

The Fed's Entry into Check Clearing Reconsidered

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The Federal Reserve's check clearing business has been a significant part of its operations since its founding and has set the precedent for other payment services offered by the Federal Reserve (Fed) to depository institutions. While there is considerable debate about the proper role for the Fed in the modern payment system, there seems to be much less disagreement concerning the Fed's entry into check collection.¹ Many scholars believe that when the Fed took on the check payment function during the first decade of the institution's existence, its entry served to enhance the efficiency of the check payment system. Indeed, Fed documents on its role in the payment system speak of the "breakdown of the check collection system" around the turn of the century.² According to the conventional view, check collection prior to the founding of the Fed was decentralized and defective in a number of ways. By centralizing the system, the Fed was able to eliminate many of the defects.

Our purpose in this article is to reexamine the facts concerning the Fed's entry into check clearing and to evaluate the conventional view in light of those facts. We find that the evidence of inefficiency in the pre-Fed check collection system is inconclusive. Further, inefficiency would imply that there was some form of market failure, yet most discussions of check clearing in the early part of this century are vague or silent on possible sources of market failure. Absent a clearly articulated explanation of why participants in the check collection system failed to achieve efficient results, we find the conventional view to be unconvincing.

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¹ See, for example, Benston and Humphrey (1997).

² Board of Governors of the Federal Reserve System (1990).

We propose a different interpretation of the Fed's entry, one based on the network characteristics of check collection. Under this alternative view, pre-Fed check collection arrangements were relatively efficient, and the complaints many observers voiced about the excessive costs of the pre-Fed system should be understood as complaints about the distribution of the system's costs rather than about its aggregate costs. Moreover, this interpretation explains why the founders felt compelled to give the Reserve Banks check clearing powers, given the reserve requirements in the Federal Reserve Act. New light is also shed on the par collection controversy, and the tortuous process, spanning several years, by which the Reserve Banks established their check collection service. Hence, the economics of network organization gives a coherent account of the facts concerning check collection prior to the founding of the Fed and the process by which the Fed entered the check clearing business.

Before presenting our view of the Fed's entry into check clearing, we present some of the key facts and review the conventional view. The relevant facts concern the system before the Fed and the means by which the Fed became a significant provider of check clearing services. Section 1 discusses nonpar remittance and the importance of correspondent relationships for clearing out-of-town checks in the pre-Fed system. Nonpar remittance occurs when a bank on which a check is drawn pays a collecting bank less than the par value of the check. Correspondents are banks, usually larger city banks, that perform a variety of services, including check collection, for other banks.

The Fed's ability to successfully penetrate the check clearing market was dependent on Congress giving it the proper authority. While the Federal Reserve Act authorized the Reserve Banks to clear checks, the Fed's initial attempts at inducing fully voluntary participation by member banks were unsuccessful, as we discuss in Section 2. It was not until Congress granted the Reserve Banks a competitive advantage—the sole right to present by mail at par—that the Fed was able to become a significant participant in the market.

Sections 3 and 4 deal with the conventional view, according to which many of the features of the correspondent banking system represent inefficiencies that existed because of nonpar payment. Chief among these features was the observation that occasionally a check would pass through the hands of many widely dispersed intermediaries on its way to the paying bank. Such "circuitous routing" is often cited as unambiguous evidence of inefficiency. However, circuitous routing is quite consistent with our alternative view of the pre-Fed system as efficient, as we discuss in Section 5. In Section 6 we reconsider the Fed's entry into check clearing in light of our alternative view. The Fed was able to gain market share because it enjoyed a legal privilege in presentment that was unavailable to private collecting banks. Exercising that privilege had the effect of shifting the allocation of the common costs of check clearing away from collecting banks and toward small country banks and taxpayers.

1. CHECK CLEARING BEFORE THE FOUNDING OF THE FED

By the mid-nineteenth century, the use of checks had become a prominent means of payment in American banking and commerce. As early as 1855, the value of checkable deposits exceeded the value of bank notes in circulation (Spahr 1926, p. 84). In this earlier period, however, there were distinct geographic differences in payment practices. Checks were used primarily for payments within cities, and notes were used predominantly in the countryside.³ Payments between the country and the city and across geographic regions were made using bank drafts. A bank draft is like a check, except it is drawn on an account held by one bank with another. Hence, a Midwesterner wishing to make a purchase from an East Coast city would go to his local bank and purchase a draft drawn on that bank's balances held with a bank in an eastern city.

Toward the end of the nineteenth century, checks began to replace drafts as means of payment in interregional transactions, a change that was nearly complete by the turn of the century (Preston 1920, p. 566). During this same period, the check also replaced the bank note as a means of payment among people in the countryside. By 1900, the value of demand deposits was more than quadruple the value of currency in circulation (Friedman and Schwartz 1963, p. 705). In the period just prior to the founding of the Fed, the check had become a dominant payment instrument for making both long distance and local payments.

Check clearing involves the delivery of items to the banks on which they are drawn. Many observers have pointed out that, in the United States prior to the existence of the Fed, clearing was affected by the different legal treatments accorded to different forms of delivery.⁴ While a paying bank was obligated to make payment (remit) at par for checks presented in person (over the counter), there was no such obligation for checks presented through the mail.⁵ Banks were free to extract a presentment fee (exchange charge) from their payments on such indirect presentments. This practice of *nonpar banking* is the focus of many discussions of the Fed's entry into the check collection business. The prospects of receiving less than par for a check gives a collecting bank an incentive to find a way of getting the check to the bank on which it is drawn without mailing it directly. Alternative means of transport and presentment will be used, presumably, if the total cost does not exceed the presentment fee.

³ Spahr (1926, p. 60); Federal Reserve Bank of Richmond (1922, p. 1).

