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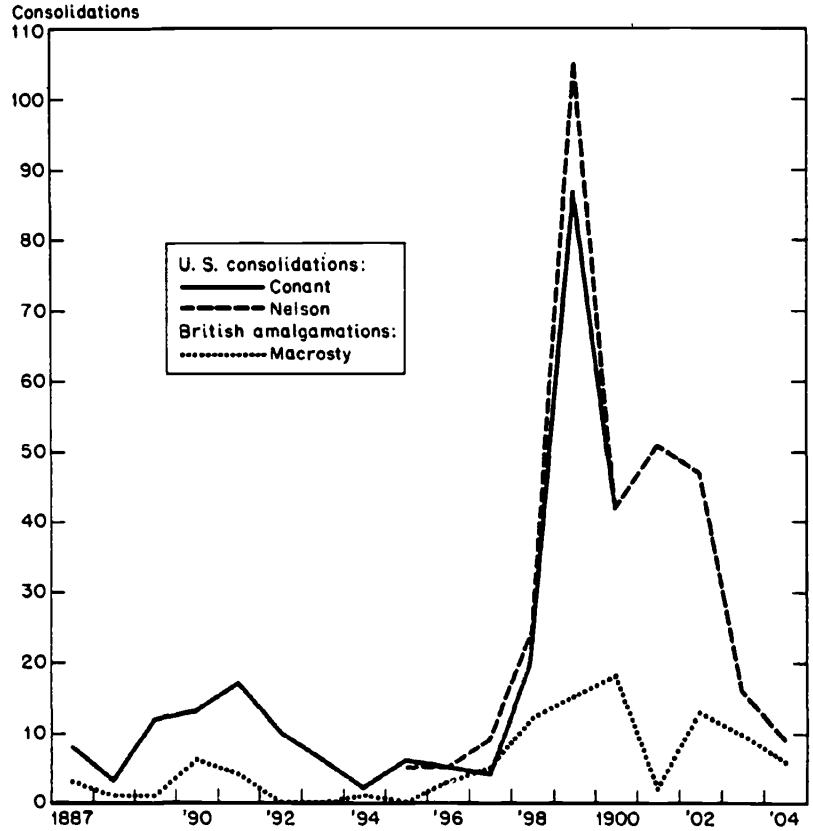
APPENDIX A

CHART A-1
Annual Series of U.S. and British Consolidations, 1887–1904



Appendix A. Comparison of the Early American and British Merger Movements

The United States and Great Britain experienced almost simultaneous early merger waves. In neither country was there evidence of a merger movement of major proportions before the last decade and one-half of the nineteenth century.[1] Both were leading capitalist countries, in which the free market system was the principal organizer of economic activity. This similarity prompts a look at developments in Great Britain as clues to causes of the American merger movement.

The data on the British merger movement are much less detailed, and probably less reliable, than those for the United States. The source used here is *The Trust Movement in British Industry*, by H. W. Macrosty.[2] Macrosty focussed attention on only the more important mergers, and it is uncertain whether these were fully reported. While probably providing a fairly valid picture of the outlines of the movement, the detailed breakdowns by trend and industry are less reliable. However, the study appeared to be sufficiently large for use in making crude tests of merger theories.

The time patterns of mergers in the two countries are presented in Chart A-1. Both Great Britain and the United States experienced bursts of merger activity at the turn of the century, preceded in each case by a smaller flurry of merger activity about ten years earlier. In both countries the consolidation (or amalgamation) was apparently the major form of merger activity throughout this period.

Mergers and Industry Growth Rates

The pattern of industry growth and merger activity in the United States was examined in detail in Chapter 4. It was found that merger movements tended to occur when the growth of the general economy, especially the growth of industries of high merger activity, was characterized by acceleration rather than retardation.

The average annual rates of growth in industrial production by decades for both countries are presented in Table A-1. Five-year moving averages of the two series were computed to smooth the

[1] Shannon, in his study of English limited liability companies, indicates no large increase in sales and amalgamations of limited companies until the late 1880's and 1890's. H. A. Shannon, "The Limited Companies of 1866–1883," *Economic History Review*, 1933, reprinted in *Essays in Economic History*, E. M. Carus-Wilson, ed., London, E. Arnold, 1954, p. 384.

