Mergers: An Overview

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Abstract

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I am the very model of a modern merger-wavicle,  
I have dimensions horizontal, vertical, and conglomerical,  
I know the kings of industry, and I quote the fights historical  
From U.S. Steel to DaimlerChrysler, in order divestituirical;  
I'm very well acquainted, too, with matters mathematical,  
I understand equations, both the simple and quadratical,  
About the CAP-M I'm teeming with a lot o' news,  
With many cheerful facts about random walks on the loose.

With apologies to Gilbert & Sullivan.

1 Introduction

The singular of data, Stigler among others is supposed to have said, is anecdote. By the same token, the plural of anecdote is data. At this writing, business history has been good enough to furnish us with five anecdotes about mergers in developed economies, in the form of the five merger waves recorded between the turn of the 19th century and the turn of the 20th century. It is possible to take the view that each merger wave is sufficiently different from the others to require individual study (Markham, 1955, p. 154). Yet one may hope that (like waves in the ocean) although each merger wave is in some aspects unique, merger waves as a class have enough elements in common to permit generalization about mergers as a phenomenon.

That is the approach taken here. In Section 2, I review each of the five merger waves of the last hundred-plus years. In Sections 3 and 4 I distill the things economists have had to say about what seem to be the common characteristics of the mergers that make up these merger waves. Section 5 concludes.

2 Merger Waves

2.1 Timing

In Congressional Testimony, Yellen (1998) begins with the Great Merger Wave of the 1890s and moves on to those of the Roaring 20s, the Go-Go 60s, the Deal Decade 80s, and then to a fifth merger wave, ongoing at the time of her testimony (as it is at the time of this writing). Allowing for the
fact that World War II may have diverted the attention of the U.S. business community from its customary activities, one might conclude that a merger wave comes along every 20 years or so.

There is general consensus about the broad outlines of the timing of the merger waves. The First Merger Wave is usually bracketed by depressions in 1893 and 1903. Butters et al. (1951, p. 288) write “The whole movement reached its peak in 1901 with the formation of the billion-dollar United States Steel Corporation and finally ended like the first with the sharp depression of 1903 and the Northern Securities decision in early 1904.”

The Second Merger Wave is usually pegged as starting in 1919, the first full year after World War I, or sometime during the 1920s, when the economy had picked up from a 1921 depression. Nelson (1959, p. 5) writes that “The second large movement took place in the years 1926 through 1930,” and it now seems clear that the October 1929 stock market crash and beginning of the Great Depression signalled the end of the Second Merger Wave.

The Third Merger Wave, distinctive in a number of respects, was also compressed in time, starting in 1964 or 1965 and ending by 1970 or 1971. It took little more than a decade. Ravenscraft (1988, p. 19) has the Fourth Merger Wave, which on many levels served to undo the Third, starting in 1981. For Hogan and Huie (1992, Section II.D), “[t]he fourth wave of M&A activity developed slowly in the late 1970’s and reached full flower a decade later.” The early 1990s now appear to be a trough in U.S. merger activity (Scherer, 2006, Figure 1). From this trough, U.S. merger activity rose continuously through 11 September 2001, plummeted abruptly, and returned just as abruptly to its previous level. Whether or not there would have been

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1Some, controversially, claimed to see signs of a U.S. merger boomlet in the late 1940s, and concern about an immediate postwar merger wave was one factor leading to passage, in 1950, of the Celler-Kefauver Act. If the boomlet was there, it subsided; Markham (1955, p. 179) calls it “a ripple.”

2Utton (1972, p. 52) has a British merger wave peaking in the years 1895–1902. Hannah (1974, Figure 1, Table IV) identifies a trough in British merger activity in 1892 or 1893, with a peak with a peak in 1898 or 1899 (in both cases, the precise year depending on whether one looks at number of mergers or number of firm disappearances by merger), and falling to a trough in 1901. Kling (2006, p. 675) documents a German merger wave beginning in 1898 and (2006, p. 675) “centered on a peak in 1906.”

3Some mergers that had been put in motion in 1929, before the crash, were carried out in 1930. That the depression called a halt to the merger wave was not universally recognized by contemporary observers; see Thorp (1931, p. 87).
a lull in the Fifth Merger Wave if the 9/11 attacks had never happened,\textsuperscript{4} it seems likely that the Fifth Merger Wave, like the First, will be regarded as one merger movement with two peaks.

2.2 First: Turn of the 19th Century

What we now tend to refer to as the First Merger Wave was known to its contemporaries as “Great,” not only because it was larger than anything in their experience, but also because it transformed the landscape of the American economy. Depending on how size is measured, the third and later merger waves may have been larger than the first,\textsuperscript{5} but none left so enduring an imprint.

The backdrop against which the First Merger Wave played itself out is familiar from the work of Chandler (1965; 1977, Part II). In the two decades after the American Civil War, railroads integrated what had been semiautonomous regional economies into a continent-wide single market and also served as the proving ground for management techniques able to satisfactorily organize the activity of firms that commanded resources on a hitherto unknown scale.

The mergers that made up the first wave were predominantly horizontal, and involved many firms. They typically created survivor firms that were dominant in their industries (Butters \textit{et al.}, p. 288, footnote omitted):

By [early 1904] over 300 industrial combinations, representing consolidations of about 5,000 distinct plants and covering most major lines of productive industry, had been formed. ...these combinations controlled fully 40\% of the manufacturing capital

\textsuperscript{4} The Economist, internet edition, 27 September 2001, “Wait and see”: “Some of these companies may be using the attacks as a convenient excuse for a decision [not to pursue an announced merger] that would have been taken anyway.”