⁴ Spahr (1926, pp. 103–05); Baxter (1983, p. 559); Duprey and Nelson (1986, p. 20); Summers and Gilbert (1996, p. 4); Weinberg (1997, p. 38); Gilbert (1998, pp. 123, 129); James (1998, p. 143).

⁵ See the discussion in Spahr (1926, pp. 103–04). The requirement that checks presented over the counter be paid at par had its origins in English common law.

For a check drawn on a nearby bank, in-person presentment was relatively cheap. Hence the clearing and settlement of local checks presented few challenges for the banking system of the United States.⁶ In the larger cities a number of banks typically would have frequent business with one another, making it worthwhile for them to form cooperative clearing organizations such as clearinghouses.⁷ In such an arrangement, the banks' representatives would meet daily at a designated location to exchange items drawn on each other, avoiding the duplicative cost of bilateral contacts. By mutual agreement among participants, presentment at the clearinghouse was taken to be equivalent to presentment in person at the paying bank's premises.⁸

In less densely populated areas, a typical bank had a relatively small number of banks nearby from which it regularly received checks. Maintaining a clearinghouse arrangement among the smaller number of banks did not tend to be economical. Instead, rural banks usually made direct exchanges with other banks in the same general area (Spahr 1926, p. 98). Such direct presentations were made once or twice a week, or daily, depending on the distance between the banks and on the volume of checks flowing between them. Settlement of local checks, either in the city clearinghouses or among banks in rural communities, could be made through the exchange of currency or by debiting interbank balances (Cannon 1900, pp. 36–46).

The clearing of out-of-town, or interregional, checks was accomplished via a network of bilateral agreements on clearing terms that generally took the form of *correspondent banking* relationships.⁹ This relationship involved a bank in a larger city serving as a *correspondent* bank for a bank in a smaller city or town. The latter bank, the *respondent*, would hold balances with its correspondent. When the respondent received a check drawn on a bank in the city or area where the correspondent conducted business, the respondent would send the check to the correspondent, who would, in turn, present the check directly to the paying bank. The correspondent would receive payment from the paying bank and credit the amount to the respondent's account. Often, the correspondent would credit the respondent for the par value of the check even if the paying bank did not remit at par (Spahr 1926, pp. 101, 111). Sometimes the respondent agreed, in return, to remit at par on checks sent to it by its correspondent. The correspondent's main form of compensation was typically the interest margin it could earn on the funds held as balances by the respondent bank (Spahr 1926, pp. 101, 111–12). It was not uncommon for a correspondent

⁶ Spahr (1926, p. 98); Duprey and Nelson (1986, p. 19).

⁷ Cannon (1900, pp. 148–54); Spahr (1926, pp. 79–82).

⁸ Hallock (1903, p. 59); Spahr (1926, pp. 104–05).

⁹ For descriptions of correspondent banking at the Fed's founding, see Watkins (1929, Ch. 6), Spahr (1926, pp. 99–101).

to pay presentment fees to its respondents while paying them par for all the checks it collected for them.

Often a bank would act as correspondent for banks outside the region, offering to collect checks drawn on any bank in the neighboring territory, with the proceeds credited to the account of the distant bank. There appears to have been active competition for collection business between correspondent banks, as evidenced by the many advertisements in bank directories from the late nineteenth century.¹⁰

The importance of correspondent relationships is reflected in the magnitude of interbank balances. In the years preceding the Fed's founding, the amount of deposits at national banks that were held for other banks was roughly 40 percent as large as national bank deposits held for individuals (Watkins 1929, pp. 10–18). These interbank balances were held predominantly at banks in the larger cities and especially in the major financial centers.

Correspondent banks, then, were linked together into a network of banks through which checks were collected. When a bank received a check drawn on an out-of-town correspondent bank—what might be termed a *regular* inter-regional check—it would be presented through the established clearing arrangement.¹¹ When a bank received a check drawn on a distant bank with which it did not have an established relationship—what might be termed an *irregular* interregional check—the check would most likely be sent on to a correspondent. If a correspondent received from a respondent a check drawn on a paying bank with which the correspondent did not have a relationship, then the correspondent would typically send the check to one of its correspondent banks located near the paying bank.¹² In fact, to aid routing, bank directories listed each bank's correspondents; the bank holding the check could look for correspondents it shared with the paying bank.¹³ The next bank receiving the check might present it directly to the paying bank. Such indirect routing had two advantages for the correspondent. First, it avoided having to pay a presentment fee to a paying bank from which it received no compensating benefit. Second, it saved the cost of sending a single item to the paying bank instead of bundling the item with others being sent on a normal shipment (Cannon 1900, p. 76).

¹⁰ Williams (1901). Typical notices: “Prompt and careful attention given to collections throughout Mississippi and Alabama” (First National Bank of Meridian, Mississippi); “Unsurpassed facilities for handling collections, especially Oklahoma and Kansas” (Kansas National Bank, Wichita, Kansas); “Send us your Southwest Collections” (Home Savings Bank & Trust Co., Phoenix, Arizona).

¹¹ The term “correspondent” is sometimes used narrowly to refer to a small number of distant banks that a bank formally designates to receive items drawn on it. A bank typically had no more than two or three correspondents in this sense, and they were listed in banking directories. The term is often used more broadly, however, to refer to any bank with which a bank regularly exchanges items by mail. We will use the term “correspondent” in this broader sense.

¹² Cannon (1900, p. 76); Spahr (1926, pp. 111–12).

¹³ Williams (1901).

