounted for 7% of inward M&As. Compared with the size of the economy, inward M&As in Japan are relatively insignificant, despite the recent increase in M&A activity, accounting for only slightly over 1% of total inward M&As in the 1990s.

Non-OECD developing countries accounted for 10% (USD 265 billion) of total inward M&As during the 1990s (Table 3.1). The value of inward M&As in non-OECD developing countries increased rapidly until the onset of the Asian financial crisis, from USD 10 billion in 1990 to USD 47 billion in 1997, thus almost doubling their share in total inward M&As, from 9% to 15%. However, since 1998, non-OECD developing countries have failed to keep up with OECD countries despite the increasing value of their cross-border M&As. As a result, given the sharp increase in inward M&As in developed countries, the share of non-OECD developing countries dropped to 9% in 1999.

Analysis of entry modes for foreign direct investment (FDI) across countries shows quite different patterns in developed and developing countries. M&As play a dominant role in FDI inflows for developed countries, but other modes, such as greenfield investment, play a greater role for developing countries. In OECD countries, the value of inward M&As in relation to FDI inflows was 86% during the period 1988-99 (Table 3.2) compared to 30% for non-OECD developing countries. There are various possible explanations for these differences. For example, developed countries are likely to have a relative abundance of target firms for cross-border M&As, whereas such firms are more difficult to find in less developed countries (Svensson, 1998). Furthermore, less developed countries may have more restrictions on take-overs.

Outward M&As

OECD countries also play a dominant role in outward M&As (M&A purchases). In terms of transaction value, they undertook 92% (USD 2 424 billion) of total outward M&As (USD 2 641 billion)

Table 3.2. **Ratio of inward M&As to FDI inflows**
Percentage

	1988-93	1994	1995	1996	1997	1998	1999	1994-99	1988-99
OECD total	68.8	73.3	76.7	82.7	85.4	97.9	106.1	92.9	85.7
Europe	56.2	67.7	65.0	75.0	88.0	83.2	116.6	89.6	79.1
United Kingdom	85.9	135.5	178.4	127.2	139.0	150.9	161.9	152.3	128.8
France	42.0	104.7	32.7	67.1	87.7	80.1	64.4	70.5	60.4
Germany	120.7	62.6	62.3	181.9	107.1	95.0	175.8	121.5	121.4
Netherlands	51.0	38.4	29.5	22.3	118.2	47.9	118.5	69.8	64.5
Sweden	78.2	98.2	68.1	77.7	34.3	59.4	99.9	81.9	81.5
North America	95.2	98.0	98.4	86.5	81.5	114.2	94.2	97.1	96.6
United States	93.9	105.9	93.9	83.4	81.6	118.3	91.8	97.0	96.2
Canada	106.1	55.1	127.2	113.5	80.6	79.4	120.6	98.3	100.4
Asia/Pacific	49.3	31.5	78.5	112.3	87.8	121.1	108.8	92.7	78.3
Japan	52.6	82.3	138.2	122.9	13.7	134.2	129.3	123.0	110.4
Australia	57.2	70.3	141.0	215.0	195.0	242.1	237.3	181.1	123.8
Non-OECD	15.3	12.4	13.6	22.1	29.0	40.8	38.5	28.8	26.8
Europe	70.8	30.8	34.0	76.5	82.7	34.2	56.6	57.9	59.9
Asia/Pacific	8.4	4.2	7.7	8.7	11.1	13.4	20.7	11.5	10.7
Latin America	35.3	40.9	30.0	49.2	50.4	82.5	58.0	57.5	54.1
Unspecified	40.1	38.6	34.8	66.0	99.6	168.2	78.8	87.6	71.4
World total	57.5	51.5	57.1	61.5	66.4	85.8	91.5	75.1	70.3

Note: See Box 1.3 for a comparison of cross-border M&As and FDI statistics.

Source: Thomson Financial.

during the 1990s (Table 3.3 and Annex Table 3.7). European countries accounted for almost 60% of all outward M&As during the period, and Europe has seen a marked increase in M&A activity in recent years. North America accounted for 27% of total outward M&As in the 1990s. Again, the United States (22%), the United Kingdom (10%), France (9%), Germany (9%) and the Netherlands (5%) played a dominant role. These five countries represented almost 55% (USD 1 746 billion) of outward M&As between 1990 and 1999, and also accounted for the major share of inward M&As. This suggests that cross-border M&As, like FDI in general and trade, tend to involve a small group of rich countries. Other developed countries such as Japan and Australia accounted for 5% of total outward M&As between 1990 and 1999.

Unsurprisingly, non-OECD developing countries are relatively less important in terms of outward than of inward M&As, accounting for only 4% (USD 111 billion) of total transaction value during the 1990s (Table 3.3), although their share increased from 2% in 1990 to 7% in 1997. However, the value of outward M&As in non-OECD developing countries decreased to USD 20 billion in 1998 and USD 18 billion in 1999. In particular, outward M&As in the Asian countries affected by the financial crisis dropped to almost half of their 1996 value in the last years of the decade. As a result, the share of non-OECD developing countries in total outward M&As fell to 6% in 1998 and to 2% in 1999.

Table 3.3. **Outward M&As, by region and country**
USD billions

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
OECD total	145.7	79.5	75.5	71.1	118.1	177.5	205.8	277.6	549.0	723.9
Europe	93.3	43.7	50.9	42.7	76.5	93.3	113.9	155.8	352.7	551.8
United Kingdom	26.7	9.5	12.2	19.1	27.0	29.6	37.7	58.7	103.1	213.2
France	21.8	10.6	12.6	6.8	6.6	9.2	15.6	22.8	42.0	93.9
Germany	6.8	6.9	4.6	4.4	7.6	18.7	18.3	13.3	67.8	87.2
Netherlands	5.6	4.3	5.4	2.9	8.7	6.8	12.2	16.4	25.0	48.5
Sweden	12.7	2.5	1.8	1.9	3.1	5.4	2.1	7.8	16.2	11.6
North America	30.9	21.3	17.6	24.8	35.8	72.0	73.3	100.3	183.5	146.9
United States	27.8	17.2	15.2	20.6	29.7	59.6	64.3	83.5	146.8	127.9
Canada	3.1	4.1	2.4	4.2	6.1	12.4	8.9	16.7	36.8	19.0
Asia/Pacific	21.4	14.5	7.0	3.7	5.8	12.2	18.7	21.6	12.7	25.2
Japan	14.9	11.9	4.4	1.1	1.1	3.9	5.7	3.0	2.4	10.0
Australia	3.8	1.5	0.7	1.9	1.8	6.2	9.3	12.0	8.2	10.4
Non-OECD	2.8	2.6	2.3	8.8	3.6	8.2	22.3	22.3	19.6	18.9
Europe	0.0	0.2	0.1	0.2	0.4	0.1	1.2	2.3	1.4	1.1
Asia/Pacific	2.6	2.2	1.6	6.8	2.6	4.6	15.1	13.0	7.9	8.3
Latin America	0.1	0.3	0.6	1.9	0.7	3.4	6.0	7.0	10.3	9.5
Unspecified	4.4	1.2	3.3	2.1	10.0	3.8	4.2	14.0	14.6	48.8
World total	152.7	83.3	81.1	82.0	131.7	189.4	232.2	314.0	583.2	791.6

Source: Thomson Financial.

As in the case of inward M&As, the patterns of outward M&As in relation to FDI outflows differ among countries, again particularly between developed and developing countries (Table 3.4). Among the OECD countries, the value of outward M&As in relation to FDI was higher for the United States and the United Kingdom than for France, Germany and Japan between 1988 and 1999, but the differences are diminishing, except for Japan. The total value of all outward M&As in relation to FDI outflows during the period 1988-99 in OECD countries and non-OECD developing countries was 69% and 30%, respectively. However, cross-border M&As in non-OECD developing countries also increased rapidly in the second half of the 1990s as a share of FDI outflows, an indication that outward M&As are playing an important role in FDI outflows for both developed and developing countries.

Table 3.4. **Ratio of outward M&As to FDI outflows**
Percentage

	1988-93	1994	1995	1996	1997	1998	1999	1994-99	1988-99
OECD total	52.6	48.8	57.9	61.5	68.4	83.7	98.5	76.6	69.2
Europe	51.3	57.1	53.5	55.6	63.0	79.1	103.2	77.2	69.8
United Kingdom	86.6	83.8	67.9	110.8	95.2	86.6	107.0	95.8	93.7
France	51.5	27.3	58.6	51.3	64.2	92.4	86.9	73.3	65.5
Germany	25.4	40.3	48.0	35.9	32.6	74.3	172.4	73.1	60.0
Netherlands	30.9	49.4	33.9	39.1	56.1	48.6	105.8	60.2	51.9
Sweden	57.1	46.6	47.9	44.1	61.5	66.4	59.2	58.2	57.9
North America	67.6	43.3	69.6	75.1	82.2	103.5	87.1	81.4	77.8
United States	60.7	40.6	64.8	76.2	83.9	100.5	84.7	79.2	74.2
Canada	119.0	65.2	108.0	68.2	74.2	117.6	106.9	94.7	100.3
Asia/Pacific	38.5	22.8	42.5	57.9	58.6	39.1	80.5	51.4	44.3
Japan	27.4	6.3	17.5	24.1	11.5	9.9	43.9	19.1	24.0
Australia	120.2	72.6	162.2	153.6	185.4	353.2	289.5	193.6	161.4
Non-OECD	19.1	9.6	17.4	41.1	38.1	69.9	40.4	34.8	29.8
Europe	84.0	86.1	53.0	146.6	80.5	141.5	83.9	102.9	100.0
Asia/Pacific	20.5	8.1	11.6	31.8	30.2	44.7	24.4	24.0	23.0
Latin America	7.2	12.1	51.2	102.0	55.1	109.7	82.0	71.1	42.8
Unspecified	113.8	340.5	93.6	207.3	197.0	454.4	263.7	252.2	220.9
World total	49.6	46.6	53.0	59.4	66.5	84.9	99.0	75.0	67.2

Note: See Box 1.3 for a comparison of cross-border M&As and FDI statistics.

Source: Thomson Financial.

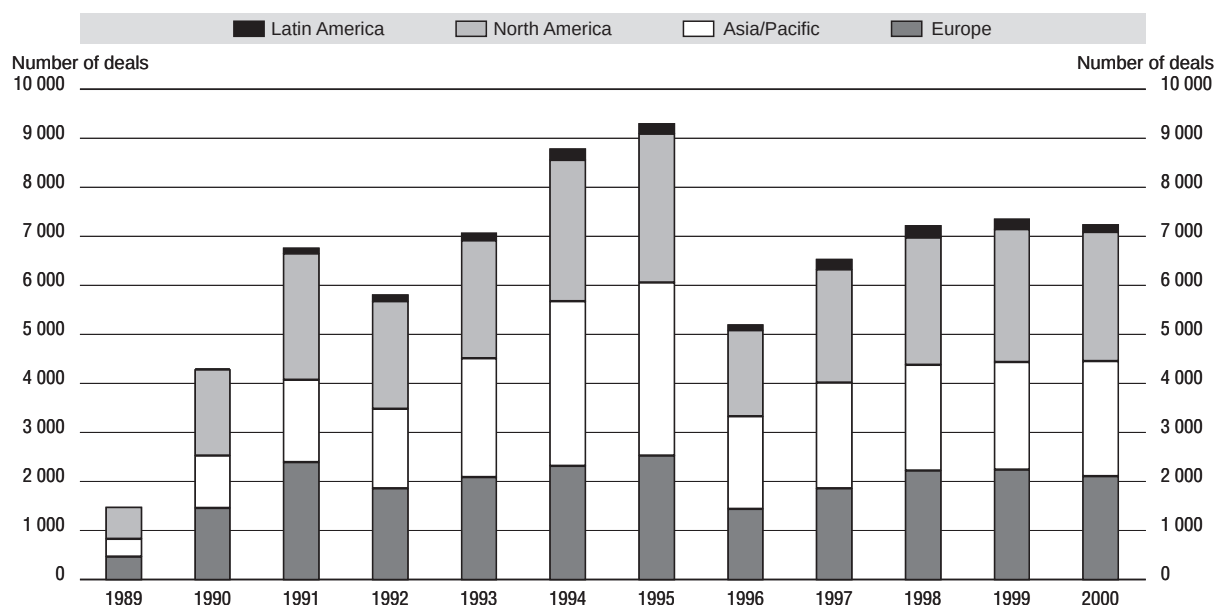
Overview: strategic alliances

Most cross-border strategic alliances involve firms from North America, Asia and Europe (Figure 3.3). North American firms were involved in about 58% of world strategic alliances during 1990-99, while Asian and European firms were involved in 53% and 49%, respectively. Cross-border strategic alliances increased rapidly in Asia in the first half of the 1990s from 1 070 in 1990 to 3 540 in 1995, but then decreased to fewer than 2 210 in 1999. The surge of alliance activity in Asia reflects a rapid increase in alliances involving China, Korea and other Asian countries. For example, the number of strategic alliances involving China increased from 50 in 1990 to 1 000 in 1994 and 810 in 1995, but then decreased to 330 in 1999.

Table 3.5 shows regional relationships in strategic alliances (domestic and cross-border alliances) in the 1990s. The majority (52%) of alliances involving North American firms took place within North America, and North America-Asia alliances and North America-Europe collaborations accounted for 24% and 21%, respectively, of the total. A major part of the difference between total alliances in North America (44 400) and in Asia (25 900) and Europe (23 000) is attributable to differences in the numbers of intra-regional alliances in each area. While there were 9 900 intra-Asia and 7 600 intra-Europe alliances, there were more than 23 200 intra-North American collaborations. For alliance partners, North American firms are the first choice for both Asian and European enterprises, followed by intra-regional alliances.

The purpose of alliances also differs by region (Table 3.5). For example, for manufacturing alliances, the share involving Asian firms has increased significantly for all major regional blocks, partly owing to Asia's role as a world manufacturing centre. For marketing and R&D alliances, North American firms are active, reflecting the region's large markets and its broad technology and research bases. These alliances are also driven by market entry and technology transfer motives. The shares of Asian firms in each of these types of co-operation (54% in total manufacturing alliances, 35% in marketing and 26% in R&D) present a pattern opposed to that of North American firms (47% in manufacturing, 76% in marketing and 85% in R&D alliances). European firms have a more balanced distribution (40% in manufacturing, 30% in marketing and 27% in R&D alliances).

Figure 3.3. Cross-border strategic alliances, by region



Note: For 2000, January to October. See also Annex Table 3.9.

Source: Thomson Financial.

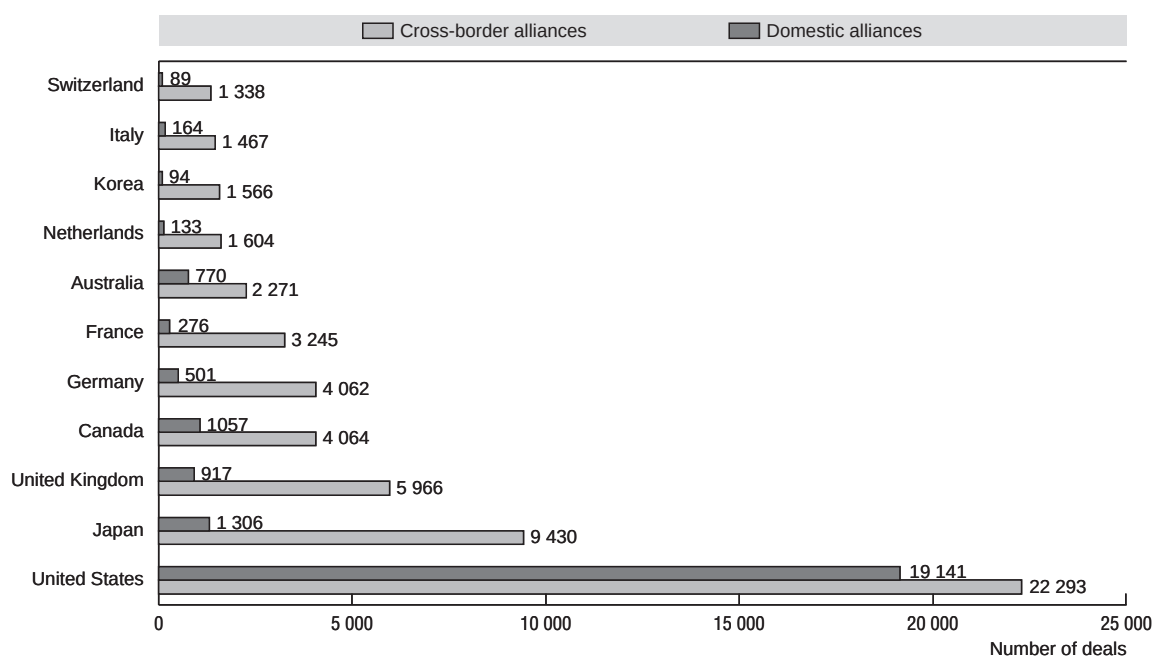
Table 3.5. Regional distribution of alliances partners, 1990-99

	Number of deals			
	Europe	Asia-Pacific	North America	Latin America
<i>a) Total alliances: 68 958</i>				
Europe	7 643	5 414	9 414	378
Asia-Pacific	5 414	9 857	10 480	178
North America	9 414	10 480	23 162	1 083
Latin America	378	178	1 083	182
Total	22 994	25 928	44 367	1 738
<i>b) Manufacturing alliances: 16 885</i>				
Europe	2 213	2 361	1 970	142
Asia-Pacific	2 361	3 722	2 899	67
North America	1 970	2 899	2 829	259
Latin America	142	67	259	46
Total	6 770	9 098	8 008	494
<i>c) Marketing alliances: 18 939</i>				
Europe	1 376	1 257	2 930	74
Asia-Pacific	1 257	1 590	3 720	30
North America	2 930	3 720	7 442	215
Latin America	74	30	215	17
Total	5 681	6 593	14 439	328
<i>d) R&D alliances: 11 077</i>				
Europe	595	481	1 973	13
Asia-Pacific	481	621	1 856	9
North America	1 973	1 856	5 447	47
Latin America	13	9	47	4
Total	3 023	2 923	9 357	67

Note: The figures show intra- or inter-regional alliances. For example, in total alliances, European firms formed 7 643 alliances with European partners (intra-regional alliances) and 5 414 with Asia-Pacific firms (inter-regional).

Source: Thomson Financial.

Figure 3.4. Strategic alliances in OECD countries, 1990-99



Note: See also Annex Table 3.10.

Source: Thomson Financial.

OECD countries accounted for more than 92% of cross-border strategic alliances worldwide during the 1990s. Among OECD countries, firms from the United States, Japan, the United Kingdom, Canada and Germany have the most (Figure 3.4). The extent of domestic or international strategic alliances varies significantly among countries. First, the number of domestic alliances and the size of the national economy are broadly correlated, and there are proportionately more international alliances in small economies than in larger ones. Thus, the United States and Japan, with their significant home markets and broad research base, are less internationally oriented in their alliances than countries such as the Netherlands, Sweden and Korea. Second, countries whose economies are strongly based on external trade relative to their size, such as the Netherlands, Italy, Switzerland and Korea, tend to seek alliance partners at international level. Finally, the national competitive environment and the market structure of different sectors affect alliance patterns. In countries with significant industrial concentration, large firms with a dominant market position tend to prefer international alliances, either because of a lack of domestic partners or because they seek to enter foreign markets. Smaller firms seeking to challenge market leaders tend instead to seek to set up national alliances. In national product markets where concentration is low or competition intense, there are many domestic alliances.

United States

Mergers and acquisitions

Between 1990 and 1999, the United States hosted 32% (USD 852 billion) of inward M&As worldwide (USD 2 641 billion) in terms of transaction value. Firms from European countries were most active in acquiring US firms, accounting for almost 74% of the US inward M&As (US M&A sales) in the 1990s (Table 3.6). European countries have played an ever more important role in US inward M&As in recent years, accounting for 80% of the value of US inward M&As in 1999.

Table 3.6. **US inward M&As, by region and country**
USD billions

	Regions				Countries				
	Europe	Asia-Pacific	Latin America	US total	United Kingdom	Germany	Canada	France	Japan
1990	38.1	11.9	0.8	55.3	14.5	0.7	2.7	11.4	9.4
1991	15.3	12.2	0.0	29.0	2.5	4.3	0.6	4.6	11.2
1992	10.1	4.1	1.0	16.0	2.0	1.8	1.2	3.3	3.6
1993	14.0	2.0	1.2	19.0	9.3	1.9	1.1	1.0	1.2
1994	37.3	2.0	1.1	47.7	20.0	2.5	3.8	2.2	0.5
1995	34.7	6.7	1.9	55.2	13.8	11.1	11.0	2.2	2.3
1996	51.5	9.7	0.6	70.4	19.5	12.5	7.0	6.6	5.7
1997	52.8	11.8	0.4	86.0	13.7	4.7	16.4	8.8	2.0
1998	170.2	6.7	1.2	220.4	85.1	47.3	31.1	13.1	1.0
1999	202.0	5.5	1.4	253.1	110.9	16.3	11.0	22.6	1.1
1990-99	625.9	72.5	9.5	852.2	291.3	102.9	85.9	75.8	37.8

Source: Thomson Financial.

For Europe, firms from the United Kingdom, Germany and France account for the bulk of the increase in US inward M&As during the 1990s. Firms from Canada were also active, particularly in the second half of the decade, reflecting an effort to take advantage of the North American Free Trade Agreement (NAFTA). In contrast, the share of Asian, particularly Japanese, firms decreased rapidly, from 42% in 1991 to 2.2% in 1999.

European and Asian firms target different industries. In the first half of the 1990s, European firms actively acquired US firms in pharmaceuticals, insurance, chemicals and electronic and electrical equipment (Table 3.7). More recently, large-scale cross-border M&As by European firms concentrate on telecommunications, oil and gas, transportation equipment, insurance and pharmaceuticals. Some typical examples include: acquisition of Amoco by British Petroleum (United Kingdom) in the oil industry and the acquisition of Chrysler by Daimler-Benz (Germany) in the automobile industry. In terms of transaction value, the top ten industries accounted for more than 64% of the US inward M&As by European firms in the 1990s. However, in terms of number of deals, business services, computers and machinery, electronic and electrical equipment and wholesale trade are among the most frequent targets of European firms (Annex Table 3.13).

Table 3.7. **Top ten European target industries in the United States**

	Deal value (USD billions)			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Telecommunications	3.8	75.0	78.8	3.3	14.7	12.6
Petroleum	1.0	55.8	56.8	0.9	10.9	9.1
Transportation equipment	0.3	48.1	48.4	0.3	9.4	7.7
Insurance	8.3	35.2	43.6	7.3	6.9	7.0
Pharmaceuticals	15.8	24.2	40.0	13.7	4.7	6.4
Business services	5.8	30.2	36.1	5.1	5.9	5.8
Computers and machinery	2.0	26.7	28.6	1.7	5.2	4.6
Commercial banks	1.8	22.8	24.6	1.6	4.5	3.9
Electronic and electrical equipment	6.0	16.8	22.9	5.3	3.3	3.7
Chemicals	8.0	14.0	22.0	7.0	2.7	3.5
Top ten total	53.0	348.8	401.8	46.1	68.2	64.2
Industry total	114.8	511.1	625.9	100.0	100.0	100.0

Source: Thomson Financial.

In terms of the value of M&A deals, Asian firms tend to acquire US firms in motion pictures, machinery and computers, electronic and electrical equipment, real estate and chemicals (Table 3.8). These industries accounted for 70% of US inward M&As by Asian firms in the 1990s. However, in terms of number of deals, Asian firms, like their European counterparts, showed high interest in such industries as business services, computers and machinery, electronic and electrical equipment and wholesale trade (Annex Table 3.14). Unlike European firms, Asian firms did not acquire many firms in the telecommunications and financial industries.

In general, foreign investment into the United States increasingly reflects a desire by foreign investors to gain access to the advanced and growing technological capabilities of the United States, to integrate operations vertically and to enter new markets (US Department of Commerce, 1999). Foreign investors generally prefer M&As to greenfield investment as an entry mode into US markets so as to take advantage of existing facilities and capacity. Furthermore, many European and Asian firms have acquired high-technology firms in the United States for technology sourcing. During the 1990s, pharmaceuticals and biotechnology were first the most important targets, but later in the decade the focus began to shift to information technology and telecommunications. In fact, inward M&As accounted for 86% of total FDI inflows during the period 1991-98 (Table 3.9) and increased from 86% in 1996, to 87% in 1997 and to 90% in 1998. There were 4 826 inward M&As during the period 1991-98, which accounted for 57% of the total (8 526) during the same period (Table 3.10).

During the 1990s, in terms of transaction value, the United States accounted for 22% (USD 593 billion) of outward M&As (US purchase of M&As) worldwide (USD 2 641 billion). Most were

Table 3.8. Top ten Asian target industries in the United States

	Deal value (USD billions)			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Motion pictures	8.91	0.00	8.91	30.5	0.0	17.6
Computers and machinery	1.43	4.61	6.04	4.9	21.4	11.9
Electronic and electrical equipment	1.49	1.84	3.33	5.1	8.5	6.6
Real estate	1.45	1.71	3.16	5.0	7.9	6.2
Commercial banks	1.70	0.94	2.63	5.8	4.3	5.2
Hotels and casinos	1.36	1.16	2.52	4.7	5.4	5.0
Chemicals	2.13	0.23	2.37	7.3	1.1	4.7
Printing and publishing services	0.04	2.20	2.24	0.1	10.2	4.4
Amusement and recreation	1.84	0.32	2.16	6.3	1.5	4.3
Business services	0.81	1.34	2.15	2.8	6.2	4.2
Top ten total	21.16	14.35	35.50	72.6	66.6	70.0
Industry total	29.16	21.53	50.68	100.0	100.0	100.0

Source: Thomson Financial.

Table 3.9. FDI into the United States, 1991-98
USD billions

		1991	1992	1993	1994	1995	1996	1997	1998	1991-98
M&A investments	USD billions	17.8	10.6	21.8	38.8	47.2	68.7	60.7	180.7	446.3
	Percentage	69.7	69.2	83.0	84.9	82.5	86.0	87.1	89.9	85.7
Greenfield investments	USD billions	7.7	4.7	4.5	6.9	10.0	11.2	9.0	20.3	74.3
	Percentage	30.3	30.8	17.0	15.1	17.5	14.0	12.9	10.1	14.3
Total FDI inflows	USD billions	25.5	15.3	26.2	45.6	57.2	79.9	69.7	201.0	520.6
	Percentage	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: US Department of Commerce, 1999.

Table 3.10. **FDI into the United States, 1991-98**
Number of investments

		1991	1992	1993	1994	1995	1996	1997	1998	1991-98
M&A investments	Number	561	463	554	605	644	686	640	673	4 826
	Percentage	51.4	49.2	56.5	58.4	57.3	59.4	57.6	61.9	56.6
Greenfield investments	Number	530	478	426	431	480	469	472	414	3 700
	Percentage	48.6	50.8	43.5	41.6	42.7	40.6	42.4	38.1	43.4
Total FDI investments	Number	1 091	941	980	1 036	1 124	1 155	1 112	1 087	8 526
	Percentage	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: US Department of Commerce, 1999.

carried out in Europe (Table 3.11), which accounted for more than half of US cross-border M&As and as much as 65% in 1999. Asian and Canadian firms accounted for 14% and 13%, respectively, of US outward M&As during the 1990s, and 20% and 22%, respectively, in 1999.

Table 3.11. **US outward M&As, by region**

	Value (USD billions)					Percentage			
	Europe	Asia-Pacific	North America	Latin America	US total	Europe	Asia-Pacific	North America	Latin America
1990	11.3	3.9	1.5	2.6	27.8	40.9	14.0	5.4	9.3
1991	8.6	2.1	1.7	2.5	17.2	49.7	12.2	9.6	14.4
1992	7.8	1.8	1.9	0.4	15.2	51.4	11.6	12.4	2.7
1993	12.2	1.3	0.9	2.7	20.6	59.1	6.4	4.2	13.0
1994	16.8	1.8	2.8	2.8	29.7	56.7	5.9	9.3	9.4
1995	25.7	8.4	7.8	3.7	59.6	43.1	14.1	13.1	6.2
1996	36.4	6.4	8.6	7.4	64.3	56.6	9.9	13.4	11.5
1997	41.1	14.9	6.6	11.7	83.5	49.1	17.8	8.0	14.0
1998	64.1	18.8	14.5	14.9	146.8	43.7	12.8	9.9	10.1
1999	83.1	25.1	28.4	8.9	127.9	65.0	19.6	22.2	7.0
1990-99	307.0	84.3	74.7	57.5	592.6	51.8	14.2	12.6	9.7

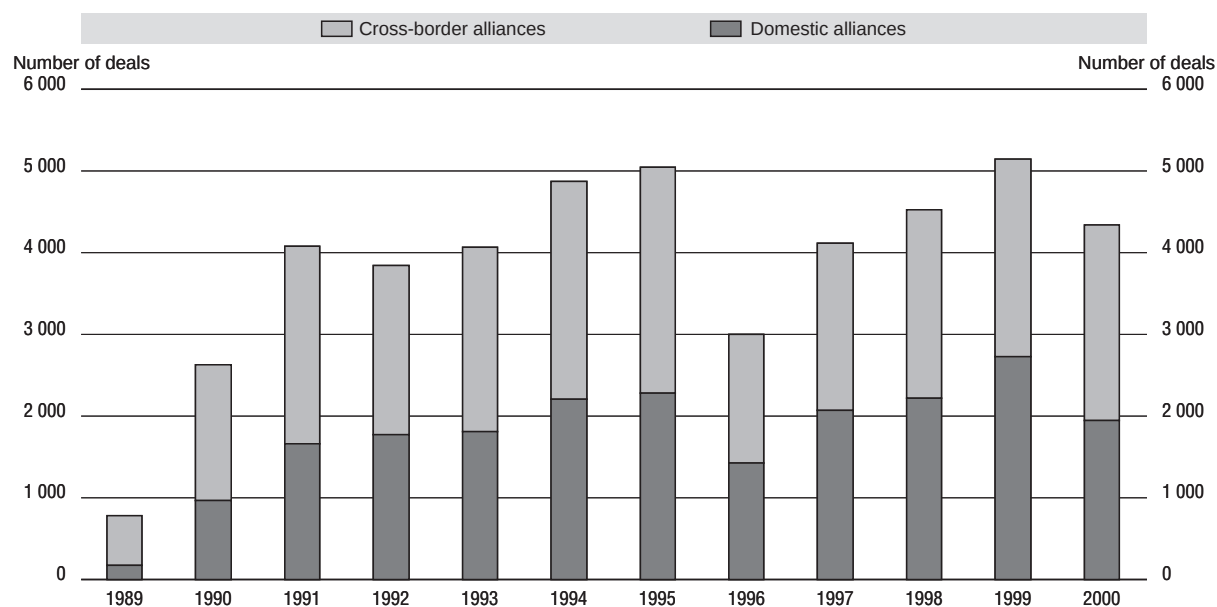
Source: Thomson Financial.

Strategic alliances

The United States accounted for about 60% of total world (cross-border and domestic) strategic alliances in the 1990s. However, US cross-border alliances represented only 53% of world cross-border alliances, as US alliances are more domestic than those of other developed countries (Figure 3.5). Cross-border alliances including foreign partners represent 54% of US total alliances, while domestic alliances involving only US-based companies represent 46%, a figure that is relatively high compared with those of other OECD countries, *i.e.* 12% in Japan, 13% in United Kingdom, and 8% in France (Annex Table 3.10). The reasons for a relatively large share of US domestic alliances include the significant national market in terms of both size and competition, the broad technological and research bases, and the existence of a large number of leading enterprises in various sectors with rich tangible and intangible assets.

As for regional preference, US alliances with Asian and European firms accounted for almost 82% of their total international partnerships (Figure 3.6). Partnerships between US firms and Asian firms fluctuated markedly during the 1990s, increasing rapidly in the first half, from 670 in 1990 to 1 380 in 1994, but then declining. In particular, alliances with China surged in the middle of the 1990s, reaching 227 in 1994. US alliances with Japanese firms tended to decrease in the 1990s, particularly in

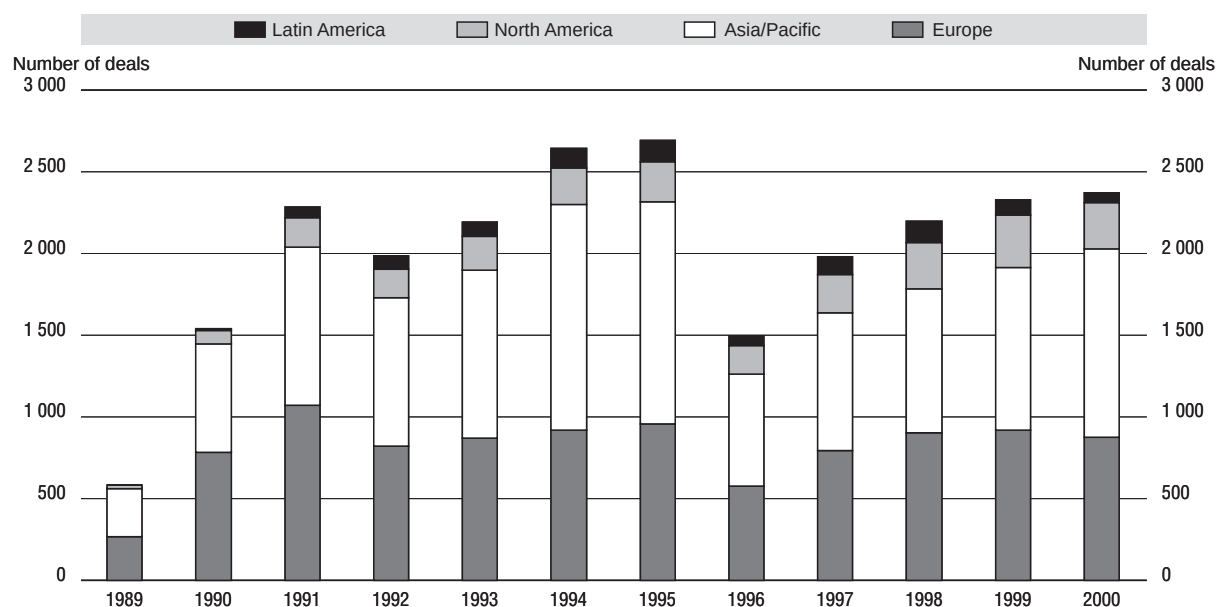
Figure 3.5. Strategic alliances in the United States



Note: For 2000, January to October. See also Annex Table 3.15.

Source: Thomson Financial.

Figure 3.6. US cross-border alliances, by region



Note: For 2000, January to October. See also Annex Table 3.16.

Source: Thomson Financial.

the second half (518 in 1990, 366 in 1999). In contrast, the number of alliances with European firms remained stable. Also notable in the 1990s is a surge in alliances with Canadian and Australian firms. Alliances with Canada increased from 85 in 1990 to 331 in 1999, and those with Australia from 23 to 167. Companies in Japan, the United Kingdom, Canada, Germany and China account for about 55% of US cross-border alliances (Annex Table 3.18).

The patterns of US partnerships differ by region and industry (Table 3.12 and Annex Table 3.21). In manufacturing, cross-border alliances with foreign partners accounted for 62% of all US alliances (cross-border and domestic), with a total of 41 430 deals between 1990 and 1999, while domestic alliances involving only US-based firms represented only 38%. More specifically, US firms teamed up with European partners in aerospace, pharmaceuticals and chemicals and co-operated more frequently with Asian firms, such as Japanese partners in transportation equipment, machinery and electronic and electrical equipment. US firms prefer domestic partners to foreign firms in communication equipment, computers and pharmaceuticals.

Table 3.12. **Share of US cross-border alliances by sector and region, 1990-99**
Percentage

	US-Europe	US-Asia/Pacific	US-US	US-EU	US-Japan	Total US cross-border	Total US alliances
Manufacturing	24.4	28.7	38.5	19.0	15.7	61.5	100.0
Chemicals	30.6	33.5	26.2	24.8	14.5	73.8	100.0
Pharmaceuticals	31.6	14.8	45.9	24.6	10.4	54.1	100.0
Computers and office equipment	15.0	33.4	47.3	12.8	24.3	52.7	100.0
Communications equipment	19.7	23.3	47.7	17.2	14.3	52.3	100.0
Electronic and electrical equipment	14.8	40.7	40.0	12.9	27.0	60.0	100.0
Transportation equipment	28.6	43.9	20.2	20.3	18.2	79.8	100.0
Machinery	26.7	42.4	25.1	19.0	23.7	74.9	100.0
Aerospace	37.1	33.3	24.2	23.9	11.4	75.8	100.0
Services	18.2	20.2	52.0	15.4	10.4	48.0	100.0
Trade	18.3	27.6	45.2	15.0	19.5	54.8	100.0
Financial services	20.7	20.8	47.6	17.4	7.2	52.4	100.0
Business services	18.4	16.4	55.9	15.8	7.3	44.1	100.0
Software	13.0	14.6	65.3	12.1	10.2	34.7	100.0
Telecommunications	22.0	24.3	40.9	16.8	8.5	59.1	100.0
Transportation and utility	24.6	24.8	37.8	20.2	6.6	62.2	100.0
Industry total	20.8	23.5	46.2	16.9	12.4	53.8	100.0

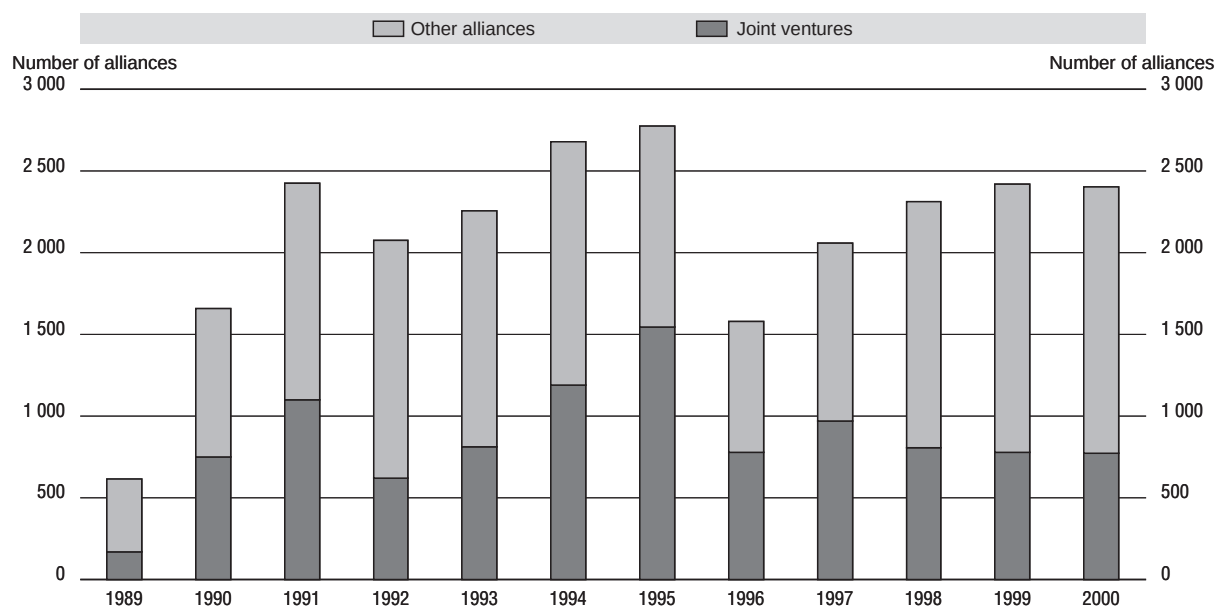
Source: Thomson Financial.

However, in services, US firms generally chose domestic partners for more than half of their services sector alliances during the 1990s. This is particularly the case for software and business services, whereas European and Asian partners are often sought in other services sectors, such as transportation, telecommunications and trade.

In terms of types of partnerships, about 42% of the US cross-border alliances during the 1990s were joint ventures (Figure 3.7). This implies that most alliances involving US firms are non-equity alliances (co-operative R&D agreements, joint production and marketing agreements, technology sharing, etc.) The share of joint ventures in US international alliances fluctuated from year to year, with a slight decrease in recent years.

Marketing alliances accounted for 33% of US international alliances in the 1990s, while manufacturing and R&D alliances represented 23% and 19%, respectively (Figure 3.8). US alliances are more oriented to R&D than those of other countries (the world average is 13% of total alliances). Their international orientation also varies according to the purpose of the alliance (Annex Table 3.17). For manufacturing alliances, US firms prefer foreign partners to domestic firms; however, they prefer domestic partners for marketing alliances and, in particular, for R&D alliances.

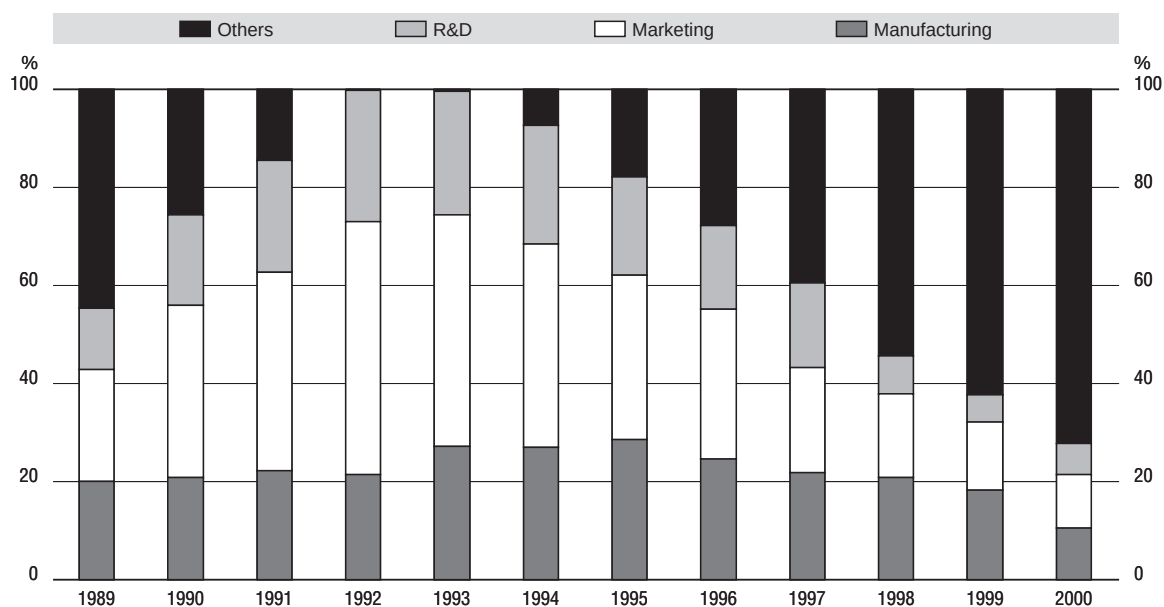
Figure 3.7. US cross-border alliances, by type



Note: For 2000, January to October. See also Annex Table 3.15.

Source: Thomson Financial.

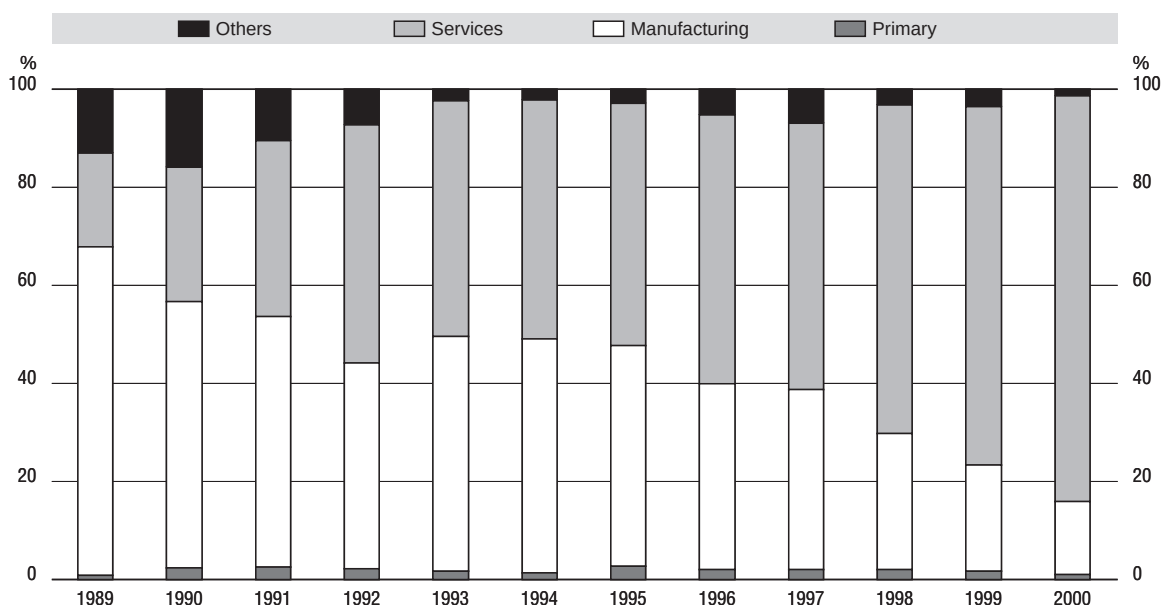
Figure 3.8. US cross-border alliances, by purpose



Note: For 2000, January to October. See also Annex Table 3.17.

Source: Thomson Financial.

Figure 3.9. US cross-border alliances, by sector



Note: For 2000, January to October. See also Annex Tables 3.19 and 3.20.

Source: Thomson Financial.

Alliances involving American manufacturing firms accounted for about 41% of total US cross-border alliances during the 1990s, while services and the primary sector represented 51% and 2%, respectively (Figure 3.9). In the manufacturing sector, strategic alliances were concentrated in relatively few industries; pharmaceuticals, electronic and electrical equipment, chemicals, communications and computer equipment, transportation equipment, and machinery accounted for more than 65% of manufacturing alliances (Annex Tables 3.19 and 3.20). These are industries with substantial operating risks, high entry costs and rapidly changing technology. However, there are more and more alliances in services. The share of manufacturing firms in US cross-border alliances decreased from 55% in 1990 to 22% in 1999, while that of service firms increased from 27% to 73%. The increase in the latter is due primarily to surges in alliance activity in the business services, software, trade and financial service industries.

Europe

Mergers and acquisitions

Between 1990 and 1999, European countries absorbed 46% (USD 1 202 billion) of total inward M&As (USD 2 641 billion) in terms of transaction value. The bulk of these M&As were undertaken by other European countries (Table 3.13), and European countries accounted for 65% of European inward M&As (European M&A sales) over the 1990s and 72% in 1999. France, the United Kingdom and Germany are the most active acquirers, with almost two-thirds of the transactions over the period. North American firms accounted for 28% and Asian countries, particularly Japan, saw their share decrease from 13% in 1990 to 4% in 1999.