\textsuperscript{5} If size is measured in constant dollar value of acquisitions, the First Merger Wave dwarfs the Second and is itself dwarfed by the Third and later waves (Scherer, 2006, Figure 1). If size is measured by value of assets acquired as a fraction of U.S. GNP, the First Merger Wave is substantially larger than the Second and Fourth (the only ones for which data are illustrated; Golbe and White, 1988, Figure 9.8). Given the international character of the Fifth (at this writing, ongoing) Merger Wave, normalization by U.S. GNP would overstate merger wave size with respect to an appropriate measure of overall economic activity.
of the country with 78 of these consolidated corporations controlling one-half or more of the country’s total production in their respective fields, and with 26 controlling 80% or more.

For a sample of 93 mergers, Lamoreaux (1985, p. 2) similarly reports that “seventy-two controlled at least 40 percent of their industries and forty-two at least 70 percent.”

The timing of the First Merger Wave cannot be explained by market integration alone; market integration was substantially complete a decade or more before the First Merger Wave started. U.S. railroad construction peaked in 1887 (Harley, 1982, Figure I and p. 814). State laws that might otherwise have obstructed the free flow of goods within the United States were struck down in 1890, the same year that the Superintendent of the Census recognized the closing of the American frontier (Turner, 1893).

To an economist, the integration of regional markets into a larger whole naturally suggests the possibility that firms operating in industries where the technology displays economies of large scale production will expand output, lowering operating cost and making it profitable to supply a larger geographic market. But the work of O’Brien (1988) suggests that horizontal economies of scale cannot explain the First Merger Wave. Production in many of the industries caught up in the merger wave did entail economies of scale, but those economies had been largely realized two decades or more before the merger wave began (1988, pp. 645–646, footnote omitted):

...almost two-thirds of the increase in factory size that was to take place between 1869 and 1929 had occurred by 1889—well before the beginning of the merger wave. ...American industrial structure evolved largely because of the technological and organizational innovations of the 1870s and 1880s ...the great merger wave cannot be explained by unreaped economies of scale.

Contemporary observers were not short of explanations for the merger wave. Among those summarized by Homan are that merger was favored at the end of the nineteenth century (1935, p. 115):

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7Chandler (1977) points to economies permitted by the combination of backward and forward vertical integration and economies of throughput in continuous-process industries. We take this up below.
• because antitrust law was cordial to merger, hostile to collusion;
• by business experience with harsh competition during the recent depression;
• by development of a financial market that “could absorb securities upon an unprecedented scale;”
• by imitation of the success of a few early mergers;8 and
• because of “promoters and financiers who stood to gain from promoters’ fees and underwriting operations.”

The first point9 is that in an infancy of listless enforcement, Section 1 of the Sherman Act was interpreted to strictly prohibit collusion,10 while Section 2 was rendered impotent against large-scale mergers.11 The second point is that a business community of highly individualistic First Gilded Age entrepreneurs had been made more receptive to the idea of merger by the fierce price competition that prevailed during the 1893 depression.12 The general idea the tough competition encourages market concentration, whether effected by merger or otherwise, survives generally (Symeonidis, 1998, 2002), and in somewhat refined form as regards the First Merger Wave. We return to this idea below.

Homan’s first point is about public policy toward product market structure. His second point is about the conduct of firms on the supply side of a product market. His final three points refer to the impact of financial

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8Hannah (1974, p. 2) suggests that UK demand for stock was promoted by prominent early combinations “the spectacular success of promotions such as the Guinness and Coats flotations, of 1886 and 1890 respectively, further boosted public demand for manufacturing issues.”

9See Bittlingmayer (1985).

10Addyston Pipe & Steel 85 F. 271 (6th Cir., 1898), 175 U.S. 211 (1899).

11E.C. Knight (Sugar Trust) 156 U.S. 1 (1895). This decision was effectively reversed by Northern Securities 193 U.S. 197 (1904).

12Cook and Cohen (1958) cite intense short-period competition as a cause of mergers in three of their case studies of mergers in six UK industries. Their time periods include that of the first U.S. merger wave, but are generally much longer, with exact periods varying from case study to case study. Utton (1972, p. 2) refers to “severe short term price competition” in the presence of excess capacity as “an argument which recurs again and again” in the run-ups to mergers during the first British merger wave.
market characteristics on firms’ incentives to merge. The third point is simply that by the late 1890s, New York City had become a financial center that facilitated mergers. With the First Merger Wave, industrial securities succeeded railroad securities as an effective device to raise large amounts of financial capital from the private sector, amounts far exceeding what the largest partnership could hope to put together. Further, the existence of a market for securities made it possible to carry out mergers while using an amount of capital far smaller than the value of the assets involved. When, as was often the case, the owners of firms being consolidated accepted payment in shares of stock in the post-merger firm, no actual cash payment was required. What sellers of assets were taking in payment was claims on future dividend payments.

In practice, most payments to firms entering into a merger involved a mixture of cash and financial instruments. For example, Navin and Sears (1954, Table 1) estimate that payments to shipping lines entering the International Mercantile Marine Company in October, 1902 were $50 million in cash, $60 million in preferred stock, and $60 million in common stock. The cash expense of carrying out the merger was $652,429, the largest part of this being a British tax on the transfer of securities (Navin and Sears, 1954, p. 311). Navin and Sears (1954, p. 313) make a “conservative valuation of the component properties of the merger as of December, 1902” of about $75 million, which they argue “should be compared not with [$170 million] but with [$83.7 million], the cost in cash plus the anticipated opening market value of the securities issued in payment.”