Irregular interregional items, then, were often handled by sending them to banks with whom the correspondent conducted regular interregional business. Concerns about the operation of the check clearing system prior to the founding of the Fed focused largely on these irregular interregional checks. In such a system, there were inevitably cases in which the next bank to receive a check was not a correspondent of the paying bank. Hence, the process of sending the check to a correspondent might be repeated more than once. Furthermore, some mistakes in judgment and in handling of items were inevitable. Accordingly, there are documented examples of checks traveling circuitous routes, through the hands of many banks, in making their way from the bank of first deposit to the paying bank.¹⁴

Settlement of an irregular interregional check began when the paying bank remitted to the bank that finally presented the check. If the presenting bank was a correspondent for the paying bank, then settlement could be made by debiting the paying bank's account balances. If there was no account relationship between the paying and presenting banks, then payment would typically be made in the form of a draft on the paying bank's account with one of its correspondents, often a New York bank (most banks maintained a relationship with at least one New York bank).¹⁵ The presenting bank could send the draft to its New York correspondent who would credit the amount to the presenting bank's account. The presenting bank's New York correspondent would, in turn, present the draft to the paying bank's correspondent through the New York clearinghouse. In this way, New York reserve balances served increasingly as a universal settlement medium. This use of bank drafts in settlement stands in contrast to the greater use of specie earlier in the nineteenth century.¹⁶

Collecting and paying banks incurred a variety of expenses in the process of clearing and settling interregional checks. The resource costs incurred by collecting banks, including the costs of recordkeeping and postage, were estimated to have amounted on average to about 3/4 of 1 percent to 1 percent of the value of collected items (Spahr 1926, p. 113). Other costs borne by collecting banks resulted from the negotiated arrangements for clearing and collection. For instance, many collecting banks gave credit to their account holders at the time of an item's deposit. By doing so, the collecting bank would incur the float costs that accrued until settlement was received from the paying bank. In addition, national banks faced a tax of 1/2 of 1 percent on deposits. These costs, together with the presentment fee charged by some paying banks (1/8 of 1 percent on average), added roughly another 3/4 of 1 percent to the costs incurred by collecting banks (Spahr 1926, p. 114). On the other side of the

¹⁴ We discuss the examples of circuitous routing below.

¹⁵ Cannon (1900, p. 46); Spahr (1926, p. 100); Watkins (1929, p. 104); Williams (1901, *passim*). Alternatively, payment could be made in specie or banknotes.

¹⁶ Preston (1920, p. 565); Spahr (1926, pp. 45–51).

transaction, paying banks incurred clerical costs in receiving and remitting for checks presented on them (Langston 1921, pp. 13–39).

It seems apparent that a substantial share of the cost of clearing inter-regional checks was borne by collecting banks (Spahr 1926, p. 113). Customers of collecting banks typically received the full par value for their deposits of out-of-town checks. Even if the collecting bank passed along some charge to the depositor of the check, there appears to be little evidence of systematic price discrimination by businesses between customers paying for goods and services with out-of-town checks and those paying by other means. Most observers conclude that competition for both local deposits and correspondent business drove city banks to absorb much of the cost of collecting country checks.¹⁷

2. THE FED'S ENTRY INTO CHECK CLEARING

A flurry of banking and monetary reform proposals around the turn of the century ultimately led to the passage of the Federal Reserve Act on December 23, 1913. The central motive of the Act, and many other reform proposals as well, was to prevent recurrent financial panics of the kind typical of the late-nineteenth and early-twentieth centuries in the United States. The Federal Reserve System was designed to prevent such panics by providing “an elastic currency” that allowed a relatively rapid expansion of the supply of notes when needed.¹⁸

Nationwide Federal Reserve check clearing was not envisioned in the earliest versions of the Act introduced in Congress.¹⁹ The bill introduced by Senator Carter Glass in February 1913, for example, required Reserve Banks to accept from their members at par any checks drawn on any other member's deposit at a Reserve Bank. This would have allowed member banks to settle obligations to other member banks with checks drawn on their own Reserve Bank deposits, much the way interbank obligations were settled using drafts drawn on bank deposits at New York banks. Ultimately, however, the final version of the Federal Reserve Act allowed Reserve Bank check clearing. Each Reserve Bank was required to accept checks written by *depositors* at member banks, and was permitted, though not required, to accept checks written by depositors at member banks of other Reserve Banks.²⁰

¹⁷ Watkins (1929, p. 106); Fellows (1940, p. 18); Miller (1949, p. 11); Duprey and Nelson (1986, p. 20); Summers and Gilbert (1996, p. 4).

¹⁸ See Willis (1923) or Timberlake (1978), for example.

¹⁹ See Stevens (1996) for an account of the legislative history of the check clearing provisions of the Federal Reserve Act.

²⁰ Board of Governors (1915, pp. 23–44). Section 16 of the Federal Reserve Act as finally passed on December 23, 1913, stated, in part, “Every Federal reserve bank shall receive on deposit at par from member banks or from Federal reserve banks checks and drafts drawn upon any of its depositors, and when remitted by a Federal reserve bank, checks and drafts drawn by

It was a number of years before the Reserve Banks successfully penetrated the check collection business. On March 4, 1915, the Federal Reserve Board announced that it had directed the Reserve Banks to establish a “voluntary reciprocal plan” for intradistrict check clearing.²¹ Member banks would be able to collect at par from all other member banks in their district that joined the plan. A member bank joining the plan had to agree to accept their own checks at par. Details of the scheme were left up to the individual Reserve Banks. The hope was that many member banks would join, making the plan attractive to those that at first held out. The voluntary reciprocal plan proved disappointing, however. By late July the Reserve Banks were reporting that most banks said they would not join unless the plan were made mandatory. Reported participation in the plan peaked in October 1915 at only 2,456 banks, out of about 7,600 member banks, and withdrawals exceeded additions every month thereafter.²²

