A Selection of Early Forecasting & Business Charts

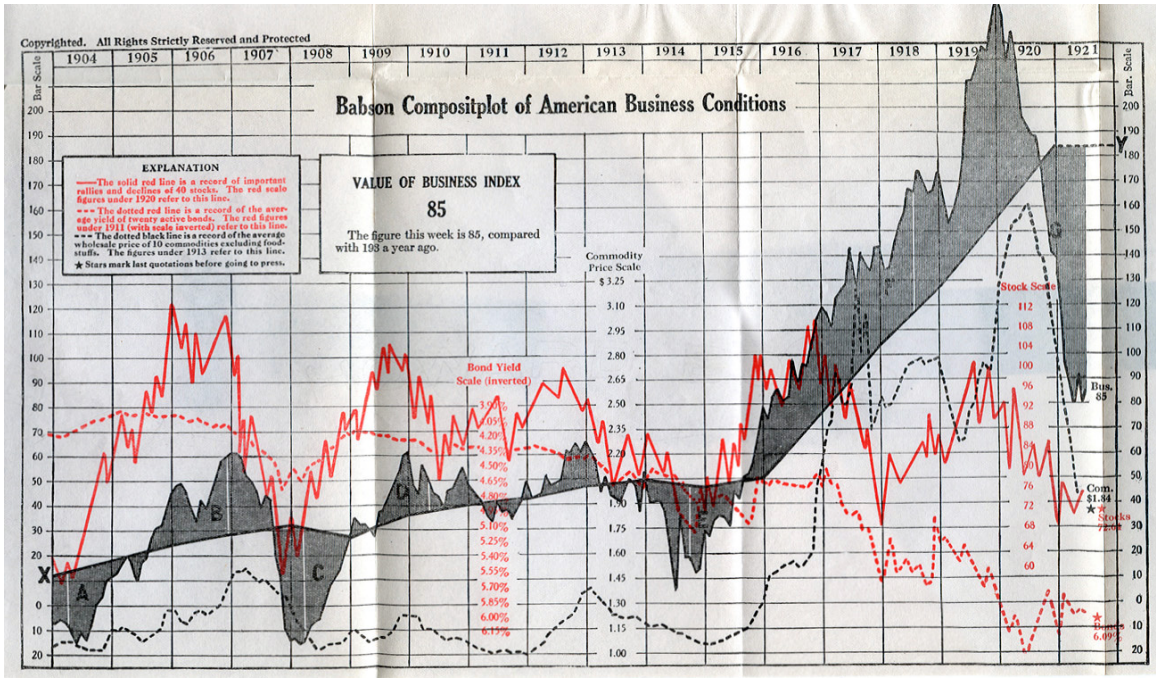
For Use in Teaching

Walter A. Friedman

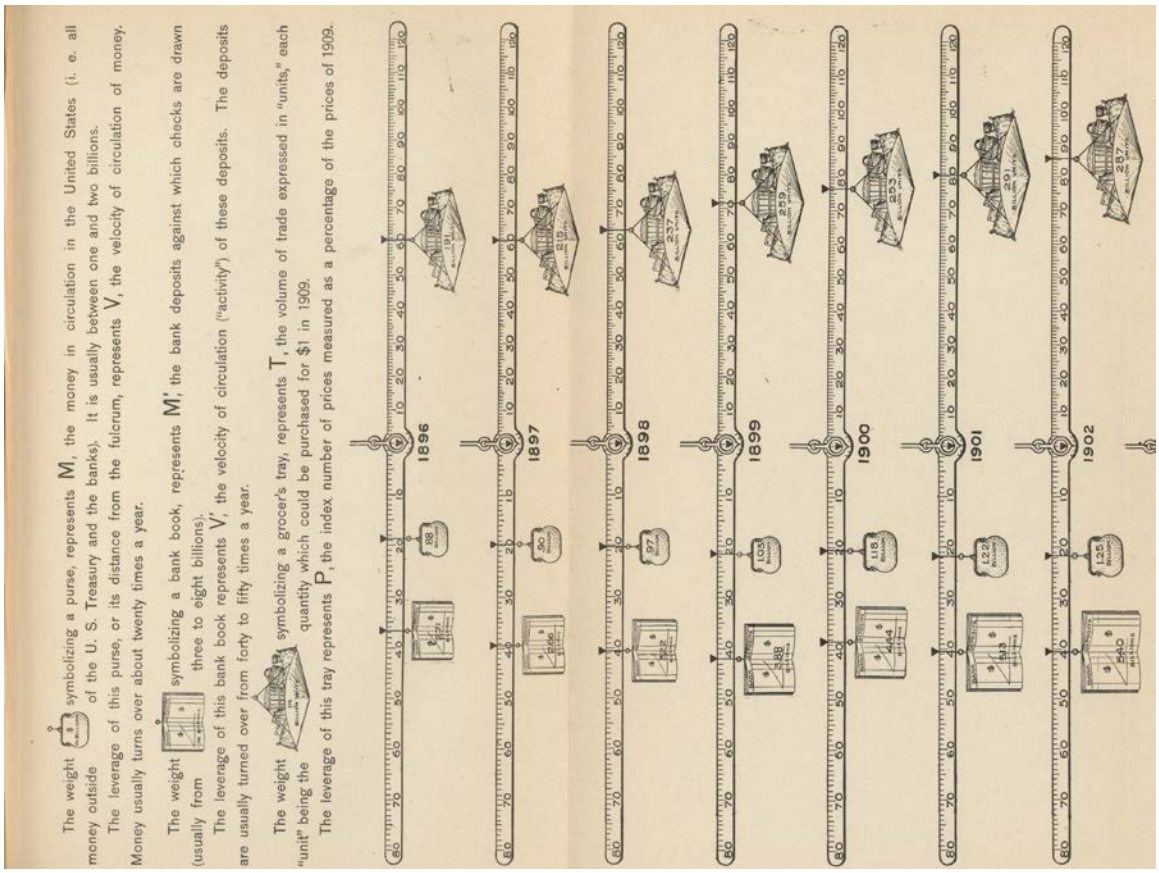
Forecasting & Business Charts

This booklet brings together several forecasting and business charts from the early twentieth century. The years from the turn of the century to World War I were a fertile time for many business analysts, including the scientific management exponent, F. W. Taylor. While some experts sought to improve the inner workings of firms, other tried to make sense of the very atmosphere in which business operated. After the Panic of 1907, economic forecasters began producing newsletters. Roger W. Babson published *Babson's Reports,* which featured the Compositplot of ups and downs. In 1909, John Moody, who is today remembered for his credit rating company, started his own weekly market report. In 1910 Irving