The existence of an organized financial market also made it possible for the promoters of mergers to be paid (Navin and Sears, p. 311, 1954, footnote omitted):

For their part in raising $50,000,000 in cash, the partners of J. P. Morgan & Company received a managers’ fee of 5,000 shares of preferred stock and 50,000 shares of common. Since the preferred stock was expected to sell for about $85 and the common for about $35, the anticipated market worth of the Morgan firm’s fee

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13 On the development of financial markets generally, see Baskin (1988), Baskin and Miranti (1997), and in connection with the First Merger Wave, Navin and Sears (1955), Nelson (1959, pp. 89–100).

14 See their footnote 35 for a breakdown of the calculations yielding the value $83.7 million.
may be set at $2,175,000.

The IMM never prospered,\textsuperscript{15} and for most of those who sold their firms to it for the promise of future dividends, it became an early example of “wealth destruction on a massive scale,”\textsuperscript{16} an outcome that was not all that uncommon during the First Merger Wave. Somewhat less common was that J. P. Morgan & Company also lost money, in an amount that Navin and Sears (1954, p. 324) estimate at between $1 and $1.5 million.\textsuperscript{17}

The weight of Stigler’s authority is as great in discussion of mergers as it is with most topics of industrial organization, and the rise of a modern capital market is one of the two institutional innovations he cites in explanation of the timing of the First Merger Wave. The other is the limited-liability corporation (Stigler, 1950, p. 28):\textsuperscript{18}

Our theory is that mergers for monopoly are profitable under easy assumptions that were surely fulfilled in many industries well before the mergers occurred. The only persuasive reason I have found for their late occurrence is the development of the modern corporation and the modern capital market. In a regime of individual proprietorships and partnerships, the capital requirements were a major obstacle to buying up the firms in an industry, and unlimited liability was a major obstacle to the formation of partnerships.

Stigler too highlighted the role of promoters (1950, p. 30):\textsuperscript{19} I am inclined to place considerable weight upon one other advantage of merger: it permitted a capitalization of prospective monopoly profits and a distribution of a portion of these capitalized profits to the professional promoter. The merger enabled a Morgan or a Moore to enter a new and lucrative industry: the production of monopolies.

\textsuperscript{15}In addition to Navin and Sears (1954), see Fields (1932a, b).
\textsuperscript{16}Apologies to Moeller et al. (2005).
\textsuperscript{17}On the House of Morgan, see De Long (1991).
\textsuperscript{18}Hannah (1974, p. 2) cites the same two factors as preconditions for the turn-of-the-19th century UK merger wave.
\textsuperscript{19}Markham (1955, p. 162, fn. 49), who notes that not all large mergers at the turn of the 19th century led to enduring monopoly, refers to “producers of mergers” rather than “producers of monopolies.”
Later commentators have accepted the key role of the promoter in whipping merger waves along.\textsuperscript{20} Since a strong case can be make that the New York financial market was less well developed than that in London,\textsuperscript{21} and with a view to laying the groundwork for discussion of debates about empirical estimates of the effects of mergers, it is worthwhile cite Hannah’s (1974, p. 8, footnotes omitted) explanation of the way systematic differences in information created a place for the merger promoter:

Given the imperfections of information in the late Victorian capital market and the speculation that these encouraged, the expectations of existing owner-managers of private firms, based as they were on accumulated experience and close personal knowledge of the trade, were rather more stable than the profit expectations of holders or potential holders of publicly quoted shares. In a period when stock market prices were volatile and companies in manufacturing industry had only recently gained quotations in significant numbers, there was great scope for the company promoter to boost expectations from merger issues artificially and to increase his own profits accordingly. There is ample evidence of the major role of the promoting houses in creating excessively optimistic expectations among the investing public, most notably

\textsuperscript{20}See Seager and Gulick (1929, p. 64), Butters \textit{et al.} (1951, pp. 310–311, quoting Seager and Gulick to support their own view); Mueller (1977, p. 315); McFadden (1978, p. 486); Cheffins (2002, p. 50). There is a related literature on the regarding the connection between business cycles and mergers (generally held to be positive), on which, see Nelson (1966), Hannah (1974, p. 7), and for skeptical views, Markham (1955, pp. 146–154, Penrose ([1959], 1980, pp. 240–242.

\textsuperscript{21}Davis (1966, p. 272) relies on lesser development of U.S. than UK financial markets to explain the relatively greater scale of U.S. than UK mergers:

It appears, therefore, that the difficulties inherent in acquiring external finance in the United States in the nineteenth century provide an explanation for the basis of the fortunes of certain American entrepreneurs and suggest at least one reason why that economy was characterized by increasing concentration in the growth sectors. In the case of the U.K., on the other hand, adequate financial markets appear to have yielded much smaller returns to financial manipulation, and firms without good financial contacts were much less heavily penalized in the search for funds for expansion. As a result, concentration when it did occur tended more to reflect product rather than financial market considerations.
in the case of merger issues, and it is not unreasonable to sup-
pose that peak levels of share prices indicate the periods in which
such exaggerated expectations were at their maximum level. It
is thus especially at times of high share prices that we would ex-
pect a large discrepancy to appear between the valuations placed
on their firms by owner-managers and the net present values of
the profits expected from the same firms by shareholders. Sig-
nificantly it was at such times that the sales of many private
businesses to promoting syndicates, intent on floating them col-
lectively as a merger issue, were made.