A new plan was introduced early the next year. On May 1, 1916, the Federal Reserve Board released a circular to member banks—Circular No. 1, Series of 1916—detailing a “compulsory plan” to be put into effect in June (later postponed to July 15).²³ Member banks would now be *required* to pay at par on checks presented to them by their Reserve Bank. Presentation by a Reserve Bank through the mail would be construed as presentation at their counters. The Reserve Bank would defray the paying bank’s cost of sending payment, either in notes or acceptable checks on other banks, if the bank’s reserve balance was insufficient. Each Reserve Bank would accept checks from

any depositor in any other Federal reserve bank or member bank upon funds to the credit of said depositor in said reserve bank or member bank. Thus each Reserve Bank was *required* to accept on deposit *at par* from member banks or other Reserve Banks checks and drafts drawn upon any of its depositors. Section 16 went on to state, “The Federal Reserve Board . . . may at its discretion exercise the functions of a clearing house for such Federal reserve banks, or may designate a Federal reserve bank to exercise such functions, and may also require each bank to exercise the functions of a clearing house for its member banks.” Section 13 adds that “Any Federal Reserve Bank may receive from any of its member banks . . . checks and drafts upon solvent member banks, payable upon presentation; or solely for exchange purposes, may receive from other Federal reserve banks . . . checks and drafts upon solvent member or Federal reserve banks, payable upon presentation.” Thus each Reserve Bank was *permitted* to accept from its member banks checks or drafts drawn upon solvent member banks, or, “solely for exchange purposes,” checks or drafts from other Federal Reserve Banks drawn upon solvent member banks or other Federal Reserve Banks.

²¹ Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin* (1915, pp. 6–9) [hereafter “*Federal Reserve Bulletin*”].

²² *Federal Reserve Bulletin* (1915, pp. 192–95); Spahr (1926, pp. 174).

²³ *Federal Reserve Bulletin* (1916, pp. 259–60, 262–64). Each Reserve Bank issued its own circular detailing the operation of the plan in its district; Chicago’s is reprinted in the *Federal Reserve Bulletin* (1916, pp. 312–14). Regulation J was released later in 1916, incorporating the September 7, 1916, amendment (see below) and superceding Circular No. 1. To this day Regulation J codifies the Board’s requirement that member banks accept checks at par (see Board of Governors [1998], 12 CFR 210.9).

its member banks at par if they were drawn on other member banks or on nonmember banks that paid at par, although a small per-item service charge was allowed.²⁴ The plan was nationwide in scope; each Reserve Bank would accept at par checks drawn on banks in other districts if they were Federal Reserve members or they agreed to pay at par. Member banks were still free to collect checks outside of the Federal Reserve System as they saw fit, and they were free to carry balances with other banks for purposes of clearing. They were still free to charge presentment fees as well, but the Board's Circular prevented them from charging presentment fees to the Reserve Banks.

The original Federal Reserve Act did not permit the Reserve Banks to accept checks drawn upon nonmembers. Early in 1916 the Board recommended to Congress various changes in the Act, including alteration of Section 13 of the Act to allow Reserve Banks to accept "checks and drafts payable upon presentation within its district."²⁵ The amendment passed without change on September 7, 1916. The amendment also removed the qualification that Reserve Banks could only accept checks drawn on "solvent" banks, further expanding the field of acceptable checks. The Fed's strategy was to make the service as attractive as possible by increasing the number of banks on which they could collect.²⁶

Although nonmember banks still could not deposit checks directly with the Reserve Banks, they were entitled to send checks to the Fed through their correspondents that were member banks, and many apparently did (Spahr 1926, p. 197). The Board viewed the inability to accept checks directly from nonmember banks as an impediment to the success of the compulsory plan: "Any clearing and collection plan to be effective must be so comprehensive as to include all checks."²⁷ The Reserve Bank check collection service was at first intended as a benefit of membership, but the Board decided that it would be better to offer clearing services to nonmembers to entice them to remit at par on checks sent to them by the Reserve Banks through the mail. As part of a package of suggested amendments sent to the Congress in December 1916, the Board included an amendment to Section 16 that would permit nonmember banks to use the Fed's clearing service, provided they agreed to pay their own checks at par and kept a "compensating balance" with the Reserve Bank. The amount of the compensating balance was to be determined by the Federal Reserve Board.

²⁴ The Board's circular stipulated that Reserve Banks keep an accurate account of the cost of the clearing service and that the Board would fix the charge by rule. Charges ranged from 0.9 cents to 2.0 cents per item. Charges were ultimately lowered and then abolished on July 1, 1918 (Spahr 1926, pp. 192–93, 211).

²⁵ *Federal Reserve Bulletin* (1916, pp. 323–24).

²⁶ In discussing the compulsory plan in June 1916, the Board said "it is thought that in the near future checks upon practically all banks throughout the United States can be handled at par by Federal Reserve Banks" (*Federal Reserve Bulletin* 1916, p. 263).

²⁷ *Federal Reserve Bulletin* (1917, p. 100).

Congress ultimately enacted the suggested check clearing provisions, but not without a fight that revealed the depth of opposition to the Fed's check collection plans.²⁸ After being called back into session in April, Congress again took up the Board's suggested amendments. Representatives of the American Bankers Association took the opportunity to lobby for a bank's right to charge presentment fees, even against the Reserve Banks. As a result, Senator Hardwick of Georgia introduced an amendment that would have added to Section 16 the proviso that nothing in the Act shall be construed as prohibiting a member or nonmember bank from "making reasonable charges, but in no case to exceed 10 cents per \$100 . . . for collection or payment of checks and drafts. . . ."²⁹ As drafted, the Hardwick Amendment would have effectively negated the provision of Circular No. 1 requiring banks participating in the compulsory plan to pay at par on checks sent by the Reserve Banks through the mail.