Fisher, a pioneer of mathematical economics, published the first of several charts, intended for economic prediction, in the *Journal of Economics*. Around this same time, James Brookmire, the son of a grocer in St. Louis, founded the Brookmire Economic Chart company and began publishing forecasts on a regular basis. The most influential forecasting chart of the period belonged to the Harvard Economic Service, which, in 1922, founded a weekly newsletter that featured its A-B-C curve. Along with these charts were other efforts to map economic activity, including Malcolm Rorty's sketch of the business cycle and several attempts to capture the geography of business within the U.S.

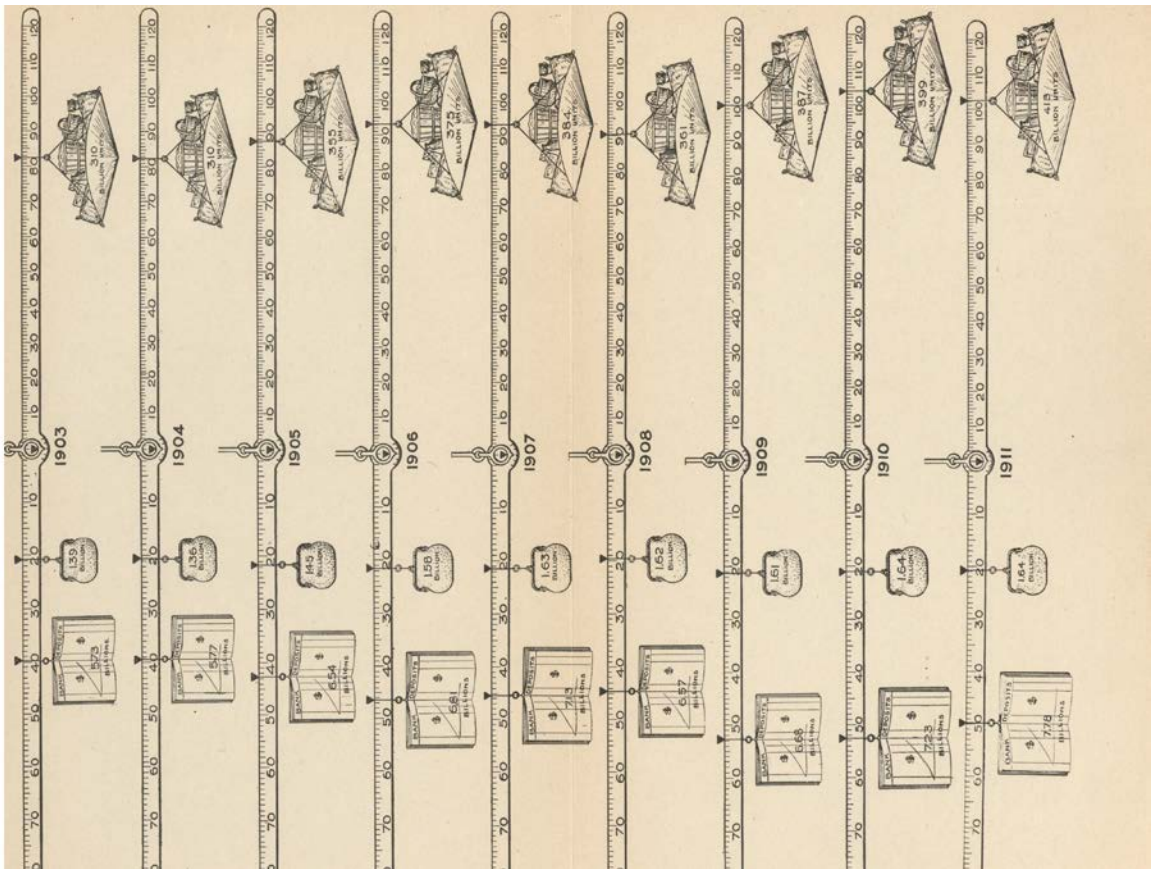
More information on many of these charts and the forecasters themselves is in Walter Friedman, *Fortune Tellers: The Story of America's First Economic Forecasters* (Princeton, 2014).