European acquisitions by European firms focus on services (*e.g.* telecommunications, insurance, commercial banks) and high-technology industries (*e.g.* chemicals, drugs), although the sectoral distribution of European M&A transactions changed over the last decade (Table 3.14). The top ten industries accounted for 58% of the value of European acquisitions by European firms. In the first half of the 1990s, most large-scale European acquisitions in Europe were in insurance, food, transportation

Table 3.13. **Europe inward M&As, by region and country, 1990-99**
USD billions

	Regions				Countries				
	Europe	North America	Asia/Pacific	Total	United States	France	United Kingdom	Germany	Japan
1990	45.2	11.7	8.6	68.5	11.3	11.7	5.9	5.6	4.2
1991	24.4	11.3	4.0	40.7	8.6	7.2	4.8	2.0	1.9
1992	36.3	8.1	1.1	49.9	7.8	8.9	8.6	2.7	0.3
1993	25.1	13.2	1.5	41.3	12.2	5.8	8.7	3.9	0.0
1994	39.0	17.8	1.6	59.8	16.8	4.8	10.2	6.1	0.2
1995	53.9	27.2	2.7	85.9	25.7	10.0	9.2	12.1	1.0
1996	48.0	37.3	8.7	96.5	36.4	8.6	6.3	5.6	0.7
1997	83.9	44.1	6.3	139.4	41.1	14.1	24.8	9.8	1.7
1998	137.4	77.6	9.8	229.5	64.1	25.9	19.8	16.0	4.9
1999	282.2	83.9	14.7	390.1	83.1	70.3	62.5	69.7	9.3
1990-99	775.5	332.1	59.0	1 201.6	307.0	167.2	160.9	133.4	24.1

Source: Thomson Financial.

Table 3.14. **Top ten European target industries in Europe**

	Deal value (USD billions)			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Insurance	19.76	60.08	79.84	11.6	9.9	10.3
Telecommunications	1.36	78.11	79.46	0.8	12.9	10.2
Chemicals	8.86	46.79	55.65	5.2	7.7	7.2
Pharmaceuticals	3.88	49.88	53.76	2.3	8.2	6.9
Commercial banks	8.81	34.66	43.47	5.2	5.7	5.6
Food and kindred products	18.06	18.84	36.90	10.6	3.1	4.8
Petroleum	6.20	20.13	26.32	3.6	3.3	3.4
Investment and commodity firms	4.54	21.35	25.89	2.7	3.5	3.3
Electricity and gas distribution	1.41	23.26	24.67	0.8	3.8	3.2
Electronic and electrical equipment	8.77	15.63	24.40	5.2	2.6	3.1
Top ten total	81.64	368.73	450.37	48.0	60.9	58.1
Industry total	169.98	605.48	775.45	100.0	100.0	100.0

Source: Thomson Financial.

equipment, electronic and electrical equipment. However, in the second half of 1990s, European firms turned more to telecommunications, insurance, chemicals, drugs and commercial banks. Excess capacity in banking services in Europe and in the automobile industry worldwide are major factors driving M&As activities and concentration in these industries in Europe. M&A activity in telecommunications instead is motivated by the anticipated increase in demand and greater competition. In terms of the number of transactions, European firms actively acquired other European firms in such industries as food, business services, computers and machinery, wholesale trade and metal and metal products (Annex Table 3.24).

The telecommunications sector is an important driver for European M&As. The first round of consolidation in this sector was driven by the need to increase scale to compete with American providers, by the importance of reaching new regions and exploiting Europe's large mobile markets (*e.g.* Italy) as a result of EU telecommunications deregulation, by the fact that former state-run monopolies were forced to create value by embracing international investors and by the knock-on effect of large-scale merger deals that forced smaller companies into defensive mergers. In the telecommunications sector, rapid technological change, coupled with the need to fuse content and delivery, may drive another round of consolidation. However, recent fluctuations on Europe's stock markets have caused a slowdown in M&A activity in this sector.

Europe's financial services industry is also restructuring. In the wake of the euro's introduction, governments across continental Europe sought to create national banking champions through domestic consolidation. However, the race for scale led to hostility among competitors and a number of high-profile mergers failed to take place, including the Deutsche-Dresdner deal. Institutions are not very convinced that cross-border banking mergers will create value, especially when they are hostile. European banks are more likely to seek alliances than form like-for-like mergers.

European acquisitions by American firms lean towards electricity and gas, business services, food, investment banks and transportation equipment industries (Table 3.15). Between 1990 and 1999, the top ten industries accounted for 58% of the value of European acquisitions by American firms. In the first half of the decade, US acquisitions in Europe were concentrated in the food and business service industries, while more recent acquisitions involve electricity and gas, business services and transportation equipment. This partly reflects the effort by MNEs to take advantage of new opportunities created by the liberalisation and restructuring of Europe's energy market. In terms of the number of M&A transactions, business services, computers and machinery, electronic and electrical equipment and wholesale trade are among the industries most frequently targeted by American firms (Annex Table 3.25).

Over the 1990s, European countries represented almost 60% (USD 1 576 billion) of the value of world outward M&As (USD 2 641 billion). Most European outward M&As (European M&A purchases) involved Europe and North America (Table 3.16), which accounted for 49% and 41%, respectively. In the

Table 3.15. Top ten US target industries in Europe

	Deal value (USD billions)			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Electricity and gas distribution	1.26	37.29	38.55	2.2	14.9	12.6
Business services	5.44	23.40	28.84	9.6	9.3	9.4
Food and kindred products	9.42	6.92	16.34	16.6	2.8	5.3
Investment and commodity firms	3.36	12.27	15.63	5.9	4.9	5.1
Transportation equipment	1.77	12.88	14.65	3.1	5.1	4.8
Telecommunications	3.32	10.97	14.29	5.8	4.4	4.7
Computers and machinery	2.65	11.55	14.20	4.7	4.6	4.6
Metal and metal products	1.26	10.36	11.61	2.2	4.1	3.8
Retail trade (food stores)	0.30	10.98	11.28	0.5	4.4	3.7
Pharmaceuticals	1.32	9.89	11.21	2.3	4.0	3.7
Top ten total	30.10	146.50	176.60	53.1	58.5	57.5
Industry total	56.72	250.30	307.03	100.0	100.0	100.0

Source: Thomson Financial.

Table 3.16. European outward M&As by region

	Deal value (USD billions)					Percentage			
	Europe	North America	Asia-Pacific	Latin America	Total	Europe	North America	Asia-Pacific	Latin America
1990	45.2	41.9	2.6	6.8	93.3	48.4	44.9	2.8	7.3
1991	24.4	16.9	1.3	0.6	43.9	55.7	38.6	2.9	1.5
1992	36.3	10.8	2.2	1.3	51.0	71.2	21.1	4.3	2.6
1993	25.1	14.5	3.0	1.0	42.6	59.0	34.1	6.9	2.3
1994	39.0	38.7	1.7	2.8	76.9	50.7	50.3	2.2	3.6
1995	53.9	38.1	12.4	2.1	93.4	57.7	40.8	13.2	2.3
1996	48.0	53.4	12.6	6.1	112.0	42.9	47.7	11.3	5.4
1997	83.9	55.4	5.7	18.0	158.1	53.1	35.1	3.6	11.4
1998	137.4	171.9	12.4	32.6	352.1	39.0	48.8	3.5	9.3
1999	282.2	203.5	24.0	34.0	553.0	51.0	36.8	4.3	6.2
1990-99	775.5	645.1	77.7	105.5	1 576.2	49.2	40.9	4.9	6.7

Source: Thomson Financial.

second half of the decade, European countries acquired more Asian and Latin American firms, reflecting their desire to strengthen their positions in these fast-growing regions.

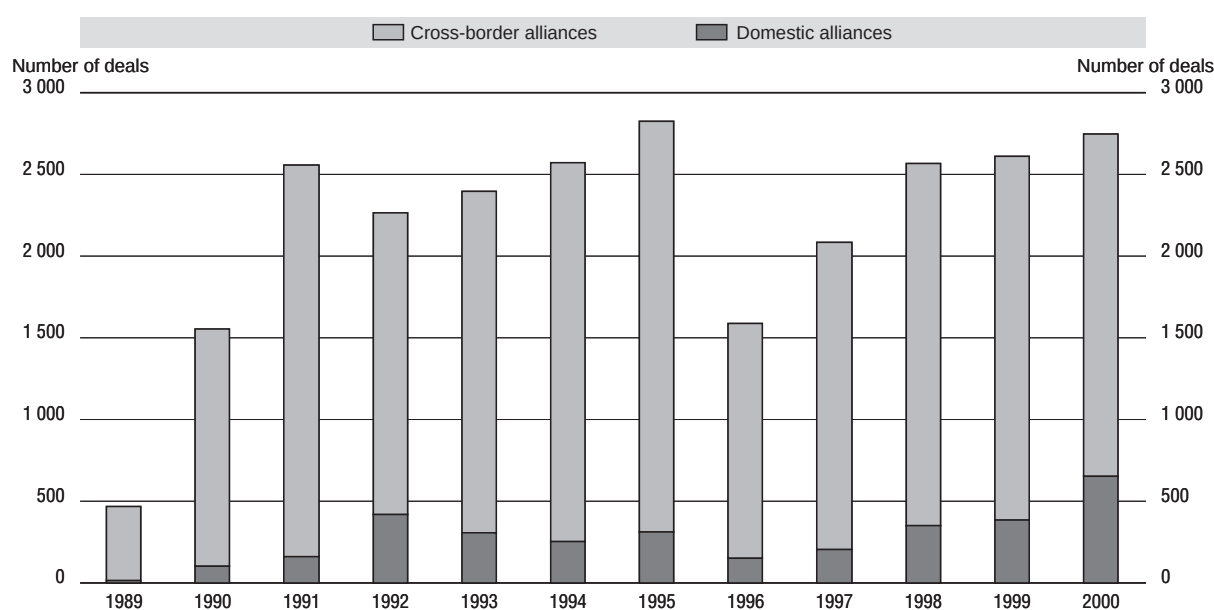
Strategic alliances

In the 1990s, European firms participated actively in cross-border alliance activities, accounting for 33% of world cross-border strategic alliances over the decade. More than 85% of European cross-border alliances involved EU countries, including the United Kingdom, Germany, France and the Netherlands (Annex Table 3.9). European firms chose foreign partners for various kinds of partnerships in manufacturing, marketing and R&D alliances in almost 90% of cases, a much higher share than for the United States (54%) (Figure 3.10). In terms of regional preference, American partners accounted for 42% of European firms' international partnerships between 1990 and 1999, while partnerships with Asian firms and intra-European alliances represented 27% and 25%, respectively (Figure 3.11 and Annex Table 3.27).

The patterns of European partnerships with foreign partners differ according to industry and region (Table 3.17). The choice of American partners is particularly clear in pharmaceuticals, computers and software as well as in business services and communications equipment. For computers and software, intra-European alliances are very rare because European firms also team up with Japanese partners. European firms co-operate most frequently with Asian partners in chemicals, electronic and electrical equipment and transportation equipment. Intra-European alliances often took place in aerospace, transportation equipment, telecommunications and transportation services.

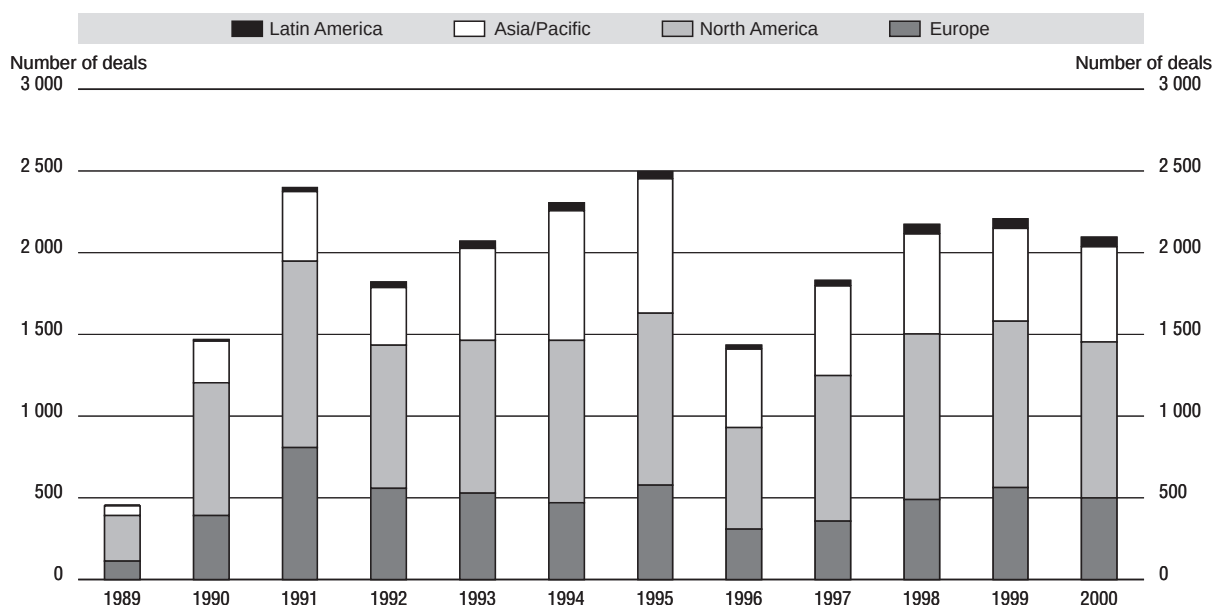
The electronics and information technology sectors are interesting, because European governments and the EU have devoted a substantial share of their innovation policy funds to intra-regional co-operative R&D in these areas, yet intra-European alliances represent a small share of technological alliances (Annex Tables 3.33 and 3.34). European innovation policies began to support intra-European co-operative R&D at the beginning of the 1980s. This support grew in the second half of the decade when the Single Market was being implemented and the number of intra-European M&As

Figure 3.10. Strategic alliances in Europe



Note: For 2000, January to October. See also Annex Table 3.26.
Source: Thomson Financial.

Figure 3.11. European cross-border alliances, by region



Note: For 2000, January to October. See also Annex Table 3.27.

Source: Thomson Financial.

and alliances increased substantially. Differences in national systems of innovation and firms' technological capacities also explain the choice of extra-EU partners in European firms' catch-up strategies in the 1990s. European pharmaceutical groups have teamed up with American partners in biotechnology, while European firms have entered into various types of co-operative arrangements with both American and Japanese firms in information technologies.

Table 3.17. European cross-border alliances, by sector and region, 1990-99

	Percentage					
	Europe-North America	Europe-Asia/Pacific	Europe-Europe	Europe-United States	Europe-Japan	Europe total
Manufacturing	41.8	30.7	24.7	38.2	9.5	100.0
Chemicals	30.3	42.1	21.7	28.6	11.1	100.0
Pharmaceuticals	71.7	16.7	10.8	66.3	8.6	100.0
Computers and office equipment	72.1	19.5	9.1	69.5	12.8	100.0
Communications equipment	51.2	24.2	24.2	45.6	5.9	100.0
Electronic and electrical equipment	38.6	41.0	20.1	34.9	17.1	100.0
Transportation equipment	22.4	40.7	33.4	20.5	12.0	100.0
Machinery	36.2	36.1	26.7	33.6	11.8	100.0
Aerospace	36.5	25.9	34.0	34.8	5.3	100.0
Services	51.2	22.3	24.3	47.6	7.1	100.0
Trade	50.0	23.7	24.0	46.6	11.4	100.0
Financial services	43.9	23.1	29.2	40.5	4.9	100.0
Business services	62.3	19.3	17.1	58.1	5.9	100.0
Software	82.0	11.4	7.5	77.6	6.9	100.0
Telecommunications	46.4	24.9	30.6	43.4	7.9	100.0
Transportation and utilities	34.3	26.2	34.3	31.2	5.1	100.0
Industry total	46.3	26.6	24.5	42.3	8.2	100.0

Source: Thomson Financial.

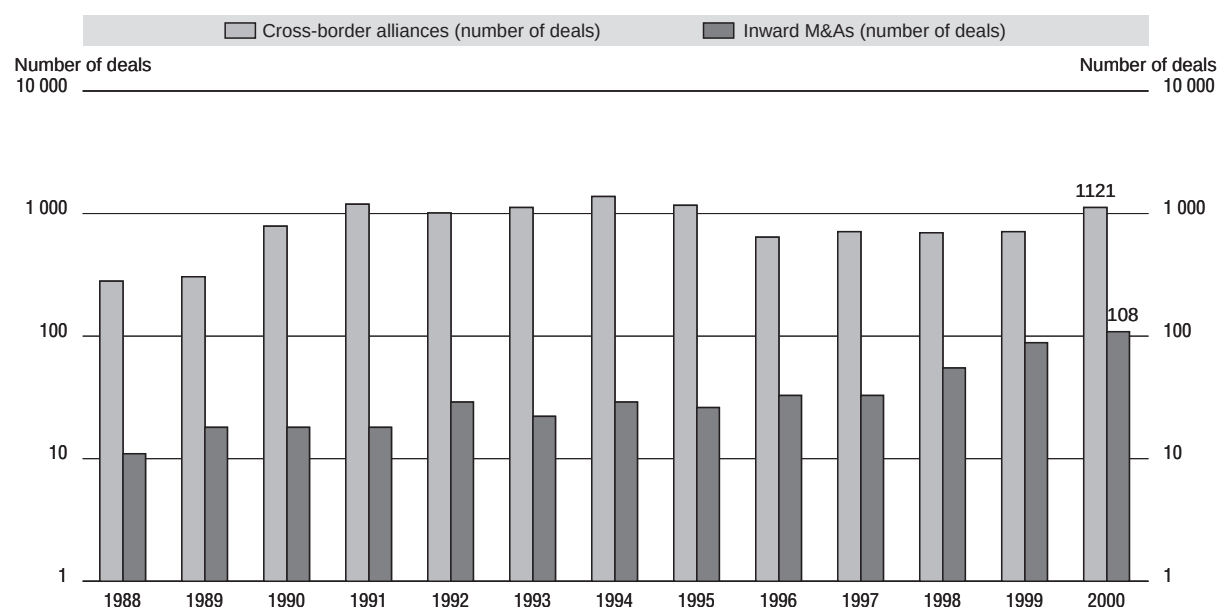
Japan

The number of strategic alliances and M&As (both domestic and international) involving Japanese firms is increasing rapidly, and 2000 marked the highest level in Japanese history. During the period 1995-99, M&As more than doubled to reach over 1 000 in 1999, and there were more than 1 600 deals in 2000 (RECOF, 2001). In Japan, where corporate managers have maintained a cautious attitude towards accepting foreign capital (inward M&As), there are fewer mergers than cross-border alliances, partly because alliances such as joint ventures and minority equity holdings have fewer implications for corporate control by a foreign firm (*i.e.* an acquiring partner) than M&As (Figure 3.12). However, as a result of prolonged recession and lower domestic demand as well as intense global competition, many Japanese enterprises are seeking business partners with complementary intangible assets and financial resources.

Several factors contribute to recent increase in inward M&As and alliances involving Japanese firms. First, the accelerating consolidation of the financial sector is weakening the *keiretsu* system which supported large corporate groups on the basis of a web of cross-share holdings. Recent cross-*keiretsu* marriages include the Mitsui Trust/Chuo Trust merger agreed in May 1999, the consolidation of Dai-Ichi Kangyo Bank, Fuji Bank and the Industrial Bank of Japan in August 1999 and the Sumitomo Bank/Sakura Bank merger in October 1999. These banks no longer provide low-cost capital to troubled firms in the same *keiretsu*, which may now need to join with competitors or foreign firms. Cross-*keiretsu* consolidation in the financial sector also accelerates the rearrangement of long-standing vertical and horizontal supply chains and firm networks based on intra-*keiretsu* contracts, and new cross-*keiretsu* supplier networks and alliances are emerging. Renault's one-third acquisition of Nissan in May 1999 is an example of a financially constrained Japanese automobile manufacturer which sought financing from a foreign partner rather than from a domestic bank.

Second, the introduction of tighter accounting rules to meet international standards makes corporate balance sheets more transparent for shareholders. These require firms to include information on related companies, including loss-making affiliates, and to value security holdings at market prices

Figure 3.12. Japanese firms' cross-border alliances and inward M&As, 1988-2000



Note: The number of cross-border alliances involving Japanese firms and foreign acquisitions of Japanese firms. The data for 2000 are for the full year.

Source: Thomson Financial.

rather than at book value. Japanese firms are being forced to restructure or spin off insufficiently profitable businesses and to remove financial assets that could weaken their balance sheet. Forming alliances with domestic and foreign companies is another way for a firm to strengthen its financial position and add shareholder value.

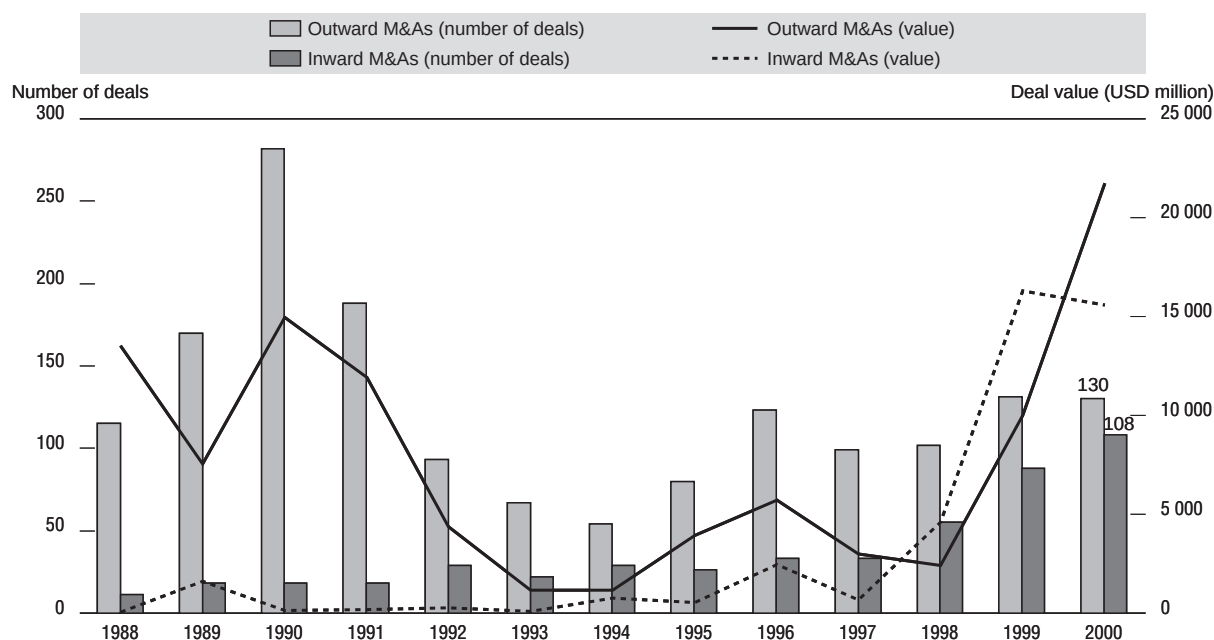
Third, a series of amendments to Japan's Foreign Exchange Law since 1980 have liberalised cross-border capital transactions with the result that direct investment from abroad tripled in the last several years. In 1998, inward investment in Japan was twice that of the previous year and the 1999 figure (JPY 2 400 billion from April 1999 to March 2000) was more than three times as that of 1997 (Ministry of Finance, 2001). Although inward investment is still low in Japan compared to other OECD countries, Western firms such as GE Capital (United States), Bosch (Germany), Carrefour (France) and Cable and Wireless (United Kingdom) are investing in Japan and raising the level of competition in the domestic market. This, too, is prompting Japanese firms to enter into a greater number of alliances and mergers.

It is too soon to say if this trend marks a fundamental change, with Japanese corporate behaviour becoming more open to link with foreign firms. For example, in the automotive industry, while companies like Nissan, Mazda and Mitsubishi have put themselves in the hands of foreign partners (*i.e.* Renault, Ford and DaimlerChrysler), companies such as Toyota have prepared for competition by strengthening their strategic ties with Japanese partners such as Daihatsu Motor (a small vehicle producer) and Hino Motors (a truck maker).

Mergers and acquisitions

Japanese firms actively acquired foreign firms in the late 1980s and early 1990s, and outward M&As have risen again in recent years (Figure 3.13). In 1996, the number of outward M&As surpassed 100, and there were 130 deals totalling USD 21.7 billion in 2000, more than twice the 1999 figure in value terms.

Figure 3.13. Cross-border M&As involving Japanese firms, 1988-2000



Note: Outward M&As = Japanese firms' acquisitions of foreign firms outside Japan. Inward M&As = foreign acquisitions of Japanese firms in Japan. The data for 2000 are for the full year.

Source: Thomson Financial.

At the same time, foreign acquisitions of Japanese firms are also growing; the number of inward M&As exceeded 50 in 1998, and 108 deals totalling USD 15.6 billion were completed in 2000. There were only a small number of inward M&As prior to the middle of the 1990s, but in 1998 and 1999, the value of inward M&As (USD 4.6 billion and USD 16.3 billion, respectively) was greater than that of outward acquisitions. In fact, many large foreign acquisitions took place in these two years (Table 3.18). During the period 1998-2000, foreign acquirers' target industries were automobiles (transportation equipment) and electronics in manufacturing and finance, telecommunications and business services in the services sector (Annex Table 3.35). Foreign acquisitions in services, the finance sector in particular, are quite visible in recent years. From 1998 to 2000, there were 48 acquisitions of Japanese financial institutions by foreign firms totalling USD 17.9 billion, half of the total deal value during the period.

US firms have dominated acquisitions of Japanese firms throughout the 1990s. From 1995 to 1999, the United States was always the top acquirer country, accounting for 60% of total deal value over the period (Annex Table 3.36). The United Kingdom has also been a major investor in Japanese firms. In recent years, other EU countries, such as France, Germany and Netherlands, have increased their investment. French and German companies acquired only a few Japanese firms in the first half of the 1990s, but they have been involved in more acquisitions recently. Dutch company take-overs of Japanese firms in the second half of the decade were ten times as many as in the first half in value terms.

As for Japanese firms' acquisitions of foreign firms, major target regions were North America and EU countries in the early 1990s, but acquisitions of US firms significantly decreased in the latter half of the decade, and Japanese companies obtained more Asian firms (Figure 3.14). During the first half of

Table 3.18. **Top cross-border M&As in Japan, 1988-2000**
USD millions

Acquirer company	Country	Target company	Sector	Year	Value	Share (%) ¹
1. GE Capital	US	Japan Leasing Corp.	Finance	1999	6 565.6	100.0
2. Renault SA	France	Nissan Motor Co.	Automobiles	1999	4 910.5	36.8
3. Exxon Mobil Corp.	US	Tonen Corp.	Oil refinery	2000	2 556.3	100.0
4. GE Financial Assurance	US	Toho Mutual Life ²	Finance (insurance)	2000	2 323.7	100.0
5. AXA	France	Nippon Dantai Life Insurance	Finance (insurance)	2000	1 954.4	95.0
6. DaimlerChrysler AG	Germany	Mitsubishi Motors Corp.	Automobiles	2000	1 925.8	34.0
7. AT&T, British Telecom	US, UK	Japan Telecom Co Ltd.	Telecommunications	1999	1 833.7	30.0
8. Ripplewood holdings and others	US	Long Term Credit Bank of Japan	Finance	2000	1 150.0	100.0
9. Travelers Group Inc.	US	Nikko Securities Co Ltd.	Finance	1998	1 079.9	15.5
10. General Motors Corp.	US	Fuji Heavy Industries Ltd.	Automobiles	2000	1 051.6	20.0
11. Associates First Capital Corp.	US	DIC Finance	Finance	1998	994.8	90.0
12. Microsoft Corp	US	Titus Communications Corp.	Cable TV	2000	944.8	60.0
13. Cable and Wireless PLC	UK	International Digital Communications	Telecommunications	1999	699.4	97.6
14. Manulife Financial Corp.	Canada	Daihyaku Mutual Life Insurance ²	Finance (insurance)	1999	697.8	100.0
15. Glaxo Wellcome PLC	UK	Nippon Glaxo ³	Pharmaceuticals	1996	605.4	100.0
16. Ford Motor Co.	US	Mazda Motor Corp.	Automobiles	1996	481.8	33.4
17. General Motors Corp.	US	Isuzu Motors Ltd.	Automobiles	1999	452.3	49.0

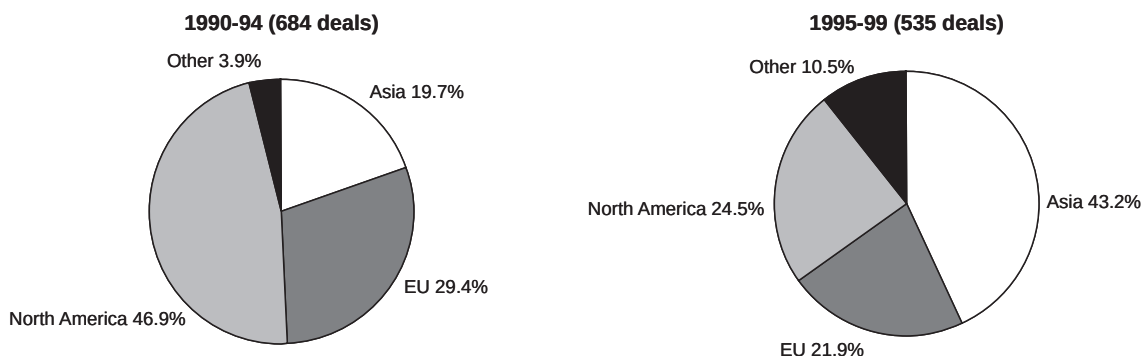
1. Share = total shares of the target held by the acquirer after the transaction.

2. Both Toho Mutual Life and Daihyaku Mutual Life Insurance went bankrupt and ceased to exist. GE Edison Life (GE Financial Assurance) took over all Toho's contracts in March 2000, and Manulife Century (Manulife Financial) is scheduled to take on all Daihyaku's contracts by April 2001.

3. Glaxo Wellcome fully acquired Nippon Glaxo, which was formerly a joint venture with a Japanese partner.

Source: Thomson Financial and each company's press releases.

Figure 3.14. Japanese firms' preferred region in cross-border M&As, 1990-99



Note: Asia includes Australia and New Zealand.
Source: Thomson Financial.

the 1990s, there were more than 300 acquisitions of US firms, but only 124 in the latter half. The number of acquisitions of firms in EU countries, such as the Netherlands, the United Kingdom, Italy, France, Germany and Spain, also decreased during the same period. On the other hand, acquisitions of firms in Asia, such as the Philippines, Thailand, Korea, China, Malaysia and India, more than doubled (Annex Table 3.37). This partly reflects the fact that some Japanese firms sought less valued Asian firms in countries affected by the region's financial crisis.

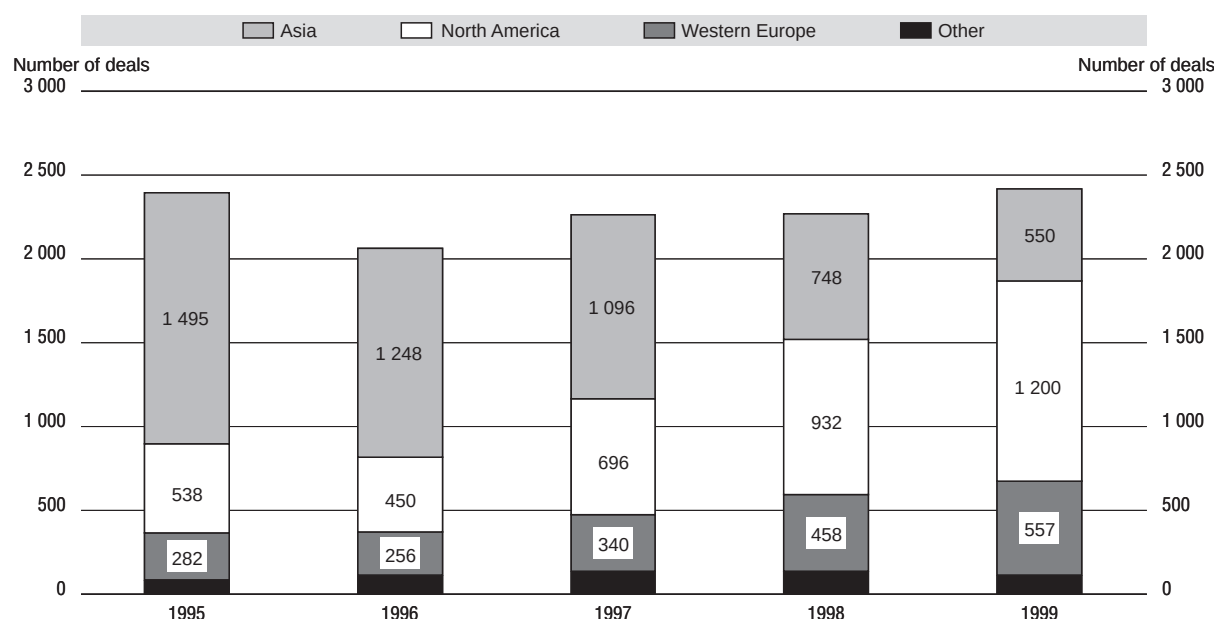
In Asia, while Japanese firms' acquisitions in the food sector decreased, deals in transportation equipment, electronics, chemicals and machinery (manufacturing) and telecommunications, finance and business services (services) are growing (Annex Table 3.38). There were few acquisitions of Asian telecom companies during the first half of the 1990s, but ten deals totalling USD 640 million were completed in the second half. Acquisitions of Asian financial institutions doubled from 16 deals totalling USD 294 million to 32 totalling USD 457 million.

There were fewer acquisitions of US firms by Japanese firms in almost all sectors in the latter half of the 1990s (Annex Table 3.39). Japan invested more in computer equipment (manufacturing) and business services, USD 2.6 billion and USD 1 billion in the latter half of the decade, but there were fewer acquisitions in these sectors than in the first half of the period. The number of deals in the finance sector decreased from 20 to 14 and from USD 3.4 billion to USD 1.6 billion, respectively, during the first and second halves of the 1990s. In EU countries, the number of Japanese firms' acquisitions in the 1995-99 period was half that of the first half of the decade, while the total deal value doubled from USD 5.1 billion to USD 10.3 billion (Annex Table 3.40). Major target sectors are electronics, machinery and chemicals in manufacturing, and wholesale in services. Japanese firms acquired many wholesalers, *i.e.* distributors for their products, throughout the 1990s. There were only a small number of acquisitions in the finance sector, seven deals from 1995 to 1999.

Strategic alliances

According to statistics from the Japan External Trade Organisation (JETRO), Japanese firms entered into 2 420 international alliances in 1999; these have slightly increased in recent years (Figure 3.15). About 95% of these alliances are co-operation agreements with firms in Asia, North America and Western Europe. In 1995, more than half of these alliances were with Asian partners, but in 1999 North American firms accounted for the largest share (50%). For Japanese enterprises, US firms were the most popular partner in 1999 (around 1 200 alliances) followed by China, Germany, the United Kingdom, Korea, France, Chinese Taipei and Thailand. As for types of alliances, technology exchange arrangements were common with Western firms while joint ventures were prominent in alliances with Asian firms (Figure 3.16). However, joint

Figure 3.15. Cross-border alliance deals of Japanese firms, by region



Note: "Alliance deals": the total of technology exchange arrangements and joint ventures.

"Asia": the number of alliances between Japanese and Asian firms.

Source: JETRO (1999, 2000).

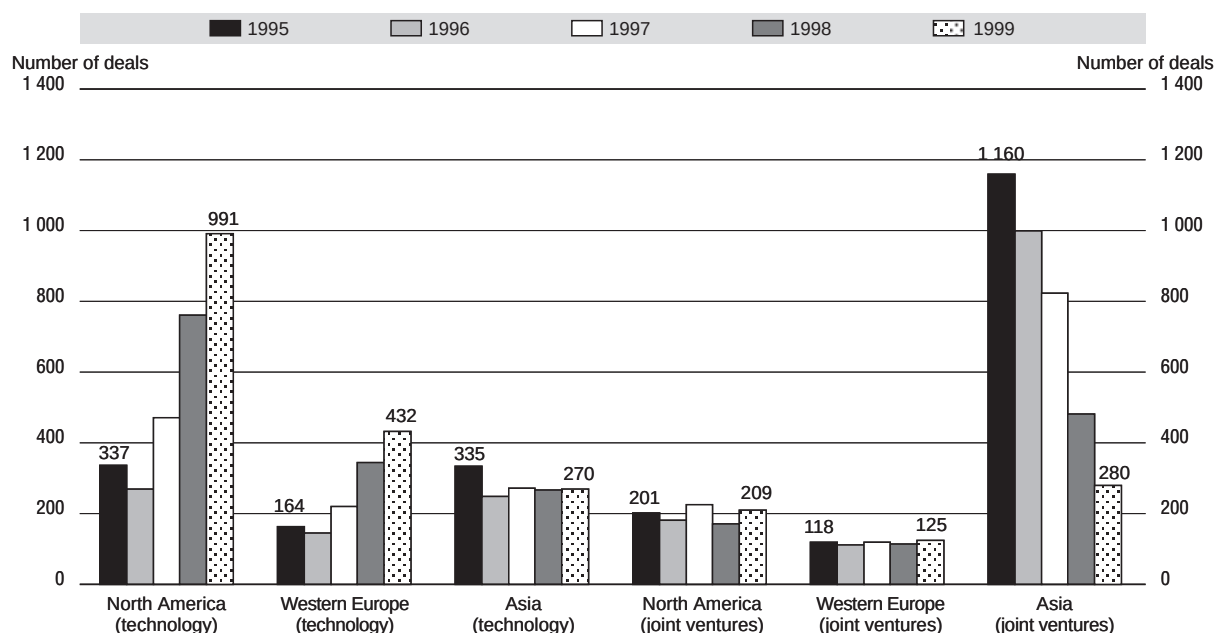
ventures between Japanese and Asian companies decreased from 1 160 in 1995 to 280 in 1999, while technology exchange arrangements with North American and European firms almost tripled from 337 in 1995 to 991 in 1999 for the former and from 164 to 432 for the latter.

Most of the decrease in Japan's joint ventures in Asia, particularly the sharp drop in 1998, is attributable to the significant shrinking and slowdown in southeast Asia's economy in the wake of the region's financial crisis. For example, in 1995 Japan had more than 500 joint ventures with China, accounting for almost half of Japan's joint ventures in Asia, but only around 200 in 1998. Japanese firms' decreasing domestic revenues also contributed to reduced investment in China. In fact, Japanese investment in China dropped from JPY 432 billion in 1995 to JPY 136 billion in 1998, most of which was for joint ventures. Joint ventures with other affected economies such as Thailand, which were around 150 a year before the financial crisis, decreased to 50 in 1998. However, Japanese investment in Asian economies has been increasing since April 1999 but its breakdown (*i.e.* joint ventures and other forms) needs further study.

The large number of joint ventures between Japanese and Asian enterprises partly reflects restrictions on FDI in Asian countries. Governments in countries such as China, Indonesia, Vietnam and India have protected domestic industries for purposes of national economic development and have invited foreign companies to develop joint ventures with local firms. In these countries, more than 60% of Japanese strategic alliances are joint ventures with local Asian companies. On the other hand, in countries that have liberalised foreign capital movements and established a legal framework to attract foreign investment (Singapore, Thailand, Malaysia, the Philippines), most Japanese firms have preferred direct investment and established wholly owned subsidiaries. Until the first half of 1997, just before the Asian financial crisis, more than 70% of Japanese establishments in Singapore had no local partners, and only 20% were joint ventures with Singapore firms.

While alliances with Asian firms generally involve co-operation in manufacturing and assembly in traditional sectors such as general electronics, machinery and automobiles, alliances between Japanese

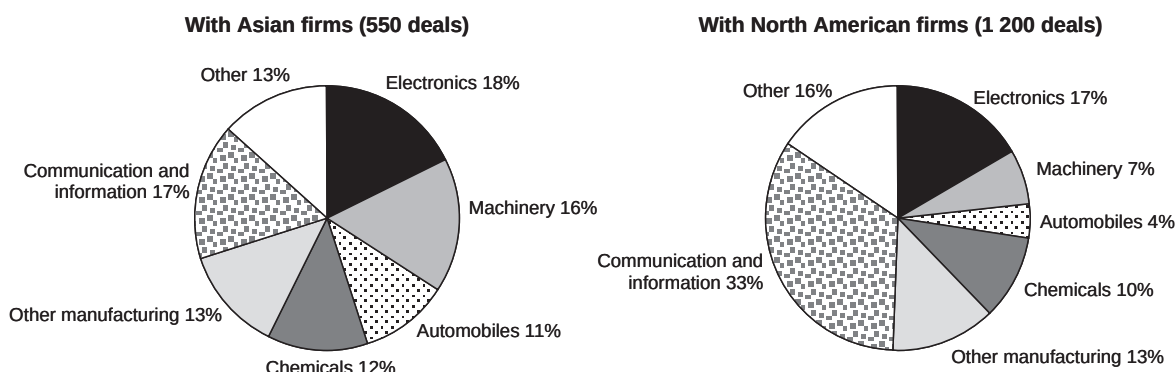
Figure 3.16. Japan's technology exchange arrangements and joint ventures, by region



Source: JETRO (1999, 2000).

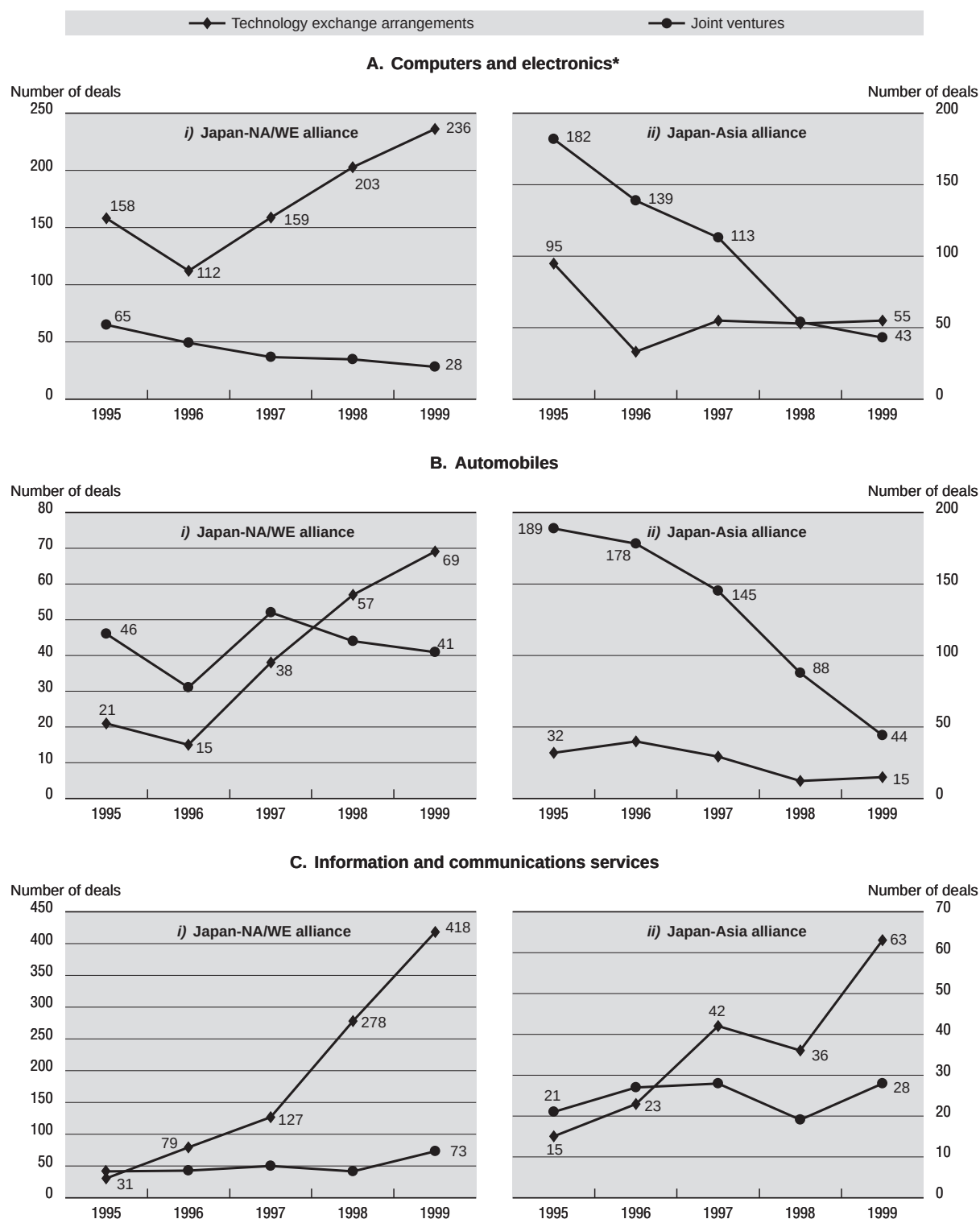
and Western firms mostly involve R&D co-operation (Figure 3.17). Technology exchange agreements with North American and Western European companies generally represent complementary co-operation arrangements with companies possessing leading-edge technologies. Alliances are primarily in high-technology sectors such as semiconductors, computer software and other information and communication technology (ICT) fields. Almost half of Japanese alliances with North American firms were in these sectors.

Figure 3.17. Alliance deals with Asian and North American firm, by sector, 1999



Note: The number of alliances with Canadian firms is quite small (a few alliances in each sector).
Source: JETRO (2000).

Figure 3.18. Japanese alliances, by sector and region



* Total of semiconductor and integrated circuits, computer, communication equipment and other electronics sectors.

Note: NA = North America; WE = Western Europe.
Source: JETRO (1999, 2000).

Figure 3.18 shows the number of Japanese technology exchange and joint ventures in three sectors: computers and electronics, automobiles, and information and communications services. As for alliances with Western partners, technology exchange arrangements increased rapidly, surpassing the number of joint ventures in all three sectors in 1998, and those in information and communications services (418 alliances in 1999) were more than ten times greater than in 1995 (31). Joint ventures with Western firms in the computer and automobile sectors decreased, while they slightly increased in the information and communications sector. Joint ventures with Asian firms dropped significantly in the computer and automobile sectors but increased slightly in the information and communications sector. Even though the number of alliances between Japanese and Asian firms is decreasing in general, technology exchanges, including R&D alliances in information and communications services, are growing.

