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ABSTRACT

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September 10, 2014

Abstract: This paper studies the persistence and some of the consequences of the eventual abandonment by the FOMC of the principles embedded in the Federal Reserve's Tenth Annual Report of 1923. The three principles I focus on are 1) the discouraging of speculative lending by commercial banks, 2) the desire to meet the credit needs of business and 3) the preference of a focus on credit over a focus on monetary aggregates. I show that the first two principles remained important in FOMC deliberations until the mid-1960's. After this, the FOMC also spent less time discussing the composition of bank loans.

One of the most dramatic reversals in Federal Reserve policymaking involves the targeting of monetary policy towards financial stability. The Federal Reserve's 1923 Annual Report officially announced that the goal of monetary policy was the avoidance of speculative lending, which were thought to lead to inflation and crisis. By contrast, there was broad agreement at the Fed in 2002 with Ben Bernanke's view (Bernanke 2002) that monetary policy should be aimed exclusively at macroeconomic goals while financial stability should be ensured by regulatory means instead. The main purpose of this paper is to elucidate when this reversal occurred and thereby shed some light on why it did.

An unwillingness to devote monetary policy to financial stability may well make financial crises more likely. This paper may thus contribute to the understanding of the ultimate sources of the financial crisis of 2007. The crisis itself appears to have affected Ben Bernanke's views since, in 2010, he openly countenanced using monetary policy to "prevent dangerous buildups of financial risks."[1] Insofar as the Fed directs monetary policy towards financial stability once again, the history of how it abandoned this earlier goal may also contain lessons for the future.

The study of the abandonment of the Fed's 1923 principles should also shed light on the relevance of various views regarding what determines Fed policy. One prominent view in political science, (Hall 1993 p. 278) is that changes in monetary tactics are "a result of dissatisfaction with past

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[1] See Bernanke (2010).

experience." A sharper version of this hypothesis involves imagining that policymakers act like a single rational (Bayesian) decision maker with an unchanging objective as in Sargent (1999), Bullard and Eusepi (2005) and Primiceri (2006). This decision maker updates her views concerning the parameters governing her environment every period and sets policy optimally in light of her currently estimated parameters. This has two implications. First, change should occur fairly quickly after an existing policy appears to have unexpectedly negative consequences. Second, no major change should take place in the absence of recent data containing some sort of surprising outcome. As we shall see, the final abandonment of the 1923 principles does not appear to have had this second feature.

A second notion in political science is that the ideas of leading academic scholars play a key role in inducing change in monetary policy. Hall (1990) argues, for example that the ideas of monetarists played a role in changing U.K. policy even at the point where these ideas were not fully embraced in academic circles. This fits with Mehrling's (2002) discussion of the role of economists in the founding of the Fed, which gives a central role to J. Laurence Laughlin, the first chairman of the economics department at the University of Chicago. Laughlin favored the 1923 principles but, as we shall see, these survived long after leading academic journals stopped publishing articles that were favorable to these principles. Indeed, by the time they were abandoned it seems fair to say that these principles had no support among academic economists. This paper may thus be helpful in clarifying the conditions under which scholars are able to influence the Fed only with delay.

There is substantial evidence that the 10 pages of the 1923 Annual Report constituting its "Guide to Credit Policy" remained influential in the 1930's. A central moment in Friedman and Schwartz's (1963) narrative concerning the Fed's passivity in the Great Depression involves the refusal of regional Fed presidents to conduct open market purchases in mid-1930. As Friedman and Schwartz (1963, p. 371-373) document, the opponents viewed such purchases with alarm, with Philadelphia Federal Reserve president George Norris arguing that it would represent "a complete and literal reversal of the policy stated in the Board's Tenth Annual Report."[2] Similarly, Federal Reserve Board Governor Adolph Miller testified in 1928 that he "question[ed] whether you can find a more competent statement of the fundamentals of modern reserve banking policy."[3]

To my knowledge, no thorough analysis exists of when these principles stopped exerting their influence on the Fed. Neither the timing nor the consequences of the Fed's loss of faith in its 1923 principles seem to have been studied systematically before. Insofar as the timing has been addressed, different scholars appear to have reached inconsistent answers. Testifying in 1964, Abba Lerner and Milton Friedman complained that the Fed continued to be more concerned with the quality of the assets held by banks (the Fed's central operating principle in 1934 according to Currie (1934)) than with the evolution of the money supply. Indeed, Abba Lerner and Milton Friedman suggested that this emphasis was a necessary consequence of the Fed's organization, so that it could be expected to remain present unless the Fed was thoroughly reorganized.[4]

In contrast to this view, which regards some 1923 principles as dominant in 1964, Meltzer (2009) suggests that their importance had waned considerably earlier. Meltzer (2009, p. 281) recognizes that the "Board's 1923 Annual Report" was among the "only comprehensive efforts to develop a policy framework." Writing about 1960, however, Meltzer (2009, p. 281) states "Important as [these efforts] were at the time they were written, they had faded along with the real bills doctrine."[5] Meltzer (2009 p. 467) is the only passage in the book suggesting that "remnants of the real bills doctrine were not dead." This passage refers to a set of legislative proposals that, according to Meltzer (2009, p. 466) the Board did not expect to pass but which the Board nonetheless wished to propose in 1963 to signal its desires. This

[2] Ibid, p. 373. A forceful restatement of the idea that the Fed's existing principles deepened the Great Depression is provided in Meltzer (2009, p. 1217), who says "mistaken beliefs or incorrect theory – mainly the real bills doctrine as a decisive cause of the failure to take action to limit, prevent, and end the Great Depression."
[3] House of Representatives (1928, p. 214), quoted in Currie (1934, p. 40).
[4] Friedman (1962) goes somewhat further and states that some of the 1923 principles followed almost by necessity from the Fed's independence. This was because "an independent central bank will almost inevitably give undue emphasis to the point of view of bankers."
[5] Mehrling (2002, p. 216) expresses a similar view. After discussing the intellectual currents that shaped the Fed at its inception, the article concludes with "The Fed was ultimately not able to develop its own traditions, much less to establish them firmly, before worldwide depression swept them all away."

legislative proposal refers to the "maintenance of sound credit conditions, and the accommodation of commerce, industry, and agriculture." As I demonstrate below, related phrases were in fact quite common at the time and not at all restricted to non-viable legislative proposals.

The term "real bills doctrine" was coined by Mints (1945). Even though Mints (1945, p. 266-267) notes that the 1923 Report is not perfectly consistent with his own definition of the real bills doctrine,[6] several subsequent scholars have blamed the Fed's failure in the 1930's on its attachment to this doctrine.[7] The term "real bills doctrine" is at best a shortcut for the principles discussed in the 1923 Annual Report, so I devote Section 1 to discussing three principles that seem central in the report. This encapsulation plays a key role in my method for determining when these principles lost force. The reason is that my approach consists of searching through the Minutes of FOMC meetings for expressions that closely mirror expressions in the 1923 Report itself. It is at the point that a particular set of expressions stops being used, or start being used for different purposes, that I determine that the principle behind these particular expressions has ceased to be influential.

In its use of the available FOMC discussions to analyze the role of ideas, the paper follows Romer and Romer (1989) and Chappell *et al.* (1997).[8] It is closest to Meade and Thornton (2012) in that I

[6] In speaking about the 1923 Report, Mints (1945, p. 267) says "in the midst of its great confusion it was exhibiting the beginning of a tendency in the right direction."

[7] Meltzer (2009, p. 1217) states that "mistaken beliefs or incorrect theory – mainly the real bills doctrine [was] a decisive cause of the failure to take action to limit, prevent, and end the Great Depression." In another example, Humphreys (2001, p. 311) discussion of the Great Depression concludes with "The Fed's failure to act shows that its adherence to the real bills doctrine had deleterious consequences." Also, Timberlake (2005, p. 217) says "The reason Fed policy was so disastrous was ... [that] Fed managers were operating on a real bills basis." An earlier criticism of the Fed for being attached to the real bills doctrine can be found in Friedman and Schwartz (1963, p. 169).

[8] The time coverage is longer than in the previous literature, with the result that my series includes texts whose formats differ slightly from one another. Before June 1967, they are published as "Historical Minutes," then as "Memoranda of Discussion" until March 1976 and finally as "Transcripts" starting in April 1976. The "Memoranda of Discussion" differ from the "Historical Minutes" in that the latter include a summary that was separated into the "Minutes of Actions" when the "Memoranda of Discussion" started to appear. Otherwise, the format of the "Historical Minutes" and the "Memoranda of Discussion" appears identical. "Historical Minutes" are available since 1936. There is a substantial change in July 1955, however. At this point, Intermeeting Executive Committee meetings were abolished and full FOMC meetings became more frequent. As a result, much of the detailed analysis in this paper focuses on the post-1955 period.

search for occurrences of specific combinations of words and discuss the contexts in which these combinations of words appear.[9]

As shown in Section 2, the first of the 1923 principles to be abandoned by the FOMC is the idea that the Fed should ignore monetary aggregates and should concern itself instead with the evolution of bank credit. Section 2 complements Anderson and Kavajecz (1994) who focus on the history of the publication of monetary aggregates without discussing when and how these data were used. The Fed's increased attention to monetary statistics could in principle have been consequential, because supporters of the quantity theory of money such as Lauchlin Currie intensely opposed all the 1923 principles and strongly advocated that the Fed base its policy on monetary aggregates. I show that, instead, this change was purely cosmetic at first. For a quite long time, several Fed officials who talked about changes in the money supply continued to care a great deal about the evolution of credit.

Sections 4 focuses on the decline in the 1923 principle that the Fed should Fed be willing to raise rates to curtail commercial bank lending for speculation while Section 5 focuses on the decline in the principle that, when speculation is not a problem, it should provide sufficiently ample credit so as to accommodate the "needs of business." Interestingly, the use by the FOMC of expressions related to both these principles waned at about the same time, around 1966.

The coincidence of the decline in both these principles raises the question of why, as shown in Section 3, the Fed continued to pay a great deal of attention to total bank credit until the early 1970s. Section 6 seeks to reconcile these findings by showing that, after the "credit crunch" of 1966, the word "credit" was largely used to express concerns that were unrelated to the 1923 principles.

Section 7 then looks for some consequences of the decline in these principles. It shows that the Fed started paying considerable less attention to the bank loans, and to their composition, after 1966. Section 8 concludes and discusses why the central 1923 principles were abandoned in the years around

[9] Meade and Thornton (2012) are interested in appearances of words relating to the Phillips curve and end up focusing on the appearances of related expressions such as the "output gap."

1966, even though this period does not appear to contain any surprising evidence of harm induced by the these principles.

1. The principles of the 1923 Annual Report of the Federal Reserve

The Annual Report of 1923 explicitly aims to discuss "broader aspects of the workings of the Federal Reserve System."[10] The 1923 Report states that "The Federal reserve system is a system of productive credit. It is not a system of credit for either investment or speculative purposes." The Report quickly follows this by saying that these criteria "clearly indicate(s) the nature of the tests which are appropriate as guides in the extension of Federal Reserve credit."[11] As Currie (1934, p. 45) indicates, the "qualitative control of bank assets" thus plays a central role in the Federal Reserve's approach at the time.

