

CHAPTER 5

DEVELOPMENTS IN FINANCE AND DOMESTIC AND INTERNATIONAL TRADE: 1920-1940

Domestic Trade

Suppose that each time we wanted to discover the price of or purchase a good we had to travel to the producer's site. In such cases the cost of purchasing each good would be much higher than its price at the producer's location. Of course, this does not happen because a complex network of wholesale and retail firms exists to lower the costs of distributing goods and to lower the costs of negotiating transactions. Though we sometimes overlook the role of these intermediaries, they have, in fact, played an important role in improving efficiency in the economy.

In the nineteenth century, a complex array of wholesalers, jobbers, and retailers had developed, but changes in the postbellum period reduced the role of the wholesalers and jobbers and strengthened the importance of the retailers.¹ The appearance of the department store in the major cities and the rise of mail order firms in the postbellum period changed the retailing market.

Department Stores

A department store is a combination of specialty stores organized as departments within one general store. A. T. Stewart's huge 1846 dry goods store in New York City is often referred to as the first department store.² R. H. Macy started his dry goods store in 1858 and Wanamaker's in Philadelphia opened in 1876. By the end of the nineteenth century, every city of any size had at least one major department store.³ Until the late twenties the department store field was dominated by independent stores, though some department stores in the largest cities had opened a few suburban branches and stores in other cities. In the interwar period department stores accounted for about 8 percent of retail sales.⁴

The department stores relied on a "one-price" policy, which Stewart is credited with beginning. In the antebellum period and into the postbellum period, it was common not to post a specific price on an item; rather, each purchaser haggled with a sales clerk over what the price would be. Stewart posted fixed prices on the various dry goods sold, and the customer could either decide to buy or not buy at the fixed price. The policy dramatically lowered transactions costs for both the

retailer and the purchaser. Prices were reduced with a smaller markup over the wholesale price, and a large sales volume and a quicker turnover of the store's inventory generated profits.

Mail Order Firms

What changed the department store field in the twenties was the entrance of Sears Roebuck and Montgomery Ward, the two dominant mail order firms in the United States.⁵ Both firms had begun in the late nineteenth century and by 1914 the younger Sears Roebuck had surpassed Montgomery Ward. Both located in Chicago due to its central location in the nation's rail network and both had benefited from the advent of Rural Free Delivery in 1896 and low cost Parcel Post Service in 1912.

In 1924 Sears hired Robert C. Wood, who was able to convince Sears Roebuck to open retail stores. Wood believed that the declining rural population and the growing urban population forecast the gradual demise of the mail order business; survival of the mail order firms required a move into retail sales. By 1925 Sears Roebuck had opened 8 retail stores, and by 1929 it had 324 stores. Montgomery Ward quickly followed suit. Rather than locating these in the central business district (CBD), Wood located many on major streets closer to the residential areas. These moves of Sears Roebuck and Montgomery Ward expanded department store retailing and provided a new type of chain store.

Chain Stores

Though chain stores grew rapidly in the first two decades of the twentieth century, they date back to the 1860s when George F. Gilman and George Huntington Hartford opened a string of New York City A&P stores exclusively to sell tea.⁶ Stores were opened in other regions and in 1912 their first "cash-and-carry" full-range grocery was opened. Soon they were opening 50 of these stores each week and by the 1920s A&P had 14,000 stores. They then phased out the small stores to reduce the chain to 4,000 full-range, supermarket-type stores. A&P's success led to new grocery store chains such as Kroger, Jewel Tea, and Safeway.

Prior to A&P's cash-and-carry policy, it was common for grocery stores, produce (or green) grocers, and meat markets to provide both home

delivery and credit, both of which were costly. As a result, retail prices were generally marked up well above the wholesale prices. In cash-and-carry stores, items were sold only for cash; no credit was extended, and no expensive home deliveries were provided. Markups on prices could be much lower because other costs were much lower. Consumers liked the lower prices and were willing to pay cash and carry their groceries, and the policy became common by the twenties.

Chains also developed in other retail product lines. In 1879 Frank W. Woolworth developed a “5 and 10 Cent Store,” or dime store, and there were over 1,000 F. W. Woolworth stores by the mid-1920s.⁷ Other firms such as Kresge, Kress, and McCrory successfully imitated Woolworth’s dime store chain. Dry goods (J.C. Penney’s in 1901), drugs (Walgreen’s in 1909), shoes, jewelry, cigars, and other lines of merchandise also began to be sold through chain stores.⁸

Self-Service Policies

In 1916 Clarence Saunders, a grocer in Memphis, Tennessee, built upon the one-price policy and began offering self-service at his Piggly Wiggly store. Previously, customers handed a clerk a list or asked for the items desired, which the clerk then collected and the customer paid for. With self-service, items for sale were placed on open shelves among which the customers could walk, carrying a shopping bag or pushing a shopping cart. Each customer could then browse as he or she pleased, picking out whatever was desired. Saunders and other retailers who adopted the self-service method of retail selling found that customers often purchased more because of exposure to the array of products on the shelves; as well, self-service lowered the labor required for retail sales and therefore lowered costs.

Two other innovations in retailing that were begun in the interwar period were not destined to become major forces in retail developments until after the Second World War. These innovations were planned shopping centers and supermarkets.

Shopping Centers and Supermarkets

The ultimate cause of both of these innovations was the widening ownership and use of the automobile. By the 1920s, as the ownership and use of the car began expanding, population began to move out of the crowded central cities toward the more open suburbs. When General Robert Wood set Sears off on its development of urban stores, he located these not in the CBD but as free-standing stores on major arteries away from the CBD with sufficient space for

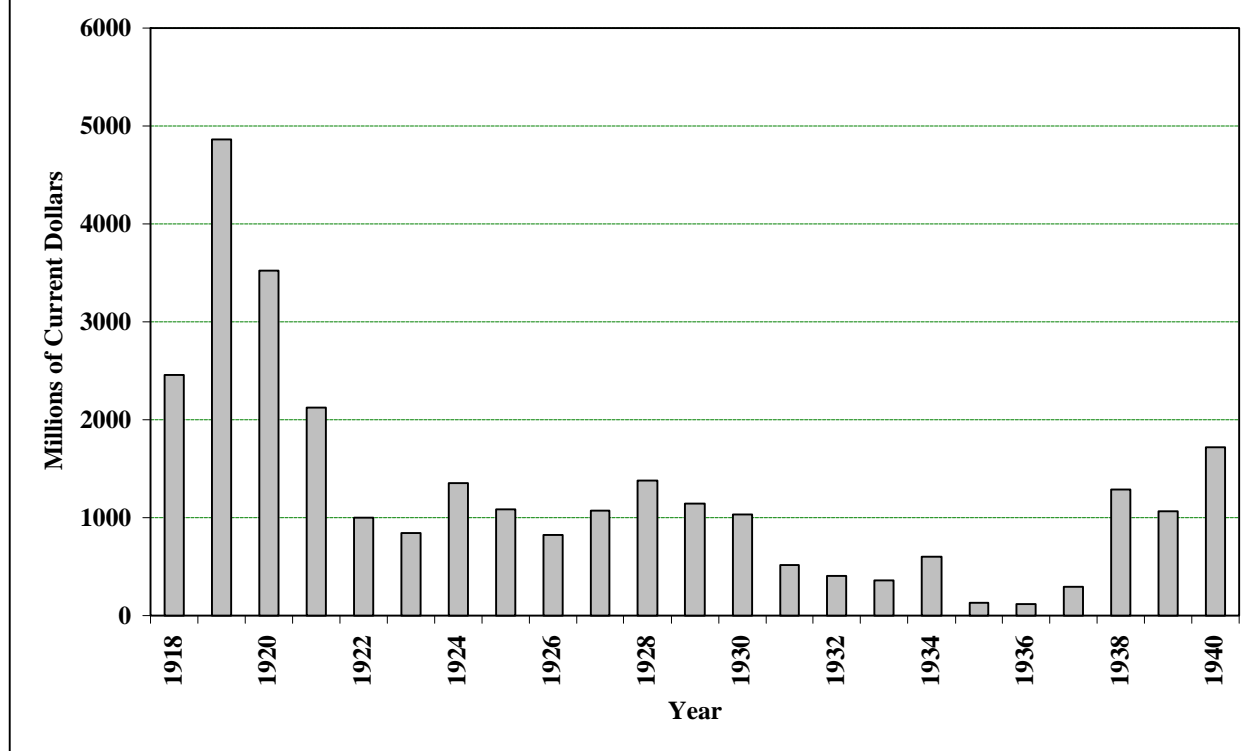
parking. The supermarkets developed in the 1930s followed a similar practice.⁹

At about the same time, a few entrepreneurs began to develop shopping centers. Yehoshua Cohen says, “The owner of such a center was responsible for maintenance of the center, its parking lot, as well as other services to consumers and retailers in the center.”¹⁰ Perhaps the earliest such shopping center was the Country Club Plaza built in 1922 by the J. C. Nichols Company in Kansas City, Missouri. Other early shopping centers appeared in Baltimore and Dallas. By the mid-1930s the concept of a planned shopping center was well known and was expected to be the means to capture the trade of the growing number of suburban consumers.¹¹ However, the depressed 1930s and controls on production and investment during the Second World War retarded the development of planned shopping centers.