[2] London, Longmans, 1907.

TABLE A-1
Annual Percentage Rates of Growth in Industrial Production, United States and Great Britain, by Overlapping Decades, 1870–1925

Decade	Average Annual Rate of Growth (per cent) United States	Great Britain
1870–1880	5.8	1.9
1875–1885	6.3	1.4
1880–1890	5.7	2.1
1885–1895	3.8	1.6
1890–1900	3.8	1.7
1895–1905	5.8	2.0
1900–1910	3.8	1.3
1905–1915	3.7	1.3
1910–1920	3.5	−0.9
1915–1925	3.6	−0.5

Based on Indexes of industrial production for the United States, from W. M. Persons, *Forecasting Business Cycles*, Wiley, 1931, Table 12, pp. 170–171; for Great Britain, from W. G. Hoffman, *British Industry, 1700–1950*, translated by W. O. Henderson and W. H. Chaloner, London, Blackwell, 1955, Table 54, Part B, p. 332.

annual data. The average annual rate of growth for a given decade was obtained by use of the compound interest formula. Throughout the period 1870–1925 British industrial growth was substantially lower than that of the United States. If we were to assume that a merger movement results from an abrupt retardation in high growth rates, as some have claimed for the United States, we would expect the British merger movement to have occurred much earlier in British industrial development than it did, perhaps as early as the 1840's. Since the rate of growth was much lower by 1900, the impact of retardation may have been less; British industry had had time to become adjusted to an economy of low growth rates.

Apart from that qualification, Table A-1 shows that, in both countries, the three overlapping decades 1885–1895, 1890–1900, and 1895–1905 were characterized by increasing rates of industrial growth. It was not until well after the merger movements in both countries that retardation was resumed.

GROWTH RATES OF IMPORTANT MERGER INDUSTRIES

Table A-2 gives a list of important British merger industries compiled from the data presented by Macrosty. Also available are production series relevant to several of these industries,[3] permitting us to examine the growth pattern of specific high-merger industries.

[3] W. G. Hoffman, *British Industry, 1700-1950*, translated by W. O. Henderson and W. H. Chaloner, London, Blackwell, 1955, Table 54, Part B.

TABLE A-2

Industrial Distribution of British Merger Activity, 1887–1906

Industry	*Number of Amalgamations*	*Gross Amalgamation Disappearances*
Textiles	34	330
Chemicals	7	156
Mineral extraction	18	138
Iron and steel	29	94
Liquor and beer	14	57
Tobacco	2	16
Other	9	104
	113	895

Source: H. W. Macrosty, *The Trust Movement in British Industry*, London, Longmans, 1907.

The average growth rates of the several series are presented in Table A-3. The picture is mixed. Two of the four industries exhibited sustained acceleration in the period 1885–1905, while two exhibited retardation. If a comprehensive production series had been available for chemicals, one suspects it would have shown acceleration, perhaps tipping the balance in favor of acceleration.

The growth-retardation–merger hypothesis, briefly examined in the light of British experience, seems weak on two counts. First, it fails to explain why Great Britain had a merger movement as late as 1900, when retardation by that time had apparently become

TABLE A-3

Average Annual Decade Rates of Growth, Four British Industries of High Merger Activity, 1870–1925

Decade	*Industry*			
	Textiles	*Iron and Steel*	*Liquor and Beer*	*Tobacco*
1870–1880	2.1	3.3	1.5	1.5
1875–1885	0.8	3.3	0.1	0.8
1880–1890	1.8	2.8	1.3	1.6
1885–1895	1.4	1.8	2.2	2.3
1890–1900	0.8	2.3	2.2	2.5
1895–1905	0.8	3.2	0.1	2.7
1900–1910	4.8	1.6	−1.4	2.2
1905–1915	2.2	1.7	−0.8	2.0
1910–1920	−1.1	−1.2	−3.0	0.4
1915–1925	−3.4	−2.3	−2.8	2.7
Number of series	4	2	3	1

Source: Hoffman, *British Industry, 1700–1950*, Table 54, Part B.

a long-established pattern. Second, the balance of evidence is slightly in favor of the thesis that mergers were a more common feature of industries undergoing growth acceleration.

