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The Scope of Monetary Policy Actions Authorized Under the Federal Reserve Act

David H. Small* James Clouse†

*Board of Governors of the Federal Reserve System, dsmall@frb.gov

†Board of Governors of the Federal Reserve System, jclouse@frb.gov

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Abstract

The Federal Reserve Act authorizes the Federal Reserve to undertake various types of discount window loans and open market operations. While the Federal Reserve generally has not found it necessary to use all types of such authority, there could be circumstances in which the Federal Reserve might need to consider utilizing its statutory authority more broadly than it has in the past.

We examine the limits imposed by the Federal Reserve Act along two dimensions: those types of counterparties and financial instruments with which the Federal Reserve may conduct monetary policy. In doing so, we develop a theme not commonly pursued in the literature – the ways and extent to which the Federal Reserve Act limits the Federal Reserve from taking credit risk onto its balance sheet.

We also provide some historical perspective on how the current powers of the Federal Reserve came to be authorized.

KEYWORDS: Monetary policy, Federal Reserve Act, discount window, open market operations

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*The opinions in this paper are those of the authors and do not necessarily reflect the views of the staff, the Legal Division at the Board of Governors in particular, or the members of the Board of Governors of the Federal Reserve System. David Small and James Clouse are economists in the Division of Monetary Affairs at the Board of Governors. Helpful comments were given by Heatherun Allison, Normand Bernard, Cheryl Edwards, Gregg Forte, Oliver Ireland, Donald Kohn, Barbara Lowrey, Brian Madigan, Stephanie Martin, Ann Misback, Wayne Passmore, Thomas Simpson, and Joseph Sommer. Please address any comments to David Small, Board of Governors of the Federal Reserve System, 20th and C Streets, N.W., Washington, DC 20551, Mail Stop 55, (202) 452-2659, dsmall@frb.gov; or James Clouse, Mail Stop 72, (202) 452-3922, jclouse@frb.gov.

1 Introduction[1]

To enable the Federal Reserve to change the aggregate supply of the monetary base and, thereby, the aggregate quantities of money and credit and the level of interest rates, the Federal Reserve Act (the "Act") authorizes the Federal Reserve to extend discount window loans and to conduct open market operations.[2] The Federal Reserve generally has not found it necessary to use all of this authority in order to implement monetary policy effectively. For example, the Federal Reserve does not currently use its open market authority to purchase bills of exchange or bankers' acceptances. Similarly, in certain circumstances, the Federal Reserve has the legal authority to make loans directly to nondepository institutions, but this authority has not been used for more than 60 years.

In this paper, we examine the restrictions imposed by the Act on the Federal Reserve's open market operations and discount window lending.[3] One restriction the Federal Reserve faces concerns whether its counterparty in a monetary policy action must be a depository institution or may be a nondepository institution or an individual. The Federal Reserve also faces restrictions on the types of financial instruments that it may buy and sell in open market operations and accept as collateral for discount window loans. A further implication of the restrictions of the Act and the apparent Congressional intent may be that the Federal Reserve also faces limitations on the credit risk that it may take onto its balance sheet.

While the restrictions in the Act do not seem to have impaired the conduct of monetary policy in recent decades, there have been two occasions in recent years in which the Federal Reserve felt a need to examine these restrictions. One occasion was the prospect of ongoing federal budget surpluses in the 1990s and the potential paying off of the federal debt.[4] The second occasion was in

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[1]This paper is an expanded version of Small and Clouse (2000), which in turn built on early versions of Clouse, Henderson, Orphanides, Small and Tinsley (2003).

[2]The Federal Reserve also can change reserve requirements to affect the aggregate demand for the monetary base. In addition, the Federal Reserve has at times used "selective" instruments such as margin requirements, credit controls, and ceilings on rates paid on deposits at depository institutions. The Federal Reserve no longer has statutory authority to impose credit controls or deposit-rate ceilings.

[3]Additional restrictions imposed by the Federal Reserve's own regulations are not a central focus of this paper. Presumably, these restrictions could be changed in a timely manner by the Federal Reserve should the need arise.

[4]See Beebe and Cumming (2002), Krieger and Madigan (2002), and Hakkio and Lang (2002).

2003 and 2004 when the Federal Reserve pushed the target federal funds rate to one percent.[5]

Although this paper focuses on the restrictions in the Act, it is part of the broader literature that considers the composition of assets held by central banks. Bernanke et al. (2004) considers whether purchases of longer-term U.S. Treasury debt by the Federal Reserve could affect the Treasury yield curve through portfolio rebalancing effects. Bernanke (2003) addresses the reluctance by the Bank of Japan to purchase longer-term Japanese government debt due to its concerns about future capital losses. The effects of capital gains and losses on the conduct of monetary policy has been examined in the context of the zero bound by Jeanne and Svensson (2004).[6] In attempting to provide stimulus at the zero bound, the Bank of Japan has purchased stock shares held by commercial banks and asset-backed securities—in both cases, accepting private-sector credit risk onto its balance sheet.[7] Bringing credit risk onto the central bank's balance sheet and out of the market could potentially be stimulative when interest rates on assets that are free of credit risk (such as government debt) are near zero but credit-risk premiums are not. But such actions may have the undesirable effect of having the central bank affect the allocation of credit across sectors of the economy and relative asset prices.

To preview; in terms of counterparties, the Federal Reserve faces far fewer statutory restrictions if its counterparty is a depository institution, rather than an individual or nondepository institution, when it is making a discount window loan. But when conducting open market operations, it is equally easy (from a legal point of view) for the Federal Reserve to transact with a nondepository institution or individual as it is to transact with a depository institution. Indeed, the Federal Reserve currently conducts open market operations exclusively with about 25 so-called primary government security dealers. All but one of the primary dealers are nondepository institutions, although some are subdivisions of bank holding companies.

In terms of the types of financial instruments with which the Federal Reserve may conduct monetary policy, securities issued or guaranteed by the U.S. Treasury or by federal agencies can be used both in open market operations

[5]Monetary policy when the nominal Treasury bill rate is at or near zero is discussed in Clouse et al. (2003) and attempts to flatten the Treasury yield curve in such circumstances are discussed in Bernanke, Reinhart and Sack (2004).

[6]Currently, the Federal Reserve carries most of its assets acquired from open market operations at their original purchase prices. The exception is the value of assets denominated in foreign currencies, which is adjusted for changes in exchange rates.

[7]See *The Outline of the Stock Purchasing Plan* (2002) and Hirata and Shimizu (2004).

and as collateral in discount window loans extended to depository institutions and to individuals, partnerships and corporations (IPCs), for example.[8]

However, the use of private-sector credit instruments is substantially more restricted than is the use of Treasury securities—both in making loans and especially in open market operations. In making loans; if the loan is to a depository institution, a wide variety of private-sector financial instruments can be used as collateral if the loan takes the form of an advance.[9] But if the loan takes the form of a discount of third-party paper, any private-sector credit instrument that is discounted must have been issued originally to meet "real bills" criteria.[10] In a loan to an IPC, a wide variety of private-sector credit instruments can be discounted (without regard to "real bills" restrictions), but such loans with private-sector instruments serving as collateral are authorized only in "unusual and exigent circumstances" and when the IPC is unable to secure credit from other sources.

In open market operations, the Act's restrictions are on the form of private-sector instruments—they must be bankers' acceptances or bills of exchange (with some further "real bills" restrictions).[11] There is no express provision in the Act for the Federal Reserve to use its open-market authority to purchase private-sector promissory notes such as mortgages or corporate bonds or to purchase equities.[12]

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[8]The Federal Reserve's Regulation A imposes further restriction on such loans to IPCs.

[9]See footnote 23 for a discussion of advances and how they differ from discounts.

[10]Hackley (1973) describes the "real bills" doctrine, saying:

> ... the Board expounded the principle that all paper offered for discount should be essentially self-liquidating; in other words, that it "should represent in every case some distinct step in the production or distribution process—the progression of goods from producer to consumer."
>
> It was not long before this philosophy—the real-bills doctrine—underwent drastic erosion. (p. 191)

See West (1977) chapter 7 for a discussion of the real bills doctrine as providing the theoretical background for the Federal Reserve Act and chapter 9 for a view of the Federal Reserve's gradual abandonment of the real bills doctrine. Also see *Report of the System Committee on Eligible Paper* (1962), pages 68-69, for a characterization of Section 13(2) as reflecting the "real bills" doctrine.

When using "real bills" in characterizing aspects of the Federal Reserve Act, we will be using it to include agricultural paper, and therefore applying it to paper issued for "agricultural, industrial, or commercial purpose" as per Section 13(2) of the Federal Reserve Act.

[11]These restrictions are discussed below starting on page 22.

[12]The Federal Reserve may also purchase foreign exchange, foreign government obligations, and gold (as discussed in Section 3.5 below). The Federal Reserve's holdings of gold

With regards to credit risk potentially acquired through the making of loans, the Federal Reserve seems to be implicitly limited in the private-sector credit risk that it can accept onto its balance sheet because loans to depository institutions must be collateralized.[13] In asset purchases, the credit risk that the Federal Reserve can take onto its balance sheet seems to be limited only by the restrictions on the types of assets it can purchase—discussed below. But even if the Federal Reserve could take significant nondepository credit risk onto its balance sheet, there could be a host of problems if the Federal Reserve began to evaluate credit risk and if its pricing based on those evaluations affected the allocation of credit in the economy.

The Act provides some flexibility for the Federal Reserve to respond to economic stress through its "incidental powers" provision, although this power is limited to being used only when "necessary to carry on the business of banking within the limitations prescribed by this Act" as stated in Section 4(4), paragraph "seventh" of the Federal Reserve Act.[14,15] Under this authority, the Federal Reserve Bank of New York wrote options in advance of the 1999 year-end in order to promote smooth functioning of money markets in light of potential Y2K pressures even though the Act does not explicitly give the Federal Reserve the authority to buy and sell options.

While the focus of this paper is on the Federal Reserve Act and other statutory provisions in their current forms, we provide some historical perspective on how the current powers of the Federal Reserve came to be authorized. Following the historical pattern in which each tool was the dominant tool of monetary policy, we first focus on the authorization of the Federal Reserve to extend loans (Section 2) and then on the authorization to conduct open

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are subject to the provisions of the Gold Reserve Act of 1934.

[13]In both advances and discounts, the depository institution is primary liable to the Federal Reserve. (See the discussion starting on page 10.) Nonetheless, the Federal Reserve accepts some of the credit risk of the private-sector instruments serving as collateral because if the depository defaults the Federal Reserve would be left holding the private-sector instrument. But this risk is reduced by the creditworthiness of the depository institution and by the "haircut" the Federal Reserve takes in making advances and discounts. See footnote 30.