Product-market considerations were present, as Hogan (1935) empha-
sized. Lamoreaux (1985, p. 87) emphasizes the combination of intense com-
petition and heavy fixed cost as inducements to merge:

Manufacturers formed consolidations to escape the severe price
competition that developed during the depression of the nineties
in certain types of industries: capital-intensive, mass-production
industries in which firms were closely matched and in which ex-
pansion had been rapid on the eve of the Panic of 1893. In these
industries, not only did firms have extensive capital investments,
but also they were new firms and thus most likely to be pressured
by high fixed charges.

Nothing prevents simultaneous pursuit of multiple goals, and turn-of-
the-19th century mergers may have been motivated as much by a desire
to rationalize the organization of production. One motive behind the 1899
formation by merger of the American Steel and Wire Company, which had
(McFadden, 1978, p. 483) “a near monopoly in the manufacture of barbed
wire,” was to escape the press of competition. But it also to steps to increase
efficiency (McFadden, 1978, pp. 486–487):

They were also able to initiate better management and person-
nel practices, and to close down more costly operations. Five
uneconomical plants, for example, were closed down almost im-
mediately in various parts of the country. The uniting of wire

\[^{22}\text{See similarly O'Brien (1988, p. 649).}\]
companies with several steel companies also extended vertical integration, as the new firm also controlled substantial holdings in coal and iron ore resources, operated a fleet of lake ore steamers, and increased its wire rod capabilities substantially, all of which provided extensive economies in the manufacturing process of wire products of all kinds.

But this was by no means a necessary consequence of merger. Utton (1972, p. 54) writes that two persistent problems of UK mergers of the period were overcapitalization and co-ordination of post-merger activities. The two problems were related, in that it was often necessary to pay generously to induce the participation of firms that were well inside the efficiency frontier but whose presence outside the combination would thwart the goal of containing competition. This led to overcapitalization. Once the bit players were in the operation, however (Utton, 1972, p. 54): 23

In view of the sheer number of concerns involved in many of the amalgamations, it is not surprising that administrative problems were fairly common. The difficulty was to co-ordinate the price and production policies of many formerly independent concerns which were used to different methods and were of differing levels of efficiency.

Nelson’s comment on the impact of the First Merger Wave on performance was (1966, pp. 65–66):

Arthur Stone Dewing once made a study of the financial record of several large consolidations created at the turn of the century, during the frenzied years of trust-building. His frequently quoted

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23 For another UK example, see Reader (1976): the firm that became Metal Box formed by merger in 1922 as (p. 39) “a very cosy affair.” For the Board of Directors, (p. 40) “It was no part of their purpose to interfere in the management of each others’ enterprises: far less to extinguish their independence in the manner of the ‘rationalizers’ of the day . . . .” Rationalization did not occur until the 1930s, in the face of the dual threats of depression and American competition. For a U.S. example, see Whitney’s (1958, Chapter 10) discussion of the U.S. Cast Iron Pipe and Foundry Company, created by merger of the firms involved in the Addyston Pipe and Steel cartel (and other firms) between the time the Circuit Court of Appeals handed down its decision condemning the cartel and the time the U.S. Supreme Court confirmed that decision. It did not rationalize its operations until some 25 years after it was formed.
conclusion was that “the trusts turned out ill.” What he described was essentially a record of overcapitalization and the wholesale issuance of stock, actions which led many mergers to painful reorganizations. With today’s economy in mind, we can correctly say that Dewing wrote about another time, long past, and that nothing as extreme is likely to recur.

Publications lags being what they are, this must have been written before the Third Merger Wave revealed its nature.

Although the distinctive characteristic of the First Merger Wave was large horizontal mergers (Stigler, 1950) — “merger for monopoly” — the firms formed during the First Merger Wave that maintained their dominant positions did so because they integrated vertically. When vertical integration, which assured access to essential inputs and secured distribution outlets, was made the basis for large-scale production, it allowed efficiency advantages that rivals could not match (Chandler, 1977, p. 339, pp. 364–365). It was the realization of cost advantages that was key to enduring market leadership (Lamoreaux, 1985, p. 139):

If a consolidation had an advantage in costs over its rivals, it could set prices at the limit value and maintain indefinitely both its market share and its ability to forestall price cutting by independents. If the consolidation was no more efficient than its rivals, it would gradually lose its position of dominance and, with this, its ability to set prices for the industry.

... the latter result was more common.

2.3 Second: the Roaring 20s

The Second Merger Wave, like the First, was preceded by technological changes that permit competition on a larger stage, and, at least for consumer goods, the cultivation of product differentiation — the arrival of the automobile and commercial radio (Markham, 1955, p. 172):

This new transportation system tended to break down small local markets in two ways: it provided sellers with a new means for extending their sales area, and it made consumers considerably more mobile. The 1920’s also marked the rise of the home radio, a medium particularly amenable to advertising national brands.
Financial markets contributed to the 1920s merger movement, as they had to the one before (Thorp, 1931, p. 85):

One important element which stimulates the merger movement in time of prosperity is the condition of the money market. Many mergers, and some acquisitions, involve the flotation of new securities. In periods like 1928 and early 1929, when there is almost an insatiable demand for securities, the merger movement will be certain to flourish. Its most active sponsor is the investment banker.