According to Malcolm McNair and Eleanor May, “The food supermarket was perhaps the single most important innovation in retail distributive institutions in the entire period from 1850 to the present.”¹² Most grocery stores, including the chains, operated small stores, and it was not uncommon for them to slip back from self-service to full service.¹³ Chains had reduced markups from the 30 percent common in the small independent stores, but these were still relatively high, often as much as 20 percent.

The supermarkets that evolved in the 1930s took full advantage of the prior one-price, cash-and-carry, self-service developments and the widened market areas made possible by the automobile.¹⁴ Michael Cullen’s first King Kullen store was opened in August, 1930, in Jamaica, New York, and within two years he had eight such stores which he called “The Price Wreckers.”¹⁵ In December of 1932, Roy Dawson (a former associate of Clarence Saunders in Memphis) and Robert Otis opened the Big Bear (to sell groceries and other merchandise) in Elizabeth, New Jersey. Dawson and Otis advertised their store as “The Big Bear, The Price Crusher,” and within a short time customers were driving up to 100 miles to shop at the Big Bear.¹⁶ The chains and independents tried to stop wholesalers from selling to the Big Bear and newspapers from accepting the Big Bear’s advertising.¹⁷ In spite of these impediments, customers flocked to the Big Bear. Other low-priced supermarkets began opening and by the mid-1930s were cutting into the business of the chain grocery stores.¹⁸ The chains began to respond by developing larger stores that emulated the supermarkets. Rom Markin reports that “Between the year 1934-1937, A

Fig. 5.1. The United States Balance of Payments on Goods and Services



& P closed 933 of its 4,306 units in 38 cities, replacing them with 204 supermarkets.”¹⁹

Retailing in the Interwar Period

By the twenties and thirties these developments in pricing and sales had brought about a remarkable transformation in retail selling as mass retailers in chains and department stores lowered the costs of selling products, lowered the cost of transactions for consumers, and facilitated the development of national brands and the advertising that came to accompany such sales. In particular, the innovations pioneered by the early supermarkets—large stores, high volume, high turnover, reduced cost and markups, and catering and responding to the growing use of the automobile—were to influence the development of discount stores, department stores, and shopping centers after the Second World War.

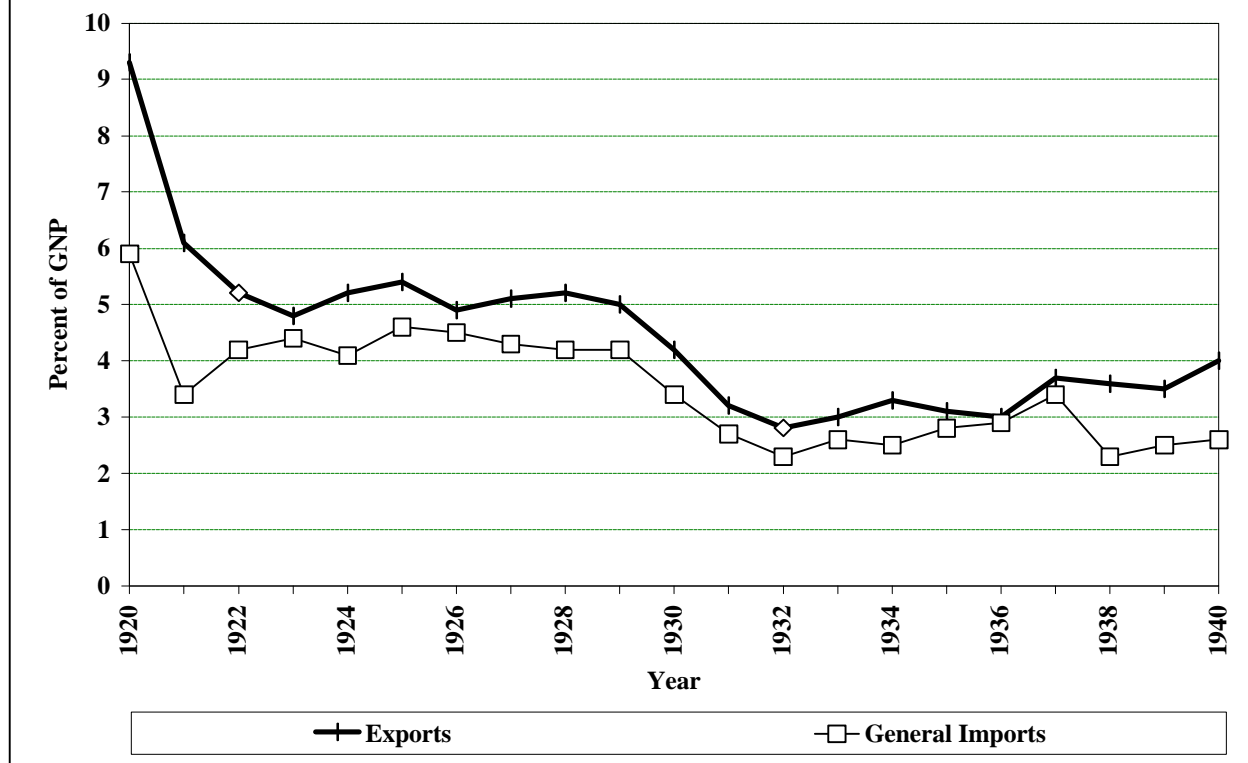
International Trade

In the twenties a gold exchange standard was developed to replace the gold standard of the prewar world. Under a gold standard, each country’s currency carried a fixed exchange rate with gold, and the currency had to be backed up by gold. As a result,

all countries on the gold standard had fixed exchange rates with all other countries. Adjustments to balance international trade flows were made by gold flows. If a country had a deficit in its trade balance, gold would leave the country, forcing the money stock to decline and prices to fall. Falling prices made the deficit countries’ exports more attractive and imports more costly, reducing the deficit. Countries with a surplus imported gold, which increased the money stock and caused prices to rise. This made the surplus countries’ exports less attractive and imports more attractive, decreasing the surplus. Most economists who have studied the prewar gold standard contend that it did not work as the conventional textbook model says, because capital flows frequently reduced or eliminated the need for gold flows for long periods of time. However, there is no consensus on whether fortuitous circumstances, rather than the gold standard, saved the international economy from periodic convulsions or whether the gold standard as it did work was sufficient to promote stability and growth in international transactions.²⁰

In the twenties it was argued that there was a “shortage” of fluid monetary gold to use for the gold standard, so some method of “economizing” on gold had to be found. To do this, two basic changes were

Fig. 5.2. Exports and Imports as a Percent of Gross National Product



made. First, most nations other than the United States stopped domestic circulation of gold. Second, the “gold exchange” system was created. Most countries held their international reserves in the form of U.S. dollars or British pounds and international transactions used dollars or pounds, as long as the United States and Great Britain stood ready to exchange their currencies for gold at fixed exchange rates. However, the overvaluation of the pound and the undervaluation of the franc threatened these arrangements. The British trade deficit led to a capital outflow, higher interest rates, and a weak economy. The French trade surplus led to the importation of gold that they did not allow to expand the money supply.²¹

Economizing on gold by no longer allowing its domestic circulation and by using key currencies as international monetary reserves was really an attempt to place the domestic economies under the control of the nations’ politicians and make them independent of international events. Unfortunately, in doing this the politicians eliminated the equilibrating mechanism of the gold standard but had nothing with which to replace it. The new international monetary arrangements of the twenties were potentially destabilizing because they were not allowed to

