

M&As As Adjustment Processes

J. Fred Weston

Anderson School at UCLA

Merger activity measured by total disclosed value in 2001 fell by about 50 percent from the world total in 2000 of about \$3.2 trillion, divided approximately equally between the U.S. and the rest of the world. The peaking of this most recent period of heightened merger activity was accompanied by a number of assessments of its significance (Wasserstein, 1998, 2000; Flom, 2000; Lipton, 2001; Holmstrom, Kaplan, 2001; Andrade, Mitchell, Stafford, 2001; Geis, Geis, 2001; Pautler, 2001; Tichy, 2001, 2002).

Wasserstein analyzes the business rationale for mergers in a number of industries in which he was involved as an investment banker with a legal background. Flom (Skadden, Arps, Slate, Meagher & Flom LLP) and Lipton (Wachtell, Lipton, Rosen & Katz), senior partners in two of the leading U.S. law firms, have been insightful writers on developments leading to merger activity during 1980-2000. Holmstrom, Kaplan focus on the developments on corporate governance supporting increased M&A activity during the 20 year period. Andrade, Mitchell, and Stafford develop further the earlier paper by Mitchell and Mulherin (1996) in which a shock theory of mergers is set forth. Geis and Geis build on case studies of leading firms in the high technology area to set forth best practices for strategies and structuring successful deals. Pautler, an economist with the Federal Trade Commission, reviews a wide range of literature on the market power effects of horizontal mergers, finding mixed results. Tichy, in a valuable comprehensive survey, compiles evidence that acquiring firms lose in the long run, but expresses concerns about the anticompetitive effects of mergers.

The present paper will cover: (1) change forces, (2) changes in industry structures, (3) multiple adjustment processes, (4) merger performance, (5) trends in concentration, (6) economic perspectives, and (7) conclusions.

The Change Forces

M&A activity in recent years has reflected powerful change forces in the world economy. Ten change forces are identified: (1) The pace of technological change has accelerated. (2) The costs of communication and transportation have been greatly reduced; (3) Hence markets have become international in scope; (4) The forms, sources, and intensity of competition have expanded; (5) New industries have emerged; (6) While regulations have increased in some areas, deregulation has taken place in other industries; (7) Favorable economic and financial environments have persisted from 1982 to 1990 and from 1992 to mid 2000; (8) Within a general environment of strong economic growth, problems have developed in individual economies and industries; (9) Inequalities in income and wealth have been widening; and (10) Valuation relationships and equity returns for most of the 1990s had risen to levels significantly above long-term historical patterns.

Overriding all are technological changes, which include personal computers, computer services, software, servers, and the many advances in information systems, including the Internet. Improvements in communication and transportation have created a global economy. Nations have adopted international agreements such as the General Agreement on Tariffs and Trade (GATT) that have resulted in freer trade. The growing

forces of competition have produced deregulation in major industries such as financial services, airlines, and medical services.

The next set of factors relates to efficiency of operations. Economies of scale spread the large fixed cost of investing in machinery or computer systems over a larger number of units. Economies of scope refer to cost reductions from operations in related activities. In the information industry, these would represent economies of activities in personal computer (PC) hardware, PC software, server hardware, server software, the Internet, and other related activities. Another efficiency gain is achieved by combining complementary activities—for example, combining a company strong in research with one strong in marketing.

Changes in Industry Structures

As a consequence of the pervasive change forces, industry structures have changed. These have represented forces producing M&A activities. Table 1 summarizes representative sources of change in industry structures plus industry examples. We begin with industry transformation. The computer industry was vertically integrated in the 1970s when mainframes were the major product. It was referred to as IBM and the seven dwarfs. IBM produced the chips, the hardware, the operating systems, other application software, the sales and distribution systems, and organization of service and maintenance engineers. By the 1990s, horizontal value chains had developed with multiple competitors. Chips were produced by Intel, Advanced Micro Devices, Motorola, etc. PC producers included IBM, Dell, Compaq, Apple, Hewlett Packard, etc. Microsoft dominated operating systems. The computer industry occupied only part of the value

chains of the broader information industry. Servers and networks were developed. The Internet developed. Cable and digital satellite systems were created. Wireless telecommunication developed. New companies included Oracle, Sun Microsystems, Cisco, 3Com, Qualcomm, Vodafone, Nokia, etc. Older companies like Ericsson moved from traditional telephone products to wireless.

The above is sufficient to illustrate the kinds of industry transformations that occurred. The other categories in Table 1 could also be used to describe the industry adjustments required. Of the hundreds of types of reasons for mergers, Table 2 lists ten types of mergers with illustrative industries and firms. Table 2 also includes the critical and different managerial issues involved in making different kinds of mergers succeed. The leading challenge in mergers is combining different organizations and cultures. Change forces impact industries and cause individual firms to make adjustments. Success is difficult to achieve. Multiple adjustment processes are required.

