Banking Principles, Bank Competition and the Credit Boom of the 1920s

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Abstract: The later part of the 1920s is a particularly interesting historical period because we can study how new practices in banking and the competition among banks contributed to the credit boom of the time. The paper describes innovations in scientific credit analysis and documents the hopes voiced at the time for a future with rational and safe credit policies. By studying the course of major New York banks before and after the Wall Street crash we find that the innovations in business methods lead some bankers to opt for aggressive and risky lending policies and with these choices they put pressure on competitors to follow. The paper thus documents a major element in the mechanism of the credit cycle.

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"What the Steam Engine is in Mechanism, what the Differential Calculus is in Mathematics, that is Credit in Commerce." (Macleod, 1923, p. 157)

1. Introduction

Times of strong credit growth followed by large losses of banks on defaulting loans and a decline in credit supply have been documented and discussed extensively in the literature (Kindleberger, 1978, Wojnilower, 1985, Eckstein and Sinai, 1986, Cantor and Wenninger 1993).[1] While modern theorists (e.g., Rajan, 1994, Kiyotaki and Moore, 1997) tend to favor explanations of such cycles that build on rational decision making, economic historians are inclined to point out elements of irrational or boundedly rational behavior (see Kindleberger, 1978). In this article we analyze a particularly revealing historical episode (the US during the later part of the 1920s) in order to illustrate important forces on the side of commercial banks that drive the credit cycle. The later part of the 1920s is interesting because we can analyze how the co-evolution of business knowledge (i.e., banking practices) and competitive interactions contribute to a credit boom that ends in crisis. This perspective complements the analyses of Eichengreen (2004) and Eichengreen and Mitchener (2004) who see the credit boom of the late twenties as a major factor in the great depression of the 1930s.[2]

Banking practices can be studied through the lens of manuals for the education of young bankers, through data of individual banks and through the accounts of individual bankers and analysts. This is a form of behavioral economics (i.e., documenting the basis and the biases of decision making) that stands in sharp contrast to the new field of neuroeconomics (see, e.g., Camerer et al, 2005). I argue that instead of peeking into the brains of decision makers we

[1] Hall (1927) and Young (1928) offer interesting early statistical attempts at characterizing the cyclical tendencies of bank credit.

[2] These authors point to the Fed's low-interest-rate policy as the major cause of the fast expansion of bank credit. The position suggested by the title of the article by Eichengreen and Mitchener (2004) "The great depression as a credit boom gone wrong" is also supported by Schularick and Taylor (2009).

should study the books and manuals they are trained with. Here it is less important to sort out whether a particular piece of writing actually changed training or decisions routines or whether it just describes what is already in use. It is more important to show that a particular historical period is characterized by interesting changes in procedures.

Looking at the records of the early decades of the twentieth century we see traditional values and methods meeting innovations in the banking business. The established values are typically summarized in textbooks of the time as principles of "sound banking" and will be described below as they pertain to the credit policy of a bank. The innovations concern changes in the business of banking particularly after the First World War. These years saw important developments in business and banking practices reflecting the increasing scale of business and advances in transactions technologies. "Scientific management" reached the bankers' world and in particular statistical analysis became established in banks' credit departments. The protagonists of these innovations saw great promise in the use of statistical analysis and scientific judgment and expected them to prevent excesses and failures in banking that had occurred previously.[3]

However, "scientific credit analysis" and principles of "sound banking" did not amalgamate to a prescription for rational credit management. Instead, the new methods left room for much diversity concerning banks' strategies allowing for more or less risky credit policies. Moreover, the staff resources needed for the new credit departments intensified scale-effects in banking and thus favored bank expansion (see Chapman, 1934). This expansionary drive was amplified by the new ideas of salesmanship that made their entry into banking. It was the period where elements of the fledgling field of marketing became incorporated into the

[3] This trend can also be seen on the background of the desire, particularly in lager organizations, to exclude personal idiosyncrasy and subjective judgment (see Porter, 1995).

curriculum of young bankers. It is this background against which the lending strategies of the time unfolded. The competitive dynamics unleashed in this setting can be seen as an important driving force of the credit boom of the 1920s. By describing the banking environment and the choices of individual banks and linking them to the macroeconomic developments the present analysis takes up the lead of Schumpeter who suggested the importance of innovations and major firms in an account of economic cycles (see, Schumpeter, 1939, and McCraw, 2006, p. 255).