TRANSPORTATION DEVELOPMENT AND MERGERS

The patterns of transportation growth in England and the United States were quite different. By 1900 the British railway net had been long achieved, while that of the United States was just reaching full development.[4] This is reflected in differences in the rates of growth of railroad freight haulage in the two countries (Table A-4). In addition, the geographical concentration of British

TABLE A-4

Annual Percentage Rates of Growth, Railroad Freight Haulage, United States and Great Britain, 1885–1910

Decade	*United States*[a]	*Great Britain*[b]
1885–1895	6.0	2.6
1890–1900	6.0	3.2
1895–1905	8.2	3.5
1900–1910	6.4	2.1

[a] Based on ton-miles data.

[b] Based on tons of freight hauled.

Source: for the United States, *Historical Statistics of the United States, 1789–1945,* Bureau of the Census, 1949; for Great Britain, Hoffman, *British Industry, 1700–1950,* Table 54, Part B.

industry was necessarily much higher than that of the United States. The area east of the Mississippi River alone was almost ten times that of Great Britain. It therefore seems unlikely that the low rate of British railroad growth in the late nineteenth century was responsible for the destruction of isolated local monopolies with a consequent increase in the need to merge. Such a force, if operating, probably would have been greatest at a much earlier date.

Developments in the tariff, a factor in the effect of international transportation changes on the competitive positions of industries, seem to have taken divergent courses in the two countries. British industry, which had operated under a policy of free trade for decades, continued to do so through the period of high merger activity. United States industry, on the other hand, had long been

[4] The development of the pre-railroad network of canals in Great Britain also preceded that of the United States. The Manchester–Liverpool canal was completed in 1772; the Erie Canal, in 1825.

operating under a policy of protection, enhanced in the late 1900's by a series of almost uninterrupted tariff increase from 1883 to 1897.[5] It was not until the Underwood Act of 1913 that a reduction in tariffs was enacted. The American argument that "the tariff was the mother of the trusts" thus receives little support from the British experience.

Mergers and the Capital Market

The relationship between the capital market and the early merger wave in the United States was examined in detail in Chapter 4. The evidence suggested that the capital market played a central role in the merger movement. The organized securities exchanges underwent important quantitative and qualitative growth in the years preceding and during the merger movement. Many consolidations used the organized exchanges to market their securities, and merger activity responded more sensitively to changes in stock prices than to changes in industrial production.

No series could be found on the volume of trading on the organized British securities exchanges, or on other magnitudes relating to their ability to handle the large securities issues accompanying the wave of amalgamations at the end of the century. However, there are several historical reasons for believing that the British capital market had attained maturity before that of the United States. Among them is the head start in general industrial growth enjoyed by Great Britain, with the necessary development of financial institutions for gathering and allocating capital. The export of large amounts of capital to the United States in the middle and late nineteenth century further reflected the existence of an organized system for marshalling capital. Finally, as the financial center for a vast nineteenth-century colonial empire, the British Isles probably nurtured the growth of financial institutions beyond what was needed for strictly domestic purposes. We may say with reasonable assurance that the capital market, by the end of the nineteenth century, was adequate to support a large merger wave.

The early development of the British capital market tends to rule it out as an immediate cause of the merger movement. In this respect the British experience differs from that of the United States. However, a limited examination of the relationship between mergers and stock prices indicates that British merger activity responded in a positive fashion to capital market conditions. Table

[5] See F. W. Taussig, *The Tariff History of the United States*, Putnam, 1931.

A-5 gives the results of correlating the number of firms disappearing annually into amalgamations with the securities quotation index and the industrial production index for the nineteen-year period of high British merger activity, 1886–1904.

TABLE A-5

Relationship of Merger Activity to Stock Prices and Industrial Production, Great Britain, 1886–1904, United States, 1895–1904

	Great Britain (annually)	*United States* (quarterly)
Coefficients of simple correlation between—		
Mergers and securities prices	+0.550	+0.613
Mergers and industrial production	+0.530	+0.259
Securities prices and industrial production	+0.939	+0.659
Coefficients of partial correlation between—		
Mergers and securities prices, after allowing for changes in industrial production	+0.178	+0.608
Mergers and industrial production, after allowing for changes in stock prices	+0.049	−0.243

Source: Annual series on merger disappearances in Great Britain, Macrosty, *The Trust Movement in British Industry*; on security quotations and industrial production index, Hoffman, *British Industry, 1700–1950.* The coefficients for the United States are based on quarterly series in Tables B-1, B-2, and C-7, below.