Multiple Adjustment Processes

It is myopic to view mergers and takeovers as the only or main adjustment process. In response to economic, political, and technological developments that create favorable or unfavorable industry characteristics, wide range of adjustment processes are used by firms. Table 3 lists and briefly describes alternative adjustment methods. In the first section of Table 3, seven illustrative types of expansion strategies are presented. Business firms use these and other activities to enhance values (Weston and Weaver, 2001). Thus analysis of merger performance in isolation is incomplete since firms engage in multiple growth strategies as well as a wide range of restructuring,

reorganization, financial, and governance strategies as shown in Table 3. Restructuring and reorganization strategies include divestitures, equity carve-outs, spin-offs, tracking stocks, split-ups, and value based management processes to lower costs and improve revenue growth as well as to reformulate strategies over time. Among the adjustment processes listed in the third part of Table 3, share repurchases, leveraged buyouts, and leveraged recapitalizations have been widely used. M&As include the wide range of adjustment processes described in Table 3, not just mergers and acquisitions.

The empirical study by Mulherin and Boone (2000) illustrates the combined effects of acquisitions and divestitures. Their sample is 1305 firms from 59 industries listed in Value Line in the first quarter of 1990 with a total value of \$2.5 trillion at year end 1989. During the 1990-1999 period, 335 firms were acquired. A total of 222 firms engaged in divestitures consisting of asset sales, carve-outs, or spin-offs; 46 did both. So about half of the firms engaged in acquisitions, divestitures, or both during the 10 year period.

The data show significant industry time clustering in both acquisitions and divestitures consistent with a theory of changing economic conditions and their impacts on firms. As in previous studies, they find event returns of 22.2% for targets and 0% for bidders consistent with a competitive market for corporate control. The combined returns average 3.56% consistent with wealth creation. The divestiture event returns average 3.0%; the magnitude is positively related to the relative size of the divestiture.

The authors conclude that firms seek to respond efficiently to economic change, whether the changes induce mergers or divestitures. They state that results are consistent with synergistic wealth creation rather than managerial hubris, entrenchment, or empire

building. A further implication is that the wide range of methods described in Table 3 need to be considered in evaluating the adjustment efforts of firms.

Longer Run Performance Studies

Some question the reliability of event studies on grounds that it is longer term results that matter. However, event returns represent the market's best judgment of the long run prospects of an announced merger, divestiture, restructuring or other adjustment event. But longer term studies may be confounded by changes in general economic conditions as well as competitive developments. Market prices reflect estimates of future developments which are likely to require revisions. Nevertheless, substantial evidence supports the usefulness of event studies.

Healy, Palepu, and Ruback (HPR) (1992) performed a very careful analysis of the predictive power of event returns in relation to longer term accounting measures of industry adjusted performance. They found significant correlations. Other impressive evidence is found in the Mitchell and Lehn (1990) study. Acquisitions made by firms that were subsequently acquired have significant negative event returns. Acquisitions made by firms that were not acquired have significant positive event returns. Similarly, the stock price movements associated with acquisitions that are subsequently divested is significantly lower than the price effects of acquisitions that are not subsequently divested. In the aggregate, event returns to acquiring firms are approximately zero. But the market discriminates between bad bidders which are likely to become takeover targets from good bidders which are less likely to become targets.

Ghosh (2001) extended the earlier HPR (1992) study. He uses a sample of 315 of the largest acquisitions during the period 1981-1995. He initially replicates the HPR results that cash flow margins are higher than industry-median benchmarks after acquisitions. But he finds that the merging firms also have superior pre-acquisition performance; when he adjusts for this in his regression model, the cash flow margins are no longer higher. Alternatively, when control firms are matched by performance and size from pre-event years, the merging firms no longer show superior performance. For cash acquisitions, cash flows improve 3% per year (significant), with the improvements coming from higher sales growth rather than cost reductions. In stock acquisitions, he finds that both operating cash flow margins and sales growth decline, but not significantly. The Ghosh study confirms the HPR results which also reinforces their finding that the initial event returns were consistent with the longer term accounting performance. The further controls used by Ghosh find that cash acquisitions have superior performance and that the stock acquisitions perform no worse statistically.

The Loughran and Vijh (LV) (1997) study has been cited as evidence of inferior long term returns by acquirers compared with a control group. The key data are summarized in Table 4. In cash mergers, the five-year compound annual returns for acquirers are much higher than for the control firms. In stock mergers, the returns are approximately equal. In stock tender offers, acquirers have clearly subnormal returns. Taking at its face value without raising issues of what would have happened to acquirers without the acquisitions, the results are strongly supportive of acquirer's positive performance except for tender offers made with stock. Possible explanations are that the acquirer stock was overvalued or that acquirers overpaid.

Rau and Vermaelen (RV) (1998) use the Fama-French (FF) size and book-to-market factors as controls in their sample of 3169 mergers and 348 tender offers between 1/1/80 and 12/31/91. They test performance over a subsequent three-year period controlling for size and the book-to-market ratio. Value bidders (high book-to-market) achieve significantly superior returns of 8% in mergers (stock) and 16% in tender offers (cash). Glamour bidders (low book-to-market or growth stocks) earn negative returns of 17% in mergers (stock) and non-significant positive returns of 4% in tender offers (cash).