The Hardwick Amendment was ruled out of order in the House, where the Board's suggested amendments were passed on May 5. The Senate then approved the bill but included the Hardwick Amendment, despite the opposition of the Federal Reserve Board. In conference, Glass prevailed upon the conferees to modify the Amendment in two ways. The Federal Reserve Board was given the authority to determine and regulate the charges, and a clause was added stating that "no such charges shall be made against the Federal reserve banks." The House passed the resulting bill, as did the Senate, after the reading of a letter from President Wilson that described the original Hardwick Amendment "as most unfortunate and as almost destructive of the function of the Federal reserve banks as a clearing house for member banks."³⁰ The Board's ban on charging presentment fees against Reserve Banks was now law.³¹

As part of the compulsory plan, the Board directed Reserve Banks to maintain so-called "par lists" consisting of the nonmember banks in their districts that accepted checks at par. The par list and the Fed's campaign for universal par presentment became the center of the celebrated "par collection controversy" (see Spahr [1926], Ch. 7). At first, only banks that explicitly agreed to remit at par were added to the System's list, but in early 1919 a concerted effort was begun to expand the list. Reserve Banks took aggressive measures to

²⁸ See Spahr (1926, p. 200) and Wyatt (1944).

²⁹ A contemporary account of the legislative action appears in "The Hardwick Amendment" (1917, pp. 40–41).

³⁰ Miller (1949, p. 20); *Congressional Record* (1917, p. 3761).

³¹ At the request of the Federal Reserve Board, the Attorney General issued an opinion on the scope of the new language in Section 13. He said that the Federal Reserve had no power to regulate the exchange charges of nonmember banks who were not depositors under the clearing system, and if nonmembers insisted on making charges, the Reserve Banks could not handle checks drawn on them, since Section 13 now prohibited such charges (*Federal Reserve Bulletin* 1918, pp. 367–70).

attempt to collect at par on all banks in their districts.³² Some Reserve Banks put recalcitrant banks on the par list without their explicit permission; they accumulated their checks and had them presented directly over the counter, where banks were generally required to pay par.³³ The nonmember par list grew from about 10,000 in December 1918 to over 19,000 at the high-water mark in November 1920, leaving only about 1,700 nonpar banks.³⁴

The opposition to the Federal Reserve's methods was fierce in some quarters, however. Some banks refused to cooperate, and the resulting litigation—including cases that reached the Supreme Court—established limits on the measures the Reserve Banks could employ to obtain par remittance.³⁵ Checks could no longer be accumulated for presentation at the counter to “coerce” banks into paying par. Banks could pay checks at their counter by draft rather than lawful money. Moreover, the Supreme Court ruled that the Federal Reserve was under no congressional mandate to bring about universal par clearance. In response, the Board ordered the Reserve Banks to cease using agents other than banks in making collections and to stop accepting checks drawn on nonpar banks.³⁶ Banks withdrew from the par list until nonpar banks numbered nearly 4,000.³⁷ Nonpar banking persisted thereafter, chiefly in small one-bank towns or in small towns with only nonpar banks.³⁸ The number of nonpar banks declined sharply in the early 1970s and finally sank to zero in 1980.³⁹

3. THE CONVENTIONAL VIEW

Many payments system researchers have described the pre-Federal Reserve check collection system as inefficient in the sense that real resource costs were higher than they would have been under a centrally run system. Likewise, it is conventionally argued that the Fed-imposed clearing arrangements resulted in lower real resource costs than private arrangements. Walter Spahr (1926)

³² See Harding (1921); Tippetts (1924, pp. 635–36); Tippetts (1929, pp. 277–80); Preston (1920, pp. 571–78).

³³ Under some state laws, however, the bank was not required to pay in legal tender but could pay instead with a draft. See Spahr (1926, pp. 284–86).

³⁴ Spahr (1926, p. 248) displays data compiled from various issues of the *Federal Reserve Bulletin*.

³⁵ The major cases are described in Spahr (1926, pp. 249–82, 284–86) and Tippetts (1924, 1929). The key decision came in the “Richmond case,” *Farmers and Merchants National Bank of Monroe, North Carolina, et al. v. Federal Reserve Bank of Richmond, Virginia*, in which the U.S. Supreme Court upheld the constitutionality of a North Carolina law that authorized state banks to charge a presentment fee of no more than 1/8 of 1 percent and specifically allowed payment by draft for checks presented over the counter by a Federal Reserve Bank, post office, or express company.

³⁶ *Federal Reserve Bulletin* (1923, pp. 903–04, 1194).

³⁷ *Federal Reserve Bulletin* (1928, p. 535).

³⁸ Stevens (1998, p. 19); Jessup (1967, p. 26).

³⁹ The reasons for the decline of nonpar banking have not, to our knowledge, been studied.

compiled the most comprehensive and widely cited statement of this view 12 years after the founding of the Federal Reserve. Most recent proponents of the conventional view echo Spahr.

Spahr claimed that one of the most serious problems with the pre-Fed system was the excessive cost of collecting country checks and that nonpar checking was to blame. The practice of nonpar checking had its origins in earlier times when banks incurred significant shipping costs in remitting specie to distant banks for settlement. The amount of the charges had been steadily declining during the 50 years immediately prior to the Fed as transportation costs fell; nevertheless, nonpar remittance practices remained a significant source of revenue to some country banks and a significant source of irritation to some city banks in 1914. The most widespread criticism of exchange charges was that technological advances had removed most of the country banks' settlement costs, eliminating the once-valid justification for the fees. Spahr describes the fees as "excessive" and out of proportion to the costs incurred by the levying banks (Spahr 1926, p. 241).