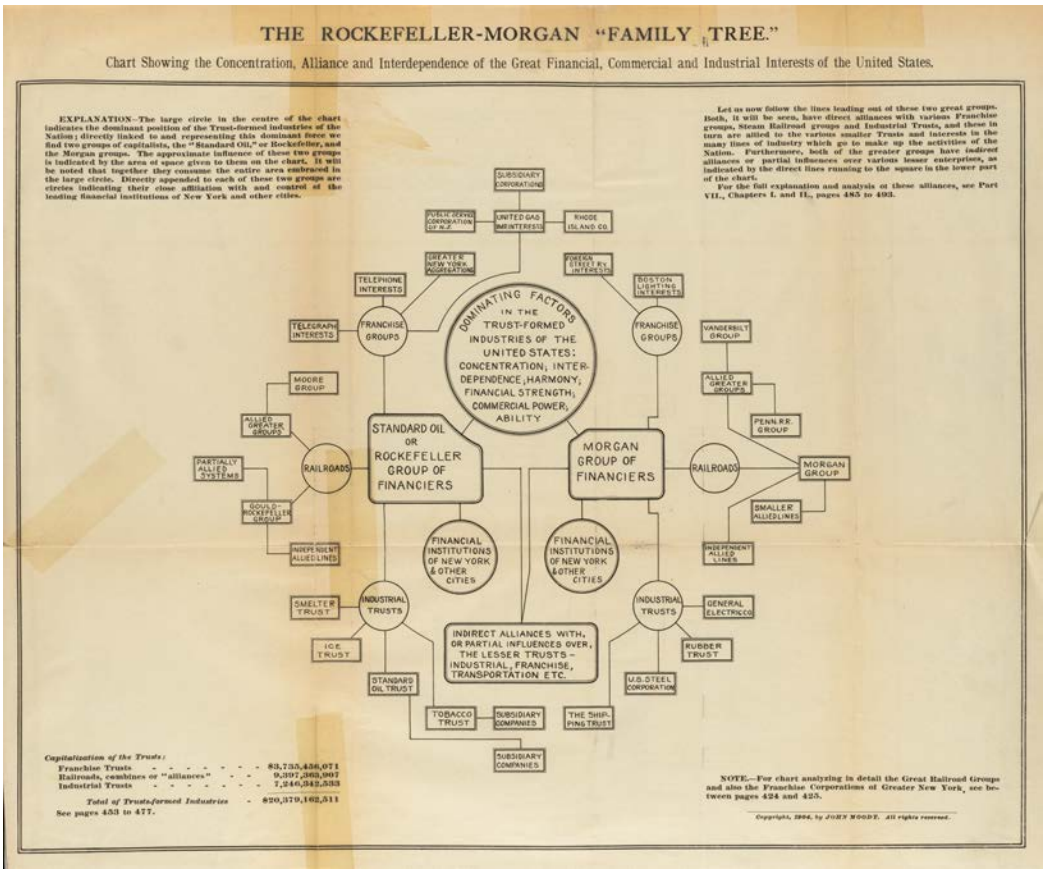
The Babson Compositplot, from 1921. The large shaded areas marked A, B, C, D, E, F, and G, represent depressions below and expansions above the “normal” line. Babson believed that areas of expansion (B, for instance), would be equal to areas of recession (C, for instance) that followed. The chart also contained a wealth of other information, including stock prices, bond prices, and commodity prices. Source: Roger W. Babson, *Business Barometers Used in the Accumulation of Money* (Wellesley Hills, Mass: Babson Institute, 1921), insert.



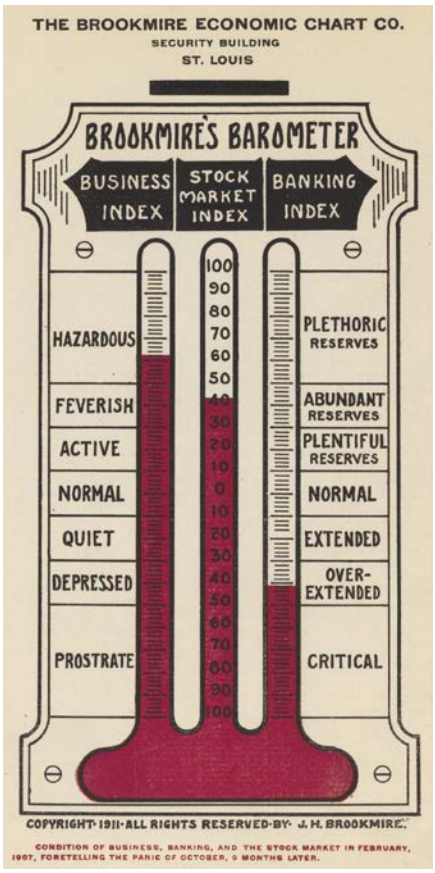
Irving Fisher's Diagram of the Equation of Exchange for use in forecasting, 1912. While Fisher did not produce a forecasting chart, he did create a diagram to illustrate the Equation of Exchange (MV + M'V' = PT), which he depicted showing a mechanical balance. The left side of the balance symbolized the left side of the equation, with a small weight standing for M, the money in circulation, and a larger bank book standing for M', deposits in checking accounts. The distance to the left of the fulcrum of the weight represented the velocity of circulation (V) and the distance of the bankbook, the velocity of circulation of bank deposits (V'). (cont. ➔)