The article is structured as follows: Section 2 outlines the practices concerning banks' credit policies prevalent at the beginning of the 1920s. Section 3 describes the scientific management of bank credit and documents the hopes of bankers for improved lending decisions. Section 4 describes the rising role of marketing in banking at the time. Section 5 illustrates the strategic choices of major New York banks in this setting and links banks' strategies to the aggregate credit cycle of the 1920s. Section 6 concludes this article by documenting that even the setback of the stock market crash and the great depression did little to weaken the hopes that rational banking would overcome the tendencies for credit booms and busts.

2. Principles of sound banking

Ebersole (1917), Foster (1917), Agger (1918), Phillips (1920) and Westerfield (1924) are good examples for educational banking texts used in the 1920s which describe the operations and procedures in banking. Documents by the National City Bank of New York (1917 and 1921) describe in detail the banking apprenticeship plan of a leading bank and portray its 40 departments and sub-departments and their functions. Kniffin (1921) describes the routines of banking practices and describes (as many others do) the so-called "three Cs of banking credit": Character, Capacity and Capital. The characteristics of potential borrowers along

these three dimensions are seen as the key prerequisites for success in the credit business.[4] Miller (1927, p. 9) compares the relative importance of these lender qualities (or the lack thereof) as causes for insolvencies in the early 1920s and makes the point that the three C's should be combined with more information and analyzed with more sophisticated methods:

> "They [the three Cs] are helpful to the banker in forming the background of credit. They are valuable as a starting point for the credit man, and form a logical basis for approaching credit problems; but they should be looked upon more as a starting point for a searching analysis of the facts, rather than as a formula of credit which may be applied automatically to credit problems which are to be solved. Thus they are important as essential elements to consider in judging a risk, but business operations have become so complex, and corporate organizations have become so large that it may be rightly said that were the banker to stop with but these three essential to credit, he would be a fault."

Hence, the trend of the time toward collection of data and application of scientific methods of analysis falls on fertile ground. The statistical analysis of information on borrowers is the innovation that banking scholars and banking professionals of the time see as the prescription for a safe credit policy for commercial banks. The new quantitative methods in banking are expected to prevent credit cycles. Youngman (1926, p. 203) puts these hopes into words as he writes:

> "As to the future outlook for the country's business in general, some are inclined to feel that the great activity of to-day will necessarily lead to a period of inflation as optimism and success beget over-optimism and a tendency to take chances. I believe, however, that the country is better equipped than ever to study business conditions and dangers and to steer a more direct course. This will tend to reduce our deviations from straight and prosperous progress just as a great liner, equipped with powerful engines, its rudder steadied by mechanically true steering apparatus and navigated in full knowledge of ocean currents and impending weather, can make a truer course than the ancient sailing vessel subject to the uncertainties of unknown winds and tides and lacking strong driving powers of its own. I think our bankers and business men of to-day are inclined to avail themselves of the opportunity to pursue a wiser, steadier business course than ever before."

[4] As values or virtues important on the side of bankers Forgan (1925, p. 76) looking back on a career in a total of eight banks serving as president and chairman of the board identifies "integrity of character" as the main source of success.

3. Scientific management in banking

As in other management domains railroad companies lead the way in establishing departments for statistical analysis (see Cunningham, 1911). For the field of quantitative financial analysis Hardy and Meech (1925) describe the state of the art. Munn (1925) – a banker and educator – describes functions, organization and methods used in credit departments.[5] He details the scientific methods of credit analysis and the use of so-called “credit barometrics”.

Even at the beginning of the decade academics like Dewey and Shugrue (1922) and Kavanaugh (1921) – a banker and University lecturer – formulate reservations questioning the promise of the newly available methods as a guarantee for safer banking. They present a detailed discussion of the elements of applicants’ credit statements (the balance sheet and the profit and loss account) and its empirical uses for making credit decisions. Further, these authors propose a set of ratios for the systematic quantitative analysis of credit applications. Importantly, these authors already point toward the limits of this systematized statistical approach. They indicate that there is much leeway in the application of the statistical information and, in particular, they emphasize the importance of judgment and the bank’s discretion regarding risk taking in a competitive environment. Miller (1927) acknowledges that one of the reasons for the rise of scientific analysis of credit proposals (the fact that corporations have grown in size and complexity) also makes the assessment of risk more difficult. Instead of a simplification of the banking business this means that the rise of scientific credit management tended to widen the range of banks’ managerial discretion and competitive strategizing. However, the caveat that the innovations in banking may contribute to financial instability remained largely unheeded. Instead, the enthusiasm concerning the

[5] The drive toward introduction of credit departments evokes the notion of institutional isomorphism studied by DiMaggio and Powell (1983).

controllability of a bank's success was amplified by new concepts of marketing that gave a further impulse toward expansion.