Besides imposing excessive costs, presentment fees were said to cause costly and inefficient collection practices. Chief among these was circuitous routing: some checks were sent to banks in roundabout ways through a number of different banks in order to avoid presentment fees, resulting in excessive postage and clerical costs and extended check float. Although there are no data on the extent of circuitous routing to avoid exchange charges, the literature contains a number of examples. Cannon (1900) describes an example of a check drawn on The Peconic Bank of Sag Harbor, Long Island, and deposited in a bank in Hoboken, New Jersey. The now-famous check traveled from the Hoboken bank to a New York City bank, and then to banks in Boston, Tonawanda, Albany, Port Jefferson, Far Rockaway, New York City (again, but a different bank), Riverhead, and Brooklyn, before finally arriving at the Sag Harbor bank. James Hallock (1903) cites the Sag Harbor check and three others as well. Spahr (1926) cites the Sag Harbor check, Hallock's Stonington, Connecticut, check, plus two additional examples. Other writers typically cite Cannon's Sag Harbor check.⁴⁰

Most of the pre-Fed writers on check clearing were city bankers; there is almost no early academic literature on the subject. Nonetheless, virtually all authors around that time supported the thrust of Spahr's argument. In his 1890 annual report, the Comptroller of the Currency conveys an early official opinion on exchange charges by saying a conservative estimate of their total amount "would constitute a heavy burden upon the commercial interests of the country." Hallock (1903, p. 17) asserts that the "avoidance of collection

⁴⁰ See, for example, Conway and Patterson (1914, p. 324), Miller (1949, p. 10), or Baxter (1983, p. 560).

charges is the motive for shunting a check up and down the country” and that “the practice is not unusual.” Oliver Sprague (1910, p. 42) observes that “collections and payments are subject to delay and involve heavy expense.” Similarly, turn-of-the-century *Banker’s Magazine* and *A.B.A. Journal* articles, some of which Spahr references in his book, confirm the common perception that bankers saw a need for reform. An array of historical descriptions of the U.S. payments system written since 1914 have either referenced or endorsed Spahr’s evaluation of the pre-Fed clearing system.⁴¹

Many of the founders of the Federal Reserve System shared Spahr’s assessment. In a debate prior to the Federal Reserve Act, Carter Glass revealed that he thought centralized clearing by the government would reallocate costs in a welfare-improving way:

Precisely how much difficulty and cost will be incurred by the Federal Reserve Banks in carrying out the provisions of this section cannot be precisely calculated. It can, however, be positively stated that such expenditures will be very much less than those incurred by banks at the present day in carrying through their exchanges. The proposed provision will eliminate the numerous and well-founded complaints of unjust charges for exchange; and, while it will prevent certain banks from profiting as they do by exchange transactions it will correspondingly benefit the community.⁴²

Glass expresses the idea here that although exchange-charging country banks will be made worse off, a Federal Reserve clearing system will make others better off by lowering their clearing costs. He appears to have in mind the proposition that aggregate costs will be lower overall, and thus the community will benefit. H. Parker Willis, Glass’s advisor and the first Secretary to the Federal Reserve Board, made similar criticisms of the old system in his post-1914 works. For example, Willis wrote the lead article in the March 1914 *American Economic Review* on the new Federal Reserve legislation and referred to exchange charges as “extortion.”⁴³

⁴¹ For example, Conway and Patterson (1914) explain the “disadvantages” of the old methods, highlighting circuitous routing, excessive exchange charges, and unnecessary check float. Gidney (1916, p. 607) states, “Important economies are expected to be effected in the total cost of check collection, through having checks reach the paying bank by a reasonably direct route and after having passed through relatively few banks. . . .” Kemmerer (1928) describes a “defective exchange and transfer system,” adding “large shipments of currency” as another inefficiency. Tippetts (1929) gives a similar account, calling the system “the source of a number of evils.” Watkins (1929) emphasizes that exchange charges “operated under the old system to lessen its efficiency” and goes on to argue that such charges caused unduly large bankers’ balances. See also Miller (1949), Jessup (1967), Duprey and Nelson (1986), and Moore (1990).

⁴² U.S. Congress, House (1913) pp. 55–56.

⁴³ For Willis’s opinion on Spahr (1926) and Cannon (1900), see Willis, et al. (1933), p. 238. W. P. G. Harding, then Governor of the Federal Reserve Board, stated that “the establishment of a universal country wide par-collection system” would result in the “elimination of the burdensome delays and expenses incident to the old indirect routing system” (Harding 1921, p. 338).

In the conventional view, the Fed's entry was a struggle by the progressive forces of banking reform against the vested interests of nonpar bankers. Duprey and Nelson (1986, p. 18) write:

At the turn of the century . . . the private banking sector was widely acknowledged to have produced an inefficient and counterproductive arrangement for collecting checks beyond the local level. The invisible hand wasn't working. This failure to produce an adequate solution for collecting out-of-town checks efficiently was one reason that the Congress, as part of its banking reform measures developed between 1908 and 1913, gave the Federal Reserve System both a regulatory role and an operating role in check clearing and collection.

They go on to argue that the Fed's quest for a universal par clearance system was frustrated by "stiff opposition and competition" from the correspondent banking system.⁴⁴ Nonetheless, the Fed did enjoy "some success in improving the efficiency of intercommunity check collection"—the Fed reduced the number of nonpar banks "and probably helped limit abuses" in their practices. Summers and Gilbert (1996), drawing on Spahr, note "widespread dissatisfaction" with the settlement of interregional transactions pre-Fed and cite enhancing payment system efficiency as an important purpose for creating the Federal Reserve. In a similar vein, Gilbert (1998) concludes that, based on the fall in reserve holdings at banks joining the system, "evidence from the period when the Fed was founded suggests that the Fed's services improved payments system efficiency."⁴⁵

4. A PROBLEM WITH THE CONVENTIONAL VIEW

One reason to question the conventional view is that (with only a few exceptions) most writers do not explain why the participants in the check collection system were unable to implement efficiency improvements, if they were available. In other words, it is not clear why there would be a market failure in check

⁴⁴ Duprey and Nelson (1986, p. 19).