The relaxed attitude of antitrust enforcement agencies during the 1920s may also have been a factor (Watkins, 1935; Eis, 1969, p. 290; Martin, 2008, Section 2.3).

In terms of the incidence of mergers, Eis (1969, p. 273, p. 275) confirms Stigler’s (1950, p. 32) observation that food industries were well represented in the Second Merger Wave. Stigler also observes that follow-up mergers in industries that had been featured in the First Merger Wave transformed them from declining-dominant-firm markets to oligopolies (while mergers in the food sector often created local oligopolies). Stigler attributes this difference between the First and Second U.S. merger waves to antitrust policy (1950, p. 32): “the ghost of Senator Sherman is an ex officio member of the board of directors of every large company.” Eis’ judgement is more nuanced: he finds (1969, pp. 277–278) evidence that the spectre of antitrust action may have influenced the merger activity of firms that had been the target of prior antitrust prosecution, not otherwise.

2.4 Third and Fourth: the Conglomerate 60s and the UnConglomerate 80s

The natures of the 1960s and 1980s merger waves were quite different, but they are linked at a fundamental level. The Third Merger Wave was a spike in merger activity, taking off in 1965, peaking in 1968, and falling back to the 1965 level by 1972 (Steiner, 1965, p. 5). Not only was it compressed in time, but its composition differed from those of its predecessors. Pure conglomerate mergers, combining firms with neither horizontal nor vertical

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24 Together with the food group, Eis reports that primary metals, petroleum refining, chemicals, and transportation equipment accounted for the bulk of merger activity.
relationships, rose from 14.2 per cent of large U.S. mergers in 1956–59 to 21.2 per cent in 1964–67, then jumped to 43.6, 38.1, 32.5, and 43.4 per cent in 1968, 1969, 1970, and 1971, respectively. The share of conglomerate mergers in large-firm U.S. mergers in 1972 was back down to 19.9 per cent (Steiner, 1975, Table 1-4).

U.S. antitrust policy was put forward as a partial explanation for the rise of conglomerate mergers (Mueller, 1969, Section 5). Skeptics pointed to financial markets as well (Malkiel, 2007, p. 57):

Although antitrust laws at that time kept large companies from purchasing firms in the same industry, it was possible for a while to purchase firms in other industries without interference from the Justice Department. The consolidations were carried out in the name of synergism. Ostensibly, mergers would allow the conglomerate to achieve higher sales and earnings than would have been possible for the independent entities alone.

In fact, the major impetus for the conglomerate wave of the 1960s was that the acquisition process itself could be made to produce growth in earnings per share. Indeed, the managers of conglomerates tended to possess financial expertise rather than the operating skills required to improve the profitability of the acquired companies.

Conglomerate mergers, like all others, might be pursued in the name of profit (Mueller, 1969, p. 643):

If firms maximize profit, mergers will take place only when they produce some increase in market power, when they produce a technological or managerial economy of scale, or when the managers of the acquiring firm possess some special insight into the opportunities for profit in the acquired firm which neither its managers nor its stockholders possess.

One might be inclined to doubt the possibility that a conglomerate merger would create or reinforce market power, but one should not discount the idea entirely. Multimarket diversification may make tacit collusion an equilibrium outcome (Scott, 2008). Reciprocity\textsuperscript{25} may also be an issue in the effects of conglomerate mergers.

\textsuperscript{25} FTC v. Consolidated Foods Corp. 380 U.S. 592.
If management is a fixed and lumpy asset, a firm may have unused “managerial capacity.” A conglomerate merger might in principle be a way to spread such a fixed management cost over greater (diversified) firm output, reducing management cost per unit of revenue. Alternatively, a merger might be a way for a more efficient management to displace a less efficient management; this way lies the theory of the market for corporate control.

The “market for corporate control” idea relies on an efficiency motive based on information differences. The management of firm A realizes (or believes) that it can run firm B more efficiently than the incumbent management of firm B. The shareholders who are the owners of firm B are not aware of the efficiency differential, at least, not until they are alerted to its existence by the takeover bid.26

Mergers and takeovers might be based on information differences that have nothing to do with efficiency. The managers of firm A might realize that shares of firm A stock are momentarily overvalued, or that shares of firm B are undervalued, or both. If the shareholders who own firm B are unaware of the valuation differentials, firm A can acquire control of firm B at a bargain rate.27

Diversification, to the extent that it reduces the variance in a firm’s income flow, may reduce its costs of capital. This is an efficiency advantage rooted in financial markets. But if diversification is accomplished by means of conglomerate mergers that increase the firm’s fixed interest payment obligations, the reduction in risk that would otherwise come with diversification

26 If the market for corporate control explanation of conglomerate mergers is to apply, the management of the acquired firm must be displaced (Mueller, 1969, p. 659, footnote omitted):

While to many it may seem implausible that managers with no familiarity with a company’s operations or industry could run it or recognize its opportunities for profits better than the firm’s own managers or stockholders, no one can say for certain that this is not so. In light of the crucial importance of the existence of these supermanagement capabilities on the part of the acquiring firm’s management in conglomerate mergers, it is interesting to note that some of the most aggressive conglomerate merger firms look for companies whose managements are able and willing to continue to run the acquired company after it has been assimilated into the conglomerate’s corporate structure.

27 See Malkiel (2007, Chapter 3) for numerous case studies that seem best explained by differential awareness of market misvaluations.
might be neutralized (Mueller, 1977, p. 322).