The LV and RV studies make it clear that mergers overall do not fail. The method of payment and the initial book-to-market ratios greatly influence the results. But the Anslinger and Copeland (AC) (1996) study found that how the combination is managed is another important variable. AC studied the unpromising area of nonsynergistic acquisitions. They developed data on 21 companies which made 829 acquisitions during 1985-1994. Their group of eight corporate acquirers operated 50 different lines of business experiencing a compound annual revenue growth of 12% and outperformed the S&P 500 index by an average of almost 50%. The group of 13 financial buyers reported capital of more than \$16 billion and achieved estimated returns of about 25% annually for their funds. AC proposed 7 key operating principles that achieved the superior results even in areas where other acquirers had failed. In a broader sample of 364 combinations (48.4% of total merger activity) of the largest U.S. firms for the period 1992-1998, combined event returns were positive in 65.4% of the transactions (Weston and Johnson, 1999). Quality of the management of combinations is critical.

But of even greater significance is the impact of M&A activity on firms generally. The fundamental role of mergers is to discipline management and move resources to their

highest valued uses. Managers who underperform relative to a firm's potential are vulnerable to substantial risks of becoming targets. An active market for corporate control increases efficiencies and results in favorable economic performance. The growth rate in real gross domestic product during 1993-2000 in the U.S. averaged 3.74% compared with 2.18% for the other six major advanced economies as a whole, a difference of more than 1.5% per annum which translates into trillions of dollar compounded (Economic Report of the President, Table B-112, 2002).

Of particular significance is the growth of employment in the U.S. during the same years. Total civilian employment in the U.S. increased from 118.5 million to 135.2 million, representing an increase of approximately 2.1 million jobs per year (Economic Report of the President, Table B-36, 2002). This was during a period when merger activity in the U.S. reached its highest levels. This growth was in spite of announcements of thousands of employment reductions associated with M&As. Obviously, economic growth is influenced by other country characteristics and general economic policies particularly fiscal and monetary. But high M&A activity was associated with differentially higher economic growth. Adjustment activities caused the movement of labor from industries where it was no longer required to the higher growth areas in the economy.

Concentration Trends

Concerns have been expressed about unfavorable trends in concentration as a consequence of merger activities. If the long term performance of acquirers were unfavorable, it would indicate that their market power was not threatening. However,

there is some evidence that merging companies in the longer term have lower sales but higher profits. One possibility is that market power is used to restrict supply to increase profits. Such a view takes a myopic view of M&A activity. As emphasized by Table 3, M&As refer to a wide range of expansion methods including joint ventures and alliances, restructuring by divestitures and spin-offs, as well as reorganizations to improve efficiency and lower costs. Healy, Palepu, and Ruback (1992) found that the industry-adjusted improvements in profit margins resulted from improved management of investments in working capital and plant and equipment.

In his review of evidence on mergers and acquisitions, Pautler (2001) presented data on aggregate concentration trends in the U.S. between 1974-1998. No clear trend was discernible. The percentage share of manufacturing assets owned by the top 100 firms was 44.4%, rising to 50% in 1987, declining to 46.6% in 1998. The share of the top 200 in 1974 was 56.7%, rising to 61.8% in 1987, declining to 58.6% in 1998. The latest year for which the U.S. Census of Manufactures reported data on concentration ratios by industry was 1992. The average four-firm concentration ratio over the 1977 through 1992 period stayed flat at about 40%. When adjusted for global markets, the average four-firm concentration ratio drops to about 25% (Weston, 1980, 1982).

The guidelines promulgated by the U.S. Department of Justice and the Federal Trade Commission in 1982 (with later modifications) shifted from the four-firm concentration ratio to an index calculated by summing the squares of market shares of all firms in the industry. The critical level of the HHI (reflecting the initials of economists who first proposed the measure) is 1000; between 1000 and 1800 HHI levels, a merger

increasing the index by 100 points is likely to trigger an investigation; in an industry with an HHI greater than 1800, a merger increasing the HHI by 50 points will be investigated.

Table 5 illustrates the impact of the nine major oil industry mergers which took place between 1998-2001. The index began at a level of 389. After the mergers, it had risen to 583, well below the critical level of 1000. It is also worth noting that these nine mergers were value increasing as shown in Table 6. Over the 20-day window, targets increased in value by \$43.8 billion. Acquirers increased in value by \$7.8 billion. The combined value increase was \$51.6 billion. The acquisition by Total (French) of PetroFina (Belgian) was the sole transaction for which the value change was negative. Analysts were critical of the 54.8% premium offered by Total, while exposing itself to substantial cyclical risks of the petrochemical industry and to PetroFina's low margins on its retail operations. This example also illustrates how the event returns reflect the market's evaluation of the underlying economics of the deal. Table 6 demonstrates that the 9 major oil merger deals during 1998-2001 overall were value increasing for both targets and acquirers.

Table 7 reflects a calculation of the HHI for 17 global industries for the period from the mid 70s to 1997. In the initial year, only three industries had HHIs exceeding 1000. Some 20 years later, soaps, cosmetics and the tire industry were still above 1000 but had declined by about 100 in the HHIs. During that period, concentration in the automotive industry declined by over 300 index points reflecting the rise of auto producers outside the U.S. The largest increases in the HHI occurred in aerospace and forest and paper products. Nine of the industries experienced increases while in eight the

HHI declined. It was not possible to develop long term data for the high technology areas because the nature and composition of these industries change over time.