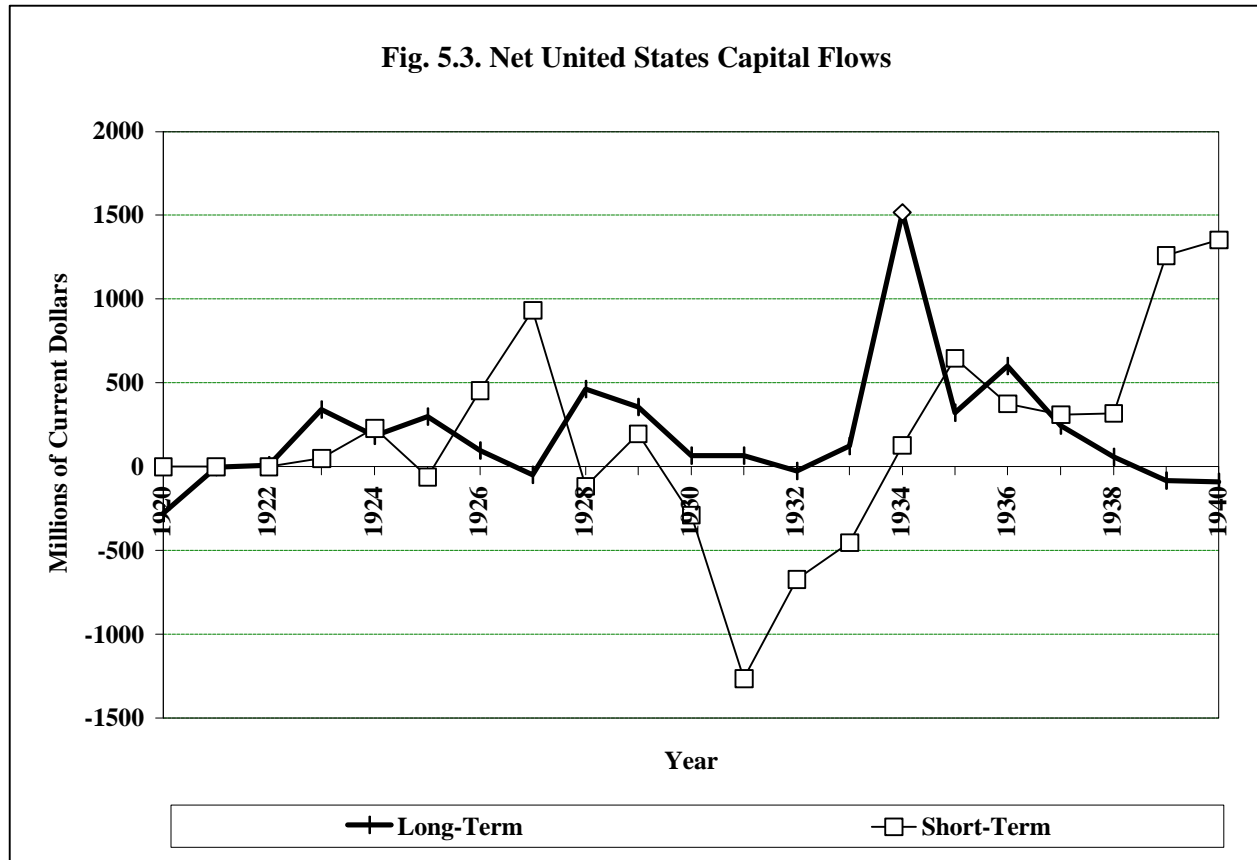
operate as a price mechanism promoting equilibrating adjustments.

War Debts and War Reparations

There were other problems with international economic activity in the twenties. As previously mentioned because of the war the United States was abruptly transformed from a debtor to a creditor on international accounts. Though the United States did not want reparations payments from Germany, it did insist that Allied governments repay American loans. The Allied governments then insisted on war reparations from Germany.²² These initial reparations assessments were quite large. The Allied Reparations Commission collected the charges by supervising Germany’s foreign trade and by internal controls on the German economy, and it could increase the reparations if it was felt that Germany could pay more. The treaty allowed France to occupy the Ruhr after Germany defaulted in 1923.²³

Ultimately, this tangled web of debts and reparations, which was a major factor in the course of international trade, depended upon two principal actions. First, the United States had to run an import surplus or, on net, export capital out of the United States to provide a pool of dollars overseas. Germany

Fig. 5.3. Net United States Capital Flows



then had either to have an export surplus or else import American capital so as to build up dollar reserves—that is, the dollars the United States was exporting. In effect, these dollars were paid by Germany to Great Britain, France, and other countries who then shipped them back to the United States as payment on their U.S. debts. If these conditions did not occur, (and note that the “new” gold standard of the twenties had lost its flexibility because the price adjustment mechanism had been eliminated) disruption in international activity could easily occur and be transmitted to the domestic economies.

Tariffs and Trade Barriers in the Interwar Period

In the wake of the 1920-21 depression Congress passed the Emergency Tariff Act, which raised tariffs, particularly on manufactured goods. The Fordney-McCumber Tariff of 1922 continued the Emergency Tariff of 1921, and its protection on many items was extremely high, ranging from 60 to 100 percent *ad valorem*.²⁴ As farm product prices fell at the end of the decade a tariff bill was introduced into Congress. Special interests succeeded in gaining additional (or new) protection for most

domestically produced commodities. In spite of widespread condemnation by economists President Hoover signed the Hawley-Smoot Tariff in June, 1930 and rate rose sharply. With the signing of the tariff, other nations (Spain, Switzerland, Canada, Italy, Cuba, Mexico, France, Australia, and New Zealand) raised their duties or reduced quotas on American exports.²⁵ In 1934 President Roosevelt proposed the Reciprocal Trade Act. The act was passed and renewed in 1937 and 1940. Through executive action, reciprocal reductions in tariffs were negotiated with several countries, however, the reductions were generally small and primarily lowered redundant or ineffective duties.²⁶

Commodity and Service Trade and Capital Flows in the Interwar Period

Following the First World War, the U.S. government actively promoted American exports, and in each of the postwar years through 1929, the United States recorded a surplus in its balance of trade. (See Figure 5.1.) However, the surplus declined in the 1930s as both exports and imports fell sharply after 1929. (See Figure 5.2.) From the mid-1920s on finished manufactures were the most important exports, while agricultural products dominated American imports.

The majority of the funds that allowed Germany to make its reparations payments to France and Great Britain and hence allowed those countries to pay their debts to the United States came from the net flow of capital out of the United States in the form of direct investment in real assets and investments in long- and short-term foreign financial assets. After the devastating German hyperinflation of 1922 and 1923, the Dawes Plan reformed the German economy and currency and accelerated the U.S. capital outflow.²⁷ (See Figure 5.3.) American investors began to actively and aggressively pursue foreign investments, particularly loans²⁸ and in the late twenties there was a marked deterioration in the quality of foreign bonds sold in the United States.²⁹

The system, then, worked well as long as there was a net outflow of American capital, but this did not continue. In the middle of 1928, the flow of short-term capital began to decline. In 1928 the flow of “other long-term” capital out of the United States was 752 million dollars, but in 1929 it was only 34 million dollars. Though arguments now exist as to whether the booming stock market in the United States was to blame for this, it had far-reaching effects on the international economic system and the various domestic economies.³⁰

War Debts and Reparations in the Depression

As the worldwide depression and contraction in international trade reduced the ability of Germany to make reparations payments and European countries to make debt payments to the United States, governments agreed to an intergovernmental debt moratorium. At a 1931 conference President Hoover made a statement (the “Hoover-Laval communique”) that seemed to tie reparations payments and war debts together—if one were canceled, then the other would be too. In June and July of 1932, agreements essentially wiped out the reparations payments. In December of 1932, Britain and France then presented notes requesting deferments of the war debt payments and a review of the entire war debt issue.³¹ The United States insisted that the issues were separate and demanded the debt payments. Only Britain, Finland, Czechoslovakia, Italy, and Lithuania paid their war debt installments. In June of 1933, some countries made their payments in silver at artificially high prices while others defaulted. The process was repeated in December of 1933: after that the defaults were complete, and no more payments were made.

The End of the Gold Exchange Standard

The gold exchange standard developed in the twenties was unable to withstand the worldwide

depression of the early 1930s. The initial cracks in the international monetary arrangements appeared in central Europe. In May of 1931, there were runs on Austria’s largest bank and Austrian banks closed. With Austrian assets frozen, the rising liquidity demands hit banks in other countries. German banks closed in mid-July, followed by Rumanian and Hungarian banks. Private investors, banks, and governments began attempting to convert their British currency and financial assets into gold, and on September 21, 1931, Great Britain left the gold standard³²

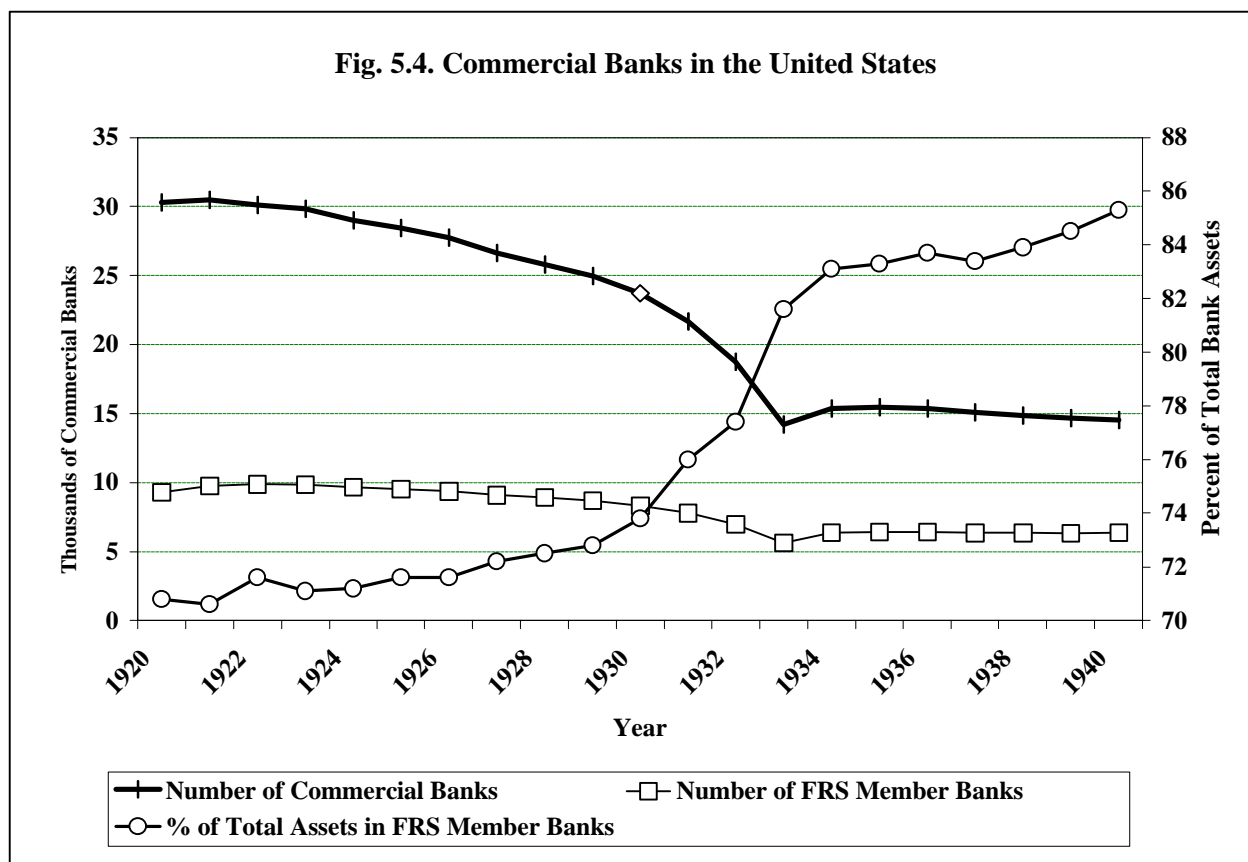
With Britain off gold, central banks and foreign holders of dollars began converting their dollar assets into gold since they expected the United States also to abandon the gold standard. To stop the gold drain, but remain on the gold standard, the Federal Reserve System raised the discount rate from 1.5 to 3.5 percent between October 9 and October 16. The gold drain ceased as foreign investors were induced to hold their U.S. financial assets due to the sharp increase in real interest rates.