The 1923 Report repeatedly claims to base its approach on the Federal Reserve Act, and this distinction between "productive" and other credit is present in this legislation as well. In particular, the Act says that "any Federal reserve bank may discount notes, drafts, and bills of exchange arising out of actual commercial transactions" while clarifying that its definition of "commercial transactions" does not "include notes, drafts, or bills covering merely investments or issued or drawn for the purpose of carrying or trading in stocks, bonds, or other investment securities, except bonds and notes of the Government of the United States."

The Federal Reserve Act's limitation on the assets that the Fed is allowed to accept as collateral bears some similarity to the "real bills" that Adam Smith viewed as advantageous for commercial banks to accept.[12] It is not entirely clear, however, how Smith's idea (1776, 1994) should be applied to a central bank, particularly when commercial banks are not severely restricted in the assets that they hold. Mints' (1945, p. 9) define the doctrine as saying that if a central bank discounts only "real bills," "the expansion of bank money will be in proportion to any extension in trade that may take place, or to the 'needs of trade'." Similarly, Humphrey (1982, p. 3) says that, "The doctrine states that

[10] 1923 Annual Report, p. 1.
[11] Ibid., p. 33.
[12] See Smith (1776, 1994 edition, p. 331). After pointing to systemic dangers of "drawing and redrawing" of bills, Smith (1994, p. 353) calls for the regulation of commercial banks. Smith (1994, p. 311) also lays out steps banks "ought to observe" when making uncollateralized advances to merchants.

money can never be excessive when issued against short-term commercial bills arising from real transactions in goods and services.” It turns out that the 1923 Report takes pains to disagree with the “real “real bills doctrine” as defined by Mints (1945) and Humphrey (1982). In particular, the Report is explicitly worried that the Fed’s discounting of commercial bills can enable banks to extend speculative speculative loans. It says, in particular,

> Paper offered by a member bank when it rediscounts with a Federal reserve bank may disclose the purpose for which the loan evidenced by that paper was made, but it does not disclose what use is to be made of the proceeds of the rediscount. A farmer's note may be offered for rediscount by a member bank when in fact the need for rediscounting has arisen because of extensions of credit by the member bank for speculative use. [13]

Each Federal Reserve Bank was thus instructed to find “the ways and means best suited to the circumstances in which it operates of informing itself of when and to what extent the extension of credit for speculative uses is the real occasion of member bank rediscounting.” In effect, regional Federal Reserve Banks were asked to enforce a “qualitative” test regarding the assets of the banks that borrowed from them. This caused friction when, in 1929, the New York Federal Reserve refused to go along with the Board’s request that it use “direct action” to limit speculative lending by the banks in its district.[14] Instead, the Federal Reserve Bank of New York sought to limit speculation by raising rates.

Rather than supposing that a policy of discounting particular assets was enough, the 1923 Report specifically contemplated raising rates to control speculation. It stated, in particular, that “Federal reserve bank rates should be neither so low as to invite the use of credit for speculative purposes nor so high as to discourage its use for meeting legitimate productive needs of the business community.”[15] The concept of responding to the “needs of trade and industry” permeates the 1923 report and essentially echoes the Federal Reserve Act’s admonition that the Fed should set its policy “with a view of accommodating commerce and business.” To make sure that credit did not exceed these needs, the 1923 Report also included a “quantitative test,” which involved “limiting the volume of credit within the field of its

[13] 1923 Annual Report, p. 35.
[14] Friedman and Schwartz (1963, p. 257).
[15] 1923 Annual Report, p. 10.

appropriate uses to such amount as may be economically justified - that is, justified by a commensurate increase in the Nation's aggregate productivity."[16]

This still leaves open the question of what to do when some firms legitimately needed funds at existing interest rates and this interest rate also led to loans that financed speculation. The 1923 Report seems to indicate that, in this case, the fight against speculation should take precedence.

> It seems clear that if business is undergoing a rapid expansion and is in danger of developing an unhealthy or speculative boom, it should not be assisted by too easy credit conditions. In such circumstances the creation of additional credit by rediscounting at Federal reserve banks should be discouraged by increasing the cost of that credit—that is, by raising the discount rate. It seems equally obvious that if industry and trade are in process of recovery after a period of reaction, they should be given the support and encouragement of cheaper credit by the prompt establishment at the Federal reserve banks of rates that will invite the use of Federal reserve credit to facilitate business recovery."[17]

The use of "reaction" in this passage seems to endorse the view, taken for example in Laughlin (1902, p. 23-24), that booms brought about by speculative credit end in collapse. A recession induced by raising rates during a speculative boom might then be expected to be milder than the recession that would follow from letting the boom continue unchecked.

Inventories play a key role in the 1923 Report because inventory purchases can be either "productive" or "speculative." In particular,

> credit provided for the purpose of financing the movement of goods through any one of the successive stages of production and distribution into consumption, is a productive use of credit. But when the effect of the credit used is to impede or delay the forward movement of goods from producer to consumer, unless such delay is made necessary by some unavoidable cause, e. g., the interruption of transportation facilities, credit is not productively used. The withholding of goods from sale when there is a market or the accumulation of goods for an anticipated rise of price is not a productive use.[18]

The idea here is that people who are accumulating inventories in the expectation that prices will rise are "speculating," so that bank financing of this activity should be curtailed. If one views this as a rule of thumb for central bankers, it would seem to have two complementary advantages. The first is that the Fed is tightening policy in response to increased expectations of

[16] Ibid., p. 33.
[17] Ibid., p. 10.
[18] Ibid., p. 34.

inflation. After all, experts would not speculate by buying inventories unless they expected prices to trend upwards. Second, one can interpret the accumulation of inventories beyond the level that is needed for current production as indicating that real rates of interest are below their ideal level. This rule of thumb recommends raising rates in this case.

The attention that the 1923 Report gives to the total volume of bank assets ("credit") seems derived from the Fed's interest in the composition of these assets, with the suspicion being that an unusually large quantity of credit portends its use for speculative purposes. By contrast, the report expressed no interest in measures of the money supply obtained by adding the currency held by the public to certain liabilities of the commercial banking system. When not used in expressions such as "money markets" and "money centers," the 1923 Report uses the word "money" mostly to refer to currency.[19] Twice, however, it uses the expression "book money" to refer to deposits. The report makes it clear that deposits (one component of bank liabilities) and credit (bank assets) do not always move in tandem, and sees the Fed as playing a valuable role in facilitating this. It states

> There comes a time when the increase of business activity and the fuller employment of labor and increased pay rolls call for an increase of actual pocket money to support the increased wage disbursements and the increased volume of purchases at retail. At this stage the rough parallelism between the growth of loans and deposits of the banks gives way to a divergent movement between these items. Loans may continue to increase while deposits will remain either stationary or show a decline.[20]

This section of the Report puts great stress in fluctuations in the demand for currency, which it calls "money in circulation." It displays a chart showing that, in 1920, deposits were stable while currency first rose substantially and then fell back. The Report says that the movements of the latter are responses "to changes in the currency required to transact the country's business with a given, volume of trade and production" [21] and indicates that the Fed seeks to supply currency "elastically' to satisfy these

[19] For an example in which "money" and "currency" are used interchangeably, see page 23 of the 1923 Report. It contains a table whose entries are labeled "Kinds of money" and which is described in the text as containing "the volume of different kinds of currency in circulation."
[20] Ibid., p.25.
[21] Ibid., p. 28.

changes in demand. By this logic, the Fed is supposed to tolerate changes in the sum of currency and demand deposits when the demand for currency varies.

This brief discussion suggests that there were three key interlocking principles embodied in the 1923 Report, and I focus on these when I analyze how long the ideas of the 1923 Report remained influential. The first of these is that bank lending for the purpose of "speculation," i.e. whose intent is to finance an investment that only yields a return if prices rises, is problematic. Therefore, the detection of such lending should be met with a tightening of policy. The second applies when speculation is not a significant problem, and it requires the Fed to respond to the needs of business. This principle explains why interest rates were reduced after the 1929 crash. It also explains why, once interest rates were near zero in the Great Depression, the Fed thought conditions were "easy" and that it had done enough. Finally, the third is that total credit by banks is a better gauge of the stance of monetary policy than monetary aggregates obtained by adding together the level of currency in circulation to certain liabilities of financial institutions.

2. The beginning of Fed officials' concern with monetary aggregates

The 1923 Report argued that monetary aggregates were not very valuable, while credit aggregates were central to the "quantitative criterion" for determining the proper stance of policy. As this section shows, this inattention to aggregates combining currency and deposits was the first of the 1923 principles to be abandoned.

Attention to monetary aggregates was associated with quantity theoretic reasoning to which the academics that were closest to the writing of the Federal Reserve Act were hostile.[22] The section thus also studies the question of whether the incorporation of monetary aggregates into the FOMC's discussions was perceived as being in tension with the 1923 principles by the people who brought these aggregates into the discussion. This turns out not to be the case, thereby raising the question of why individuals who broadly supported the 1923 principles nonetheless decided to depart from one of them by grafting movements in monetary aggregates onto their statements.

[22] See Laughlin (1924) and Mehrling (2002).

Bernanke (2006) states that the Fed "began to pay more attention to money in the latter part of the 1930s" and says that Lauchlin Currie played a "central" role in this development. Currie became Assistant Director of Research and Statistics when Marriner Eccles became chairman in November 1934. Currie had worked for Marriner Eccles at the U.S. Treasury during the period in which Eccles was insisting on centralizing power in the Board before he would consider taking the job as chairman. According to Sandilands (1990, p. 63), Currie helped Eccles write a memo to Roosevelt arguing for this centralization. Meltzer (2003, p. 467-468) notes that this memo espouses views from Currie (1934) which Eccles never adopted himself.

Currie (1934) provides estimates of the money supply, which he defines as being equal to the sum of currency and demand deposits.[23] Currie (1934) strongly advocates that the Fed exercise better control over this money supply in the sense of preventing it from being as procyclical as it had been in the past. Indeed, Currie (1934 p. 44) is a clear forerunner of Friedman and Schwartz (1963) when he says "the drastic contraction of money from 1929 to 1932 can in large part be attributed to the failure of the reserve administration to appreciate the significance of changes in the supply of money." Currie (1934) also provides a comprehensive attack on what he regards as the "theory … underlying the Federal Reserve Act," which he calls the "Commercial Loan Theory of Banking."[24]

To Currie (1934), a focus on monetary aggregates thus represented a crucial break with the Fed's previous approach of focusing on the quality of bank assets. Consistent with Bernanke's (2006) claim that Currie had some influence on the use of monetary statistics, the 1935 Annual Report was the first to include the 3-gram "deposits and currency," which was used in a sentence reporting on the evolution of the "total amount of bank deposits and currency held by the public."[25] No previous report includes comparable figures. The 1935 Report includes time deposits in this "total." The inclusion of time

[23] See Currie (1934, p. 14).
[24] Currie (1934, p. 45). Mints (1945, p. 9) claims that what he termed the "real bills doctrine" had frequently been referred to as the "commercial loan theory of credit."
[25] See 1935 Annual Report, p. 24, for the first appearance.

deposits, which makes the aggregate resemble what would later be called M2, was strenuously opposed in Currie (1934, p. 16).