SECTORAL TRENDS

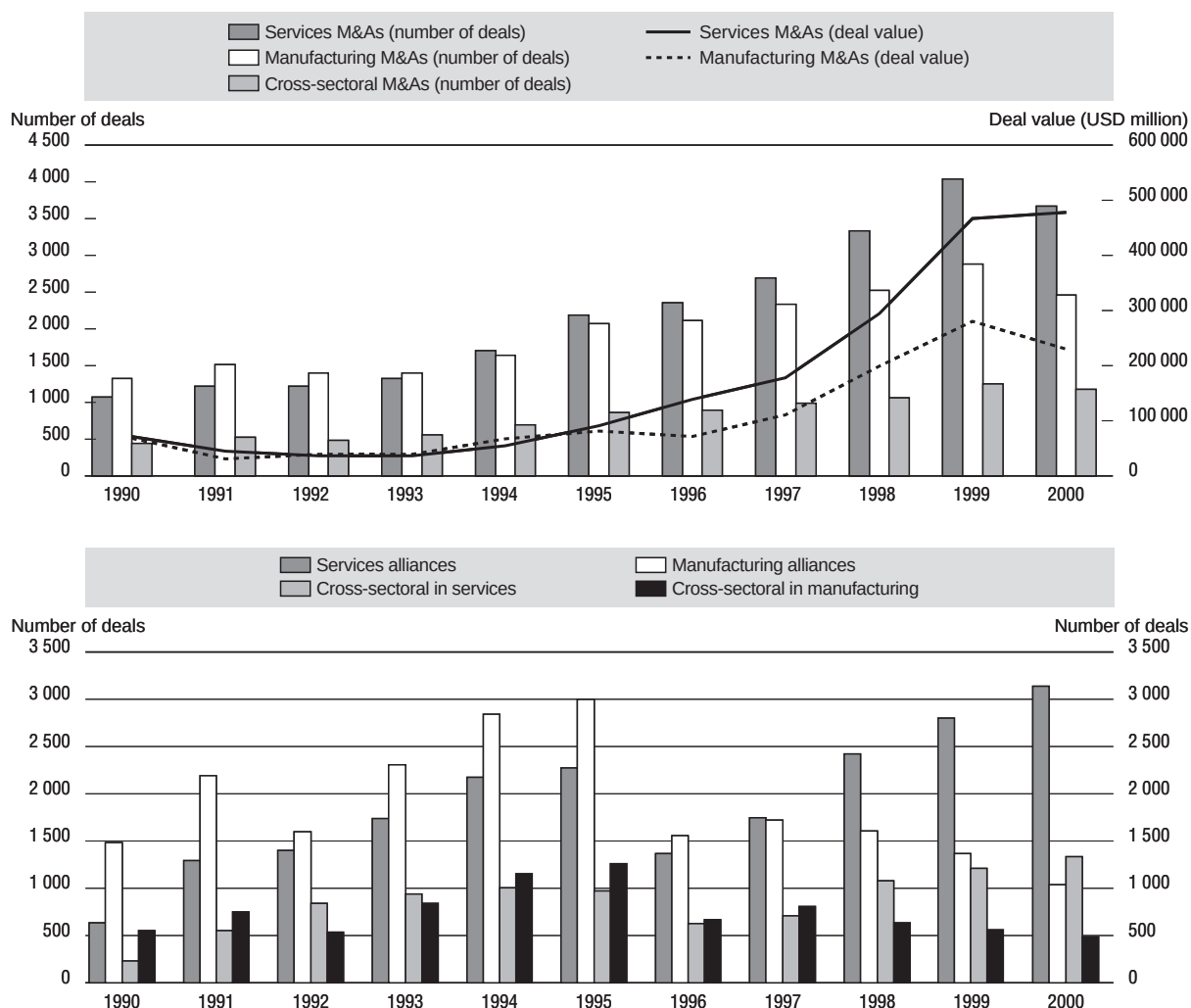
Overview

Cross-border mergers and acquisitions (M&As) and strategic alliances are taking place across a range of sectors, in manufacturing as well as services. While the total number of both M&As and alliances has increased in recent years, the share of manufacturing deals has decreased, while that of services has risen (Figure 4.1). Business services, wholesale and retail trade, finance, transportation services including airlines and telecommunications (in services) and software, electronic equipment, transportation equipment, including automobiles, machinery and chemicals (in manufacturing) are industries with large numbers of international M&As and alliances (Annex Table 4.1). The distribution of these top industries is similar for M&As and alliances, with the exception of pharmaceuticals, which is not among the top industries for M&As. Although the number of acquisitions in the pharmaceutical sector is relatively smaller, the value of M&As during the period 1995-99 was over USD 120 billion, the highest in manufacturing. Overall, finance is the sector with the highest merger value, followed by telecommunications, wholesale and retail trade and pharmaceuticals.

As manufacturing firms have strengthened their services activities, and services firms have sought manufacturing partners to expand their product lines and to introduce IT for more efficient services, cross-sectoral acquisitions and alliances, *i.e.* manufacturing firms' acquisitions of services companies or *vice versa* and alliances in the services sector in which manufacturing firms participate or *vice versa*, are growing. While manufacturing and services firms are equally active in acquiring companies in the other overall sector, more manufacturing firms have joined services alliances than services companies have joined manufacturing alliances. In cross-sectoral services alliances, software developers and computer manufacturers provide computer-related services firms with their technological expertise, software and hardware. Manufacturers in the information technology (IT) sector have also developed computer systems for services companies, including banks and other financial institutions. Manufacturers of communication devices, such as mobile telephone producers, have formed alliances with telecommunication service operators that adopt their products and communication systems.

This chapter first discusses cross-sectoral international M&As and alliances. Six different sectors are then presented in some depth: telecommunications, pharmaceuticals, automobiles, steel, airlines and finance. For some, industry-wide business-to-business (B2B) online exchanges and business-to-consumer (B2C) electronic commerce are addressed. The telecommunications sector illustrates M&As and alliances in the IT industry, where deregulation, by opening regional markets, and technological advances, by lowering barriers to entry, has led to more cross-border acquisitions and alliances as telecom operators seek to offer regional and global communication services. The pharmaceutical industry, which is highly sensitive to soaring research and development (R&D) costs and the time lag to commercialisation, uses cross-border alliances to outsource part of its R&D activities and acquires promising biochemical ventures to speed delivery of new drugs to the market. In the automotive sector, car manufacturers seek partnerships to secure sufficient financial resources to develop leading-edge technologies for the next generation of eco-friendly automobiles as well as to achieve global economies of scale in production. Consolidation and alliances in the steel industry are a consequence of overcapacity and business restructuring at global level. Alliances in the airline industry aim at realising cost savings through investment in a common system for reservations, ticketing and client services; these

Figure 4.1. Cross-border M&As and alliances, 1990-2000



Note: For 2000, January to October. Cross-sectoral M&As: services firms' acquisitions of manufacturing firms and manufacturing firms' acquisitions of services firms. Cross-sectoral alliances: services alliances in which manufacturing firms participate and manufacturing alliances in which services firms participate.

Source: Thomson Financial.

co-operative sales and marketing arrangements tend to attract greater numbers of air passengers. Regulatory reform in financial services has put more competitive pressure on players in the sector, and mergers and alliances grow as business expands to make profits at global scale.

Cross-sectoral M&As and alliances

As manufacturing firms have strengthened their services activities to provide customers with end-to-end support, including maintenance and repair, they have either acquired or formed alliances with services companies. Many manufacturers have put more emphasis on services to ensure customer satisfaction, and services are playing a greater role in their total income. For example, more than one-third of the total revenues of IBM, a computer hardware and software manufacturer in the United States, comes from services activities; this figure rose from USD 25.1 billion in 1997 to 32.1 billion in 1999 (IBM,

2000). Manufacturing firms need expertise, trained staff and regional (local) presence for services, and they have outsourced not only distribution, marketing and customer support but even R&D activities through cross-border alliances. They can obtain such services by acquiring foreign services firms in particular markets.

On the other hand, services firms need manufacturing partners to expand product lines, to meet the demand for parts and components for repair and other customer services and to introduce IT so that their services are more efficient. Wholesalers and retailers, such as large supermarket chains, have acquired manufacturing firms to develop lower-priced products under their brand name. They may be exclusive or non-exclusive distributors for particular manufacturers through marketing alliances. Computer services firms have either acquired or formed alliances with software developers and computer manufacturers to gain access to their technological expertise, software and hardware. Banks and other financial institutions (services) have sought out IT (manufacturing) partners to develop their computer network systems. Financial companies have also provided financial resources for manufacturing activities by acquiring minority shares in promising new business and by participating in joint ventures (alliances) as a funding partner.

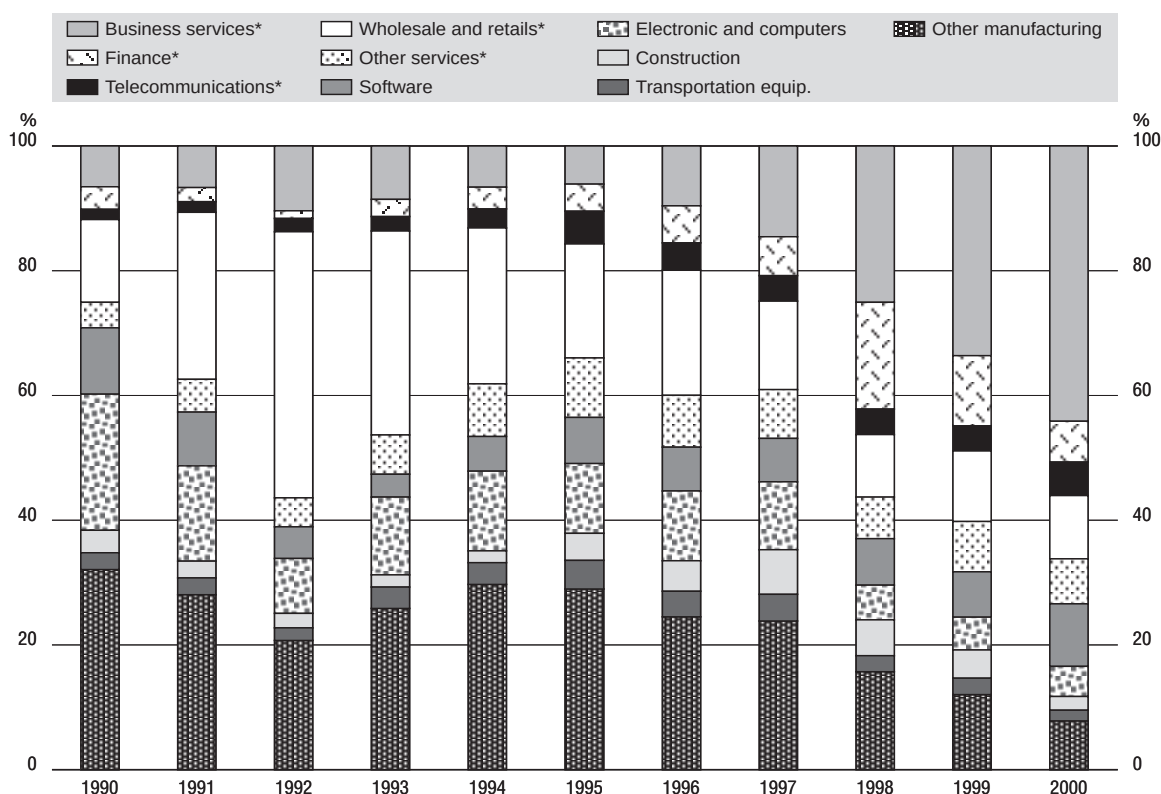
In the 1990s, there were a total of 7 700 cross-sectoral M&As and 16 000 cross-sectoral alliances. Of the M&As, two-thirds (5 050 deals) were completed in the second half of the decade. Over the same period, manufacturing firms acquired 2 500 services companies and services firms obtained 2 500 manufacturing companies; in addition, manufacturing companies participated in 4 600 services alliances over the same period, while services companies joined 3 900 manufacturing alliances.

The top target industries for cross-sectoral M&As are software, food and machinery in manufacturing and wholesale and retail trade, business services and finance in services (Annex Table 4.2). Among services, the major acquirers of manufacturing firms are finance, wholesale and retail trade and business services. In finance, banks and other investors were involved in more than 1 000 acquisitions of manufacturing firms from 1995 to 1999, many of which are minority shareholdings in the target companies. Some financial institutions have invested in software developers to improve their computer network. Wholesalers are acquiring various manufacturers that provide them with products to market and trade. In business services, firms in computer-related services, such as computer system design and data processing services, have acquired many software developers and electronic equipment manufacturers to support their service activities. In some cases, consulting firms (also in business services), such as PricewaterhouseCoopers (United Kingdom), took over software developers to strengthen their computer system integration and other IT services.

In manufacturing, major acquirers of services are software developers and electronics, computer, machinery and transportation equipment manufacturers and food companies. Software developers and electronics firms have taken over computer-related services companies (business services) as their services business arms. Food and beverage, machinery and chemical firms have acquired wholesalers and retailers to establish exclusive distribution channels. Car manufacturers have obtained small financial institutions to provide financing services for individual and corporate car buyers. Communication equipment manufacturers, including mobile telephone producers, have invested in telecommunication services that adopt these manufacturers' products and communication systems.

In cross-sectoral alliances, major target industries are business services, finance and telecommunications in services and software and electronic equipment in manufacturing (Figure 4.2). For services alliances, wholesale and retail services, in which pharmaceuticals, food and beverage, and electronic companies (manufacturing) had formed hundreds of distribution and marketing alliances, dominated one-third of the total cross-sectoral alliances in the early 1990s, but their share has decreased in recent years. Most business services alliances involve computer support services, with software developers and computer manufacturers providing computer services firms with their technological expertise, software and hardware. In the finance sector, software and computer manufacturers have formed alliances with banks and other financial institutions to develop computer systems such as automated-teller-machine (ATM) networks and to provide the technological platforms for new services including Internet banking and trading. In telecommunications (services), communication

Figure 4.2. International cross-sectoral alliances by sector, 1999-2000



* Indicates services sector.

Note: For 2000, January to October.

Source: Thomson Financial.

equipment manufacturers provide telecom operators (services) with their products and communication technologies. Alliances for R&D services (business services), which take on particular research projects for clients (alliance partners), are also growing. Pharmaceutical companies have contracted out a part of their R&D activities and clinical testing for new drugs to small biochemical firms and other outside laboratories. Some chemical companies and electronic equipment manufacturers have also formed alliances to obtain outside R&D services.

In manufacturing alliances, computer-related services firms, including Internet service providers (ISPs) and telecom operators, have collaborated with software developers (manufacturing) to strengthen their services activities using the latter's products and technological expertise. Banks and other financial firms have participated in various joint ventures as funding partners, and real estate agencies (also in financial services) and construction firms (manufacturing) have co-operated in construction projects. Motor vehicles and other transportation equipment repair services have formed alliances with parts suppliers (manufacturing). Wholesalers and retailers (services) have maintained exclusive and non-exclusive distribution and marketing agreements with various manufacturers.

Telecommunications

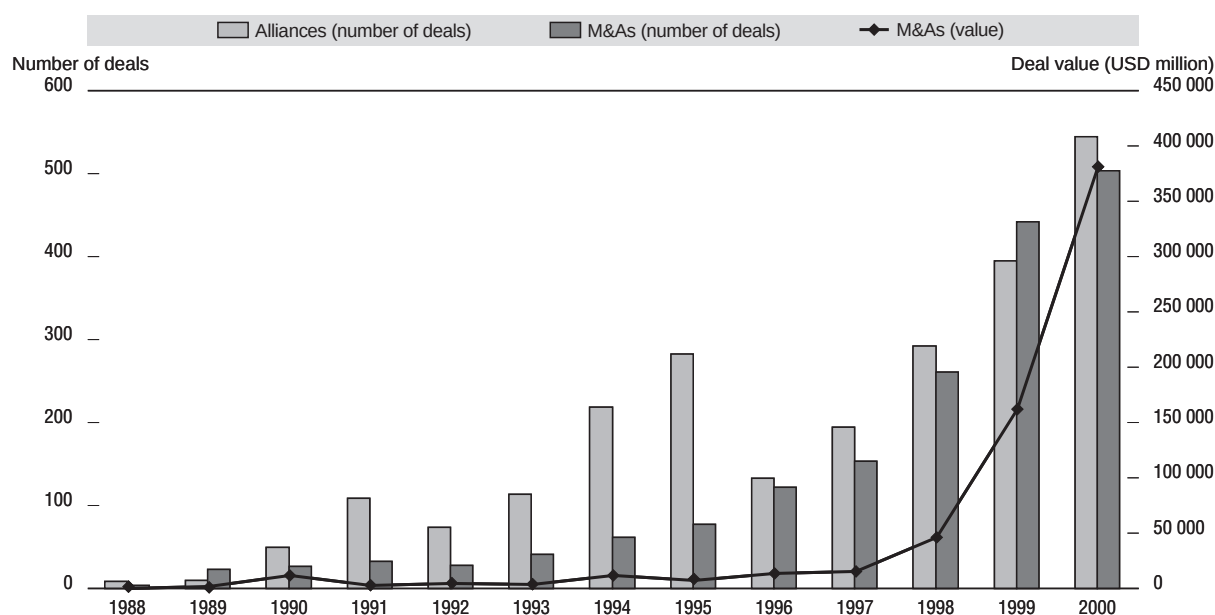
The telecommunications sector is the best example of how rapid technological developments, in combination with regulatory reform, both enable and force companies to seek new partners across national and technical borders (Kang and Johansson, 2000). The need for telecommunications operators

to adapt to new means and patterns of communication (*e.g.* Internet and mobile telephony replacing fixed-line communications) and to supply a widening range of services has led companies wishing to gain in size and market presence to engage in more cross-border alliances and M&As. These alliances and M&As are largely a consequence of the globalisation of service industries and the need to provide multinationals with end-to-end service. The telecommunications market is becoming increasingly complex in terms of products and services as well as actors. Technological advances and regulatory reform are changing the traditional borders of who does what and where. The telecommunications sector is also becoming “denationalised” since many countries have opened up partly or wholly to foreign ownership.

In the 1990s, there were more cross-border alliances (1 860 deals) than M&As (1 240 deals, USD 278.4 billion in value), but merger activity has accelerated in recent years (Figure 4.3); in the second half of the decade, there were 1 055 cross-border acquisitions, more than five times the number in the first half. The deal value of M&As in the latter half of the 1990s, USD 244.3 billion, is more than seven times that of the first half, USD 34.1 billion. However, the, 1 300 international alliances in the latter half of the decade were only twice the number in the first half. In 1999, numbers of both alliances and M&As reached their highest peaks of the decade, and they continued to rise in 2000. As deregulation has opened up national telecom markets to foreign competitors and as technological advances have made possible wider regional, even global, communication services, large telecom operators, many of them former national monopolies, have become global operators by acquiring and forming alliances with local (regional) telecom companies. Many telecom operators have preferred intra-regional (full) mergers as a way to enter neighbouring markets and inter-regional alliances, including minority share holdings, as a way to enter the markets in other regions. Telecom carriers continue to expand, with a particular focus on wireless communications (OECD, 2001*a*). In fact, many recent foreign investments in the sector have been acquisitions of regional mobile telecom operators.

In the late 1980s, a majority of OECD countries had state-owned telecommunication monopolies. By 2001, only two OECD countries will have monopolies over fixed-line services. For wireless services the

Figure 4.3. **Telecommunications: cross-border alliances and M&As, 1988-2000**



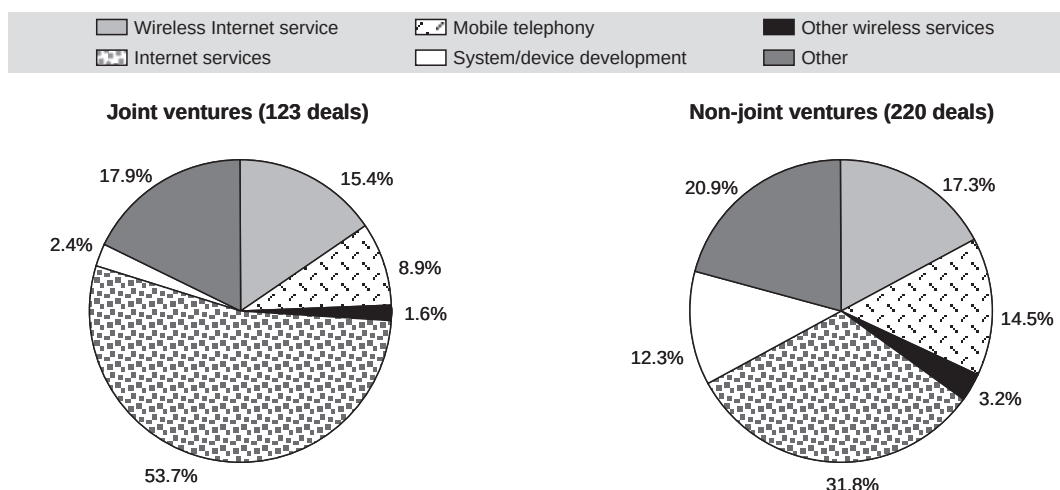
Note: For 2000, January to October.
Source: Thomson Financial.

last monopoly was eliminated in 1998 (OECD, 2001a). Merger and alliance activity also reflects the expansion of the world information and communication technologies (ICT) market, including telecommunications, which was worth USD 1.8 trillion in 1997. More than half of market growth in 1992-97 was attributable to sales of telecommunication equipment and services, which account for 43% of the world ICT market (OECD, 2000b). Mobile communications, including cellular phones, are at the forefront of this growth. The number of users of cellular mobile communication services in OECD countries, around 10 million in 1990, reached more than 290 million by June 1999. In 1999, the size of the wireless communications market was USD 196.5 billion in the OECD area, and represented almost 30% of all telecommunication revenues (OECD, 2001a).

The largest merger deals have taken place in recent years, and many involve the acquisition of regional mobile telecommunications operators (Annex Table 4.3). The most recent examples include France Telecom's USD 45.9 billion takeover of Orange PLC (United Kingdom) in August 2000. The top acquirer and target countries are the United States and several EU countries (the United Kingdom, Germany and France) where former telecom monopolies are actively involved in the acquisition of regional telecom operators in neighbouring countries and are seeking a trans-Atlantic merger (Annex Table 4.4). Firms in growing telecom markets in Latin America and Eastern Europe, such as Brazil and Russia, have also been targets in recent years. In Asia, firms from Hong Kong (China) are involved in many acquisitions as both acquirer and target, and Australia has recently attracted many acquirers. Japanese firms, including NTT DoCoMo, a dominant mobile communications operator in Japan, have been relatively slow to enter foreign markets through M&As; recent acquisitions include the company's purchase of 15% of KPN Mobile (Netherlands) to share the growing costs of future third generation (3G) mobile communication services.

With regard to cross-border alliances, many deals in 2000 (both joint ventures and non-joint ventures) have aimed to provide Internet services; alliances involving wireless Internet services, in particular, which allow mobile phone subscribers to e-mail and access various Web sites using their mobile telephone, are increasing (Figure 4.4). These are in the early developmental stage in several OECD countries, and the main OECD regions are a major target market in this segment; however, some deals aim at developing markets, such as China, Hong Kong (China), India, Singapore, Turkey and Mexico. Alliances to establish mobile telecommunications services in either developed or developing countries are also prominent. In addition to developing countries in Asia, target markets include several

Figure 4.4. Telecommunications: cross-border alliances, by objective, January-June 2000

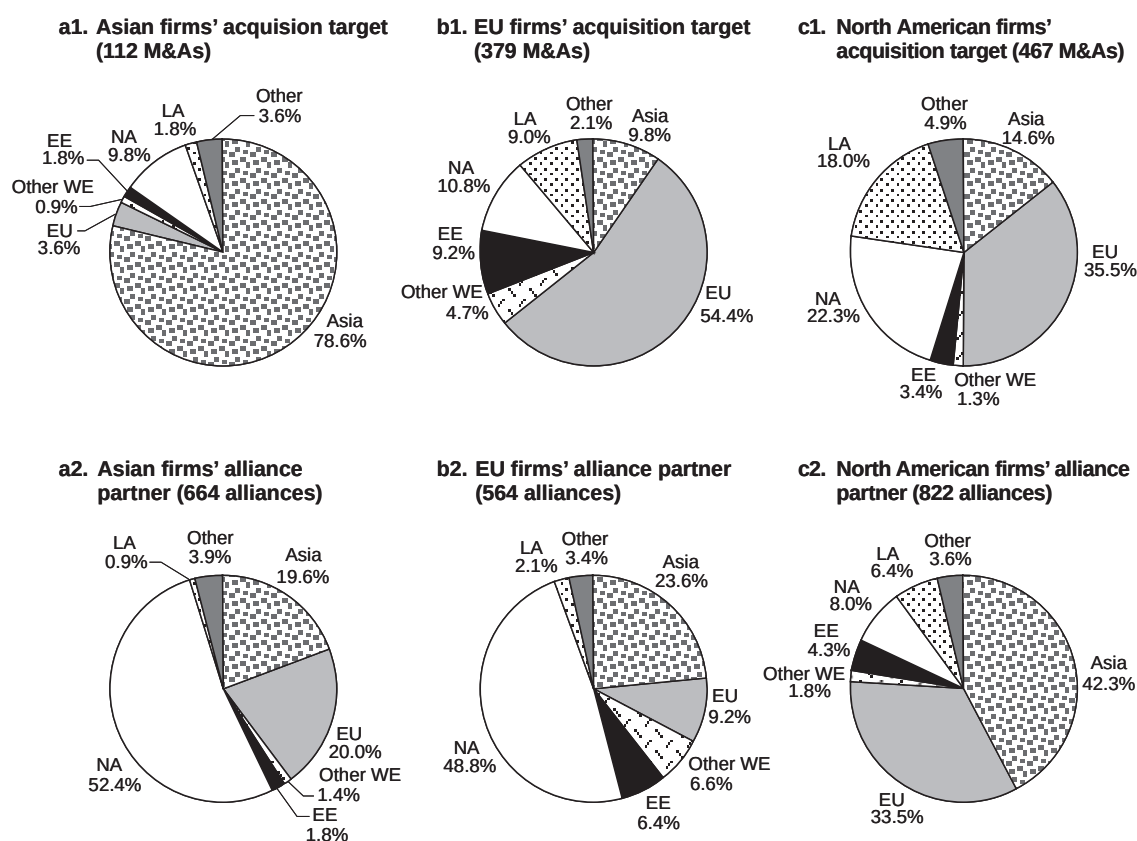


countries in Africa, such as Kenya and the South Africa. In 2000, a significant difference between joint ventures and non-joint ventures is that the latter include 30 alliances (12% of total non-joint ventures) for communication system and device development. Most aim to develop next generation wireless communication devices, and many software developers and communication device manufacturers, such as Microsoft (United States), Motorola (United States), Psion (United Kingdom), Nokia (Finland) and Ericsson (Sweden), participate in these alliances.

Most alliance participants are telecom operators of OECD countries and of target markets (Annex Table 4.5). However, firms joining alliances aimed at Internet services (both fixed-line and wireless) vary; they include ISPs and search engines (such as America Online and Yahoo!); software developers and communication device manufacturers; media and broadcasting (*Financial Times*, United Kingdom); personal credit card companies; new online firms (E-Loan, United States; Lastminute.com, United Kingdom); and others in services entering online businesses, including book and record stores, passenger airlines and banks. Major participating countries are the United States, Canada, several EU countries, and Japan, China, Australia and India. From 1995 to 1999, the United States participated in more than 700 alliances (out of 1 300), and the United Kingdom joined more than 200 in the same period.

In terms of the regional distribution of acquisition targets and alliance partners, most M&As are intra-regional; for alliances, firms tend to seek inter-regional partners (Figure 4.5). Firms seek to expand

Figure 4.5. Telecommunications: regional distribution of acquisition targets and alliance partners, 1995-99



Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

by focusing first on their home market, then expanding into regional (neighbouring) markets through cross-border M&As. When entering more distant markets about which they know less, firms may prefer alliances with local telecom operators to M&As. For example, 80% of M&As in which Asian firms are acquirers target Asian companies, while a majority of their alliance partners are from North America and the EU. Most EU firms acquire EU companies and companies in Eastern Europe; however, they seek alliance partners more in Asia and North America than in the EU. One-fifth of North American firms' acquisitions take place within the region, while they seek more alliance partners in Asia and the EU. Expectations of high growth in mobile telephony in Europe have attracted North American telecom operators and led to many trans-Atlantic deals for both M&As and alliances (*e.g.* acquisition of a mobile telecom operator with substantial European coverage).

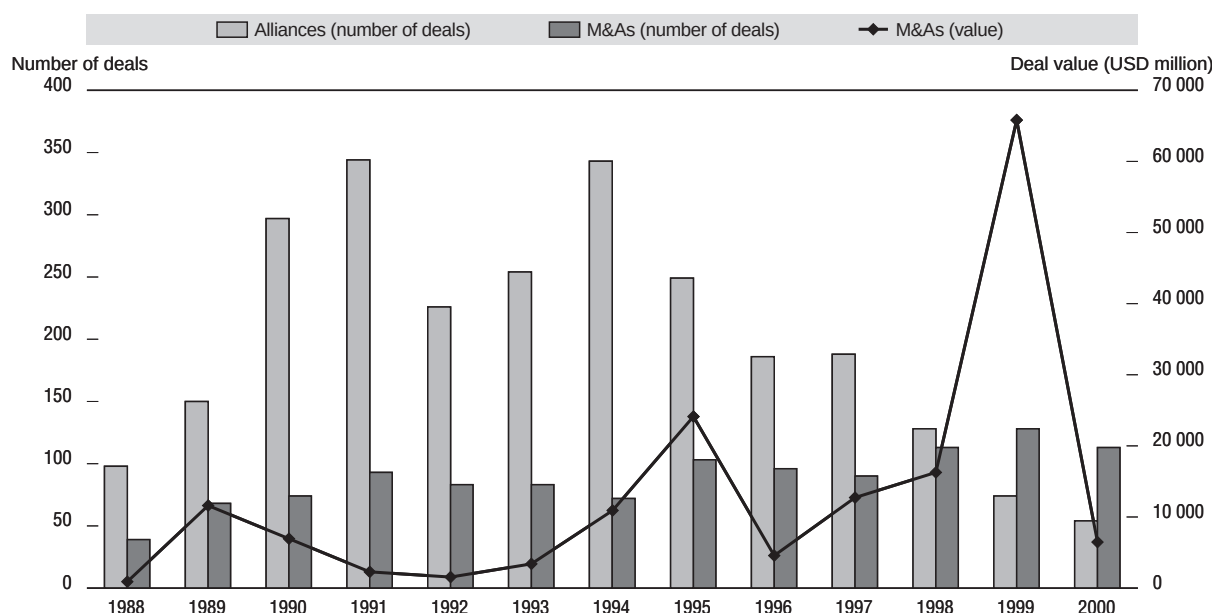
While mergers and (majority) acquisitions can be a better strategy for immediately establishing a critical mass in a particular market, alliances allow firms to exploit local telecom operators' knowledge of the market and customers and their communications infrastructure and cope with technical hurdles such as provision of services in the local language. Although these benefits can also be achieved through acquisitions, alliances may involve relatively lower transaction costs. In fact, there are more inter-regional alliances than mergers, and most inter-regional M&As from 1995 to 1999, in which North American or EU companies acquired Asian firms, are minority acquisitions (less than 50% of shares) of local telecom operators. Full mergers with local telecoms are rare, and full merger targets are either small ISPs or subsidiaries of developed countries' telecom firms. For example, Vodafone (United Kingdom) acquired 100% of BellSouth New Zealand (operating in New Zealand), a subsidiary of BellSouth (United States) in 1998. Large telecom companies in Asia, such as NTT (Japan) and Hutchison Telecommunications (Hong Kong, China), also have not been involved in many full acquisitions of telecom companies in North America and Europe. Once the high transaction costs involved in M&As appear likely to be paid off by long-term synergy effects, alliances may develop into majority acquisitions or full mergers (Kang and Sakai, 2000).

While some mergers between traditional telecom operators, such as Deutsche Telekom's bid for Telecom Italia, and merger talks between Telefónica of Spain and KPN of the Netherlands have recently failed, further consolidation is likely in high-growth businesses, including mobile telephony, Internet and services related to electronic commerce. Recent examples include a merger between Terra Networks, a Spanish Internet group spun off from Telefónica, and Lycos, the US-based Internet portal that created Terra Lycos in October 2000. The new Internet company is the world's third largest Internet access provider after America Online and Yahoo!, operating in 40 countries and in 19 languages and receiving 91 million visitors a month. Technological advances, together with deregulation, have led to new entrants with high capacity networks, some of which come from sectors such as gas and electricity utilities. Incumbent former monopolies need to compete with these while responding both to customer demand for new services (*e.g.* wireless Internet access) and to shareholder demands. As technological developments continue to lower barriers to entry and create new business opportunities (*e.g.* globally compatible mobile telephony), companies in the telecommunications sector will engage in more alliances and M&As in order to win customers and capture a high share in new lucrative markets.

Pharmaceuticals

International M&As and strategic alliances in the pharmaceutical sector are driven by the rising costs of bringing new products to market as well as consumers' growing expectations for more specific and direct cures for narrowly defined illnesses. All pharmaceutical companies wish to reduce their R&D costs and are under extreme pressure to develop new drugs. To economise on R&D and reduce lead time for new drug development, therefore, many drug companies have sought alliance partners with leading-edge technologies and expertise in particular fields as a way to outsource R&D activities and clinical testing of possible new drugs. Some firms have also invested heavily in high-potential small biochemical ventures to exploit their human resources and technologies and to secure exclusive (marketing) rights for final products (*i.e.* new drugs). While the number of cross-border alliances in the sector has decreased in recent years, that of international M&As has increased (Figure 4.6). However, for

Figure 4.6. Pharmaceuticals: cross-border alliances and M&As, 1988-2000



Note: For 2000, January to October.

Source: Thomson Financial.

the period 1995-99, international alliances (825) still exceeded cross-border acquisitions (530). Drug firms may prefer the greater flexibility inherent in international alliances to the substantial investments required for mergers, since drug development generally entails great risks and an alliance can allow partners to change strategies and even withdraw if necessary.

R&D activities in the pharmaceutical sector generally involve scientific research in emerging or unexplored fields and may or may not ultimately lead to a commercial product. The pharmaceutical industry is one of the most R&D-intensive sectors; the industry worldwide spent USD 39 billion on R&D in 1998, and R&D costs in the top 20 pharmaceutical companies are expected to rise from an average USD 1.2 billion to USD 2.5 billion by the year 2005 (PricewaterhouseCoopers, 1998a). The average cost of getting a new drug to market is over USD 300 million, and for every drug approved, an estimated 10 000 molecular compounds are tested and discarded. Moreover, development and approval of a new drug generally takes more than a decade.

In addition, developing “suites” of products tailored for specific groups of patients requires a more complicated development process and leading-edge technology. Even the leading pharmaceutical companies cannot cover all fields and therefore search for external partners. They either purchase significant stakes in promising biochemical ventures or contract out a whole R&D project with financing to firms with complementary skills, extensive gene databases and facilities for conducting clinical trials. The nature of government regulation and oversight – particularly the time period, costs and procedures for new drug approval – also influences restructuring in the pharmaceutical industry and the size and geographical dimensions of alliances (Box 4.1). Some manufacturing alliances reflect government requirements for local drug production.

Cross-border consolidation (M&As) in the pharmaceutical industry has accelerated in recent years. After two large waves of M&As (1989, 1995), 1999 saw the third and highest peak both in numbers and deal value (Figure 4.6). While the previous waves involved massive consolidation at national level, such as the 1989 merger between Bristol-Myers and Squibb in the United States and the 1995 deal between Glaxo Holdings and Wellcome in the United Kingdom, the recent round of consolidation has taken

Box 4.1. The Glaxo-Wellcome/Biota Alliance

Glaxo Wellcome PLC, one of the United Kingdom's top three pharmaceutical companies, in partnership with Biota, an Australian biochemical company, jointly developed the drug Relenza, an influenza therapy. Under this alliance, Glaxo Wellcome has worldwide marketing rights for Relenza, and Biota receives 10% of net sales in Australia and 7% of net sales in the rest of the world. The drug's worldwide filing for marketing approval began in the second half of 1998, and Relenza has been approved in 30 countries including the United States, all 15 member states of the European Union, and Japan.

In April 1999, the UK government established the National Institute for Clinical Excellence (NICE) as a part of the National Health Service (NHS) to provide health professionals with guidance, including appraisal of new and existing drugs (and other health technologies) in terms of clinical and cost effectiveness. In October 1999, NICE discouraged doctors from prescribing Relenza in the 1999/2000 flu season, saying that Glaxo Wellcome had not fully proven its effectiveness for elderly and other high-risk patients. The NICE recommendation does not legally bind physicians, but the profitability of the Glaxo Wellcome/Biota alliance was affected.

In early 2000, Glaxo Wellcome announced plans to merge with SmithKline Beecham PLC, thereby creating the world's largest pharmaceutical company. This merger was partly in response to the increasing research and administrative costs imposed by governments as they attempt to measure the cost-effectiveness and safety of various medicines and approaches. The United Kingdom has been a world centre for pharmaceutical R&D activities and a showcase for marketing new drugs, attracting international firms such as Pfizer (United States) and Novartis (Switzerland). Additional data requirements, including for drugs already on the market such as Relenza, could be changing the competitive situation in the United Kingdom, prompting the Glaxo SmithKline merger.

place more at global level. Large pharmaceutical companies, particularly in the United States and Western Europe, have acquired foreign rivals as well as smaller biochemical firms to expand their global market share and to exploit external resources for research and new product development. The announcement in June 2000 by Celera (United States) and the Human Genome Project of the completion of the sequencing of the human genome has further pushed pharmaceutical companies to acquire biochemical firms with the relevant technologies. This trend is expected to lead to more M&A activity in the new century.

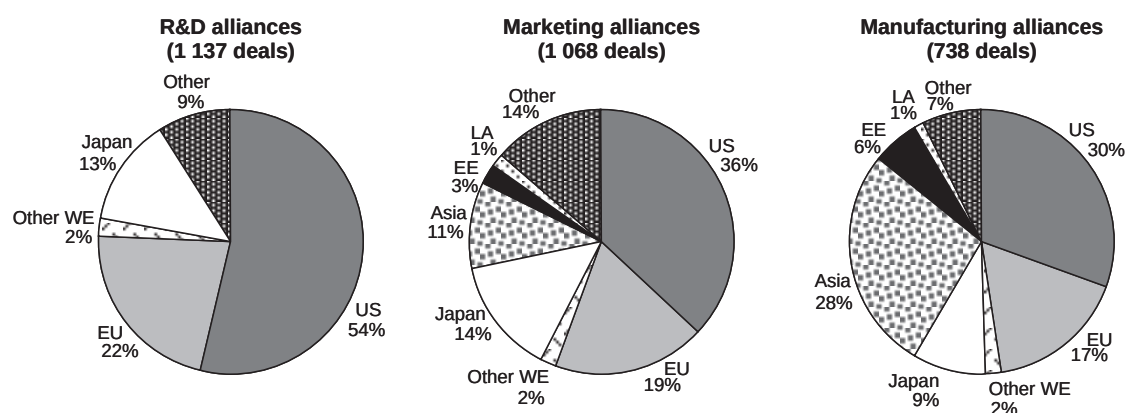
In the 1990s, there were 935 cross-border M&As totalling USD 148.6 billion, nearly 90% of which were majority acquisitions (acquisitions of 50% or more of the shares of the target firm). For the period January-October 2000, 113 international deals totalling USD 6.4 billion were completed. The largest deals have taken place in the latest years (Annex Table 4.6), and all major acquiring countries, such as the United Kingdom, France, Switzerland, Germany and the United States, have the world's leading pharmaceutical companies (Annex Table 4.7). The countries with the top ten acquirer and acquired firms represent more than 95% of total M&A deal value in the 1990s, *i.e.* cross-border consolidation mainly occurred in the main OECD regions, *i.e.* North America, Western Europe and Japan. In the early 1990s, foreign take-overs were rare in Japan, the second largest pharmaceutical market after the United States, but recent deregulation, which allows, for example, the use of foreign clinical trials data for Japan Health Ministry's approval for a new drug, has gradually attracted Western acquirers. In the first half of 2000, five cross-border deals targeting Japanese drug firms were completed, for a total of USD 290 million.

Cross-border alliances for product licensing and co-marketing as well as R&D have long been a feature of the pharmaceuticals industry. There were 2 300 over the last decade. In recent years, the number of international alliances has dropped; the 74 deals in 1999 were one-fifth the peak of 343 in 1994. However, the value of new alliances (each in excess of USD 20 million) reached over

USD 3 billion in 1997, a 500% increase since 1991 (PricewaterhouseCoopers, 1999a). A major motive for these partnerships is to share risks and R&D costs for new drugs; 25% of R&D expenditures of large pharmaceutical firms is now spent for external partnerships (PricewaterhouseCoopers, 1998b).

Half of all international alliances in the 1990s were for R&D (1 140 deals), and most were not joint ventures. R&D activities under these alliances are concentrated in the main OECD regions, where there is a large knowledge and research base; however, emerging Asian economies, notably China, and some countries in Eastern Europe, have been chosen as new drug manufacturing sites (Figure 4.7). Most marketing alliances target the main OECD markets, although some aim at new markets in Asia and Eastern Europe (Annex Table 4.8). Some marketing and manufacturing alliances include a licensing agreement; for smaller innovative firms, licensing a new technology, *e.g.* molecular compounds, to large pharmaceutical companies has been a traditional source of revenue and a viable alternative to in-house drug development. Licensing also allows large pharmaceutical companies, as licensee, to expand their product portfolio (OECD, 1996b).

Figure 4.7. **Pharmaceuticals: regional distribution of cross-border alliances, by objective, 1990-99**

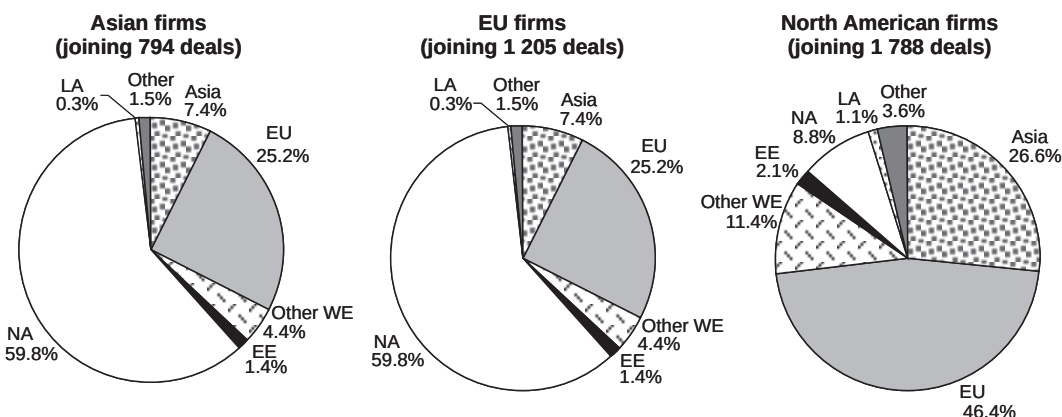


Note: WE = Western Europe; EE = Eastern Europe; LA = Latin America. Asia excludes Japan.
Source: Thomson Financial.

Biotechnology is the sector where research alliances are growing most rapidly; partnerships at early-stage R&D between large pharmaceutical companies and smaller biochemical firms have been quite common since the early 1990s (OECD, 1996b) (Annex Table 4.9) and are a major source of financing for the latter. In 1999, US biochemical firms raised USD 5.3 billion through strategic partnering, an amount which more than doubled in the past five years and accounts for one-third of total funds raised in that year (USD 15.5 billion). In the first half of 2000, financing through external partnering in the United States accelerated and reached USD 3.2 billion (Burrill and Company, 2000b).

Firms in the major OECD regions also dominate international alliances. US firms participated in more than 70% of all cross-border alliances in the 1990s, and firms in a handful of European countries (the United Kingdom, Switzerland, Germany, France) and in Japan joined hundreds of alliances (Annex Table 4.10). Multinationals from Asia, the European Union and North America have sought more inter-regional than intra-regional alliance partners. EU and Asian firms prefer alliance partners in North America, almost exclusively in the United States (Figure 4.8). One-fourth of alliances involving EU companies are intra-EU, and 60% of North American firms' deals are with trans-Atlantic partners.

Figure 4.8. Pharmaceuticals: regional distribution of cross-border alliance partners, 1990-99

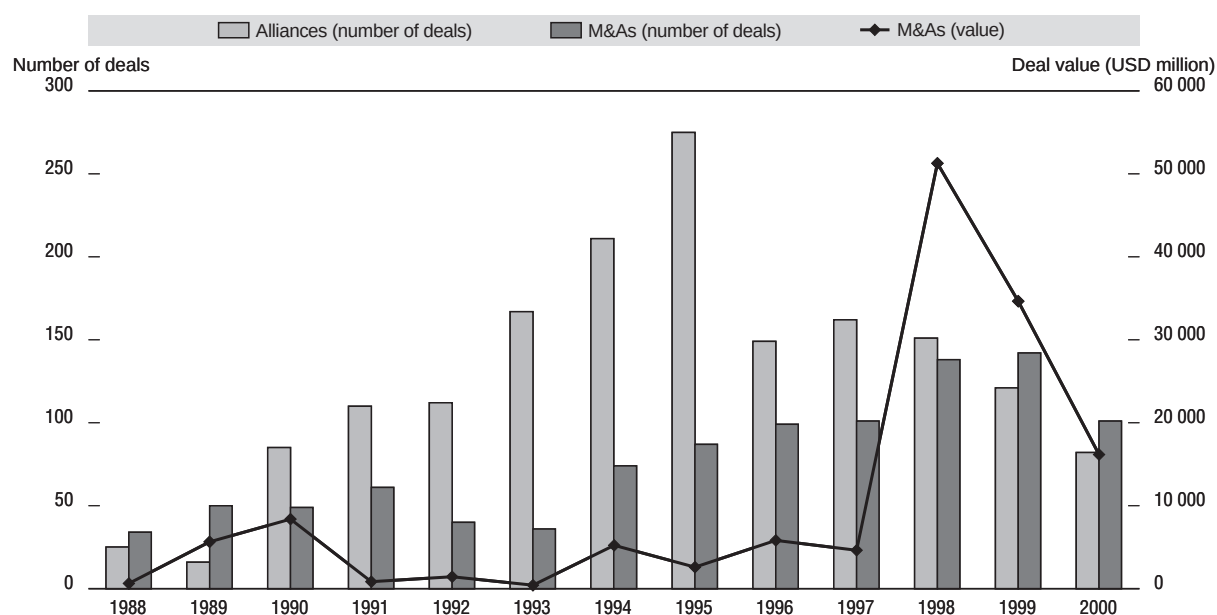


Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

Automobiles

Owing to the highly oligopolistic structure of the automobile industry, dominated by a handful of US, European and Japanese car manufacturers, outright mergers have been relatively rare; joint ventures (alliances) and minority (cross-) shareholding have been more frequent. Over the last decade, there were more than 1 500 cross-border alliances and 830 cross-border M&As (Figure 4.9). The number

Figure 4.9. Automobiles: cross-border alliances and M&As, 1988-2000



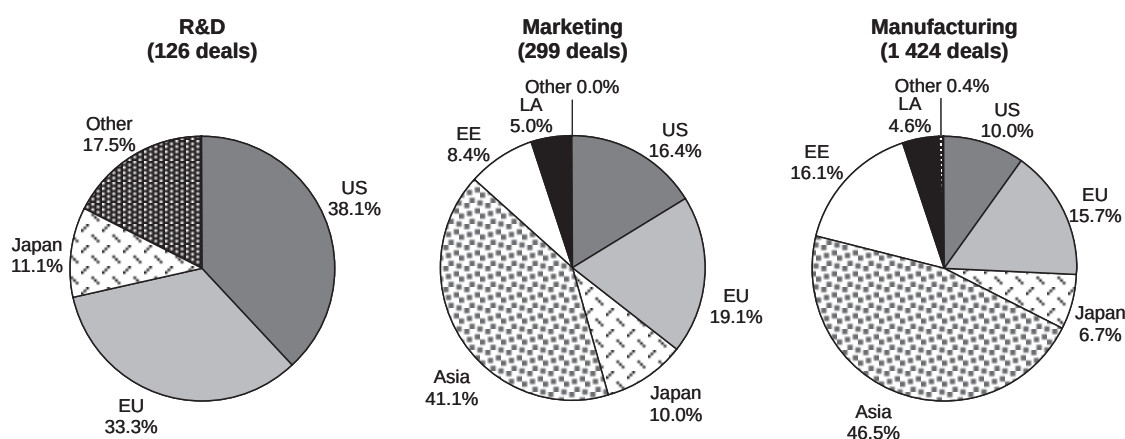
Note: For 2000, January to October.
Source: Thomson Financial.

of cross-border M&As increased steadily over the decade, with the highest number (140) in 1999 for a value of USD 34.6 billion. However the largest deal of the decade took place in 1998, the USD 40 billion merger of Daimler (Germany) and Chrysler (United States). Consolidation among major car manufacturers has accelerated in the latest years; in addition to the 1998 Daimler-Chrysler merger, Ford (United States) took over Volvo Car (Sweden) in 1999 and Land Rover (United Kingdom) in 2000, and Renault (France) acquired 37% of Nissan (Japan) in 1999 (Annex Table 4.11). From January to October 2000, 101 international M&As were completed for a total of USD 16.1 billion.