On March 6, 1933, President Roosevelt issued a presidential proclamation prohibiting banks from paying out gold and gold certificates, and all transactions in gold and foreign exchange were placed under the control of the secretary of the treasury.³³ On April 5, 1933, he issued an executive order requiring the public to surrender all gold certificates and gold, with some minor exceptions.³⁴ The federal government redeemed these at the official price of \$20.67 per fine ounce.

At the same time the Roosevelt Administration began to devalue the dollar. From an initial mint price of \$20.67 per fine ounce of gold, the dollar began to fall, and finally, in the Gold Reserve Act of 1934, the value was fixed at \$35 per fine ounce of gold. The nationalization of all gold—completed on December 28, 1933—was ratified by this act, and the domestic redeemability of currency in gold or gold certificates was ended.³⁵

One purpose of the devaluation of the dollar was to raise prices and stimulate exports. Because it raised the domestic price of imported goods and lowered the price of American exports, it effectively amounted to a very large increase in protective tariffs. The American devaluation set off a competitive devaluation by a number of countries. The regime of fixed exchange rates that developed out of the Great Depression would be incorporated into new international monetary arrangements in the Bretton Woods agreements following the Second World War.

Fig. 5.4. Commercial Banks in the United States



International Trade and the Interwar American Economy

International trade and investment played an important role in the behavior of the interwar American economy. In the twenties, foreign markets provided an outlet for our growing industrial production, and overseas investment opened up new opportunities for expansion. Helped by our initiation of “beggar-thy-neighbor” policies in the late twenties and early thirties, the United States was caught in the spiraling contraction of world trade that disrupted the world’s industrial economies.

We still have important, unanswered questions about international trade and the Great Depression. For example, to what extent did the Hawley-Smoot tariff, passed in early 1930, cause the contraction in international trade? Or was the contraction the result of, rather than a cause of, the Great Depression? Was the gold standard, as it was reconstituted in the twenties, a major, if not *the* major, force in bringing on a worldwide depression? We will examine these issues at length in Chapter 7.

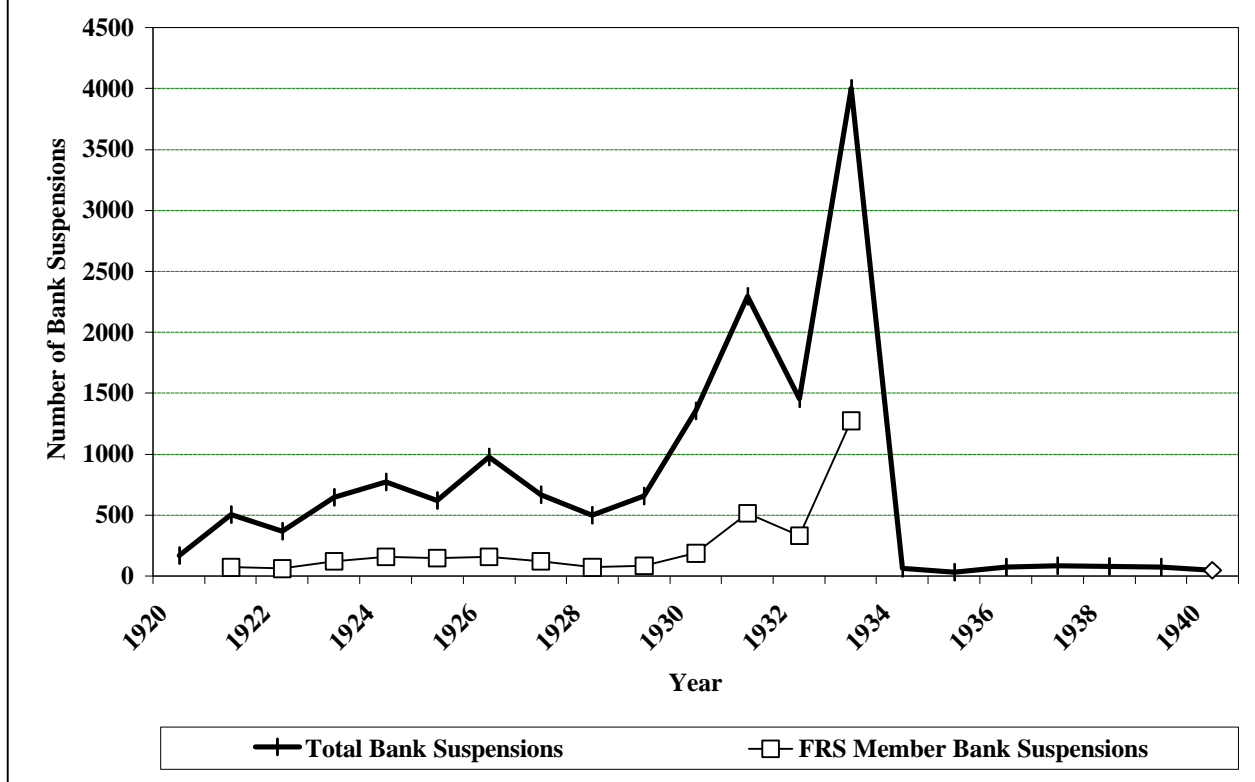
Banking And Finance

In the twenties commercial banks became “department stores of finance.”³⁶ Banks opened up installment (or personal) loan departments, expanded their mortgage lending, opened up trust departments, undertook securities underwriting activities, and offered safe deposit boxes. These changes were a response to growing competition from other financial intermediaries. Businesses, stung by bankers’ control and reduced lending during the 1920-21 depression, began relying more on retained earnings and stock and bond issues to raise investment and, sometimes, working capital. This reduced loan demand. The thrift institutions, after good growth in the twenties, did not grow in the thirties. The stock market boom of the twenties was matched by its collapse and failure to recover in the thirties. However, the nation’s commercial banks were the most important financial institutions and played the principal role in the supply of money in the United States as well as being key financial intermediaries.

Banking

There were two broad classes of commercial banks; those that were nationally chartered and those that were nonnationally chartered. Only the national banks were required to be members of the Federal

Fig. 5.5. Bank Suspensions



Reserve System. (See Figure 5.4.) Most banks were unit banks because national regulators and most state regulators prohibited branching. However, in the twenties a few states began to permit limited branching; California even allowed statewide branching.³⁷ The bulk of the assets of all commercial banks were held by the Federal Reserve member banks, even though most banks were not members. A high bank failure rate in the 1920s has usually been explained by “overbanking” or too many banks located in an area, but H. Thomas Johnson makes a strong argument against this.³⁸ (See Figure 5.5.)

Prior to the twenties, the main assets of commercial banks were short-term business loans, made by creating a demand deposit or increasing an existing one for a borrowing firm. As business lending declined in the 1920s commercial banks vigorously moved into new types of financial activities. As banks purchased more securities for their earning asset portfolios and gained expertise in the securities markets, larger ones established investment departments and by the late twenties were an important force in the underwriting of new securities issued by nonfinancial corporations.

The onset of the depression devastated banking as panics and continued withdrawals forced

more and more banks to close. Major banking panics occurred in 1930, 1931, and 1933, but in between depositors continued to reduce their deposits. In 1931, over 10.5 percent of the banks suspended operations, and in 1933 over 28 percent suspended business. Between 1929 and 1933 the number of banks fell from 24,970 to 14,207, or by 43 percent. Though more nonmember banks suspended operations than member banks, 35.6 percent of the member banks closed.