From 1935 to 1963, the 3-gram "deposits and currency" was used in every Annual Report from 1935 to 1963 with the exceptions of 1938 and 1959. The 2-gram "money supply" came later. It was used in every Annual Report from 1945 until 1973, but appeared only three times before 1945 (once in 1916, once in 1937 and once in 1943). The 3-gram "supply of money" was used less consistently after 1945, but was used in both 1937 and 1942. While Currie's predilection for M1 was clear, the term "money" was not consistently applied to this aggregate in Federal Reserve Board's Annual Reports.

What is more, readers of the Annual Report would not have been able to determine what had recently happened to M1 in the entire 1938-1942 period. In 1938, the Annual Report contained no information on any monetary aggregate. During 1939-1942, data on the aggregate of bank deposits and currency was included but, because deposits were not broken down in demand versus time deposits, only information on an aggregate similar to M2 was available.

There is no evidence that the monetary aggregates that the Fed computed in the 1930's had any influence on the deliberation of the FOMC or its Executive Committee. Insofar as the word "money" was used in these deliberations it was used mostly to discuss "easy money" or "money rates." Moreover, the Fed's principal policy initiative in the late 1930's, namely its increase in reserve requirements, was mostly rationalized by the importance of maintaining control over credit.[26]

Given how little the Fed intended to use the monetary aggregate that it did publish while Currie was a Fed official, it may be surprising that it continued to include time deposits, which Currie opposed. One can see a hint for why the Fed overruled Currie's predilection in a statement that the Director of the Division of Research and Statistics Emanuel Goldenweiser, who was Currie's direct supervisor, made to the FOMC in January 1937. Paraphrasing Goldenweiser's statement, the minutes say

[26] For example, in the Historical Minutes of the March 15, 1937 FOMC meeting, Chairman Eccles is mentioned as having "expressed the opinion that the increase in reserve requirements was fully justified in order to put the System in position to exercise credit control through open market operations whenever such action appeared to be necessary."

> Whether time deposits are money or not was a subject of controversy among economists, but, [Goldenweiser] pointed out, the Federal Reserve System has supervisory and administrative as well as monetary responsibilities, is interested in the assets of banks as well as in their liabilities, and, therefore, cannot ignore time deposits, which, together with demand deposits, provide the funds for their loans and investments.[27]

Goldenweiser made this statement in the context of advocating against the exemption of time deposits from a proposed increase in reserve requirements, so he was not addressing directly whether the Fed should concern itself with money supply figures or not. What is clear from the statement, however, is that Goldenweiser viewed aggregates that included time deposits as closer to the Fed's concern with total bank credit. The similarity of broad aggregates with credit may explain why the aggregate that was highlighted in most Annual Reports before 1952 was some version of "bank deposits and currency." This broad aggregate is referred to as being the "money supply" from 1948 until 1951, though this occurs neither before nor afterwards.[28]

Attention shifted to a narrower aggregate with the 1952 Annual Report, which first mentions the 4-gram "demand deposits and currency." From 1952 to 1963, this appeared every year with the exceptions of 1956 and 1959. When this was introduced in 1952, currency and demand deposits were termed the "active elements of the money supply."[29] From 1955 to 1961 the aggregate consisting of demand deposits and currency was called the "active money supply." The word "active" was dropped in 1962, when the sum of currency and demand deposits became simply the "money supply" in the Annual Report. This was consistent with what was called the "money supply" in the historical compendium called *Supplement to Banking & Monetary Statistics* that the Federal Reserve published in 1962.[30]

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[27] FOMC Historical Minutes, 1/26/37, p. 5.

[28] In 1947, the sentence giving the change in "total deposits and currency" (i.e. the broad aggregate) is described as showing a "monetary expansion" (1947 Annual Report, p.19).

[29] See 1952 Annual Report, p. 1, 13, and 96.

[30] In 1943, the Fed had published an earlier compendium called *Banking & Monetary Statistics 1914-1941*. Table 9 of this compendium displayed both "total deposits and currency" as well as "demand deposits and currency" and did not explicitly call one of them the money supply. However, in a passage on p. 11 that is quoted by Anderson and Kavajecz (1994), it seemed to give the nod to the narrower measure. It said, "The supply of money, in the sense of a means of payment, is generally defined to include currency and demand deposits of banks. Time deposits are also sometimes included in measures of money supply, although in general they probably represent savings and not funds intended to be used for current expenditures."

Currie went to the White House in July 1939, before the beginning of World War II. From the point of view of monetary aggregates, the War appears to have accomplished some of what Currie was unable to do on his own. It led the Fed to use monetary aggregates in its discussions and to, at least for a brief instant, shift its attention from a broader aggregate similar to M2 to a narrower aggregate similar to M1.

During the War, Fed officials and Fed publications warned that monetary growth, which they attributed to wartime finance, had the potential to stoke inflation. In this context, Fed officials came to use the 2-gram "money supply" regularly. Leaving aside the appearances in 1916 and 1937,[31] this 2-gram was first used in the following passage of the 1943 Annual Report.

> The wartime growth in the money supply carries with it a threat of inflationary price advances during and immediately after the war. The most effective means of preventing such inflationary developments is to raise as large a part of war expenditures as possible from taxation, and to depend as little as possible on borrowing and particularly on borrowing from the banking system.

One can ask two obvious questions about the warnings voiced here. The first is the extent to which they threw into question all of the principles of the 1923 Report and the second is, insofar as they did, what motivated this change.

Both the Fed and commercial banks acquired vast troves of government bonds during the War. Since this combination increased commercial banks' balance sheets, it raised bank credit. This rise in bank credit was both larger than that of GDP and larger than the rise in any intuitive definition of "productive credit." Thus, monetary policy was clearly in violation of the "quantitative criterion" of 1923. The Fed noticed this early. In December 1940 it took the unprecedented step of writing an unsolicited "special

[31] Most of the 1937 appearances are used in the service of arguing that the Fed influence over the money supply gives it only limited control over the economy. The relevant passage (Annual Report, 1937, p. 222) commences with "The Federal Reserve System can regulate within limits the supply of money but there are other factors affecting prices and business activity fully as powerful as the money supply. Many of these factors are nonmonetary." The only appearance of the phrase "supply of money" outside this passage in the 1937 Annual Report is on p. 194, where it is explained that the excess reserves that have been eliminated as a result of the rise in reserve requirements had the potential of supporting "an increase in the supply of money, in the form of bank credit, which beyond any doubt would constitute an injurious credit expansion."

report" to Congress, which it reprinted in its 1940 Annual Report. This warned about the "dangers of overexpansion of bank credit."[32]

This was probably not the best of times to argue publicly that U.S. government securities constituted a dangerous (and "unproductive") form of credit. Focusing attention on the volume of bank liabilities rather than on the nature of bank assets may thus have been a safer course of action even for people whose main objection was the amount of government debt held by banks. This relative safety may explain why the "special report" went on to say that "the volume of demand deposits and currency is fifty per cent greater than in any other period in our history."[33]

One might wonder what the Fed, which was subservient to the Treasury at the time, was hoping to accomplish by pointing out publicly that increases in the money supply created the risk of inflation. The "special report" makes this clear because the Fed used it to express some policy goals. It wished, in particular, to have a more restrictive monetary policy by raising reserve requirements. It also started a long campaign to convince Congress and the Treasury to issue bonds that banks would be ineligible to hold. The "special report" states that "government securities have become the chief asset of the banking system, and purchases by banks have created additional deposits," and urged Congress to issue securities that would be "especially suitable for investors other than commercial banks."[34]

In the context of this campaign to reduce the role of banks in wartime finance, the Fed's 1942 Annual Report reintroduced the 3-gram "supply of money" (which had never before been used in an Annual Report except for the passage in 1937 in which the Report argues that other variables matter at least as much as the money supply). The 1942 Report argued that there was a "great difference" between situations in which government debt was purchased by banks and situations in which they were purchased directly by the public because the former had a larger effect on the supply of money.[35] The 1942 Report even offered some simulations to illustrate this claim. Leaving aside the validity of the theory underlying

[32] 1940 Annual Report, p. 68.
[33] Ibid.
[34] Ibid., p. 69.
[35] 1942 Annual Report, p. 27.

these simulations, the Fed's preference for having banks hold "productive loans" rather than government securities (at a given interest rate that the Fed and the Treasury agreed upon) fits well with the 1923 principles. And, indeed, the desirability of restricting bank holdings of government securities occupied the discussions of the FOMC as well.[36]

Viewed in this way, the Fed's embrace of the theory that an increase in money would lead to a rise in prices was simply a way of packaging its concern with credit expansion in a manner that would not be seen as uncooperative with the war effort. If the appeal to money growth were, as suggested by this view, simply a way of presenting concerns based on the expansion of bank credit, it would follow that Fed officials would not see much difference between complaining about money growth and complaining about credit growth. In written testimony prepared to answer a Congressional committee, this is precisely the position taken by Fed chairman William McChestney Martin in 1961. He stated

> No difference was meant by the two terms "bank credit expansion" as used in the May 24 revision of the Federal Open Market Committee's policy directive and "monetary expansion" as used in the August 16 revision. The term "bank credit expansion" refers more precisely to an increase in the total loans and investments of commercial banks; that is, in their principal assets. "Monetary expansion" relates to an increase in the Nation's money supply, usually defined to include demand deposits of banks and currency in circulation. Technically speaking, the terms differ in that "bank credit expansion" approaches the problem from the bank asset side, while "monetary expansion" approaches it from the bank liability side. Since demand deposits are at the same time the major component of the money supply and the main, although not the sole, offsetting liability to bank assets, bank credit expansion and monetary expansion are essentially two sides of the same coin.[37]

Brunner and Meltzer (1964, p. 36) cite this paragraph as containing a "major fallacy" on the grounds that monetary and credit aggregates often do not have the same percentage changes from one period to the next. As argued above, however, some Fed officials may have principally been concerned with one of these aggregates, say credit, and used the other in arguments when it was convenient to do so. Some further evidence that the Fed was looking for convenient variables to make its argument comes from its

[36] See, for example, Minutes, 1/25/43, p. 4.
[37] Congress of the U.S., *Review of the Annual Report of the Federal Reserve System for the year 1960*, Hearings before the Joint Economic Committee, June 1 and 2, 1961, U.S. Government Printing Office, 1961, p. 147.

willingness to temporarily shift its definition of the "money supply." It briefly switched to a narrow one in the 1945 Annual Report, which contains the following passage:

> To the extent that the Government did not finance its war program by taxation, it was obliged to borrow, and to the extent that it did not borrow from nonbank investors, it relied upon the banks and thus created new supplies of money. As a consequence, the *country's money supply, as measured by demand deposits and currency in circulation,* more than tripled… It is axiomatic that inflationary dangers exist when the supply of money in the hands of people who seek to spend it greatly exceeds the volume of goods and services available (italics added).[38]

The sum of currency and demand deposits at commercial banks did indeed triple from September 1939 to December 1945.[39] By contrast, the aggregate that also includes time deposits at commercial banks was multiplied only by 2.64 in this period,[40] so that focusing on the narrower aggregate led to a more dramatic picture. In fact, the annual growth rate of the narrower series was consistently above that of the broader one from January 1939 until August 1943, so its inclusion in the "special report" of 1940 also strengthened the argument that money growth was substantial.