A financial-market efficiency put forward for multidivisional-form firms, which would include but not be limited to appropriately organized conglomerates, was the internal capital market (Williamson, 1975). Since a firm’s management would (so the story went) have differentially-superior information, it could harvest cash flow from mature divisions in markets with limited opportunities for value-maximizing investment and allocate funds to cash-starved divisions operating in markets with better investment prospects.

If one admits the possibility that managers pursue their own goals, then mergers that do not have value-maximization as a goal may appear. Hubris, empire-building, and growth-maximization may all motivate mergers, including conglomerate mergers.28

Hogan and Huie (1992, Section I.D29) cite lax antitrust enforcement under the Reagan Administration as one reason for the fourth merger wave. They also mention financial market factors: “Pursuit of the [leveraged buyout] as a novel form of corporate reorganization by issuing junk bonds to finance the takeover.” They describe the Fourth Merger Wave as distinctive for the large numbers of firms and the values involved in takeovers, as well as the appearance both of hostile takeovers and of defensive takeover tactics. But they also note what is generally regarded as the unique aspect of the Fourth Merger Wave, the prevalence of bust-up takeovers designed to restructure firms, divest assets, and undo the conglomerate mergers of the 1960s. By the 1980s, it appeared, what in the 1960s had been seen as advantages of conglomerate firms were no longer there (Bhide, 1990, p. 71):

In fact, most large corporations have come to insist upon an arms'-length relationship between their units. They have learned that whatever benefits might be gained by coordinating the activities of multiple units (such as economies of scale in production or purchasing) are more than offset by internal bickering, delays, and the difficulty of allocating costs and revenues. Consequently, over 80 percent of large and medium-sized companies are organized into independent strategic business units or profit centers

\[\text{28\,\text{Mueller\,}(1969).\,Malkiel\,}(2007,\,pp.\,60–61)\,\text{writes\,that\,the\,Automatic\,Sprinkler\,Corporation\,‘offers\,a\,good\,example\,of\,how\,the\,game\,of\,manufacturing\,growth\,was\,actually\,played\,during\,the\,1960s.\,Between\,1963\,and\,1968,\,the\,company’s\,sales\,volume\,rose\,by\,more\,than\,1,400\,percent.\,This\,phenomenal\,record\,was\,due\,solely\,to\,acquisitions.’}\]

\[\text{29\,\text{There\,are\,no\,page\,numbers\,on\,the\,digital\,edition\,of\,this\,paper\,to\,which\,I\,have\,access.}}\]
that have limited dealings with one another. And those transactions that do take place between units are often conducted as if they were between independent firms, using market-based transfer pricing methods.

Internal capital markets, in operation, seemed to suffer from handicaps. Stewart and Glassman (1988a, p. 86) include among these “curtailing an unproductive reinvestment of cash flow” and “eliminating subsidies for underperforming businesses,” which would seem to cut out the heart of the original argument for an internal capital market as a resource allocation mechanism.

Conglomerate diversification, it had been said, would allow a firm to even out fluctuations in its income stream and so enjoy a lower cost of capital. A prerequisite for this is that financial markets are able evaluate conglomerate performance (Stewart and Glassman, 1988b, p. 81) offer the following on this point:

Several years ago, at a roundtable discussion our firm sponsored covering effective financial communication with investors, an investment banker suggested that conglomerates sold at a discount because securities analysts found them difficult to follow. Michael Sherman, head of investment strategy for Shearson Lehman Brothers, bristled. “It’s not that conglomerates are difficult for analysts to understand. We worry that conglomerates are difficult for management to understand,” he countered.

This would seem to leave two possibilities open, the first that financial analysts had difficulty understanding conglomerate operations, the second that business executives had difficulty managing them. Neither possibility speaks well for the conglomerate firm.

Financial markets reacted accordingly (Hubbard and Palia, 1999, p. 1131, footnote 1, references omitted):

In the post-1980 period, diversified firms had lower Tobin’s q values than a comparable portfolio of stand-alone firms ..., a lower imputed stand-alone value of assets, sales, and earnings than a portfolio of stand-alone firms ..., and a lower level of total factor productivity ... . [There was] a return to firm focus
and specialization in the 1980s, ... diversifying bidders earned lower abnormal returns on announcement of an acquisition than bidders making related acquisitions. Further, divesting firms in the 1980s earn positive abnormal returns on announcement of the divestiture . . . , and are more likely to divest unrelated businesses (Kaplan and Weisbach (1992)).

There remains the question why firms and financial markets participated in a conglomerate merger wave in the 1960s and a deconglomerate merger wave in the 1980s.\footnote{It has long been recognized that mismatches between the efficient scale of operation of complementary production processes might be an efficiency explanation for splitting off what had been part of an integrated operation as a distinct entity (Jewkes, 1952, p. 248; Robinson, 1958, p. 20). This organizational explanation can explain a divestiture; whether can explain a wave of divestitures is a research question (Lamoreaux \textit{et al.}, 2003).} Matsusaka (1993, pp. 376–377) suggests three possibilities. The first is that conglomerate mergers were value-maximizing in the 1960s and that something changed between the 1960s and the 1980s, so that bust-up mergers were value-maximizing in the 1980s. Matsusaka contrasts the tough horizontal and vertical merger antitrust policy of the 1960s with the “lax enforcement in the 1980s under the Reagan administration.” Matsusaka and others suggests that financial markets simply became relatively more efficient between the 1960s and the 1980s. As Hubbard and Palia put it (1999, p. 1133):

We suggest that diversified firms were perceived ex ante by the external capital markets to have an informational advantage, because external capital markets were less well developed. For example, relative to the current period, there was less access by the public to computers, databases, analyst reports, and other sources of company-specific information; there were fewer large institutional money managers; and the market for risky debt was illiquid. Accordingly, diversified firms were allocators of capital and provided financing expertise to companies whose management they retained for operating expertise.