4. The increasing role of salesmanship

The notion that banks are actively selling credit would have sounded strange to most bankers a hundred years ago. Instead, bankers (on the asset size of their business) saw themselves as selecting among credit applicants and forging long-term relationships with borrowers. However, business practices around 1920 were changing. The study of customer psychology and the structuring of sales processes became the focus of systematic salesmanship. These new approaches were first applied in the marketing of consumer goods: Butler et al. (1916), Stevenson (1923), Vardaman and Lovelace (1926) present analyses of selling processes and offer prescriptions while Welch Grape Juice Company (1921) and Standard Varnish Works (1923) exemplify applications in actual sales organizations. With some delay these ideas became incorporated into banking practices. In a book "How Banks Increase their Business" Knapp (1926) describes the temperament of the "Ideal Type" (p. 3) of a "New Business Manager" in banks. This ideal sales oriented banker should be (1) inquiring, (2) decisive, (3) aggressive, (4) likable, (5) imaginative, (6) expressive and (7) practical and his primary task would be (p. 4):

> "His first responsibility should be that of improving the service and selling efforts of the bank until they are equal to, or better than, the service and selling efforts of its competitors. To do this he will have to make a close comparative survey of his bank and its customers from the inside, and of its prospects and competitors from the outside."

As a result of the efforts of banks undertaken in this direction competition among banks increased. In the assessment of one banker (quoted in the New York Times, Jul. 15, 1927, p. 28) speaking at a meeting of the American Institute of Banking:

> "Competition as we know it today in the field of banking was almost unknown twenty years ago. Gradually, however, as banks grew and times changed, new ideas were advanced and commercial sales and advertising methods were introduced until today we

> find existing between banks as much aggressiveness and keen competition as there is in any other line of business. Once the banks threw off their cloak of reserve and their 'you-come-to-us' attitude, they took a complete about-face and in some localities now have gone to the other extreme in their attitude toward new business and their method of getting it."

Hence, the new sales techniques gave banks aiming to expand their business the possibility of doing so more effectively. These banks, by competing aggressively, exerted pressure on their competitors. It was in this setting that banks had to make their strategic decisions. Contrary to the hopes for a future with scientifically guided rational and safe credit policies banks had to make difficult strategic decisions. To what extent should the bank aim to increase lending in order to be able to justify the costs of departments for credit analysis and marketing? Are the managers and owners of a bank prepared to curb expansion and opt for more safety when this means that their bank is outgrown by competitors? Should expansion be slowed when credit risks are rising relative to lending margins? The next section focuses on the answers to these questions and the choices of large New York banks of the time. We will document that despite noteworthy differences the major players opted for expansion and thereby contributed to the credit boom.

5. Banking in the boom: the case of large New York banks

This section starts with a review of the evidence for the existence of a credit boom during the second part of the 1920s. Before turning to numbers we point to findings and assessments in the literature. Among the more recent analyses we have Eichengreen and Mitchener (2004), Bordo (2003), Schularick and Taylor (2009) and White (2009).[6] Moreover, Snyder (1930) – with an interesting early analysis of the upward deviation of bank credit from its long-run

[6] White (2009) does not paint the picture of an inefficient credit expansion but states (p. 24): "The expansion of mortgage credit in the 1920s was also facilitated by a loosening of lending standards with aggressive new intermediaries increasing their market share. Although the evidence for the twenties is fragmentary, there appears a more modest drop in lending standards for mortgages held by financial institutions".

trend – and Persons (1930, p. 94) point to a "great wave of credit expansion in the past decade".[7] Besides bank credit (notably urban real estate mortgages and commercial loans), consumer credit (only partially finance directly by banks) expanded strongly over the 1920s (see, Klein, 1971). Turning to data, according to data by the Board of Governors of the Federal Reserve System (1959) the expansion in bank credit in the state of New York between 1925 and 1929 was on average 9.4 percent annually. For the rest of the nation this growth rate was a mere 2.5 percent. This documents that New York was indeed a center of the credit boom of the nineteen twenties. With the crash on Wall Street the boom came to an end. Against all the forecasts of the time the correction was not short-lived but led to a major depression. Between 1929 and 1936 credit in the continental United States except the state of New York slumped by an annual average of over 11.1 percent. Lending by banks from the State of New York shrank only by 8.1 percent annually. This indicates that New York banks were driving the boom and that these banks emerged with a larger share of the national credit market toward the end of the depression.[8]