[14]The "incidental powers" provision does not authorize the Federal Reserve to exceed or contravene express limitations in the Federal Reserve Act. It does enable the Federal Reserve to exercise powers not expressly authorized by the Act but necessary in order to carry out powers or responsibilities that are express in the Federal Reserve Act.

[15]Here and throughout, references to sections of the Federal Reserve Act follow numbering in *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998)* (1999).

market operations (Section 3). The "incidental powers" authority and the use of options are discussed in Section 4.

2 Discount Window Loans

2.1 Historical Overview

The Federal Reserve Act, passed in 1913, states that the Federal Reserve System was established:

> To provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes.[16]

In this preamble, the mention of rediscounting commercial paper conveys two key aspects of how the writers of the Act foresaw the Federal Reserve conducting monetary policy in general and discount window lending in particular.[17] First, the term "rediscounting" presumes that the Federal Reserve would be dealing with member banks but not directly with the public.[18] Commercial paper would be "discounted" by member banks in the first instance and then "rediscounted" by the Federal Reserve.[19] Second, given the meaning of "commercial paper" at the time of the writing of the Act, the reference to commercial paper indicates that the instruments rediscounted would have been

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[16] Preamble to the Federal Reserve Act; Section 1-001, page 3, in *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998) (1999).*

[17] Below we distinguish between discounts and advances, but we follow common practice and use "discount window lending" to include lending by means of discounts and advances.

[18] The Federal Reserve was established with the view that it would have little direct interaction with the public, in contrast to practices at that time at the Bank of England and other leading European central banks. See Conway and Patterson (1914) (pp. 171-73).

An excellent review of the legislative history of the lending function of the Federal Reserve is provided by Howard Hackley (1973), who served as General Counsel to the Board of Governors of the Federal Reserve System. Also see *Report of the System Committee on Eligible Paper (1962)* for a review and analysis of discount-window eligibility requirements from the inception of the Federal Reserve to 1962. For a brief overview of current discount window lending practices, see *The Federal Reserve System Purposes and Functions* (1994) and Clouse (1994).

[19] See McKinley (1960) (p. 91). Currently, common practice is to refer to these Federal Reserve operations as "discounts."

issued for "real bills" purposes—i.e. for "agricultural, industrial, or commercial purposes" and not "covering merely investments or ... for the purpose of carrying or trading in stocks, bonds, or other investment securities."[20] These provisions are formalized in Section 13(2) of the Act, which states:

> Upon the indorsement of any of its member banks, which shall be deemed a waiver of demand, notice and protest ... any Federal reserve bank may discount notes, drafts, and bills of exchange arising out of actual commercial transactions; that is notes, drafts, and bills of exchange issued or drawn for agricultural, industrial, or commercial purposes, or the proceeds of which have been used, or are to be used, for such purposes ... but such definition shall 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.[21]

With notes, drafts, and bills of exchange including most types of written credit instruments (as discussed below in Section 3.4), Reed (1922) summarized Section 13(2) of the Act as giving the Federal Reserve the authority:

> to discount any of the following: "notes, drafts, and bills of exchange arising out of actual commercial transactions." Eligible

[20]See Section 13(2) of the Federal Reserve Act. Two definitions of commercial paper are provided by Woelfel (1994) on page 224:

> All classes of short-term negotiable instruments (notes, bills, and acceptances) that arise out of commercial, as distinguished from speculative, investment, real estate, personal, or public transactions; short-term notes, bills of exchange, and acceptances arising out of industrial, agricultural, or commercial transactions, the essential qualities of which are short-term maturity (three to six months), automatic or self-liquidating nature, and nonspeculativeness in origin and purpose of use. ...
>
> In the narrower, technical sense, commercial paper consists of notes maturing in less than one year (usually four to six months) which are the direct obligations of issuing mercantile or industrial corporations or copartnerships.

The meaning of "commercial paper" in the Act is closer to the first definition, whereas current usage is more in line with the second definition. Willis and Steiner (1926), chapter VII, gives a detailed discussion of the practical problems in implementing these "real bills" restrictions.

[21]The terms "indorse" and "endorse" have the same meaning. For example, see *Black's Law Dictionary* (1999).

> paper was to depend, therefore, upon the nature of the underlying transaction and not upon the form of the paper.[22]

These restrictions on lending were loosened considerably during the Great Depression when the Federal Reserve was granted authority in 1932 to extend advances under Section 10B of the Act.[23] The collateral for such advances

[22]See Reed (1922) (p. 110). Also see Willis and Steiner (1926) (p. 147). Harris (1933) states the same view on page 271, and on page 296 goes on to say:

> The objective of introducing eligibility provisions in the Federal Reserve Act was to conserve the resources of the reserve banks for commercial purposes and to influence the lending policies of members so that they would hold the maximum possible supplies of acceptable or eligible paper.

Hardy (1932) also notes that:

> It was hoped by some critics of our pre-war banking organization that the Federal Reserve System would bring about a change in the standards of commercial bank lending. ... Standards of eligibility would tend to become standards of lending practice (p. 264).

[23]Regarding the technical distinctions between discounts of third-party paper for member banks and advances to member banks, Hackley (1973) states:

> Both discounts and advances are sometimes loosely referred to as discount operations, but the legal distinctions between the two are clear.
>
> In the case of a [Section 13(2)] discount, credit is given by a Reserve Bank to a member bank on the basis of eligible paper representing loans made by the member bank to its own customers. ... Any such eligible paper that is offered for discount is transferred to the Reserve Bank with the member bank's endorsement. No note is executed by the member bank. ...
>
> An advance is a simpler operation. The member bank merely executes its own note or, under procedures established in 1971, enters into a continuing lending agreement, and pledges [eligible collateral]. ... If the advance is not repaid at maturity, the Reserve Bank has a direct claim against the member and does not have to resort to the paper pledged as security unless necessary to satisfy that claim (p. 83).

As noted by McKinley (1960):

> The discount process is more complicated (one of the reasons it is so little used today) because the instruments signed by customers of the member bank have to be accounted for in detail; and must be returned to the member bank, with other collateral substituted, just prior to the various due dates (p. 94).

While Hackley and McKiney refer to member banks, under Section 19(b)(7) of the Act (adopted in 1980), "Any depository institution in which transactions accounts or nonpersonal time deposits are held shall be entitled to the same discount and borrowing privileges as member banks."

was not restricted by "real bills" considerations or to be U.S. Treasury debt, but only had to be "to the satisfaction of [the] Federal Reserve bank."[24] The Federal Reserve was also granted authority in 1932 to extend discounts to IPCs—with limitations as discussed below.[25]

2.2 Lending to Depository Institutions

As shown in table 1, lending to depository institutions is authorized under several sections of the Federal Reserve Act—advances under Sections 10B, 13(8), and even 13(13); and discounts under Sections 13(2), 13(4), 13(6), 13A and even 13(3).[26]

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[24] As stated by McKinley (1960):

> By the Great Depression of the 1930's the member banks had so little eligible paper, or were so reluctant to discount what they had, that Carter Glass (now a Senator) had to plead tearfully before the Congress that the 1914 concept of eligible paper had gone awry and expediency dictated new types of collateral. ... For example, Section 10B, first passed in 1932 and made permanent in 1935, provided for advances secured "to the satisfaction of" the Reserve Banks, which, as cynics pointed out, meant that any "cat and dog" could now be brought to the central bank and used as collateral. The bitter tears of Senator Glass are understandable in terms of so great a departure from his [real bills] concept of eligible paper (p. 97).

Under a provision to Section 13 adopted in 1916, Federal Reserve Banks could make advances to member banks on their promissory notes, but those notes were restricted to be collateralized by "... such notes, drafts, bills of exchange, or bankers' acceptances as are eligible for rediscount or for purchase by Federal reserve banks under provisions of this Act, or by the deposit or pledge of bonds or notes of the United States."

[25] See Hackley (1973) (p. 128).

[26] Depository institutions are corporations and thus part of IPCs.

See footnote 23 for a discussion of the distinction between discounts and advances. Although the Act authorizes discounts secured by the debt of Federal Intermediate Credit Banks, and open market operations using the debt of those banks, these operations are not discussed here because Federal Intermediate Credit Banks no longer exist. In 1987, Congress required the mergers of the Federal Intermediate Credit Banks and the Federal Land Banks, creating the Farm Credit Banks.

The followings provisions in the Federal Reserve Act pertaining to the discount powers of the Federal Reserve are not discussed in this paper: Section 10A (Emergency Advances to Groups of Member Banks), Section 11(b) (Rediscounts of One Reserve Bank for Another), Section 13(5) (Limitation on Discount of Paper of One Borrower), Section 13(10) (Regulation by Board of Governors of Discounts, Purchases, and Sales), Section 13(14) (Receipt of Deposits from, Discount Paper Endorsed by, and Advances to Foreign Banks), and Section 19(7) (Bank Reserves, Discount and Borrowing). See *The Federal Reserve Discount Window* (1994) (pp. iv-vii).

Table 1
Credit Instruments Used in Discounts or Advances

Borrowers	Credit Instruments
Depositories	
10B Advances[1,2]	Depository's time and demand notes secured "to the satisfaction of [the] Federal Reserve bank."
13(8) Advances	Depository's promissory note secured by U.S. Treasury, U.S.-guaranteed, U.S.-agency, U.S.-agency-guaranteed securities, or credit instruments eligible for discount or purchase.
13(2) Discounts[3]	Notes, drafts and bills of exchange meeting "real bills" criteria.
13(4) Discounts[3]	Bills of exchange payable on sight or demand which grow out of the shipment of agricultural goods.
13(6) Discounts[3]	Acceptances that grow out of the shipment of goods (Section 13(7)) or for the purpose of furnishing dollar exchange as required by the usages of trade (Section 13(12)).
13A Discounts[3]	Notes, drafts, and bills of exchange secured by agricultural paper.
IPCs[4]	
13(13) Advances	IPC's promissory note secured by U.S. Treasury, U.S. agency or U.S. agency-guaranteed obligation.
13(3) Discounts	Notes, drafts, and bills of exchange "indorsed or otherwise secured to the satisfaction" of the Reserve Bank, in "unusual and exigent circumstances" and subject to other restrictions.

1. Section 10A provides for advances to groups of member banks, in limited cases.
2. Advances are subject to capitalization standards listed in Section 10B.
3. Must have been endorsed by a member bank.
4. Depository institutions are corporations and thus part of IPCs.

Notes: Maturity restrictions apply to all advances (but not the collateral) except those under Section 10A and to collateral for discounts except those under Sections 13(3) and 13(4). However, under Section 13(4) the Federal Reserve may not hold the discounted instrument for more than ninety days. Section 13(14) authorizes advances and discounts to branches and agencies of foreign banks, subject to restrictions.