An alternative to the view that the increased attention to money growth figures was a vehicle for influencing outsiders is that some insiders had adopted Currie's views and wished to abandon the 1923 principles altogether. This does not seem to be the case of the first person to use the phrases "supply of money" or "money supply" in an FOMC. Allen Sproul, president of the New York Federal Reserve, first used the former in 1946, when inflation shot up at the same time as price controls were eliminated. At that point, he complained that the Fed's earlier efforts had been "weak medicine in terms of combatting inflation" and had "done little to reduce the volume of funds already created and in the hands of the public and to increase the supply of goods and services vis-a-vis the supply of money."[41] He then introduced the 2-gram "money supply" in June 1947 while arguing for an increase in interest rates "for

[38] Annual Report of the Federal Reserve, 1945, p. 2.
[39] This is based on the NBER Macrohistory series 14174: U.S. Adjusted Demand Deposits, All Commercial Banks, Plus Currency Held by the Public.
[40] This is based on the NBER Macrohistory series 14144: U.S. Money Stock, Commercial Banks Plus Currency Held by the Public.
[41] FOMC Minutes, 10/3/46, p. 17.

the purpose of preventing further increases in the already excessive money supply."[42] Insofar as Sproul was using the word "money" as a synonym for "credit" these statements do not contradict the core 1923 principles. One reason to doubt that Sproul intended any contradiction is that, as we shall see, he subsequently continued to support many of these principles.

The increasing usage of monetary aggregates discussed in this section undoubtedly represents a weakening of the hold of the 1923 Report on the FOMC. The Section suggests that, initially, monetary aggregates were embraced as a convenient device to explain to the Treasury that wartime finance was inflationary. Over time, however, the usage of monetary statistics expanded. Whereas words with the roots "money" and "growth" appeared only three times within six words of one another in the 1955 FOMC minutes, they appeared 35 times in the 1960 minutes and 40 times in the 1964 minutes. Also, an aggregate more similar to M1 gained ground until displaced a broader aggregate around 1955, and this made it more and more difficult to treat money and credit growth as equivalent. Indeed, this displacement suggests that at least some people in decision-making positions at the Fed did not think that controlling credit was enough.

3. The decline in the FOMC's interest in total bank credit

Even after the Fed used a narrow rather than a broad monetary aggregate in its discussions, FOMC officials continued to put weight on the evolution of credit. This is apparent in Figure 1, which shows the frequency with which "money," "credit" and related words appeared in the FOMC transcripts.[43] Figure 1 shows that "credit" was used much more often than "money" in 1955 but the difference in usage had nearly disappeared around 1964. "Credit" then regained a substantial lead between 1966 and 1969.

After 1970, "money" was more popular, but the difference was not substantial. Figure 1 suggests that this understates the relative gain of monetary aggregates, however, because related words gained ground. After 1970, FOMC officials started making considerable use of the 1-grams "M1" and "M2" in sentences where they would have used the word "money" before. In 1970, "money growth" and "growth of

[42] FOMC Minutes, 6/5/47, p. 10.
[43] The frequencies in Figure 1 are obtained by dividing the number of times the individual words appeared by the total number of words in that year's minutes. This total includes page numbers.

money" were used 54 and 24 times respectively, while "growth in M1" and "growth of M2" were used only 4 and 1 time. In 1971, the use of "money growth" and "growth of money" declined while "growth in M1" and "growth of M2" were used 56 and 12 times respectively. Given this appearance of partial substitutability, Figure 1 also shows the combined frequency of "money", "M1," and "M2." This rises dramatically in 1970 (mainly as a result of the use of "money" that year) and then stays quite elevated until about the mid-1980's. After 1970, FOMC members often referred to M1, M2, and M3 simply as "the aggregates," and Figure 1 shows that the use of "aggregates" rises considerably in this period as well.

The increased interest in monetary aggregates in the 1970's can be partially ascribed to an increase in the influence of individuals who placed considerable weight on money growth figures in analyzing monetary policy and who were labeled (and sometimes labeled themselves) "monetarists". The word "monetarist" was first used at the FOMC in 1969, when it was used 11 times. It was then used 2 times in 1970, and 10 times in 1971. Discussions of the 1-gram "M1" became common at the same time. The term was used one time in 1968, 11 times in 1969, 18 times in 1970, and 386 times in 1971.

Darryl Francis, who became president of the Federal Reserve Bank of St. Louis in 1966, provides a second link between monetarism and M1. He labeled himself a monetarist in Francis (1972) and, although someone had used the expression "M1" at an FOMC meeting before, he was the first one to do so in the context of expressing concerns about the excessive growth in this aggregate.[44] In January 1969, worrying about "excessive total spending" Francis argued that the "demand for goods and services had been stimulated by a rapid 7 per cent annual rate of growth of M1" and concluded that "it would seem desirable for the money stock to increase at no more than a 4 per cent annual rate and at no less than a 2 per cent rate."[45] Years later, Francis stated that he wished to "place primary emphasis on M1."[46] In spite of his clear predilection for M1, Francis still paid due obeisance to other FOMC members' interest in

[44] Sherman Maisel was the first to be quoted as using the 1-gram M1 in the minutes. See FOMC Memoranda of Discussion, 10/8/68, p. 60.
[45] FOMC Memoranda of Discussion, 1/14/69 p. 66-67.
[46] FOMC Memoranda of Discussion, 8/21/73, p. 61.

credit aggregates as late as January 1969, saying, for example "even M2, bank credit at large commercial banks, and the credit proxy had increased in spite of the disintermediation facilitated by Regulation Q."[47]

The desire to maintain good working relations among people who disagreed may also explain why, even after "money" typically referred to a narrow aggregate, "money" and "credit" continued to appear together in many sentences. To illustrate this, Figure 2 displays the number of times that FOMC minutes use the 3-grams "money and credit" and "monetary and credit." The latter was often used to form the 4-gram "monetary and credit policy" while the former was often used to describe the common evolution of monetary and credit aggregates. In the minutes of 1967, for example, there are three references to the "expansion in money and credit," two to "money and credit expansion," three to "growth in money and credit," and one to "money and credit growth."

Some evidence that these amalgam expressions were meant to maintain harmony at the FOMC can be gleamed from an exchange at the FOMC meeting of August 1969. At that meeting, Governor George Mitchell sought to substitute "monetary aggregates" for "bank credit" in the directive on the ground that "problems encountered in measuring bank credit had discredited that aggregate as a workable instruction to the Manager." To this, President of the New York Federal Reserve Hayes replied that, even though "available measures of bank credit were defective," he did not agree with Mitchell's proposed substitution because it risked "conveying the notion that the Committee had become enamored of the monetarist approach to policy." As a compromise, he said he would be find it less objectionable to refer to "both bank credit and money" in the directive.[48]

One interesting development to which I return below is that the use of the word "credit" actually increased from 1963 to 1966, when it reached a peak. Part of this rise coincided with the FOMC's embrace of a new variable that supposedly tracked changes in bank credit. This variable, which was called the "credit proxy" made its first appearance in an FOMC discussion in 1965.[49] It was then used 91 times at the FOMC in 1966, and its usage peaked in 1969 when it was used 140 times. The 1966 Annual

[47] FOMC Memoranda of Discussion, 1/14/69, p. 67.
[48] FOMC Memoranda of Discussion, 8/12/69, p. 82.
[49] FOMC Historical Minutes, 9/28/65, p. 22.

Report heralds this variable by saying "in recent months the Committee had been making increased use of daily average statistics on total member bank deposits as a 'bank credit proxy'."[50] As was further explained in the October 1966 Federal Reserve Bulletin to which the 1966 Annual Report referred, this new "proxy" measured total bank deposits subject to reserve requirements (i.e. the sum of demand deposits and time deposits). In effect this proxy differed from M2 only because it excluded the public's currency holdings.[51] The Annual Report argued that this liability measure had two advantages over the more traditional "total bank credit" variable that had long been available and which measured bank assets. Because it was an average of daily observations, it was supposedly "less subject to the influence of single-date fluctuations than are the available month-end data on total bank credit, which represent estimates of loans and investments at all commercial banks on one day—the last Wednesday—of each month."[52] In addition, it could be "compiled on a daily basis" for internal purposes so that the FOMC could use more current data.[53]

If usage of the word "credit" rather than words denoting monetary aggregates is regarded as an endorsement of a 1923 principle, one would have to view obeisance to the 1923 Report as remaining strong until at least the end of the 1960's. As it turns out, the evidence below suggests that FOMC members stopped concerning themselves with other aspects of credit emphasized by the 1923 principles sometime before. I now document this and then return later to the question of what prompted the continued use of the word "credit" in the latter half of the1960's.

4. The waning of the Fed's aversion to lending for speculation.

This section traces the extent to which FOMC officials continued to be willing to argue that excessive speculative credit warranted a tightening of policy. The 1955 minutes repeatedly use language suggesting this view remained quite dominant, particularly among members of the Federal Reserve's

[50] 1966 Annual Report, p. 171.
[51] It is worth noting that currency movements had become much smoother in 1965 than they had been in the early 1920's, when the variability of currency was deemed by the 1923 Annual Report as vitiating monetary aggregates. At the end of 1923, the standard deviation of the 12-month growth rate in currency holdings over the last 5 years was above .11. At the end of 1964, this standard deviation was not much larger than .02.
[52] 1966 Annual Report, p. 171.
[53] Ibid.

staff. For example, on March 2, 1955, a report by the Board's staff was presented that said, "the critical problem for credit and monetary policy in the United States … was how to thread its way along the narrow ledge that encourages sound economic growth and high employment and, at the same time, limits speculative developments and discourages financial over commitments by businesses and consumers."