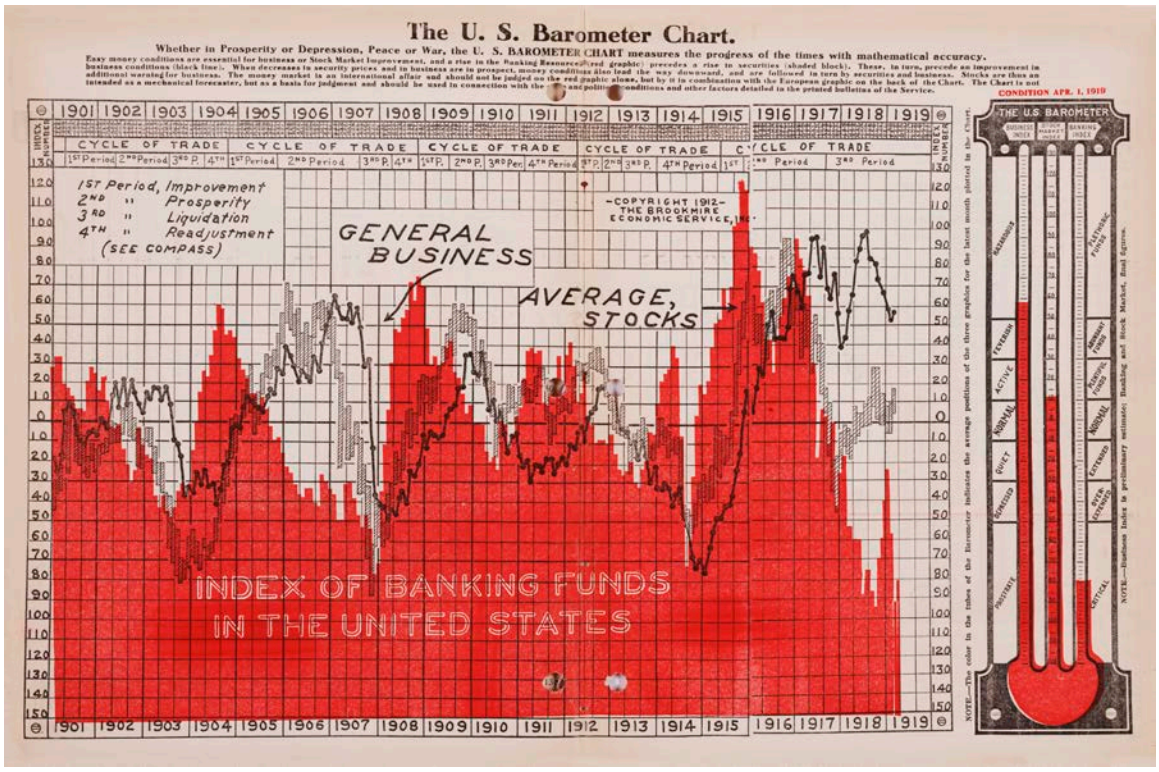
The volume of trade (T) was represented by a tray on the right, with the index of prices (P) at which these goods were sold, represented by the distance of the tray to the right. The diagram showed the changes in the values for all the components of the Equation of Exchange from 1896 to 1911. To predict the future, Fisher thought, one needed to look especially at recent changes in the bank deposits, which, if rising rapidly, indicated a coming crisis. Source: Irving Fisher, "'The Equation of Exchange,' 1896-1910," *The American Economic Review* 1:2 (Jun 1911): p. 299.