Alternatively, Matsusaka suggests, the conglomerate industry may have been like any other profitable new industry that is not protected by barriers to entry. Early conglomerates had latched on to a good thing, and for a
while it was very profitable to be a conglomerate. Imitators followed, and the rate of return to being a conglomerate went down.\footnote{For this explanation to be correct, in equilibrium external capital markets and internal capital markets would allocate capital, at their respective margins, with equal effectiveness. Then one would have to suppose that the 1960s merger wave went “too far,” and that after a wave of divestitures, one would see a balanced rate of formation of diversified and focused firms. In any case, the imitation and entry explanation seems inconsistent with the idea that internal capital markets subsidize underperforming businesses.”}

Or it could be that (Matsusaka, 1993, p. 377) “the market simply made a mistake about diversification.” The typical conglomerate firm may have been just as inefficient, relative to more focused enterprises, in the 1960s, as it came to be perceived as being in the 1980s.\footnote{Exceptional individuals may earn rents to great ability in the operation of conglomerates, as in any other endeavor. See Scherer’s (2002, pp. 19-20, footnote omitted) analysis of the success of one 1960s conglomerate: “the founder and long-time chief executive officer of Teledyne, Henry Singleton, was a managerial genius. He was extremely intelligent, and he had the knack of bringing into his fold and motivating similarly able managers. Shortly after he retired from active management of Teledyne in 1989 . . . the company’s performance plummeted. Also, Teledyne concentrated many of its investments in high-technology fields, where Singleton, who had a Ph.D in science and who loaded his board of directors with science and engineering Ph.D, holders, had comparative advantage. Thus, Teledyne was more like a modern-day high-technology venture capital portfolio fund than an operator of run-of-the-mill companies.”}

On this view the conglomerates, as Arthur Stone Dewing said of the trusts, “turned out ill.”

\section{2.5 Fifth: Turn of the Century}

Three of the four factors Yellen (1998) includes among common explanations for the merger wave that was in full swing at the end of the 20th century gives were present in earlier merger waves was well. These are falling regulatory barriers, technological change, and a high stock market. Her fourth factor is globalization. Black, too comments on the worldwide scope of the merger movement (2000, p. 800):

In contrast, the current wave has a distinctly international flavor. Many of the signature transactions – including Daimler’s acquisition of Chrysler to form DaimlerChrysler and Vodafone’s acquisition of Mannesmann – were either entirely outside the United States or involved a non-U.S. party. The $ 180 billion Vodafone-Mannesmann transaction, between two non-U.S. firms, is the largest in history.
Globalization is itself a consequence of falling trade barriers and technological change. Just as the wider markets that contributed to the First and Second U.S. Merger Waves were created by technical changes, so the global markets of the 21st century. And the dramatic unravelling of a signature international merger suggest that international financial markets are no more immune from mistakes than were (are) national financial markets.

3 Merger Causes

What light do five merger waves shed on the causes of mergers? Mergers may be undertaken to increase firm value. Horizontal mergers may be profitable because they increase static market power. Horizontal mergers that increase static market power may also yield social efficiency gains, to the extent that they permit and are followed by the rationalization production. Static market power alone is unlikely to endure in the absence of strategic entry-deterring behavior or efficiency advantages that permit limit pricing.33 In early merger waves, vertical integration was a source of efficiency advantages in some industries. The same technological advances that, some suggest, have vastly increased the information-processing capabilities of 21st-century financial markets may also have increased the relative efficiency of vertical disintegration in production; the jury remains out on this question. In any case, there appears to be less to the conglomerate firm than met the eye during the Third Merger Wave.

Technological and institutional changes that widened markets were fundamental factors in the First, Second, and Fifth Merger Waves. If production involves fixed costs, the equilibrium number of firms in a larger integrated market is less than the sum of the equilibrium numbers of firms in pre-integration markets (Martin and Valbonesi, 2007). To reach an efficient market structure in a larger market implies some firms must exit. If investment in fixed assets is not sunk, adjustment to the new equilibrium can be smooth. If investments are sunk, they cannot be liquidated and their value moved to other markets. Interest on inherited debt may throw owners into bankruptcy, but the assets will remain in the market: that is the nature of sunk investment. In this kind of market, merger may well be as graceful a

33 That limit pricing is possible does not mean it will be a value-maximizing long-run strategy (Gaskins, 1971). But if an incumbent enjoys no efficiency advantage over potential entrants, limit pricing is not possible at all.
way as possible for market structure to reach a new equilibrium.34

Mergers may be undertaken for reasons that having nothing to do with
the increase of firm value. Managers may pursue growth. Financial agents
may extract very real profits during periods of irrational exuberance. The
cautions that are part of Yellen’s summary are entirely appropriate (1998;
emphasis added):

The main reason managers give for undertaking mergers is to
increase efficiency. And studies show that, on average, the com-
bined equity value of the acquired company and the purchasing
company rises as a result of the merger. However, an increase in
shareholder value can arise for reasons other than greater efficiency—
such as increased market power and the resulting ability to in-
crease profits by raising prices. And the separation of ownership
from control in the modern corporation means that mergers may
serve the interests of managers more than shareholders (e.g., em-
pire building, increased salary associated with running a larger
firm). Finally, even if mergers are designed to enhance efficiency,
they often don’t work and can instead create inefficiencies (some
see the merger of the Union Pacific and Southern Pacific railroads
in 1995 as a notable example of such an outcome.)