Similarly, Federal Reserve Board Economist Woodlief Thomas was quoted on May 10, 1955 as stating that, "at this stage, the task of monetary and credit policy is to foster stable growth in line with expanding manpower and industrial resources, at the same time restraining financial over-commitments and dampening speculative excesses."[54] On June 22, 1955, Thomas was concerned that a reduction in reserve requirements "would place in many banks free reserves which they would not use in connection with the Treasury financing and thus those banks would be free to use the reserves in making loans of a less desirable and more speculative character."[55] This comment echoes the position of the Fed when it raised reserve requirements in 1937 because it feared that excess reserves would be used for speculative purposes. This similarity is not surprising because Thomas had, himself, been concerned about this problem at that time.[56]

A member of the FOMC who, similarly, expressed views that harked back to the 1923 principles in 1955 was New York Federal Reserve President Allan Sproul. At the July 12, 1955 meeting, he said, "The problem, of course, is to supply the right amount of reserves to foster stable growth without encouraging speculative excesses which would endanger such growth."[57] Somewhat earlier, on March 2, 1955, he had stated that "signs of speculative inventory accumulation have not yet appeared."[58]

What is more difficult to determine is when the FOMC stopped taking this particular principle seriously. What is clear from the transcripts is that, by December 1980, stating it risked ridicule. During the meeting of December 18-19, 1980, President of the Cleveland Fed Willis J. Winn's statement included the sentences "For example, I got nervous about commodity market developments and the

[54] FOMC Historical Minutes, 5/10/55, p. 3.
[55] FOMC Historical Minutes, 6/22/55, p. 51.
[56] See Thomas (1935).
[57] FOMC Historical Minutes, 7/12/55, p. 26.
[58] FOMC Historical Minutes, 2/2/55, p. 8.

speculative activity and the credit being used in some of these areas. Maybe we should be somewhat more vocal on some of these things rather than ignore them." This led Chairman Volcker to interrupt him and ask, "What do you mean by that? We shouldn't permit speculative loans?" President Winn quickly retreated and said, "No, it's not that, but maybe we should take another look."[59]

One difficulty with ascertaining when the idea that the Fed should prevent speculation in the 1923 sense lost favor is that the word "speculative" was also used in FOMC discussions for other purposes. Figure 3 displays the number of times that the word was used in each calendar year and shows that the word's usage peaked in 1971. The reason for its frequent use in the early 1970s was that FOMC members were preoccupied by purchases of foreign exchange that were made in the anticipation of exchange rate realignments. Such purchases were routinely called "speculative." At the FOMC meeting of July 27, 1971, for example, Arthur Burns discussed capital outflows saying "speculative factors became increasingly important over the course of that month, as expectations of changes in parities mounted."[60]

I take two approaches to trace the decline in the importance of the 1923 aversion to speculation. The first focuses on expressions starting with the term "speculative" that were relatively common in 1955. The two most popular in 1955 were "speculative excesses" and "speculative inventory." Combined, these appeared 9 times in 1955. Figure 3 plots the combined appearance of these 2-grams in the minutes until 1980. It shows that their appearance had a small peak in 1964 and that these expressions had essentially disappeared by 1968.[61]

The 2-gram "speculative credit" does not appear in any post-1955 FOMC minutes and the 2-gram "speculative loans" only appeared twice before 1980. However, words with the root "credit" appeared near words with the root "speculative" several times both in 1955 and subsequently (for example in the expression "speculative and credit excesses"). This leads me to a second approach, which involves counting the number of times that the words with the roots "credit" or "loans" are separated from words

[59] FOMC Memoranda of Discussion, 12/18-19/80, p. 52.
[60] FOMC Memoranda of Discussion, 7/27/71, p. 60.
[61] The 1973 usage of "speculative inventory" refers to a rule passed by the SEC curtailing what brokers could do with their customers' funds.

with the root “speculative” by at most 5 other words. Figure 3 also plots the appearance of these combinations. This combination is never used as frequently again as in 1955, but continues in regular use until 1966.

The combination was last used in its 1923 meaning in 1970. On February 10, 1970, Governor Sherman Maisel used it twice while making a presentation. He “noted that there had been a decided easing of credit conditions as a result of speculative shifts in the markets” and then went on to say he wanted to limit the extent to which interest rates should be allowed to fall so as to “speed up the necessary creation of reserves and credit without creating an overwhelming speculative splurge that would be most difficult to contain.”[62] It is somewhat remarkable that Maisel would use language that is so similar to this 1923 principle because he was an academic who received his Ph.D. in 1939. This shows that it is not just the continuity in personnel that led to the recurrent use of these ideas. While words with the roots “speculative” and “credit” also appear near each other once in 1972 and once in 1973, neither of these is a direct reflection of any 1923 principle.[63]

The obverse of “speculative” credit was, of course, credit for “productive” uses. Sentences combining “productive” with “credit” or “loans” turn out to be fairly rare in the minutes, however. A search for all the times that words with the root “productive” were no more than 6 words away from either “credit” or “loans” yields one appearance in each in 1956, 1961, and 1964, but none of these involve any 1923 principle as it relates to the U.S. context.[64] In 1966, by contrast, there were four appearances of “productive” and “credit” separated by less than 6 words and four of “productive” and “loans” separated by less than 6 words.

[62] FOMC Memoranda of Discussions, 2/10/70, p. 61.
[63] In 1972, the words were used in a phrase referring to the effect of international “speculative pressures” on the money supply of surplus countries, see FOMC Historical Minutes, 6/22/72, p. 50. In 1973, President of the Federal Reserve of Chicago Robert Mayo uses them to complain about the inconsistency between the adoption by banks in his district "of all of the rhetoric of rationing credit, limiting commitments, avoiding speculative loans, and turning away inquiries" and the increases in their total loans, see FOMC Memoranda of Discussions, 6/19/73, p. 79.
[64] The 1961 appearance referred to a British initiative to force banks to focus on productive rather than on speculative loans. See FOMC Historical Minutes, 8/1/61, p. 18-19.

These reflect a debate within the FOMC on March 22, 1966. The March 1966 minutes show that commercial bankers, fearful of "guidelines," were seeking advice from Fed officials as to which types of loans they should favor.[65] Moreover, officials from both the New York and Boston Federal Reserve Banks said that bankers were trying to focus on "productive" loans.[66] At the same time, other members of the FOMC opposed involving the Federal Reserve in this practice. Governor Mitchell, in particular, expressed "some dismay when he heard suggestions that the System should advise bankers on the types of loans they should and should not make" and argued that "advice to banks not to make loans for nonproductive purposes might well be wrong."[67] In terms of policy, this debate bears some similarity to the 1920's debate regarding whether "direct action" should be used to force banks to offer "productive" rather than "speculative" loans.[68] An important difference, however, is that some officials in 1966 were willing to argue that "non-productive" loans were as valuable as "productive" ones.

After March 1966, there is only one further instance in which "productive" appears near "loans" or "credit." In April 1969, President of the Federal Reserve of Philadelphia Karl Bopp argued against "selective credit controls" on the ground that the Fed did not have sufficient "wisdom" to determine what was "productive credit." Overall the evidence in this section suggests that the 1923 principle that favored productive over speculative credit lost a great deal of vigor after 1966.

5. **The waning of the Fed's concern with satisfying the "needs of business"**

The idea that the Fed should provide credit to satisfy the "needs of trade" was among the most criticized principles of the 1923 Report.[69] Nonetheless, this principle was reaffirmed in every directive that the FOMC voted on from 1955 until the end of 1961. In particular, these directives included a sentence saying that open market operations should be conducted with "a view to relating the supply of

[65] See FOMC Historical Minutes, 3/22/66, p. 46.
[66] See FOMC Historical Minutes, 3/22/66, p. 34 for an account by a New York fed official and p. 82 for an account by a Boston one.
[67] See FOMC Historical Minutes, 3/22/66, p. 56.
[68] For a discussion of the debate in the 1920's, see Meltzer (2003, p. 237-238).
[69] Echoing Mints (1945, p. 1) and Friedman and Schwartz (1963, p. 169), Humphrey (1982) equate the "accommodat[ion of] the legitimate needs of trade" with the real bills doctrine and argue that this objective leads the price level to be unstable.

funds in the market to the needs of commerce and business." These directives are part of the FOMC minutes and, mostly for this reason, the phrase "needs of commerce and business" appears in these minutes between 14 and 18 times per year. In 1962, the FOMC changed the way it gave instructions to the operating desk and started using shorter "economic policy directives" that did not include this boilerplate language. As a result, the phrase "needs of commerce and business" stopped appearing. One issue, then, is whether this phrase reflected genuine concerns even when it was used in the directive. One indication that it did is provided in the 1957 minutes, in which San Francisco Federal Reserve President Hermann Mangels said that he agreed with others that "the Committee must consider not only the needs of commerce and industry and the general credit condition of the country, but it should also give sympathetic consideration to Treasury needs."[70]

Given that the phrase seemed to matter to participants when it was used in the directive, one is left with the question of whether the change in the directive reflected an abandonment in the Fed's concern with the "needs of business." The popularity of the word "needs" in FOMC minutes after 1961 gives at least a crude indication that this is not the case. As Figure 4 indicates, the use of this word only fell off sharply after 1967. What makes this indicator crude is that the word "needs" appears in countless other contexts, such as when Governor Kevin Warsh referred in 2007 to the "need" for the Federal Reserve Statement "to be reflective of the real economy."[71] I thus seek to trace the evolution of the word "needs" when it is combined with other words indicating that the FOMC is referring to the credit needed by businesses.

In the early part of my sample, the expression "seasonal needs" was used fairly often to discuss the demand for credit by businesses. This expression is closely linked to an early objective of the Federal Reserve since, as Friedman and Schwartz (1963, p. 292) put it the "seasonal movement [in the deposit to currency ratio] was very much in the minds of the founders of the System and was an important part of their belief in the need for an 'elastic' currency." Indeed, both Friedman and Schwartz (1963) and

[70] FOMC Historical Minutes, 6/7/57, p. 53.
[71] FOMC Transcripts, 3/20-21/2007, p.95.

Mankiw, Miron, and Weil (1987) show that the seasonality of interest rates fell after the Fed started operating.

Figure 4 shows the frequency with which the 2-gram "seasonal needs" was used in the minutes. It also displays the sum of the frequency of the 2-gram "seasonal needs" and of the expression "seasonal x needs," where x stands for any other word (such as "credit" or "reserve"). The frequency of "seasonal needs" falls sharply after 1963, while the combined frequency of "seasonal needs" and "seasonal x needs" falls somewhat more slowly and remains substantial in 1965.

At the same time, the data in Veracierto (2005) suggest that the (substantial) seasonality of the monetary base did not decline in either 1963 or 1965. Of course, the maintenance of a constant seasonality of the monetary base does not require a continuing discussion of the seasonality of Federal Reserve credit if the Fed was simply eliminating seasonal fluctuations in interest rates while the demand for its liabilities fluctuated seasonally. Still, it seems safe to say that, before 1966, Fed officials found it valuable to discuss the extent to which banks varied their lending seasonally while they found this much less valuable afterwards.

The expression "credit needs" was used much less frequently, as shown in Figure 5, which displays the number of times that words with the root "credit" are separated from words with the root "needs" by five words or less. Unfortunately, this combination was also used to discuss unrelated ideas, such as the "credit needs" of the Treasury. Still, the combination of "credit" and needs" appears in some prototypical sentences that reiterate a 1923 principle. For example, Sproul is quoted in 1955 as saying, "the ideal role of bank credit is to meet the real needs of this economy of high level production and employment."[72] Just a bit further in the same FOMC statement, Sproul argued that the Fed had been effective and that "a gradual lessening of reserve availability, emphasized by increases in the cost of reserves, has kept bank credit more or less in line with economic needs, without throttling business growth and without throwing the capital markets into disorder."[73]

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[72] FOMC Historical Minutes, 9/14/55, p. 13.
[73] Ibid.