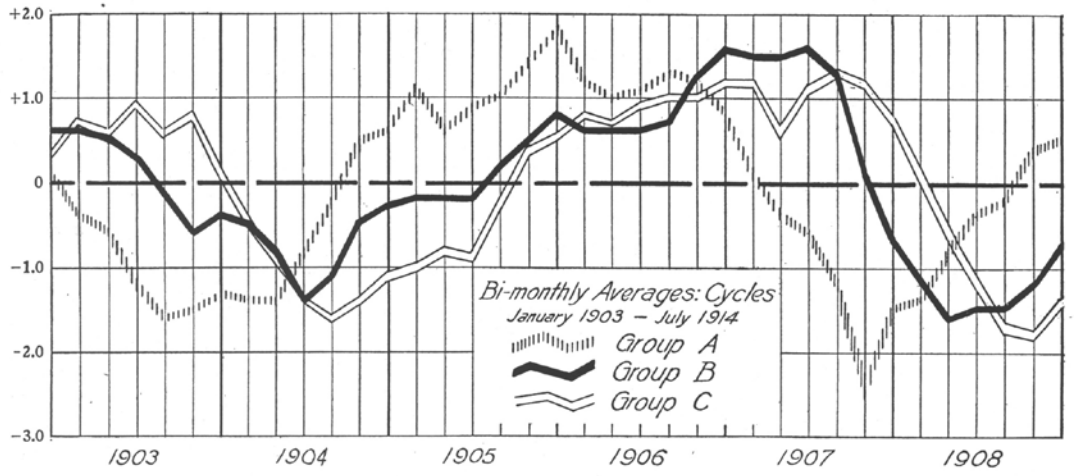
John Moody's view of the economy. In this 1904 chart, Moody encapsulates a firm-centered view of the economy, in this case showing the dominance of the Morgan banking interests and Rockefeller's Standard Oil. Moody wrote at the top of the chart, "The large circle in the center of the chart indicates the dominant position of the Trust-formed industries of the Nation; directly linked to and representing this dominant force we find two groups of capitalists, the Standard Oil, or Rockefeller, and the Morgan groups." Moody's diagram resembled something of a family tree of capitalism. Source John Moody, *The Truth about The Trusts: A Description and Analysis of the American Trust Movement* (New York: Moody Publishing Company, 1904), between pages viii and ix.



James H. Brookmire's Barometer depicted three indexes of economic sectors—business activity, the stock market (an index of thirty-two stocks), and banking resources. The small print reads, "Condition of business, banking, and the stock market in February, 1907, foretelling the panic of October, 9 months later." Source: *The Brookmire Economic Chart Company, A Graphic Record of Fundamental, Financial and Business Conditions Since 1885* (St. Louis: Brookmire, 1913).



Brookmire's Barometer Chart. Here, Brookmire combined his barometer with a chart of values over time for general business (a black line), average stocks (in shaded line), and banking (in sold red).



BIMONTHLY AVERAGES OF CYCLES OF GROUPS A, B, AND C

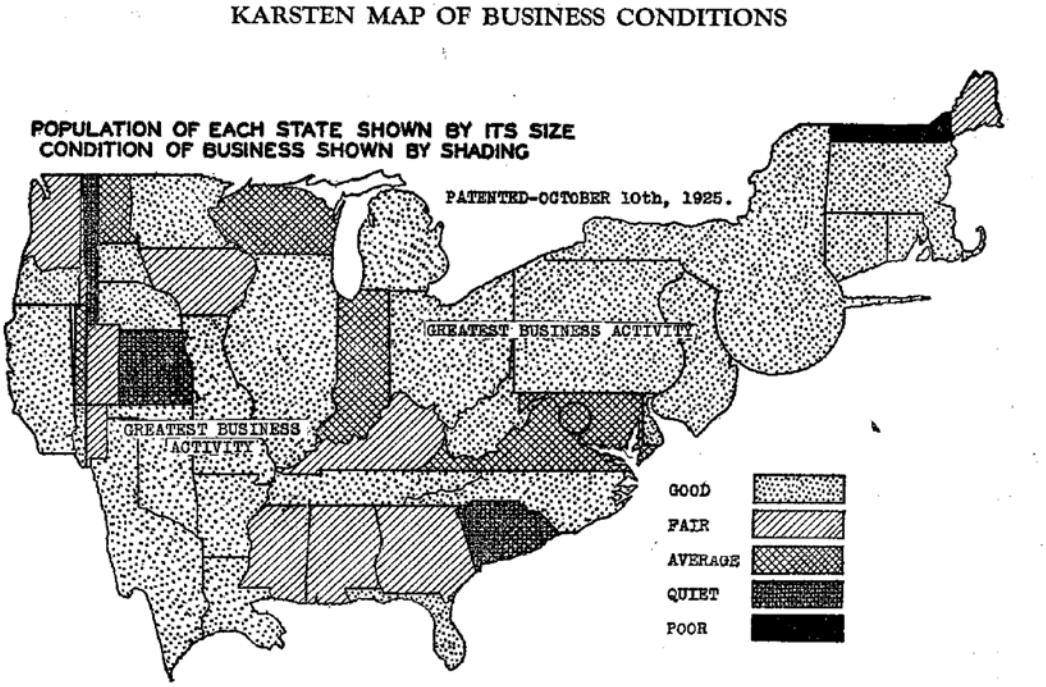
GROUP A. YIELD OF TEN RAILROAD BONDS;* PRICE OF INDUSTRIAL STOCKS; PRICE OF TWENTY RAILROAD STOCKS; NEW YORK CLEARINGS.