Having passed through the fires of the panics of the early thirties, banks became very cautious. They accumulated large excess reserves as a “Maginot Line” of defense against further banking panics and purchased large quantities of highly liquid federal government securities. Loans as a share of all assets dropped sharply, though some of this decline was certainly due to the weak business loan demand. Demand deposits as a share of all deposits rose as time deposit rates fell, and an increasing number of banks simply refused to accept time deposits.³⁹ The huge buildup of excess reserves led the Federal Reserve System to attempt to reduce these through a doubling of the required reserve ratio between August of 1936 and May of 1937. Banks quickly

built up new excess reserves to replace most of those that the Fed eliminated.⁴⁰

The depressed thirties brought about innovations in bank lending. Banks accepted a wider range of collateral and provided more short- and intermediate-term lending for businesses. The installment loan, pioneered for consumer credit, was extended to business firms so that longer maturity loans were available.⁴¹ Consumer lending and the purchase of consumer installment paper also grew.⁴² Finally, the depression and New Deal brought in the end of “free banking,” whereby a bank would be issued a charter as long as it was able to meet certain objective requirements. The Banking Act of 1935 required the comptroller of the currency and the Federal Deposit Insurance Corporation (FDIC) to consider the prospective profitability of new and existing banks as well as the convenience and needs of the community to be served by the proposed bank.⁴³ The rationale was to be certain that “overbanking” did not occur, but, by making the entry of new banks much more difficult (and arbitrary), it helped create monopoly rents for existing banks.

Securities Markets

There was a dramatic expansion in new corporate securities in the twenties—especially common and preferred stock. The number of shares exchanged on the New York Stock Exchange (NYSE) increased at a rate of 26 percent per year from 1923 to 1929. Almost as quickly as the New York securities market expanded in the twenties, it contracted in the depression. After an aborted recovery in 1933, the activity continued to slide, and in 1940 the number of shares exchanged was less than one fifth of the number in 1929. Issues of corporate bonds and notes held up well between 1930 and 1932 and then fell precipitously from 1932 to 1933. After 1934 the issuance of bonds and notes by businesses recovered and averaged almost as much as in the last half of the twenties, whereas new issues of preferred and common stocks plunged in the thirties.

Other Financial Institutions

The securities market exhibited perhaps the most dramatic growth of the noncommercial bank financial intermediaries during the twenties, but others also grew rapidly. The assets of life insurance companies increased by 10 percent a year from 1921 to 1929; by the late twenties they were a very important source of funds for construction investment. Mutual savings banks and savings and loan associations (thrifts) operated in essentially the same types of markets.

The Mutual savings banks were concentrated in the northeastern United States. As incomes rose, personal savings increased, and housing construction expanded in the twenties, there was an increasing demand for the thrifts’ interest earning time deposits and mortgage lending.

The assets of mutual savings banks rose during the depression and then were constant (in real terms) throughout the rest of the thirties. Savings and loan associations’ assets grew until 1932 and then dropped through 1937, remaining at this lower level until the end of the decade. Though small relative to the other financial intermediaries, the Postal Savings System provided a safe place for the small funds of lower income people, particularly recent immigrants, and its deposits increased sharply during the contraction. The major growth came in the life insurance industry. The assets of life insurance companies had been growing during the twenties, and this growth was almost as fast during the thirties—9.6 percent a year in the twenties compared to 7.2 percent a year in the thirties. As a result, the life insurance companies became a more important factor in long-term financing in the thirties.

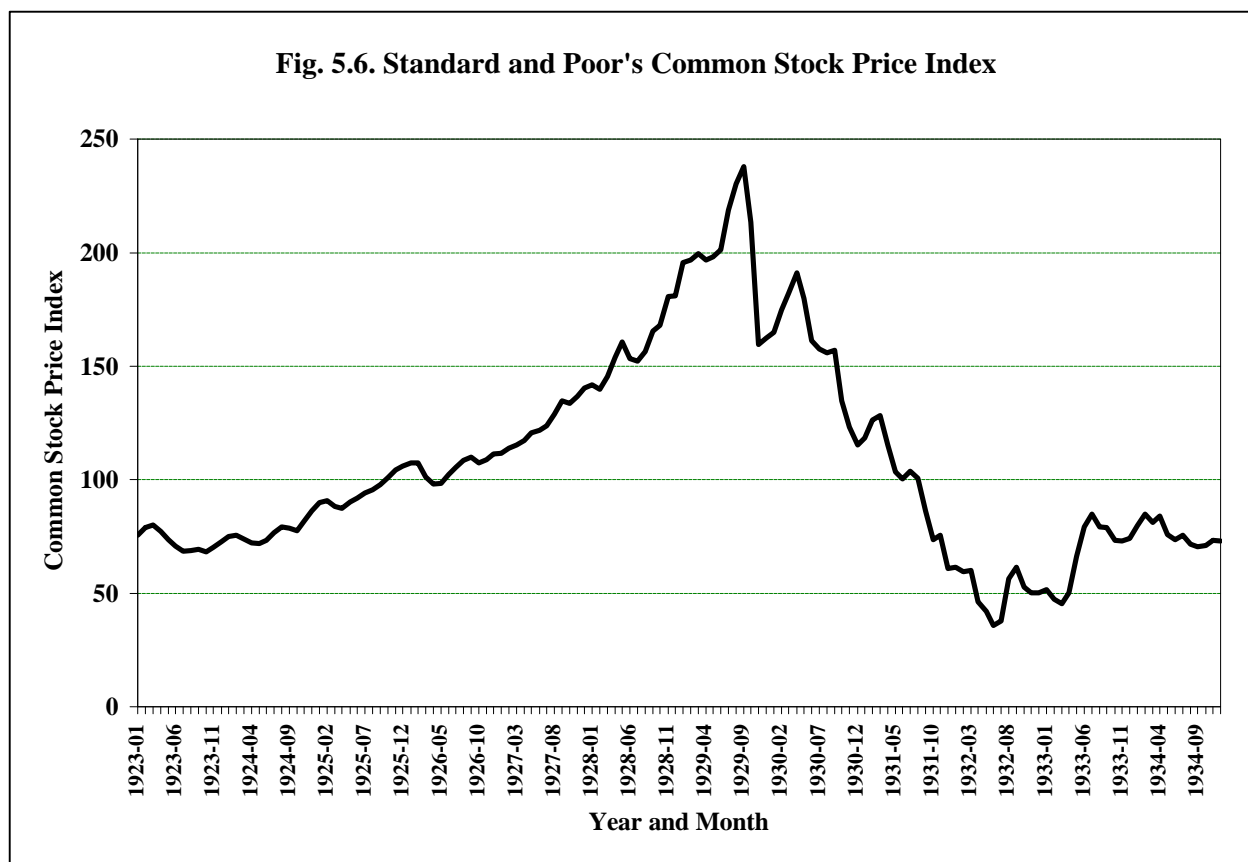
The Great Bull Market

The late twenties boom in the American economy was rapid, highly visible, and dramatic. Skyscrapers were being erected in most major cities, the automobile manufacturers produced over four and a half million new cars in 1929; and the stock market, like a barometer of this prosperity, was on a dizzying ride to higher and higher prices. “Playing the market” seemed to become a national pastime.⁴⁴

The Dow-Jones index hit its peak of 381 on September 3 and then slid to 320 on October 21. In the following week the stock market “crashed,” with a record number of shares being traded on several days. At the end of Tuesday, October, 29th, the index stood at 230, 96 points less than one week before. On November 13, 1929, the Dow-Jones index reached its lowest point for the year at 198—183 points less than the September 3 peak.⁴⁵

The path of the stock market boom of the twenties can be seen in Figure 5.6. Sharp price breaks occurred several times during the boom, and each of these gave rise to dark predictions of the end of the bull market and speculation. Until late October of 1929, these predictions turned out to be wrong. Between those price breaks and prior to the October crash, stock prices continued to surge upward. In March of 1928, 3,875,910 shares were traded in one day, establishing a record. By late 1928, five million shares being trade a day was a common occurrence.

Fig. 5.6. Standard and Poor's Common Stock Price Index



New securities, from rising merger activity and the formation of holding companies, were issued to take advantage of the rising stock prices.⁴⁶ Stock pools, which were not illegal until the 1934 Securities and Exchange Act, took advantage of the boom to temporarily drive up the price of selected stocks and reap large gains for the members of the pool.⁴⁷ Another factor commonly used to explain both the speculative boom and the October crash was the purchase of stocks on small margins. However, contrary to popular perception, margin requirements through most of the twenties were essentially the same as in previous decades. Brokers, recognizing the problems with margin lending in the rapidly changing market, began raising margin requirements in late 1928, and by the fall of 1929, margin requirements were the highest in the history of the New York Stock Exchange.⁴⁸ Even so, during the crash, as investors could not provide additional margin, brokers' sold the stock at the market and these forced sales helped drive prices even lower.

The crash began on Monday, October 21, as the index of stock prices fell 3 points on the third-largest volume in the history of the New York Stock Exchange. After a slight rally on Tuesday, prices began declining on Wednesday and fell 21 points by

the end of the day bringing on the third call for more margin in that week. On Black Thursday, October 24, prices initially fell sharply, but rallied somewhat in the afternoon so that the net loss was only 7 points, but the volume of thirteen million shares set a NYSE record. Friday brought a small gain which was wiped out on Saturday. On Monday, October 28, the Dow Jones index fell 38 points on a volume of nine million shares—three million in the final hour of trading. Tragic Tuesday, October 29, brought declines in virtually every stock price. Manufacturing firms, which had been lending large sums to brokers for margin loans, had been calling in these loans and this accelerated on Monday and Tuesday. The big Wall Street bank increased their lending on call loans to offset some of this loss of loanable funds. The Dow Jones Index fell 30 points on a record volume of nearly sixteen and a half million shares exchanged. Black Thursday and Tragic Tuesday wiped out entire fortunes.