The dominance of three firms across industries is not a reality. In the Fortune magazine tabulation of the Global 500, only the tobacco industry in a list of 33 with year 2000 revenues of over \$100 billion has as low as three firms listed (Fortune, 7/23/01). Value Line lists nine firms in the tobacco industry with revenues exceeding \$1 billion (Value Line Investment Surveys, 2/8/02).

The above evidence demonstrates that the change forces that have increased the pace of M&As (in the broad sense that include alliances, restructuring, and reorganization) have also produced a dynamism that has limited or reduced concentration levels. Furthermore, the industrial organization literature has long recognized that concentration cannot be equated with lack of competition (Goldschmid et al, 1974). The dimensions of concentration are numerous. Firms compete on quality, style, durability, economy of use, service and service support, reliability, financing, etc. The older doctrine that high concentration resulted in recognized interdependence and therefore tacit collusion does not hold for heterogeneous products. The market shares of large firms increase with efficiency and superior performance. Notable examples have been General Electric, Wal-Mart, Toyota, ExxonMobil, Royal Dutch/Shell, BP Amoco, Merck, Bertelsmann, 3M, Intel, Procter & Gamble, and Home Depot. Microsoft has exploited network externalities.

Historically, firms like General Motors in the automobile industry periodically achieved dominance. In the 1950s General Motors was a low cost producer with brand leadership; during that period its market share in the U.S. rose toward the 50% level.

Low cost producers can and do practice price (cost) leadership. They earn rents because of lower costs. But as the nature of the automobile industry changed and became global, GM lost its cost-quality leadership and lost substantial market share. Similarly, Wal-Mart's revolution in retailing transformed that industry. In the high technology areas, competition in innovation takes place within and across industries.

Economic Perspectives

The central finding of my studies of mergers is that M&As respond to strong underlying economic, financial, political, and cultural forces. In the U.S. the first major merger movement followed the completion of the transnational railroads which created the world's first common market. The resulting national markets stimulated horizontal mergers to achieve economies of scale. This period was described as "mergers for monopoly" (Stigler, 1950). This characterization is not entirely accurate. The motive was to achieve economies of scale made possible by a major change in the relevant size of markets due to the achievement of a national transportation system. Furthermore, a common misconception is that the dominant firms emerged from atomistic conditions. This is not true since many of the combinations represented the consolidation of a relatively small number of large firms (Weston, 1953). Moody (1904) studied 305 "trusts." More than half of them (183) were formed from eight or fewer firms or plants. One third (104) were formed from four or fewer firms or plants. As the U.S. became an industrialized national economy, successful firms had achieved larger market shares.

The rise of radio and automobile (in the 1920s) changed distribution channels. Radio facilitated pre-selling through national advertising. The automobile (and trucks)

made possible decentralized delivery systems with in-house sales organizations rather than specialized sales representatives. These developments plus the goal of controlling quality over the value chain stimulated mostly vertical combinations in the second major U.S. merger movement of the 1920s.

The third major merger movement in the U.S. occurred in the 1960s. The development of financial planning and control systems and the management philosophy that a good executive could manage one technology as well as another resulted in conglomerate mergers. Also, finance theory had discovered the influence of growth on valuation and price-earnings (P/E) ratios. Firms with high P/E ratios found that acquiring firms with lower P/E ratios increased earnings per share (EPS) and valuations. These short term effects were misleading since low P/E firms had less favorable future prospects which over time resulted in downward pressures on cash flows and valuations. Unfavorable legislation against conglomerates also helped bring the movement to the end by the late 1960s.

The fourth major merger movement in the U.S. was in the 1980s. It was fueled by unwinding the diversifications of the 1960s and innovations in financing. Debt financing enabled firms to acquire targets for cash and engage in “bustup” transactions. The leveraged financing with high yield bonds (junk bonds) made every firm vulnerable to a takeover if managements were not performing up to potentials. Divestitures accounted for 45% of acquisitions during the deal decade of the 1980s.

Obstacles to leveraged deals were created in the form of state antitakeover statutes and new federal tax, bankruptcy laws, and banking regulations. Failures of some highly leveraged deals accompanied by legal actions against Michael Milken and the Drexel

Burnham investment company chilled the debt market. The recession in the early 1990s further discouraged the use of debt and brought the fourth major merger movement to an end (McCauley et al., 1999)

The major change forces of globalization, technology, deregulation, and changes in industry structures required adjustments that produced the strategic mergers of the fifth merger movement in the 1990s. The globalization of markets stimulated trans-border mergers. The intensification of competition brought on by globalization and technological change led to deregulation in major industries. M&As played a major role in the readjustment processes firms were required to undertake. In the 1990s, the movement toward unification has increased the rate of M&A activity in Europe compared with the United States. The change forces in the five major merger movements of the U.S. have been operating in Europe during the 1990s.

While each major merger movement reflected some particular underlying economic or technological factors, some common forces are associated with periods of high M&A activity. These are rising stock prices and availability of financing reflected in small differentials between required yields on treasury bonds compared with medium to low rated corporate bonds (Weston, 1953; Nelson, 1959; Melicher, Ledolter, and D'Antonio, 1983).