GROUP B. PIG-IRON PRODUCTION; OUTSIDE CLEARINGS; BRADSTREET'S PRICES; BUREAU OF LABOR PRICES; RESERVES OF NEW YORK BANKS.*

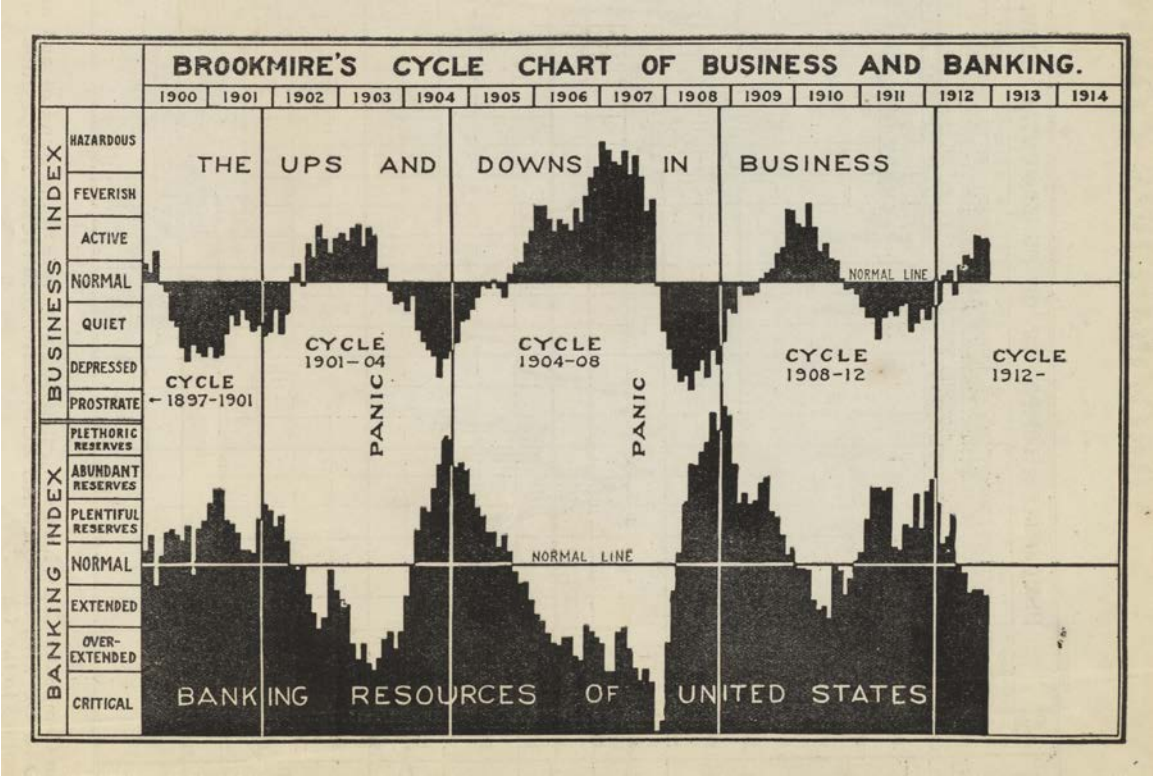
GROUP C. RATE ON FOUR-TO-SIX MONTHS PAPER; RATE ON SIXTY-TO-NINETY DAY PAPER; LOANS OF NEW YORK BANKS;* DEPOSITS OF NEW YORK BANKS.*

(*Units are one-tenth of one per cent*)

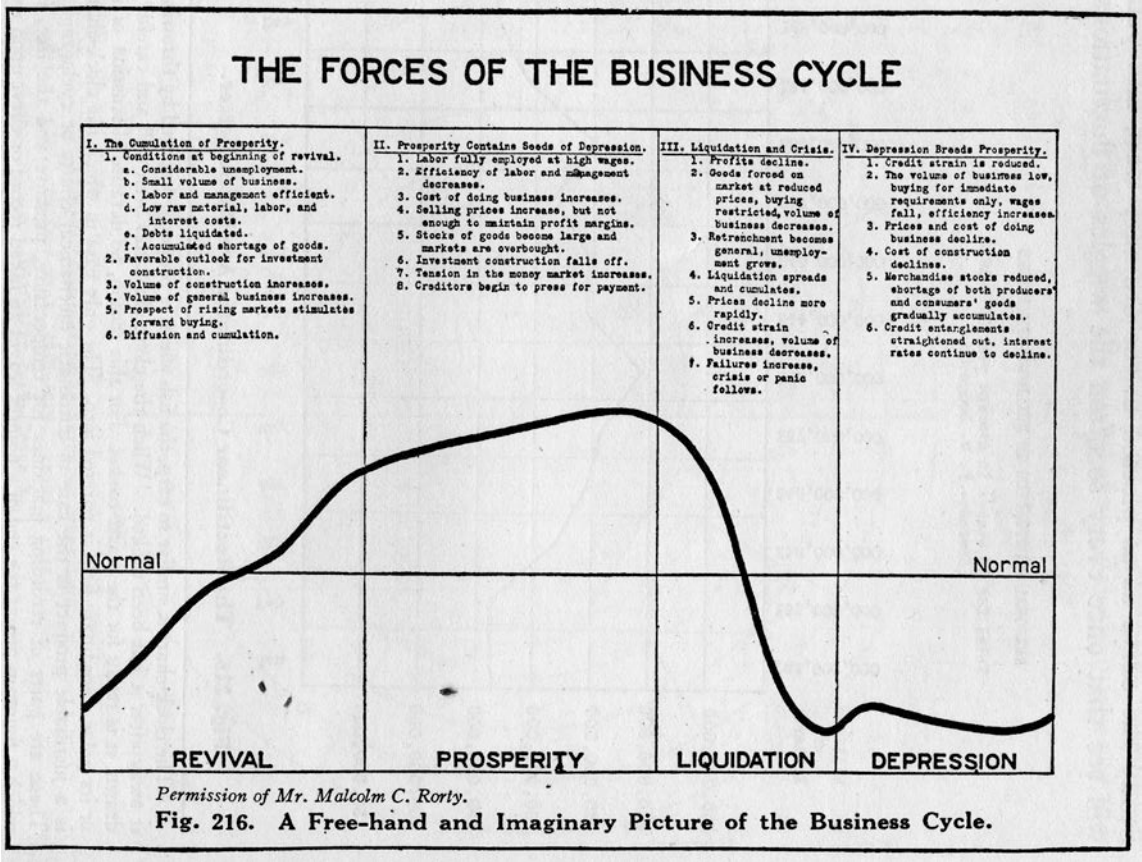
Harvard Economic Service Chart, like Brookmire's Barometer, was a leading indicator model. Persons believed that Group A (representing stocks) forecast Group B (representing business activity); in turn Group B forecasted Group C (representing banking). In this way, the three indexes together created a view of overall business conditions and, in Person's words, "future tendencies." The graph above showed historical values from 1903 to 1908. Source: Warren M. Persons, "The Index: A Statement of Results," *Review of Economic Statistics* 1:2 (April 1919): 112.