The Federal Reserve's broadest authority to extend loans to depositories is under Section 10B. The only restriction on the collateral under that authority is that the Reserve Bank making the advance deems the collateral to be satisfactory.[27] The collateral may be promissory notes, such as corporate bonds, short-term corporate paper, or commercial or industrial loans; all of which are instruments that the Federal Reserve cannot purchase or sell under its open market authority (See Section 3.3 below.). Reserve Banks currently accept as collateral various types of promissory notes of acceptable quality, including state and local government securities, mortgages covering one- to four-family residences, credit-card receivables, other customer notes, commercial mortgages, and business loans. In recent decades, the Federal Reserve has extended credit to depositories only through advances (under Sections 10B and 13(8)) and has not made any discounts.[28]

Even though the Federal Reserve can extend credit to depositories through advances secured by a wide array of instruments, the Federal Reserve takes the credit risk of the collateral onto its balance sheet only to a limited extent. With an advance, the loan to the depository is extended on the basis of a promissory note issued by the depository.[29] During the course of the advance, should the

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[27] Until recently, a significant amount of discount window lending under Section 10B could have created problems for the Federal Reserve in its attempts to maintain sufficient collateral to back Federal Reserve notes because the promissory notes issued by the depository, and on which the Section 10B advances were made, are not among the assets that the Federal Reserve can use to back Federal Reserve notes. This problem would not have occurred with discount window loans under Section 13 because the notes, drafts, bills of exchange, and acceptances discounted under Section 13 were, and still are, eligible to back Federal Reserve notes, as stated in Section 16(2) of the Act. (Assets purchased under Section 14 of the Act are also generally eligible to back Federal Reserve notes.)

In 1999 (Public Law 106-122, December 6, 1999) the Act was amended so that the promissory notes on which the Federal Reserve makes advances under Section 10B are eligible to back Federal Reserve notes. In 2003, Section 16(2) was amended to make any asset of a Federal Reserve Bank eligible to serve as collateral for Federal Reserve notes.

[28] Nonetheless, the authorization for discounts by depositories remains important because it potentially affects the scope for open market operations. The bills of exchange (and possibly the bankers' acceptances) eligible to be purchased (under the first paragraph of Section 14) are limited to those eligible to be discounted. In "normal" times, the only types of private-sector instruments eligible for discount are "real bills" instruments eligible to be discounted by depositories under Section 13(2). However, in "unusual and exigent circumstances" the types of private-sector instruments eligible for discount could be widened beyond those meeting "real bills" criteria if discounting to IPCs were authorized by the Federal Reserve Board under Section 13(3). See Section 2.3 below.

[29] In 1970, the Board announced new discount window lending procedures that would use "continuing lending agreements" instead of promissory notes for each advance. See Press Release (Dec. 1, 1970). Henceforth, in the context of Federal Reserve advances we will

value of the collateral become insufficient to cover the loan repayment, the Federal Reserve would look to the depository to pledge additional collateral or reduce its loan balance: The depository therefore retains the credit-risk of the collateral.[30] In a discount of third-party paper for a depository institution, although the depository does not issue its own promissory note, the depository must endorse the paper that is discounted.[31] So here too, as in the case of an advance, the credit risk of the underlying collateral stays with the depository institution.

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use the term "promissory note" to include both promissory notes and continuing lending agreements.

[30]To further protect itself against credit risk, the Reserve Bank takes a "haircut" on the collateral by giving an advance that is significantly less than the value of the collateral. Then should the depository institution default, the Reserve Bank has a cushion that helps protect it in recouping the full value of the loan.

Additionally, the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), through its "prompt corrective action" provisions, has imposed restrictions on depository institutions in weak capital conditions. Among those restrictions:

> are limitations on access to the Federal Reserve's discount window. Since December 1993, FDICIA has limited the ability of the Federal Reserve to provide credit for undercapitalized and critically undercapitalized institutions. FDICIA stipulates that the Federal Reserve may not lend to an undercapitalized institution for more than 60 days in any 120-day period without incurring a potential limited liability to the FDIC; exceptions to this rule arise if the borrower's primary federal supervisor certifies in writing that the institution is viable or if the Board conducts its own examination of the borrower and the Chairman of the Federal Reserve Board certifies that it is viable.

See *The Federal Reserve System Purposes and Functions (1994)* (p. 52). For critically undercapitalized institutions, the Board incurs a potential limited liability to the FDIC for increases in discount window advances beyond a 5-day period beginning on the date the institution becomes critically undercapitalized. See Clouse (1994) (p. 975). Also, under Section 4(8) of the Federal Reserve Act, Federal Reserve Banks shall give consideration to "undue use" of discount-window credit by banks.

[31]Discounts under Sections 13(2), 13(4) and 13A require an endorsement that is deemed to be a "waiver of demand, notice and protest." Hackley states:

> ... a borrowing member bank, by virtue of its endorsement of the discounted paper, becomes primarily liable to the Reserve Bank, thus giving the Reserve Bank the right to proceed directly against the member bank rather than against the obligor on the paper discounted. (p. 245).

Also see Hackley (1973) (p. 22) and *Federal Reserve Bank of Minneapolis v. First Nat. Bank of Eureka, S.D.* (1921) (p. 302).

If the credit risk of the collateral remains with the depository, Federal Reserve lending to depositories would likely do very little to lower the credit-risk premiums charged by depositories in making new loans to private-sector borrowers. Such credit risk premiums could be a major factor holding down credit expansion and economic recovery should nominal rates on Treasury bills be at or near zero and should the economy be weak.

2.3 Lending to Individuals, Partnerships and Corporations

The Federal Reserve has the authority to lend directly to individuals, partnerships, and corporations (IPCs)—which could include depository institutions—under Sections 13(3) and 13(13) of the Federal Reserve Act, as shown in table 1.[32] However, lending under these authorities is subject to very stringent criteria in law and regulation and such lending has not taken place since the Great Depression.[33] For example, advances under Section 13(13), are limited to those:

> secured by direct obligations of the United States or by any obligation which is a direct obligation of, or fully guaranteed as to principal and interest by, any agency of the United States.

Because IPCs with such collateral could easily sell it in the open market, Section 13(13) advances may not have much effect (unless done at subsidized rates) in stimulating aggregate demand.

In contrast, private-sector instruments may lack the liquidity of Treasury debt. Therefore, Federal Reserve loans to nondepository entities that use such instruments as collateral may provide liquidity for those instruments and could help remove a potential impediment to economic recovery if depository

[32] The Federal Reserve's Regulation A, which governs both Section 13(3) and Section 13(13) advances to IPCs, limits Reserve Bank extensions of credit to IPCs to cases where credit is not available from other sources and failure to advance credit would adversely affect the economy. 12 CFR 201.3(d).

In bankruptcy proceedings, disposition of loans to IPCs (with some exceptions including depository institutions) may differ significantly from disposition of loans to depositories. IPC bankruptcies are governed by the Bankruptcy Code and not the Federal Deposit Insurance Act—as is the case for most depositories. The most significant difference between a Code bankruptcy and a banking-law bankruptcy is the automatic stay present in a Code bankruptcy.

[33] Under Section 14(a), the Federal Reserve is granted a broad authority to make loans on gold coin and bullion, which is not discussed further in this paper.

institutions had become unwilling or very reluctant to provide credit. Hence, we shall focus on Section 13(3) discounts of:

> ... notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal Reserve bank.[34]

Because notes, drafts, and bills of exchange include most forms of credit instruments, or at least appear to have done so at the time the Act was drafted, Section 13(3) provides virtually no restrictions on the form a written credit instrument must take in order to be eligible for discount.[35] And by requiring merely that the discount be "secured to the satisfaction of the Federal Reserve bank," Section 13(3) of the Act imposes no restrictions on the use of funds (such as for "real bills" purposes) for which the discounted instrument was originally issued.

However, in making Section 13(3) loans to IPCs, the Federal Reserve must impose some standards that are much more stringent in comparison to those imposed in lending to a depository. Two particular requirements are that (1) such lending to IPCs is authorized only in "unusual and exigent circumstances" and that (2) the IPC is not able to "secure adequate credit accommodations from other banking institutions." Activation of this authority requires the affirmative vote "of not less than five members" of the Federal Reserve Board.[36]

Section 13(3) requires the collateral to be "indorsed or otherwise secured to the satisfaction of the Federal Reserve bank." Hackley (1973) states:

> ... it seems clear that it was the intent of Congress that loans should be made only to creditworthy borrowers; in other words, the Reserve Bank should be satisfied that a loan under this authority would be repaid in due course, either by the borrower or by resort to security or the endorsement of a third party.[37]

[34] The phrase "of the kinds and maturities made eligible for discount for member banks under other provisions of this Act" had appeared immediately after the term "bills of exchange" and before the phrase "when such notes, drafts, and bills of exchange are indorsed." In 1991, Section 473 of FDICIA amended the Federal Reserve Act to delete this phrase. (See Clouse (1994) (p. 975). This deletion not only broadened the Federal Reserve powers to provide discounts for IPCs, but may have indirectly expanded the class of private-sector securities that the Federal Reserve may purchase—at least in unusual and exigent circumstances. See Section 3.4 of this paper.

[35] The distinctions among notes, drafts, and bills of exchange are discussed below in Section 3.4.

[36] Section 11(r) of the Act provides exceptions in the event that fewer than five members of the Board are available at the time of the action.

[37] Hackley (1973) (p. 129).

Under this interpretation, the endorsement restriction in Section 13(3) could significantly curtail the potential effectiveness of using loans to IPCs to stimulate aggregate demand. In an environment of a sluggish economy and elevated credit risk premiums, lending only to creditworthy IPCs or accepting only relatively high-quality collateral leaves may limit the scope to lower risk premiums. But, even if the Federal Reserve could take more credit risk onto its balance sheet, any social benefits from the Federal Reserve doing so would need to be balanced against the potentially substantial drawbacks associated with placing the Federal Reserve squarely in the process of allocating credit among private sector borrowers.

3 Open Market Operations

3.1 Historical Overview

Open market operations were authorized under Section 14 of the original Federal Reserve Act, but played a limited role in the conduct of monetary policy until the early 1920s.[38] During this initial period, Reserve Banks purchased financial assets to obtain income with which to pay expenses and purchased bankers' acceptances with the additional objective of helping to develop a U.S. market for bankers' acceptances.[39] Open market operations also were seen as a tool with which the Federal Reserve could take the initiative in injecting reserves (rather than waiting for member banks to apply for discounts) and in smoothing out market dislocations.[40] Assets purchased by Reserve Banks

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[38]See Youngdahl (1960), West (1977) (chapters 9 and 10) and Meltzer (2003) for discussions of the early history of open market operations.