It is also recognized that each merger movement has been stimulated by heightened efforts of merger facilitators. Investment banks, commercial banks, law firms, consulting firms, and accounting firms, among others, benefit from an active market in mergers. They strongly pursue their self interest. Some froth surfaces in the speculative markets with some characteristics of a bubble economy. Both rising and

falling markets overshoot (Shiller, 2000). The fundamental economic principle of the investment accelerator helped bring the merger wave of the 1990s to a sharp disruption in 2001. The investment accelerator principle holds that a small change in the rate of growth of final sales will cause magnified changes in the rate of growth of sales of investment goods industry. A dramatic example is the high technology sector in the U.S. in 2000-2001.

This summary of history is a backdrop to provide perspective on trends in concentration and its effects on competition. While firms continuously seek to achieve strong market positions, only those with the requisite resources and capabilities succeed in doing so. As a result, trends in concentration as reported have been remarkably flat since the 1970s. Taking into account global markets, the growth of new industries, and increased competition between firms in different industries as conventionally defined, concentration has declined. With the spread of advanced technologies, traditional industry boundaries have become blurred, product life cycles have shortened, industry value chains have been transformed, and competition has been intensified. The increasing dynamics of industries with winners and losers join in counseling antitrust regulators to focus on preserving competition, not competitors.

Conclusions

Fundamental economic forces have been the driving forces behind each of the major merger movements. Progress toward unification in Europe and globalization stimulated increased activities in mergers and reorganization in the 1990s. These were reinforced by favorable stock price movements, entrepreneurial optimism encouraged by

investment bankers, lawyers, and consulting firms. Mistakes and excesses have occurred. But overall mergers and restructuring activities have increased the values of firms. In addition, M&As and their threats have improved the performance of firms generally.

Despite the high rates of merger activity in the 1980s in the U.S. and more generally throughout the world in the 1990s concentration levels have overall not increased. This is because the high level of economic activity in most of the world during the last two decades has stimulated entry of new firms. New technologies have created new industries and blurred industry boundaries, associated with wider areas of competitive thrusts and threats.

The generally stronger competitive forces have produced deregulation in the U.S. in airlines, motor carriers, railroads, banking, natural gas, and telecommunications. Winston (1998) has developed evidence that deregulation has resulted in improvements in industry efficiency. Real costs have declined by 62% in airlines, 35% in less-than-truckload trucking, 75% in truckload trucking, 60% in railroads, 8% in banking, and 35% in natural gas (Table 2, p. 99). Change forces created increased competition, leading to deregulation which increased competition further, resulting in real long run cost reductions. But deregulation in energy and telecommunications requires government monitoring, especially when it is only partial. The former Bell System operating companies in the U.S. were left with local monopolies and the power to block entry.

Broader issues of government policies are of central concern. Some argue that obstacles to employment reduction in Europe have slowed needed mergers and restructuring for increasing efficiency (Racanelli, 2002). The bankruptcy of the French appliance maker Moulinex is cited as the result of a government refusal to close a

refrigerator plant which would have cost 670 workers their jobs (Matlack, 2001). But the bankruptcy was estimated to result in job losses for 5600 of 8800 workers.

Similarly, the imposition of a tariff on steel by the U.S. president George W. Bush in March 2002 was to protect jobs in the domestic steel industry. This was a serious violation of the principles of free trade. There is an irony here. Steel companies in the U.S. were not permitted to merge either domestically or cross border to reduce costs. It was feared that a reduction in the number of U.S. steel companies would intensify oligopoly and reduce competition. But the steel industry is international in scope. The Fortune Global 500 for the year 2000 does not have a steel industry category, combining it with other metals. Only one U.S. company (Alcoa) is on the list of eleven, the smallest of which had revenues of \$10.3 billion. With globalization of the steel industry, domestic concentration measures substantially overstate the relevant metric. U.S tariffs on steel are much more harmful to competition than would mergers to increase efficiency.

A more enlightened agenda has been proposed by the president of The European Commission (Prodi, 2002). The goals should include a more equitable distribution of income by redistribution of wealth and income to the poor, the unemployed, the sick, the elderly. This should be accompanied with education of the young and increased investments in reeducation, training and retraining to increase mobility of resources. In the long run this would result in all businesses, regardless of the domicile of its headquarters office, to play by the same rules. Thus competition, balanced with redressing inequalities, could increase efficiency and a sense of fairness. This would advance a sense of community worldwide.