Though the worst was over, prices continued to decline until November 13, 1929, as brokers cleaned up their accounts and sold off the stocks of clients who could not supply additional margin. After that, prices began to slowly rise and by April of 1930 had increased 96 points from the low of November

13, “only” 87 points less than the peak of September 3, 1929. From that point, stock prices resumed their depressing decline until the low point was reached in the summer of 1932.

Why Did the Stock Market Crash? There is a long tradition that insists that the Great Bull Market of the late twenties was an orgy of speculation that bid the prices of stocks far above any sustainable or economically justifiable level creating a *bubble* in the stock market. John Kenneth Galbraith observed that “The collapse in the stock market in the autumn of 1929 was implicit in the speculation that went before.”⁴⁹ But not everyone has agreed with this.

In 1930 Irving Fisher argued that the stock prices of 1928 and 1929 were based on fundamental expectations that future corporate earnings would be high.⁵⁰ More recently, Murray Rothbard, Gerald Gunderson, and Jude Wanniski have argued that stock prices were not too high prior to the crash.⁵¹ Gunderson suggested that prior to 1929, stock prices were where they should have been and that when corporate profits in the summer and fall of 1929 failed to meet expectations, stock prices were written down.⁵² Wanniski argued that political events brought on the crash. The market broke each time news arrived of advances in congressional consideration of the Hawley-Smoot tariff. However, the virtually perfect foresight that Wanniski’s explanation requires is unrealistic.⁵³ Charles Kindleberger and Peter Temin examined common stock yields and price-earnings ratios and found that the relative constancy did not suggest that stock prices were bid up unrealistically high in the late twenties.⁵⁴ Gary Santoni and Gerald Dwyer also failed to find evidence of a bubble in stock prices in 1928 and 1929.⁵⁵ Gerald Sirkin found that the implied growth rates of dividends required to justify stock prices in 1928 and 1929 were quite conservative and lower than post-Second World War dividend growth rates.⁵⁶

However, examination of after-the-fact common stock yields and price-earning ratios can do no more than provide some *ex post* justification for suggesting that there was not excessive speculation during the Great Bull Market. Each individual investor was motivated by that person’s *subjective expectations* of each firm’s *future* earnings and dividends and the *future* prices of shares of each firm’s stock. Because of this element of subjectivity, not only can we never accurately know those values, but we can also never know how they varied among individuals. The market price we observe will be the end result of all of the actions of the market

participants, and the observed price may be different from the price almost all of the participants expected.

In fact, there are some indications that there were differences in 1928 and 1929. Yields on common stocks were somewhat lower in 1928 and 1929. In October of 1928, brokers generally began raising margin requirements, and by the beginning of the fall of 1929, margin requirements were, on average, the highest in the history of the New York Stock Exchange. Though the discount and commercial paper rates had moved closely with the call and time rates on brokers’ loans through 1927, the rates on brokers’ loans increased much more sharply in 1928 and 1929.⁵⁷ This pulled in funds from corporations, private investors, and foreign banks as New York City banks sharply reduced their lending. These facts suggest that brokers and New York City bankers may have come to believe that stock prices had been bid above a sustainable level by late 1928 and early 1929. White created a quarterly index of dividends for firms in the Dow-Jones index and related this to the DJI. Through 1927 the two track closely, but in 1928 and 1929 the index of stock prices grows much more rapidly than the index of dividends.

The qualitative evidence for a bubble in the stock market in 1928 and 1929 that White assembled was strengthened by the findings of J. Bradford De Long and Andre Shleifer.⁵⁸ They examined closed-end mutual funds, a type of fund where investors wishing to liquidate must sell their shares to other individual investors allowing its fundamental value to be exactly measurable.⁵⁹ Using evidence from these funds, De Long and Shleifer estimated that in the summer of 1929, the Standard and Poor’s composite stock price index was overvalued about 30 percent due to excessive investor optimism.⁶⁰

There are several reasons for the creation of such a bubble. First, fundamentals become difficult to assess when there are major industrial changes, such as the rapid changes in the automobile industry, the new electric utilities, and the new radio industry.⁶¹ Eugene White suggests that “While investors had every reason to expect earnings to grow, they lacked the means to evaluate easily the future path of dividends.”⁶² Second, participation in the stock market widened noticeably in the twenties. The new investors were relatively unsophisticated, and they were more likely to be caught up in the euphoria of the boom and bid prices upward.⁶³ New, inexperienced commission sales personnel were hired to sell stocks.

These observations were strengthened by the experimental work of economist Vernon Smith. In a

number of experiments over a three year period using students and Tucson businessmen and businesswomen, bubbles developed as inexperienced investors valued stocks differently and engaged in price speculation. As these investors in the experiments began to realize that speculative profits were unsustainable and uncertain, their dividend expectations changed, the market crashed, and ultimately stocks began trading at their fundamental dividend values. These bubbles and crashes occurred repeatedly, leading Smith to conjecture that there are few regulatory steps that can be taken to prevent a crash.⁶⁴

Though the bubble of 1928 and 1929 made some downward adjustment in stock prices inevitable, as Barsky and De Long have shown, changes in fundamentals govern the overall movements. And the end of the long bull market was almost certainly governed by this. In late 1928 and early 1929 there was a striking rise in economic activity, but a decline began somewhere between May and July of that year. By the middle of August, the rise in stock prices had slowed down as better information on the contraction was received. As this information was assessed, the number of speculators selling stocks increased, and the number buying decreased. With the decreased demand, stock prices began to fall, and as more accurate information on the nature and extent of the decline was received, stock prices fell more. The late October crash made the decline occur much more rapidly, and the margin purchases and consequent forced selling of many of those stocks contributed to a more severe price fall. The recovery of stock prices from November 13 into April of 1930 suggests that stock prices had been driven too low during the crash.

Financial Markets in the Interwar American Economy

There can be no question about the crucial role of financial institutions in the interwar economy. There is now nearly universal agreement that the 1929 stock market crash did not cause the Great Depression. Instead, the initial downturn in economic activity was a primary determinant of the ending of the 1928-29 stock market bubble. But it is clear that the long, dreary decline of the stock market during the thirties made it more difficult for businesses to raise capital for modernization and expansion. We also understand the crucial role that the near collapse of the banking system had in extending and intensifying the Great Depression. We will be examining these issues in the next two chapters.

Selected References

- Aldcroft, Derek H. *From Versailles to Wall Street, 1919-1929*. Berkeley: The University of California Press, 1977.
- Allen, Frederick Lewis. *Only Yesterday*. New York: Harper and Sons, 1931.
- Bishop, Jerry E. "Stock Market Experiment Suggests Inevitability of Booms and Busts." *The Wall Street Journal*, 17 November, 1987.
- Brown, William A., Jr. *The International Gold Standard Reinterpreted, 1914-1934*, 2 vols. New York: National Bureau of Economic Research, 1940.
- Bucklin, Louis P. *Competition and Evolution in the Distributive Trades*. Englewood Cliffs, NJ: Prentice-Hall, 1972.
- Cochran, Thomas C. *200 Years of American Business*. New York: Delta Books, 1977.
- Cohen, Yehoshua S. *Diffusion of an Innovation in an Urban System: The Spread of Planned Regional Shopping Centers in the United States, 1949-1968*. Chicago: The University of Chicago, Department of Geography, Research Paper No. 140, 1972.
- Chandler, Alfred D., Jr. *Strategy and Structure: Chapters in the History of Industrial Enterprise*. Cambridge: The M.I.T. Press, 1962.
- _____. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge: Harvard University Press, Belknap Press, 1977.
- Clewett, Richard C. "Mass Marketing of Consumers' Goods." Chapter 40 in *The Growth of the American Economy*. 2d ed. Edited by Harold F. Williamson. Englewood Cliffs, NJ: Prentice-Hall, 1951.
- De Long, J. Bradford, and Andre Shleifer. "The Stock Market Bubble of 1929: Evidence from Closed-end Mutual Funds." *The Journal of Economic History* 51 (September 1991): 675-700.
- Eichengreen, Barry, ed. *The Gold Standard in Theory and History*. New York: Methuen, 1985.
- Emmet, Boris, and John E. Jeuck. *Catalogues and Counters: A History of Sears Roebuck and Company*. Chicago: University of Chicago Press, 1950.
- Fisher, Irving. *The Stock Market Crash—and After*. New York: Macmillan, 1930.
- Friedman, Milton, and Anna J. Schwartz. *A Monetary History of the United States, 1867-1960*. Princeton: Princeton University Press, 1963.
- Galbraith, John Kenneth. *The Great Crash*. Boston: Houghton Mifflin, 1954.