[39]See *Tenth Annual Report of the Federal Reserve Board: Covering Operations for the Year 1923* (1924) (p. 12), Youngdahl (1960) (pp. 116-117), and West (1977) (p. 223). See Willis and Steiner (1926) (Chapter XVI) for an extended discussion of the use of open market purchases to develop the market for bankers' acceptances. (H. Parker Willis served as the Secretary of the Federal Reserve Board and William H. Steiner served as the Acting Chief of the Division of Analysis and Research of the Federal Reserve Board.)

[40]In Circular No. 8 of 1915, the Federal Reserve Board offered its view of the role of open market operations, saying:

> The open market provisions of the act are of large importance in two ways: (a) In permitting Federal reserve banks to place their resources at the disposal of constituent or member banks even when such constituent or member banks do not apply for rediscounts, ... (b) In permitting a reserve bank in one district which has surplus funds to relieve the strain upon reserve banks in other districts ...

See *First Annual Report of the Federal Reserve Board* (1915) (p. 156).

included state and local government debt, bankers' acceptances, and U.S. government securities.

In the early 1920s, the Federal Reserve began to see open market operations as an effective tool with which it could and should control the aggregate quantity of credit.[41] In particular, the Board created the Open Market Investment Committee for the Federal Reserve System in 1923 and adopted the following principle for open market operations:

> That the time, manner, character, and volume of open market investments purchased by Federal reserve banks be governed with primary regard to the accommodation of commerce and business and the effect of such purchases or sales on the general credit situation.[42]

In 1933, Congress amended the Act to provide for the FOMC by statute and in 1935 gave the FOMC authority over open market operations.[43] The FOMC was given this control subject to the principle that:

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[41] See Willis (1936) (chapter X) for a discussion of the practical considerations and theoretical reasons behind the shift in the Federal Reserves' emphasis from discount window lending to open market operations. Also see West (1977) (chapter 9) and Meltzer (2003) (chapter 4).

[42] See *Tenth Annual Report of the Federal Reserve Board: Covering Operations for the Year 1923 (1924)* (p. 16). This annual report also contains a discussion (starting on page 11) of the Federal Reserve Board's views of open market operations, given that the year of 1923 "witnessed a considerable development in the scope, purpose, and method of these open market operations." On pages 33 and 34, the Board distinguished between "qualitative" credit standards envisioned in the Act—relating to the real bills concepts of paper eligible for purchase and discount and to the principle of "accommodating commerce and business" as stated in the Act—and "quantitative" measures of the aggregate amount of credit.

For a discussion of the limitations of the real bills doctrine, the use of qualitative restrictions, and the advantages of using open market operations to impose quantitative restrictions on the growth of credit; see Strong (1930). Also see Congressional testimony in *Operation of the National and Federal Reserve Banking Systems* (1931), pages 802-808, which contains a statement by the Federal Reserve Bank of New York and a memorandum by Governor Benjamin Strong of the Federal Reserve Bank of New York justifying the new and expanded use of open market operations. Also see footnote 70 below.

[43] See Act of June 16, 1933, 48 stat. (pp. 162-168) and Act of August 23, 1935, 49 stat. (pp. 648-705). Reflecting the 1935 change to the Act, Section 12A(b) of the Federal Reserve Act in *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998) (1999)*(p. 29) states: "No Federal Reserve bank shall engage in or decline to engage in open-market operations under Section 14 of this Act except in accordance with the direction of and regulations adopted by the Committee."

> ... open market operations shall be governed with a view to accommodating commerce and business and with regard to their bearing upon the general credit situation of the country.[44]

Since that time, the Federal Reserve has gradually limited the types of securities that it purchases (or with which it conducts repurchase agreements) in the open market. The last purchases of state or local government debt were in 1933.[45] The Federal Reserve ceased open market operations in bankers' acceptances in 1977 and discontinued the use of repurchase agreements on bankers' acceptances to manage reserves in 1984.[46] Outright purchases of U.S. agency debt started in 1971 and ceased in 1981, although repurchase agreements in such debt continue to be used by the Federal Reserve to conduct monetary policy. Currently, the Federal Reserve also enters repurchase agreements on mortgage-backed securities issued by U.S. government-sponsored enterprises, conducts open market purchases and sales in U.S. Treasury debt, and enters into repurchase agreements on U.S. Treasury debt.

[44]See Section 12A(c) of the Federal Reserve Act in *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998) (1999)*(p. 29).

[45]See *Recision of Regulation E* (1978).

[46]See Federal Reserve press releases of March 18, 1977 and April 9, 1984. The Federal Reserve dropped the use of outright purchases of, and repurchase agreements in, bankers' acceptances, in part, because (1) such operations in Treasury securities would suffice in conducting monetary policy, (2) the market for bankers' acceptances was well developed and no longer needed the support provided by Federal Reserve activity in bankers' acceptances, (3) the Federal Reserve was concerned that its willingness or reluctance to buy bankers' acceptances from a particular bank could be read by market participants as a "seal of good housekeeping" from the Federal Reserve, (4) participation in this market by the Federal Reserve was not giving it insights into market conditions that could not be achieved in other ways, (5) the banking system had recovered from earlier troubles and, therefore, withdrawal of the Federal Reserve from the bankers' acceptance market likely would not be seen as a sign of lack of confidence by the Federal Reserve in the banking sector as a whole, and (6) operations in bankers' acceptances exposed the Federal Reserve to some, although limited, credit risk. See *Transcript of the Federal Open Market Committee Meeting of March 16, 1984* (1984) (pp. 17-20); and *Recommendations Regarding Operations in Bankers' Acceptances* (1977).

3.2 Purchasing Debt of the U.S. Government and of U.S. FSIs

As shown in Table 2, the Federal Reserve's authority to purchase debt issued or guaranteed by the U.S. government is provided in Section 14(b)(1) of the Act, which states:

> ... any bonds, notes, or other obligations which are direct obligations of the United States or which are fully guaranteed by the United States as to the principal and interest may be bought and sold without regard to maturities but only in the open market.[47]

Included in the obligations authorized for purchase by Section 14(b)(1) is any debt the U.S. government guarantees, including that of any agency that is part of the U.S. government.

Under Section 14(b)(2), the Federal Reserve also may purchase:

> any obligation which is a direct obligation of, or fully guaranteed as to principal and interest by, any agency of the United States.

This provides authority for the Federal Reserve to purchase debt obligations that are not obligations of the United States and not guaranteed by the United States but are issued or guaranteed by agencies of the United States.

A list of obligations seen as eligible for purchase by the Federal Reserve under Sections 14(b)(1) or 14(b)(2) was published by the Federal Reserve Board in 1968 and updated in 1969, 1971, and 1972.[48] This list includes

[47] The restriction that such purchases must be in the open market "... does not prohibit the [direct] exchange of maturing Government securities [with the U.S. Treasury] for an equal amount of new securities carrying the conversion privilege." See *Twenty-Fourth Annual Report of the Federal Reserve Board: Covering Operations for the Year 1937* (1938) (p. 211).

[48] See Federal Reserve Bulletins for 1968, page 1012; 1969, pages 150 and 355; 1971, page 399; and 1972, page 983. Also see "Board Interpretation of Regulation A" in *Monetary Policy and Reserve Requirements Handbook* (1998), Section 2-040. As noted in this interpretation, this list of obligations of agencies of the United States was constructed to denote obligations eligible as collateral in advances to depository institutions under Section 13(8) of the Act and not to denote obligations eligible in open market operations. However, as noted in this interpretation, the Federal Reserve is authorized under Section 13(8) of the Act to make advances "secured by such obligations as are eligible for purchase under Section 14(b) of ... [the Federal Reserve] Act." Therefore, in determining which securities were eligible as collateral for advances under Section 13(8) the Board was making the necessary prior determination that those securities were eligible for purchase in open market operations.

Table 2
Types of Financial Assets That May be Purchased by the Federal Reserve

Obligations:[1]	Assets
U.S. Government Obligations	
14(b)(1)	All U.S. Treasury securities and securities which are fully guaranteed by the United States.
14(b)(2)	U.S. agency securities and those securities fully guaranteed by U.S. agencies.
Private Sector Debt[2]	
14 (first paragraph)[3]	"...cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities ... eligible for rediscount."
14(c)	" ... purchase from member banks ... bills of exchange arising out of commercial transactions ..."
13(4)[4]	Bills of exchange payable on sight or demand which grow out of the shipment of agricultural goods.
State and Local Gov. Debt[2]	
14(b)(1)	Bills, notes, revenue bonds and warrants used in anticipation of taxes or assured revenues.
Foreign Gov. Debt	
14(b)(1)[5]	Direct obligations and securities that are fully guaranteed by a foreign government or agency thereof.

1. Gold may be purchased under Section 14(a) subject to the Gold Reserve Act of 1934.
2. Subject to maturity restrictions.
3. The phrase "of the kinds and maturities ... eligible for rediscount" may apply to bankers' acceptances and bills of exchange or just to the latter. See Section 3.4 below.
4. The purchased asset may not be held by the Federal Reserve for more than ninety days and must have been endorsed by a member bank.
5. The legislative history of the Act indicates that the Federal Reserve would use this authority to invest foreign-currency holdings in foreign government obligations and not to "bail out" foreign governments.

obligations issued or guaranteed by certain U.S. financial services institutions (U.S. FSIs).[49]

In particular, U.S. FSIs issue two types of securities: direct debt obligations and "guaranteed certificates of participation" such as mortgage pass-through certificates, which are guaranteed by the U.S. FSI as to the timely payment of principal and interest.[50] A key economic issue regarding open market purchases of these securities is the extent to which they carry risk or liquidity premiums over Treasury securities, and if these premiums can be lowered by Federal Reserve purchases of these securities. Interest rates on U.S. FSI pass-through certificates incorporate risk premiums, but these premiums do not directly reflect the credit risk on the underlying securities in the pools on which the pass-throughs are written. The U.S. FSI issuing the certificates accepts that credit risk as part of its guarantee of the timely payment of interest and principal to the holders of the pass-through certificates.[51]

However, two types of risks could remain in the pass-through certificates. First, there is the risk of prepayments on the underlying securities: Prepayments are passed onto the holders of the pass-throughs and need to be reinvested—predictably at lower interest rates. Second, pass-through certificates could carry the risk that the U.S. FSI issuing the certificate will not be able to honor its guarantee of the timely payment of interest and principal. However, there is no such risk for government corporations to the extent that they are backed by the full faith and credit of the U.S. government. And currently, financial markets may perceive little such risk for government-sponsored enterprises, which markets apparently assume are backed implicitly by the U.S. government and which are regulated by a variety of government agencies.[52]

[49]We use the term "U.S. financial service institutions" to refer to both government corporations and government-sponsored agencies that provide financial services, following terminology used by the Government Accounting Office in *Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure* (1998) (pp. 2-3 and Appendix II). Government corporations "have assets wholly owned by the federal government or have both government and private equity," while government-sponsored enterprises are "federally established, privately owned" entities (p. 3). For example, the former includes the Federal Housing Administration and the Government National Mortgage Association; and the latter includes Federal Home Loan Banks, the Federal Home Loan Mortgage Corporation, and the Federal National Mortgage Corporation (Fannie Mae).