While mega-mergers between major car producers receive significant press coverage, a large majority of cross-border M&As involve component suppliers. Not only large multinational auto parts makers such as TRW (United States), Valeo (France) and Robert Bosch (Germany), but also smaller suppliers are actively acquiring foreign firms. Germany, the United States and the United Kingdom are involved in many cross-border acquisitions either as acquirer or target. Other countries with a large automobile industry (France, Sweden, Italy, Japan), also account for large numbers of acquirer and acquired firms (Annex Table 4.12). US and European car makers and auto parts manufacturers have acquired firms in Eastern Europe, such as Poland and Czech Republic, as new manufacturing sites, while firms in growing markets such as South Africa, Mexico, Brazil and China are also investment targets. As major car makers have expanded vehicle production not only in the OECD area but also in emerging markets, many car parts suppliers have followed, through acquisition of local small suppliers in those markets, to meet car makers' demand for just-in-time delivery of vehicle components.

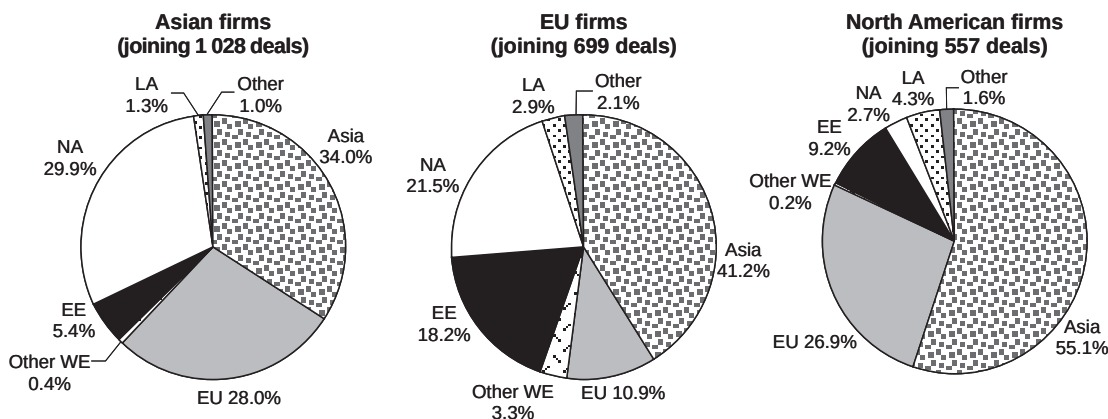
Strategic alliances have long been the norm in the automobile industry. Car makers use alliances to achieve economies of scale in the production of complete vehicles as well as components such as engines and transmissions. Among the 1 500 cross-border alliances in the 1990s, 1 300 were joint ventures, and 1 200 were manufacturing joint ventures. International alliances aimed at marketing or R&D are relatively small in number (Annex Table 4.13). In terms of location, 80% of the R&D under international alliances takes place in the major OECD regions. For their part, Asian countries, such as China and India, Eastern Europe and Latin America have been chosen as new marketing and manufacturing sites (Figure 4.10). Major alliance participants are from the major OECD regions, Korea and China (Annex Table 4.14). Asian firms, many of which are either Japanese or Chinese, are the preferred alliance partners; firms from the European Union and North America seek more partners in their neighbouring emerging markets, *i.e.* Eastern Europe and Latin America, respectively, than Asian firms do (Figure 4.11).

Figure 4.10. **Automobiles: regional distribution of cross-border alliances, by objective, 1990-99**



Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

Figure 4.11. Automobiles: regional distribution of cross-border alliance partners, 1990-99



Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

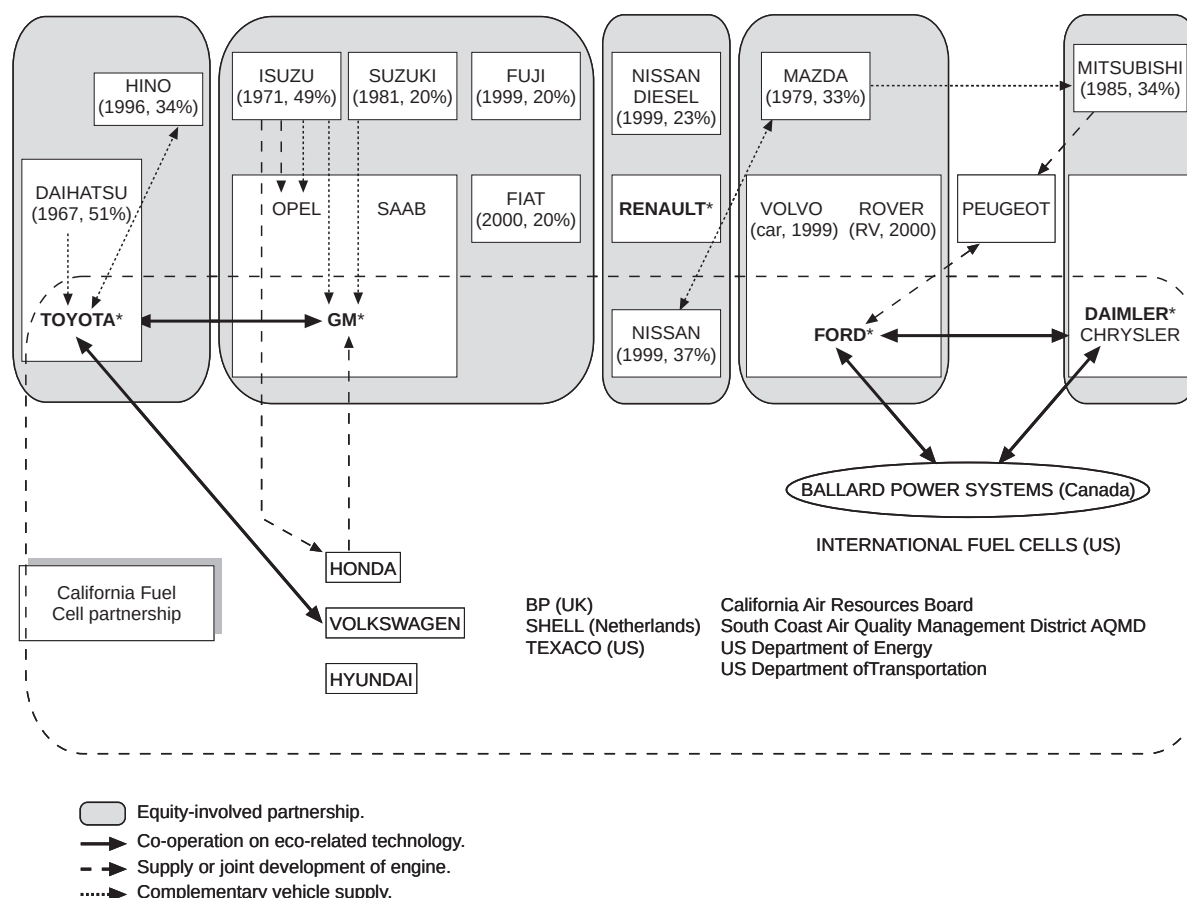
As a result of these cross-border acquisitions and alliances, the major automobile manufacturers have been divided into several international groupings (Figure 4.12). Several of the bilateral alliances are of long standing, and have recently expanded to include other partners. For example, Ford has held minority equity (25%) in Mazda since 1979 and increased its share holding to 33.4% in 1996. General Motors and Isuzu formed an alliance in 1971 and the General Motors/Suzuki alliance began in 1981. In recent years, these alliances have strengthened ties within a broader circle by increasing their cross-holdings with other companies in an effort to secure sufficient financial resources for R&D and economies of scale in production.

Several factors are driving international consolidation and alliances in the automobile industry. One is excess production capacity. The world automobile industry has excess capacity of some 20 million vehicles (PricewaterhouseCoopers, 1999b). Each car maker is under pressure to operate assembly lines at full capacity or close some lines. Economies of scale can be achieved through joint or mixed production, *i.e.* where models of different companies are produced at one site. This is also advantageous when an allied partner has a production site in the region where the other partner has no facility. For example, Renault plans to utilise Nissan's factory in Mexico to produce its own model. Mazda, which has excess capacity in Japan, started assembly of a Ford model in its factory in 2000.

M&As and alliances have also been prompted by the need to combine resources and spread risks for the development of a next-generation environmentally friendly car. Participants in the California Fuel Cell Partnership include auto manufacturers (DaimlerChrysler, Ford, General Motors, Honda, Hyundai, Nissan, Toyota, Volkswagen), fuel suppliers (BP, Shell Hydrogen, Texaco), fuel cell companies (Ballard Power Systems, International Fuel Cells), and the state and federal government (California Air Resources Board; US Department of Energy and Transportation) (Figure 4.12). The alliance was formed in April 1999 following the 1998 Ballard, DaimlerChrysler (then Daimler-Benz) and Ford R&D alliance to develop a Fuel Cell Electric Vehicle (FCEV), which operates on hydrogen fuel and oxygen and produces only water vapour emissions. The California Partnership will test FCEV on the road in California and build the necessary infrastructure, including hydrogen fuel stations. This could be indicative of a new type of cross-border alliance co-sponsored by private enterprises and government.

Market liberalisation and the introduction of a single currency in the European Union is also leading to new strategic alliances and acquisitions. The EU market is the second largest in the world (14.3 million

Figure 4.12. Major alliances in the automobile sector



Notes: * Indicates the lead company of each equity-involved partnership. The year indicates the start of the alliance; % of shares acquired by the lead company of each equity-involved partnership. Volvo (car division) and Rover (recreational vehicles – RV division) have been fully acquired by Ford. Source: Company press releases and State of California's homepage (www.drivingthefuture.org).

vehicles sold in 2000) after the United States. Price differences across EU member states are being revealed, with a significant impact on the price strategies of major auto makers. Savings are expected to be realised through alliances for common car platforms, power trains (engines and transmissions) and other vehicle components. Through the Renault/Nissan alliance, use of common platforms will generate considerable economies of scale – up to 500 000 production units per platform – compared to 280 000 units at Renault and 100 000 units at Nissan. The two companies also agreed to mutual supply of complementary engines and transmissions, with estimated cost savings of USD 3.3 billion in 2000-02 resulting from the alliance.

Market entry at lower cost is another motive for cross-border acquisition of and alliance with local firms in the automobile industry. Japanese firms have already targeted high-growth markets in Southeast Asia. General Motors and Ford are forming alliances with Japanese firms to build on their capacity and presence in the region. General Motors is developing mini-vehicles for Asian markets jointly with Suzuki and will assemble these vehicles in Suzuki's factory in Japan or other Asian countries. Ford has begun joint assembly of pickup trucks with Mazda in Thailand for sale in that country and export to other Asia-Pacific countries. The recent DaimlerChrysler's acquisition of 34% of Mitsubishi Motors (Japan) is expected to allow the acquirer to access Mitsubishi's production facilities in Southeast Asia. Europe's Renault acquired 70% of Samsung Motors (Korea) in May 2000, and plans to produce and

sell 200 000 vehicles by 2005 in Korea and other Asian countries. The alliance strategies of these car manufacturers are quite different (Box 4.2).

As the Internet has allowed car manufacturers to establish a direct link to (potential) customers and also has high potential for reducing parts procurement costs, each car maker has launched its own Web site and joined industry-wide B2B online auto parts exchanges. While cross-border alliances between car makers and IT firms, such as software developers and computer companies, have long been common, their major objective in the past was the development of computer systems for product design, engineering and manufacture. In recent years, there have also been several international collaborations for establishing B2C and B2B electronic commerce (Figure 4.13). The small number of international alliances for B2C e-commerce reflects the fact that many auto makers' homepages have been created by a domestic IT partner and that auto makers have avoided drastic changes in their marketing strategies.

Car manufacturers largely rely on exclusive and non-exclusive distribution channels for vehicle sales and have been careful not to disturb traditional distributors and affiliated dealers by introducing direct B2C sales, which bypass them. Auto makers need to maintain physical dealer networks with local and regional presence for customer services such as maintenance. In fact, most carmakers' Web sites receive inquiries on prices and specifications of vehicles on the market, but few offer direct car shipment from the factory. Instead they direct the inquirer to the nearest dealer.

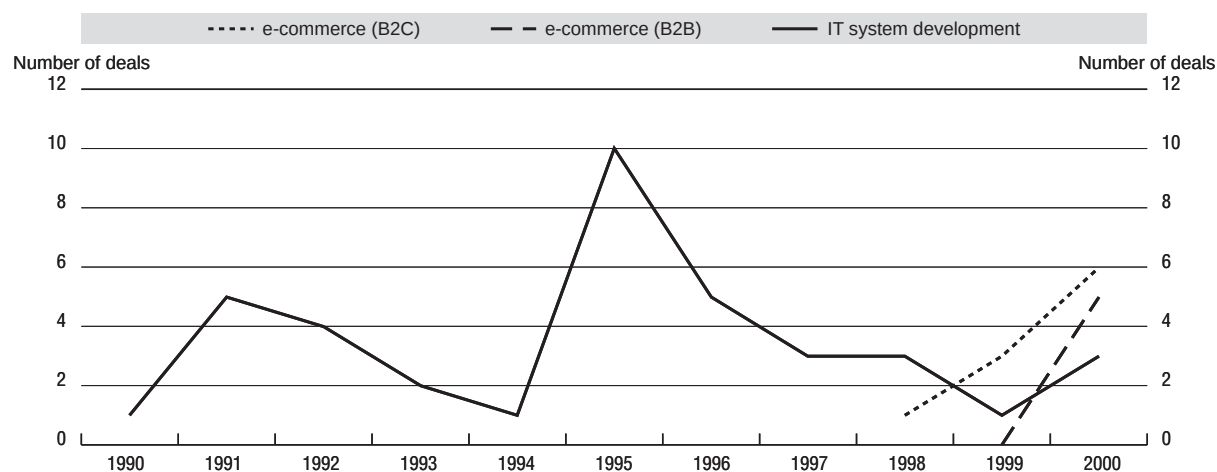
As for B2B markets, none is fully operational, and real efficiency gains are still to come. Industry-wide, transparent, common B2B markets may work well in terms of price reduction in lower-valued compatible parts, such as lamps, tyres and electronic cables, which are easily substitutable. However, since many vehicle components require substantial customisation in design and other specifications, car makers (parts buyers) may go back to bilateral, off-line and closed negotiations with suppliers. Some market participants in open B2B exchanges may be concerned about protection of the secrecy of trade information (order and shipment) in online transactions. Some car makers have established their own online car component procurement systems, partly to maintain bilateral links to traditional and potential new suppliers.

Box 4.2. General Motors' alliance strategy

Many auto makers are forming and strengthening alliances with Japanese car makers in order to penetrate fast-growing Asian markets. General Motors (United States) has purchased major car components such as power trains (engines and transmissions) from various Japanese car manufacturers and acquired minority equity in these firms. Recently, GM acquired 20% equity in Fuji Heavy Industries, a four-wheel-drive vehicle maker producing the Subaru brand, and formed an agreement with Honda for mutual engine supply. GM also holds 49% of the shares of Isuzu, a diesel engine and commercial vehicle maker, and 20% of Suzuki, the top mini-vehicle manufacturer in Japan. The GM strategy is to co-operate with several Japanese car makers specialising in different fields and market segments.

This is different from the strategy of other firms such as Ford (United States), which has maintained an alliance with a single Japanese car maker, Mazda. Ford focuses on cost reduction through common car platforms, power trains and other vehicle components while maintaining distinct models. In other words, Ford vehicles look different from Mazda vehicles but they share common components. General Motors, in contrast, puts its brand on original models developed by its alliance partners, as do its partners, who have supplied such models to Opel (with Opel's mark), a GM-owned European car maker.

General Motors is fast becoming a services company and leaving automobile manufacturing to its many international partners. The company has established widespread service networks via the Internet where customers can purchase a car, receive financing and be provided with all follow-up services. GM will probably continue to produce vehicles for the US market, where it has the largest market share, but its revenue may come largely from being a service provider rather than a vehicle manufacturer, and it may purchase all models for European and Asian markets from its allied partners.

Figure 4.13. **Automobiles: cross-border alliances with IT firms, 1990-2000**

Note: For 2000, January to October.
Source: Thomson Financial.

Steel

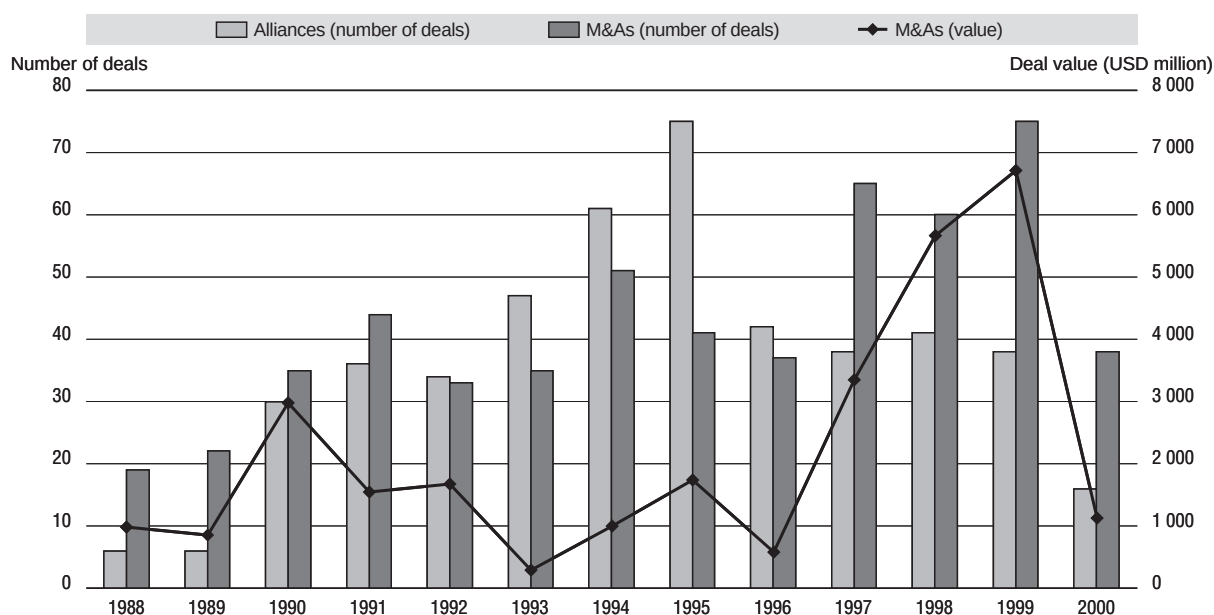
Steel makers are seeking economies of scale in production through joint manufacturing alliances and gaining in size through mergers. Massive consolidation in the steel industry since the early 1990s, particularly in Western Europe and North America, is largely a response to tougher competition from new, low-cost steel producers in Asia and Eastern Europe. Incumbent steel makers in the West have become more efficient partly by reducing their workforce; in the United States, the workforce was slashed from 610 000 in 1974 to 222 000 in 1999, and in the European Union from 996 000 in 1974 to 280 000 in 1999 (OECD, 2001b). As a result, five major groups, Arbed (Luxembourg), Usinor (France), Corus (British Steel, United Kingdom; Hoogovens, Netherlands), ThyssenKrupp (Germany) and Riva (Italy), were formed in Europe. Together with the world's largest steel producers in Asia, including Posco (Korea) and Nippon Steel (Japan), and others such as LNM (Ispat International, United Kingdom), these major steel makers produced one-fifth of the world's steel in 1999.

As competition in the world steel market has intensified, M&As to consolidate production have been preferred to joint manufacturing alliances (Figure 4.14), because the latter may provide alliance participants with fewer efficiency gains than more drastic business streamlining through mergers. The steel sector has huge excess production capacity, so that steel prices are low, and steel producers have been under constant pressure to downsize. Establishing and joining industry-wide B2B online steel exchanges are also part of efforts to reduce transaction costs between steel makers and buyers. The number of B2B steel markets is increasing, but since most buyers participating in these exchanges expect substantial quantity discounts, efficiency gains for steel producers (suppliers) could be offset by further drops in steel prices.

The world steel industry has some 300 million tonnes of excess capacity, almost one-third of total crude steel production capacity (1.1 billion tonnes in 2000). The world average capacity utilisation rate was a mere 71% in 1999, although countries' figures vary from 60% in Japan, to 76% in the European Union, to 80% in both the United States and Korea, while China is producing steel at almost full capacity.

Increased production in non-OECD countries, particularly in Asia, has put further downward pressure on steel prices and pushed steel makers in developed countries to streamline their business through mergers and alliances. Several Asian countries, including China, India and Chinese Taipei, have

Figure 4.14. Steel: cross-border alliances and M&As, 1988-2000



Note: For 2000, January to October.

Source: Thomson Financial.

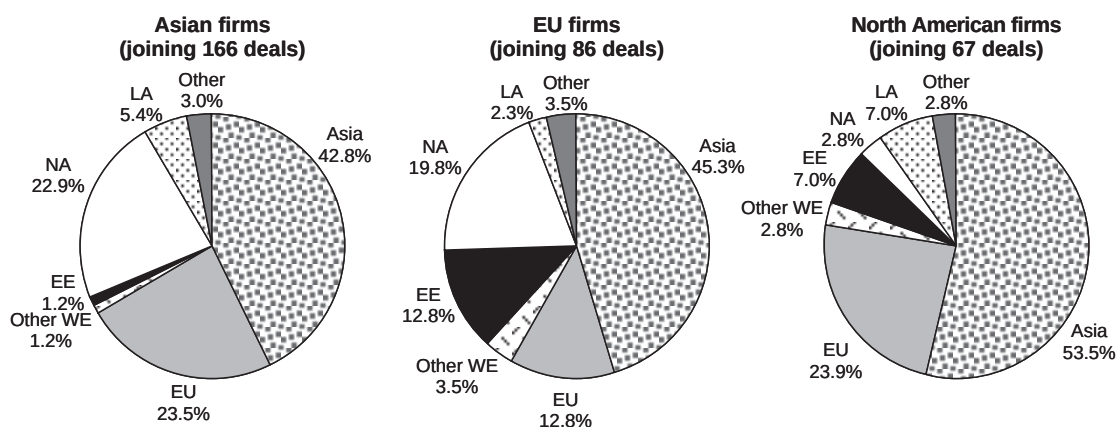
more than doubled their steel production capacity since the middle of the 1980s, and imports of relatively cheap steel from these countries to Western Europe and North America have increased. Some steel producers in Eastern Europe, having lost the formerly huge market in the region with the collapse of the Soviet Union, have also diverted their exports to the Western countries. The United States, for example, is facing a significant import surge from China, India, Chinese Taipei and Ukraine (Annex Table 4.15). As a consequence, the steel trade deficit in the United States is at record levels and the EU's net surplus in steel trade has become very thin (Annex Table 4.16). Although sustaining or raising steel prices requires a substantial reduction in production, many steel producers have continued high volume production to maintain their margins, which have become thinner and thinner as a result of falling prices.

With harsher than ever competition in the steel market, M&As have been preferred to alliances in recent years (Figure 4.14). There were 480 cross-border M&As totalling USD 25.5 billion in the 1990s, with 1999 the peak year both in numbers (77 deals) and value (USD 6.7 billion). From January to October 2000, 54 deals totalling USD 1.5 billion were completed. With one exception, the top ten acquisitions took place in the latter half of the 1990s (Annex Table 4.17), and more than 80% of total M&As in the decade, including these top deals, were majority acquisition (share holdings of 50% or more). This trend also holds in 2000. The top acquirer countries, such as the United Kingdom, France, the United States and Japan, are among the world's major steel producing nations (Annex Table 4.18). Eight of the top ten acquired firms are in Western Europe, and the rest are in the United States and Canada (North America), reflecting massive regional consolidation. While Brazil and Mexico, the eighth and fifteenth steel producing nations, respectively, in 1999, have both acquirer and acquired firms, Australia and some Asian economies (Philippines, Chinese Taipei) and Eastern European countries (Slovak Republic, Czech Republic) have also attracted foreign acquirers.

In terms of international alliances, there were 440 in the last decade, and the annual number of deals has remained around 40 in recent years. Of these alliances, 90% are joint ventures for manufacturing, and the 16 cross-border alliances for January-October 2000 include 11 joint manufacturing agreements and two

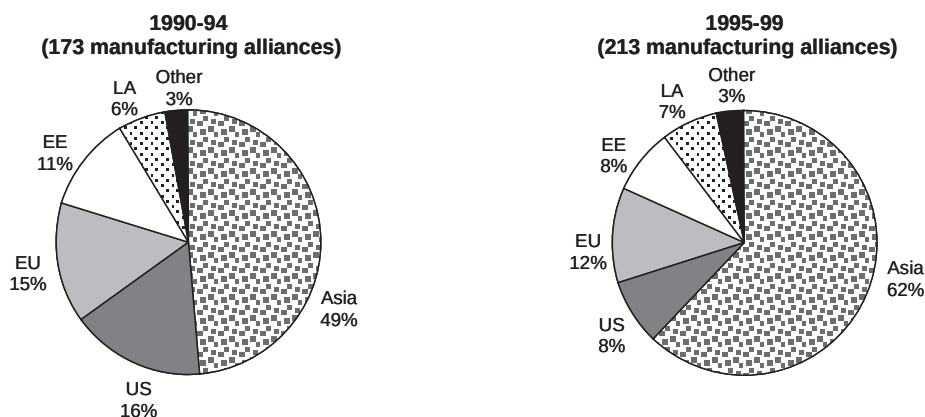
deals to establish a B2B steel products marketplace on the Internet. Major alliance participants are firms from Asia, the European Union and the United States (Annex Table 4.19). Japanese firms joined 65 alliances between 1995 and 1999, followed by the United States (64), China (48), Germany (28), Korea (25), France (21) and Australia (19). Asian firms were the preferred alliance partners, and there were many trans-Atlantic deals (Figure 4.15). Firms from EU countries sought more partners in Eastern Europe, and those in North America formed more alliances with companies in Latin America, a sign that geographical closeness matters. From 1995 to 1999, the production site preferred under steel manufacturing alliances was again Asia (Figure 4.16): China (46 manufacturing alliances), India (13), Vietnam (10) and Australia (9). The United States (17), Brazil (8), Russia (6) and Poland (4) were also among the preferred countries for steel manufacturing.

Figure 4.15. Steel: regional distribution of cross-border alliance partners, 1995-99



Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

Figure 4.16. Steel: preferred steel manufacturing site under cross-border alliances, 1990-99



Note: EE = Eastern Europe; LA = Latin America.
Source: Thomson Financial.

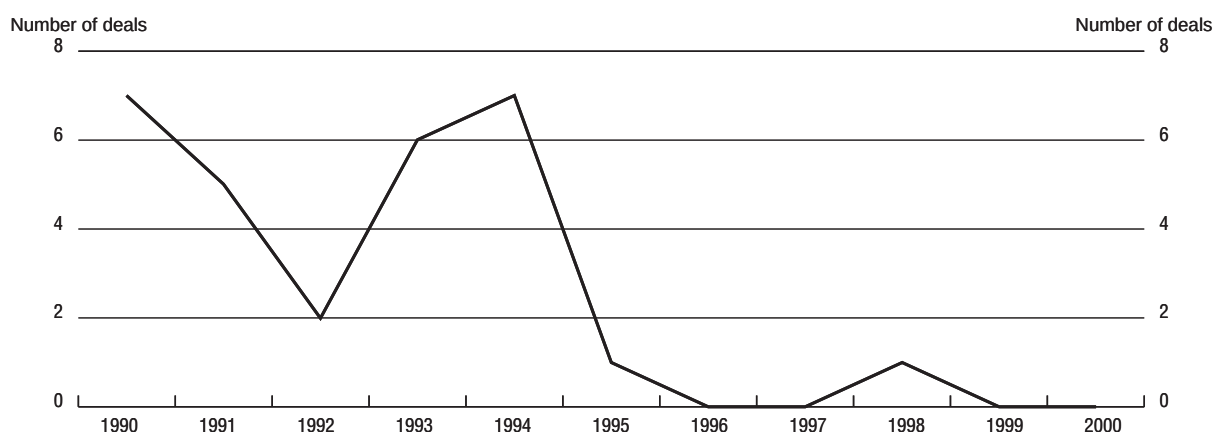
Industry-wide B2B online exchanges are growing in various sectors, and more than 50 such markets for steel products, some of which aim at particular regional markets, have been established. A leading online steel market, e-Steel, was founded in 1998 and claims as participants more than 3 500 companies in 100 countries. Major steel makers, including Posco, US Steel, Ispat International and BHP (Australia) and steel buyers such as Ford Motor company have joined the market.

While B2B Internet commerce may provide steel manufacturers with benefits by bringing new steel buyers and reducing transaction costs between steel producers and potential customers, these efficiency gains may not be large as expected. Major suppliers and customers for steel makers (*e.g.* construction, including heavy construction machinery, and automobiles) are relatively small in number and have merged faster than steel producers. A few suppliers dominate the world iron-ore market, and a handful of groups of car manufacturers, a major steel buyer, produce more than 80% of the world's automobiles. The oligopolistic structure of the world iron-ore market tends to sustain or even raise ore and coal prices, and this directly affects steel production costs. For their part, steel buyers joining B2B markets expect substantial quantity discounts. Since most steel products are not very differentiated in terms of features and quality, steel buyers tend to seek cheaper products. In fact, many automobile manufacturers participating in online steel markets have explicitly mentioned their expectations of better prices in these markets. In the long run, B2B steel markets could push steel prices down further and hurt steel manufacturers' profits.

Faced with thinner margins in steel manufacturing, some steel makers, seeking alternative sources of revenue, entered non-steel businesses such as memory chip production and development of computer systems. In the late 1980s and early 1990s, Japanese steel producers actively formed alliances with foreign software and computer companies (Figure 4.17). In addition to memory chip production, they jointly developed and marketed software and computer systems with their partners. The sharp decline in computer chip prices in the late 1990s meant huge losses in these new businesses, and by October 2000 all Japanese steel companies had withdrawn from the computer business. None of the non-steel businesses was able to compensate for declining revenues from steel businesses.

Given mounting competitive pressure on steel makers, another round of mergers may occur in the industry, but because integration of steel producers with similar business operations would provide little synergy, they are more likely to engage in further joint ventures (alliances) than in mergers. Further consolidation among major steel manufacturers could face administrative hurdles. For example, any combination of members of the large European groups would likely face objections from antitrust

Figure 4.17. Japanese steel makers' cross-border alliances for non-steel businesses, 1990-2000



Note: For 2000, January to October.
Source: Thomson Financial.

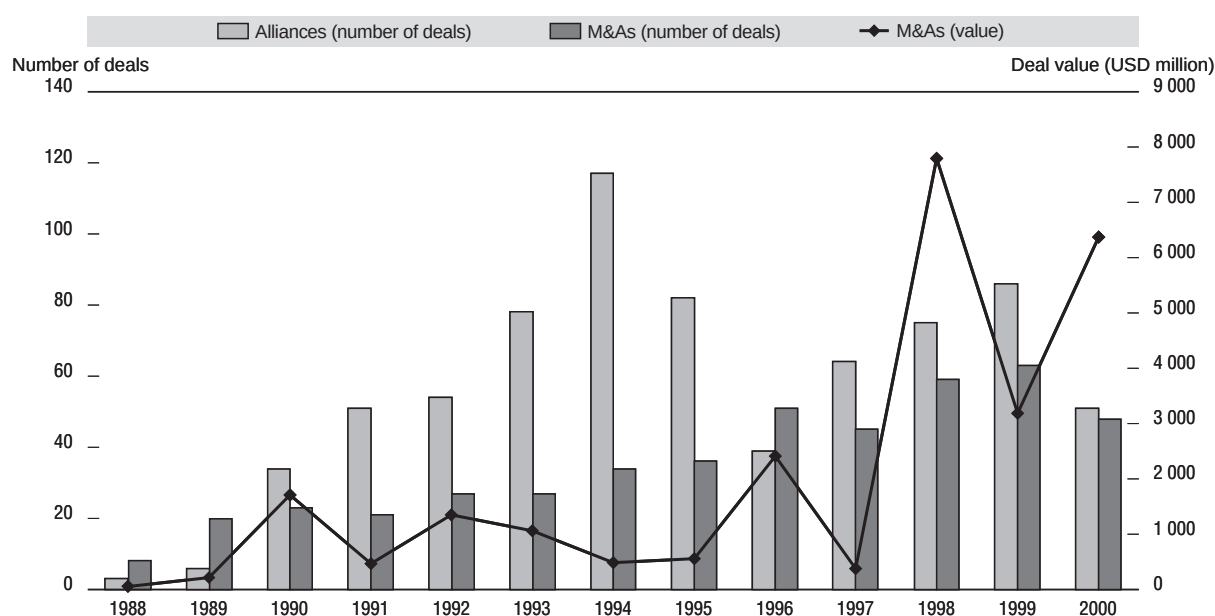
authorities. On the other hand, new alliances have recently been formed between large steel producers. Posco and Nippon Steel, the first and second largest steel makers in the world, have started cross-share holdings and deepened their joint R&D alliance. ThyssenKrupp and NKK, Japan's second steel maker, have entered talks over an alliance for development and marketing of steel sheets for the automobile industry. Such collaborations may create some economies of scale in R&D, manufacturing and marketing. In the long run, nonetheless, the steel industry will have to close a substantial number of production lines to cope with its huge capacity surplus even if the world steel demand and prices remain stable.

Airlines

The international airline industry, including both passenger and cargo courier services, is highly regulated, and air routes and frequency are generally determined through bilateral government agreements. Since airlines must limit the number and range of destinations they serve, international alliances among air carriers covering different regions and routes have long existed. Government restrictions on foreign ownership of national carriers have also driven airlines towards cross-border alliances, so that there are relatively few M&As in the sector (Figure 4.18). Through these alliances, five major airline groups have been created: Star Alliance (13 airlines including United and Lufthansa), Oneworld Alliance (eight airlines including American Airlines and British Airways), Delta/Air France, KLM/Northwest and Qualiflyer, led by Swissair. On international flight services, about 40% of all traffic (passenger, freight and mail) in 1999 was carried by the airlines of the United States, the United Kingdom, Germany and Japan (ICAO, 2001).

Airline companies' major motivation for cross-border alliances and (minority) acquisitions is to strengthen their market presence by providing customers with "seamless" transport to as many destinations as possible. Major airlines from the major OECD regions have sought alliance partners in the region they serve and beyond to expand their geographical reach. Airlines have also pursued cost

Figure 4.18. Airlines: cross-border alliances and M&As, 1988-2000



Note: For 2000, January to October.
Source: Thomson Financial.

reduction by joint marketing through code-sharing arrangements with allied partners for both passenger and cargo flights, sharing airport facilities such as business lounges and consolidating ground services, including aircraft maintenance and baggage handling.

Airline tickets are believed to be one of the largest selling items over the Internet, and many passenger carriers have established B2C online shops to market seats directly to air travellers, thereby avoiding traditional intermediaries such as (off-line) travel agencies. Industry-wide B2B exchanges for joint purchase of aircraft components and other equipment and services have also been proposed, but few are operational and benefits in terms of efficiency and cost are still to come.

From 1990 to 1999, there were 390 cross-border M&As totalling USD 19.4 billion, and the annual number of deals has increased slightly in recent years (Figure 4.18). From January to October 2000, 48 deals totalling USD 6.3 billion were completed. The highest annual deal value, USD 7.8 billion in 1998, was heavily inflated by a deal between the Argentine government and Aeropuertos Argentina 2000, a consortium of Ogden Corporation (United States), SEA S.p.A. (Italy) and others, which acquired 33 airports in Argentina for USD 5.1 billion through an international call for tender by the government (Annex Table 4.20). Owing to government restrictions on foreign ownership of national airlines, only a few majority acquisitions of passenger airlines have occurred so far; they include Air New Zealand's take-over of Ansett Australia, completed in June 2000, and Iberia's (Spain) 85% acquisition of Aerolineas Argentinas (Argentina) in 1990. Full integration of Alitalia (Italy) and KLM (Netherlands) began in 1998 but was cancelled by KLM in April 2000 partly because of uncertainty over the privatisation of Alitalia.

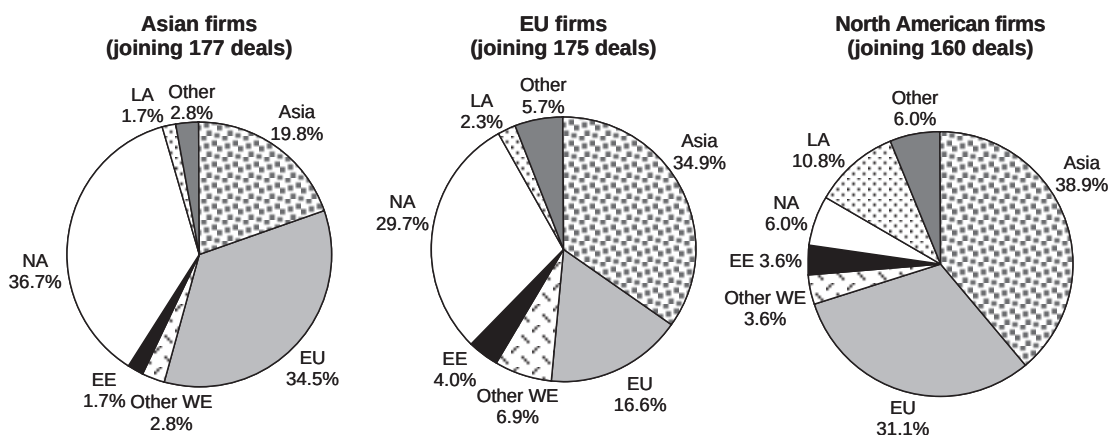
The countries with the major acquiring firms are those with global airline operators, such as the United States, Switzerland (*e.g.* SAirGroup, Swissair) and the United Kingdom (British Airways) (Annex Table 4.21). Half of the deal value of M&As of Singapore, the fourth acquirer nation, comes from Singapore Airlines' minority acquisition of Virgin Atlantic (United Kingdom) in March 2000, and Germany's fifth place is largely attributable to active acquisitions by Deutsche Post AG, which was involved in nine acquisitions from 1998 to June 2000 totalling USD 2.4 billion; the company is the third largest acquirer in the 1990s after the Aeropuertos Argentina 2000 consortium and SAirGroup in terms of total transaction value. The top nations for acquired firms are also countries with a large air transportation industry, while some countries with growing air transport services, including Hong Kong (China), Singapore, South Africa and Spain, are also preferred investment destinations. While the top nations in terms of acquirer and acquired firms represent more than 90% of the total value of M&As from 1990 to the first half of 2000, they represent less in terms of number of deals, a sign that there are many small (minority) acquisitions in the sector.

There were fewer than 100 new cross-border alliances a year in the latter half of the 1990s, owing to the already high level of collaboration among airlines. There was a total of 680 international alliances in the decade. Passenger airlines participated in 200 of the total of 350 deals in the latter half of the 1990s; of these, 50 joint ventures were for aircraft maintenance, ground handling and shared passenger and/or cargo services; 150 non-joint ventures were for shared flight services, including code sharing (joint marketing), flight schedule co-ordination and frequent flyer programmes. With regard to collaborations that did not involve passenger airlines, many were for aircraft maintenance, with the participation of aircraft repair services firms and parts manufacturers. Joint ventures that provide ground-handling services are also prominent.

One of the fastest growing types of alliances relates to express air cargo services. Firms specialised in express cargo delivery, such as DHL (United States) and TNT Express Worldwide (Netherlands), have formed alliances with local courier services companies, including national postal agencies, to expand their cargo pick-up and delivery services into both developed and developing countries. Express courier firms in the United States joined two-thirds of the total 33 deals from 1995 to 1999, followed by TNT of Netherlands and several Japanese express cargo companies.

The United States participated in more than 40% of all international alliances from 1995 to 1999, followed by the United Kingdom, Germany, Japan and China (Annex Table 4.22). Asian, EU and North American firms were evenly represented in these alliances, and 90% of the total involved OECD

Figure 4.19. Airlines: regional distribution of cross-border alliance partners, 1995-99



Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

countries. As for the regional distribution of alliance partners, inter-regional alliances, *e.g.* partnership between Asian and North American firms, are preponderant, and the share of intra-regional alliances is relatively small (Figure 4.19).

Around 70% of airline alliances include a code sharing arrangement through which allied airlines sell seats on each other's flights under each airline's name or code. In this way, the Star Alliance (which includes United, Lufthansa, Air Canada, Air New Zealand, All Nippon Airways, Ansett, Austrian Airlines, British Midland, Mexicana, SAS, Singapore Airlines, Thai Airways and Varig) covers more than 800 destinations around the world. Through the alliance, each airline can offer a wide range of routes without actually flying to these destinations. Customers are attracted by the breadth of destinations available and by the combined frequent flyer programmes. In addition, the airlines reduce their costs by sharing airport facilities such as lounges for business travellers and consolidation of aircraft maintenance and catering services. As a result, there is intense competition among the major airline groups for additional members (Box 4.3).

Minority acquisitions are also used to keep partners in the alliance group to which the acquirer airline belongs. For example, British Airways (BA) owns a quarter of the shares of Qantas (Australia) and 9% of Iberia (Spain), both of which are members of the BA-led Oneworld alliance. Minority acquisitions are also a result of government restrictions on foreign ownership of national flag carriers; BA was not permitted under the Qantas Sale Act of Australia to increase its 25% share when Qantas was floated publicly in 1995.

While consolidation increases as more air carriers join the five major groups, each airline also maintains many co-operative agreements in specific areas of operation. For example, Japan Airlines (JAL), Japan's largest air carrier, has code-sharing agreements for passenger flights with ten airlines and for cargo flights with six (Annex Table 4.23). Such bilateral arrangements are concluded regardless of the alliance group to which the airline belongs, leading to a complicated web of alliances among airlines, all aimed at increasing the cost-effectiveness of their passenger and cargo operations. However, these alliances and bilateral agreements are believed to have the potential to raise barriers to entry and to restrain competition significantly at international level.

Alliances in the airline sector differ somewhat from those in other sectors. Although cost savings could be realised through joint purchases of aircraft, for example, even the five major alliances have yet

Box 4.3. Two victories for Star Alliance

Two cases in which Star Alliance recently added airlines to its circle show the fierce competition between the two major alliances (*i.e.* Star and Oneworld) to expand their range of destinations and choice of domestic and international routes.

Canadian Airlines (CA), which emerged in 1987 as the successor to five airlines then operating in Canada, was a founding member of Oneworld with American Airlines and British Airways (BA). The company was restructuring and had streamlined its business for several years with substantial financial support from AMR Corporation, the parent company of American Airlines.

When Air Canada, Canada's biggest airline and a member of Star Alliance, offered to acquire CA in November 1999, American Airlines (AMR) and BA bid against it, hoping to bring the new merged airline into Oneworld, but failed. United Airlines and Lufthansa, core members of Star, fully backed Air Canada, including with substantial financial support, and succeeded in pulling the two major Canadian airlines into their club. The Minister of Transport and the Commissioner of the Competition Bureau of Canada approved the Air Canada-CA merger in December 1999. Air Canada thus became the world's tenth largest airline and controls 80% of domestic flights in Canada and 40% of international flights to and from Canada. The battle was important for both Oneworld and Star in terms of added routes and destinations, although the Canadian government is reported to be preparing legislation to curb the new airline's market power.

Lufthansa (a Star partner) acquired 20% of British Midland, the second biggest holder after BA of take-off and landing slots at Heathrow airport in the United Kingdom. The acquisition included a condition that British Midland would join Star Alliance. British Midland is quite a valuable addition to Star, now that United Airlines and Lufthansa can challenge BA on transatlantic routes (utilising United's US hubs and Midland's slots at Heathrow), European routes (Lufthansa's Frankfurt hub) and Midland's regional routes in the United Kingdom.

to do so. Joint investments in information technology systems and customer databases would also be cost-effective, but none of the major alliances has benefited substantially in this area.

B2B and B2C Internet commerce has high potential for significant cost reductions. In general, ticket sales and marketing costs, including commissions to travel agencies that sell seats, represent one-fifth of each air carrier's total operating costs. Sale of air tickets on their online site not only gives airlines a direct link to customers, it also eliminates payments to intermediaries. Joint purchase of aircraft parts and other services such as catering through B2B exchanges also have high potential for cost savings.

However, while several industry-wide B2B exchanges and joint B2C sites have been announced in recent months, there have been relatively few cross-border alliances for Internet commerce site development in the airline sector. Since the late 1980s, each company has had its own ticket reservation system through alliances with information technology (IT) partners such as IBM. As some had already heavily invested in computer systems and created a B2C Web site, they are reluctant to establish an online travel agency in which many airlines participate. For example, British Airways and ten other airlines, including Air France, Lufthansa, Alitalia and KLM, announced in May 2000 the launch of a joint online travel agency. Lufthansa, however, which had rapidly adopted the Internet for its business, has continued to promote the company's B2C site, InfoFlyway, offering bookings for its own flights and those of other carriers. Existing B2C sites operated by each airline compete with industry-wide or regional initiatives for joint B2C online shops. Moreover, each major airline alliance group, such as Star Alliance and Oneworld, has been developing an integrated Web site, which may lead to a group-wide B2C site. Strategic differences in adopting the Internet (fast movers or catch-ups) as well as the complexity of the web of alliances in the sector may undermine efforts to maximise efficiency and cost benefits from Internet technologies.

Finance

Deregulation in the finance sector, which includes banking, security and commodity brokerage, insurance, credit services and real estate business, has created more open markets for foreign investors and lowered traditional entry restrictions separating services. As a consequence, many financial institutions have expanded abroad and diversified their product range through acquisitions of and alliances with firms both in the same and in different service segments. As margins in traditional services such as corporate lending have decreased, financial firms need alternative sources of revenue and have entered other service segments by partnering with firms in the target business. In the 1980s and early 1990s, cross-border alliances were partly a response to restrictions on direct provision of financial services by foreign firms and to protection against foreign take-overs of local financial institutions. More recently, international consolidation and alliances have sought to reduce excess capacity and streamline business activities. Introduction of B2C Internet commerce, such as online banking and trading, is part of the effort to reduce costs as well as a response to new low-cost entrants, including Internet financial service providers that lack the physical branch networks of traditional players.