Hence, we will probe into the competitive dynamics among major New York banks that contributed to this course of events. We first focus on the three largest New York banks (incidentally also the largest US banks of the time, see American Banker, 1928, Jan. 17th, p. 7) during the boom of the 1920s.[9] These major banks, in order of their size in 1926 (the starting point of our data set from Moody's Manual of Investments, 1928-1937), are the First National

[7] While Persons' empirical study focuses on the 1920s, Moulton (1918) and Black (1928) give a more general description of the different types of borrowers in the U.S. economy.

[8] At least beginning with Willis (1929) there is a debate on the special role of broker's loans in the boom. According to Willis this particular form of loans is the key culprit in the excess of the late 1920s (p. 304-305): "The first and outstanding feature of the situation is supplied by the continuous growth of brokers' loans, not merely in amounts, but also in rate of increase, until point was reached at which practically all new issues were being carried (directly or indirectly) by advances at the banks." Newer research (e.g., White, 1990) tends to reject this hypothesis.

[9] A ranking of New York banks is possible based data on aggregate deposits of banks by Noble and Corwin (1928).

City Bank of New York (1,394 million in assets), the Chase National Bank of New York (968 million dollars) and the Guaranty Trust Company of New York (739 million dollars). Relative to the aggregate supply of loans in the US the lending of these three banks made up 3.8%, 2.6% and 2.0%, respectively. Figure 2 shows the course of total assets for each of these three banks from 1926 through 1936. All three banks grew strongly up to 1929 and all three shrank as the American economy went more deeply into the depression from 1931 till 1933. In the recovery Chase emerged as the largest institution whereas National City Bank had lost ground.

How can the development of these three banks be attributed to their strategies? To answer this question we point to their acquisitions and lending policies. Table 1 shows which other banks the three largest New York banks acquired between 1926 and 1936. The acquisitions of National City Bank were moderate compared to the acquisitions of its competitors: Guaranty Trust Company in 1929 took over the Bank of Commerce in New York which had assets totaling 791 million dollars (end of 1928) and loans and discounts of 467 million dollars. Chase increased its size markedly in 1929 by acquiring the National Park Bank of New York which held assets of 312 million dollars (loans and discounts of 191 million dollars), and further in 1930 with Equitable Trust Company of New York with a total of assets of 1,013 million dollars (loans and discounts of 553 million dollars).

While relatively guarded with respect to acquisitions, City Bank opted for an aggressive lending policy. Measured by the loan ratio (the ratio of the balance sheet entry “loans, discounts and acceptances” relative to “total liabilities”) City Bank lead the group during the three years leading up to the crash. Figure 3 indicates that Chase opted for a more cautious lending policy. In particular in 1928, the year before the crash, Chase National Bank held only about forty percent of its assets in loans while City Bank had 55 percent and Guaranty Trust

Company around 50 percent. This difference between Chase and City Bank just before the peak of the boom is also reflected in statements by their respective leaders. In January of 1928 Albert H. Wiggin, the chairman of Chase National Bank voiced concerns about the expansion of credit relative to business volume (Wall Street Journal, Jan. 9, 1928). In contrast, even ten months later, Charles E. Mitchell, the president of the National City Bank, saw no signs of "credit inflation" (American Banker, Oct. 27, 1928, p. 1). In 1929 the range of values concerning the lending ratio narrowed across the major players and with the year 1930 Chase took the lead with the highest lending ratio.[10] The picture that appears is that all three market leaders opted for a strong expansionary course and that Chase outsmarted the others by lending somewhat more conservatively before the peak. This caution paid off. Chase had to reduce lending less after the crash which contributed to its subsequent success.