[50]A mortgage pass-through certificate is a security representing an interest in an underlying pool of mortgages. Payments received on the underlying pool are passed through to the security investor. See the definition of pass-through certificate in Woelfel (1994) (p. 891).

[51]See Lowell (1995) (pp. 30-34).

[52]For analyses of risk associated with government-sponsored enterprises, see Lowell (1995), Jaffee (2003), *Six Voluntary Initiatives* (2004), and *Office of Federal Housing Enterprise Oversight* (2004).

U.S. FSIs also issue direct debt, and the Federal Reserve may have the authority under Sections 14(b)(1) and 14(b)(2) to purchase this debt in the open market and thereby possibly lower the institution's funding costs. As just noted, these institutions benefit from the actual or perceived backing by the U.S. government, which keeps this default risk relatively low.

If asset prices are influenced by changes in the relative supplies of assets, then Federal Reserve purchases of U.S. FSI direct and guaranteed debt could lower the risk premiums on this debt. Such purchases may be helpful in stimulating aggregate demand even when Treasury rates are at zero.

3.3 Purchasing State and Local Government Debt

The authority under which the Federal Reserve may purchase debt instruments of state and local governments is contained in Section 14(b)(1) of the Act, giving the Federal Reserve the authority:

> To buy and sell, at home or abroad, ... bills, notes, revenue bonds, and warrants with a maturity from date of purchase of not exceeding six months, issued in anticipation of the collection of taxes or in anticipation of the receipt of assured revenues by any State, county, district, political subdivision, or municipality in the continental United States, including irrigation, drainage, and reclamation projects.[53]

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[53]Section 1 of the Act defines "the continental United States" as "the States of the United States and the District of Columbia," thus including Alaska and Hawaii.

Garcia, ed (1973) defines a warrant as:

> A short-term obligation of a municipality, or other political subdivision, constituting part of its floating debt. A warrant is a revenue obligation issued in anticipation of tax collection.

Garcia, ed (1973) describes a municipal warrant, saying:

> A municipal warrant may originate as an order given by a municipal official acting under proper authority upon the treasurer of such municipality to pay a certain person, firm, or corporation a certain sum of money or goods or services advanced, and which when presented to the treasurer, cannot be paid for lack of funds. When stamped as follows: "Presented but not paid on account of lack of funds. This warrant bears interest from this date until paid at the rate of [x percent]" together with the treasurer's signature, the order becomes a warrant.

Woelfel (1994) provides a modern definition of a revenue bond, saying:

> Bonds issued by municipalities with principal and interest payable from revenues or income from municipally owned or state-owned plants, toll roads or bridges, or

Three particular aspects of this authorization are noteworthy. First, this authorization does not limit Federal Reserve purchases of state and local government debt to the open market. Reserve Banks may purchase such obligations directly from state or local governments.[54] Second, the Act requires only that debt purchased have a maturity of six months or less at the time of purchase by the Federal Reserve, implying that eligible debt may have had a longer original maturity.

Third, the state or local government debt must have been issued " ... in anticipation of the collection of taxes or in anticipation of the receipt of assured revenues." The extent to which this phrase restricts the state and local government debt that may be purchased by the Federal Reserve is unclear. For example, this phrase could render revenue bonds (current definition) ineligible for purchase because the amount of revenue generated by the project financed by the revenue bond might be somewhat uncertain and not be "assured" within the meaning of the Act.

3.4 Purchasing Private-Sector Debt

As shown in table 2, the statutory provisions governing open market purchases of private-sector debt are contained in Sections 14 and 13(4) of the Act. The most general provision for such purchases is contained in the first paragraph of Section 14, which authorizes the Federal Reserve to:

> public works, such as water works, electric light and power plant, port authority, railroad, etc. Thus revenue bonds are secured by the property and income of a city-owned or state-owned enterprise. The full faith and credit of the state or municipality, however, are not pledged behind revenue bonds, so such issues are classified as "limited liability" debt of the issuing governmental units.

However, the term "revenue bond" may have had a meaning at the time of the writing of the Act that is different from its current meaning as given above. For example, in editions subsequent to the 1924 edition of Munn (1924), revenue bonds generally were defined as above, but the 1924 edition defines revenue bonds as:

> Bonds issued temporarily by a municipality or other civil division in order to provide funds for current expenditure until taxes, or other income due, can be collected. Revenue bonds are usually in the form of short-term notes and payable on the next tax date. They are also known as tax relief or tax arrearage bonds.

Similar to these current and earlier definitions of revenue bonds are the ones used in the 1938 and the 1931 editions of *Financial Statistics of the United States* (various years), respectively.

[54]See *Recision of Regulation E (1978).*

> ... purchase and sell in the open market ... cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities by this Act made eligible for rediscount, with or without the indorsement of a member bank.[55]

This provision contains three limitations on purchases of private-market debt: (1) only cable transfers, bankers' acceptances, and bills of exchange are eligible for purchase or sale; (2) the bills of exchange (and possibly the bankers' acceptances) must be eligible for rediscount; and (3) the purchases and sales must be done in the open market.

The first limitation restricts the instruments to be one of the three mentioned types.[56] The first type of instrument, cable transfers, simply means foreign exchange.[57]

To define the other two types of instruments (bankers' acceptances and bills of exchange) and to distinguish them from other types of financial instruments, Woelfel (1994) states:

> From a legal standpoint, credit instruments may be divided into two classes—promises to pay and orders to pay.[58]

A promise to pay is a two-party instrument in which party A promises to pay party B—an example of which is a bond. In contrast, an order to pay is a three-party instrument: an order by party A that party B make a payment to party C—an example of which is a personal check (in which case party B is the bank on which the check is drawn).[59] For a discussion of how the economic

[55]See the first paragraph of Section 14 of the Act in *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998) (1999)* (p. 35). That part of the Act also authorizes these purchases "from or to domestic or foreign banks, firms, corporations, or individuals."

[56]Importantly, promissory "notes" are not included in this list, where as they are included in the list of instruments eligible to be discounted under Section 13(2).

[57]At the time the Act was passed in 1913, cable transfers were the method by which foreign exchange could be purchased or sold: The purchase of foreign exchange was referred to as the purchase of a cable transfer. The purchaser of a cable transfer, in effect, purchased a bank balance in a foreign country, typically denominated in a foreign currency. For example, see Rufener (1934) (p. 316 and p. 346).

[58]See definition of "credit instruments," (p. 269). Also see Chandler (1948), page 154; *Fundamentals of Banking: How a Bank Works* (1943), pages 84-85; and Scott (1916), pages 95-97.

[59]See Chandler (1948), pages 154-156; *Fundamentals of Banking: How a Bank Works (1943)*, pages 85 and 351; Bigelow (1928), page 37; Scott (1916), pages 95-96; Daniel (1903), pages 37-39, vol. 1; and *The American and English Encyclopedia of Law* (1897), pages 76-

functions and the legal rights and obligations associated with an order to pay (and, in particular, a bill of exchange) differ from those associated with a promise to pay, see the Appendix.

Providing specific examples, Woelfel (1994) lists bankers' acceptances as a type of promise to pay and bills of exchange as a type of order to pay:[60]

> The chief types of promises to pay are promissory notes, trade acceptances, *bank acceptances*, bonds, coupons, and certificates of debt.
>
> The chief types of orders to pay are checks, drafts, *bills of exchange*, money orders, telegraphic transfers, cable transfers, and letters of credit (page 269).[61]

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77. Chandler, page 156, notes that in some cases only two persons are involved in an order to pay because party A and party C (the drawer and the payee, respectively) are the same person. Also see Parsons (1863): "For it is very common for a man to draw upon himself; and it has long been held that such an instrument is a good bill of exchange. But it may be treated as a promissory note, at the election of the holder... And it may be laid down as a general rule, that whenever it is doubtful, upon the face of an instrument, whether it was intended as a bill of exchange or a promissory note, and it possesses the requisites of each, it may be treated as either, at the option of the holder" (pp. 62-65, vol. 1). Also see Title II, Article 1, Section 130 of *The Negotiable Instruments Law*, on page 546 of the Appendix of Bigelow (1928). And see Daniel (1903) (pp. 150-151, Chapter 5, Section 1).

[60] As stated by *Fundamentals of Banking: How a Bank Works (1943)* (page 353), although an acceptance starts out as a order to pay, it is a promise to pay (a note) because of the act of acceptance—an acceptance is defined as:

> ... a time draft (bill of exchange) on the face of which the drawee has written the word 'accepted,' .... Thus the instrument becomes a promise to pay.

In this definition, the drawee and the acceptor are the same party, but apparently this need not be the case.

If a bankers' acceptance is not defined as a type of note, then no notes are eligible for purchase under the first paragraph of Section 14 of the Act. Indeed, many authors note the similarities between bankers' acceptances and promissory notes, but do not explicitly say that bankers' acceptances are notes. Bigelow (1928), page 116, states: "If the acceptance [of a bill of exchange] be general the holder now has an unconditional recourse against at least one party to the instrument, who is bound absolutely to pay; whereas before acceptance his recourse was against conditional parties only, drawer and indorsers. By a general acceptance, therefore, the *drawee becomes, like the maker of a note, an absolute promisor*, and the primary party." (Italics added.) Daniel (1903) states "The effect of the acceptance of a bill is to constitute the acceptor the principal debtor. The bill becomes by the acceptance very similar to a promissory note—the acceptor being the promisor, and the drawer standing in relation of an indorser" (p. 527, vol. 1).

[61] Italics added. Section 13(2) of the Act gives the Federal Reserve the authority to define

However, the terms "orders to pay", "drafts" and "bills of exchange" are virtually synonymous.[62] So the use of the term "bills of exchange" authorizes the purchase of virtually the entire class of orders to pay (subject to other restrictions in the Act), but only one particular type of promise to pay is authorized for purchase under the first paragraph of Section 14—and that is a bankers' acceptance.[63]

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the character of paper eligible for discount, which it used to provide the following definitions:

> A promissory note ... is defined as an unconditional promise, in writing, signed by the maker, to pay, in the United States, at a fixed or determinable future time, a sum certain in dollars to order or to bearer.
>
> A bill of exchange ... is defined as an unconditional order, in writing, addressed by one person to another, other than to a banker as defined under IV(a), signed by the person giving it, requiring the person to whom it is addressed to pay in the United States, at a fixed or determinable future time, a sum certain in dollars to the order of a specified person ...