Cross-border consolidation and alliances in financial services have four major drivers: regulatory reform, international market consolidation (*i.e.* globalisation), excess capacity/financial distress and technological change. OECD countries have substantially relaxed certain regulations, such as restrictions on business areas (banking, securities, insurance). Steps have been taken to facilitate foreign direct investment (FDI) in the financial sector, and regulatory reform has promoted more open and competitive markets. In the United States, removal of legal restrictions on (interstate) geographical expansion began in the mid-1980s. The 1999 Financial Services Modernisation Act has allowed the creation of financial holding companies that engage a range of activities, including banking, insurance underwriting and distribution and security trading. In the European Union, in addition to a series of directives removing legal and administrative barriers in the financial sector, the introduction of the euro has stimulated international M&As. The single currency provides financial institutions with the possibility of pan-European asset allocation and management, and they have shifted from a focus on domestic markets to take advantage of the benefits of an integrated European financial market.

Dynamic offshore markets have also put strong competitive pressures on financial firms, as exchange controls and other restrictions on cross-border capital flows and financial services have been removed (OECD, 2000d). Many financial products are now offered worldwide, and global financial service providers have entered many local markets. Local firms have been forced to change their strategies and product offerings to include potentially profitable new service segments, while trimming back declining activities. Alliances and acquisitions allow firms to gain access to new market segments by exploiting a partner's market knowledge and service expertise as well as branch networks and sales force.

At the same time, a trend towards disintermediation, with large enterprises in particular seeking finance directly from capital markets rather than through financial intermediaries (banks), has resulted in over-capacity in traditional bank lending. Excess capacity and financial distress have been particularly serious in Japan and Korea, where many financial institutions have suffered in the last few years. In these countries, a substantial infusion of funds from foreign investors has been needed to recapitalise depressed financial firms, and financial supervisory authorities have encouraged domestic and international mergers involving failed institutions (OECD, 2000d). In Korea, as part of the policy response to the financial crisis, the banking authority has allowed foreign investors to acquire 100% of domestic institutions. The euro zone's financial sector, which has been characterised as over-staffed and over-branched, also needs to cut costs and remove excess capacity through consolidation and alliances.

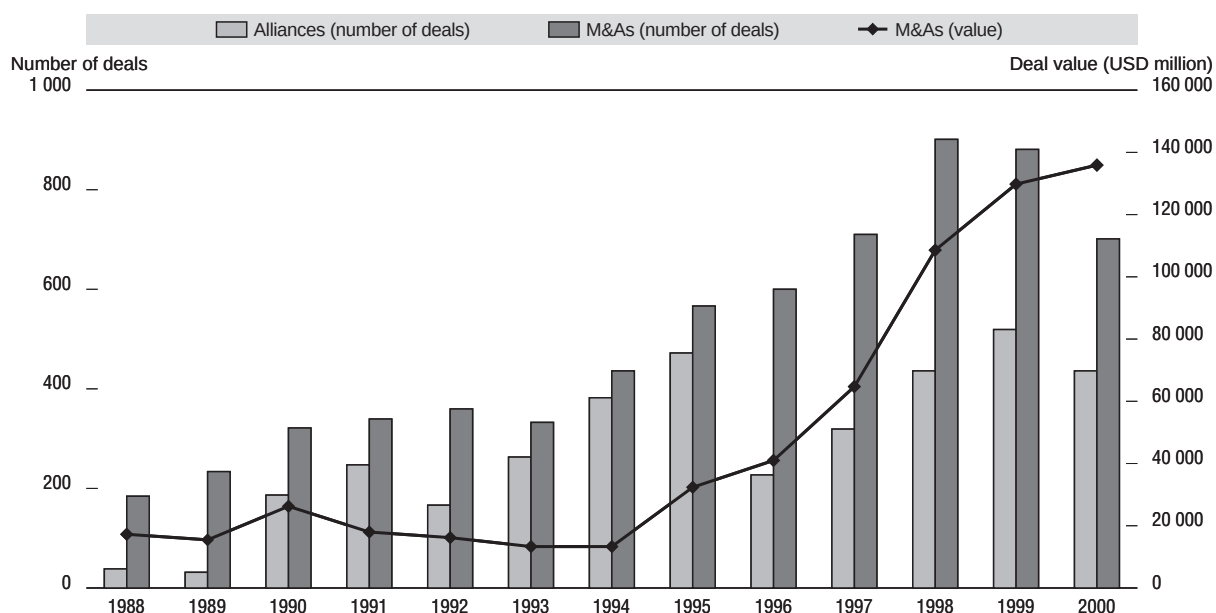
Regulatory reform, globalisation and excess capacity problems have been linked in various ways to technological change and development. Changes in information technologies, data processing and telecommunications have lowered transaction costs, and financial service providers are now able to reach larger number of clients over wider geographic areas, thanks to the Internet, among others. These technological changes have led to further international consolidation of financial markets and intense competition at global level, with new and growing cross-border services. Innovations in taking deposits and in lending have encouraged deregulation. Customers' search costs for better product offers have also

declined owing to the competition between traditional firms and the new Internet financial companies. In some OECD countries, financial institutions have also faced competition from non-financial sectors, including large retailers with a well-known brand name, customer trust and extensive customer databases, which can be used to develop financial products. These new entrants are taking advantage of the sector's deregulation, and the tougher business environment, which is partly due to technological advances, has led to further business restructuring and streamlining through mergers and alliances.

The number of cross-border M&As in the finance sector has increased steadily since the late 1980s, and international alliances also recorded their highest figure in 1999 (Figure 4.20). Over the last decade, there were 5 450 cross-border M&As in the whole finance sector, totalling USD 463.6 billion, two-thirds of which (3 700 deals, USD 376.4 billion in value) were concluded between 1995 and 1999. The most active acquirers were commercial banks, life and non-life insurance firms, real estate companies and security brokerage firms. They were involved in 2 000 of the deals concluded in the second half of the decade (Figure 4.21). Firms in these four sectors are also major participants in alliances; they joined 1 600 cross-border alliances from 1995 to 1999, more than 80% of the total of 1 970 over the period. The top merger deals took place in the latest several years, and many were banking and insurance mergers (Annex Table 4.24). In fact, 40% of the total cross-border M&As in the finance sector between 1995 and 1999 involved acquisitions of banks and insurance companies.

In the banking sector there were 990 cross-border acquisitions totalling USD 114.8 billion over the last decade, two-thirds of which (630) took place between 1995 and 1999 (Figure 4.22), with a total value (USD 96.3 billion) more than five times that of the first half of the decade (USD 18.5 billion). In insurance, 1 200 cross-border deals totalling USD 164.3 billion were concluded in the 1990s, 800 of which (USD 132.7 billion in value) took place in the second half of the decade. The top acquirer firms in both these sectors, from 1995 to October 2000, include the Netherlands, Germany, the United Kingdom, the United States, Belgium and France, countries with large banking and insurance industries. These countries are also at the top of acquired firms (Annex Tables 4.25 and 4.26). In the insurance sector, Switzerland tops

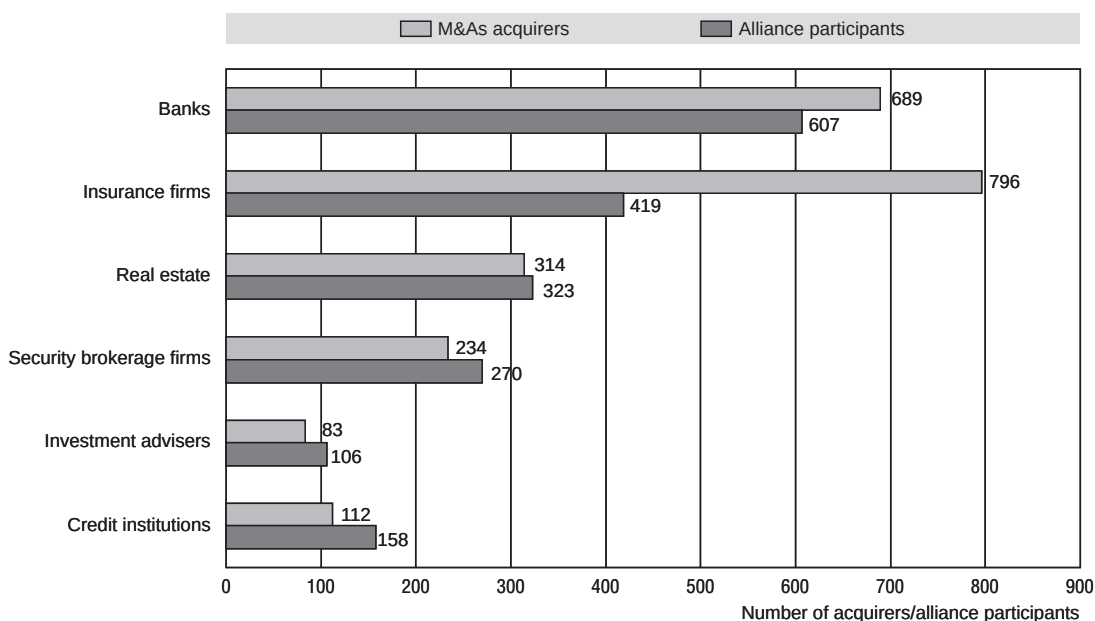
Figure 4.20. Finance: cross-border alliances and M&As, 1988-2000



Note: For 2000, January to October. Finance sector: banking including bank holding companies, credit services, real estate including mortgage bankers and brokers, investment, security and commodity dealers and exchanges and insurance.

Source: Thomson Financial.

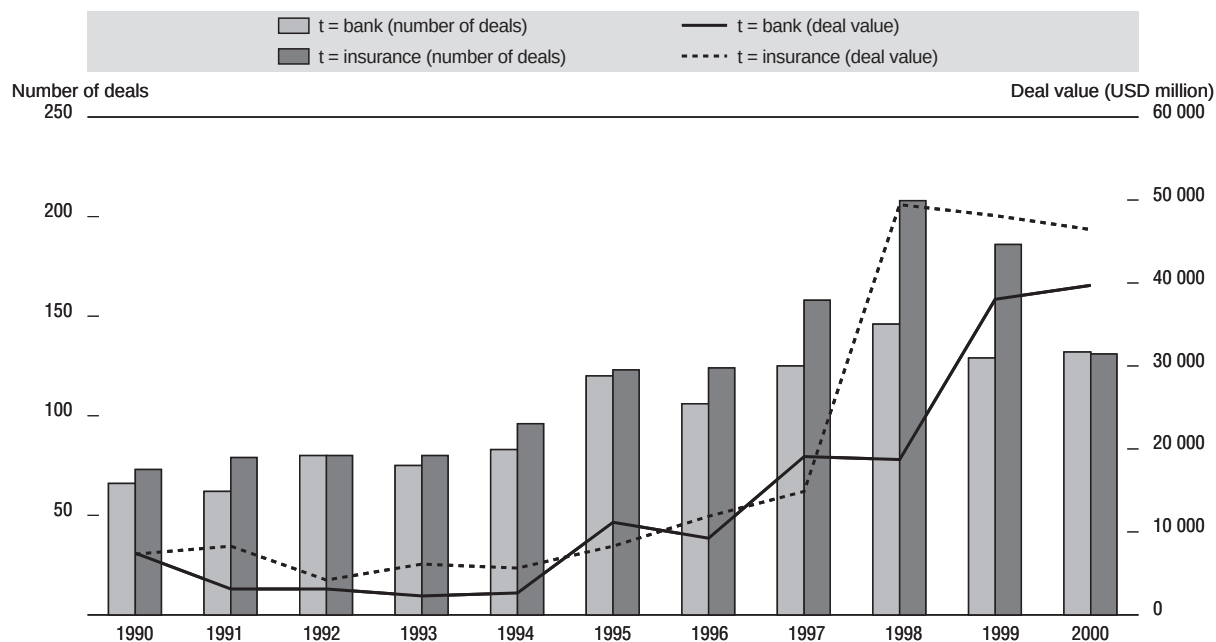
Figure 4.21. Finance: acquirers and alliance participants, by sector, 1995-99



Note: Major acquirers in cross-border take-overs and firms participating in international alliances. For example, 689 banks were involved in cross-border M&As as acquirer while 607 banks joined international alliances.

Source: Thomson Financial.

Figure 4.22. Cross-border M&As targeting banks and insurance firms, 1990-2000



Note: For 2000, January to October.

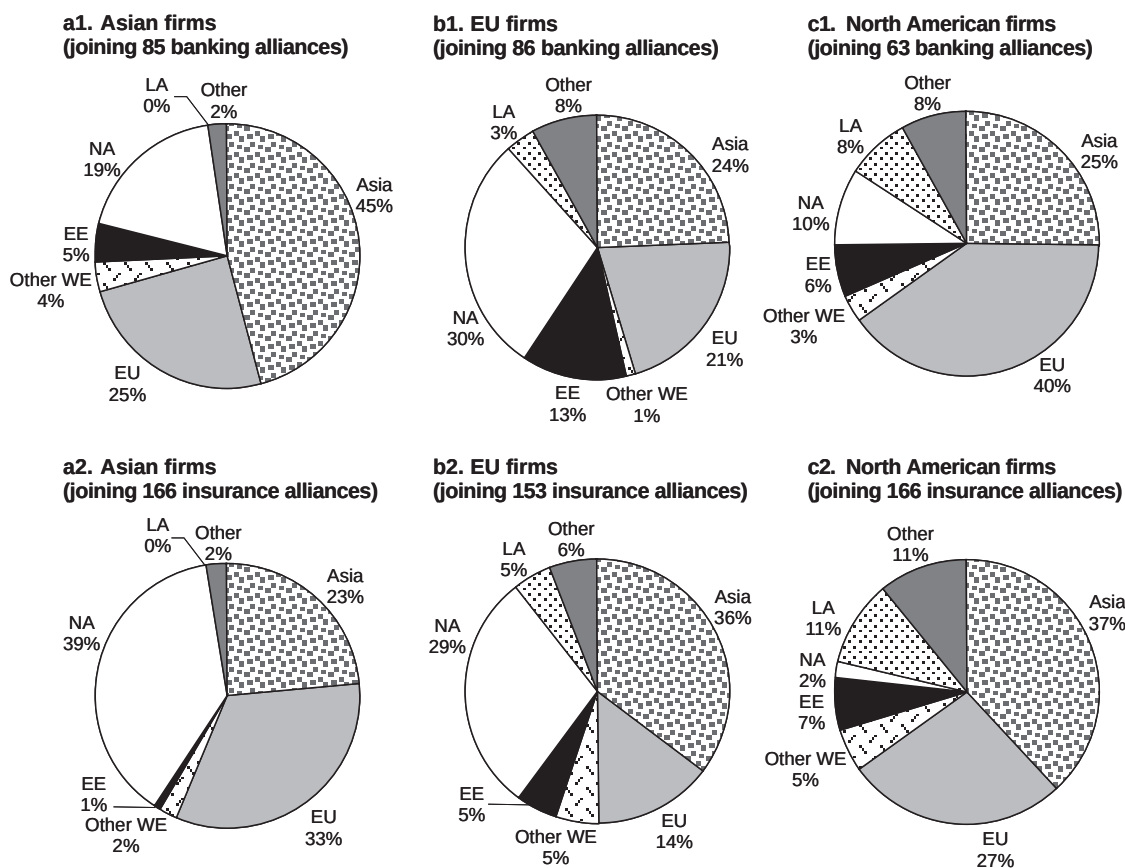
Source: Thomson Financial.

the list of acquirer countries in value terms, and US firms are the most active acquirers in both banking and insurance in terms of number of deals. In the Asia-Pacific region, Australian firms are active acquirers in both banking and insurance. On the other hand, the countries with the most acquired firms are more diverse; in addition to companies from North America and Western Europe, firms from Poland, Brazil, Argentina and Chile have been preferred targets in both the banking and the insurance sectors.

There were 3 200 international alliances in the finance sector over the last decade. The highest number (520 deals) came in 1999 (Figure 4.20). Commercial banks joined 610 international alliances in the second half of the decade, 500 of which aim to provide a range of financial services with other banks, including corporate and private banking, marketing credit cards, and asset management. They are either joint ventures (*e.g.* establishing a new bank) or non-joint ventures utilising current branch networks of alliance partners. Insurance firms participated in 420 cross-border alliances from 1995 to 1999, and life insurance firms participated in 300 of these. Major alliance participants are from the United States, the European Union and Asia (Annex Tables 4.27 and 4.28). In banking, US firms joined 55 cross-border alliances from 1995 to 1999, followed by the United Kingdom (38), the Netherlands (15), Australia (14), France (13) and Japan (12).

Asian firms sought more intra-regional partners in banking alliances than in insurance (Figure 4.23). Firms from the European Union and North America, instead, formed more trans-Atlantic alliances in

Figure 4.23. Regional distribution of cross-border alliance partners in banking and insurance, 1995-99



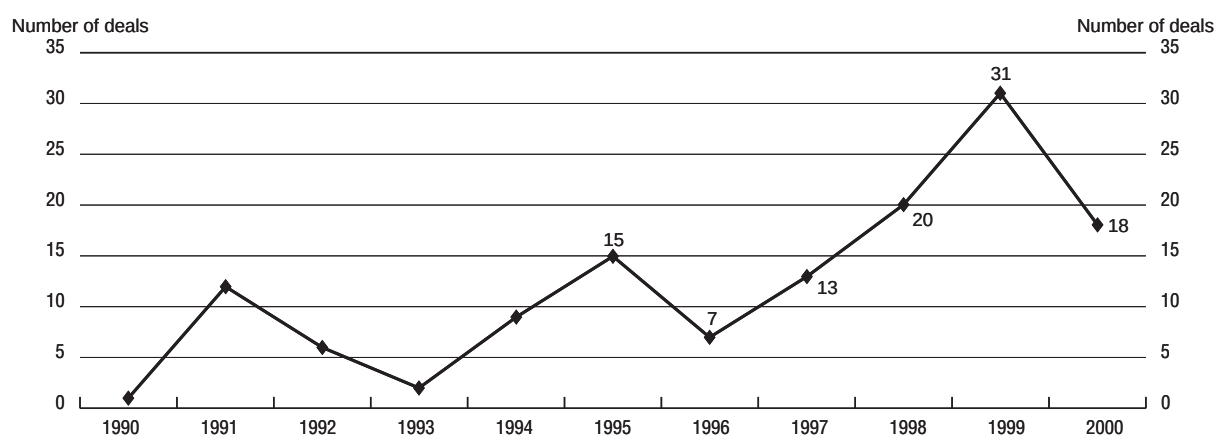
Note: WE = Western Europe; EE = Eastern Europe; NA = North America and LA = Latin America.
Source: Thomson Financial.

banking and sought more Asian partners for insurance alliances. As for the target market, half of alliances for either banking or insurance services aimed at Asian markets, including China, Japan, Australia, India and Indonesia. The rest sought markets in the United States and Europe, and some deals are for entering emerging markets in Eastern Europe and Latin America.

Many financial firms now offer a combination of products through alliances between firms in different financial services or through the large financial conglomerates resulting from M&As that have combined different services. Examples include Société Générale, a French bank that sells non-life insurance, and Lloyds TSB in the United Kingdom and Citigroup in the United States, both of which are among the world's largest financial conglomerates. By 1999, more than two-thirds of the OECD countries allowed banks to have a subsidiary to market insurance products and *vice versa*. Financial conglomerates that include a commercial bank, life and non-life insurers and an investment bank have also been allowed in some countries. Reflecting such deregulation in many countries, cross-sectoral alliances are growing. In banking, cross-border alliances other than joint-ventures have increased recently, and more international alliances have been formed between firms in different service segments with different regional coverage (*e.g.* a bank, an insurer and a securities firm). From 1995 to 1999, there were 90 alliances between banks and life insurance companies, three times the 30 deals from 1990 to 1994 (Figure 4.24).

As the various new entrants have increased the competitive pressure on traditional firms, one recent response has been the formation of international alliances to create B2C Internet commerce sites. Many financial firms, banks and security firms in particular, have established online shops (branches) through alliances with ISPs and software developers, which allow customers to execute various transactions and buy and sell stocks. Such alliances are increasing, and there were more than 40 such deals from January to October 2000 (see Figure 1.21 in Chapter 1). Banks and other financial firms have also participated in B2B online commodity exchanges to provide market participants (*i.e.* suppliers and buyers) with electronic transactions and payment settlement as well as financing services. Introducing new online services, whether B2C or B2B, aims to expand the customer base beyond national borders and to compete with new low-cost entrants.

Figure 4.24. **Bank and life insurance cross-border alliances, 1990-2000**



Notes: Bank-life insurance alliances: cross-border alliances in which both bank and life insurance firms participate.
For 2000, January to October.

Source: Thomson Financial.

GLOBALISATION OF SMEs

Introduction

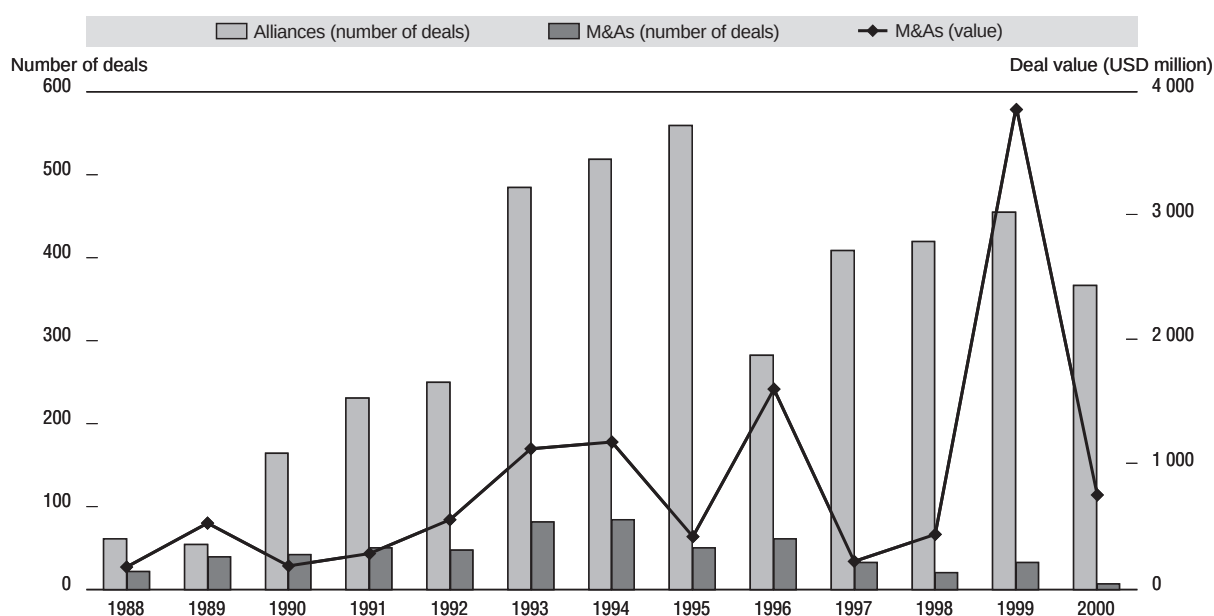
Small and medium-sized enterprises (SMEs) (defined here as firms with fewer than 500 employees or capitalisation of USD 5 million or less)* are increasingly globalised although some continue to focus on local assets and markets. Some SMEs pursue a globalisation strategy and enter foreign markets where they have potential business opportunities. One-quarter of manufacturing SMEs are now internationally competitive and this share should increase rapidly. About one-fifth of manufacturing SMEs draw between 10% and 40% of their turnover from cross-border activities. SMEs contribute between 25% and 35% of world manufactured exports but account for a smaller share of foreign direct investment (FDI) (OECD, 2000*e*). As large multinationals have outsourced various business activities both in manufacturing and in business services, including computer and other office equipment support, corporate and customer data processing and even major research and development (R&D) activities, small firms with particular expertise and unique technologies have gained new business opportunities.

Networking both among themselves and with multinationals allows SMEs to take advantage of their greater flexibility and to fill niche markets. Small firms can respond more readily to changing market conditions, evolving consumer preferences and shortened product life cycles by customising and differentiating products. Large firms, facing rapidly changing technologies and markets conditions as well as time pressures for developing new products, have sought partners, including smaller firms, in order to remain competitive and innovative. As a consequence, SMEs are increasingly involved in international alliances and M&As (Figure 5.1). Cross-border alliances involving SMEs totalled 3 800 in the 1990s, or one-tenth of the decade's total 42 000 international deals. SMEs were acquired in 500 international M&As (USD 10.6 billion in value) in the 1990s, for 1.2% of the total 42 500 cross-border M&As and 0.4% of total deal value of USD 2.6 trillion. Considering the significant role and presence of SMEs in the national and global economy – they represent over 95% of the total number of enterprises and 60% of jobs in OECD countries (OECD, 2000*e*) – it is likely that small firms participate more actively in cross-border deals than the data indicate. Unlike deals involving large firms, many of which are publicly announced and receive major press coverage, those involving SMEs are rarely publicised, with the result that the data do not fully capture their alliances and mergers.

International alliances between large firms and SMEs allow the former to economise on R&D, minimise the lead time for new products and serve emerging markets. For their part, SMEs partnering with larger firms may get access to stable financial resources and to complementary assets such as broader distribution channels, sales forces and well-known brand names, which they might otherwise have difficulty establishing. Mergers with firms of equal or slightly larger size can also provide such benefits. Their partners gain new business and product lines and other assets such as leading-edge technologies, while the acquired SMEs can receive not only a financial infusion but also higher valuation (*e.g.* higher share price) on financial markets.

* The most frequent upper limit designating an SME is 250 employees, as in the European Union. Financial assets are also used to define SMEs; in the EU, they must have an annual turnover not exceeding EUR 40 million and/or a balance sheet valuation not exceeding EUR 27 million (see Annex I for information on the source of data).

Figure 5.1. SMEs: Cross-border alliances and M&As, 1988-2000



Notes: M&As = cross-border mergers and acquisitions acquiring firms with USD 5 million or less capitalisation. For 2000, January to June.
Source: Thomson Financial.

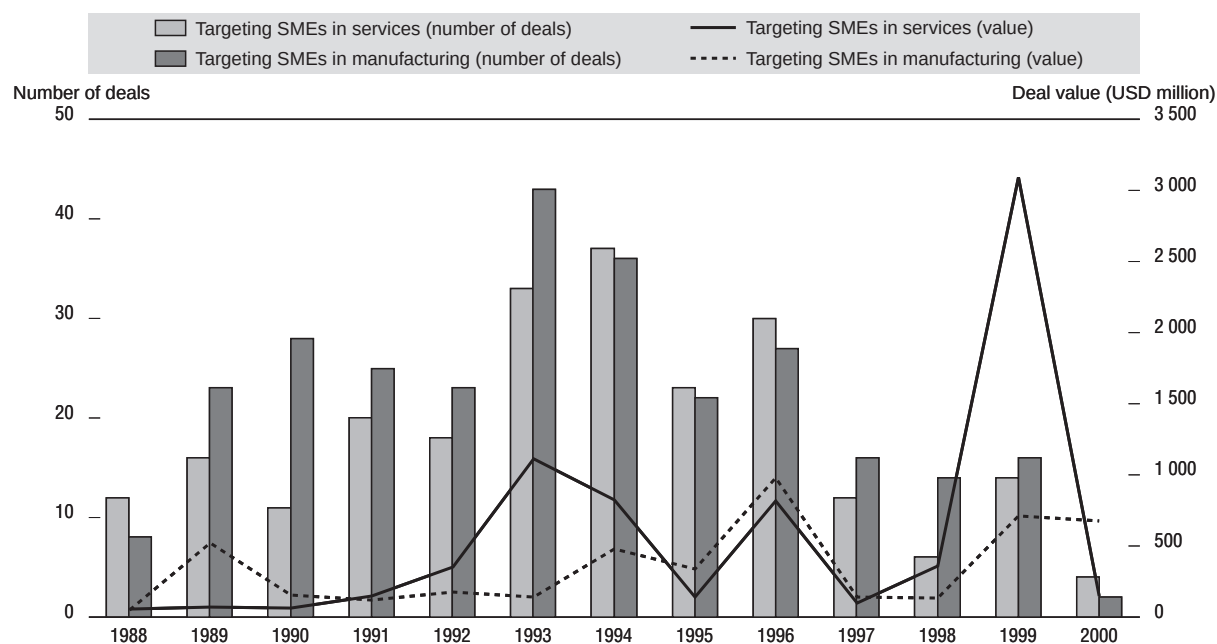
New information and communication technologies (ICTs) have brought low-cost means of information exchange, such as the Internet, allowing SMEs to expand their customer base and enter new (foreign) markets. Although SMEs generally adopt these new communication technologies at a lower than average rate, the pace of adoption is increasing. In addition, many successful firms in the ICT sector itself began as very small firms, and, partly because of the technological complexities of online businesses, large firms often seek smaller ICT/Internet companies as technological partners in order to engage in online business. In some cases, small software companies are acquired to develop the acquirer's intranet and extranet systems, and SMEs in computer-related services have been acquired as a services arm of manufacturing firms.

Mergers and acquisitions

In the 1990s, cross-border M&As involving small firms took place almost evenly in manufacturing and services (Figure 5.2). There were 250 deals totalling USD 3.3 billion in the manufacturing sector, and 204 deals totalling USD 6.9 billion in services. However, the deal value of the latter is inflated by a single USD 2.3 billion telecommunications merger in 1999, AT&T's (United States) take-over of MetroNet Communications Corp. in Canada, a telecom services firm with 200 employees. In terms of capitalisation, more small firms with USD 1 million capitalisation or less are acquired in services, while in manufacturing many medium-sized firms with more than USD 1 million capitalisation are acquired (Figure 5.3). This partly reflects the fact that many SMEs are relatively smaller in services than in manufacturing. Most acquirer and acquired firms are either from Western Europe or North America, and companies from the United States, Canada and the United Kingdom are particularly active in international acquisitions both as acquirer and acquired firm (Annex Tables 5.1 and 5.2). The regional distribution of acquired SMEs is more diverse in services than in manufacturing; acquired services firms are both in developed countries in Asia such as Japan and Australia, but also in developing countries such as the Philippines and the Czech Republic.

In manufacturing, SMEs in software, electronic and electrical equipment and pharmaceuticals have attracted more acquirers in the latter half of the 1990s both in number of deals and transaction value (Annex Table 5.3). In services, the value of each acquisition in business services, telecommunications, and advertising more than doubled from the first half of the decade (Annex Table 5.4).

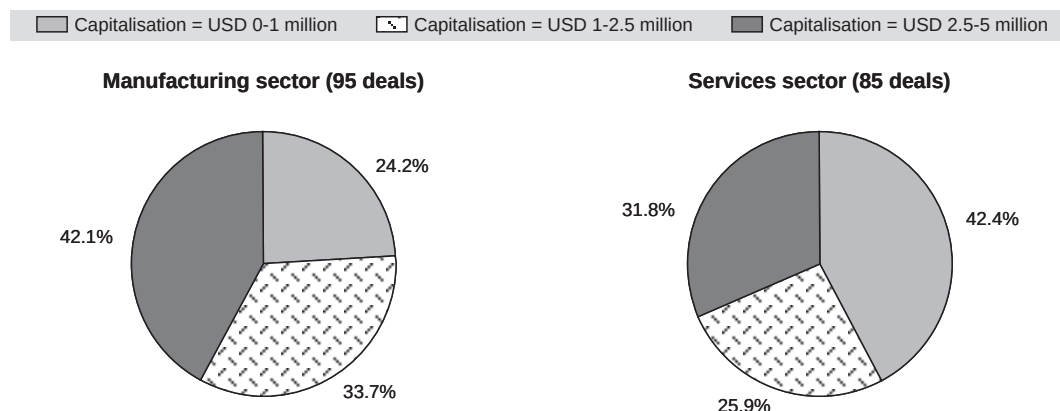
Figure 5.2. Cross-border M&As involving SMEs, 1988-2000



Note: For 2000, January to June.

Source: Thomson Financial.

Figure 5.3. Cross-border M&As involving SMEs: share of acquired firms, by size, 1995-99



Source: Thomson Financial.

Mergers with and partial (minority) acquisitions of SMEs provide the acquirer with the expertise and technologies of the acquired firms. In the pharmaceutical sector, large drug companies have heavily invested in high-potential research projects for new drug development conducted by small biochemical firms. Small software developers and electronic equipment manufacturers have been acquired particularly to develop products for niche markets. Acquisitions of small services firms (*e.g.* finance, telecommunications) are used to enter the acquired firm's market by exploiting its customer base,

market knowledge and regional coverage. In business services, computer-related services firms have been taken over to strengthen the acquirer's services activities.

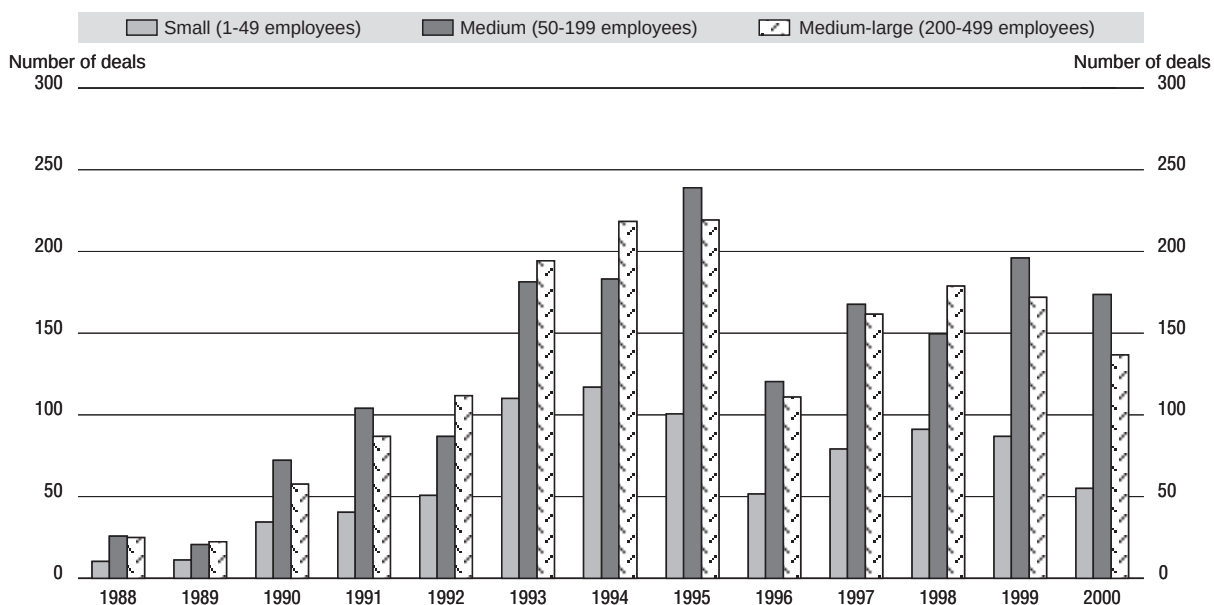
Strategic alliances

International alliances, among themselves or with larger firms, provide SMEs with financing for the alliance's target activities. In the software and pharmaceutical sectors, small firms have taken on particular research projects for the alliance partner, which in turn provides it with financing. In these sectors small firms have very often granted a technology licence or exclusive marketing rights for their leading-edge technologies or new products to large computer and drug companies. In services, such as telecommunications and finance, large firms have expanded their geographic service coverage and number of customers through alliances with local small firms. As the Internet has allowed firms to reach customers beyond their national borders, many firms have created a homepage on the Internet, including online shops, through alliances with small Internet service providers (ISPs), which are able to fulfil their alliance partner's technological needs for new online businesses.

As for the number of international alliances involving small firms, more than 2 100 of the total 3 800 deals in the 1990s took place in the latter half of the decade. Small firms with fewer than 50 employees participated in 760 deals, and medium and medium-large firms joined 1 500 each (Figure 5.4). Again in the latter half of the 1990s, the 1 300 alliances in services outpaced the 800 in manufacturing, after having been formed almost evenly in both sectors in the first half of the decade.

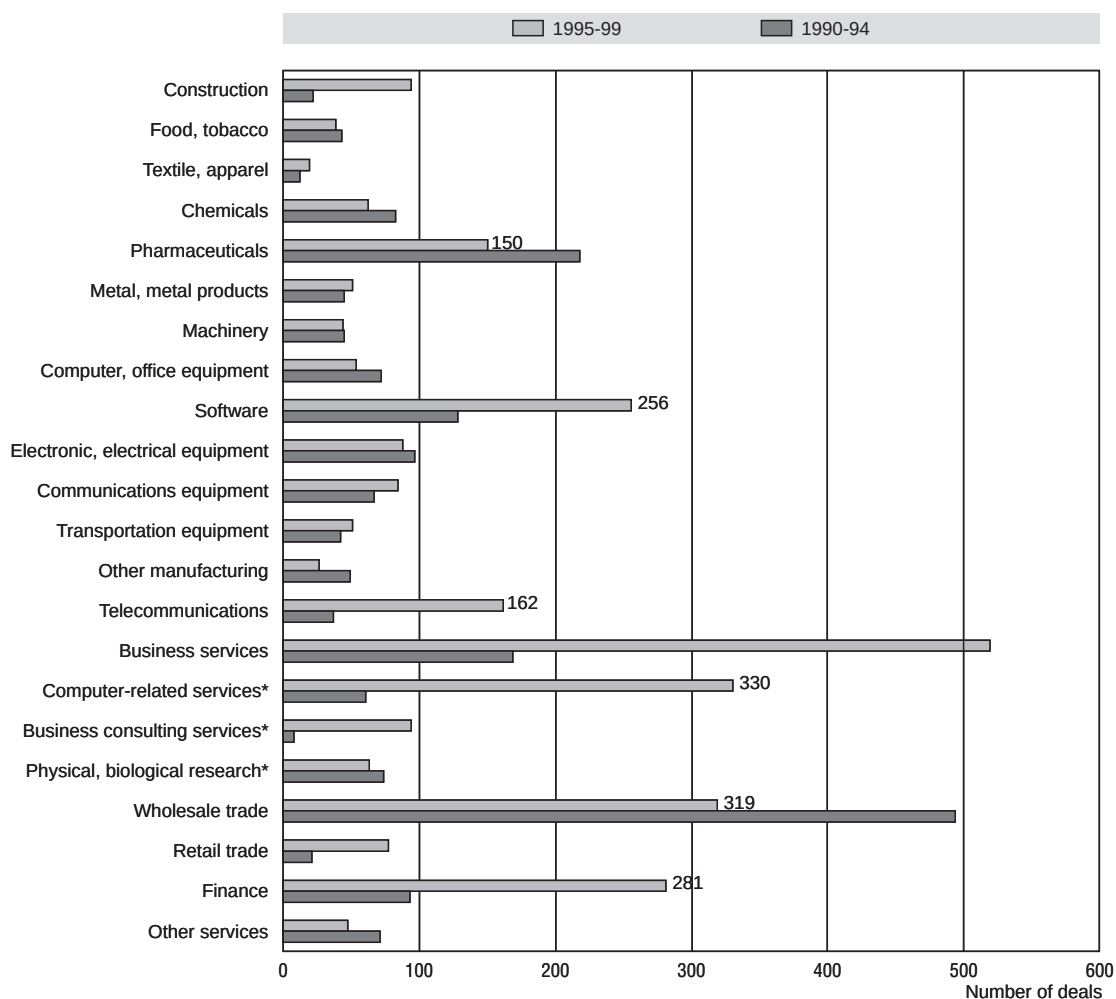
The number of alliances involving SMEs in the ICT sector (*e.g.* software, telecommunications and computer-related services) increased significantly in the latter half of the 1990s, and there were also many deals in pharmaceuticals (manufacturing), wholesale trade and finance (services) (Figure 5.5). Most SMEs joining alliances in these sectors are medium and medium-large firms with 50-499 employees; most are collaborations with larger companies although there were a small number between SMEs. A vast majority of the firms involved are from the United States and Canada, and the dominance of the former

Figure 5.4. Cross-border alliances involving SMEs, by firm size, 1988-2000



Note: For 2000, January to June.
Source: Thomson Financial.

Figure 5.5. Cross-border alliances involving SMEs, by sector



* Sectors that are part of business services.

Source: Thomson Financial.

is particularly apparent in pharmaceuticals and computer-related services. Many others are small firms in Western Europe; UK companies are relatively visible in each sector.

Software

In the software sector, there were more than 100 alliances between small and large firms and a smaller number of deals among SMEs in the second half of the 1990s. A quarter of the deals with large firms are joint ventures, many of which aim at joint development and/or marketing of new software. Most alliances that are not joint ventures and those among SMEs include licensing agreements in which either firm provides the other with exclusive or non-exclusive rights to exploit a particular technology for new software development or to market existing or newly developed software. Most participating SMEs are medium to larger software developers and manufacturers in North America, where many of the world's leading software developers are located, or are in computer-related services such as computer programming, systems management and data processing. With regard to larger partners, half are US companies and the rest are from Japan, the United Kingdom, Canada and Germany. However,

some small firms with fewer than 50 employees have formed alliances with giants in the computer industry, including IBM, Microsoft and Texas Instruments (all US firms). In some deals, small firms grant a technology licence to larger companies for new software development.

Pharmaceuticals

In the pharmaceutical sector, there are few alliances among SMEs; most are for joint development of a new product (*i.e.* drugs) with larger firms. Small biochemical firms have taken on particular research projects or clinical trials for large pharmaceutical companies, such as Hoechst (Germany, now Aventis), Novartis (Switzerland) and SmithKlineBeecham (United Kingdom). In many cases, larger firms finance their allied small firms. One-half of the R&D alliances between large and small firms from 1995 to 1999 include licensing agreements, which allow either company to exploit a particular molecular compound of the other partner for new drug development, or which provide a larger partner with exclusive marketing rights for a jointly developed new drug. There are also a few collaborations between universities and small biochemical firms, in which the latter are allowed to develop and market the fruits of academic research.

More than 90% of allied SMEs are from the United States, where many biotechnology firms with advanced development skills, extensive gene databases and facilities for clinical trials are located. Their larger partners are from Japan and, in Western Europe, from the United Kingdom, Germany, Switzerland and France, where the world's leading pharmaceutical companies are located.

Telecommunications

In the telecommunications sector, most alliances between small and large firms are to provide fixed or mobile telecommunications and/or Internet services. Large telecommunications service operators, such as MCI Communications (United States, now WorldCom), British Telecommunications (United Kingdom) and Hutchison Telecommunications (Hong Kong, China), have expanded their geographic reach and number of business and individual subscribers through alliances with small local firms. While many of the SMEs in partnership with such large firms are from the United States and the United Kingdom, others are in growing telecom markets, such as Spain, Italy, Israel, India and Korea. Many of the allied large firms are from the United States, Japan, the United Kingdom, Germany and France, where global telecom services operators are located. There are also alliances among SMEs, most of which aim to provide telecommunications services either in North America, Western Europe or East Asia (*e.g.* Hong Kong, China).

Computer-related services

Small firms can provide larger partners in alliances with customised computer (security) systems, customer and other data storage and management systems, and technical assistance services for customers. Examples of customised system development include online (via the Internet) air ticket reservation systems for passenger airlines and the establishment of automated teller-machine (ATM) networks for financial institutions. Other alliances in computer services are for creating a Web site, *i.e.* a homepage on the Internet, including an online virtual shop. Amazon.com (United States), which started with a few hundred employees, has expanded online retailing services into foreign markets through alliances with large local electronics firms such as Samsung in Korea; an online automobile retailer, Autobytel.com (United States), which is also small in terms of number of employees, has entered the Japanese market by partnering with Itochu (Japan), a large trading company. Large firms in publishing and broadcasting services, including the *Financial Times* (United Kingdom), also have provided financial and other news on the homepage created by their allied small Internet site developers. Small US firms predominate in many alliances, while their large allied companies are mainly from Japan, the United Kingdom and Germany.

Wholesale trade

Most international alliances in the wholesale sector are marketing agreements between large and small firms. Many of the latter have a leading-edge technology or new product but lack a sufficient sales forces and hence rely on the larger firm's distribution and sales networks. One-third of deals from 1995 to 1999 were for marketing drugs or medical equipment developed by small firms. In many cases, small biochemical firms that have invented a new drug give large pharmaceutical companies such as GlaxoWellcome (United Kingdom) exclusive marketing rights for the drug in the main OECD regions. Other wholesale items that are the object of alliances include wireless communication equipment such as cellular phones, software and other peripheral computer devices such as printers, and food and beverage products. Food products have been subject to a complex web of exclusive distribution agreements for a long time. In addition to SMEs and their larger partners from the United States and Western Europe, Japanese trading companies, such as Marubeni and Itochu, are also involved in many sales agreements as large distributors in Japan and other foreign markets. More than half of all marketing alliances involving SMEs aim at the US market; other major target markets include Japan, Canada and the United Kingdom and some developing countries in Asia such as China and India.

Finance

Large banks, security firms and insurance companies in the United States, the United Kingdom, France, Germany and Switzerland have entered foreign markets by partnering with local small financial institutions. Many alliances are joint ventures, which provide various financial services including life and non-life insurance, investment fund management and real estate property development. Major target markets are North America, Western Europe and Japan, with large numbers of potential customers, and in some cases emerging markets in Asia such as China and India. There are also alliances involving small software developers, some of which take on computer network system development for new online trading and banking services. In addition to SMEs from the United States, the United Kingdom and Germany, small financial firms in Asia – in Hong Kong (China), Chinese Taipei and India – are joining international deals as local partners.

IMPLICATIONS FOR INDUSTRIAL PERFORMANCE AND POLICY

Performance effects

Cross-border mergers and acquisitions (M&As) and strategic alliances facilitate the international movement of capital, technology, goods and services and the integration of affiliates into global networks. They can provide private (firm-level) as well as social (economy-wide and consumer) benefits by raising overall efficiency and innovative capabilities. They can also have positive impacts on growth and employment, particularly if governments have policies that facilitate the relevant industrial restructuring. However, they may also entail market concentration (anti-competitive effects) and adjustment costs during the process of industrial globalisation and restructuring.

Today's fast-paced technical change and higher levels of globalisation are calling into question traditional theories and measurement approaches related to market concentration and efficiency. The nexus of technological innovation, internationalisation of industry, greater networking, global standards and intellectual property are fostering new debates about the benefits and costs of various forms of international linkages (Hart, 1999). In addition, cross-border M&As differ in their motives from strategic alliances implying various trade-offs for firms and somewhat different performance effects (Box 6.1).

Box 6.1. Cross-border M&As vs. strategic alliances

For a multinational enterprise, the choice between merger and alliance depends on short- and long-term strategic objectives and related costs. Cross-border M&As are driven largely by the advantages of economies of scale and scope. Firms can merge their decision-making structures and exploit synergistic effects between their own tangible and intangible assets and those of established firms. They can quickly establish a critical mass in particular markets. These unions can also serve to eliminate actual or potential competitors and thus might have important implications for competition policy.

Strategic alliances are more flexible than M&As as they usually entail no change in the ownership structure of participating firms. Companies have a wide choice of partners in looser forms of co-operation for a variety of business activities. But alliances can be difficult to realise and involve a loss of control and more risks. As a result, they may entail less investment than a full merger but higher transaction costs.

While both M&As and alliances can reduce business overlaps among partners and promote economies of scale and scope, faster operational results can usually be realised through M&As. While alliances have lower initial costs, M&As may result in higher pay-offs in the longer term. And when cross-border mergers or greenfield investments are constrained by governments, alliances may be a viable option.

In general, M&As, alliances and greenfield investments are complementary strategies for restructuring and entering new markets. In the current climate, however, cross-border M&As and strategic alliances are supplanting greenfield investment as a globalisation mode for multinational enterprises (MNEs), which are searching for higher-quality intangible assets and greater operational flexibility.