The correlation coefficients indicate that British merger activity was slightly more responsive to changes in stock prices than to changes in industrial production. But, since the correlation between stock prices and industrial production is very high, the separate effect of these two variables cannot be demonstrated as clearly for Great Britain as it was for the United States. In any case, the British experience seems to have been similar in general outline to that of the United States, and the findings tend to support the hypothesis that the capital market played an important role in the early merger movement in this country. This supplementary evidence based upon a necessarily crude analysis can only be fortified by more detailed examinations of the British experience, yet to be made.

Judicial Interpretation of Antitrust Legislation

A frequent explanation of the early merger wave in the United States is that combination by merger was the only legal way to control competition. Two leading Supreme Court decisions are usually cited to show that the Courts interpreted the section of the Sherman Act[6] prohibiting the monopolization of an industry (section 2) very narrowly, while they interpreted the section prohibiting conspiracies in restraint of trade (section 1) very broadly. The narrow interpretation of section 2 was made in 1895 in the Knight decision, five years after the passage of the Sherman Act.[7] The broader interpretation of section 1 came in 1899 in the Addyston Pipe decision.[8] It is argued that these decisions informed businessmen that loose-knit associations—pools and cartels—would receive harsh Court treatment, and that mergers would receive lenient Court treatment.

The timing of the Court decisions does not fit this hypothesis very well. The anticonspiracy Addyston decision was not made until 1899, after many consolidations had been consummated. However, the Circuit Court decision of William Howard Taft, which may have been regarded as definitive even though appealed to the Supreme Court, was made on February 8, 1898.[9] Two other anticonspiracy decisions that may have been regarded as setting the precedent also occurred in the initial stages of the large merger wave.[10] The picture is therefore mixed. Certainly the timing of Court decisions is not clear enough to permit a simple cause-and-effect explanation of the switch from pools and cartels to mergers as the leading device for securing market control. It also fails to explain the brief flurry of mergers in 1888–1892.

The leading English antitrust decision of this period was the Mogul decision of December 1891.[11] England had no statutory provisions for dealing with the monopoly problem. The decision was an interpretation of the English common law regarding conspiracies in restraint of trade. The Mogul Steamship Company sued a combination of shipping companies for damages to Mogul by rebates offered shippers confining their shipments of Hankow tea exclusively to the conspiring companies. Judgement was given unanimously against the Mogul Company. In effect, the decision made such conspiracies in restraint more permissible rather than less.

Opinion differs as to the degree to which the Mogul decision represented a departure from the English common law tradition

[6] An Act to Protect Trade and Commerce Against Unlawful Restraints and Monopolies, July 2, 1890, 26 Stat. L. 209.

[7] United States *v.* E. C. Knight Co., 156 U.S. 1 (1895).

[8] Addyston Pipe and Steel Co. *v.* United States, 175 U.S. 211 (1899).

[9] Addyston Pipe and Steel Co. *v.* United States, 271, *Federal Reporter*, April–May 1898.

[10] United States *v.* Trans-Missouri Freight Association, 166 U.S. 290 (1897), and United States *v.* Joint Traffic Association, 171 U.S. 505 (1898).

[11] Mogul Steamship Co. *v.* McGregor, Dow and Co., 1892, A.C. 25.

of hostility toward such conspiracies. One view is that it represented a sharp break with the tradition.[12] Another view is that it was only one, though an important one, of a series of decisions that had been progressively modifying that hostility.[13] Whether a sharp or gradual break from tradition, the interpretation of the English courts ran counter to the anti-conspiracy decisions of the American Courts. This lends scant support to the hypothesis that, in the United States, judicial interpretation shaped the pattern of industrial combination.

Corporation Law Changes

The liberalization of the corporation laws of certain states in the late 1880's and 1890's has been offered as one of the proximate causes of the United States merger movement.[14] These changes included more lenient provisions for obtaining charters from corporation commissions, lifting of narrow restrictions on lines of business permitted, raising limits on authorized capitalization, and permission for a corporation to own the stock of another corporation. Without this permissive legislation, it is argued, a widespread merger movement would have been prevented.