See *Third Annual Report of the Federal Reserve Board* (1917) for the definition of promissory note for the purpose of discounts (p. 154) and for the definition of bill of exchange for the purpose of open market operations (p. 157).

Daniel (1903) defines a letter of credit (used above as an example of an order to pay) as "a letter of request, whereby one person requests some other person to advance money or give credit to a third person, and promises that that he will repay or guarantee the same to the person making the advancement, or accept bills drawn on himself, for the like amount" (p. 820, vol. 2) and "Letters of credit very much resemble bills of exchange in some particulars, but they are not bills" (p. 832, vol. 2).

[62] In defining a bill of exchange, Woelfel (1994) on page 135 states:

> The Uniform Commercial Code (Sec. 3-104) provides that a writing which complies with the requirements of that section for any writing to be a negotiable instrument is a DRAFT (bill of exchange) if it is an order.
>
> The terms bill of exchange and draft are used interchangeably, but the former is usually applied to an order to pay arising out of a foreign transaction, while the latter term is more often reserved for domestic transactions. Technically, moreover, a bill of exchange is always a negotiable instrument, whereas a draft may be nonnegotiable.
>
> According to the Uniform Commercial Code, a bill of exchange is the same as a draft.

Also, *Fundamentals of Banking: How a Bank Works (1943)* uses "bills of exchange" and "drafts" interchangeably in the definitions of these terms (pp. 532 and 539).

[63] A bankers' acceptance is an acceptance that has been accepted by a bank. It is defined as "... a draft [bill of exchange] drawn on a bank and accepted by the bank."See *Fundamentals of Banking: How a Bank Works (1943)* (p. 355). See the Appendix below for a discussion of the economic functions and the legal rights and obligations associated bankers' acceptances.

The Act places the restriction on open market operations that private-sector promises to pay other than bankers' acceptances are not eligible for purchase under the first paragraph of Section 14 or under any other part of the Act. Thus there is no express authority for the Federal Reserve to purchase under its open market authority such promises to pay as corporate bonds, bank loans, mortgages and credit-card receivables, for example.[64] Nor is there any express authorization for the Federal Reserve to purchase equities.

The second limitation imposed on open market operations by the first paragraph of Section 14 is that, to be eligible for purchase, the credit instruments must be " ... of the kinds and maturities ... eligible for discount." This phrase clearly does not modify cable transfers.[65] However, it is not clear from the text

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Section 13(2) of the Act gives the Federal Reserve the authority to define the character of paper eligible for discount. In its definition of a bankers' acceptance in 1917, the Federal Reserve did not require the acceptor to be a bank and apparently did not require the acceptor to be the drawee:

> A bankers' acceptance .... is a bill of exchange of which the acceptor is a bank or trust company, or a firm, person, company, or corporation engaged in the business of granting bankers' acceptance credits.

See *Third Annual Report of the Federal Reserve Board (1917)*, Regulation B, Series of 1916 (p. 157).

[64]Youngman (1921) argued that it was a mistake to restrict the Federal Reserve from purchasing private-sector notes (i.e. promises to pay) in its open market operations, asking:

> Why should our central banks confine their open market purchases to a type of paper [bill of exchange] that represents a relatively small proportion of general banking business? ... Why should not the provisions of the Federal Reserve act be changed so as to empower the federal reserve banks to extend their open market operations to cover notes as well as bills growing out of commercial transactions, since this is a country whose banking needs are after all primarily domestic and whose banking accommodation for domestic purposes is based principally on the note? (pp. 479-480.)

Willis and Steiner (1926) note:

> It should be observed that the Act as finally passed excludes the promissory note, the former leading American credit instrument, from open market purchase by reserve banks. ... In large part this was due to the feeling that the note, not related to a specific transaction nor necessarily bearing an endorsement, could be identified only with difficulty and hence involved too many hazards (p. 488).

For a proposed amendment to Section 14 of the Act that would have included notes as eligible for purchase see *Congressional Record* (1913), December 19 (p. 1192).

[65]In the first paragraph of Section 14, the insertion of the word "and" and the lack of a comma after "cable transfers" demonstrate that the authority to purchase and sell

whether this phrase modifies both bankers' acceptances and bills of exchange or only the latter—although the Federal Reserve's interpretation appears to have been that it modifies only the latter.[66] Hereafter, in this paper, we will assume this interpretation is correct.

In normal circumstances, the restriction that the bills of exchange must be eligible for discount would significantly limit the types of bills of exchange that could be purchased under Section 14. Discounting would be limited to the specific types of bills of exchange eligible for discount under Sections 13(4), 13(6) or 13A of the Act (see table 1) or would be subject to the "real bills" restrictions of Section 13(2), which authorizes the discounting of:

> ... bills of exchange arising out of actual commercial transactions; that is, ... bills of exchange issued or drawn for agricultural, industrial, or commercial purposes ... but such definition shall not include ... bills covering merely investments or issued or drawn

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cable transfers is not conditioned on a requirement that they be eligible for rediscount. Furthermore, cable transfers have never been eligible for rediscount.

[66] A letter in 1923 from the Board's general counsel stated:

> At first glance, it would appear that only bankers' acceptances of the kinds and maturities made eligible for rediscount could be purchased in the open market, but, upon careful consideration of the language of this section, it will be found that the phrase "of the kinds and maturities by this act made eligible for rediscount" qualifies only bills of exchange and does not qualify bankers' acceptances. ... It will be seen, therefore, that Federal reserve banks in their open market transactions are not limited to the purchase of acceptances which, under Section 13, ... Federal reserve banks are authorized to discount. According to the Board's interpretation of Section 14, the only limit upon the open market purchase power of bankers' acceptances by Federal reserve banks is to be found in the rules and regulations of the board, and these are embodied in Regulation B. (See *Acceptance, Discount, and Open-Market Purchases of Bankers' Acceptances* (1923) (p. 317)).

Reed (1922) cites a letter to him from the Board that also indicates the Federal Reserve held the view that the phrase "of the kinds and maturities by this act made eligible for rediscount" does not qualify bankers' acceptances. This letter states that the Federal Reserve Board:

> ... has authorized the purchase in the open market by Federal reserve banks of acceptances growing out of the domestic storage of *goods*, although the only acceptances eligible for rediscount as growing out of domestic storage transactions are those growing out of the storage of *readily marketable staples*. The term "goods" is, of course, more inclusive than the term "readily marketable staples." (Italics added. See Reed (1922) (p. 192).)

> 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.[67]

But, if the Board of Governors of the Federal Reserve System found that there were "unusual and exigent circumstances" and at least five governors voted to authorize lending under Section 13(3), the Federal Reserve could discount for IPCs:

> notes, drafts and bills of exchange ... indorsed or otherwise secured to the satisfaction of the Federal Reserve bank.[68]

If these conditions were met, the bills of exchange eligible for purchase might be expanded from those meeting the "real bills" criteria to those that are "secured to the satisfaction of the Federal Reserve bank."

However, the Board has not had occasion to interpret the Section 14 language on bills of exchange in light of the current language of Section 13(3) and its restriction of discounts only to IPCs "unable to secure adequate credit accommodations from other banking institutions." One interpretation would be that, "in unusual and exigent circumstances," the expansion of the authority to purchase bills of exchange beyond those issued for "real bills" purposes may be only for those bills of exchange written by individual IPCs for which the requisite determination that they are unable to secure lending elsewhere has been made. A broader reading might be that the Federal Reserve could expand its purchases of bills of exchange to those endorsed or otherwise secured to the satisfaction of a Federal Reserve Bank. As a practical matter, this issue is likely to be resolved only if economic circumstances bring this matter to the fore.

The third limitation is that the purchases must be in the "open market." Currently, the open market restriction could pose a problem because markets for bankers' acceptances and bills of exchange are not very deep. In particular, the volume of bankers' acceptances dwindled to about $10 billion as of September 2000.[69]

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[67] Immediately preceeding this text is the wording "Upon indorsement of any of its member banks ..." However, as stated by Hackley: "It is important to observe again that endorsement by a member bank is not an essential prerequisite to the eligibility of paper for discount; it is simply a condition precedent to the discount of eligible paper" (p. 23).

[68] As noted in footnote 36, Section 11(r) of the Act provides exceptions in the event that fewer than five members of the Board are available at the time of the action.

[69] This is the total amount of reporting banks' acceptances in existence. Source: Table A22, Federal Reserve Bulletin, December 2001. Thereafter, Table A22 did not report separate numbers for bankers' acceptances.

However, in "unusual and exigent circumstances," these three limitations might become less binding if the Federal Reserve made known its desire to purchase bankers' acceptances and bills of exchange. First, private-sector issuance of these instruments might well expand, making the open-market restriction less binding. Second, firms and households might be able to restructure their financing arrangements so their credit instruments meet the criteria for bills of exchange. And third, credit is fungible. Funding secured for "real bills" purposes could free up other funds that could be used to finance activities other than "real bills" activities.[70]

3.5 Purchases of Gold, Foreign Exchange, and Foreign Government Obligations

The Federal Reserve receives authorization to purchase and sell gold and foreign exchange in Section 14(a) and the first paragraph of Section 14, respectively, of the Act. The authorization to purchase and sell foreign exchange is granted by the authority to buy and sell cable transfers.[71] Holdings of gold by the Federal Reserve are also subject to the Gold Reserve Act of 1934.[72] Under Section 14(b)(1), the Federal Reserve is granted authority to purchase:

> ... obligations of, or fully guaranteed as to principal and interest by, a foreign government or agency thereof.

[70]The fungibility of credit was one of the reasons Benjamin Strong, Governor of the Federal Reserve Bank of New York, opposed the real bills doctrine and supported conducting monetary policy through open market operations. He stated:

> Now as to the limitations [of the real bills doctrine] which the Federal Reserve Act seeks to impose as to the character of paper which a Reserve Bank may discount. When a member bank's reserve balance is impaired, it borrows to make it good, and it is quite impossible to determine to what particular purpose the money so borrowed may have been applied. ... [T]he definition of eligible paper does not affect the slightest control over the use to which the proceeds are applied.

See Strong (1930) (pp. 182-42). Also see page 263 of Meltzer (2003) for a statement of Strong's views.

[71]See footnote 57.

[72]See *Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998) (1999)*, pages 361-2, for the restrictions imposed on the Federal Reserve holding gold.

Such purchases may be done at home or abroad, and are not limited to the open market.[73]

A brief summary of private-sector assets eligible and ineligible for purchase by the Federal Reserve is provided in table 3.