Efficiency effects

Cross-border M&As can lead to economy-wide efficiency gains through economies of scale and scope and synergy effects in research and development (R&D), production and marketing. For established sectors with excess capacity such as automobile and steel, they tend to facilitate the reorganisation of industrial assets and production structures on a global basis. They can therefore lead to greater overall efficiency without necessarily creating greater production capacity (OECD, 1996b). Economies of scale and scope have been amplified in recent years by institutional, organisational and technological changes. For example, MNEs reorganise their tangible as well as intangible assets and expand further across borders, while maintaining efficiency and flexibility through the communication tools such as the Internet, electronic mail and electronic data interchange (EDI).

Strategic alliances can also improve efficiency by economising on production and R&D costs. In fast growing “network” sectors such as the industries related to information and communication technologies (ICTs), strategic alliances enable firms to realise economies of scale and scope and take advantage of network effects. In particular, international co-operation among firms to set network operating standards is essential for the efficient flow of information and the potential efficiencies of networks. For example, the development of the GSM standard in the formative period of the technology contributed to the extremely rapid growth in the use of mobile phones in Europe (OECD, 2000c). Co-operation may also avoid a standards war that could lead to a single, proprietary product and enable the development of compatible products from many firms, thereby permitting greater competition later in the life of a product. There is, however, a potential downside to co-operation on the adoption of a standard. It could lead to locking in a product design inferior to what would have occurred through a standards war (Shapiro, 2000). In addition, co-operation on the adoption of a standard could facilitate anti-competitive co-ordination of other aspects of the co-operating companies.

Cross-border M&As and strategic alliances can enhance innovative capabilities for both host and home countries through global knowledge exchange. Host countries can benefit from technology transfers that may spill over into the host economy from the foreign affiliates. Cross-border M&As and strategic alliances are also important channels for sourcing complementary technological resources from other countries, particularly in high-technology sectors. For example, many European and Japanese firms have acquired small high-technology American firms or have entered into technology alliances with American firms for technology sourcing in biotechnology and information technology. The literature on R&D co-operation suggests that as firms build up global R&D networks, they tend to source technology to a larger extent in foreign countries, in the search for R&D partners with specific and complementary technological resources (Sachwald, 2000).

Learning effects contribute to raising social welfare at global level, since cross-border M&As and strategic alliances help equalise knowledge worldwide, just as international trade tends to equalise factor prices (Sim and Yunus, 1998). There is tangible evidence of benefits for consumers through a better and wider range of less expensive products and services. In the pharmaceutical industry, for example, strategic alliances that accelerate the development of critical medicines and treatments raise social welfare by providing customers (patients) with more and better choices (drugs) at relatively lower prices.

However, strategic alliances can sometimes have a negative impact on the efficiency of participating firms, and indirectly on other firms and consumers. These alliances involve certain risks, particularly when the objectives and roles of the participating firms are not clearly set at the start. Unsuccessful ventures can engender a waste of finance, skills and management as well as foregone technological opportunities, since companies could have selected other partners or adopted different strategies. Small contractors or other partners may be swept aside in such cases, although they also share the gains when alliances succeed. Losses for consumers may occur, if an alliance creates a candidate for a global product standard but fails to promote it in regional or global markets. A typical example is the Betamax video system, a video cassette recorder for home use invented by Sony, which was launched in 1974 and promoted through an alliance with Toshiba (Japan) and Zenith (United States). In the following ten years, a different video home system (VHS) promoted by JVC, Matsushita

and the Radio Corporation of America (RCA) took a majority share of the world market and became the global standard. Consumers who purchased the Betamax system suffered financially from the failure of Sony's strategic alliance.

Summing up, the globalisation of industry through cross-border M&As and strategic alliances has static resource reallocation benefits and thus positive impacts on efficiency. Greater mobility of resources and the resulting increase in competition free up unproductive resources for more effective use elsewhere. There is also a longer-term dynamic benefit: cross-border M&As and strategic alliances drive growth and generate jobs and wealth by integrating firms into global value-added chains and knowledge networks and by accelerating industrial restructuring. They can help revitalise ailing firms and local economies and create jobs through technology exchange, economies of scale and related productivity growth. On the other hand, cross-border M&As and strategic alliances can entail certain risks related to competition in product markets and corporate performance, which are returned to in the following sections.

Competition effects

Cross-border M&As and co-operation among firms participating in international strategic alliances do not necessarily mean less competition. This is true even though international alliances as well as cross-border M&As have broken records in terms of pace and size in the 1990s and are transforming entire industries. To achieve scale economies in technology, production and marketing, enterprises are choosing among various paths to globalisation, *e.g.* foreign direct investment (FDI), M&As and strategic alliances. These modes of industrial globalisation are combined in complex and complementary ways as firms seek to maximise efficiency and profits. As a result, co-operation in one alliance may be paralleled by intense competition in other product or technology areas, either later or through rival alliances. Furthermore, globalisation is contributing to widening geographic markets, thereby reducing the chances that mergers and strategic alliances by both MNEs and national firms will in fact reduce competition.

However, there is always the possibility that cross-border M&As may produce anti-competitive effects, if excess market power lessens competition in particular markets. Furthermore, recent large-scale cross-border M&As drive further consolidation at global level in major industries such as automobiles, petroleum, pharmaceuticals, telecommunications, information and financial services. Competition issues may be more acute in certain industries. For example, in most countries, the utilities sectors are still undergoing reform to create conditions for healthy competition. Mergers can undermine such reforms. Vertical reintegration or horizontal concentration can create market power that can be abused to reduce competition (OECD, 2000f). Growing concerns over the anti-competitive effects of cross-border M&As are reflected in the recent heightening of regulatory scrutiny. Indeed, regulators have blocked several transactions because of such concerns, including the WorldCom-Sprint merger.

The danger of anti-competitive conduct also arises in co-operative agreements. For example, when a strategic alliance supplies a critical input, including application of a broadly accepted standard, alliance members could effectively engage in anti-competitive pricing by inflating the price of such an input; alternatively, they could charge alliance members less than outside firms. There are more straightforward risks to competition when strategic alliances, particularly those involving marketing and sales co-ordination, bring together close actual or potential competitors. A previous OECD review of strategic alliances found that they were driven more by positive than by negative motives, that they did not generally lessen competition and that existing antitrust laws remained applicable (OECD, 1992). However, concerns have recently been expressed regarding the competitive effects of alliances and mergers in digital services and other information technology sectors.

Anti-competitive effects of cross-border M&As and strategic alliances are less likely where barriers to entry and expansion are low. Often, when alliances are formed to develop new technologies (*e.g.* for automobiles, electronics), a competing alliance composed of different firms will also be formed. In addition, there is a trend for international strategic alliances to include firms of different sizes. This

could give smaller firms disproportionate benefits in terms of technology access and result in a greater number of effective competitors in the market. Partnerships for product standardisation may lower barriers to entry by enabling new entrants to use common standards at affordable prices. Shorter product and technology life cycles tend to reduce the risk of the anti-competitive effects of long-lived alliances. To the extent that firms participate in international alliances to remain globally competitive and innovative, co-operative agreements can preserve the number of competitors and levels of competition in terms of new product development and possibly price levels.

Corporate performance

It can be assumed that M&As motivated by the desire to restructure in response to market globalisation and to a need for economies of scale and scope should have positive effects on corporate performance. However, empirical findings to date are somewhat mixed. In terms of shareholder value, there is broad evidence that mergers entail a gain for the acquired firm, whereas the shareholders of the acquiring firm may break even at best (Caves, 1989). The value of the acquiring firm's shares tends to rise in the merger year, only to drop back and lose all gains or even more in subsequent years. Many mergers seem to affect the productivity of acquiring firms negatively *ex post*; observed gains from sell-offs and spin-offs of businesses may be due to the removal of inefficiencies resulting from acquiring them in the first place. According to Caves (1989), the productivity of acquired firms also remains unchanged at best and usually declines, while Lichtenberg (1992) showed that the productivity of acquired firms improved after take-overs partly owing to a reduction in total employment. It is important to bear in mind, however, that many of these results pertain to mergers undertaken for purposes of corporate diversification, so that technical and managerial inefficiencies increased when the acquirers lacked the necessary competence in the industry of the acquired firms.

Earlier studies of M&As in the 1960s, 1970s and 1980s also suggest that they were due more to excess funds than to a desire to save costs or achieve marketing synergy. Studies of US mergers of conglomerates, where companies often insufficiently understood the firms they acquired, have shown that more than half of acquired companies are sold or liquidated within a decade. Studies of mergers in Japan, where managers have traditionally preferred internal growth and looser forms of alliances, show that the M&A trend increased in the 1980s, but there was no evidence that the mergers improved the profitability or growth of the acquiring firms (Odagiri and Hase, 1989). Similar reviews in European countries also prompted doubts about M&As as a means of improving corporate performance (Mueller, 1980).

However, for most of these studies, questions have been raised about the ability to measure accurately the full benefits (or costs) of mergers. It is difficult to estimate how the firms concerned would have performed in the absence of a merger. For example, firms may face a strategic choice in a race to be the first mover or to be acquired. There are problems with using profitability or share value as a test of efficiency gains. There are in addition contradictory findings for conglomerate and horizontal mergers, with the former tending to show more negative results. The existence of unprofitable mergers might also be explained by the fact that factors other than maximising shareholder value drive strategic decisions. There is a substantial literature suggesting that managerial incentives and objectives may differ from those of shareholders. For example, although profitability decreases, mergers can help to maximise firm size or permanence and reduce business risk, all of which are likely to be important to managers if not to shareholders. In fact, acquisitions motivated by diversification and growth tend to result in lower returns for acquirers (Morck *et al.*, 1990). In sum, M&As may be undertaken for strategic reasons without being in the interest of either the firm or the overall economy.

Some studies of the effects on performance of cross-border M&As indicate different results from those of domestic M&As. For example, Baldwin and Caves (1990) concluded, in their analysis of Canadian M&As, that labour productivity increases after take-overs, especially if the take-overs are by foreign corporations. Another study of Canadian M&As confirmed that the behaviour of corporations taken over by foreign interests differs significantly from corporations taken over by Canadian interests (McDougall, 1995). Foreign take-overs lead to increased investment in physical capital and R&D, but

the effect on short-term profitability is not positive. Domestic take-overs, instead, seem to result in an increase in short-term profitability with little or no change in investment in physical capital or R&D. Foreign investors seem to take a longer-term perspective and invest in R&D or physical capital, while accepting a short-term reduction in profitability.

Most studies of the effects of M&As on performance concerned the period prior to 1990. Recent M&As have tended to be among firms in the same rather than in different sectors (which could alter the impact). Different factors, particularly the quest for global-level efficiency and the desire to merge intangible assets, are now driving a large share of M&As. Recent research shows that intangibles such as technological capacity may have an important influence on merger outcomes. The possession or lack of firm-specific intangible assets – including human and managerial resources, research capacity and technology, and product trademarks and brand names – can affect the performance of companies undertaking mergers. Geographic and cross-industry diversification tends to increase firm value in the presence of intangible assets but decrease firm value in their absence (Morck and Yeung, 1999). In addition, the full efficiency effects of cross-border M&As can only be assessed in the longer term.

Most studies of strategic alliances, for their part, point to positive effects on corporate performance when they are successful. Strategic alliances are typically intended to bring together complementary inputs, stimulate innovative activities and introduce new technologies and products (Parkhe, 1998). Benefits for firms entering into alliances include economising on production costs and R&D activities and access to intangibles such as more effective managerial skills and knowledge of markets and customers, all of which can contribute to their short- or long-term performance and profitability. The ability of alliances and joint ventures to raise the profits and market value of participating firms has been verified in studies at national level (Mohanram and Nanda, 1998). Positive efficiency effects appear particularly important when firms have complementary assets, *i.e.* where the companies bring to the table capabilities that are valuable, different and mutually complementary, especially in information technology and related sectors. Companies acquiring technology through alliances and those involved in R&D co-operation often have significantly higher profit rates (Hagedoorn and Schakenraad, 1994). These results emphasise the importance of learning through alliances to improve corporate performance.

Policy implications

In the 1990s, cross-border M&As and strategic alliances have been increasing in both frequency and size and have had differential performance effects across countries. Neither the costs nor benefits of globalisation of industry fall evenly across economies or regions. Therefore, governments need to have appropriate frameworks in place to maximise benefits while minimising anticipated costs. Furthermore, the increased interdependency of national economies tends to require greater co-operation in formulating industry-related policies.

Framework conditions

The acceleration of industrial globalisation raises new challenges for governments. As more domestic firms are involved in cross-border M&As and alliances and as the interdependency of national economies increases, the relevance and effectiveness of national policies which do not take into account the increasingly international nature of economies may be limited. Increasing globalisation means that volatility due to exogenous factors will be transmitted across borders, disrupting national economies, as in the Asian financial crisis of 1997-98. In particular, the global corporate strategies of MNEs will increasingly affect the growth and stability of national economies. Terms such as home and host country are becoming meaningless for enterprises that have facilities and employees in several countries, serve many national markets and purchase supplies and components worldwide. They may resent country-level regulations and restrictions that can hinder their activities and prevent them from realising the gains from globalisation. They are becoming less loyal to particular countries and can quickly reorganise their industrial assets to realise the gains from cross-border business activities. In some countries, this may lead to sudden and large-scale layoffs and social disruptions.

Governments need to establish appropriate framework conditions to attract foreign investment and to realise efficiency gains and positive spillovers from the interconnections between domestic and foreign firms, while dealing effectively with threats arising from increasing globalisation. First of all, countries need to be more open. They have differed widely in their openness to FDI, including cross-border M&As, and in the benefits they have realised from the ongoing globalisation of industry. Government policies and corporate culture have caused some countries to be largely closed to foreign acquisitions until recently. Japan, Korea and some European countries have been slow to encourage industrial restructuring through cross-border M&As, although this is changing (Box 6.2). Other countries, such as the United States and the United Kingdom, may realise efficiency improvements through such M&A activity in the nearer term. Regulatory reform, privatisation and more equitable treatment of foreign firms in public procurement and other government programmes now signal a new openness which is encouraging more international merger and alliance activities. The ongoing liberalisation of foreign investment regimes indicates that a broader range of countries may realise benefits from cross-border M&As and strategic alliances.

However, countries that host a high level of cross-border M&A activities and strategic alliances may not all benefit equally. Government policies and related framework conditions that make it possible to garner positive spillover effects from inward and outward foreign investment and strategic alliances with foreign partners may not be in place. Poorly functioning factor and product markets can impede

Box 6.2. Korea's policy changes for FDI

In the course of its government-led development since 1960, Korea mainly resorted to bank loans for needed foreign capital and maintained quite cautious attitudes toward FDI inflows, restricting inward FDI for several reasons. A number of business areas were closed to foreign investors. Furthermore, M&As of domestic corporations by foreign investors were strictly prohibited. Even though greenfield investments were allowed in many business areas, they were not much encouraged. In addition to explicit restrictions, a number of other barriers discouraged FDI in Korea, including the high costs of factors of production (labour, land, capital) and a long history of troubled industrial relations and government intervention. As a result, FDI has been relatively insignificant in Korea. For example, in 1997, the stock of FDI amounted to only 3.5% of GDP, one of the lowest levels in Asia (China 23.5%, Indonesia 28.6% and Malaysia 38.1%).

However, Korea's policies and attitudes toward FDI inflows underwent a dramatic change in the wake of the financial crisis of 1997-98. Most remaining restrictions on FDI have been repealed and M&As by foreign investors, friendly as well as hostile, are allowed. The newly enacted Foreign Investment Promotion Act (FIPA) of 1998 established more favourable legal frameworks for FDI, including the principle of national treatment. The FIPA also simplified various administrative procedures for approving FDI and expanded the scope and generosity of incentives to attract foreign investors. The change in the FDI environment contributed to the rapid increase in FDI inflows, from USD 3.1 billion in 1997 to USD 5.2 billion in 1998 and USD 10.3 billion in 1999. This increase also reflects the need of highly indebted large corporations to sell off their assets to foreign investors in order to improve their financial structure, as required by their creditor banks. For example, Samsung, one of the leading Korean business groups, sold its construction equipment business and troubled automobile sector to Volvo and Renault, respectively. Many other leading corporations also sold their assets to foreign investors or entered into joint ventures with foreign partners (*e.g.* LG-Philips joint venture). As a result, the transaction value of M&As involving Korean firms (acquired by foreign investors) increased dramatically, from USD 0.8 billion in 1997 to USD 4.5 billion in 1998 and USD 10.1 billion in 1999.

As the crisis conditions have largely disappeared, with strong economic expansion and a record level of foreign exchange reserves of over USD 90 billion, FDI may become a less important means of attracting foreign capital to ease the currency crisis. However, FDI may play a crucial role in restructuring and upgrading the Korean economy and creating jobs by integrating domestic industries into global network and by increasing the availability of advanced technology and competition. It therefore seems essential to maintain the current favourable FDI environment for Korea's transition to a more viable and knowledge-based economy.

industrial restructuring through cross-border M&As and strategic alliances and dampen favourable impacts in terms of economic expansion and job creation. In particular, flexible and efficient labour markets are essential for facilitating the contraction, expansion and alteration of business activities and employment that may stem from such unions. Social safety nets also need to be strengthened to ensure smooth industrial restructuring and to minimise social disruptions during the restructuring process. Such safety nets not only provide unemployment benefits, they also ensure training, retraining, job search and mobility assistance, counselling and guidance for the unemployed.

Innovation policy is particularly important for increasing gains from the rapidly increasing global knowledge stock. Countries need to plug into and advance their positions in global value-added chains and knowledge networks. Innovation policy in a global economy should serve increasingly to help countries reap the benefits of global knowledge exchange. Furthermore, the innovation system is shifting towards more complex, socially distributed linkages of knowledge production activities. Firms' ability to innovate now depends more on their ability to exploit the knowledge produced by new combinations of existing knowledge than on their ability to discover completely new technologies. However, successful technology sourcing requires an adequate absorption capacity, which implies that firms embark on technology sourcing strategies when they are quite advanced in a technological field or only need complementary assets in a specific area (Sachwald, 2000). Innovation policy therefore needs to facilitate co-operation with other firms worldwide and in different markets, as this has become an essential part of firms' innovative efforts (OECD, 2000c).

An effective corporate governance system is also important to ensure investor confidence and sustained economic growth in an increasingly integrated world characterised by highly mobile capital. A sound corporate governance regime must give importance to the interests of shareholders, which will increase the likelihood that capital is used efficiently. This helps to maintain the confidence of foreign as well as domestic investors and to attract more patient, long-term capital. However, corporate performance and competitiveness also depend on the contribution of employees and other resource providers. Therefore, a good corporate governance regime encourages corporations to take into account the interests of a wide range of stakeholders. The OECD principles of corporate governance recognise the role of these stakeholders and encourage active co-operation with them in creating wealth, jobs and financially sound corporations (OECD, 1999b). Although the precise improvements most needed may differ across countries, many need to establish more transparent rules for corporate governance, including mergers and acquisitions, and streamline related frameworks (*e.g.* corporate tax treatment and legal process of M&As and strategic alliances) to facilitate global corporate restructuring.

Small firms

With rapid and even accelerated change in technologies, customers' needs and (global) market conditions, firm size and scale of production, factors considered as traditional sources of a firm's competitiveness and growth, have increasingly given way to the firm's intangible assets (*e.g.* technology and expertise) and flexibility, and new opportunities for small and medium-sized enterprises (SMEs) have arisen. More small firms have been involved in business linkages, including cross-border strategic alliances and (partial) acquisitions because of their higher flexibility and responsiveness to business partners' needs. In addition, these business linkages, or networks, have become more horizontal than vertical in recent years. Now that even large MNEs cannot cover all product development and service activities, they need external resources to remain globally competitive and innovative, and small firms with unique technologies, niche products and expertise in particular services have increasingly attracted foreign companies.

Gaining access to complementary tangible and intangible assets of other firms, including their financial resources, their broad (international) distribution and sales networks, their well-known brand names and their knowledge of and experience in foreign markets, is a major motive for participating in international networks. In particular, technology-based small firms have actively promoted their intellectual property (rights) to foreign partners and gained substantial capital (*e.g.* licensing fees). Technology transfer and provision of exclusive and non-exclusive marketing and manufacturing rights

are an effective strategy for securing funding for further innovation and research activities. Many small biochemical companies and software developers have raised a large portion of financing for R&D activities through such arrangements with large partners. Highly specialised manufacturers of small software and other peripheral computer devices, as well as those in the food and beverage industry, have expanded their markets by partnering with large trading companies that act as international distributors for them.

New communications tools, such as EDI, e-mail and the Internet, make cross-border collaboration far easier and practical. The Internet especially can be a powerful enabling medium for SMEs. It can reduce small firms' search costs for potential foreign business partners and also improve their visibility in the (virtual) global market by providing their technology and product information on line (*i.e.* via a Web page). The development of industry-wide business-to-business (B2B) on-line exchanges and business-to-consumer (B2C) Web sites in several industries, such as automobiles, steel, airlines and finance, also allow SMEs to reach potential buyers for their products and services worldwide. Moreover, the technological complexity of developing a platform (software) for on-line transactions requires partnering with firms specialised in ICT support services, where small companies play a major role. Small Internet service providers and other computer services firms have gained increasing opportunities to establish computer systems and create on-line shops for their allied (large) firms. On the other hand, the increasing globalisation of industry creates more competition for SMEs; smaller suppliers to global industries, such as the automotive and electronics sectors, are under pressure to establish foreign (production) facilities or consolidate to ensure international supply.

Access to strategic information, *e.g.* on potential (foreign) business partners, regulations and other business environment issues in foreign markets, (continuous) training for both employees and management and lack of funding are among the major challenges for SMEs in general. These barriers need to be addressed to foster international co-operation and partnership involving small firms, as they can prevent SMEs from participating in international alliances to the same extent as larger ones. In fact, the intensity of strategic partnering tends to rise with the size of companies, indicating that larger firms more actively seek and find external opportunities through strategic linkages.

Most OECD countries make available Web homepages for SMEs and other means to improve access to information on business opportunities in foreign markets for small firms. More countries are now establishing one-stop shops for small businesses as a part of efforts to disseminate information more efficiently and with less administrative burden. Government support to help SMEs participate in foreign exhibitions and trade fairs, prepare marketing materials in foreign languages and circulate advertisements abroad, which facilitate business matching, should be enhanced, while paying greater attention to the benefits of fostering a private services market for these purposes, with public institutions acting as a complement rather than a substitute.

Small firms going for the global market need management skills and well-trained human resources, ready to deal with foreign markets and business partners. Management of high-growth small firms tends to be experienced and communicative both within the firms and outside. These firms are also flexible and therefore able to change to meet customer needs and seek out new business opportunities and partners. Even successful SMEs need government and private training and support programmes to improve the quality and skills of both employees and management. Moreover, some SMEs may need more practical assistance, such as legal consulting services, to win better terms in international business arrangements. In some countries, public legal advising services for small firms, which familiarise small business managers with contracts, essential elements of alliance or acquisition agreements, legal language and negotiation strategies, have been established. Most large firms can afford such (outside) services and may also have more experience with various types of business contracts, and this may not be the case for many small firms.

Funding gaps are still a major impediment for growth for many SMEs. Various grants and loans are available in many OECD countries, while some small innovative firms can receive financing through licensing agreements or by taking on research projects for large partners. Financial support programmes also help small firms invest in ICTs. Although ICTs, including the Internet, have great potential for

allowing SMEs to expand their customer base, enter new product markets, rationalise their businesses, and search globally for potential business partners, many small firms have not fully exploited these new opportunities, because of a lack of awareness and skills and the necessary resources to make initial investments. Costs of installation, access and use of ICTs, which vary widely across OECD countries, present barriers for small firms. Governments have made special efforts to enhance small-firm awareness and skills for use of ICTs and electronic commerce. Moreover, it is essential that countries continue to liberalise telecommunications markets and ensure competitive ICT infrastructure, price and services. Efforts are also needed to improve small firms' access to systems for electronic authentication and certification for e-commerce transactions.

International co-operation

Industrial globalisation through cross-border M&As, coupled with various kinds of strategic alliances, deepens the interdependence of economies and increases global consolidation in such industries as automobiles, pharmaceuticals, telecommunications and financial services. The growing wave of cross-border M&As and alliances has raised similar regulatory concerns in several countries and requires greater co-operation among countries so that industry and business-related policies take into account the increasingly international nature of firms.

The size and complexity of cross-border M&As and alliances, and the multiplicity of competition law regimes worldwide clearly increase uncertainty and the transaction costs imposed on business, owing, for example, to the need for multi-jurisdictional review. Such costs can be especially burdensome if the number of reviewing countries is large or if they have seriously inconsistent procedural or substantive requirements. There is a growing need to make competition law regimes more coherent and predictable by reducing needless duplication and the risk of inconsistent enforcement. In this regard, bilateral as well as multilateral co-operation needs to be expanded. Consensus building on competition policy issues and voluntary undertakings in multilateral organisations such as the OECD can play an important role in improving international co-operation.

There is also a need for greater international co-operation in science and technology to help firms exploit benefits from the global knowledge network and exchange. Governments need to extend bilateral and multilateral science and technology collaborations, particularly in areas of fundamental science which entail high spillovers and costs. Innovation policy should promote international co-operative R&D by ensuring non-discriminatory participation in government-funded R&D programmes and by improving transparency in government support to strategic technologies and industries.

Meanwhile, globalisation drives nations and regions to compete more vigorously to attract dynamic firms and related business activities around the world. They may compete by providing attractive infrastructure, sometimes coupled with financial and tax incentives. Better infrastructure benefits the host country as well as other countries by creating a better environment for cross-border business activities, thereby leading to growth and job creation around the world (positive spillover effects). However, the excessive use of financial and tax incentives may result in loss of government revenue for all countries involved. International co-operation and exchange of experience, with active participation by the private sector, should be designed so as to help inspire more mutually beneficial frameworks for FDI and enterprise development.

Effective benchmarking of industry and business-related structural policies is one way to disclose weaknesses and to build momentum for shaping policy frameworks that can allow for greater benefits from the cross-border networking and business activities of multinational enterprises, while addressing the costs and challenges which also arise from increasing industrial globalisation.

Annex I

DATA SOURCES

The database on mergers and acquisitions (M&As) and strategic alliances, provided by Thomson Financial, was used to analyse trends in industrial globalisation. For the analysis of Japanese strategic alliances with foreign partners, the international strategic alliances data of the Japan External Trade Organisation (JETRO) was also used. For strategic alliances, both sources cover new alliances, which may subsequently have been changed in terms of the scope of collaboration or participating firms. They may also have been dissolved. Unlike M&As, which can be measured in terms of the monetary value of acquiring and targeted firms, strategic alliances are typically measured numerically, since the strategic importance and value of collaborative activities are difficult to capture in value terms.

Thomson Financial's database on M&As and alliances

Thomson Financial's database (SDC Platinum) contains more than 60 000 cross-border M&A transactions worldwide and almost 50 000 cross-border alliances, including joint ventures, research and development (R&D) agreements, sales and marketing agreements, etc., from 1988 to the present. It includes over 200 data elements, such as target and acquiring company profile, terms and conditions, purpose of alliance, current status, transaction value, capitalisation where possible, deal synopsis, description of business and products, etc. It is probably the most detailed database of cross-border M&As and alliances in terms of geographical breakdown and sectoral distribution. Data sources include over 200 English and foreign language newspapers, SEC and international filings, trade publications, news wires and quarterly surveys of investment banks and advisors.

Even though the database generally records each M&A or alliance transaction on an announcement as well as completion basis, updating completed transactions may be difficult, in particular for announced strategic alliances. Therefore, for the analysis of cross-border M&As, data on completed M&A transactions are used, since some announced M&As may fail to be completed for many reasons, including regulatory constraints. For strategic alliances, data on newly announced alliances were used.

However, like most other data banks, Thomson Financial's database is based on public announcements. Thus, it does not include information on undisclosed alliances or M&As. In particular, it may over-represent larger firms and under-represent small ones, since alliances among small firms tend not to be reported by the press. This may partly explain the relatively smaller representation of small and medium-sized enterprises (SMEs) in world alliance and M&A activity. According to Thomson Financial's database, the total of 500 international M&As involving the acquisition of SMEs in the 1990s (USD 10.6 billion in value), accounts for 1.2% of the total 42 500 cross-border M&As and 0.4% of the total value of deals for the decade (USD 2.6 trillion). Cross-border alliances involving SMEs account for one-tenth of the total 42 000 international deals in the 1990s. Considering that SMEs represent over 95% of the total number of enterprises and 60% or more of jobs in OECD countries, these small firms may participate more actively in cross-border deals than the database indicates. Another drawback of the database is linguistic in nature, as the sources are mainly in English.

The Japan External Trade Organisation's data on alliances

JETRO focuses on cross-border alliances between Japanese and foreign firms. These alliances include technology exchange, joint ventures and outward direct investment. Technology exchange and joint ventures include collaboration for sales and marketing, research, product development, production (manufacturing) and information exchange. Outward direct investment is investment by Japanese firms to establish affiliates or facilities in foreign countries without local partners. Collaboration with local firms is included either as technology exchange or joint venture. Therefore, the direct investment category is not used here.

Data sources are four Japanese newspapers: Nikkei, Nikkei-Sangyo, Nihon-Kogyo and Nikkan-Kogyo. They cover all geographical areas and manufacturing sectors as well as services such as finance. However, the data cover only publicly announced alliances, and, since they are based on Japanese sources, the number of Japanese alliances reported tends to be larger than in databases based on English or other languages (such as Thomson Financial's database).

STATISTICAL ANNEX

Annex Table 1.1. **Cross-border and domestic M&As**

	Deal value (USD billions)			Number of deals		
	Total	Cross-border	Domestic	Total	Cross-border	Domestic
1990	406.8	152.7	254.1	8 587	2 572	6 015
1991	328.5	83.3	245.2	11 474	2 920	8 554
1992	285.8	81.1	204.7	11 290	2 811	8 479
1993	324.6	82.0	242.5	11 486	2 942	8 544
1994	464.7	131.7	333.0	13 137	3 596	9 541
1995	707.7	189.4	518.3	16 532	4 537	11 995
1996	1 015.5	232.2	783.3	17 655	4 838	12 817
1997	1 247.2	314.0	933.2	19 667	5 347	14 320
1998	2 060.8	583.2	1 477.6	22 205	6 127	16 078
1999	2 244.5	791.6	1 452.9	24 113	7 242	16 871
2000	2 764.8	974.3	1 790.5	20 280	6 520	13 760

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.2. **Cross-border M&As worth over USD 1 billion**

	Deal value (USD billions)		Share in total (%)	Number of deals		Share in total (%)
1990	60.9		39.9	33		1.3
1991	20.4		24.4	7		0.2
1992	21.3		26.2	10		0.4
1993	21.2		25.8	12		0.4
1994	52.4		39.8	25		0.7
1995	80.4		42.5	36		0.8
1996	95.7		41.2	44		0.9
1997	129.3		41.2	65		1.2
1998	357.4		61.3	94		1.5
1999	533.3		67.4	119		1.6
2000	752.5		77.2	158		2.4

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.3. **Cross-border M&As by sector (1)**

	Deal value (USD billions)					Share (%)				
	Primary	Manu- facturing	Services	Others	Total	Primary	Manu- facturing	Services	Others	Total
1990	5.2	75.6	71.3	0.7	152.7	3.4	49.5	46.7	0.4	100.0
1991	1.2	36.8	45.3	0.0	83.3	1.4	44.1	54.4	0.0	100.0
1992	3.6	44.7	32.8	0.0	81.1	4.4	55.1	40.4	0.0	100.0
1993	4.3	41.0	36.0	0.7	82.0	5.3	50.0	43.8	0.8	100.0
1994	5.6	71.8	53.8	0.5	131.7	4.3	54.5	40.9	0.4	100.0
1995	8.5	85.7	92.0	2.5	189.4	4.5	45.3	48.6	1.3	100.0
1996	7.6	89.6	132.6	2.0	232.2	3.3	38.6	57.1	0.9	100.0
1997	9.1	123.4	177.2	4.1	314.0	2.9	39.3	56.5	1.3	100.0
1998	13.5	273.7	287.3	8.2	583.2	2.3	46.9	49.3	1.4	100.0
1999	12.0	300.3	468.2	9.0	791.6	1.5	37.9	59.1	1.1	100.0

Source: Thomson Financial.

Annex Table 1.4. Cross-border M&As by sector (2)

	Number of deals					Share (%)				
	Primary	Manu- facturing	Services	Others	Total	Primary	Manu- facturing	Services	Others	Total
1990	81	1 425	1 064	2	2 572	3.1	55.4	41.4	0.1	100.0
1991	91	1 580	1 246	2	2 920	3.1	54.1	42.7	0.1	100.0
1992	99	1 455	1 252	1	2 811	3.5	51.8	44.5	0.0	100.0
1993	104	1 486	1 348	4	2 942	3.5	50.5	45.8	0.1	100.0
1994	137	1 723	1 732	3	3 596	3.8	47.9	48.2	0.1	100.0
1995	144	2 108	2 278	6	4 537	3.2	46.5	50.2	0.1	100.0
1996	188	2 197	2 447	7	4 838	3.9	45.4	50.6	0.1	100.0
1997	159	2 380	2 798	19	5 347	3.0	44.5	52.3	0.4	100.0
1998	158	2 528	3 430	10	6 127	2.6	41.3	56.0	0.2	100.0
1999	143	2 744	4 341	22	7 242	2.0	37.9	59.9	0.3	100.0

Source: Thomson Financial.

Annex Table 1.5. Cross-border M&As by type (1)

	Deal value (USD billions)			Number of deals		
	Mergers	Acquisition of stocks	Acquisition of assets	Mergers	Acquisition of stocks	Acquisition of assets
1990	40.8	55.2	56.6	224	758	1 588
1991	19.6	31.9	32.0	177	1 013	1 729
1992	20.3	32.8	28.5	268	1 030	1 513
1993	19.5	33.9	28.6	315	1 124	1 501
1994	41.9	43.8	46.1	390	1 387	1 818
1995	69.7	71.2	48.4	486	1 738	2 256
1996	85.6	81.7	64.0	649	1 777	2 357
1997	112.0	106.9	94.9	679	1 816	2 817
1998	274.0	153.1	155.6	768	1 940	3 414
1999	467.1	166.1	158.1	1 005	2 530	3 682
2000	641.0	162.9	170.0	876	2 214	3 426

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.6. Cross-border M&As by type (2)

	Share in deal value (%)			Share in number of deals (%)		
	Horizontal M&As	Vertical M&As	Conglomerate M&As	Horizontal M&As	Vertical M&As	Conglomerate M&As
1988	54.6	4.8	40.6	61.1	1.4	37.5
1989	55.8	5.3	38.9	58.6	6.6	34.8
1990	54.8	5.0	40.2	55.8	3.4	40.9
1991	54.1	5.6	40.3	54.5	4.0	41.5
1992	54.6	5.4	40.0	60.9	4.4	34.7
1993	54.5	5.7	39.9	53.3	5.2	41.5
1994	54.1	5.6	40.4	61.0	7.3	31.8
1995	53.0	5.6	41.4	65.6	2.7	31.8
1996	54.0	5.7	40.3	56.9	5.5	37.6
1997	54.1	5.2	40.7	58.1	4.9	37.0
1998	56.5	6.2	37.3	68.8	5.9	25.3
1999	56.2	6.2	37.6	71.2	1.8	27.0

Source: Thomson Financial and UNCTAD, 2000.

Annex Table 1.7. **Cross-border M&As by type (3)**

	Friendly M&As				Hostile M&As			
	Deal value USD billions	Share (%)	Number of deals	Share (%)	Deal value USD billions	Share (%)	Number of deals	Share (%)
1988	84.1	72.3	1 428	95.1	26.0	22.3	16	1.1
1989	125.2	87.8	2 097	92.9	13.8	9.7	12	0.5
1990	140.9	92.3	2 438	94.8	1.4	0.9	5	0.2
1991	77.4	93.0	2 792	95.6	2.8	3.4	5	0.2
1992	75.4	93.0	2 692	95.8	2.9	3.6	3	0.1
1993	76.1	92.7	2 800	95.2	.4	0.5	4	0.1
1994	125.2	95.0	3 413	94.9	1.2	0.9	6	0.2
1995	168.4	88.9	4 234	93.3	8.1	4.3	14	0.3
1996	211.2	90.9	4 496	92.9	6.8	2.9	9	0.2
1997	294.8	93.9	5 057	94.6	6.2	2.0	9	0.2
1998	561.9	96.3	5 816	94.9	3.0	0.5	7	0.1
1999	747.1	94.4	6 762	93.4	8.8	1.1	10	0.1
2000	711.2	73.0	5 961	91.4	232.5	23.9	9	0.1

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.8. **Cross-border M&As by type (4)**

	Majority M&As				Minority M&As			
	Deal value USD billions	Share (%)	Number of deals	Share (%)	Deal value USD billions	Share (%)	Number of deals	Share (%)
1990	130.6	85.5	2 146	83.4	22.1	14.5	426	16.6
1991	68.0	81.7	2 397	82.1	15.2	18.3	523	17.9
1992	69.1	85.2	2 338	83.2	12.0	14.8	473	16.8
1993	67.0	81.7	2 385	81.1	15.0	18.3	557	18.9
1994	108.9	82.6	2 899	80.6	22.9	17.4	697	19.4
1995	159.8	84.3	3 743	82.5	29.7	15.7	794	17.5
1996	194.6	83.8	4 000	82.7	37.6	16.2	838	17.3
1997	270.8	86.2	4 549	85.1	43.2	13.8	798	14.9
1998	517.9	88.8	5 311	86.7	65.3	11.2	816	13.3
1999	722.9	91.3	6 147	84.9	68.7	8.7	1 095	15.1
2000	905.0	92.9	5 510	84.5	69.3	7.1	1 010	15.5

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.9. Cross-border M&As by type (5)

	Stock swaps in cross-border M&As				Stock swaps in M&As over USD 1 billion			
	Deal value USD billions	Share (%)	Number of deals	Share (%)	Deal value USD billions	Share (%)	Number of deals	Share (%)
1990	11.8	7.7	45	1.7	7.8	12.8	3	9.1
1991	2.4	2.8	26	0.9	0.0	0.0	0.0	0.0
1992	3.2	4.0	54	1.9	0.0	0.0	0.0	0.0
1993	14.4	17.6	78	2.7	11.2	52.9	4	33.3
1994	6.7	5.1	76	2.1	4.5	8.5	2	8.0
1995	14.4	7.6	102	2.2	7.0	8.7	1	2.8
1996	33.1	14.3	119	2.5	21.2	22.1	8	18.2
1997	30.9	9.8	121	2.3	23.5	18.1	14	21.5
1998	149.9	25.7	157	2.6	133.6	37.4	13	13.8
1999	284.2	35.9	180	2.5	266.1	49.9	28	23.5
2000	420.0	43.1	199	3.1	399.0	53.0	38	24.1

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.10. Strategic alliances by type
Number of deals

	Cross-border alliances			Cross-border and domestic alliances		
	Joint ventures	Other alliances	Total	Joint ventures	Other alliances	Total
1989	292	542	834	403	647	1 050
1990	1 474	1 058	2 532	1 948	1 786	3 734
1991	2 469	1 648	4 117	3 179	2 981	6 160
1992	1 472	2 048	3 520	1 908	4 133	6 041
1993	2 358	2 012	4 370	3 025	3 922	6 947
1994	3 344	2 018	5 362	4 422	3 964	8 386
1995	4 219	1 588	5 807	5 743	3 380	9 123
1996	2 143	1 108	3 251	2 929	2 304	5 233
1997	2 490	1 524	4 014	3 526	3 337	6 863
1998	1 975	2 451	4 426	2 865	4 950	7 815
1999	1 946	2 573	4 519	2 960	5 695	8 655
2000	1 714	2 637	4 351	2 785	5 634	8 419

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.11. **Cross-border strategic alliances by sector**

	Number of deals					Share (%)				
	Primary	Manu- facturing	Services	Others	Total	Primary	Manu- facturing	Services	Others	Total
1989	15	541	187	91	834	1.8	64.9	22.4	10.9	100.0
1990	72	1 397	806	257	2 532	2.8	55.2	31.8	10.2	100.0
1991	127	2 173	1 544	273	4 117	3.1	52.8	37.5	6.6	100.0
1992	84	1 548	1 561	327	3 520	2.4	44.0	44.3	9.3	100.0
1993	101	2 298	1 900	71	4 370	2.3	52.6	43.5	1.6	100.0
1994	109	2 762	2 414	77	5 362	2.0	51.5	45.0	1.4	100.0
1995	205	2 834	2 681	87	5 807	3.5	48.8	46.2	1.5	100.0
1996	101	1 416	1 604	130	3 251	3.1	43.6	49.3	4.0	100.0
1997	155	1 589	2 070	200	4 014	3.9	39.6	51.6	5.0	100.0
1998	173	1 487	2 740	26	4 426	3.9	33.6	61.9	0.6	100.0
1999	142	1 218	3 074	85	4 519	3.1	27.0	68.0	1.9	100.0
2000	78	792	3 471	10	4 351	1.8	18.2	79.8	0.2	100.0

Note: For 2000, January to October.

Source: Thomson Financial

Annex Table 1.12. **Strategic alliances by purpose**

Number of deals

	Cross-border alliances				Cross-border and domestic alliances			
	Manufacturing	Marketing	R&D	Business services	Manufacturing	Marketing	R&D	Business services
1989	171	171	88	38	200	207	141	49
1990	537	709	357	90	700	1 117	662	155
1991	1 127	1 312	670	179	1 361	2 140	1 271	309
1992	970	1 499	710	210	1 294	2 577	1 531	449
1993	1 605	1 694	767	227	2 076	2 783	1 630	353
1994	1 988	1 759	873	251	2 534	2 840	1 883	496
1995	2 228	1 582	735	275	2 820	2 631	1 474	552
1996	1 102	798	347	224	1 401	1 314	703	482
1997	1 138	712	466	421	1 498	1 293	984	881
1998	1 194	642	275	723	1 666	1 232	542	1 485
1999	1 031	537	212	1 108	1 536	1 012	396	2 526
2000	584	445	252	1 636	860	891	451	3 442

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 1.13. **Cross-border strategic alliances by type and purpose**

Number of deals

	Joint ventures				Other alliances			
	Manufacturing	Marketing	R&D	Business services	Manufacturing	Marketing	R&D	Business services
1989	88	51	17	13	83	120	71	25
1990	366	206	73	57	171	503	284	33
1991	822	429	137	112	305	883	533	67
1992	648	487	149	70	322	1012	561	140
1993	1 152	723	158	95	453	971	609	132
1994	1 609	799	192	124	379	960	681	127
1995	1 871	913	251	188	357	669	484	87
1996	949	429	124	98	153	369	223	126
1997	948	354	155	180	190	358	311	241
1998	785	229	64	210	409	413	211	513
1999	650	173	53	334	381	364	159	774
2000	364	107	53	539	220	338	199	1 097

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.1. **Inward cross-border M&As by region**
Deal value, USD billions

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Europe	68.5	40.7	49.9	41.3	59.8	85.9	96.5	139.4	229.5	390.1
North America	61.1	32.6	18.8	21.4	52.3	67.0	81.3	95.5	237.6	283.3
Asia/Pacific	11.2	5.7	7.4	12.3	9.1	26.7	30.3	36.7	43.3	61.7
Latin America	9.6	3.5	3.0	4.7	9.3	7.4	18.5	35.7	54.0	46.7
Others	2.4	.8	2.0	2.3	1.2	2.5	5.5	6.6	18.7	9.8
World total	152.7	83.3	81.1	82.0	131.7	189.4	232.2	314.0	583.2	791.6

Source: Thomson Financial.

Annex Table 3.2. **Inward cross-border M&As by region**
Number of deals

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Europe	1 274	1 793	1 780	1 713	2 037	2 414	2 427	2 752	3 105	3 875
North America	959	693	614	588	721	949	1 019	1 137	1 303	1 523
Asia/Pacific	251	306	243	425	514	618	724	790	944	1 084
Latin America	53	66	110	150	207	286	334	420	577	731
Others	35	62	64	66	117	270	334	248	198	29
World total	2 572	2 920	2 811	2 942	3 596	4 537	4 838	5 347	6 127	7 242

Source: Thomson Financial.

Annex Table 3.3. **Outward cross-border M&As by region**
Deal value, USD billions

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Europe	93.3	43.9	51.0	42.6	76.9	93.4	112.0	158.1	352.1	553.0
North America	30.9	21.3	17.6	24.8	35.8	72.0	73.3	100.3	183.5	146.9
Asia/Pacific	24.0	16.6	8.6	10.5	8.4	16.8	33.8	34.6	20.6	33.5
Latin America	.8	.3	1.5	2.2	2.9	3.7	6.8	10.3	11.1	11.7
Others	3.7	1.2	2.4	2.0	7.8	3.5	6.3	10.7	15.9	46.5
World total	152.7	83.3	81.1	82.0	131.7	189.4	232.2	314.0	583.2	791.6

Source: Thomson Financial.

Annex Table 3.4. **Outward cross-border M&As by region**
Number of deals

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Europe	1 313	1 698	1 574	1 440	1 795	2 216	2 205	2 382	2 871	3 977
North America	729	759	865	970	1 169	1 506	1 670	1 945	2 306	2 194
Asia/Pacific	478	401	286	413	460	535	655	692	564	648
Latin America	12	14	29	51	74	81	78	112	191	168
Others	40	48	57	68	98	199	230	216	195	255
World total	2 572	2 920	2 811	2 942	3 596	4 537	4 838	5 347	6 127	7 242

Source: Thomson Financial.

Annex Table 3.5. **Inward cross-border M&As in OECD countries**
Deal value, USD billions

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia	3.20	2.65	2.47	3.28	3.24	17.45	13.18	15.08	15.36	12.87
Austria	0.25	0.24	0.11	0.42	0.54	0.61	0.98	2.26	7.28	0.38
Belgium	4.47	0.96	0.49	2.20	1.01	1.67	8.41	5.94	13.36	26.07
Canada	5.72	3.65	2.76	2.33	4.53	11.77	10.94	9.48	17.23	30.21
Czech Republic	0.00	0.00	0.00	0.04	0.35	2.33	0.49	0.67	0.69	2.45
Denmark	0.50	0.27	0.10	0.59	0.57	0.20	0.47	0.59	7.48	4.63
Finland	0.05	0.46	0.21	0.39	0.55	1.78	1.20	0.86	5.02	2.83
France	8.18	2.62	9.44	8.61	16.31	7.75	14.73	20.32	23.62	25.17
Germany	5.29	3.41	5.52	2.29	4.47	7.50	11.95	11.88	20.10	47.15
Greece	0.12	0.07	0.41	0.05	0.01	0.05	0.49	0.10	0.02	0.19
Hungary	0.23	0.27	0.40	0.38	0.14	2.11	1.59	0.35	0.63	0.56
Iceland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ireland	0.60	0.28	0.08	1.47	0.24	0.60	0.72	2.29	0.73	3.59
Italy	2.17	3.86	3.77	3.64	7.01	4.11	2.78	2.98	4.48	11.12
Japan	0.15	0.18	0.27	0.09	0.75	0.54	2.46	0.44	4.29	16.47
Korea	0.00	0.69	0.00	0.00	0.00	0.19	0.56	0.84	4.48	10.08
Luxembourg	0.53	0.08	0.07	0.25	0.38	0.31	0.51	3.49	0.04	5.66
Mexico	2.33	0.55	0.96	1.86	1.91	0.83	1.47	8.17	3.63	0.83
Netherlands	1.83	3.49	9.38	4.79	2.79	3.61	3.36	17.09	19.97	40.05
New Zealand	3.70	0.82	1.16	1.48	0.41	2.15	4.85	1.35	3.42	1.84
Norway	0.67	1.04	0.49	1.96	0.41	0.27	2.03	2.70	1.51	8.59
Poland	0.00	0.07	1.40	0.20	0.28	0.99	1.06	0.94	2.07	3.56
Portugal	0.21	0.19	0.67	0.36	0.22	0.14	0.80	0.09	0.43	0.24
Spain	3.83	5.36	5.02	2.04	3.63	1.44	1.48	4.20	5.71	5.77
Sweden	4.49	2.29	2.47	1.85	6.16	9.85	3.94	3.76	11.61	59.90
Switzerland	4.78	1.05	0.58	0.17	1.59	3.69	4.41	3.59	5.52	4.29
Turkey	0.11	0.01	0.12	0.03	0.05	0.19	0.37	0.14	0.07	0.07
United Kingdom	29.13	14.06	8.03	9.01	12.54	35.63	31.09	46.19	96.03	133.05
United States	55.34	28.96	16.03	19.05	47.74	55.18	70.41	86.03	220.36	253.06
OECD total	137.88	77.60	72.41	68.85	117.81	172.95	196.73	251.81	495.10	710.69

Source: Thomson Financial.