The major development in English law bearing on the freedom and size of corporations was the granting of general limited liability to ordinary trading and manufacturing companies by act of Parliament. In addition to introducing a general limited liability, the acts did away with many of the regulatory provisions that had characterized earlier corporation laws.[15] It was an abrupt change in English law comparable to the later liberalizations in American law achieved when New Jersey and Delaware began the competition for incorporating business enterprises.

The English Limited Liability Act was passed in 1855, and repealed and further liberalized in the Joint Stock Companies Act of 1856. These laws were followed almost immediately by a large increase in the number of incorporations. Between 1844 and 1855,

12 F. H. Levy, "A Contrast Between the Antitrust Laws of Foreign Countries and of the United States," *Annals of the American Academy of Political and Social Science*, January 1930, p. 128.

13 Hans B. Thorelli, *The Federal Antitrust Policy, Origination of An American Tradition*, Johns Hopkins Press, 1955, pp. 27–35.

14 George J. Stigler, "Monopoly and Oligopoly by Merger" *Papers and Proceedings of the American Economic Association*, May 1950, pp. 27–31.

15 H. A. Shannon, "The Coming of General Limited Liability," *Economic History Review*, 1931, reprinted in *Essays in Economic History, op. cit.*, p. 378.

966 unlimited liability companies registered under the Registration Act of 1844. The total number of limited liability companies registered between 1856 and 1862 was 2479.[16] Table A-6 shows an unbroken increase in incorporations from the 1860's into the 1930's (where the data ends).

TABLE A-6

Number of Business Incorporations in the United Kingdom by Nine-Year Periods, 1856–1937

	Number of Incorporations	
Period	*Shannon*	*Evans*
1856–1865	4,859	
1866–1874	6,111	6,660
1875–1883	9,551	10,570
1884–1892		19,785
1893–1901		37,172
1902–1910		44,069
1911–1919		53,348
1920–1928		76,575
1929–1937		103,707

Source: Shannon, "The Limited Companies of 1866–1883," p. 382; George H. Evans, Jr., *Business Incorporations in the United States, 1800–1943,* National Bureau of Economic Research, 1948, Table 14, p. 35.

The forty-odd year lag between the limited liability acts of 1855–1856 and the turn-of-the-century merger movement disqualifies the acts as immediate causes of the merger wave. During this period, moreover, there were no further major liberalizations of the law that would drastically ease the regulation of corporations. The law was made sufficiently liberal in its first enactment.

There were, however, important qualitative changes in the use of limited liability charters in the years from 1856 until shortly before the merger wave. In the years immediately following the 1855–1856 acts, high par-value shares were commonly issued, partially paid-up, and with promises not to call for the remainder of the subscription. Arrangements like these, commonly with only a few investors, amounted largely to a continuation of the unlimited liability partnership organization which had traditionally characterized English business. In the 1880's, the more common form of limited liability share arrangement was low par value, fully paid up, and many investors. As in the modern large corporation, the investors' liability was truly limited to the amount of the

[16] *Ibid.*, p. 379.

original investment, and ownership was more fully divorced from control.[17]

The British corporate law experience, as a guide to causes of the United States merger movement, presents a mixed picture. The necessary legislative changes took place some forty years before the merger wave; but apparently it took nearly that long to change the manner of business operation and financing to realize fully the potentialities of limited liability. Business in the United States had also operated under limited liability laws for an extended period, so that by tradition and experience it was prepared to exploit the liberalized features of the acts of the 1880's and 1890's. These features, in effect, had existed in British law since 1856. If, as is likely, the unlimited liability partnership tradition was not as strong in the United States as in Britain, it seems probable that the United States would have experienced an earlier rise in merger activity if corporation laws had been made more lenient at an earlier date. This is largely conjectural, however, and must await more definitive studies for a final answer.

[17] This paragraph draws almost exclusively upon J. B. Jeffreys' article, "The Denomination and Character of Shares, 1855–1885," *Economic History Review*, 1946, reprinted in *Essays in Economic History*, *op. cit.*, pp. 344–357.