⁴⁵ Gilbert (1998, p. 137). One view which we do not discuss at length here is that Congress wanted the Fed to collect checks in order to prevent disruptions in check collection that accompanied financial panics, like the one in 1907 that occasioned widespread suspension of cash payments at banks (Corrigan 1983, pp. 345–48). While preventing financial panics was clearly the central motive behind the provisions moving reserve accounts over to the Reserve Banks, we know of no evidence that any of the founders perceived the functioning of the check collection system during panics, per se, as a motive for granting check clearing powers to the Reserve Banks. Moreover, it is hard to see why the rediscounting and open market powers of the Reserve Banks should not be sufficient to prevent financial disruption. Walter (1988, p. 57) reports that in congressional debate on the Federal Reserve Act there is no mention of the Fed providing check collection services to produce a safer payment system. "Senator Bristow and O. M. W. Sprague agreed, in an exchange during Senate hearings, that the problems with inter-city check collection during panics were caused by a lack of a lender of last resort" (U.S. Congress, Senate, Senate Committee on Banking and Currency 1913, pp. 512–13), cited in Walter (1988).

collection. One might argue that it was beyond the capability of participants to create the Federal Reserve's clearing system, since the Fed is a collective nonprofit institution.⁴⁶ And yet the Reserve Bank's check collection activities employed precisely the same technology and organizational techniques employed by the private sector. The Reserve Banks were essentially correspondent banks for the members of their clearing system, and their relationship with their respondents was organized in essentially the same way as private correspondent relationships. The Reserve Banks did set up a wire transfer system for moving funds rapidly between Reserve Banks, but private banks had been moving funds via wire transfer prior to the founding of the Fed (Langston 1921, pp. 168–72).

Private clearinghouses were collective nonprofit institutions set up by banks, often endowed with quasi-regulatory power over their members.⁴⁷ In fact, in the decades prior to the founding of the Fed, clearinghouses were making moves to expand their clearing activities to encompass checks drawn on country banks.⁴⁸ The Boston clearinghouse had been clearing New England country checks for years.⁴⁹ In short, banks could have set up the equivalent of the Federal Reserve Bank clearing system on their own. Presumably they would have done so if it would have made some participants better off without making others worse off—for example, if it would have appreciably lowered the costs of collecting checks. The fact that they did not do so seems to suggest that it would not have lowered costs. If the Reserve Bank clearing system lowered check clearing costs, why couldn't the private sector do the same?

Some believe one possible answer is that nonpar country banks enjoyed monopoly power. Presentment fees were set inefficiently high in order to extract rents from collecting banks. Such fees, it is said, “can lead to costly and complicated countermeasures” to avoid nonpar transactions.⁵⁰ This view envisions a bank facing a choice between mailing directly to a nonpar bank with which it does not have a correspondent relationship and sending the check on to a correspondent who can present it at par. But it is not clear that this was always the case. In fact, presentment fees were often paid to nonpar banks by their correspondents. These collecting banks appeared to pay fees willingly in exchange for the respondent banks' reserve balances (Spahr 1926, p. 111). Hence, presentment fees were often voluntarily agreed to as a component of a broader correspondent-respondent relationship. It is not clear how to

⁴⁶ Duprey and Nelson (1986) seem to advocate this position when they argue that “well-established rivalries” between city and country banks somehow prevented banks from voluntarily agreeing to a mutually beneficial national clearing system.

⁴⁷ Gorton (1985); Gorton and Mullineaux (1987).

⁴⁸ Cannon (1900); Hallock (1903); Spahr (1926, pp. 119–30); Duprey and Nelson (1986, pp. 22–23).

⁴⁹ *Federal Reserve Bulletin* (1916, p. 317). The Federal Reserve Bank of Boston took over the operations of the Boston clearinghouse by unanimous consent in 1916.

⁵⁰ McAndrews (1995, p. 56). See also Gilbert (1998).

reconcile this market power view with the documented features of correspondent relationships.

Check collection routes were determined by the pattern of correspondent relationships. Thus, it is the market for correspondent relationships—as opposed to the market for the clearance of a particular check—that is relevant to the question of market power. What a country bank had to offer as a respondent—reserve balances—was available from other country banks as well. It appears unlikely that small country banks exercised any monopoly power in the market for correspondent relationships.

5. AN ALTERNATIVE VIEW

The conventional view sees the pre-Fed check collection system as inefficient and disjointed, with much of the inefficiency being driven by the practice of nonpar remittance. An alternative interpretation is possible if we view the check collection system as a whole and focus on its *network* characteristics.⁵¹ While such terms as “network effect” or “network externality” are used widely by economists in reference to a variety of market settings, a check collection system (or any other payment clearing system) literally is a communication network. Two key characteristics are central to understanding the organization and performance of network communications industries: joint benefits and common costs.

For most goods, a unit of consumption provides benefits to a single user. Some other goods or services provide simultaneous benefits to many people. For most such goods, a musical performance for example, one person’s utility does not depend on whether anyone else is partaking. One unit of a communication service, however, necessarily involves two “consumers”: a sender and a receiver. Neither party derives a benefit from communication unless the other one does. Similarly, the clearing of a check provides benefits jointly to both the payor and the payee. Note that the presence of joint benefits affects the criterion for judging whether provision of a unit of a good is economically efficient. For an ordinary good, we would say that a unit’s provision is efficient if the buyer’s willingness-to-pay exceeds the incremental resource costs of the good. For a network communication service, we would say that the provision of a unit of service is efficient if the sum of the willingness-to-pay of the sender and the receiver (or payor and payee in the case of a payment instrument) exceeds the incremental cost.⁵²

⁵¹ For a discussion of the characteristics of network services as applied to payment systems, see Weinberg (1997) and Lacker and Weinberg (1998). James McAndrews (1995) first suggested that check collection at the founding of the Fed should be viewed as a network communications industry, analogous to credit card and ATM clearing networks. See also Summers and Gilbert (1996, pp. 6–7).

⁵² This distinction is emphasized by Baxter (1983).