Annex Table 3.6. **Inward cross-border M&As in OECD countries**
Number of deals

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia	101	121	66	137	154	185	238	248	310	284
Austria	12	28	32	44	38	40	43	55	43	108
Belgium	44	61	56	61	60	71	70	50	95	133
Canada	157	150	173	135	172	242	262	298	311	337
Czech Republic			4	19	29	46	42	41	57	100
Denmark	24	69	45	56	52	42	39	52	77	82
Finland	14	41	65	58	72	87	90	76	68	88
France	138	268	258	233	271	299	296	381	371	378
Germany	166	282	240	229	330	549	551	560	421	453
Greece	7	12	6	7	7	9	6	4	12	15
Hungary	7	35	47	46	37	57	56	39	38	87
Iceland		1	1				2		1	
Ireland	15	24	12	19	18	48	36	45	46	68
Italy	99	117	139	111	145	138	126	155	178	186
Japan	18	18	29	22	29	26	33	31	51	89
Korea	3	15	9	11	13	8	4	7	12	21
Luxembourg	15	16	35	36	52	57	56	70	74	51
Mexico	82	114	96	92	115	105	131	124	171	216
Netherlands	31	33	25	38	44	60	67	58	68	58
New Zealand	14	46	51	55	44	45	41	34	52	125
Norway	2	18	20	37	26	70	79	65	65	113
Poland	16	18	31	14	16	21	22	25	39	42
Portugal	1	7	1	4	1	10	14	9	50	92
Spain	101	107	143	89	100	105	79	123	223	228
Sweden	38	108	83	66	90	96	88	82	125	168
Switzerland	35	54	65	49	78	81	88	95	97	156
Turkey	5	5	11	7	4	9	12	5	12	12
United Kingdom	428	347	304	356	407	477	501	653	758	793
United States	802	543	441	453	549	707	757	839	992	1 186
OECD total	2 375	2 658	2 488	2 484	2 953	3 690	3 829	4 224	4 817	5 669

Source: Thomson Financial.

Annex Table 3.7. **Outward cross-border M&As in OECD countries**
Deal value, USD billions

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia	3.81	1.49	0.69	1.86	1.80	6.17	9.32	11.97	8.21	10.43
Austria	0.24	0.21	0.07	0.17	0.02	0.16	0.00	0.29	0.64	1.82
Belgium	0.81	0.22	0.63	0.20	3.20	4.57	2.84	2.04	2.53	14.70
Canada	3.14	4.11	2.41	4.15	6.06	12.38	8.93	16.71	36.78	19.04
Czech Republic	0.00	0.00	0.00	0.00	0.03	0.05	0.17	0.06	0.42	0.02
Denmark	0.77	0.57	0.26	0.37	0.18	0.16	0.49	1.53	1.32	4.80
Finland	1.14	0.67	0.01	0.11	0.42	0.47	1.54	1.89	8.05	2.28
France	21.84	10.57	12.63	6.81	6.65	9.23	15.61	22.83	42.04	93.86
Germany	6.80	6.91	4.59	4.42	7.61	18.72	18.26	13.30	67.76	87.25
Greece	0.00	0.02	0.02	0.13	0.02	0.00	0.00	2.02	1.48	0.54
Hungary	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.05	0.12
Iceland	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ireland	0.74	0.39	0.36	0.48	1.45	1.17	2.27	1.98	3.25	4.12
Italy	5.31	0.82	5.46	0.85	1.63	4.80	1.65	4.38	15.83	13.26
Japan	14.93	11.91	4.40	1.15	1.15	3.94	5.66	3.00	2.38	9.98
Korea	0.03	0.19	0.07	0.07	0.50	1.29	1.68	2.38	0.19	1.10
Luxembourg	0.73	1.02	0.41	1.56	0.25	0.05	1.17	1.01	1.30	3.18
Mexico	0.68	0.00	0.89	0.31	2.20	0.23	0.87	3.29	0.75	2.24
Netherlands	5.61	4.25	5.40	2.94	8.72	6.83	12.21	16.40	24.96	48.51
New Zealand	1.98	0.88	0.92	0.30	0.18	0.58	1.15	0.93	1.19	1.46
Norway	1.38	1.29	0.27	0.14	0.65	1.32	3.96	1.26	1.32	1.44
Poland	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.04	0.46	0.19
Portugal	0.02	0.18	0.50	0.01	0.22	0.34	0.10	0.61	5.21	1.76
Spain	4.10	2.77	1.30	1.05	3.83	0.50	3.46	8.46	15.57	26.15
Sweden	12.70	2.45	1.83	1.93	3.12	5.37	2.06	7.78	16.19	11.58
Switzerland	4.52	1.84	4.99	2.34	11.50	9.89	10.01	11.18	41.26	22.98
Turkey	0.00	0.00	0.00	0.00	0.01	0.02	0.36	0.04	0.00	0.10
United Kingdom	26.66	9.52	12.20	19.07	26.99	29.60	37.72	58.66	103.12	213.18
United States	27.76	17.22	15.22	20.60	29.72	59.64	64.33	83.54	146.76	127.86
OECD total	145.71	79.51	75.52	71.09	118.12	177.51	205.82	277.60	549.01	723.93

Source: Thomson Financial.

Annex Table 3.8. **Outward cross-border M&As in OECD countries**
Number of deals

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia	83	73	52	96	106	126	126	166	159	184
Austria	13	38	38	35	44	64	30	49	44	91
Belgium	28	38	50	55	56	76	84	87	120	163
Canada	139	123	175	184	230	266	293	358	420	353
Czech Republic		2			4	9	13	8	8	16
Denmark	19	69	41	40	44	76	52	77	88	126
Finland	26	48	47	39	53	43	64	65	76	127
France	200	253	230	165	187	248	280	274	314	426
Germany	140	254	221	194	316	450	381	332	360	645
Greece	1	4	5	13	8	3	2	8	16	28
Hungary			2	3	1	7	7	13	17	31
Iceland			1			2		2	1	3
Ireland	36	15	22	36	48	58	60	67	83	89
Italy	48	87	104	76	69	84	56	63	101	140
Japan	282	188	93	67	54	80	122	96	94	131
Korea	4	21	15	10	21	15	15	13	28	28
Luxembourg	3	2	5	10	28	10	12	24	29	20
Mexico	92	151	128	122	148	202	216	190	275	331
Netherlands	19	14	14	14	21	28	46	43	33	38
New Zealand	25	50	34	36	33	56	58	50	65	79
Norway	1			4	1	4	12	7	4	14
Poland	2	7	13	11	10	16	8	16	24	34
Portugal	7	3	5	6	16	16	26	21	13	13
Spain	27	51	50	23	33	39	56	74	156	158
Sweden	80	114	91	85	90	123	124	133	170	268
Switzerland	55	84	97	80	102	124	131	127	148	159
Turkey	1	1	5	1	2	1	7	4	4	8
United Kingdom	513	409	374	412	514	598	608	740	777	974
United States	590	636	690	786	939	1 240	1 377	1 587	1 886	1 841
OECD total	2 434	2 735	2 602	2 603	3 178	4 064	4 266	4 694	5 513	6 518

Source: Thomson Financial.

Annex Table 3.9. **Cross-border strategic alliances by region**
Number of deals

	Europe	Asia/Pacific	North America	Latin America	European Union	OECD	World total
1989	452	373	643	10	399	828	834
1990	1 453	1 071	1 742	36	1 224	2 501	2 532
1991	2 395	1 666	2 574	123	1 914	4 022	4 117
1992	1 845	1 633	2 195	138	1 599	3 343	3 520
1993	2 087	2 414	2 406	151	1 717	3 943	4 370
1994	2 317	3 358	2 884	212	1 946	4 780	5 362
1995	2 515	3 539	3 026	209	2 165	5 191	5 807
1996	1 436	1 891	1 743	113	1 230	2 952	3 251
1997	1 854	2 157	2 311	206	1 576	3 670	4 014
1998	2 216	2 148	2 594	250	1 922	4 116	4 426
1999	2 227	2 208	2 694	212	2 004	4 226	4 519
2000	2 094	2 362	2 616	154	1 936	4 130	4 351

Note: For 2000, January to October.

Alliances between different regions can be counted more than once (*e.g.* once for Europe, once for North America). However, each alliance is counted only once in the world total. Therefore, the sum of alliances by region can exceed the world total due to double counting.

Source: Thomson Financial.

Annex Table 3.10. **Strategic alliances in OECD countries, 1990-99**
Number of deals

	Cross-border alliances (A)	Domestic alliances (B)	A/(A+B) (%)	B/(A+B) (%)
Australia	2271	770	74.7	25.3
Austria	350	32	91.6	8.4
Belgium	553	46	92.3	7.7
Canada	4 064	1 057	79.4	20.6
Czech Republic	158	12	92.9	7.1
Denmark	299	19	94.0	6.0
Finland	475	61	88.6	11.4
France	3 245	276	92.2	7.8
Germany	4062	501	89.0	11.0
Greece	101	15	87.1	12.9
Hungary	366	21	94.6	5.4
Iceland	10	0	100.0	0.0
Ireland	313	24	92.9	7.1
Italy	1 467	164	89.9	10.1
Japan	9 430	1 306	87.8	12.2
Korea	1 566	94	94.3	5.7
Luxembourg	84	1	98.8	1.2
Mexico	568	30	95.0	5.0
Netherlands	1 604	133	92.3	7.7
New Zealand	288	60	82.8	17.2
Norway	432	46	90.4	9.6
Poland	375	18	95.4	4.6
Portugal	124	25	83.2	16.8
Spain	582	74	88.7	11.3
Sweden	893	65	93.2	6.8
Switzerland	1 338	89	93.8	6.2
Turkey	223	15	93.7	6.3
United Kingdom	5 966	917	86.7	13.3
United States	22 293	19 141	53.8	46.2
OECD total	38 744	25 005	60.8	39.2

Source: Thomson Financial.

Annex Table 3.11. **Total strategic alliances in OECD countries**
Number of deals

	1990-94	1995	1996	1997	1998	1999	2000
Australia	808	447	234	375	510	667	661
Austria	227	51	20	23	23	38	45
Belgium	238	68	59	53	89	92	72
Canada	1 951	640	397	620	707	806	648
Czech Republic	86	11	14	15	26	18	3
Denmark	141	49	19	29	45	35	27
Finland	268	53	35	49	72	59	74
France	1 885	411	235	309	333	348	342
Germany	2 319	552	340	373	480	499	618
Greece	38	17	7	2	16	36	10
Hungary	296	19	12	21	16	23	4
Iceland	5	0	0	0	3	2	3
Ireland	140	53	17	30	46	51	48
Italy	916	202	73	119	139	182	219
Japan	6 132	1 296	724	777	840	967	1 783
Korea	659	255	181	192	163	210	224
Luxembourg	44	14	3	4	12	8	13
Mexico	310	63	35	57	70	63	41
Netherlands	843	226	116	158	195	199	199
New Zealand	109	39	21	39	56	84	38
Norway	216	62	31	49	60	60	52
Poland	208	45	27	35	48	30	8
Portugal	63	11	10	10	22	33	21
Spain	335	51	41	38	68	123	125
Sweden	481	120	59	77	115	106	164
Switzerland	790	152	98	107	147	133	145
Turkey	105	34	15	28	36	20	10
United Kingdom	3 052	879	495	687	858	912	1 065
United States	19 546	5 059	3 008	4 131	4 537	5 153	4 357
OECD total	29 416	8 129	4 727	6 264	7 155	8 058	7 961

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.12. **Cross-border strategic alliances in OECD countries**
Number of deals

	1990-94	1995	1996	1997	1998	1999	2000
Australia	692	351	179	270	333	446	461
Austria	210	44	17	23	20	36	40
Belgium	226	64	49	49	82	83	59
Canada	1 574	502	336	485	566	601	498
Czech Republic	80	11	10	15	25	17	3
Denmark	128	48	19	28	43	33	26
Finland	230	51	31	42	70	51	63
France	1 712	387	225	287	311	323	287
Germany	2 050	499	306	341	431	435	472
Greece	35	16	6	1	14	29	7
Hungary	287	18	10	18	13	20	4
Iceland	5	0	0	0	3	2	3
Ireland	132	46	17	29	43	46	42
Italy	808	188	72	111	124	164	167
Japan	5 478	1 181	648	708	700	715	935
Korea	642	242	171	179	144	188	191
Luxembourg	43	14	3	4	12	8	13
Mexico	304	61	33	53	66	51	39
Netherlands	775	207	111	143	183	185	182
New Zealand	99	35	16	34	43	61	34
Norway	184	58	29	48	57	56	48
Poland	202	43	26	33	41	30	7
Portugal	47	10	9	8	20	30	15
Spain	296	49	33	35	59	110	105
Sweden	438	113	56	74	109	103	95
Switzerland	737	144	92	105	136	124	132
Turkey	101	33	15	26	29	19	10
United Kingdom	2 752	746	437	598	699	734	780
United States	11 121	2 779	1 587	2 065	2 317	2 424	2 409
OECD total	14 459	5 191	2 952	3 670	4 116	4 226	4 130

Note: For 2000, January to October.*Source:* Thomson Financial.

Annex Table 3.13. **Top ten European target industries in the United States**

	Number of deals			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Business services	165	492	657	10.4	18.8	15.6
Computer and machinery	103	177	280	6.5	6.8	6.7
Measuring & medical equipment	94	132	226	5.9	5.1	5.4
Electronic & electrical equipment	77	148	225	4.8	5.7	5.4
Wholesale trade (durable goods)	69	141	210	4.3	5.4	5.0
Chemicals	96	104	200	6.0	4.0	4.8
Printing & publishing services	61	101	162	3.8	3.9	3.9
Metal & metal products	67	92	159	4.2	3.5	3.8
Investment & commodity firms	57	93	150	3.6	3.6	3.6
Pharmaceuticals	59	72	131	3.7	2.8	3.1
Total top ten	848	1 552	2 400	53.2	59.4	57.1
Industry total	1 594	2 611	4 205	100.0	100.0	100.0

Source: Thomson Financial.

Annex Table 3.14. **Top ten Asian target industries in the United States**

	Number of deals			Share (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Business services	49	77	126	9.4	18.9	13.5
Electronic & electrical equipment	68	56	124	13.0	13.7	13.3
Computer & machinery	79	44	123	15.1	10.8	13.2
Wholesale trade (durable goods)	27	17	44	5.2	4.2	4.7
Measuring & medical equipment	31	12	43	5.9	2.9	4.6
Chemicals	28	14	42	5.4	3.4	4.5
Hotels & casinos	23	16	39	4.4	3.9	4.2
Metal & metal products	23	9	32	4.4	2.2	3.4
Food & kindred products	19	10	29	3.6	2.5	3.1
Investment & commodity firms	12	14	26	2.3	3.4	2.8
Total top ten	359	269	628	68.8	65.9	67.5
Industry total	522	408	930	100.0	100.0	100.0

Source: Thomson Financial.

Annex Table 3.15. **US cross-border alliances by type**

Number of deals

	Cross-border alliances			Cross-border and domestic alliances		
	Joint ventures	Other alliances	Total	Joint ventures	Other alliances	Total
1989	168	455	623	243	549	792
1990	751	912	1 663	1 034	1 601	2 635
1991	1 100	1 333	2 433	1 523	2 570	4 093
1992	622	1 459	2 081	872	2 984	3 856
1993	810	1 452	2 262	1 085	2 993	4 078
1994	1 191	1 491	2 682	1 686	3 198	4 884
1995	1 544	1 235	2 779	2 181	2 878	5 059
1996	780	807	1 587	1 133	1 875	3 008
1997	968	1 097	2 065	1 454	2 677	4 131
1998	804	1 513	2 317	1 114	3 423	4 537
1999	779	1 645	2 424	1 118	4 035	5 153
2000	773	1 636	2 409	1 020	3 337	4 357

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.16. **US cross-border alliances by region**
Number of deals

	Europe	Asia/Pacific	North America	Latin America	Total alliances
1989	268	295	31	5	623
1990	785	668	85	19	1 663
1991	1 070	971	187	70	2 433
1992	818	918	178	86	2 081
1993	869	1 034	211	93	2 262
1994	919	1 383	233	122	2 682
1995	958	1 360	255	131	2 779
1996	578	688	180	64	1 587
1997	794	845	239	115	2 065
1998	904	883	289	138	2 317
1999	917	999	331	96	2 424
2000	873	1 159	291	64	2 409

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.17. **US strategic alliances by purpose**
Number of deals

	Cross-border alliances			Cross-border and domestic alliances		
	Manufacturing	Marketing	R&D	Manufacturing	Marketing	R&D
1989	125	142	77	144	175	126
1990	346	586	306	467	974	603
1991	539	987	554	693	1 743	1 092
1992	444	1 076	558	661	2 013	1 266
1993	613	1 070	572	871	1 970	1 317
1994	723	1 115	649	1 020	1 998	1 514
1995	794	933	557	1 130	1 801	1 207
1996	392	484	271	557	924	583
1997	451	443	356	672	932	815
1998	481	396	182	749	860	382
1999	442	336	138	731	706	264
2000	254	262	154	376	538	202

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.18. **Top ten partner countries for US cross-border alliances**
Number of deals

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
Japan	247	518	748	684	648	743	521	267	319	319	366	512	5 133
United Kingdom	111	219	260	223	212	259	273	192	248	300	318	347	2 504
Canada	31	85	187	178	211	233	255	180	239	289	331	291	2 188
Germany	37	114	145	120	133	144	158	95	141	160	146	172	1 356
China	1	21	33	57	133	227	210	119	117	154	100	98	1 171
France	45	116	138	123	129	126	124	70	107	101	104	88	1 138
Australia	8	23	43	34	53	67	114	53	97	115	167	164	766
Netherlands	18	55	69	65	75	67	62	36	50	80	61	59	620
Korea	24	46	37	31	26	58	60	49	58	57	91	71	513
Italy	7	48	65	46	49	52	58	20	40	28	47	41	453

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.19. **US cross-border alliances by sector**
Number of deals

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
Primary	4	36	58	43	36	33	71	29	39	45	35	19	425
Manufacturing	419	906	1 245	876	1 084	1 283	1 253	605	760	645	531	363	9 188
Chemicals	20	45	76	61	135	122	97	55	59	59	54	26	763
Pharmaceuticals	110	205	245	158	179	218	162	110	129	59	35	23	1 500
Computer & office equipment	40	124	147	70	80	94	67	40	49	28	27	25	726
Communications equipment	21	68	93	58	108	117	98	42	55	44	33	33	716
Electronic & electrical equipment	108	130	147	131	141	160	144	77	99	56	68	49	1 153
Transportation equipment	10	38	31	35	45	88	88	36	60	54	39	32	514
Machinery	34	34	74	77	55	82	72	32	33	44	38	29	541
Services	119	456	875	1 011	1 090	1 305	1 376	869	1 124	1 551	1 771	1 996	11 428
Trade	14	83	303	522	520	497	343	212	155	142	159	148	2 936
Financial services	15	75	86	43	76	108	172	122	198	446	352	247	1 678
Business services	28	64	141	171	149	164	188	170	304	510	784	1055	2 645
Software	36	138	168	107	113	163	241	136	177	165	158	208	1 566
Telecommunications	4	23	55	46	49	93	121	60	83	81	108	126	719
Transportation & utility	13	50	68	88	133	204	190	116	138	129	114	117	1 230
Others	81	265	255	151	52	61	79	84	142	76	87	31	1 252
Industry total	623	1 663	2 433	2 081	2 262	2 682	2 779	1 587	2 065	2 317	2 424	2409	22 293

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.20. **US cross-border alliances by sector**
Percentage

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
Primary	0.6	2.2	2.4	2.1	1.6	1.2	2.6	1.8	1.9	1.9	1.4	0.8	1.9
Manufacturing	67.3	54.5	51.2	42.1	47.9	47.8	45.1	38.1	36.8	27.8	21.9	15.1	41.2
Chemicals	3.2	2.7	3.1	2.9	6.0	4.5	3.5	3.5	2.9	2.5	2.2	1.1	3.4
Pharmaceuticals	17.7	12.3	10.1	7.6	7.9	8.1	5.8	6.9	6.2	2.5	1.4	1.0	6.7
Computer & office equipment	6.4	7.5	6.0	3.4	3.5	3.5	2.4	2.5	2.4	1.2	1.1	1.0	3.3
Communications equipment	3.4	4.1	3.8	2.8	4.8	4.4	3.5	2.6	2.7	1.9	1.4	1.4	3.2
Electronic & electrical equipment	17.3	7.8	6.0	6.3	6.2	6.0	5.2	4.9	4.8	2.4	2.8	2.0	5.2
Transportation equipment	1.6	2.3	1.3	1.7	2.0	3.3	3.2	2.3	2.9	2.3	1.6	1.3	2.3
Machinery	5.5	2.0	3.0	3.7	2.4	3.1	2.6	2.0	1.6	1.9	1.6	1.2	2.4
Services	19.1	27.4	36.0	48.6	48.2	48.7	49.5	54.8	54.4	66.9	73.1	82.9	51.3
Trade	2.2	5.0	12.5	25.1	23.0	18.5	12.3	13.4	7.5	6.1	6.6	6.1	13.2
Financial services	2.4	4.5	3.5	2.1	3.4	4.0	6.2	7.7	9.6	19.2	14.5	10.3	7.5
Business services	4.5	3.8	5.8	8.2	6.6	6.1	6.8	10.7	14.7	22.0	32.3	43.8	11.9
Software	5.8	8.3	6.9	5.1	5.0	6.1	8.7	8.6	8.6	7.1	6.5	8.6	7.0
Telecommunications	0.6	1.4	2.3	2.2	2.2	3.5	4.4	3.8	4.0	3.5	4.5	5.2	3.2
Transportation & utility	2.1	3.0	2.8	4.2	5.9	7.6	6.8	7.3	6.7	5.6	4.7	4.9	5.5
Others	13.0	15.9	10.5	7.3	2.3	2.3	2.8	5.3	6.9	3.3	3.6	1.3	5.6
Industry total	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.21. **US strategic alliances by sector and region, 1990-99**
Number of deals

	US-Europe	US-Asia/Pacific	US-US	US-EU	US-Japan	US cross-border total	US alliance total
Manufacturing	3 643	4 282	5 742	2 830	2 346	9 188	14 930
Chemicals	316	346	271	256	150	763	1 034
Pharmaceuticals	876	409	1 271	681	287	1 500	2 771
Computer & office equipment	207	460	651	176	335	726	1 377
Communications equipment	270	319	652	235	195	716	1 368
Electronic & electrical equipment	285	782	769	247	519	1 153	1 922
Transportation equipment	184	283	130	131	117	514	644
Machinery	193	306	181	137	171	541	722
Aerospace	98	88	64	63	30	200	264
Services	4 334	4 813	12 361	3 675	2 484	11 428	23 789
Trade	980	1 481	2 422	806	1 044	2 936	5 358
Financial services	663	665	1 523	556	231	1 678	3 201
Business services	1 106	981	3 350	950	435	2 645	5 995
Software	587	658	2 941	547	460	1 566	4 507
Telecommunications	268	295	497	204	103	719	1 216
Transportation & utility	487	490	748	399	130	1 230	1 978
Industry total	8 612	9 749	19 137	7 003	5 133	22 293	41 430

Source: Thomson Financial.

Annex Table 3.22. **US strategic R&D alliances by sector and region, 1990-99**
Number of deals

	US-Europe	US-Asia/Pacific	US-US	US-EU	US-Japan	US cross-border total	US alliance total
Manufacturing	1 060	1 063	2 393	881	818	2 418	4 811
Chemicals	64	38	101	51	27	116	217
Pharmaceuticals	462	216	798	357	165	772	1 570
Computer & office equipment	65	160	303	60	129	256	559
Communications equipment	97	111	306	89	83	237	543
Electronic & electrical equipment	118	283	346	107	227	457	803
Transportation equipment	27	30	46	27	20	65	111
Machinery	42	52	78	37	46	107	185
Aerospace	27	28	27	18	17	63	90
Services	699	638	2 327	608	436	1 523	3 850
Trade	81	55	190	72	40	155	345
Financial services	23	14	44	20	8	42	86
Business services	315	211	766	258	135	599	1 365
Software	219	296	1 185	206	219	587	1 772
Telecommunications	30	35	54	27	20	74	128
Transportation & utility	20	19	42	16	9	44	86
Industry total	1 851	1 786	4 900	1 566	1 315	4 143	9 043

Source: Thomson Financial.

Annex Table 3.23. **Share of strategic R&D alliances in the United States by sector and region, 1990-99**
Percentage

	US-Europe	US-Asia/Pacific	US-US	US-EU	US-Japan	US cross-border total	US alliance total
Manufacturing	22.0	22.1	49.7	18.3	17.0	50.3	100.0
Chemicals	29.5	17.5	46.5	23.5	12.4	53.5	100.0
Pharmaceuticals	29.4	13.8	50.8	22.7	10.5	49.2	100.0
Computer & office equipment	11.6	28.6	54.2	10.7	23.1	45.8	100.0
Communications equipment	17.9	20.4	56.4	16.4	15.3	43.6	100.0
Electronic & electrical equipment	14.7	35.3	43.1	13.3	28.3	56.9	100.0
Transportation equipment	24.3	27.0	41.5	24.3	18.0	58.5	100.0
Machinery	22.7	28.1	42.1	20.0	24.9	57.9	100.0
Aerospace	30.1	31.2	30.1	20.1	19.0	69.9	100.0
Services	18.2	16.6	60.4	15.8	11.3	39.6	100.0
Trade	23.5	15.9	55.1	20.9	11.6	44.9	100.0
Financial services	26.7	16.3	51.1	23.2	9.3	48.9	100.0
Business services	23.1	15.5	56.1	18.9	9.9	43.9	100.0
Software	12.4	16.7	66.9	11.6	12.4	33.1	100.0
Telecommunications	23.4	27.3	42.2	21.1	15.6	57.8	100.0
Transportation & utility	23.1	22.0	48.6	18.5	10.4	51.4	100.0
Industry total	20.5	19.8	54.2	17.3	14.5	45.8	100.0

Source: Thomson Financial.

Annex Table 3.24. **Top ten European target industries in Europe**

	Number of deals			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Business services	391	1214	1605	7.1	13.6	11.1
Food & kindred products	440	492	932	7.9	5.5	6.4
Computer and machinery	310	426	736	5.6	4.8	5.1
Wholesale trade (durable goods)	275	426	701	5.0	4.8	4.8
Metal & metal products	270	425	695	4.9	4.8	4.8
Transportation & shipping (except air)	239	385	624	4.3	4.3	4.3
Investment & commodity firms	188	326	514	3.4	3.7	3.6
Wholesale trade (non-durable goods)	202	304	506	3.6	3.4	3.5
Chemicals	266	301	567	4.8	3.4	3.9
Electronic & electrical equipment	194	271	465	3.5	3.0	3.2
Top 10 total	2 775	4 570	7 345	50.1	51.2	50.8
Industry total	5 540	8 927	14 467	100.0	100.0	100.0

Source: Thomson Financial.

Annex Table 3.25. **Top ten American target industries in Europe**

	Number of deals			Share in total (%)		
	1990-94	1995-99	1990-99	1990-94	1995-99	1990-99
Business services	340	1 015	1 355	16.3	24.0	21.4
Computer and machinery	175	285	460	8.4	6.7	7.3
Electronic & electrical equipment	149	237	386	7.1	5.6	6.1
Wholesale trade (durable goods)	122	223	345	5.8	5.3	5.5
Measuring & medical equipment	118	183	301	5.7	4.3	4.8
Metal & metal products	86	181	267	4.1	4.3	4.2
Chemicals	93	161	254	4.5	3.8	4.0
Food & kindred products	104	108	212	5.0	2.6	3.4
Investment & commodity firms	42	115	157	2.0	2.7	2.5
Pharmaceuticals	80	75	155	3.8	1.8	2.5
Total top ten	1 309	2 583	3 892	62.8	61.0	61.6
Industry total	2 086	4 234	6 320	100.0	100.0	100.0

Source: Thomson Financial.

Annex Table 3.26. **European strategic alliances by type**

Number of deals

	Cross-border alliances			Cross-border and domestic alliances		
	Joint ventures	Other alliances	Total	Joint ventures	Other alliances	Total
1989	173	279	452	187	282	469
1990	889	564	1 453	964	592	1 556
1991	1 547	848	2 395	1 680	878	2 558
1992	782	1 063	1 845	871	1 394	2 265
1993	1 127	960	2 087	1 269	1 127	2 396
1994	1 431	886	2 317	1 613	958	2 571
1995	1 810	705	2 515	2 075	751	2 826
1996	919	517	1 436	1 033	553	1 586
1997	1 151	703	1 854	1 308	750	2 058
1998	1 027	1 189	2 216	1 235	1 331	2 566
1999	1 020	1 207	2 227	1 244	1 368	2 612
2000	847	1 247	2 094	1 162	1 587	2 749

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.27. **European cross-border alliances by region**

Number of deals

	Europe	North America	Asia/Pacific	Latin America	Total
1989	107	284	60	3	452
1990	385	820	252	13	1 453
1991	805	1 143	428	22	2 395
1992	552	882	353	34	1 845
1993	523	942	563	42	2 087
1994	463	1 000	792	52	2 317
1995	573	1 055	826	40	2 515
1996	301	631	477	24	1 436
1997	353	895	546	36	1 854
1998	483	1 019	610	60	2 216
1999	556	1 027	567	55	2 227
2000	494	959	584	60	2 094

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.28. **European strategic alliances by purpose**
Number of deals

	Cross-border alliances			Cross-border and domestic alliances		
	Manufacturing	Marketing	R&D	Manufacturing	Marketing	R&D
1989	74	70	38	77	72	39
1990	296	343	187	315	357	192
1991	704	702	340	737	731	358
1992	521	710	394	572	776	424
1993	768	781	395	842	859	428
1994	877	741	431	958	807	470
1995	951	684	357	1 016	747	385
1996	482	365	170	509	387	186
1997	530	322	235	563	355	255
1998	620	317	172	676	367	193
1999	530	267	119	582	295	132
2000	312	218	131	345	284	156

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.29. **Top ten partner countries in European cross-border alliances**
Number of deals

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
United States	268	785	1070	818	869	919	958	578	794	904	917	873	8 612
United Kingdom	185	436	610	505	555	646	746	437	598	699	734	780	5 966
Germany	68	287	442	367	425	529	499	306	341	431	435	472	4 062
France	81	243	389	363	339	378	387	225	287	311	323	287	3 245
Japan	42	170	271	173	184	202	148	92	121	157	148	206	1 666
Netherlands	45	113	162	142	175	183	207	111	143	183	185	182	1 604
Italy	33	122	204	178	152	152	188	72	111	124	164	167	1 467
China	1	12	34	35	120	244	201	135	94	121	77	48	1 073
Sweden	0	56	105	95	94	88	113	56	74	109	103	95	893
Canada	17	36	87	69	83	89	100	59	108	124	118	96	873

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.30. **European cross-border alliances by sector**
Number of deals

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
Primary	10	31	52	36	41	41	60	30	53	61	50	27	455
Manufacturing	271	822	1 308	827	1 135	1 299	1 267	669	762	795	641	404	9 525
Chemicals	17	55	118	99	167	193	132	81	82	95	83	49	1 105
Pharmaceuticals	100	172	215	143	149	209	148	99	94	63	29	22	1 321
Computer & office equipment	15	61	68	27	27	32	23	11	19	12	18	7	298
Communications equipment	15	52	84	63	83	91	60	42	51	41	25	25	592
Electronic & electrical equipment	36	100	105	65	92	114	110	61	70	53	47	30	817
Transportation equipment	9	58	89	68	97	105	137	68	85	107	83	47	897
Machinery	8	33	66	51	77	83	84	40	45	58	37	30	574
Services	122	442	854	725	836	922	1 077	658	877	1 286	1 435	1 619	9 112
Trade	26	105	256	303	322	275	231	163	150	144	155	140	2 104
Financial services	14	99	145	83	99	132	202	110	166	301	302	240	1 639
Business services	30	62	120	112	135	118	135	111	207	383	519	726	1 902
Software	25	71	91	58	50	66	112	61	80	86	81	136	756
Telecommunications	0	22	56	26	41	69	97	61	74	78	94	118	618
Transportation & utility	21	62	124	117	157	209	222	120	141	201	206	174	1 559
Others	49	158	181	257	75	55	111	79	162	74	101	44	1 253
Industry total	452	1 453	2 395	1 845	2 087	2 317	2 515	1 436	1 854	2 216	2 227	2 094	20 345

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.31. **European cross-border alliances by sector**
Percentages

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	1990-99
Primary	2.2	2.1	2.2	2.0	2.0	1.8	2.4	2.1	2.9	2.8	2.2	1.3	2.2
Manufacturing	60.0	56.6	54.6	44.8	54.4	56.1	50.4	46.6	41.1	35.9	28.8	19.3	46.8
Chemicals	3.8	3.8	4.9	5.4	8.0	8.3	5.2	5.6	4.4	4.3	3.7	2.3	5.4
Pharmaceuticals	22.1	11.8	9.0	7.8	7.1	9.0	5.9	6.9	5.1	2.8	1.3	1.1	6.5
Computer & office equipment	3.3	4.2	2.8	1.5	1.3	1.4	0.9	0.8	1.0	0.5	0.8	0.3	1.5
Communications equipment	3.3	3.6	3.5	3.4	4.0	3.9	2.4	2.9	2.8	1.9	1.1	1.2	2.9
Electronic & electrical equipment	8.0	6.9	4.4	3.5	4.4	4.9	4.4	4.2	3.8	2.4	2.1	1.4	4.0
Transportation equipment	2.0	4.0	3.7	3.7	4.6	4.5	5.4	4.7	4.6	4.8	3.7	2.2	4.4
Machinery	1.8	2.3	2.8	2.8	3.7	3.6	3.3	2.8	2.4	2.6	1.7	1.4	2.8
Services	27.0	30.4	35.7	39.3	40.1	39.8	42.8	45.8	47.3	58.0	64.4	77.3	44.8
Trade	5.8	7.2	10.7	16.4	15.4	11.9	9.2	11.4	8.1	6.5	7.0	6.7	10.3
Financial services	3.1	6.8	6.1	4.5	4.7	5.7	8.0	7.7	9.0	13.6	13.6	11.5	8.1
Business services	6.6	4.3	5.0	6.1	6.5	5.1	5.4	7.7	11.2	17.3	23.3	34.7	9.3
Software	5.5	4.9	3.8	3.1	2.4	2.8	4.5	4.2	4.3	3.9	3.6	6.5	3.7
Telecommunications	0.0	1.5	2.3	1.4	2.0	3.0	3.9	4.2	4.0	3.5	4.2	5.6	3.0
Transportation & utility	4.6	4.3	5.2	6.3	7.5	9.0	8.8	8.4	7.6	9.1	9.3	8.3	7.7
Others	10.8	10.9	7.6	13.9	3.6	2.4	4.4	5.5	8.7	3.3	4.5	2.1	6.2
Industry total	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: For 2000, January to October.

Source: Thomson Financial.

Annex Table 3.32. **European cross-border alliances by sector and region, 1990-99**
Number of deals

	Europe- North America	Europe- Asia/Pacific	Europe- Europe	Europe-US	Europe-Japan	Europe cross- border total
Manufacturing	3 979	2 923	2 348	3 643	908	9 525
Chemicals	335	465	240	316	123	1 105
Pharmaceuticals	947	220	143	876	114	1 321
Computer & office equipment	215	58	27	207	38	298
Communications equipment	303	143	143	270	35	592
Electronic & electrical equipment	315	335	164	285	140	817
Transportation equipment	201	365	300	184	108	897
Machinery	208	207	153	193	68	574
Aerospace	103	73	96	98	15	282
Services	4 668	2 029	2 218	4 334	650	9 112
Trade	1 051	498	504	980	239	2 104
Financial services	720	379	479	663	81	1 639
Business services	1 184	367	325	1 106	113	1 902
Software	620	86	57	587	52	756
Telecommunications	287	154	189	268	49	618
Transportation & utility	535	408	534	487	79	1 559
Industry total	9 414	5 414	4 994	8 612	1 665	20 345

Source: Thomson Financial.

Annex Table 3.33. **European R&D cross-border alliances by sector and region, 1990-99**
Number of deals

	Europe- North America	Europe- Asia/Pacific	Europe- Europe	Europe-US	Europe-Japan	Europe cross- border total
Manufacturing	1 136	293	235	1060	178	1 649
Chemicals	68	28	19	64	15	114
Pharmaceuticals	500	72	63	462	51	629
Computer & office equipment	69	16	6	65	14	90
Communications equipment	108	23	30	97	11	160
Electronic & electrical equipment	121	54	24	118	42	197
Transportation equipment	29	25	17	27	10	70
Machinery	46	15	15	42	6	75
Aerospace	28	20	16	27	7	63
Services	743	174	120	699	84	1 027
Trade	84	22	11	81	13	116
Financial services	23	3	3	23	0	29
Business services	351	103	69	326	44	518
Software	228	28	20	219	18	273
Telecommunications	33	12	11	30	8	56
Transportation & utility	24	6	6	20	1	36
Industry total	1 973	481	372	1 851	270	2 800

Source: Thomson Financial.

Annex Table 3.34. **European R&D cross-border alliances by sector and region, 1990-99**
Percentage

	Europe- North America	Europe- Asia/Pacific	Europe- Europe	Europe-US	Europe-Japan	Europe cross- border total
Manufacturing	68.9	17.8	14.3	64.3	10.8	100.0
Chemicals	59.7	24.6	16.7	56.1	13.2	100.0
Pharmaceuticals	79.5	11.4	10.0	73.5	8.1	100.0
Computer & office equipment	76.6	17.8	6.7	72.1	15.5	100.0
Communications equipment	67.7	14.4	18.8	60.8	6.9	100.0
Electronic & electrical equipment	61.4	27.4	12.2	59.9	21.3	100.0
Transportation equipment	41.2	35.5	24.1	38.3	14.2	100.0
Machinery	61.0	19.9	19.9	55.7	8.0	100.0
Aerospace	44.1	31.5	25.2	42.5	11.0	100.0
Services	72.3	16.9	11.7	68.0	8.2	100.0
Trade	72.5	19.0	9.5	69.9	11.2	100.0
Financial services	80.1	10.4	10.4	80.1	0.0	100.0
Business services	67.7	19.9	13.3	62.9	8.5	100.0
Software	83.4	10.2	7.3	80.1	6.6	100.0
Telecommunications	59.4	21.6	19.8	54.0	14.4	100.0
Transportation & utility	67.3	16.8	16.8	56.1	2.8	100.0
Industry total	70.5	17.2	13.3	66.1	9.6	100.0

Source: Thomson Financial.

Annex Table 3.35. **Top target industries in foreign acquisitions in Japan, 1998-2000**

	Value (USD millions)	Number of deals	Share (%)
Transportation equipment	9 209.0	17	25.3
Finance* (credit institutions)	7 490.5	11	20.5
Finance* (insurance)	6 084.1	11	16.7
Oil, gas, petroleum refining	2 556.3	2	7.0
Telecommunications*	2 534.6	14	7.0
Finance* (real estate, mortgage banks and brokers)	1 953.2	8	5.4
Finance* (investment & commodity firms, dealers, exchanges)	1 305.4	17	3.6
Finance* (commercial banks, bank holding companies)	1 150.0	1	3.2
Radio and television broadcasting stations*	1 118.5	8	3.1
Business services*	757.3	37	2.1
Electronic and electrical equipment	336.6	18	.9
Wholesale trade* (durable goods)	293.9	12	.8
Pharmaceuticals	289.2	10	.8
Total	36 472.8	251	100.0

Note: Share = percentage of total deal value, 1998-2000; * Indicates services sector.

Source: Thomson Financial.

Annex Table 3.36. **Cross-border M&As in Japan: countries of acquiring firms, 1995-99**

	Value (USD millions)	Number of deals	Share (%)
United States	14 936.5	98	60.8
France	5 310.7	10	21.6
United Kingdom	1 632.7	28	6.6
Germany	783.7	19	3.2
Canada	709.8	5	2.9
Australia	385.9	1	1.6
Netherlands	243.2	7	1.0
Hong Kong (China)	135.2	4	0.6
Chinese Taipei	70.4	5	0.3
Korea	69.4	5	0.3
Singapore	37.5	2	0.2
Israel	33.6	3	0.1
Brunei	22.1	1	0.1
Total	24 580.8	235	100.0

Note: Share = percentage of total deal value, 1995-99.

Source: Thomson Financial.

Annex Table 3.37. **Japanese firms' preferred countries for cross-border M&As, 1990-99**
Value in USD millions, number of deals

	Value 1995-99	Deals 1995-99	Share (%)	Value 1990-94	Deals 1990-94
United States	9 528.6	124	38.1	23 066.7	309
Netherlands	8 462.0	11	33.8	396.5	16
United Kingdom	860.9	34	3.4	3 413.2	58
New Zealand	748.3	6	3.0	140.4	10
Brazil	684.6	14	2.7	8.0	2
Philippines	496.1	18	2.0	2.4	5
Thailand	393.0	34	1.6	106.6	10
Italy	354.0	13	1.4	105.0	17
Chile	346.3	2	1.4	40.0	1
Hong Kong (China)	303.2	20	1.2	1 397.6	23
France	295.6	12	1.2	203.3	31
Australia	292.5	19	1.2	1 470.9	29
Finland	283.2	6	1.1	n.a.	1
Canada	273.0	7	1.1	235.0	12
Korea	267.1	22	1.1	1.5	2
Sri Lanka	225.0	1	.9	n.a.	1
China	221.8	31	.9	57.7	6
South Africa	213.4	7	.9	n.a.	n.a.
Kazakhstan	139.5	3	.6	n.a.	n.a.
Indonesia	123.2	11	.5	137.9	10
Malaysia	69.4	13	.3	24.9	5
India	52.8	14	.2	8.5	2
Chinese Taipei	41.0	6	.2	19.5	5
Singapore	41.0	6	.2	663.5	9
Germany	34.7	22	.1	648.3	40
Hungary	20.6	4	.1	n.a.	n.a.
Russia	20.0	2	.1	n.a.	1
Ireland	20.0	4	.1	n.a.	n.a.
Portugal	10.0	2	.0	n.a.	n.a.
Israel	6.5	2	.0	n.a.	n.a.
Spain	5.0	5	.0	149.1	17
Total	25 031.4	535	100.0	33 538.2	684

Note: Share = percentage of total deal value, 1995-99.

Source: Thomson Financial.

Annex Table 3.38. **Japanese firms' acquisition target industries in Asia, 1990-99**
Value in USD millions, number of deals

	Value 1995-99	Deals 1995-99	Share (%)	Value 1990-94	Deals 1990-94
Food and kindred products	949.9	7	27.4	1 371.1	9
Telecommunications*	638.9	10	18.4	n.a.	n.a.
Transportation equipment	397.2	22	11.5	29.0	8
Electronic and electrical equipment	254.6	14	7.3	572.4	6
Finance* (commercial banks, bank holding companies)	189.6	3	5.5	53.7	3
Stone, clay, glass, and concrete products	175.1	6	5.1	n.a.	n.a.
Finance* (investment & commodity firms, dealers, exchanges)	136.9	18	4.0	8.6	8
Chemicals	114.3	20	3.3	1.1	9
Finance* (credit institutions)	100.2	3	2.9	194.9	1
Mining	87.7	5	2.5	124.5	8
Metal and metal products	62.7	15	1.8	161.6	7
Business services*	61.1	13	1.8	1.2	3
Prepackaged software	46.5	2	1.3	8.6	1
Oil and gas, petroleum refining	39.7	9	1.1	72.9	7
Measuring, medical, photo equipment, clocks	34.6	5	1.0	n.a.	n.a.
Wholesale trade* (durable goods)	33.1	8	1.0	70.5	8
Machinery	32.3	11	.9	428.4	3
Finance* (real estate, mortgage banks and brokers)	27.7	4	.8	27.0	3
Total	3 470.0	231	100.0	4 286.0	135

Note: Share = percentage of total deal value, 1995-99; * Indicates services sector.

Source: Thomson Financial.

Annex Table 3.39. **Japanese firms' acquisition target industries in the United States, 1990-99**
Value in USD millions, number of deals

	Value 1995-99	Deals 1995-99	Share (%)	Value 1990-94	Deals 1990-94
Computer and office equipment	2 628.6	9	27.6	503.4	23
Printing, publishing, and allied services*	2 100.0	1	22.0	2.2	1
Business services*	1 003.6	17	10.5	449.0	18
Wood products, furniture, and fixtures	710.0	2	7.5	2.2	1
Finance* (real estate, mortgage banks and brokers)	558.0	2	5.9	1 449.1	4
Finance* (credit institutions)	430.0	1	4.5	16.0	1
Finance* (investment & commodity firms, dealers, exchanges)	418.7	8	4.4	278.5	11
Electric, gas, and water distribution	233.5	3	2.5	6.0	1
Finance* (insurance)	200.0	1	2.1	58.0	3
Chemicals	159.8	7	1.7	1 890.2	22
Metal and metal products	148.0	3	1.6	782.1	19
Measuring, medical, photo equipment, clocks	147.7	5	1.6	348.0	21
Rubber and plastic products	108.6	4	1.1	163.8	6
Wholesale trade* (durable goods)	82.6	6	.9	281.9	13
Pharmaceuticals	77.5	2	.8	254.4	8
Finance* (commercial banks, bank holding companies)	70.0	2	.7	1 600.0	1
Electronic and electrical equipment	46.1	9	.5	1 174.4	28
Retail* (eating and drinking places)	45.0	1	.5	191.0	3
Software	42.3	9	.4	80.3	14
Wholesale trade* (non-durable goods)	35.7	5	.4	8.0	3
Total	9 528.6	124	100.0	23 066.7	309

Note: Share = percentage of total deal value, 1995-99; * Indicates services sector.