4 "Incidental Powers" and Using Options

As discussed generally in Clouse et al. (2003) and in more detail in Tinsley (1998), the Federal Reserve might, in some circumstances, believe it would be desirable to enter options markets. The legal authority for such actions may stem from the Federal Reserve's "incidental powers" authority and may depend upon both the particular options used and the purposes for which such actions were undertaken.[74] Section 4(4), paragraph "seventh" of the Federal Reserve Act authorizes Federal Reserve to:

> ... exercise by its board of directors, or duly authorized officers or agents, all powers specifically granted by the provision of this Act and such incidental powers as shall be *necessary* to carry on the business of banking within the limitations prescribed by this Act.[75]

For example, it could be argued that buying or selling options on Treasury securities in certain circumstances is an "incidental" extension of the purchasing and selling of Treasury securities that the Federal Reserve is clearly authorized to undertake. And in some particular circumstances (such as nominal interest rates at or near zero) entering markets for such options may be "necessary to carry on the business of banking within the limitations prescribed by this Act."

The only occasion on which the Federal Open Market Committee authorized the purchase or sale of options was the authorization aimed at promoting smooth functioning of money and financing markets near 1999 year-end as the potential for Y2K strains increased. Under this temporary authorization, the

[73]This provision was added to the Act in 1980. At that time, the Federal Reserve made commitments to use this authority to purchase foreign government securities only to invest the System's excess holdings of foreign currency obtained from its normal activities in the foreign exchange market and not to "bail out" foreign governments.

[74]See footnote 14 for more on "incidental powers".

[75]Italics added.

Table 3

Private-Sector Assets Ineligible for Purchase and Those Eligible For Purchase Under Certain Restrictions[1]

1. There is No Express Authority for the Federal Reserve to Purchase:
    - Corporate Bonds
    - Commercial Paper
    - Mortgages
    - Equity
    - Land (Other than Federal Reserve premises)

2. The Federal Reserve May Purchase
    - Gold[2]
    - Bankers' Acceptances
    - Bills of Exchange

   Subject to:

   Restriction 1.

   Purchases of foreign exchange, bankers' acceptances, and bills of exchange are to be in the open market.

   Restriction 2.

   In usual circumstances

   The bills of exchange must meet the "real bills" doctrine but, it seems, bankers' acceptances do not.

   In "unusual and exigent" circumstances

   The types of bills of exchange that are eligible to be purchased are open to interpretation.

1. In this table, "purchase" does not include the acquisition of instruments by way of discount under the Section 13(2) or similar provisions of the Federal Reserve Act or by way of advances.
2. Subject to the Gold Reserve Act of 1934.

Federal Reserve Bank of New York sold options on overnight repurchase transactions, with option exercise dates running from December 15, 1999 through January 18, 2000.[76]

5 Conclusion

Currently, the Federal Reserve conducts domestic open market transactions (including repurchase agreements) only in securities issued or guaranteed by the U.S. Treasury or government-sponsored enterprises, and makes loans only to depository institutions. This paper examines the extent to which the Federal Reserve is authorized to expand the scope of its monetary policy operations beyond these current actions.

In usual circumstances, the Federal Reserve has considerable leeway to lend to depository institutions, but a highly constrained ability to lend directly to individuals, partnerships, and corporations (IPCs). The lending to depository institutions can be accomplished through advances (rather than through discounts) secured by a wide variety of private-sector debt instruments. In discounts for depository institutions, the instruments discounted generally are limited to those issued for "real bills" purposes—that is, agricultural, industrial, or commercial purposes. The Federal Reserve can make loans to IPCs, but, except in unusual and exigent circumstances, the loans must be secured by U.S. Treasury securities or by securities issued or guaranteed by a federal agency.

Also in usual circumstances, the Federal Reserve is authorized to engage in open market operations in gold, foreign exchange, securities issued or guaranteed by the United States or by U.S. agencies, foreign government obligations, and certain obligations of state and local governments.[77] The Federal Reserve can also purchase private-sector credit instruments, but these are limited to bankers' acceptances and to bills of exchange that meet certain "real bills" criteria.[78] The Federal Reserve Act contains no explicit language authorizing the Federal Reserve to use its open market authority to purchase promissory notes

[76]See the September 8, 1999 press release by the Federal Reserve Bank of New York. The press release is available on the web site of the Federal Reserve Bank of New York: www.ny.frb.org. See the "announcements" section under "news items".

[77]Holdings of gold by the Federal Reserve are also subject to the Gold Reserve Act of 1934. Regarding foreign government debt, see footnote 73.

[78]See the discussion in this text, starting on page 25, regarding whether the "real bills" restriction also applies to bankers' acceptances.

such as corporate bonds, bank loans, mortgages, or credit-card receivables; or to purchase equities.[79]

In "unusual and exigent" circumstances (and after certain other restrictions are met) the tools of monetary policy can be expanded. In making loans to IPCs, the Federal Reserve would be able to accept a wide variety of private-sector credit instruments as collateral. In open market operations, the Federal Reserve might be able to expand its purchases to include bills of exchange other than those meeting "real bills" criteria.

An important economic issue in both usual and "unusual and exigent" circumstances is whether the Federal Reserve can take onto its balance sheet the credit risk of assets that are purchased or that are used as collateral in loans to depositories or IPCs. Except in unusual and exigent circumstances, it seems to be easier for the Federal Reserve to take (nondepository) credit risk onto its balance sheet in the case of asset purchases than in the case of loans. But even if the Federal Reserve could accept credit risk onto its balance sheet, having the Federal Reserve directly involved in the evaluation of credit risk and influencing the allocation of credit across sectors of the economy would involve its own problems.

Recently, the Federal Reserve has used its "incidental powers" authority to write options contracts on repurchase agreements. However, the use of these powers may depend on the particular options entered into and the particular purpose for which they are entered because the use of this power must be "necessary to carry on the business of banking within the limitations prescribed by the [Federal Reserve] Act."

[79] The sole type of promissory note the Federal Reserve can purchase under its open market authority is bankers' acceptances. See Section 3.4

6 Appendix: Bills of Exchange and Bankers' Acceptances

6.1 Bills of Exchange

Parsons (1863) discusses three features of a bill of exchange: how it can facilitate transactions, the form it takes, and the rights and obligations associated with it. Regarding how a bill of exchange can facilitate transactions, Parsons states:

> The bill of exchange is the principal instrument for the transfer of money from place to place. In this respect, it is greatly superior to the promissory note. If, for example, a merchant in New York owed ... one thousand pounds [in 60 days] to a merchant in London, he might send [that London creditor] that money in gold or silver [in 60 days]; or he might find some [creditor] in New York to whom some London [debtor] owed a thousand pounds, and might give [that New Yorker creditor] the money, taking his note for it at sixty days; this note he might send to his London creditor, giving him the name of the London debtor ... ; the London creditor might take the note to the London debtor. [The London debtor,] might wish to save himself the trouble of sending the money to New York and might, therefore, cash the note [with the London creditor]. [When] his New York creditor demanded payment, [the London debtor] might present to [his New York creditor that creditor's] own note by way of set-off. In this circuitous and inconvenient way, both debts would be paid, [but there would have been some increase in convenience and efficiency because there had been] no money ... sent across the ocean in either direction, one debt being made to pay the other debt.
>
> But the same result may be obtained [even] more directly and conveniently by means of a bill of exchange. Let the New York debtor, whom we will call A, buy for a thousand pounds in dollars a written order from the New York creditor B, addressed to the London debtor C, requiring him to pay that amount to the order of A. Upon this A indorses an order to C to pay it to his London creditor D, and transmits it to D, who presents it for payment to C, and, receiving his money, both debts are paid (pp. 52-53, Vol. 1).

In terms of the form of a bill of exchange, Parsons states:

> Such an order would be a bill of exchange. It would, generally, be in this form. 'New York, January 5, 1857. Value received, please pay to A, or order, one thousand pounds, in sixty days after sight, on account of your obedient servant, B. To C, London.' Here B is the drawer; C is the drawee; A is the payee. As soon as D received the bill, with the order which A indorses upon it making it payable to him, he would, with all convenient promptitude, present it to C; firstly, that the sixty days after sight might begin to run; secondly, that he might know certainly whether C would pay the money as ordered. This presentment, therefore, is called a presentment for acceptance; because C must do one thing or the other, that is, he must accept the bill, and this he usually does by writing across the face of it the word 'Accepted,' with a date, and signing his name below the word; or he must refuse to accept the bill (p. 53, Vol. 1).

Regarding the rights and obligations associated with a bill of exchange (and comparing them with those of a promissory note), Parsons states:

> The maker or signer of a promissory note, by signing and delivering it, comes at once under an absolute obligation to pay it according to its tenor to any holder to whom it may be due at maturity; and such holder must look to the maker in the first place, and demand it of him in the manner prescribed by law, before he can look to any other party. Not so with the drawer or signer of a bill of exchange. He too comes under an obligation to pay it; but it is only an obligation to pay it if the drawee, or person whom he orders to pay the money, fails to pay it. For the payee, by receiving this order, undertakes to look to the drawee, and use the methods which the law prescribes to get payment from him. The making and delivery of the bill put the drawee under no obligation whatever beyond those which exist from the relations between him and the drawer. When it is presented to him, he can accept it or not; but if he does accept it, then he comes at once under an absolute obligation to pay the bill according to its tenor. ... The acceptor is bound absolutely to pay the bill; the drawer is bound to pay it if the acceptor does not ... .
>
> [The drawer] is not only bound to pay the bill if the acceptor does not, but he is bound to pay it if the drawee refuses to accept it. By such refusal there is no acceptor, and no person primarily

> bound to pay it. But that refusal was one of the conditions on which the drawer engages to pay it, because by drawing he engages that the drawee shall accept the bill on presentment. *Therefore if acceptance be refused, the obligation of the drawer may be made absolute at once by due notice ...* (pp. 54-55, Vol. 1, italics added).

Thus, in addition to facilitating "the transfer of money from place to place", the use of a bill of exchange (rather than a promissory note) also affects the credit risk incurred by the creditor. If the debt transaction had been undertaken by means of a 6-month promissory note issued by the New York debtor and held by the London creditor, then the London creditor would be incurring the credit risk of the New York debtor for six months. But with the bill of exchange, the London creditor incurs the credit risk of the New York debtor only until (and if) the London creditor presents the bill of exchange to party C (the drawee) and the bill is accepted by C. Then the London creditor incurs the credit risk of C going forward. Even if the bill of exchange is not accepted by C, the time over which the London creditor incurs the credit risk of the New York debtor still is shortened (relative to the case of a promissory note) In this case, the London creditor can make a demand on the New York debtor for immediate payment (after making protest for nonacceptance) rather than waiting for the full sixty days as would be the case with the promissory note.