An interesting reflection of one bank leader on the outcome of the competitive struggle during the credit boom can be found in the testimony by Charles E. Mitchell given to the Senate Committee on Manufactures in December 1931. Mitchell is asked by the committee Chairman (cited from Cleveland and Huertas, 1985, p. 174): "As we look back on the situation, was the credit policy of the American banking system too liberal during the period from 1923, say, to 1928 and 1929?" Mitchell asks back "When you speak of the banking system, have you in mind the central banking system or banks as a whole throughout the United States?" The Chairman replies: "I should like your opinion concerning the banks as a whole." In response Mitchell replies: "Again looking backward, their policy was undoubtedly too liberal. They were too ready to loan, too ready to meet the competition of neighbors too willing to cut down their margins to a point of encouraging excessive borrowing." In 1933 Mitchell was forced to resign and saw himself, perhaps justifiably, as a scapegoat for the excesses of a whole industry.

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[10] Clearly, part of the increase in Chases' lending ratio is due to its acquisition activities.

We close this section by pointing toward two further New York banks whose experience serves to illustrate upper and lower boundaries in the riskiness of lending policies during the boom. The National Park Bank after years of conservative business adopted an expansionary credit policy in 1928. This change was very welcomed by Wall Street. According to one source (American Banker, May 28, 1928, p. 10) an almost 40 per cent increase in the value of the stocks in one quarter was attributed to hopes that the latest increases in earnings signaled a more “vigorous” policy by the new bank president. The experiment ended with the bank being acquired by Chase in 1929.[11] A counterexample documenting a cautious lending policy is the account of the Bank of New York and Trust Company. Nevins (1934, p. 145) describes how this oldest of New York banks lived through the boom period: “An extravagant and often reckless expansion of banking set in during the post-War period and was continued until the latter half of 1929.” And further down (same page): “The Bank of New York and Trust Company, whose officers regarded these tendencies with distrust, meanwhile followed the old and conservative paths in which it had always trod. Yet its growth continued steady.” This experience lead the bank to declare in a chapter entitled “The Bank’s declaration of Principles” that (Nevins, 1934, p. 156): “It [the bank] has never been betrayed by prosperity into speculation or recklessness, and has never been frightened by panic and depression.”

In summary, the analysis of the choices of several major US banks during the boom of the 1920s documents a broad range of banks’ assessments and strategies despite the use of similar methods and a strong expansionary drive among the major players.

[11] We should also point to the Bank of United States which was the only major New York bank to fail in the downswing. See Trescott (1992) for a discussion of the reasons of its downfall.

6. The conclusion: crisis and unbroken optimism

This section describes how the crisis influenced banking professionals regarding their hopes for rational credit policies. Willis (1929, p. 308) – then professor of economics at Columbia University – writing shortly after the stock market crash for a British readership notes:

> "The banks have undoubtedly plunged into a speculative whirlpool with their eyes open and with thoughtless disregard of consequences. Of course, that raises a question more important than mere analysis of condition can be; how can American banking be set straight and included to guide itself by the canons and principles which are essential as demonstrated by past financial experience?"

Here, the notion that banking should "guide itself" echoes the earlier hopes raised by scientific methods in banking. Kniffin (1934) describes the legal consequences (the banking act of 1933) of the previous excess and losses. According to him regulation falsely takes over where individuals and organizations should improve their judgments. He holds on to the hope that responsible bankers would be sufficient to prevent future excesses. Continuing optimism with respect to the possibilities of rational credit policies are also expressed in Hazlewood (1930, p.10) who states

> "Credit studies are making available a wealth of information. Statement analysis has developed standard balance sheet and operating ratios for different liens of business which help the loaning officers to more intelligent decisions and also enable them to make worthwhile suggestions to customers." On page 11 he continues "Our leading banks of tomorrow will be operated in as thoroughly a scientific manner as any great industrial corporation." Finally, on page 14 he notes "These banking leaders of the future, for whom all of us now eagerly searching, will master the technique of banking as Demosthenes mastered speech or Rembrandt mastered art."

Nowhere in these accounts do we find an understanding for the range of strategic options among banks. Likewise, there is no acknowledgement of the fact that the arrival of new methods, data and techniques in banking also brings new competitive pressures. But in fact this is an important lesson the analysis of the 1920s teaches: Innovations in business methods lead some bankers to opt for aggressive and risky lending policies and with these choices they put pressure on competitors to follow. This is a major element in the mechanism of the credit cycle.