Figures in printing, finance (credit institutions and insurance) and retail (eating and drinking places) are inflated by a single deal in each sector. They are; Softbank's acquisition of Ziff Davis Media Inc in 1996, Dai-ichi Kangyo Bank's (now Mizuho) minority purchase of CIT Group Holdings in 1995, Toa Fire & Marine Reinsurance/Mercantile & General (Swiss Reinsurance) merger in 1997, and Shidax's acquisition of Bon Appetit Management in 1998.

Source: Thomson Financial.

Annex Table 3.40. **Japanese firms' acquisition target industries in the European Union, 1990-99**
Value in USD millions, number of deals

	Value 1995-99	Deals 1995-99	Share (%)	Value 1990-94	Deals 1990-94
Tobacco products	7 831.8	1	75.9	n.a.	n.a.
Computer and office equipment	449.0	2	4.4	136.1	6
Transportation equipment	371.7	6	3.6	220.8	6
Retail* (eating and drinking places)	283.8	1	2.8	35.7	3
Measuring, medical, photo equipment, clocks	247.1	5	2.4	298.9	9
Electronic and electrical equipment	201.4	10	2.0	102.1	12
Textile and apparel products	192.9	3	1.9	387.9	9
Rubber and plastic products	162.5	3	1.6	4.5	4
Business services*	133.1	3	1.3	2.9	5
Stone, clay, glass and concrete products	94.4	1	.9	273.6	4
Wholesale trade* (durable goods)	93.9	12	.9	519.2	19
Metal and metal products	86.8	2	.8	367.7	6
Communications equipment	36.0	2	.4	9.9	3
Printing, publishing, and allied services*	32.9	2	.3	n.a.	n.a.
Software	32.5	3	.3	1 407.2	3
Machinery	28.7	10	.3	110.9	16
Telecommunications*	19.4	4	.2	35.3	1
Chemicals	13.7	8	.1	14.5	11
Total	10 325.4	117	100.0	5 158.2	201

Note: Share = percentage of total deal value, 1995-99; * Indicates services sector.

Figures in tobacco, retail (eating and drinking places) and stone and other products are inflated by a single deal in each sector. They are; Japan Tobacco's acquisition of RJ Reynolds (Netherlands) in 1999, Nikko group's takeover of Roadchef PLC (UK) in 1998 and Santen Pharmaceutical's acquisition of Star Oy AB (Finland) in 1997.

Source: Thomson Financial.

Annex Table 4.1. **Top industries for cross-border M&As and alliances, 1995-99**
Number of deals, value in USD millions

M&As			Alliances	
	Number of deals	Value		Number of deals
Financial services*	3 657	376 453.4	Business services*	3 944
Business services*	3 082	74 871.4	Wholesale and retail trade*	3 765
Wholesale and retail trade*	3 035	153 198.0	Financial services*	2 797
Food	1 245	67 145.9	Software	1 625
Metal and metal products	1 113	45 094.7	Telecommunications*	1 329
Machinery	1 094	43 760.2	Electronic & electrical equipment	1 182
Transportation services*	1 089	51 936.1	Transportation equipment	1 072
Telecommunications*	1 055	244 310.7	Transportation services*	1 043
Chemicals	976	87 117.2	Chemicals	1 026
Software	966	19 078.5	Pharmaceuticals	840

Note: * Indicates services sector.

Source: Thomson Financial.

Annex Table 4.2. **Top target industries for cross-sectoral M&As, 1995-99**
Number of deals, value in USD millions

Manufacturing			Services		
	Number of deals	Value		Number of deals	Value
Software	359	7 532.9	Wholesale and retail trade	1 056	46 112.7
Food	262	9 431.8	Business services	705	14 953.3
Machinery	196	17 513.3	Financial services	253	5 228.4
Metal and metal products	189	9 266.1	Telecommunications	94	46 675.7
Electronic & electrical equipment	180	16 441.5	Transportation services	86	1 041.7
Construction	148	5 799.7	Electric, gas, water distribution	58	2 446.4
Chemicals	147	9 573.6	Printing & publishing	58	1 520.4
Transportation equipment	137	6 050.7	Health services	41	2 461.5
Measuring, medical, photo equipment, clocks	112	6 175.3	Repair services	36	3 040.0
Textile and apparel products	112	2 267.3	Motion picture production, distribution	27	6 628.8
Communications equipment	107	2 995.5	Sanitary services	22	125.5
Computers & office equipment	99	3 931.4	Radio & television broadcasting stations	20	2 011.5
Paper and allied products	83	5 076.8	Amusement & recreation services	18	493.3
Stone, clay, glass, concrete products	82	2 866.5	Hotels & casinos	17	3 217.5
Pharmaceuticals	76	2 741.6	Personal services	15	735.0

Source: Thomson Financial.

Annex Table 4.3. **Telecommunications: top cross-border M&As, 1990-October 2000**
Value in USD millions, percentages

Acquirer firm	Country	Acquired firm	Country	Value	Share ¹ (%)	Year	Share ² (%)
1 Vodafone AirTouch PLC	United Kingdom	Mannesmann AG	Germany	202 785.1	100.0	2000	30.7
2 Vodafone Group PLC	United Kingdom	AirTouch Communications	United States	60 286.9	100.0	1999	9.1
3 France Telecom	France	Orange PLC	United Kingdom	45 967.1	100.0	2000	7.0
4 Mannesmann AG	Germany	Orange PLC	United Kingdom	32 594.9	100.0	2000	4.9
5 Vodafone AirTouch PLC	United Kingdom	Airtel SA	Spain	14 840.5	65.2	2000	2.2
6 Deutsche Telekom AG	Germany	One 2 One	United Kingdom	13 629.0	100.0	1999	2.1
7 NTL Inc.	United States	CWC ConsumerCo	United Kingdom	11 004.0	100.0	2000	1.7
8 Telefónica SA	Spain	Telecomunicacoes de Sao Paulo	Brazil	10 213.3	100.0	2000	1.5
9 Global Crossing	Bermuda	Frontier Corp.	United States	10 062.6	100.0	1999	1.5
10 KPN Royal Dutch Telecom	Netherlands	E-Plus Mobilfunk	Germany	9 400.0	77.5	2000	1.4
11 Mannesmann AG	Germany	Omnitel, Infostrada	Italy	8 404.5	55.0,100.0	1999	1.3
12 Teleglobe Inc.	Canada	Excel Communications Inc.	United States	6 407.2	100.0	1998	1.0
13 NTT Communications Corp.	Japan	Verio Inc.	United States	5 694.4	73.5	2000	0.9
14 France Telecom	France	NTL Inc.	United States	5 500.0	25.0	2000	0.8
15 Telefonica Portugal Telecom	Spain Portugal	Telesp Participacoes SA	Brazil	4 973.1	19.3	1998	0.8
16 France Telecom	France	Global One	United States	4 349.5	100.0	2000	0.7
Total				446 112.1			67.6

1. Total shares of the acquired firm held by the acquirer firm after the transaction.

2. Share of total deal value, 1990-October 2000.

Source: Thomson Financial.

Annex Table 4.4. **Telecommunications: top acquirer and acquired firm's countries in cross-border M&As, 1990-June 2000**

Deal value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	United Kingdom	296 744.2	179	Germany	220 690.5	95
2	Germany	63 863.6	104	United States	119 332.0	176
3	United States	58 525.7	540	United Kingdom	67 154.8	135
4	France	23 940.0	59	Brazil	23 002.4	75
5	Canada	17 321.8	84	Canada	12 198.8	84
6	Netherlands	14 953.6	65	Italy	10 844.1	25
7	Spain	14 307.5	36	Netherlands	9 538.0	49
8	Bermuda	12 133.5	19	France	6 298.2	68
9	Italy	10 586.1	35	Argentina	6 111.3	26
10	Hong Kong, China	5 546.5	39	Hong Kong, China	5 827.2	38
11	Portugal	4 420.6	7	Mexico	4 218.5	28
12	Cyprus	3 752.0	3	Russia	3 959.9	19
13	Brazil	2 937.0	17	Denmark	3 646.4	22
14	Switzerland	2 578.1	20	Austria	3 415.3	32
15	Japan	2 390.9	28	Australia	3 111.9	74
16	Saudi Arabia	1 700.0	3	Ireland	3 061.1	16
17	Korea	1 582.3	5	New Zealand	2 860.7	19
18	Sweden	1 269.1	47	Belgium	2 694.5	22
19	Singapore	992.6	25	Japan	2 576.5	22
20	Mexico	877.4	4	Czech Republic	2 538.3	16
	Share of top 10 nations	95.79%	73.23%	Share of top 10 nations	88.96%	48.67%
	Share of top 20 nations	99.95%	83.27%	Share of top 20 nations	94.89%	65.72%

Note: Share = percentage of total M&A deals, 1990-2000 (January-June).

Deal value of the top countries of acquirer and acquired firm, *i.e.* the United Kingdom and Germany, is inflated by a single deal, Vodafone (United Kingdom) / Mannesmann (Germany), merged in 2000 with more than USD 200 billion in value (see Annex Table 4.3).

Source: Thomson Financial.

Annex Table 4.5. **Telecommunications: nationality of firms in cross-border alliances, 1995-99**
Number of deals

	1995-99 total	Share in total ¹ (%)
Asia²	664	50.0
Japan	176	13.2
China	117	8.8
Australia	101	7.6
India	85	6.4
Hong Kong, China	64	4.8
Singapore	57	4.3
Korea	53	4.0
Malaysia	46	3.5
European Union	564	42.4
United Kingdom	208	15.7
Germany	100	7.5
France	96	7.2
Sweden	53	4.0
Netherlands	48	3.6
Italy	44	3.3
Other Western Europe	55	4.1
Switzerland	36	2.7
Eastern Europe	83	6.2
Russia	30	2.3
Poland	9	47.4
Hungary	5	0.4
North America	822	61.9
United States	745	56.1
Canada	159	12.0
Latin America	73	5.5
Mexico	21	1.6
Brazil	19	1.4
OECD countries	1 221	91.9
Total number of deals	1 329	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.6. **Pharmaceuticals: top cross-border M&As, 1990-June 2000**
Deal value in USD millions

	Acquirer firm	Country	Acquired firm	Country	Year	Deal value	Share ¹ (%)
1	ZENECA Group PLC	United Kingdom	Astra AB	Sweden	1999	34 636.8	22.9
2	Rhone-Poulenc SA	France	Hoechst AG	Germany	1999	21 917.5	14.5
3	Roche Holding AG	Switzerland	Corange Ltd.	Netherlands	1998	10 200.0	6.7
4	Hoechst AG	Germany	Marion Merrell Dow Inc.	United States	1995	7 264.6	4.8
5	Upjohn Co.	United States	Pharmacia AB	Sweden	1995	6 989.1	4.6
6	Roche Holding AG	Switzerland	Syntex Corp.	United States	1994	5 307.2	3.5
7	Rhone-Poulenc SA	France	Rhone-Poulenc Rorer Inc.	United States	1997	4 831.6	3.2
8	Roche Holding AG	Switzerland	Genentech Inc.	United States	1999	4 818.4	3.2
9	Rhone-Poulenc SA	France	Rorer Group Inc.	United States	1990	3 476.0	2.3
10	Hoechst AG	Germany	Roussel-Uclaf SA	France	1997	3 473.6	2.3
Total						102 914.8	68.1

1. Share = percentage of total deal value (USD 151 billion), 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.7. **Pharmaceuticals: top acquirer and acquired firms' countries in cross-border M&As, 1990-June 2000**
Value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	United Kingdom	45 158.0	122	United States	46 202.2	227
2	France	31 491.0	77	Sweden	43 099.5	27
3	Switzerland	26 514.3	51	Germany	24 601.0	74
4	United States	19 445.8	294	Bermuda	10 524.5	3
5	Germany	16 918.2	105	France	6 382.2	87
6	Ireland	3 356.9	14	United Kingdom	6 219.0	70
7	Sweden	2 093.4	22	Italy	2 500.9	60
8	Netherlands	1 007.9	38	Netherlands	2 431.1	38
9	Japan	966.9	35	Canada	1 500.4	37
10	Israel	816.3	13	Japan	1 363.5	25
11	Canada	612.8	41	Norway	1 101.1	3
12	Italy	503.0	31	Switzerland	848.8	26
13	Norway	386.9	9	Hungary	420.5	21
14	Belgium	326.3	16	Australia	395.5	19
15	Finland	217.3	4	Poland	389.7	13
16	Australia	213.5	10	Finland	332.1	5
17	China	190.4	3	Argentina	289.8	12
18	Croatia	115.9	3	Brazil	228.2	12
19	Hong Kong, China	93.1	8	Hong Kong, China	223.4	6
20	Denmark	92.6	17	Korea	202.8	8
Share of top 10 nations		97.8%	77.2%	Share of top 10 nations	95.8%	64.9%
Share of top 20 nations		99.6%	91.4%	Share of top 20 nations	98.8%	77.4%

Note: Share = percentage of total M&A deals, 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.8. **Pharmaceuticals: regional¹ distribution of cross-border alliances by objective, 1990-99**
Number of deals

	R&D	Share (%)	Marketing	Share (%)	Manufacturing	Share (%)
Asia²	222	19.5	263	24.6	269	36.4
Japan	150	13.2	149	14.0	66	8.9
China	23	2.0	56	5.2	132	17.9
European Union	254	22.3	199	18.6	125	16.9%
United Kingdom	102	9.0	74	6.9	41	5.6
Germany	54	4.7	42	3.9	29	3.9
France	45	4.0	34	3.2	21	2.8
Netherlands	18	1.6	12	1.1	6	0.8
Sweden	12	1.8	7	1.6	1	0.4
Denmark	7	1.1	9	2.1	3	1.2
Other Western Europe	21	1.8	19	1.8	12	1.6
Switzerland	25	2.2	18	1.7	12	1.6
Eastern Europe	11	1.0	28	2.6	43	5.8
Russia	2	0.2	8	0.7	16	2.2
Hungary	4	0.4	7	0.7	8	1.1
Poland	1	0.1	3	0.3	3	0.4
North America	656	57.7	433	40.5	247	33.5
United States	609	53.6	394	36.9	226	30.6
Canada	83	7.3	79	7.4	32	4.3
Latin America	8	0.7	16	1.5	8	1.1
OECD countries	870	76.5	672	62.9	405	54.9
Total number of deals	1 137	100.0	1 068	100.0	738	100.0

1. Regions and countries where the alliance takes place. For example, there are 1 137 R&D alliances, 222 of which conduct R&D activities in Asia.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.9. **Pharmaceuticals: pharma-biotech alliances in the first half of 2000**
Deal value: USD million

	Pharmaceutical company	Partner (Biotech company)	Value
1	Novartis	Vertex Pharmaceuticals	800
2	Aventis Pharma	Millennium Pharmaceuticals	450
3	Novartis	Celegene	100
4	SmithKline Beecham	Coley Pharmaceutical	72
5	Parke-Davis	Metabolex	50
6	Baxter Healthcare	Alliance Pharmaceuticals	50
7	Baxter Healthcare	Sangamo BioSciences	40
8	Baxter Healthcare	Xoma	35
9	Ares-Serono	Alkermes	30
10	Schering AG	Titan	26
11	SmithKline Beecham	Avanir	25
12	PE Biosystems	Visible Genetics	25
13	Abbott Labs	NeuroSearch	17
14	Hoffman-LaRoche	Myriad	13
15	Bristol-Myers Squibb	Ligand Pharmaceuticals	9

Source: Burrill & Company (2000a, 2000b).

Annex Table 4.10. **Pharmaceuticals: nationality of firms in cross-border alliances, 1990-99**
Number of deals

	1990-99 total	Share in total ¹ (%)
Asia²	794	34.5
Japan	489	21.2
China	157	6.8
European Union	1 209	52.5
United Kingdom	455	19.7
Germany	241	10.5
France	215	9.3
Netherlands	95	4.1
Sweden	61	3.4
Denmark	41	2.3
Other Western Europe	301	13.1
Switzerland	281	12.2
Eastern Europe	69	4.1
Russia	14	0.6
Hungary	11	0.5
North America	1 795	77.9
United States	1 686	73.2
Canada	258	11.2
Latin America	33	1.4
Mexico	18	0.8
OECD countries	2 266	98.4
Total number of deals	2 304	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.11. **Automobiles: top cross-border M&As, 1990-June 2000**
Value in USD millions

	Acquirer firm	Country	Acquired firm	Country	Year	Deal value	Share (%)
1	Daimler-Benz AG	Germany	Chrysler Corp.	United States	1998	40 466.5	32.7
2	TRW Inc.	United States	LucasVarity PLC	United Kingdom	1999	6 827.4	5.5
3	Ford Motor Co	United States	Volvo car	Sweden	1999	6 450.0	5.2
4	Renault SA	France	Nissan Motor Co	Japan	1999	4 910.5	4.0
5	Volvo AB	Sweden	Renault SA	France	1990	3 598.2	2.9
6	Ford Motor Co	United States	Land Rover	United Kingdom	2000	2 715.8	2.2
7	Renault SA	France	Volvo AB	Sweden	1990	2 661.7	2.1
8	BMW	Germany	Rover Group Holdings Ltd.	United Kingdom	1994	2 562.8	2.1
9	Federal-Mogul Corp.	United States	T&N PLC	United Kingdom	1998	2 249.8	1.8
10	Lucas Industries PLC	United Kingdom	Varity Corp.	United States	1996	1 947.6	1.6
	Total					74 390.3	60.1

Note: Share = percentage of total deal value (USD 123.8 billion), 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.12. **Automobiles: top acquirer and acquired firms' countries in cross border M&As, 1990-June 2000**
Value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	Germany	50 060.1	112	United States	54 798.6	106
2	United States	29 988.0	260	Sweden	21 077.4	23
3	France	10 838.5	56	United Kingdom	18 867.4	101
4	Switzerland	10 078.1	15	Japan	7 672.3	19
5	United Kingdom	8 246.3	102	France	6 370.3	59
6	Sweden	4 539.5	46	Germany	2 777.1	96
7	Italy	1 540.4	34	Spain	1 698.5	33
8	Canada	1 187.9	43	Poland	1 285.4	18
9	Japan	1 172.5	55	Korea	935.2	12
10	Spain	909.4	5	Netherlands	918.3	16
11	Netherlands	841.8	20	Italy	844.1	45
12	South Africa	674.7	6	South Africa	711.3	18
13	Hong Kong, China	653.3	8	Indonesia	585.7	10
14	Belgium	533.5	10	Mexico	576.4	26
15	Malaysia	410.0	8	Brazil	550.0	42
16	Mexico	390.7	6	China	501.5	14
17	Korea	324.8	10	Canada	500.7	42
18	Russia	199.9	1	Czech Republic	432.8	14
19	Brazil	155.5	10	Austria	410.2	13
20	Finland	139.1	5	Romania	362.0	4
	Share of top 10 nations	95.76%	82.54%	Share of top 10 nations	94.02%	54.76%
	Share of top 20 nations	99.25%	92.06%	Share of top 20 nations	98.44%	80.61%

Note: Share = percentage of total M&A deals, 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.13. **Automobiles: regional¹ distribution of cross-border alliances by objective, 1990-99**
Number of deals

	R&D	Share (%)	Marketing	Share (%)	Manufacturing	Share (%)
Asia²	44	34.9	153	51.2	764	53.7
Japan	14	11.1	30	10.0	96	6.7
China	12	9.5	45	15.1	286	20.1
Korea	5	4.0	16	5.4	61	4.3
Malaysia	4	3.2	12	4.0	53	3.7
India	5	4.0	11	3.7	92	6.5
Indonesia	1	0.8	5	1.7	40	2.8
Thailand	1	0.8	11	3.7	54	3.8
Vietnam	0	0.0	8	2.7	34	2.4
Australia	3	2.4	7	2.3	16	1.1
European Union	42	33.3	57	19.1	225	15.8
Germany	16	12.7	18	6.0	76	5.3
France	7	5.6	13	4.3	41	2.9
United Kingdom	9	7.1	14	4.7	44	3.1
Italy	4	3.2	9	3.0	25	1.8
Sweden	8	6.3	6	2.0	21	1.5
Other Western Europe	1	0.8	0	0.0	10	0.7
Eastern Europe	4	3.2	25	8.4	231	16.2
Russia	0	0.0	4	1.3	73	5.1
Czech Republic	0	0.0	1	0.3	7	0.5
Poland	2	1.6	0	0.0	27	1.9
North America	48	38.1	51	17.1	159	11.2
United States	48	38.1	49	16.4	144	10.1
Canada	4	3.2	5	1.7	21	1.5
Latin America	1	0.8	15	5.0	66	4.6
Mexico	1	0.8	8	2.7	21	1.5
Brazil	0	0.0	3	1.0	22	1.5
OECD countries	88	69.8	152	50.8	581	40.8
Total number of deals	126	100.0	299	100.0	1 424	100.0

1. Regions and countries where the alliance activity takes place. For example, there are 126 R&D alliances, 44 of which conduct R&D activities in Asia.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.14. **Automobiles: nationality of firms in cross-border alliances, 1990-99**
Number of deals

	1990-99 total	Share in total ¹ (%)
Asia²	1 029	65.0
Japan	501	31.7
China	299	18.9
Korea	157	9.9
Malaysia	88	5.6
India	84	5.3
Indonesia	53	3.4
Thailand	52	3.3
Vietnam	29	1.8
Australia	29	1.8
European Union	699	44.2
Germany	281	17.8
France	137	8.7
United Kingdom	114	7.2
Italy	108	6.8
Sweden	78	4.9
Other Western Europe	31	2.0
Eastern Europe	262	16.6
Russia	77	4.9
Czech Republic	24	1.5
Poland	23	1.5
North America	557	35.2
United States	529	33.4
Canada	45	2.8
Latin America	57	3.6
Mexico	21	1.3
Brazil	16	1.0
OECD countries	1 503	95.0
Total number of deals	1 582	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.15. **US steel imports by country of origin, 1999 and 2000**
Thousands of net tonnes

	1999	2000	Percentage change ¹
European Union	4 278	4 831	12.90
Canada	3 398	3 717	9.40
Brazil	2 594	2 601	0.30
Mexico	2 383	2 416	1.40
Korea	2 056	2 019	-1.80
Japan	2 267	1 493	-34.10
Ukraine	438	1 215	177.40
China	406	1 060	161.10
Chinese Taipei	579	1 005	73.60
Russia	809	932	15.20
India	248	829	234.30
Australia	583	644	10.50
Turkey	302	477	57.90
South Africa	396	445	12.40
Others	2 648	3 647	37.70
Total	23 385	27 331	16.90

1. Comparison based on figures for January-August in 1999 and 2000.

Source: American Iron and Steel Institute.

Annex Table 4.16. **Steel trade position of selected countries, 1995-99**
Millions of tonnes

	1995	1996	1997	1998	1999
United States	-16.1	-22.2	-23.2	-33.1	-28.0
Canada	-0.6	-0.3	-2.5	-3.2	-2.1
European Union	5.9	15.7	11.8	0.6	1.9
Switzerland	-1.3	-1.0	-1.2	-1.2	-0.8
Japan	15.1	13.3	16.4	20.2	21.3
Korea	-1.5	-1.1	1.7	13.2	7.0
India	-0.9	-0.7	-0.5	-0.6	-0.2
Czech Republic	1.8	2.0	2.0	1.2	1.4
Hungary	0.2	0.3	0.1	-0.1	-0.1
Poland	2.5	2.4	2.7	1.3	0.8
Russia	20.5	23.3	23.5	22.3	21.2
Slovak Republic	2.7	2.2	2.1	2.0	2.0
Turkey	2.3	2.5	1.8	0.9	3.6
Ukraine	10.6	12.1	14.9	15.8	19.1
Brazil	9.4	9.9	8.4	7.9	9.3
Mexico	5.4	4.7	4.4	2.8	3.8

Note: Steel trade position = exports less imports.

Source: OECD.

Annex Table 4.17. **Steel: top cross-border M&As, 1990-October 2000**
Value in USD millions

Acquirer firm	Country	Acquired firm	Country	Year	Value	Share (%)
1 British Steel PLC	United Kingdom	Koninklijke Hoogovens NV	Netherlands	1999	3 210.0	11.9
2 Consorico Siderurgia Amazonia	Argentina	Sidor	Venezuela	1998	1 784.0	6.6
3 Ispat International	Netherlands	Inland Steel Co	United States	1998	1 426.8	5.3
4 Arbed SA	Luxembourg	CSI Corporacion Siderurgica	Spain	1997	832.3	3.1
5 Hottick Investment Ltd.	Hong Kong, China	National Steel Corp.	Philippines	1997	800.0	3.0
6 Usinor SA	France	Cockerill Sambre SA	Belgium	1999	752.7	2.8
7 Kingstream Resources NL	Australia	An Feng Steel Co Ltd.	Chinese Taipei	1997	403.8	1.5
8 Usinor SA	France	Mansfield Participacoes SA	Brazil	1998	388.6	1.4
9 Avesta AB	Sweden	British Steel (stainless business)	United Kingdom	1992	358.6	1.3
10 Kawasaki Steel Corp.	Japan	Cia. Siderurgica de Tubarao	Brazil	1996	340.0	1.3
Total					10 296.8	38.0

Note: Share = percentage of total deal value in the sector, 1990-2000 (January-October).

Source: Thomson Financial.

Annex Table 4.18. **Steel: top acquirer and acquired firms' countries in the cross-border M&As, 1990-June 2000**
Value in USD millions

Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1 United Kingdom	6 467.1	53	United States	5 228.9	67
2 France	3 735.5	41	Netherlands	3 258.0	8
3 United States	3 033.6	104	Germany	2 605.4	70
4 Argentina	1 826.2	2	United Kingdom	1 925.3	56
5 Netherlands	1 815.9	21	Venezuela	1 797.9	3
6 Sweden	1 564.2	17	Spain	1 519.6	14
7 Japan	1 344.2	17	Belgium	1 200.9	13
8 Hong Kong, China	871.8	8	Finland	1 120.4	9
9 Luxembourg	832.3	3	Canada	1 023.5	29
10 Italy	655.9	19	France	999.9	32
11 Germany	621.1	54	Brazil	939.1	14
12 Mexico	563.4	6	Philippines	931.6	3
13 Brazil	477.6	8	Australia	800.0	6
14 Australia	429.9	8	Sweden	768.6	17
15 Canada	422.8	18	Mexico	534.0	10
16 Bermuda	263.4	3	Chinese Taipei	404.9	4
17 Spain	252.0	7	Slovak Republic	389.8	3
18 Trinidad/Tobago	245.4	3	Czech Republic	164.0	11
19 Finland	224.8	8	Italy	95.5	25
20 Belgium	147.4	14	Portugal	88.9	6
Share of top 10 nations	83.10%	55.45%	Share of top 10 nations	77.59%	58.56%
Share of top 20 nations	96.78%	80.54%	Share of top 20 nations	96.79%	77.82%

Note: Share = share in total M&A deals, 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.19. **Steel: nationality of firms in cross-border alliances, 1995-99**
Number of deals

	1995-99 total	Share in total ¹ (%)
Asia²	166	69.7
Japan	65	27.3
China	48	20.2
Korea	25	10.5
Australia	19	8.0
India	16	6.7
European Union	86	36.1
Germany	28	11.8
France	21	8.8
United Kingdom	17	7.1
Italy	13	5.5
Netherlands	7	2.9
Other Western Europe	8	3.4
Switzerland	6	2.5
Eastern Europe	21	8.8
Russia	8	3.4
Poland	5	2.1
North America	67	28.2
United States	64	26.9
Latin America	20	8.4
Mexico	8	3.4
Brazil	8	3.4
Venezuela	4	1.7
OECD countries	214	89.9
Total number of deals	238	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Asia includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.20. **Airlines: top cross-border M&As, 1990-June 2000**
Value in USD millions

Acquirer firm	Country	Acquired firm	Country	Value	Share (%)	Year	Comment
Aeropuertos Argentina 2000	United States, Italy	33 airports in Argentina	Argentina	5 134.1	100.0	1998	AA 2000, a consortium of Ogden (United States), Corporación América Sudamericana (Argentina), SEA (Italy) and Simest (Italy) acquired 33 Argentine state-owned airports.
SAirGroup Holding AG	Switzerland	LTU Lufttransport-Unternehmen	Germany	1 193.4	49.9	1998	SAirGroup acquired a 49.9% stake in Lufttransport-Unternehmen KG, a passenger airline.
Deutsche Post AG	Germany	Air Express International Corp.	United States	1 129.6	100.0	2000	Deutsche Post AG acquired all the outstanding common stock of Air Express International Corp., the largest international freight forwarder in the United States.
Singapore Airlines Ltd.	Singapore	Virgin Atlantic Airways Ltd.	United Kingdom	884.6	49.0	2000	Singapore Airlines acquired a 49% interest in Virgin Atlantic Airways.
CITIC Pacific	China	Cathay Pacific Airways Ltd.	Hong Kong, China	814.8	25.0	1996	CITIC Pacific, a unit of state-owned China International Trust & Investment, raised its stake in Cathay Pacific Airways from 8.33% to 25%.
Deutsche Post AG	Germany	Nedlloyd-ETD Operations	Netherlands	587.0	100.0	1999	Deutsche Post AG acquired Royal Nedlloyd's parcel and logistics business.
Iberia Lineas Aereas de Espana	Spain	Aerolineas Argentinas	Argentina	571.0	85.0	1990	A consortium led by Iberia acquired 85% of the state-owned Aerolineas Argentinas.
British Airways PLC	United Kingdom	Qantas Airways Ltd.	Australia	458.7	25.0	1993	British Airways acquired 25% of state-owned Qantas Airways.
Offshore Logistics Inc.	United States	Bristow Helicopter Group	United Kingdom	445.0	49.0	1996	Offshore Logistics acquired a 49% stake in Bristow Helicopter Group.
Air New Zealand Ltd.	New Zealand	Ansett Australia Holdings	Australia	421.4	100.0	2000	Air New Zealand acquired the remaining 50% interest in Ansett Australia Holdings for full ownership.
Deutsche Post AG	Germany	DHL International	Belgium	394.1	25.0	1998	Deutsche Post AG increased its stake in DHL International from 22.5% to 25%.
British Airways PLC	United Kingdom	Iberia Lineas Aereas de Espana	Spain	391.7	10.0	2000	British Airways and American Airlines acquired a total 10% stake in Iberia (BA holds 9% and AA 1%).
JAL, Lufthansa Cargo AG	Japan, Germany	DHL International	Belgium	390.1	57.5	1992	An investor group of Japan Airlines (JAL), Lufthansa Cargo and Nissho Iwai, a Japanese trading company, increased its stake in DHL International from 12.5% to 57.5%.
Deutsche Post AG	Germany	Securicor Distribution	United Kingdom	369.5	49.9	1999	Deutsche Post AG acquired a 49.9% interest in Securicor PLC's Distribution Division in B2B parcel business in United Kingdom.

Note: Share = total shares of the target held by the acquirer after the transaction.

Source: Thomson Financial.

Annex Table 4.21. **Airlines: top acquirer and acquired firms' countries in cross-border M&As, 1990-June 2000**
Value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	United States	7 124.2	93	Argentina	5 845.1	10
2	Switzerland	3 311.7	20	United Kingdom	2 946.6	52
3	United Kingdom	2 331.7	54	United States	2 631.2	37
4	Singapore	2 097.9	13	Australia	1 715.0	23
5	Germany	1 921.8	29	Hong Kong, China	1 597.3	9
6	Spain	980.0	10	Germany	1 193.5	20
7	Sweden	918.4	23	Netherlands	1 172.3	14
8	Hong Kong, China	835.4	6	France	843.8	30
9	New Zealand	701.2	6	Singapore	590.2	7
10	Japan	571.9	8	Belgium	581.8	10
11	France	554.6	20	South Africa	445.3	10
12	Netherlands	519.0	17	Spain	434.3	8
13	China	336.7	5	Philippines	401.2	3
14	Norway	199.8	10	Canada	314.2	19
15	Canada	192.5	12	Mexico	263.5	2
16	South Africa	164.6	2	Norway	206.0	7
17	Belgium	137.2	9	Poland	198.7	3
18	Australia	137.2	14	China	149.1	6
19	Brazil	129.5	4	Sweden	148.0	13
20	Italy	126.8	5	Venezuela	145.5	2
	Share of top 10 nations	89.07%	63.90%	Share of top 10 nations	81.88%	51.71%
	Share of top 20 nations	99.77%	87.80%	Share of top 20 nations	93.47%	69.51%

Note: Share = percentage of total M&A deals, 1990-2000 (January-June).

Source: Thomson Financial.

Annex Table 4.22. **Airlines: nationality of firms in cross-border alliances, 1995-99**
Number of deals

	1995-99 total	Share in total ¹ (%)
Asia²	177	50.9
Japan	33	9.5
China	32	9.2
Singapore	25	7.2
Hong Kong, China	17	4.9
Australia	16	4.6
Chinese Taipei	15	4.3
India	14	4.0
New Zealand	11	3.2
Thailand	11	3.2
European Union	175	50.3
United Kingdom	57	16.4
Germany	49	14.1
France	24	6.9
Netherlands	23	6.6
Belgium	17	4.9
Spain	11	3.2
Other Western Europe	24	6.9
Switzerland	18	5.2
Eastern Europe	17	4.9
Russia	7	2.0
Poland	2	0.6
North America	160	46.0
United States	145	41.7
Canada	25	7.2
Latin America	23	6.6
Brazil	8	2.3
Mexico	5	1.4
OECD countries	312	89.7
Total number of deals	348	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.23. Airlines: bilateral alliances of Japan Airlines (JAL) (as of November 2000)

	Sharing FFP	Code sharing (passenger flights)	Code sharing (cargo flights)
British Airways	Y	Y	Y
Air France	Y	Y	Y
American Airlines	Y	Y	
Cathay Pacific	Y	Y	
Swissair	Y	Y	
Thai Airways		Y	Y
Vietnam Airlines		Y	
Qantas		Y	
Air NZ		Y	Y
Turkish Airlines		Y	
SAS			Y
Lufthansa cargo			Y

Note: FFP: Frequent Flyer Programme; Y indicates inclusion of the arrangement in an alliance. For example, BA shares FFP, passenger and cargo flights with JAL.

Source: JAL's corporate news (www.jal.co.jp).

Annex Table 4.24. Finance: top cross-border M&As, 1990-October 2000
Value in USD millions

	Acquirer firm	Country	Business	Acquired firm	Country	Business	Year	Value	Share (%)
1	Zurich	Switzerland	Insurance	BAT Industries PLC (financial business)	United Kingdom	Insurance	1998	18 354.6	3.1
2	HSBC Holdings PLC	United Kingdom	Bank HC	Crédit Commercial de France	France	Bank	2000	11 100.0	1.9
3	Aegon NV	Netherlands	Insurance	TransAmerica Corp.	United States	Insurance	1999	10 790.7	1.8
4	Deutsche Bank AG	Germany	Bank	Bankers Trust New York Corp.	United States	Bank HC	1999	9 082.1	1.5
5	HSBC Holdings PLC	United Kingdom	Bank HC	Republic New York Corp.	United States	Bank HC	1999	7 702.9	1.3
6	Chase Manhattan Corp.	United States	Bank HC	Robert Fleming Holdings Ltd.	United Kingdom	Bank HC	2000	7 697.6	1.3
7	General Electric Capital Corp.	United States	Consumer financing	Japan Leasing Corp.	Japan	Credit services	1999	6 565.6	1.1
8	ING Groep NV	Netherlands	Financial services	ReliaStar Financial Corp.	United States	Insurance	2000	5 973.8	1.0
9	Sun Life and Provincial (AXA)	France	Insurance	Guardian Royal Exchange PLC	United Kingdom	Insurance	1999	5 691.6	0.9
10	Merrill Lynch & Co Inc.	United States	Financial services	Mercury Asset Management Group	United Kingdom	Investment mgt.	1998	5 256.0	0.9
11	Leconport Estates (GE Capital Real Estate)	United States	Real estate	MEPC PLC	United Kingdom	Real estate	2000	5 233.2	0.9
12	Allianz AG	Germany	Insurance	AGF	France	Insurance	1998	5 118.0	0.9

Note: Share = percentage of total deal value in the finance sector, 1990-October 2000; HC = holding company.

Source: Thomson Financial.

Annex Table 4.25. **Banking: top acquirer and acquired firms' countries in cross-border M&As, 1995-October 2000**
Value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	Netherlands	19 653.2	36	United States	28 043.4	58
2	Germany	13 897.6	49	Belgium	8 417.0	18
3	United Kingdom	11 761.1	46	Brazil	7 250.5	27
4	United States	10 749.0	92	Germany	4 760.8	22
5	Spain	7 407.9	31	Argentina	4 506.0	36
6	Belgium	5 616.5	29	France	4 097.2	39
7	Italy	2 966.5	13	Poland	3 893.2	46
8	Australia	2 872.9	11	United Kingdom	3 567.4	13
9	France	1 976.6	47	Chile	3 491.0	10
10	Ireland	1 837.3	10	Netherlands	2 586.3	6
11	Singapore	1 817.5	14	Czech Republic	1 714.3	12
12	Hong Kong, China	1 634.8	7	Switzerland	1 673.0	17
13	Canada	1 290.9	21	Italy	1 607.0	12
14	Denmark	1 151.7	5	Thailand	1 513.8	12
15	Chile	1 102.1	4	New Zealand	1 455.1	6
16	Argentina	1 091.6	17	Hong Kong, China	1 453.8	13
17	South Africa	1 008.9	12	Chinese Taipei	1 300.0	1
18	Brazil	981.9	9	Korea	1 210.5	4
19	Luxembourg	859.5	9	Spain	1 177.4	10
20	Portugal	761.9	9	Venezuela	1 173.4	10
	Share of top 10 nations	81.8%	58.1%	Share of top 10 nations	73.3%	43.9%
	Share of top 20 nations	93.9%	75.2%	Share of top 20 nations	88.1%	59.4%

Note: Share = percentage of total M&A deals in the sector, 1995-October 2000.

Source: Thomson Financial.

Annex Table 4.26. **Insurance: top acquirer and acquired firms' countries in cross-border M&As, 1995-October 2000**
Value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	Switzerland	28 797.6	50	United States	44 713.5	121
2	Netherlands	20 377.6	38	United Kingdom	42 658.6	122
3	United Kingdom	13 446.3	112	France	9 568.5	48
4	Germany	13 105.4	65	Germany	6 586.2	28
5	United States	9 900.2	188	Norway	4 210.7	9
6	Bermuda	8 720.1	22	Belgium	3 493.9	16
7	Italy	8 611.9	18	Canada	2 344.3	29
8	France	8 158.2	47	Switzerland	1 964.0	16
9	Canada	4 844.3	51	Italy	1 585.8	21
10	Sweden	4 398.9	9	Japan	1 557.4	6
11	Australia	3 680.6	17	Australia	1 449.6	24
12	Belgium	3 087.1	13	Netherlands	1 369.6	20
13	South Africa	2 408.5	13	Chile	1 227.6	18
14	Spain	927.7	19	Argentina	1 027.1	33
15	Denmark	570.7	8	Spain	845.7	26
16	Chile	293.3	10	Poland	809.1	21
17	Argentina	279.8	18	Mexico	728.7	10
18	Brazil	250.4	4	Sweden	646.3	6
19	New Zealand	208.8	6	Bermuda	630.0	7
20	Japan	203.0	5	Brazil	529.2	16
	Share of top 10 nations	90.7%	75.1%	Share of top 10 nations	89.4%	52.1%
	Share of top 20 nations	99.6%	89.2%	Share of top 20 nations	96.4%	74.7%

Note: Share = percentage of total M&A deals in the sector, 1995-October 2000.

Source: Thomson Financial.

Annex Table 4.27. **Banking: nationality of firms in cross-border alliances, 1995-99**
Number of deals

	1995-99 total	Share in total ¹ (%)
Asia²	85	45.0
Australia	14	7.4
Japan	12	6.3
Indonesia	11	5.8
Malaysia	11	5.8
Korea	9	4.8
India	8	4.2
European Union	86	45.5
United Kingdom	38	20.1
Netherlands	15	7.9
France	13	6.9
Italy	10	5.3
Germany	9	4.8
Other Western Europe	12	6.3
Switzerland	10	5.3
Eastern Europe	24	12.7
Russia	9	4.8
Poland	5	2.6
North America	63	33.3
United States	55	29.1
Latin America	8	4.2
Mexico	2	1.1
Brazil	1	0.5
OECD countries	146	77.2
Total number of deals	189	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 4.28. **Insurance: nationality of firms in cross-border alliances, 1995-99**
Number of deals

	1995-99 total	Share in total ¹ (%)
Asia²	166	50.3
Australia	36	10.9
Japan	32	9.7
China	25	7.6
India	21	6.4
Indonesia	12	3.6
Philippines	12	3.6
Thailand	12	3.6
Hong Kong, China	11	3.3
European Union	153	46.4
United Kingdom	64	19.4
France	33	10.0
Germany	29	8.8
Netherlands	17	5.2
Italy	14	4.2
Other Western Europe	24	7.3
Switzerland	18	5.5
Eastern Europe	22	6.7
Poland	8	2.4
Russia	5	1.5
North America	166	50.3
United States	155	47.0
Latin America	25	7.6
Brazil	11	3.3
Mexico	9	2.7
OECD countries	312	94.5
Total	330	100.0

1. Since each alliance involves at least two firms of different nationalities, the total of each region's share exceeds 100%.

2. Includes Australia and New Zealand.

Source: Thomson Financial.

Annex Table 5.1. **Manufacturing: cross-border M&As involving SMEs, acquirer and acquired firms' countries, 1990-99**
 Number of deals and value in USD millions

	Country of acquirer firm	Value	Number of deals	Country of acquired firm	Value	Number of deals
1	United States	1 523.7	108	United Kingdom	1 256.3	126
2	Germany	285.0	9	United States	540.6	42
3	South Africa	250.0	1	Japan	312.9	4
4	Canada	223.3	17	Canada	263.7	25
5	Ireland	194.7	7	Brazil	250.0	1
6	United Kingdom	193.9	39	Bermuda	183.2	1
7	Australia	133.4	4	Sweden	104.4	3
8	Italy	109.7	4	Belgium	86.3	3
9	Netherlands	85.8	9	Italy	82.5	5
10	France	67.9	7	Switzerland	62.5	2
11	Belgium	56.2	4	Australia	56.6	7
12	Korea	52.2	1	France	52.4	7
13	Singapore	51.0	4	Netherlands	22.9	4
14	Switzerland	37.6	4	Norway	20.8	2
15	Sweden	29.0	3	Greece	17.5	1
16	India	16.1	1	Hong Kong, China	15.1	1
17	Denmark	13.7	1	Germany	13.1	6
18	Spain	10.5	3	Denmark	8.0	2
19	Japan	7.0	8	Korea	6.7	1
20	Norway	6.6	2	Ireland	6.4	1
	Share of top 10 nations	90.9%	82.0%	Share of top 10 nations	93.1%	84.8%
	Share of top 20 nations	99.2%	94.4%	Share of top 20 nations	99.6%	97.6%

Note: SMEs = firms with USD 5 million or less capitalisation; Share = percentage of total M&As involving SMEs in manufacturing, 1990-99.

Source: Thomson Financial.

Annex Table 5.2. **Services: cross-border M&As involving SMEs, acquirer and acquired firms' countries, 1990-99**
Number of deals and value in USD millions

	Country of acquirer firm	Value	Number of deals		Country of acquired firm	Value	Number of deals
1	Canada	2 427.8	10		Canada	2 446.1	13
2	United States	2 130.1	76		United Kingdom	1 449.0	102
3	Mexico	563.0	2		Mexico	1 052.4	4
4	Malaysia	483.7	5		United States	611.4	25
5	United Kingdom	441.1	53		Hong Kong, China	448.2	1
6	Bermuda	338.0	1		Sweden	409.7	4
7	Australia	101.4	5		France	129.3	6
8	France	97.6	9		Australia	92.4	8
9	Belgium	88.3	2		Brazil	74.3	2
10	Sweden	78.2	4		Czech Republic	69.2	3
11	Brazil	62.0	1		Denmark	63.3	2
12	Denmark	58.1	2		Cayman Islands	40.6	1
13	Hong Kong, China	57.3	4		Philippines	32.0	6
14	Netherlands	55.1	6		Netherlands	31.4	4
15	Ireland	33.0	8		Norway	30.8	3
16	Chinese Taipei	20.0	2		Japan	29.5	4
17	Thailand	15.5	1		Switzerland	23.5	2
18	Israel	13.0	1		Belgium	14.5	1
19	Singapore	12.1	4		Italy	13.5	1
20	South Africa	8.0	1		Poland	10.5	1
	Share of top 10 nations	95.1%	81.5%		Share of top 10 nations	95.6%	82.0%
	Share of top 20 nations	99.8%	96.1%		Share of top 20 nations	99.7%	94.1%

Note: SMEs = firms with USD 5 million or less capitalisation; Share = percentage of total M&As involving SMEs in services, 1990-99.

Source: Thomson Financial.

Annex Table 5.3. **Manufacturing: cross-border M&As involving SMEs, by sector, 1990-99**
Number of deals and value in USD millions

a) 1990-94			b) 1995-99		
Sector	Number of deals	Value	Sector	Number of deals	Value
Measuring, medical, photo equipment, clocks	26	162.5	Software	19	450.5
Machinery	18	83.7	Electronic and electrical equipment	13	303.0
Software	15	245.1	Pharmaceuticals	10	633.3
Computer and office equipment	12	67.2	Measuring, medical, photo equipment, clocks	9	87.6
Electronic and electrical equipment	11	63.4	Computer and office equipment	7	169.4
Food and kindred products	10	81.0	Communications equipment	5	38.5
Communications equipment	9	51.0	Textile and apparel products	4	8.0
Metal and metal products	8	35.0	Rubber and plastic products	4	4.6
Pharmaceuticals	7	7.8	Machinery	4	46.8
Chemicals and allied products	6	29.7	Transportation equipment	4	7.1
Construction firms	5	2.6	Paper and allied products	3	64.2
Transportation equipment	5	6.5	Chemicals and allied products	3	345.0

Source: Thomson Financial.

Annex Table 5.4. **Services: cross-border M&As involving SMEs, by sector, 1990-99**
 Number of deals and value in USD millions

a) 1990-94			b) 1995-99		
Sector	Number of deals	Value	Sector	Number of deals	Value
Business services	27	166.7	Business services	22	312.4
Financial services	25	711.1	Financial services	22	552.2
Wholesale trade	17	165.7	Wholesale trade	10	44.1
Transportation and shipping	13	205.2	Telecommunications	6	2 451.2
Radio, broadcasting, printing, publishing	11	26.1	Advertising services	5	539.3
Telecommunications	5	1 105.4	Radio, broadcasting, printing, publishing	4	23.2
Health services	5	50.3	Transportation and shipping	3	448.5
Retail trade	5	7.9	Health services	3	28.1
Hotels, other amusement services	3	5.6	Retail trade	3	30.6
Advertising services	3	12.7	Repair services	2	27.3
Motion picture production and distribution	2	32.2	Hotels, other amusement services	1	15.0
Repair services	2	6.8	Motion picture production and distribution	1	n.a.

Source: Thomson Financial.

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OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(70 2001 01 1 P 1) ISBN 92-64-18677-8 – No. 51925 2001