What these sentences suggest is that the appearance of the word "needs" in close proximity of the words "credit" and the word "economy" might be associated with this 1923 principle. Based on this reasoning, Figure 5 reports the frequency of the word "needs" in situations where there are no more than 5 words between "needs" and words with the roots "credit" and "economy." It shows that this combination is used fairly continuously until 1966, with only a few appearances thereafter.

Combinations of this sort are by no means common, but they have the advantage of being part of natural restatements of this 1923 principle so that their absence suggests its abandonment. At the meeting of December 14, 1965, for example, one FOMC member noted that market participants were "still exegetically examining our statements, particularly the commitment for the continued provision of additional reserves to the banking system in amounts sufficient to meet seasonal pressures as well as the credit needs of an expanding economy without promoting inflationary excesses"[74] while another said "the Committee was committed to supply sufficient reserves to meet seasonal pressures and the needs of an expanding economy."[75] This last statement is particularly significant because it is an assertion about the attitudes of the FOMC as a whole rather than an argument for a particular point of view. It seems reasonable to presume that statements of this sort could not safely be uttered unless they really counted with a great deal of support.

By contrast, both of the appearances after 1968, namely the one in 1970 and the one in 1976, do not fit this principle nearly as well.[76] On June 6, 1970, Governor Swan said that "he believed the Committee's longer-run objective of moderate growth in money and bank credit was appropriate to the needs of both the domestic economy and the balance of payments, and that the Committee would have to hold to that objective if its anti-inflationary effort was to prove successful" which is more of an endorsement of a particular long run monetary growth target than a recapitulation of a 1923 principle.

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[74] FOMC Historical Minutes, 12/14/65, p. 23.
[75] FOMC Historical Minutes, 12/14/65, p. 48.
[76] While not an actual restatement, the 1968 use by Federal Reserve of Kansas City President George Clay refers to the 1923 principles implicitly by worrying that Treasury forthcoming financing operations (presumably at unchanged interest rates) pose the risk of leading to "credit growth beyond the needs of the national economy," see Minutes, 4/2/68, p. 74.

This combination of words also appears in a staff report presented to the FOMC on March 16, 1976. The staff report explains that the blue book projections assume a middle course between two extremes concerning "liquidity." As the report reads, "At one extreme, institutions and others may consider that their liquidity positions are now so easy that they will actively seek to reduce them – thereby leading to a much more expansive economy than is currently contemplated. At the other extreme, liquidity demands may remain so strong that an unusually large infusion of central bank credit would be required to accommodate those demands and also to assure the availability of funds to finance the credit needs of an expanding economy." Thus, while the phrase "credit needs of an expanding economy" appears in the statement, the emphasis is decidedly on the desirability of paying attention to the quantity of liquidity demanded by financial institutions. The analysis of the appearance of "needs," "credit," and "economy" in close vicinity thus suggests that this 1923 principle was still well respected by the FOMC in 1965 but that interest in it fell fairly quickly thereafter.

Both in the 1923 Annual Report itself and in subsequent restatements of its principles, the word "legitimate" is often used to denote those needs of business that deserve to be supported by credit. The word "legitimate" appears in a variety of other contexts, however.[77] When it does refer to the desirability of making sure that the legitimate credit requirements of businesses are met, the word "legitimate" usually appears in proximity to the words "needs," "credit," and "loan". Therefore, Figure 5 also displays the number of times that any of these words are separated from "legitimate" by no more than five words. These combinations do not appear in sentences related to the 1923 principles after 1964,[78] though such sentences are fairly common before.

6. **Usage of the word "credit" after 1965**

The findings of Section 3 seem somewhat inconsistent with those of Sections 4 and 5. Sections 4 and 5 suggest that the FOMC lost considerable interest in the 1923 principles relating to the desirability of

[77] See FOMC Historical Minutes 12/21-22/81, p. 34, for an example where an FOMC participant notes that an issue constitutes a "legitimate question."

[78] The 1968 appearance, for example, concerns the legitimacy of asking the U.K. to use some of the funds it received from the IMF to pay its obligations to the Fed (see FOMC Historical Minutes, 4/30/68, p. 11).

satisfying the needs of business and to the avoidance of speculative credit soon after 1965. By contrast, Section 3 shows that the word “credit” was used more frequently in FOMC meetings in both 1968 and 1969 than in 1965. Insofar as the reliance on credit figures is regarded as obeisance to a 1923 principle, this principle remained popular for longer.

In order to understand this apparent inconsistency, I scanned the post-1965 minutes searching for expressions including the word “credit” whose popularity peaked after 1965. Figure 6 displays the usage of five such combinations including the 2-grams “credit demand,” “credit growth,” “credit proxy,” “credit crunch” as well as text fragments in which words with the roots “credit” and “decline” are separated from each other by no more than 5 other words.

The 12-month growth in total bank credit reached record levels in 1965, and surpassed 10% starting in May. This development might have led to an increase in the popularity of the expression “credit growth” as well as the introduction of the more timely “credit proxy” measure of bank credit even if all the 1923 principles had lost importance before. In any event, the 1965 growth in credit led a number of FOMC members to advocate more contractionary policies, with some worrying specifically about speculative lending. Governor C. Canby Balderston, for example, said, “There was no substitute for real restraint that bit, especially at a time when a portion of bank credit was being used for speculative purposes.”[79] In another echo from the past, Governor A.L. Mills warned that there had been a “buildup of a massive credit inflation.”[80] The expression “credit inflation” had been introduced by Mills at the FOMC meeting of December 1959 to warn of developments at the time and had not been used since.[81]

One somewhat unusual aspect of the mid-1960’s is that FOMC members referred repeatedly to the existence of credit rationing, with the word “rationing” being used 6 times in 1965 and 23 times in 1966. The word had not been used at all in the FOMC meetings of 1957-1963, and appeared just once in 1964. In 1964, Governor Mills spoke approvingly of the “modest rationing of credit” that would follow from the

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[79] FOMC Historical Minutes, 2/8/66, p. 79. At the same meeting, Karl Bopp worried that “the stage was set for major increases in prices” and that this “could lead to speculative inventory building” (FOMC Historical Minutes, 2/8/66, p. 42)
[80] FOMC Historical Minutes, 2/2/65, p. 49.
[81] FOMC Historical Minutes, 12/15/59, p. 31.

tight policy he was recommending and which, according to him, would lead banks to direct "their lending attention into more worthwhile and constructive economic channels."[82]

In 1965 and 1966, assertions that actual credit rationing was taking place became common at the FOMC. Consistent with Mills' 1964 attitude, this was initially viewed as valuable in the fight against an excessive expansion of credit. Even as late as July 1966, Dallas Federal Reserve President Watrous Irons approved of this development, complaining only that "[p]erhaps the rationing was not as severe as might be desirable."[83] Later in 1966, credit growth slowed and even declined, and some FOMC members became alarmed. Against the objection of some members, the FOMC's directive changed at the November 1966 meeting from asking for "steady conditions in the money market" to "somewhat easier conditions in the money market." This was followed by further declines in the federal funds rate for about six months.

This loosening of policy occurred against a backdrop of fairly high inflation. CPI Inflation over the last 12 months had last been under 1% in August 1964 and then rose steadily, reaching 2.5% in February 1966 and 3.8% in October 1966. This gauge of inflation did decline after this but, after reaching 2.3% in May 1967, started climbing again. Meanwhile, the unemployment rate in November 1966 was 3.6%, which was slightly lower than it had been before. The average for both 1966 and for the first six months of 1967 was 3.8%, so the easing of policy at no point reflected actual increase in unemployment.

The easing of policy in November 1966 seems to have been due in part to the fear that declines in credit would lead to a recession.[84] President of the Federal Reserve Bank of Cleveland W. Braddock Hickman said, for example, "A stiff price could be paid in the real sector next year if the reduced flow of funds through the financial intermediaries continued much longer."[85] Similarly, Governor Sherman Maisel said "In the present situation it seemed quite clear … that further harm to the productive sphere,

[82] FOMC Historical Minutes, 11/10/64, p. 53.
[83] FOMC Historical Minutes, 7/26/66, p. 54.
[84] The unwillingness to cause a recession is consistent with Romer and Romer's (1989, p. 138) discussion of why the credit crunch of 1966 does not involve a "Romer date."
[85] FOMC Historical Minutes, 11/22/66, p. 55.

through a failure to allow credit to expand at a normal rate, could only defeat the Committee's basic goals."[86]

In principle, the 1966 decline in credit could have been deplored on the ground that the "needs of business" were not currently being met. But, as Figure 5 shows, FOMC members were actually slightly less likely to discuss credit needs in 1966 than in 1965. The explanation for this seems to be that several FOMC members thought that the reduction in credit could be due to a decline in demand.[87] It is for this reason that not only did usage of "credit" near "decline" shoot up in 1966, but so did usage of "credit demand."

Once inflation rose again in 1967, the FOMC struggled with two contradictory objectives. On the one hand, they sought to restrict credit growth to reduce (or at least contain) inflation. On the other, they did not want to repeat the experience of 1966. Consistent with the way that the 1966 episode was denoted by outsiders, Fed officials started to refer to it as having involved a "credit crunch."[88] The aversion to both inflation and excessive tightness is well captured by Hickman's statement that "he wanted credit restraint, not a crunch."[89]

A sense of the difficulty that the Fed seemed to have in finding the right balance concerning credit growth was that the attempt to pursue contractionary policy in 1969 was termed a "credit crunch" as well. In 1973, Federal Reserve Board Chairman Arthur Burns wrote a letter to President Richard Nixon telling him he would seek to avoid a credit crunch "of the 1969 type."[90]

While they fit well with what has been termed the "dual mandate," neither the desire to use reductions in credit growth as an intermediate target to lower actual inflation nor the reluctance to lower credit

[86] Ibid., p. 60.
[87] Karl Bopp, for example, said that "he had been unable to determine to what extent slower loan expansion reflected more restrictive bank lending policies or weaker demand." See FOMC Memoranda of Discussion, 11/22/68, p. 51.
[88] The JSTOR database of economics articles includes hundreds of articles that include "credit crunch" in their text. The earliest is Miller (1968), and refers to the 1966 episode.
[89] FOMC Memoranda of Discussion, 12/17/68, p. 61.
[90] See http://fraser.stlouisfed.org/docs/historical/burns/burnspapers_fordlibrary/burlet730601.pdf.

growth to the point of potentially causing a recession fit well with the 1923 principles.[91] These principles required the Fed to curtail credit growth before inflation became a serious threat, and implicitly endorsed creating recessions for this purpose.[92] Thus, the popularity of the word "credit" in post-1965 FOMC is attributable to new uses of the word rather than to a continued reliance on 1923 principles.