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Table 1: Acquisition of the three largest New York banks: 1926-1936*

NATIONAL CITY BANK OF NEW YORK, THE

1926 Acquire by merger Peoples Trust Company of Brooklyn N.A. of New York
1929 Acquire by merger Farmers' Loan State Bank
1931 Acquire by merger Long Island National Bank of New York
1931 Acquire by merger Bank of America National Association

CHASE NATIONAL BANK OF THE CITY OF NEW YORK, THE

1926 Acquire by merger Mechanics & Metals National Bank of the City of NY
1927 Acquire by merger Mutual National Bank of the City of New York
1929 Acquire by merger Garfield National Bank of the City of New York
1929 Acquire by merger National Park Bank of New York
1930 Acquire by merger Equitable Trust Company of New York
1930 Acquire by merger Interstate Trust Company
1931 Purchase Banking American Express Bank and Trust Company

GUARANTY TRUST COMPANY OF NEW YORK

1929 Acquire by merger Bank of Commerce in New York

*Source: New York State Banking Department, The History of Banking in New York State

Figure 1: Total loans of all banks in the continental US (in millions of dollars)

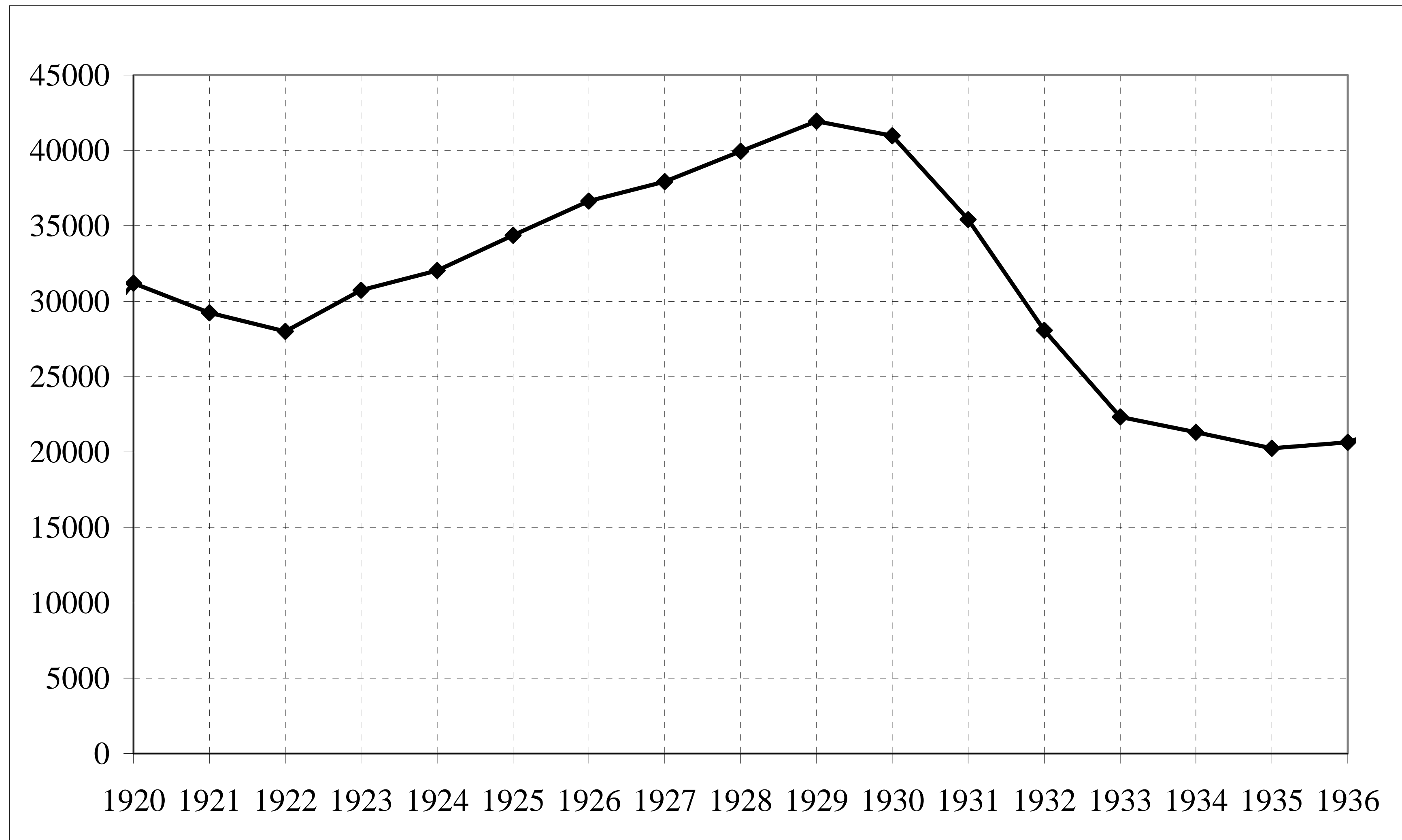

Figure 2: Total assets of the three largest New York banks (in millions of dollars)