References

- Andrade, Gregor, Mark Mitchell, and Erik Stafford, 2001, "New Evidence and Perspectives on Mergers," *Journal of Economic Perspectives*, 15 (No. 2, Spring), 103-120.
- Anslinger, Patricia L. and Thomas E. Copeland, 1996, "Growth through Acquisitions: A Fresh Look," *Harvard Business Review*, 74 (No. 1, January/February), 126-135.
- Economic Report of the President*, 2002, January, Washington, D.C.: United States Government Printing Office.
- Flom, Joseph H., 2000, "Mergers & Acquisitions: The Decade in Review," *University of Miami Law Review*, 54 (July), 753-781.
- "Fortune Global 500: Ranked within Industries," 2001, July 23, *Fortune*, F-15 – F-22.
- Geis, George T. and George S. Geis, 2001, *Digital Deals: Strategies for Selecting and Structuring Partnerships*, New York: McGraw-Hill.
- Ghosh, Alope, 2001, "Does Operating Performance Really Improve Following Corporate Acquisitions?" *Journal of Corporate Finance*, 7 (No. 2, June) 151-178.
- Goldschmid, Harvey J., H. Michael Mann, and J. Fred Weston, eds., 1974, *Industrial Concentration: The New Learning*, Boston, MA: Little, Brown and Company.
- Healy, Paul M., Krishna G. Palepu and Richard S. Ruback, 1992, "Does Corporate Performance Improve after Mergers?" *Journal of Financial Economics*, 31 (No. 2, April), 135-176.
- Holmstrom, Bengt and Steven N. Kaplan, 2001, "Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s," *Journal of Economic Perspectives*, 15 (No. 2, Spring), 121-144.
- Lipton, Martin, 2001, January 10, "Mergers: Past, Present and Future," ms Wachtell, Lipton, Rosen & Katz.
- Loughran, Tim and Anand M. Vijh, 1997, "Do Long-Term Shareholders Benefit from Capital Acquisitions?" *Journal of Finance*, 52 (No. 5, December), 1765-1790.
- Matlack, Carol, 2001, November 5, "The High Cost of France's Aversion to Layoffs," *BusinessWeek*, 56.
- McCauley, Robert N., Judith S. Ruud, and Frank Iacono, 1999, *Dodging Bullets: Changing U.S. Corporate Capital Structure in the 1980s and 1990s*, Cambridge, MA: MIT Press.

- Melicher, Ronald W., Johannes Ledolter and Louis J. D'Antonio, 1983, "A Time Series Analysis of Aggregate Merger Activity," *Review of Economics and Statistics*, 65 (No. 3, August), 423-430.
- Mitchell, Mark L. and J. Harold Mulherin. 1996, "The Impact of Industry Shocks on Takeover and Restructuring Activity," *Journal of Financial Economics*, 41 (No. 2, June), 193-229.
- Mitchell, Mark L. and Kenneth Lehn, 1990, "Do Bad Bidders Become Good Targets?" *Journal of Political Economy*, 98 (No. 2, April), 372-398.
- Moody, John, 1904, *The Truth about the Trusts: A Description and Analysis of the American Trust Movement*, New York: Moody Publishing Co.
- Mulherin, J. Harold and Audra L. Boone, 2000, "Comparing Acquisitions and Divestitures," *Journal of Corporate Finance*, 6 (No. 2, July), 117-139.
- Nelson, Ralph L., 1959, *Merger Movements in American Industry, 1895-1956*, Princeton, NJ: Princeton University Press.
- Pautler, Paul A., 2001, September 25, "Evidence on Mergers and Acquisitions," Working Paper No. 243, Bureau of Economics, Federal Trade Commission, Washington, DC.
- Prodi, Romano, 2002, February 7, "The Past and Future of European Integration," Speech to the Instituto de España, Madrid.
- Racanelli, Vito J., 2002, March 11, "Off the Autobahn: Europe's Market Liberalization May be Slow, But the EU's Romano Prodi Insists It's on Course," *Barron's*, 35.
- Rau, P. Raghavendra and Theo Vermaelen, 1998, "Glamour, Value and the Post-Acquisition Performance of Acquiring Firms," *Journal of Financial Economics*, 49 (No. 2, August), 223-253.
- Shiller, Robert J., 2000, *Irrational Exuberance*, Princeton, NJ: Princeton University Press.
- Stigler, George J., 1950, "Monopoly and Oligopoly by Merger," *American Economic Review*, 40 (No. 2, May), 23-34.
- Tichy, Gunther, 2001, 2002, "What Do We Know about Success and Failure of Mergers," forthcoming in the *Journal of Industry, Competition and Trade*.
- Wasserstein, Bruce, 1998, 2000, *Big Deal: 2000 and Beyond*, New York: Warner Books.
- Weston, J. Fred, 1953, *The Role of Mergers in the Growth of Large Firms*, Berkeley and Los Angeles, CA: University of California Press.

Weston, J. Fred, 1980, "International Competition, Industrial Structure and Economic Policy," Chapter 10, in *Western Economies in Transition*, I. Leveson and J. W. Wheeler, eds., Boulder, CO: Westview Press, 255-297.

Weston, J. Fred, 1982, "Domestic Concentration and International Markets," Chapter 7, in *Corporate Enterprise in a New Environment*, J. Fred Weston and Michael E. Granfield, eds., New York: K.C.G. Productions, Inc., 173-188.

Weston, J. Fred and Brian Johnson, 1999, "What It Takes for a Deal to Win Stock Market Approval," *Mergers & Acquisitions*, 34 (No. 2, September/October), 43-48.

Weston, J. Fred and Samuel C. Weaver, 2001, *Mergers and Acquisitions*, New York: McGraw-Hill.

Winston, Clifford, 1998, "U.S. Industry Adjustment to Economic Deregulation," *Journal of Economic Perspectives*, 12 (No. 3, Summer), 89-110.