7. **Consequences of the decline in the 1923 principles**

As emphasized by Currie (1934), the 1923 principles paid a great deal of attention to the "quality" of bank assets. One would thus expect it to lead to a great deal of discussion about not only to the level of bank assets but also to its composition. The decline in the popularity of these principles should then lead to a reduction in the extent to which this composition is discussed. Figure 7 provides some evidence consistent with this.

Loans are a component of bank credit, and Figure 7 shows that the use of the word "loans" peaks in 1965, just as the 1923 principles are about to enter terminal decline. Words with the root "mortgage," on the other hand, continued in widespread use well past this point even though mortgages are a component of credit as well. It turns out, however, that housing finance was not particularly central to the 1923 principles, while the mortgage market is just as important as an indicator of macroeconomic conditions as of financial stability.

Figure 7 also displays the number of times FOMC members referred to broad loan types such as "business loans," "consumer loans," "commercial and industrial loans," and "loans for securities." References to these various loan types peak in 1965 as well and then fall quite rapidly after 1966. In practice, a number of these references were part of the Board's staff presentations regarding financial developments rather than being part of the discussion among potentially voting members. On some

[91] The "dual mandate" of maximum employment and stable prices was written into the Federal Reserve Act in 1977. It arguably became mandatory with the passage of the Employment Act of 1946, which gave a similar objective to the entire government.
[92] As Rotemberg (2013) shows, this was the attitude espoused by Federal Reserve Chairman Martin in 1957.

occasions, these presentations did little more than list what had happened to the various categories of loans.[93]

This raises the question whether the reduction depicted in Figure 7 in the extent to which individual loan components were mentioned had any material effect on Fed decisions. This question cannot be answered with any definiteness at this stage. Still, it is worth noting that, in the pre-1966 period, some FOMC members did argue for their policy positions on the basis of information about the composition of loans. For example, Federal Reserve Bank of Cleveland President Wilbur Fulton "expressed the view that no precipitate move toward tightness should be made. He noted that the increase in bank loans had been largely in loans on securities and in real estate loans rather than in loans to business; the figures did not show any great demand for credit from the businessman."[94] In another example, Federal Reserve Bank of Richmond President Hugh Leach argued that Fed policy was sufficiently tight as it stood because, "although district banks reported that thus far they had not seen too much increase in the way of loans to build up inventories, they expected it. This was one of the factors making them feel that they were in a tight position."[95]

Both these arguments rely not only on information about the composition of loans but also on sophisticated theories about what this composition signifies about broader trends in the economy. Making equivalent arguments would seem quite challenging once the FOMC reduced the extent to which it discussed the composition of bank assets.

8. Interpretations and Conclusions

The evidence presented in this paper suggests that it took until roughly 1966 for the 1923 principles to stop influencing debates at the FOMC. For the Bayesian learning model to account for this, the period just before 1966 would have to contain surprising information about the effect of these principles. It is

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[93] An example of this is the sentence by Woodlief Thomas in which he said "The city bank loan expansion in August … reflected perhaps slightly greater than seasonal increases in business loans, in loans to finance companies, and in consumer loans, together with a continued moderate increase in real estate loans and little change in loans on securities." See FOMC Historical Minutes, 9/1/59, p. 9.
[94] FOMC Historical Minutes, 12/16/58, p. 32.
[95] FOMC Historical Minutes, 1/26/60, p. 20.

hard to see what this information could have been and, indeed, the intellectual opponents of these principles at the FOMC did not use contemporary data to argue against them.

The continued force of the 1923 principles in the early 1960s is also inconsistent with the idea that the Fed is always responsive to the views of currently prominent scholars. The 1923 principles were supported by professors publishing in leading journals in the 1930's,[96] but certainly not in the 1960's. In the symposium on monetary policy published by the *Review of Economics and Statistics* in August 1960, no one spoke kindly of these principles.

Another possibility is that these ideas were espoused by people who were exposed to them in their youth, when these ideas were popular and that the retirement of these individuals led these ideas to lose force. Certainly, some of the individuals quoted in this paper as basing their policy recommendations on 1923 principles, such as Federal Reserve of Richmond President Hugh Leach and Federal Reserve of Cleveland President Wilbur Fulton, joined the Federal Reserve in the 1930's.[97] As noted in the text, however, similar ideas were occasionally endorsed by people who received their education considerably later.

This still leaves the question of why these principles were barely appealed to after 1966. One possibility is that the abandonment was gradual and thus cannot really be assigned to a leading cause. Seen in this light, supporters of the principles lost the debate the debate in March 1966 about the desirability of curtailing non-productive lending simply because, by then, they were in a small minority.

Another possibility is that the "credit crunch" of 1966 played more direct role. At the end of 1966, the Fed lost heart in its fight against inflation and started lowering rates. This represents a break with the past in that the Fed was quite willing to induce the recessions of 1957 and 1960 so as to avoid even the possibility of inflation (see Rotemberg 2013). One possibility, then, is that FOMC officials attributed their own contractionary policies in 1966 to their embrace of the 1923 principles and that, when they

[96] A notable example is Watkins (1936) who recommends raising reserve requirements to avoid the danger of speculative credit.

[97] Wilbur Fulton started his career at the Fed in 1933 as an examiner. See http://www.federalreservehistory.org/People/DetailView/224.

decided that they could no longer accept policy-induced output declines, they gave up on the principles as a guide also. In this reading, while 1966 does not contain new information about the effect of the principles, it revealed to the Fed its own reluctance to cause a recession. The Fed's new aversion to causing a recession to contain inflation then led it to abandon the principles that, according to its critics, had led it cause recessions in the past.

Figure 1
Frequency of usage of "Money," "Credit," and some near synonyms

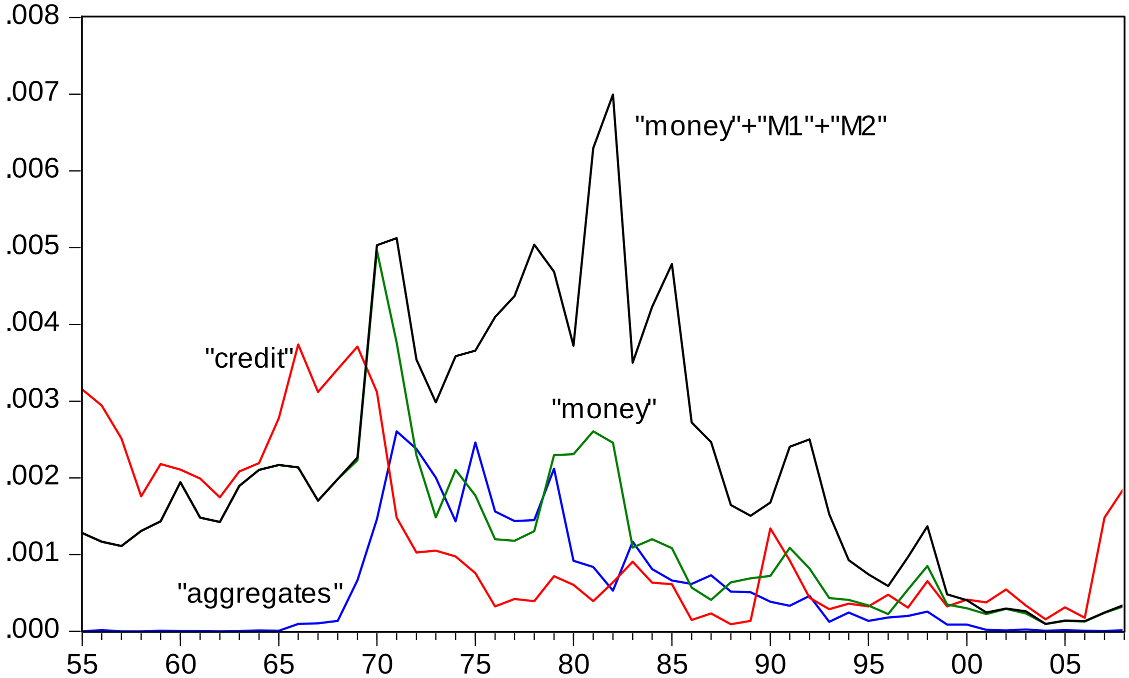


Figure 2
Mentions of expressions combining monetary and credit variables in FOMC minutes