4 Merger Effects35

Industrial economists and financial economists instinctively analyze the ef-
fects of mergers in different ways. Industrial economists quite naturally study
the effects of mergers on sales, on profit, on efficiency, etc., by examining
the impact of mergers on sales, on profit, on efficiency, etc.36 There are
genuine measurement, modelling, and analytical difficulties associated with
these research efforts, and these should not be minimized. But for industrial
economists, this is the direct approach.

Financial economists analyze the effects of mergers on performance by
examining the impact of the merger on the stock market value of the firms
involved in a narrowly defined event window around the time the merger

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34 See Lamoreaux (1985) on the First Merger Wave.
36 See Gugler et al. (2003) for an example.
becomes public knowledge. What Caves (1989, p. 153) calls the conventional wisdom resulting from such studies is uniform:

Acquisitions always entail a large gain for the target firm’s shareholders over the market value of the freestanding entity. The proportional gain if anything has been rising over time and amounts to a premium of 30 percent for the change in corporate control via tender offer or takeover, 20 percent via merger ... The average return to the bidding firm’s shareholders is less clear. Some studies have found small but statistically significant gains, others small losses. It seems safe to conclude that the bidder’s shareholders approximately break even. Indeed, they have been doing worse and worse over time.

If the acquired firm’s shareholders gain substantially while the acquiring firm’s shareholders break even, the net effect of the merger on a shareholders’ wealth is positive (Caves, 1989, p. 153; Scherer, 2006, p. 331). One might then question whether acquiring firms are, on average, being managed in their shareholders’ interest. The common result of studies that examine stock-market returns over a longer post-merger period (Scherer, 2002, p. 9):

Study after study has shown that, although the acquiring company’s common stock prices experience on average zero cumulative abnormal change in short time “windows” around merger announcements, they tend, relative to market movements generally, to decline by impressive and statistically significant magnitudes in the one to three years that follow substantial merger activity.

Meanwhile, direct studies of the impact of mergers on performance fail to find the benefits that, event studies indicate, financial markets anticipated (Caves, 1989, p. 164):37

these results seem to add substantially to the negative evidence on the ex post efficiency of mergers. In particular ... they indicate substantial declines in the real productivity of acquired assets, not merely that acquirers fail to create enough value to justify their acquisition premia.

\[37\] Caves refers specifically to the findings of Mueller (1985) and Ravenscraft and Scherer (1987).
The premise of event studies is that financial markets efficiently distill all available information, making the stock market price a valid indicator of the market’s evaluation of a firm’s expected present discounted value. But Scherer (2002, p. 9) quotes Fischer Black (1986) to the effect that even in an efficient financial market, there can be substantial and persistent departures of current stock price from value:

[W]e might define an efficient market as one in which price is within a factor of 2 of value, i.e. the price is more than half of value or less than twice value. The factor of 2 is arbitrary, of course. Intuitively, though, it seems reasonable to me, in the light of sources of uncertainty about value and the strength of the forces tending to cause price to return to value. By this definition, I think almost all markets are efficient almost all of the time. ‘Almost all’ means at least 90%.

All five merger waves were tinged with what contemporary observers took — often *ex post*, and often to their regret — to be the enthusiasm of the moment. If the event study methodology is applied to the First Merger Wave, the results show that those mergers, too, created value for owners (Banerjee and Eckard, 1998). Given that all existing evidence points to the presence of substantial imperfections in financial markets at that time, and given the verdict on *ex post* performance that “the trusts turned out ill,”

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38In 1899, Henry O. Havemeyer, President of the American Sugar Refining Company (the *Sugar Trust* of U.S. v. E.C. Knight), testified as follows before the Congressional Industrial Commission (Glover, 1954, p. 357):

Q. You think, then, that when a corporation is chartered by the State, offers stock to the public, and is one in which the public is interested, that the public has no right to know what its earning power is or to subject them to any inspection whatever, that the people may not buy this stock blindly?

A. Yes; that is my theory. Let the buyer beware; that covers the whole business. You can not wet nurse people from the time they are born until the time they die. They have got to wade in and get stuck, and that is the way men are educated and cultivated.

Q. Then, you think that they have a right to charter corporations and allow them to offer stock to the people — to the whole community — and that the community then has no right to a knowledge of what the earning power of that stock is?

A. Precisely.
one might be forgiven for concluding that a finding that mergers from the First Merger Wave were efficient calls the validity of the methodology into question more than demonstrating the result.

On balance, Mueller’s (1977, p. 344) conclusion remains unshaken:

It has become customary to close a review of the merger literature by observing that the arguments are still in conflict, the main issues still in doubt, and from this draw the prudent conclusion that policy changes should proceed slowly and cautiously. True, the a priori theories of mergers’ causes and effects are still in conflict, and will probably always remain so. But the empirical literature, upon which this survey focusses, draws a surprisingly consistent picture. Whatever the stated or unstated goals of managers are, the mergers they have consummated have on average not generated extra profits for the acquiring firms, have not resulted in increased economic efficiency.

5 References


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