6.2 Bankers' Acceptances

The above three features of a bill of exchange carry over to a bankers' acceptance (BA), because a BA is merely a "bill of exchange drawn on and accepted by a bank."[80] The particular feature of a BA is that the credit risk associated with original bill of exchange is reduced by having the instrument accepted by a bank. The practical significance of the acceptance of a bill of exchange by a bank that enjoys widespread and high credit standing, at least as stated in 1929, is that:

> The bank acceptance is an indispensable instrument in foreign trade, where, owing to the distance between buyer and seller, differences in legal arrangements and the constant fluctuations if foreign exchange rates, it is particularly necessary that certainty of payment shall be free from all doubt, and [, as a result,] that the obligation shall be readily salable to dealers in foreign exchange.[81]

[80] See *Loans and Investments* (1916), page 49.

[81] See Dunbar (1929), page 20.

References

Acceptance, Discount, and Open-Market Purchases of Bankers' Acceptances, *Federal Reserve Bulletin*, March 1923, *9*, 316—319.

Beebe, Jack and Christine Cumming, "Principles and Illustrations for Federal Reserve Portfolio Selection and Management," in "Alternative Instruments for Open Market and Discount Window Operations," Board of Governors of the Federal Reserve System, Washington, D.C., 2002. Available at www.federalreserve.gov/boarddocs/surveys/.

Bernanke, Ben S., *Some Thoughts on Monetary Policy in Japan*, Washington, D.C.: Board of Governors of the Federal Reserve System, May, 31 2003. Available at www.federalreserve.gov/boarddocs/speeches/2004/.

——, **Vincent R. Reinhart, and Brian P. Sack**, "Monetary Policy Alternatives at the Zero Bound: An Empirical Assessment," *Finance and Economics Discussion Series*, 2004, *2004-48.* Website address: http://www.federalreserve.gov/pubs/feds.

Bigelow, Melville M., *The Law of Bills, Notes, and Checks*, third ed., Boston: Little, Brown, and Company, 1928. Revised and Enlarged by William Minor Lile.

Black's Law Dictionary, St. Paul, Minn.: West Group, 1999.

Chandler, Lester V., *The Economics of Money and Banking*, New York: Harper and Row, 1948.

Clouse, James A., "Recent Developments in Discount Window Policy," *Federal Reserve Bulletin*, November 1994, *80*, 965–977.

Clouse, James, Dale Henderson, Athanasios Orphanides, David Small, and Peter Tinsley, "Monetary Policy When the Nominal Short-Term Interest Rate is Zero.," *Topics in Macroeconomics*, 2003, *3* (1). www.bepress.com/bejm/topics/vo3/iss1/art12.

Congressional Record, Vol. 51, 1913. Also see: Legislative History, Federal Reserve Act of 1913, volume 4. Board of Governors of the Federal Reserve System.

Conway, Thomas and Ernest M. Patterson, *The Operation of the New Bank Act*, Philadelphia: J. B. Lippincott Company, 1914.

Daniel, John W., *A Treatise on the Law of Negotiable Instruments*, New York: Baker, Voorhis and Company, 1903. Fifth Edition.

Dunbar, Charles F., *The Theory and History of Banking*, fifth ed., New York, New York: G.P. Putnam's Sons, 1929.

Federal Reserve Act And Other Statutory Provisions Affecting the Federal Reserve System (As Amended Through October 1998), Washington D.C.: Board of Governors of the Federal Reserve System, 1999. Copies may be obtained from Publications Services, Board of Governors of the Federal Reserve System, MS-138, Washington D.C., 20551.

Federal Reserve Bank of Minneapolis v. First Nat. Bank of Eureka, S.D., 1921. 277 F. 300 (D.S.D. 1921).

Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure, Washington, D.C.: United States General Accounting Office, June 1998.

Financial Statistics of the United States, U.S. Department of Commerce, various years.

First Annual Report of the Federal Reserve Board, Washington, D.C.: Government Printing Office, 1915.

Fundamentals of Banking: How a Bank Works, New York, New York: American Institute of Banking, American Bankers Association, 1943.

Garcia, F.L., ed., *Glenn G. Munn's Encyclopedia of Banking and Finance*, seventh ed., Boston, Massachusetts: Banker's Publishing Company, 1973.

Hackley, Howard H., *Lending Function of the Federal Reserve Banks: A History*, Washington, D.C.: Board of Governors of the Federal Reserve System, May 1973.

Hakkio, Craig and Rick Lang, "What Could the Federal Reserve Adopt as Discount Window Alternatives to Open Market Operations in Non-Treasury Securities as the Treasury Debt Declines?," in "Alternative Instruments for Open Market and Discount Window Operations," Board of Governors of the Federal Reserve System, Washington, D.C., 2002. Available at www.federalreserve.gov/boarddocs/surveys/.

Hardy, Charles O., *Credit Policies of the Federal Reserve System*, Washington, D.C.: The Brookings Institution, 1932.

Harris, S.E., *Twenty Years of Monetary Policy*, Harvard University Press, 1933.

Hirata, Hideaki and Tokiko Shimizu, "Purchase of SME-related ABS by the Bank of Japan (Updated): Monetary Policy and SME financing in Japan," *Bank of Japan Working Papers Series*, February 2004. Available at www.boj.or.jp/en.

Jaffee, Dwight, "The Interest Rate Risk of Fannie May and Freddie Mac," *Journal of Financial Services Research*, 2003, *24:1*, 5–29.

Jeanne, Oliver and Lars E.O. Svensson, "Credible Commitment to Optimal Escape from a Liquidity Trap: The Role of the Balance Sheet of an Independent Central Bank," *Working paper*, July 2004.

Krieger, Sandy and Brian Madigan, "Financial Assets Available for Purchase in the Open Markets," in "Alternative Instruments for Open Market and Discount Window Operations," Board of Governors of the Federal Reserve System, Washington, D.C., 2002. Available at www.federalreserve.gov/boarddocs/surveys/.

Loans and Investments, New York, New York: American Institute of Banking, Section American Bankers Association, 1916.

Lowell, Linda, "Mortgage Pass-Through Certificates," in Frank J. Fabozzi, ed., *The Handbook of Mortgage Backed Securities*, Probus Publishing, 1995.

McKinley, David H., "The Discount Rate and Rediscount Policy," in Herbert. V. Prochnow, ed., *The Federal Reserve System*, Harper and Brothers, New York, 1960.

Meltzer, Allan H., *A History of the Federal Reserve, Volume 1: 1913-1951*, Chicago, Illinois: The University of Chicago Press, 2003.

Monetary Policy and Reserve Requirements Handbook, Washington, D.C.: Federal Reserve Regulatory Service, Board of Governors of the Federal Reserve System, 1998.

Munn, Glenn G., *Encyclopedia of Banking and Finance*, Bankers Publishing Co. Boston, 1924.

Office of Federal Housing Enterprise Oversight, 2004. Available at www.fanniemae.com.

Operation of the National and Federal Reserve Banking Systems, *Hearings Before a Subcommittee of the Committee on Banking and Currency, United States Senate, Seventy-First Congress, Third Session, Appendix, Part 6.*, 1931.

Parsons, Theophilus, *A Treatise on the Law of Promissory Notes and Bills of Exchange*, Philadelphia: J.B. Lippincott and Co., 1863.

Recision of Regulation E, *Federal Register, vol. 43, No. 223, November 17, p. 53708*, 1978.

Recommendations Regarding Operations in Bankers' Acceptances, March 8 1977. Memorandum to Federal Open Market Committee by the Subcommittee on Bankers' Acceptances, Board of Governors of the Federal Reserve System, Washington D.C.

Reed, Harold L., *The Development of Federal Reserve Policy*, Boston and New York: Houghton Mifflin Co., 1922.

Report of the System Committee on Eligible Paper, Washington, D.C.: Board of Governors of the Federal Reserve System, 1962.

Rufener, Louis A., *Money and Banking in the United States*, New York: Houghton Mifflin Company, 1934.

Scott, William A., *Money and Banking*, New York: Henry Holt and Company, 1916.

Six Voluntary Initiatives, 2004. Available at www.fanniemae.com under *Initiatives.*

Small, David and James Clouse, "The Limits the Federal Reserve Act Places on the Monetary Policy Actions of the Federal Reserve," *Annual Review of Banking Law*, 2000, *19*, 553–579.

Strong, Benjamin, "Control of Credit Through the Reserve System," in Randolph W. Burgess, ed., *Interpretations of Federal Reserve Policy in the Speeches and Writings of Benjamin Strong*, Harper and Brothers, 1930.

Tenth Annual Report of the Federal Reserve Board: Covering Operations for the Year 1923, Washington, D.C.: Government Printing Office, 1924.

The American and English Encyclopedia of Law, London and Northport, Long Island, N.Y.: Edward Thompson Company, 1897.

The Federal Reserve Discount Window, Washington D.C.: Board of Governors of the Federal Reserve System, 1994.

The Federal Reserve System Purposes and Functions, Board of Governors of the Federal Reserve System, Washington, D.C., 1994. Website address: http://www.bog.frb.fed.us.

The Outline of the Stock Purchasing Plan, Tokyo, Japan: Bank of Japan, October 2002. Available at www.boj.or.jp/en (Financial and Payment System, Financial System, Stock Purchase).

Third Annual Report of the Federal Reserve Board, Washington, D.C.: Government Printing Office, 1917.

Tinsley, Peter A., "Short Rate Expectations, Term Premiums, and Central Bank Use of Derivatives to Reduce Policy Uncertainty," September 1998. *Financial and Economics Discussion Series* (FEDS) 1999-14.

Transcript of the Federal Open Market Committee Meeting of March 16, 1984, Washington, D.C.: Board of Governors of the Federal Reserve System, 1984.

Twenty-Fourth Annual Report of the Federal Reserve Board: Covering Operations for the Year 1937, Washington, D.C.: Government Printing Office, 1938.

West, Robert Craig, *Banking Reform and the Federal Reserve, 1863-1923*, Cornell University Press, 1977.

Willis, H. Parker, *The Theory and Practice of Central Banking*, New York: Harper and Brothers Publishers, 1936.

____ **and William H. Steiner**, *Federal Reserve Banking Practice*, New York: D. Appleton and Company, 1926.

Woelfel, Charles J., *Encyclopedia of Banking and Finance*, Chicago, Illinois: Probus Publishing Company, 1994.

Youngdahl, C. Richard, "Open-Market Operations," in Herbert. V. Prochnow, ed., *The Federal Reserve System*, Harper and Brothers, New York, 1960.

Youngman, Anna, "The Efficacy of Changes in the Discount Rates of the Federal Reserve Banks," *American Economic Review*, September 1921, pp. 465–485.