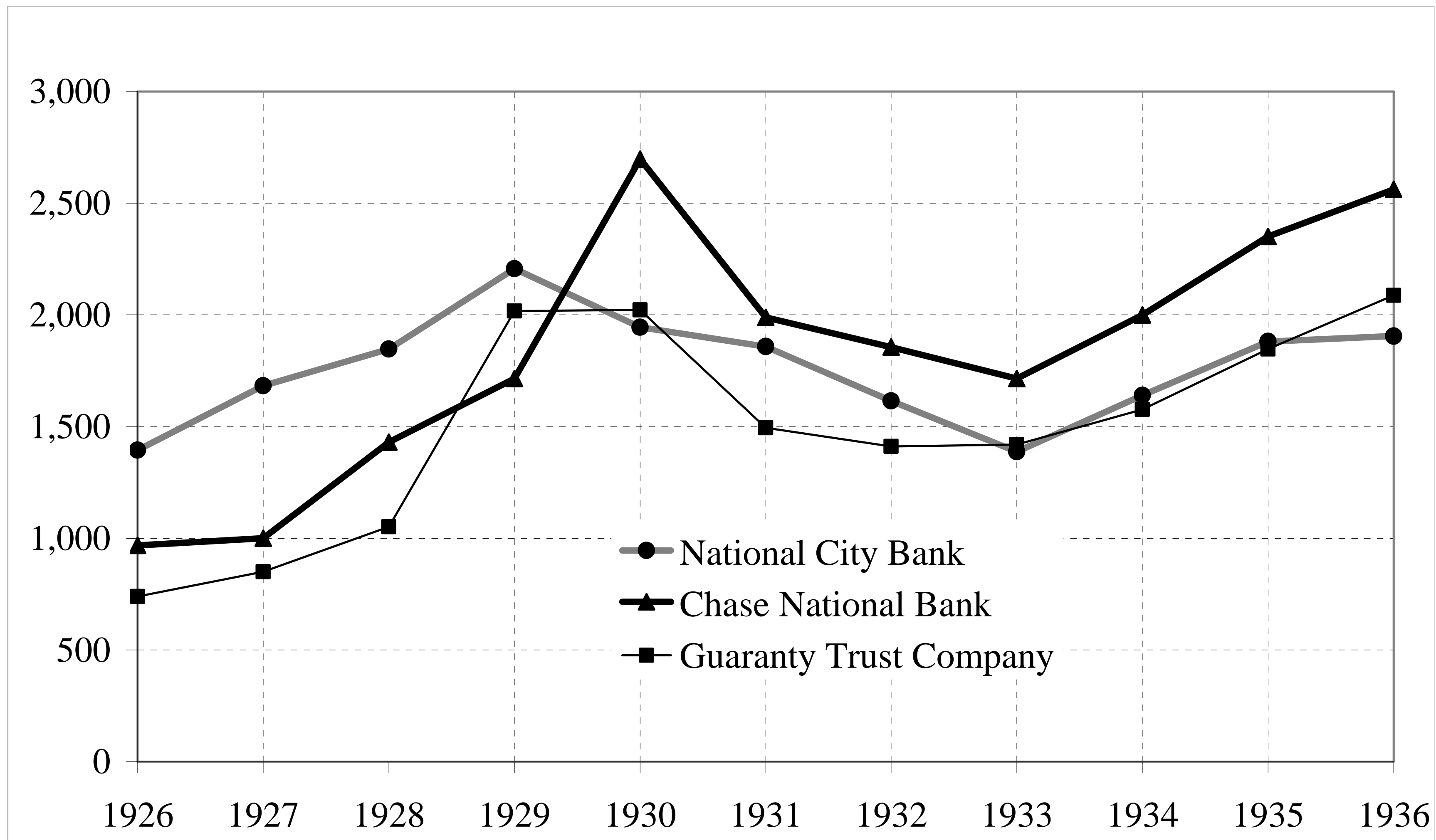

Figure 3: Ratio of loans to assets