Karl Karsten's "Map of Business Conditions." Economist Karl Karsten showed American states in relative proportion to their population and shaded according to condition of "business activity," with the darkest states (New Hampshire and Vermont) representing poor levels. The chart revealed the relative geographic distribution of business activity and population—still very weighted toward New England, Pennsylvania (with the rise of the steel industry in Pittsburgh), and Illinois (with the growth of Chicago and its meatpacking plants and grain industry). Source: Karl Karsten Papers, Library of Congress, Washington, D.C.



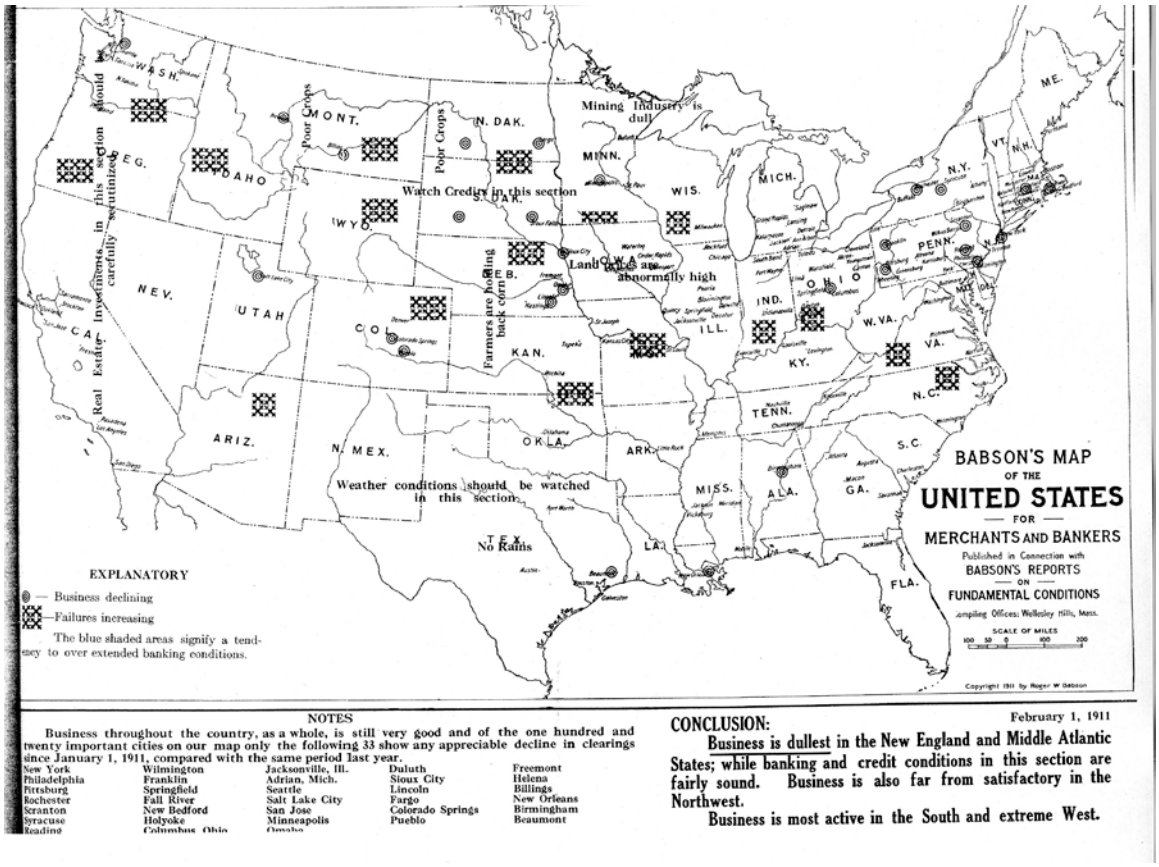
Brookmire's Cycle Chart of Business and Banking. This chart shows how the ups and downs of business activity tended to deplete and then free up banking resources. As business activity ran from "normal" to "prostrate," banking resources climbed from "normal" to "abundant" and even "plethoric." When business activity subsequently climbed to "feverish" and "hazardous," at the peak of the cycle, banking resources fell to "overextended" and even "critical." Source: The Brookmire Economic Chart Company, *A Graphic Record of Fundamental, Financial and Business Conditions Since 1885* (St. Louis: Brookmire, 1913).