Table 1
Sources of Change in Industry Structure

<i>Source of Change</i>	<i>Industries</i>	
<i>1. Industry transformation</i>	Computers Tires	Media
<i>2. Technology change</i>	Broadcasting, Entertainment Internet Packaging & Containers	Telecommunications Tire & Rubber Retailing
<i>3. Globalization</i>	Apparels, Textiles Metals & Mining	Packaging & Containers Tire & Rubber
<i>4. Commoditization</i>	Chemical Pharmaceuticals	Telecommunications
<i>5. Low growth</i>	Grocery stores Toiletries & Cosmetics	
<i>6. Attractive high growth</i>	Computers Software Servers, Networks, Internet	Wireless Hotels & Gaming
<i>7. Chronic excess capacity (consolidation)</i>	Automobile Food processing	Integrated steel
<i>8. Fragmentation (rollups)</i>	Staffing services Rental equipment	Facility services Electrical contracting
<i>9. Large capital investment subject to high risks</i>	Pharmaceuticals	
<i>10. Price volatility</i>	Coal, uranium, geothermal Integrated petroleum Oilfield services	Petroleum producing
<i>11. Unrelated activities</i>	Food companies Oil companies	
<i>12. Demand shifts</i>	Defense	
<i>13. New entries</i>	Groceries Drugstores	
<i>14. Deregulation</i>	Air transport Broadcasting, Entertainment Truck & Transport Leasing	Medical services Natural gas

Table 2
Merger Types and Management Implications

Types	Examples		Critical Managerial Issues
	Industries	Firms	
1. Leader in new technologies	Internet Infrastructure	Cisco, Nortel, Lucent	<ul style="list-style-type: none"> - A strategic vision for the company that provided a criteria framework for candidate list - Rapid integration
2. Develop critical size mass for industry leadership	Internet as an efficient marketplace	Ebay, Yahoo!, Amazon, AOL	<ul style="list-style-type: none"> - Balance growth and profitability
3. Adjusting to changes in technology	Telecom, Computers	AT&T, IBM	<ul style="list-style-type: none"> - Leveraging strengths into related markets
4. Economics of size	Pharmaceuticals, Aerospace	Pfizer, GlaxoSmithKline, Novartis	<ul style="list-style-type: none"> - Large costs of developing new products - Broaden new product potential
5. Industry consolidation	Oil, Chemicals, Autos, Steel, Foods	ExxonMobil, BP, Dow	<ul style="list-style-type: none"> - Improve operating margins - Eliminate plant capacity and people quickly - Can't be a merger of equals - New authority relationships - But keep key capabilities; shut down less efficient operations; spread best practices
6. Industry roll-ups	Banking, Food Dairy	Norwest/ Wells Fargo, NationsBank/ BankAmerica	<ul style="list-style-type: none"> - Operations local, but economies of management functions - Add valuable corporate assistance to operating managers - Evolve new cultures which respect and blend diversity
7. Product and market extension; more complete product line	Food, Autos, Household products	General Mills, Procter & Gamble	<ul style="list-style-type: none"> - Managing related but diverse activities - Leveraging relatedness - Relatively small incremental additions to deal with cultural and organization differences
8. Cross-border combinations	Telecom, Financial, Pharmaceuticals, Autos, Utilities	Vodafone, Vivendi, Daimler Chrysler	<ul style="list-style-type: none"> - Learn new technologies - Leverage product differentiation advantages - Gain knowledge of different geographic markets with different laws and cultures - Phased economies of scale
9. Industry convergence	Computers, Telecom, Media	AOL Time Warner, Tribune/ Times Mirror, Viacom/ CBS	<ul style="list-style-type: none"> - Preserve strengths in core industries - Anticipate cross benefits but avoid distortions - Considerable independence of parts but work toward cross fertilization
10. Adjustments to deregulation	Airlines, Banking, Telecom	AT&T	<ul style="list-style-type: none"> - Identifying sources of economies - Testing theories of cross selling

Table 3
Alternative Methods for Value Growth

- I. **Expansion** – A major objective of mergers, tender offers, and joint ventures is to achieve expansion and growth
 - A. **Merger** – Any transaction that forms one economic unit from two or more previous units
 - B. **Tender offer** – A method of making a takeover via a direct offer to target firm shareholders to buy their shares
 - C. **Joint ventures** – A combination of subsets of assets contributed by two (or more) business entities for a specific business purpose and a limited duration
 - D. **Alliances** – More informal inter-business relations
 - E. **Investments** – A stake, but not control in another organization
 - F. **Licensing** – Developing proprietary technology for rent to others
- II. **Restructuring and Reorganization** – Asset redeployment to improve revenue growth and efficiency
 - A. **Divestitures** – Sale of a segment of a company (assets, a product line, a subsidiary) to a third party for cash and/or securities
 - B. **Equity carve-outs** – A transaction in which a parent firm offers some of a subsidiary's common stock to the general public, to bring in a cash infusion to the parent without loss of control
 - C. **Spin-offs** – A transaction in which a company distributes on a pro rata basis all of the shares it owns in a subsidiary to its own shareholders. Creates a new public company with (initially) the same proportional equity ownership as the parent company
 - D. **Tracking Stock** – A separate class of common stock of a company that tracks the performance of a particular segment or division
 - E. **Change Organization Structure** – Modify authority architecture
 - F. **Reformulate Value-Based Management System** – Increase efficiency
- III. **Financial Engineering and Governance Strategies**
 - A. **Massive Write-Offs** – Accounting charges to establish base for growth in future reported profits
 - B. **Exchange offer** – A transaction which provides one class (or more) of securities with the right or option to exchange part or all of their holdings for a different class of the firm's securities, e.g., an exchange of common stock for debt
 - C. **Share repurchases** – A public corporation buys its own shares (1) by tender offer, (2) on the open market, or (3) in negotiated buybacks
 - D. **Leveraged buyout (LBOs, MBOs)** – The purchase of a company by a small group of investors, financed largely by debt. Usually entails going private
 - E. **Leveraged recapitalizations** – A reorganization of the firm's capital structure in which outside shareholders receive a large one-time cash dividend, and inside shareholders receive new shares of stock instead
 - F. **Employee Stock Ownership Plans (ESOPs)** – A defined contribution pension plan designed to invest primarily in the stock of the employer firm
 - G. **Dual-class recapitalizations** – Restructuring used to create two classes of common stock, usually with the superior-vote stock concentrated in the hands of management
 - H. **Takeover Defenses** – Methods employed by targets to prevent the success of bidders' efforts