- Gideonse, Max. "Foreign Trade, Investments, and Commercial Policy." Chapter 41 in *The Growth of the American Economy*. 2d ed. Edited by Harold F. Williamson. Englewood Cliffs, NJ: Prentice-Hall, 1951.
- Gunderson, Gerald. *An Economic History of America*. New York: McGraw-Hill, 1976.
- Higgs, Robert. *Crisis and Leviathan: Critical Episodes in the Growth of American Government*. New York: Oxford University Press, 1987.
- Kindleberger, Charles. *The World in Depression, 1929-1939*. Berkeley: The University of California Press, 1973.
- Klebaner, Benjamin J. *Commercial Banking in the United States: A History*. New York: W. W. Norton and Co., 1974.
- Johnson, H. Thomas. "Postwar Optimism and the Rural Financial Crisis." *Explorations in Economic History* 11 (Winter 1973-74): 173-92.
- Lewis, Cleona. *America's Stake in International Investments*. Washington: The Brookings Institution, 1938.
- Marburg, Theodore. "Domestic Trade and Marketing." Chapter 26 in *The Growth of the American Economy*. 2d ed. Edited by Harold F. Williamson. Englewood Cliffs, NJ: Prentice-Hall, 1951.
- Markin, Rom J. *The Supermarket: An Analysis of Growth, Development, and Change*. Rev. ed. Pullman, WA: Washington State University Press, 1968.
- McNair, Malcolm P., and Eleanor G. May. *The Evolution of Retail Institutions in the United States*. Cambridge, MA: The Marketing Science Institute, 1976.
- Mintz, Ilse. *Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930*. New York: National Bureau of Economic Research, 1951.
- Peak, Hugh S., and Ellen F. Peak. *Supermarket Merchandising and Management*. Englewood Cliffs, NJ: Prentice-Hall, 1977.
- Rockwell, Llewellyn H., Jr., ed. *The Gold Standard: An Austrian Perspective*. Lexington, MA: Lexington Books, 1985.
- Rothbard, Murray N. *America's Great Depression*. Kansas City: Sheed and Ward, 1963.
- Santoni, Gary, and Gerald Dwyer. "Bubbles vs. Fundamentals: New Evidence from the Great Bull Markets." In *Crises and Panics: The Lessons of History*. Edited by Eugene N. White. Homewood, IL: Dow Jones/Irwin, 1990.
- Sirkin, Gerald. "The Stock Market of 1929 Revisited: A Note." *Business History Review* 49 (Fall 1975): 233-41.
- Smiley, Gene. "Some Austrian Perspectives on Keynesian Fiscal Policy and the Recovery in the Thirties." *Review of Austrian Economics* 1 (1987): 145-79.
- _____, and Richard H. Keehn. "Margin Purchases, Brokers' Loans and the Bull Market of the Twenties." *Business and Economic History*. 2d series. 17 (1988): 129-42.
- Sobel, Robert. *The Entrepreneurs: Explorations Within the American Business Tradition*. New York: Weybright and Talley, 1974.
- _____. *Panic on Wall Street*. New York: Truman Talley Books, 1988.
- Soule, George. *Prosperity Decade: From War to Depression, 1917-1929*. New York: Rinehart and Co., 1947.
- Temin, Peter. "The Beginning of the Depression in Germany." *Economic History Review*. 24 (May 1971): 240-48.
- _____. *Did Monetary Forces Cause the Great Depression?* New York: W. W. Norton, 1976.
- Thomas, Gordon, and Max Morgan-Witts. *The Day the Bubble Burst*. Garden City, NY: Doubleday, 1979.
- Wanniski, Jude. *The Way the World Works*. New York: Simon and Schuster, 1978.
- White, Eugene N. "The Stock Market Boom and Crash of 1929 Revisited." *The Journal of Economic Perspectives*. 4 (Spring 1990): 67-83.
- _____. "When the Ticker Ran Late: The Stock Market Boom and Crash of 1929." In *Crises and Panics: The Lessons of History* Edited by Eugene N. White. Homewood, IL: Dow Jones/Irwin, 1990.

Notes

1. There are several sources presenting an overview of the development of wholesale and retail distribution in American history. Thomas C. Cochran, *200 Years of American Business* (New York: Delta Books, 1977); Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge: The Harvard University, the Belknap Press, 1977); Theodore Marburg, "Domestic Trade and Marketing," chapter 26 in *The Growth of the American Economy*, 2d ed., ed. Harold F. Williamson, (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1951); Richard C. Clewett, "Mass Marketing of Consumers' Goods," ch. 40 in Williamson, *The Growth of the American Economy*.

-
2. For the history of A. T. Stewart's store, see Harry E. Resseguie, "Alexander Turney Stewart and the Development of the Department Store, 1823-1876," *Business History Review* 39 (Autumn 1965): 301-22; and Robert Sobel and David B. Sicilia, *The Entrepreneurs: An American Adventure* (Boston: Houghton Mifflin Co., 1986).
 3. In addition to the references cited above, see the following: Joseph H. Appel, *The Business Biography of John Wanamaker, Founder and Builder* (New York: The Macmillan Company, 1930); Susan Porter Benson, *Counter Cultures: Saleswomen, Managers, and Customers in American Department Stores, 1890-1940* (Urbana, IL: University of Illinois Press, 1986); Robert Hendrickson, *The Grand Emporiums: The Illustrated History of America's Great Department Stores* (Briarcliff Manor, NY: Stein and Day, 1979); Ralph W. Hower, *History of Macy's of New York, 1858-1919* (Cambridge: Harvard University Press, 1946); Robert Sobel, *The Entrepreneurs: Explorations With the American Business Tradition* (New York: Weybright and Talley, 1974).
 4. Clewett, "Mass Marketing," 769.
 5. The following discussion is adapted from these sources: Boris Emmet and John E. Jeuck, *Catalogues and Counters: A History of Sears Roebuck and Company* (Chicago: University of Chicago Press, 1950); Chandler, *Strategy and Structure*, chapter 5; and Chandler, *The Visible Hand*, chapter 7.
 6. For a discussion of chain stores as they were viewed in the thirties, see Theodore N. Beckman and Herman C. Nolen, *The Chain Store Problem: A Critical Analysis* (New York: McGraw-Hill Book Co., 1938). On chain stores in general, see Godfrey M. Lebhar, *Chain Stores in America, 1859-1962* (New York: Chain Store Publishing Corp., 1963). The history of the A&P can be found in Roy J. Bullock, "The Early History of the Great Atlantic & Pacific Tea Company," *Harvard Business Review* 11 (April 1933): 289-93, and Roy J. Bullock, "A History of the Great Atlantic & Pacific Tea Company Since 1878," *Harvard Business Review* 12 (October 1933): 59-69.
 7. John Kennedy Winkler, *Five and Ten: The Fabulous Life of F. W. Woolworth* (New York: R. M. McBride and Company, 1940).
 8. Norman Beasley, *Main Street Merchant: The Story of the J. C. Penney Company* (New York: Whittlesey House, 1948).
 9. Yehoshua S. Cohen, *Diffusion of an Innovation in an Urban System: The Spread of Planned Regional Shopping Centers in the United States 1949-1968* (Chicago: The University of Chicago, Department of Geography, Research Paper No. 140, 1972), 27.
 10. *Ibid.*, 27.
 11. *Ibid.*, 28.
 12. Malcolm P. McNair and Eleanor G. May, *The Evolution of Retail Institutions in the United States* (Cambridge, MA: The Marketing Science Institute, 1976), 27.
 13. Paul H. Nystrom, *Economics of Retailing*, vol. 1, 3d ed. (New York: The Ronald Press Company, 1930), 111, as cited in Louis P. Bucklin, *Competition and Evolution in the Distributive Trades* (Englewood Cliffs, NJ: Prentice-Hall, 1972), 86.
 14. Rom J. Markin, *The Supermarket: An Analysis of Growth, Development, and Change*, rev. ed. (Pullman, WA: Washington State University Press, 1968), 10.
 15. *Ibid.*, 11.
 16. Louis P. Bucklin, *Competition and Evolution in the Distributive Trades* (Englewood Cliffs, NJ: Prentice-Hall, 1972), 86. The average gross margin on grocery sales was 12.1 percent, allowing prices to average about 10 percent lower than at the chain stores and conventional independent grocers. Markin, *The Supermarket: An Analysis of Growth, Development, and Change*, 12.
 17. Hugh S. Peak and Ellen F. Peak, *Supermarket Merchandising and Management* (Englewood Cliffs, NJ: Prentice-Hall, 1977), 17.
 18. *Ibid.*, 17.
 19. *Ibid.*, 15.
 20. The debate on the prewar gold standard is discussed in Derek H. Aldcroft, *From Versailles to Wall Street, 1919-1929* (Berkeley: University of California Press, 1977), chapter 7. The prewar and interwar gold standards are discussed in a number of papers in Barry Eichengreen, ed., *The Gold Standard in Theory and History* (New York: Methuen, 1985); and in Llewellyn H. Rockwell, Jr., ed., *The Gold Standard: An Austrian Perspective* (Lexington, MA: Lexington Books, 1985). The interwar gold standard is considered in some detail in William A. Brown, Jr., *The International Gold Standard Reinterpreted, 1914-1934*, 2 vols.