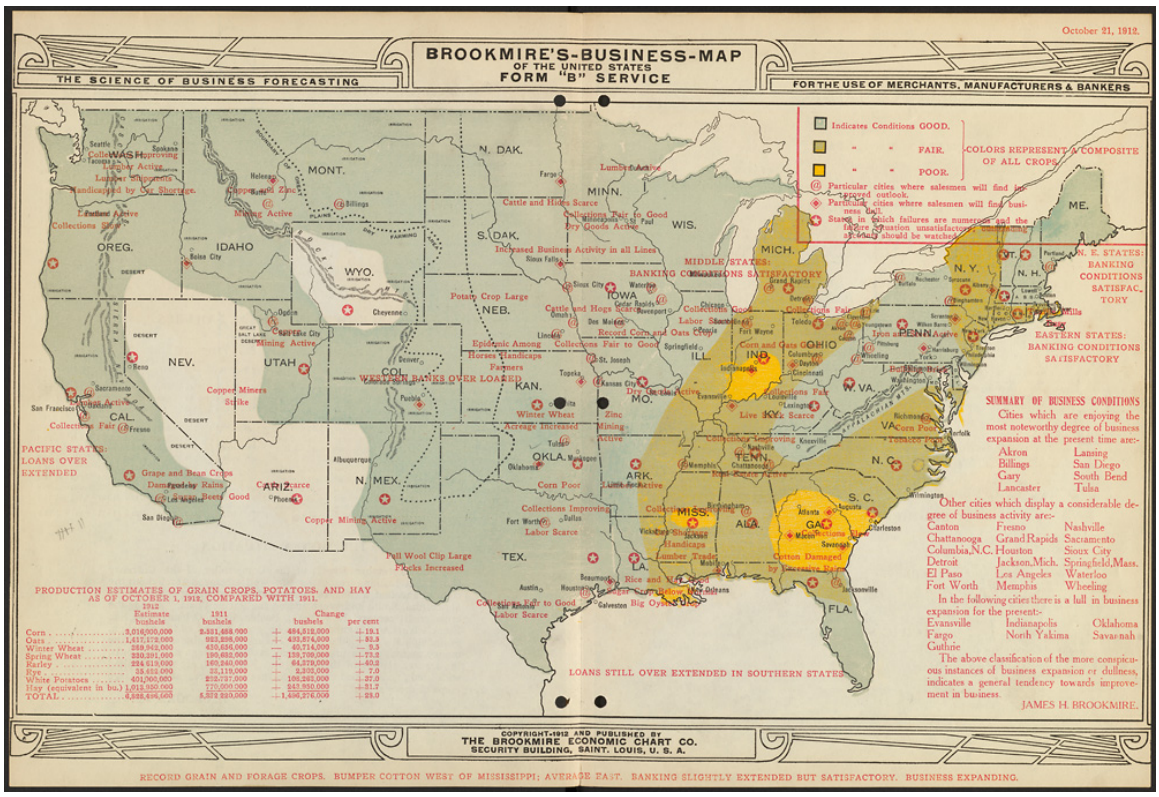
Permission of Mr. Malcolm C. Rorty.

Fig. 216. A Free-hand and Imaginary Picture of the Business Cycle.

Malcolm Rorty's depiction of the business cycle. In this graph, capitalist economies had four discernable phases: revival, prosperity, liquidation, and depression. Above each of these four, Rorty included a list of economic conditions common to each to help readers determine the end of one phase and the start of the next. Note that the chart showed an especially sharp drop of business activity during times of liquidation or crisis. Source Rorty, *Some Problems in Current Economics* (1922).



Babson's Map of the United States for Merchants and Bankers, 1911. The map showed regions where failures were increasing (shown in squares) and business declining (shown in circles).



Brookmire's survey of business conditions in the United States. Regions were color-coded to indicate whether crop production was good, fair, or poor. Cities were marked with stars if they were numerous business failures, with diamonds if they held dull opportunities for salesmen, and ampersands if the opportunities for salesmen were improving. Source: The Brookmire Economic Chart Company, *A Graphic Record of Fundamental, Financial and Business Conditions Since 1885* (St. Louis, Mo., 1912).