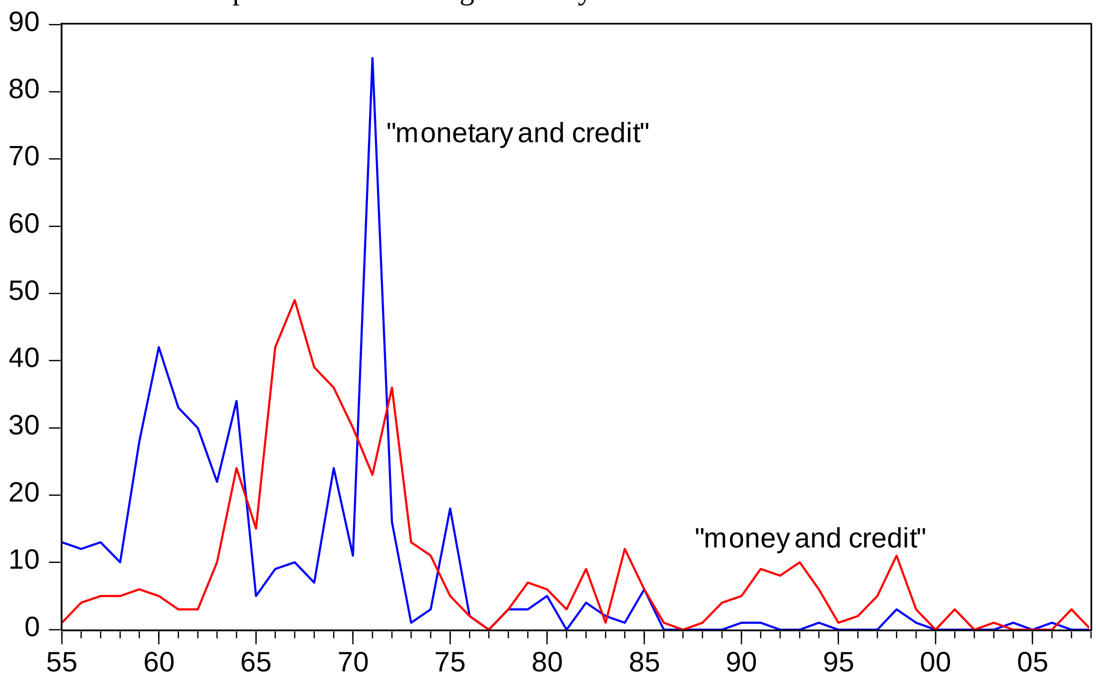


Figure 3
Usage of the word "speculative" in FOMC minutes

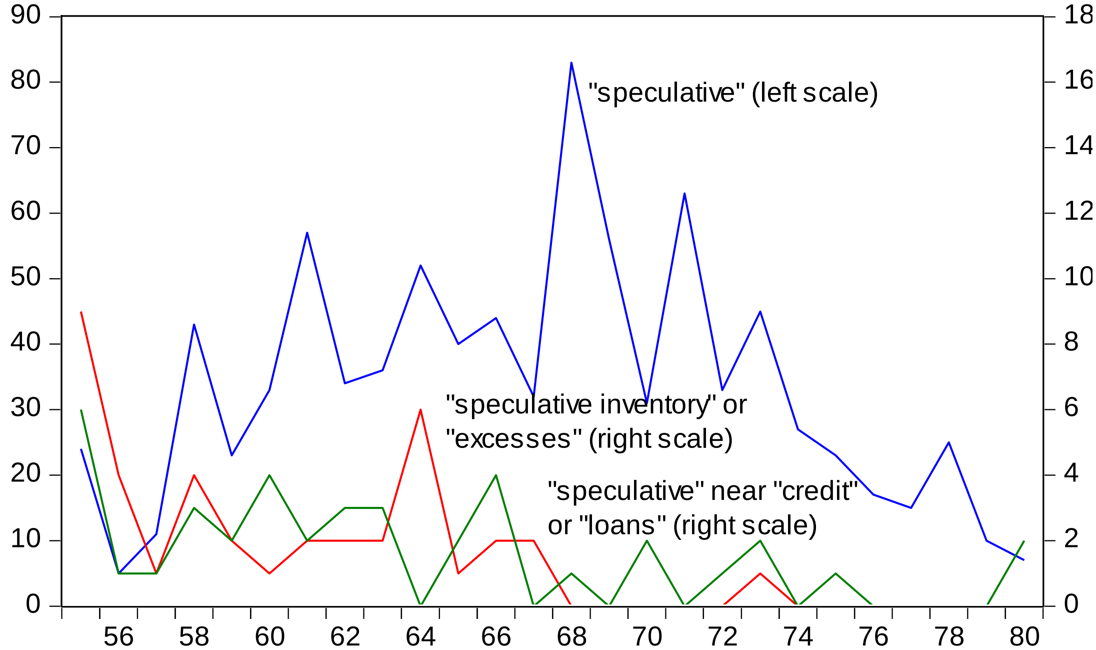


Figure 4
Usage of "needs" in general as well as in proximity to "seasonal"

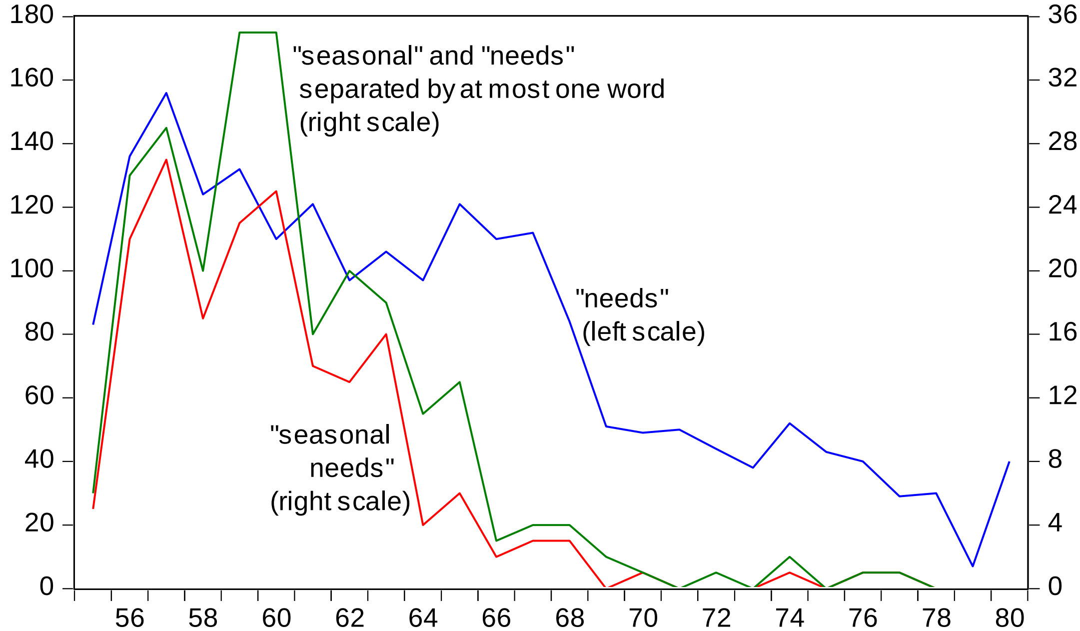


Figure 5
Usage of “needs” and “legitimate” near words connoting 1923 principles

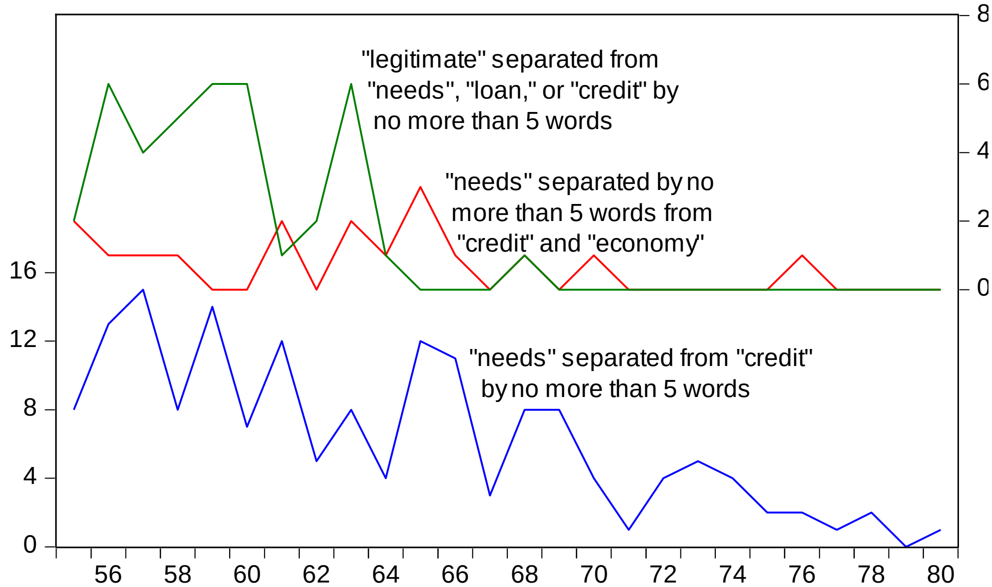


Figure 6
Expressions including the word “credit” whose usage peaks after 1965

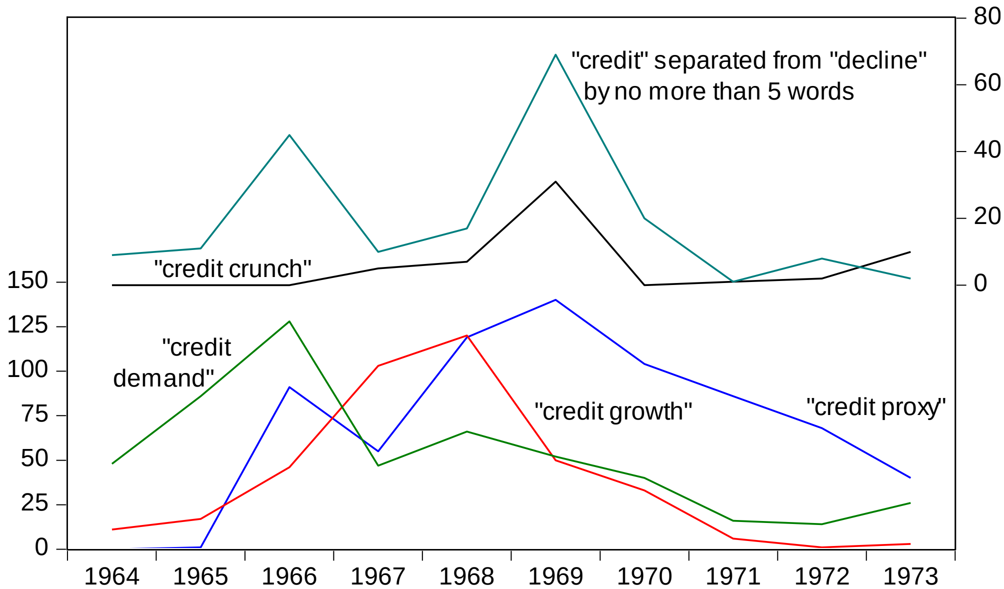
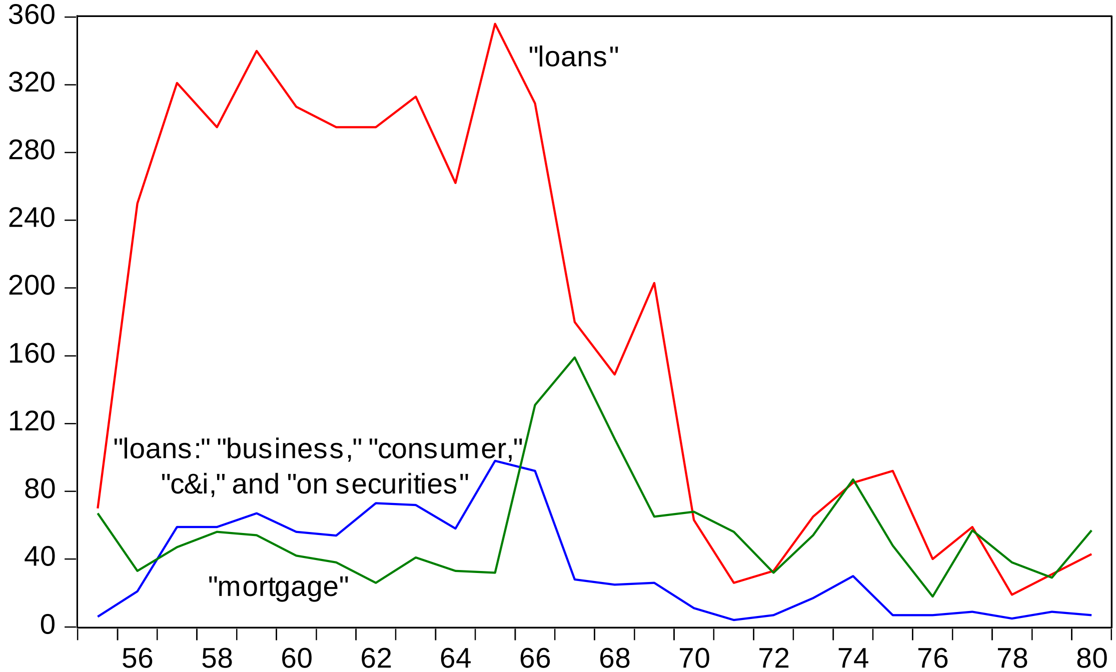


Figure 7
Expressions including the word “loans” and the root “mortgage”



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