-
- (New York: National Bureau of Economic Research, 1940).
21. For a discussion of these problems see Aldcroft, *From Versailles to Wall Street*, chapter 7; and George Soule, *Prosperity Decade: From War to Depression: 1917-1929* (New York: Holt, Rinehart, and Winston, 1947), chapter 12.
 22. Charles Kindleberger, *The World in Depression, 1929-1939* (Berkeley: University of California Press, 1973), 34. The following discussion draws upon Soule, *Prosperity Decade*, chapter 12; Aldcroft, *From Versailles to Wall Street*, chapter 4; and Kindleberger, *The World in Depression*, chapters. 1 and 2.
 23. Soule, *Prosperity Decade*, 260.
 24. Max Gideonse, "Foreign Trade, Investments, and Commercial Policy," chapter 41 in Harold F. Williamson, ed., *The Growth of the American Economy*, 2d ed. (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1951), 790-91.
 25. Kindleberger, *The World in Depression*, 131-135.
 26. *Ibid.*, 236-38.
 27. *Ibid.*, 263-64.
 28. Lewis, *America's Stake in International Investments*.
 29. Ilse Mintz, *Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930* (New York: National Bureau of Economic Research, 1951).
 30. Kindleberger believes that it did, while Peter Temin argues that it did not. See Kindleberger, *The World in Depression*, 60-76; and Peter Temin, "The Beginning of the Depression in Germany," *Economic History Review* 24 (May 1971): 240-48.
 31. Kindleberger, *The World in Depression*, 195-96. This discussion also draws upon Gideonse, "Foreign Trade, Investments, and Commercial Policy," 791.
 32. Kindleberger, *The World in Depression*, 149-50. The following discussion is based upon Kindleberger, 148-51, and Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States, 1867-1960* (Princeton: Princeton University Press, 1963), 313-22.
 33. This discussion is drawn from Friedman and Schwartz, *A Monetary History of the United States*, 462-83.
 34. Individuals were allowed to keep rare coins, reasonable amounts for use in industry and the arts could be retained, and a maximum of \$100 in gold coin and certificates for each person could also be kept. (Friedman and Schwartz, *A Monetary History of the United States*, 463.)
 35. A gold clause specified that the contractual obligations could be discharged by a specified payment of ounces of fine gold rather than simply in dollars. It was a procedure by which the parties could contract against unexpected price inflation or price deflation. These actions were threatened by the gold clauses contained in many contracts. On June 5, 1933, Congress abrogated the gold clauses in all obligations. This was challenged in the courts since the constitutional guarantee of due process of law prohibited arbitrary legislative impairment of valid contracts. In early 1935 the Supreme Court upheld this action. Chief Justice Hughes "...simply took for granted that a constitutional delegation of power to Congress must necessarily override a constitutional protection of individual rights." Robert Higgs, *Crisis and Leviathan: Critical Episodes in the Growth of American Government* (New York: Oxford University Press, 1987), 186.
 36. Benjamin J. Klebaner, *Commercial Banking in the United States: A History* (New York: W. W. Norton and Co., 1974), chapter 12.
 37. *Ibid.*, 126.
 38. H. Thomas Johnson, "Postwar Optimism and the Rural Financial Crisis," *Explorations in Economic History* 11 (Winter 1973-74): 173-92.
 39. Klebaner, *Commercial Banking in the United States*, 111. At the end of the 1930s over 400 banks simply refused to accept time deposits.
 40. See Gene Smiley, "Some Austrian Perspectives on Keynesian Fiscal Policy and the Recovery in the Thirties," *Review of Austrian Economics* 1 (1987): 145-79.
 41. Klebaner, *Commercial Banking in the United States*, 147-48.
 42. *Ibid.*, 151.
 43. *Ibid.*, 157-58.
 44. Though the general impression is that there was widespread speculation in stocks in 1928 and 1929, Allen estimates that no more than one million

- individuals held stock on margin in the summer of 1929, while other estimates suggest that there were no more than 600,000 active margin accounts. [See Allen, *Only Yesterday*, 260; and Robert Sobel, *Panic on Wall Street* (New York: Truman Talley Books, 1988), 356.] Soule estimates that all the shares of stock in American corporations were held by no more than nine million individuals in 1929. [George Soule, *Prosperity Decade: From War to Depression, 1917-1929* (New York: Rinehart and Co., 1947), 293-94.]
45. Frederick L. Allen, *Only Yesterday* (New York: Harper and Sons, 1931), 266.
 46. Although there is still debate as to which was the causal factor, there seems to be good reason to believe that the booming stock market stimulated merger activity rather than vice versa. When the companies were merged, new securities were issued; in a period of rapidly rising stock prices, this could easily be translated into substantial profits for the owners of the firms being merged as well as the merger promoters. The formation of holding companies, especially utility holding companies, and investment trusts fed more securities into the growing market. For example, see George Soule's discussions of the investment banking house of Dillon, Read, and Company; the Van Sweringen Brothers' empire of railroads; and Samuel Insull's public utility holding company, in *Prosperity Decade*, 298-304.
 47. Michael Meehan, the "Radio" broker at post 12 of the New York Stock Exchange, was one of the most successful arrangers of stock pools. In early March of 1928, he had successfully run a pool in RCA stock. In January and February of 1929, he directed a pool in Anaconda Copper stock. In March of 1929, to celebrate the anniversary of his RCA pool one year before, he arranged another pool in RCA stock. The total amount contributed by the members of the pool was \$12,683,000. A few days before the pool began operation, "paid" tips on the financial health of RCA appeared in New York City papers. On March 12, 1929, the pool members surreptitiously began buying and selling RCA shares and bidding up its price. On March 18 the pool members began selling off the shares they had purchased, and the price of RCA dropped 22 percent between March 16 and March 23. The pool was enormously profitable for its participants because the net profit was nearly \$5,000,000 on the initial total of \$12,683,000, or a return of 39 percent in one week. [Gordon Thomas and Max Morgan-Witts, *The Day the Bubble Burst* (Garden City, NY: Doubleday, 1979), chapter 8.]
 48. Gene Smiley and Richard H. Keehn, "Margin Purchases, Brokers' Loans and the Bull Market of the Twenties," *Business and Economic History*, 2d series, 17 (1988): 129-42.
 49. John Kenneth Galbraith, *The Great Crash* (Boston: Houghton Mifflin, 1954), 174.
 50. Irving Fisher, *The Stock Market Crash—and After* (New York: Macmillan, 1930).
 51. Murray N. Rothbard, *America's Great Depression* (Kansas City: Sheed and Ward, 1963), chapter 4; Gunderson, *An Economic History of America* (New York: McGraw-Hill Book Co., 1976), chapter 16; Jude Wanniski, *The Way the World Works* (New York: Simon and Schuster, 1978), 125.
 52. Gunderson, *An Economic History of America*, 473.
 53. Wanniski, *The Way the World Works*, 125. Neither does Wanniski provide an explanation why stock prices peaked at the beginning of September and then began falling. Wanniski argued that the market broke because transactors *anticipated* the June 16, 1930, signing of the tariff. And tariffs are another form of a tax wedge driven between transactors in market transactions, reducing economic activity and efficiency and causing output, income, and profits to fall.
 54. Charles P. Kindleberger, *The World in Depression, 1929-1939* (Berkeley: University of California Press, 1973), chapter 5; Peter Temin, *Did Monetary Forces Cause the Great Depression?* (New York: W. W. Norton, 1976), 42-5. The yield is the yearly dividend divided by the average of the monthly stock prices during the year and is comparable to an interest rate. The earnings are the firms' net earning rather than just dividends paid out to shareholders so that the implicit rates of return are higher than the yields reported in Figure 5.14.
 55. Gary Santoni and Gerald Dwyer, "Bubbles vs. Fundamentals: New Evidence from the Great Bull Markets," in *Crises and Panics: The Lessons of History*, ed. Eugene N. White (Homewood, IL: Dow Jones/Irwin, 1990).
 56. Gerald Sirkin, "The Stock Market of 1929 Revisited: A Note," *Business History Review* 49 (Fall 1975): 233-41.
 57. Eugene N. White, "The Stock Market Boom and Crash of 1929 Revisited," *The Journal of Economic Perspectives* 4 (Spring 1990): 75-6. Eugene N. White, "When the Ticker Ran Late: The Stock Market Boom and Crash of 1929," in *Crises and Panics: The*

Lessons of History, ed. Eugene N. White (Homewood, IL: Dow Jones/Irwin, 1990).

58. J. Bradford De Long and Andre Shleifer, "The Stock Market Bubble of 1929: Evidence from Closed-end Mutual Funds," *The Journal of Economic History* 51 (September 1991): 675-700.
59. *Ibid.*, 677.
60. *Ibid.*, 695.
61. White, "The Stock Market Boom and Crash of 1929 Revisited," 77-8.
62. *Ibid.*, 77.
63. Women investors were a new group that was specially catered to. Frances D. McMullen, "Women and the Ticker Tape—A Year After the Crash," *The Women's Journal*, November 1930, as cited in White, "The Stock Market Boom and Crash of 1929 Revisited," 78.
64. Jerry E. Bishop, "Stock Market Experiment Suggests Inevitability of Booms and Busts," *The Wall Street Journal*, 17 November, 1987.