Table 4
Long Term Compound Annual Returns (5 year)

	Compound Annual Returns	
	Mergers	Tender Offers
<u>Stock</u>		
Acquirer	9.9%	0.9%
Control	10.7%	10.7%
<u>Cash</u>		
Acquirer	15.2%	20.3%
Control	11.1%	13.1%

Source: Table V, Loughran and Vihk (1997), p. 1780.

Table 5
Effects of Mergers on Oil Industry H Index Measures

	Combined Revenues (millions)	Sum of Initial Hs	New H Index	Change in H Index	Cumulative Levels of the Oil Industry H Index
Original H Index				389.35
BP/Amoco	123,871	41.27	70.45	29.18	418.53
Total/PetroFina	53,133	6.84	12.96	6.12	424.66
Exxon/Mobil	203,148	106.43	189.49	83.06	507.72
BP Amoco/ARCO	143,143	72.16	94.08	21.92	529.64
TotalFina/Elf Aquitaine	98,220	22.30	44.30	22.00	551.64
Chevron/Texaco	88,617	18.08	36.06	17.98	569.62
Phillips/Tosco	43,870	4.48	8.84	4.36	573.98
Conoco/Gulf Canada	22,622	2.11	2.35	0.24	574.22
Phillips/Conoco	66,492	11.19	20.30	9.11	583.34

Note: Total oil industry revenues were \$1,475,774 million in 1997.

Table 6
Value Changes in 9 Major Oil Industry Mergers, 1998-2001
(in \$ Billions)

Target	Acquirer	Announcement Date	Market Cap. -10 days			Value Changes (-10,+10)		
			Target	Acquirer	Combined	Target	Acquirer	Combined
Amoco	BP	8/11/1998	38.7	79.7	118.4	10.6	1.9	12.5
PetroFina	Total	12/1/1998	8.1	29.6	37.7	2.5	(4.7)	(2.2)
Mobil	Exxon	12/1/1998	56.7	173.7	230.3	11.7	5.4	17.1
Arco	BP	4/1/1999	20.8	161.5	182.3	4.7	7.9	12.6
Elf Acquitaine	TotalFina	7/5/1999	41.6	46.2	87.8	5.9	(3.2)	2.7
Texaco	Chevron	10/16/2000	29.4	56.6	86.0	3.8	(1.1)	2.7
Tosco	Phillips	2/4/2001	5.0	14.0	19.1	1.2	(0.2)	1.0
Gulf Canada	Conoco	5/29/2001	3.0	19.2	22.2	1.1	(0.3)	0.7
Conoco	Phillips	11/18/2001	15.5	20.6	36.1	2.3	2.1	4.5
Totals			218.8	601.1	819.9	43.8	7.8	51.6

Market capitalizations are calculated 10 days before the merger announcement date. The value changes are calculated from 10 days before the announcement date to 10 days after. The measurement of the value changes adjust for market changes using the Dow Jones Major World Oil Companies Index (DJWDOIL).

Table 7
Industry HHI Changes, 1970-1998

	HHI		
	(1) Initial Year	(2) Later Year	(3) Change
Soaps and Cosmetics	2008	1272	-736
Tire	1200	1100	-100
Automotive	1060	754	-306
Rubber and Plastic Products	755	761	6
Printing, Publishing	563	586	23
Petroleum	491	583	92
Steel	455	405	-50
Aerospace	451	900	449
Food	421	334	-87
Building Materials	402	364	-38
Airline	381	342	-39
Paper	345	302	-43
Retail	333	366	33
Forest and Paper Products	302	474	172
Chemical	253	299	46
Commercial Banking	72	75	3
Pharmaceutical	63	101	38

Note: The initial year was generally 1974; the latest year was 1998.

Data sources: Worldscope Database: Annual Financial Data of World Companies, Fortune Global 500, Fortune 500 Largest Retailing Companies, Hoover's MasteList of Major U.S. Companies, Hoover's MasterList of Major International Companies, Moody's Industrials, Moody's Financials, Moody's Internationals, industry trade association compilations, investment firm compilations. (The Financial Information Services division of Moody's® Investors Service was acquired by Mergent, Inc in July 1998)