The fact that check clearing services provide joint benefits to pairs of users implies that there are common costs even at the level of the individual unit of service. Common costs are costs that cannot be uniquely attributed to the provision of service to particular users or groups of users. The incremental cost of a unit of a payment clearing service is common to the payor and payee in that it cannot be uniquely attributed to either. In network services markets, common costs tend to exist at a variety of levels. The technology for such services often includes substantial fixed infrastructure costs. The physical transport of items such as checks involves common costs since the cost of a trip cannot be attributed to particular items or particular pairs of senders and receivers. Many common costs in such markets are fixed relative to the quantity of a service provided. For example, the cost of a transportation node facility, such as a terminal, or (in the case of checks) a bank branch, often cannot be uniquely attributed to any particular item passing through it.

The presence of substantial common costs implies that it is impossible to specify precisely an individual user's share of total costs. Consequently, there is some ambiguity in determining the "right" price for a particular user to face. Efficiency requires that no individual or group pay less than its incremental cost, defined as the cost of extending service to the group in question given the level of services provided to all other users. Otherwise they might inefficiently overuse the service.⁵³ If all users pay incremental cost, however, the service will not recover all of the costs that are common across groups of users. In order to cover common costs, the service must charge some users more than their incremental cost. There are often many ways to allocate common costs, all of which are consistent with efficient provision of the service.⁵⁴

The presence of joint benefits and common costs gives rise to what are often called "network effects." One person's participation in a network brings benefits to that person as well as to all others who wish to communicate with him. It is important to note, however, that while these benefits may be external to the individual's action, they are internal to the network in which he participates. A network's participants, as a group, may have an incentive to shift common costs away from some individual participants: those who place

⁵³ This principle must be modified in the presence of joint benefits: see discussion on the next page.

⁵⁴ We use the term "efficient" in the sense of Pareto efficiency. An allocation is Pareto efficient if no party can be made better off without making some other party worse off. Some readers may be familiar with the Ramsey cost allocation principle, which states that each price charged by a multi-product provider should be set at a markup over costs that is inversely proportional to demand elasticity. This would appear to prescribe a uniquely efficient allocation of common costs. The Ramsey allocation is optimal, however, only under a particular assumption about the way in which social benefits are calculated, specifically, by adding up the utilities of individual agents. The Pareto criterion is less restrictive, and there will tend to be multiple Pareto efficient allocations.

a relatively low private value on participation but who bring large external benefits to other participants. Efficient participation may even require that an individual pay less than their incremental cost.

To be more precise, consider an existing network whose incremental cost of adding a particular new member is c_n , while the mutual benefit to existing members of adding this new member is v_n . For the potential new member, the corresponding incremental costs and benefits are c_i and v_i . It is efficient to add this member if $v_n + v_i > c_n + c_i$. Suppose that the network charges the new member the price p . The new member is willing to participate if $v_i > c_i + p$. The network is willing to add the new member if $v_n + p > c_n$. Thus, any price satisfying $v_i - c_i > p > c_n - v_n$ induces efficient participation. Note that if $v_i - c_i < c_n$, then the network must charge less than the network's incremental cost of adding the new member, because the new member's private net benefit from joining is low. Participation is efficient nonetheless because of the value, v_n , the member brings to the network. Since the new member's participation in the network brings joint benefits to all network participants, both c_n and c_i are common costs. The price determines who bears the common costs.

6. PRE-FED CHECK CLEARING

When seen in terms of the allocation of the common costs of a network service, a very different view of the pre-Fed check collection system emerges. The centerpiece of the conventional view is the practice of nonpar collection and the resulting circuitous routing of checks. The level of presentment fees, however, helps determine the allocation of the common costs of check collection. Moreover, circuitous routing is not obviously wasteful, given the common costs of shipping check bundles. And complaints about excessive costs appear to be motivated by dissatisfaction with the allocation of costs among participants rather than the overall level of aggregate costs.

Correspondent banking relationships were central to the clearing of checks before the founding of the Fed and can be understood quite clearly in terms of common costs. The correspondent relationship bundled together a number of distinct functions: the respondent used the correspondent to clear checks drawn on banks in the vicinity of or that had relationships with the correspondent; the correspondent presented checks drawn on the respondent; and the respondent held balances with the correspondent, which were used to settle clearings in either direction (Spahr 1926, p. 111). Settlement via interbank balances has clear advantages over settlement by remittance of specie or exchange draft, since the common cost of correspondent balances serves both investment and settlement functions (Watkins 1929, pp. 3–5). Holding balances with a bank in a financial center, where they could earn interest, was preferable to holding sterile reserves in the vault. Combining several items into a single

shipment saved shipping costs. Selecting a limited number of correspondents was advantageous because it economized on the fixed costs associated with any given relationship; bilateral clearing and settlement arrangements with the universe of depository institutions would obviously be far too costly. The overall advantage of a correspondent relationship is that certain common costs are spread among a number of distinct payment services rather than duplicated across multiple service providers.

Presentment fees can be easily understood as a means of allocating common costs. The presentment fee was the price paid to the paying bank for accepting presentment by mail rather than over the counter, where the paying bank was obligated to pay at par. Presentments, whether over the counter or by mail, were generally paid by debits to correspondent balances or by drafts. Mailing drafts to presenting banks involved postage costs, and so for some checks there was a positive incremental cost to the paying bank of accepting mail presentment. Otherwise the paying bank was largely indifferent about the means by which checks arrived for payment (Spahr 1926, pp. 99–101). In terms of our earlier notation, interpreted here as the incremental benefits and costs of accepting presentment by mail rather than over the counter, v_i was approximately zero and c_i was slightly positive. A collecting bank, on the other hand, was likely to place considerable value on having a means to avoid the real resource costs of making over-the-counter presentments at long distances. Thus we would expect a large value for $-c_n$, the positive cost savings associated with mail presentment to country banks. Apart from costs, the collecting bank should be relatively indifferent about means of presentment, so v_n should be approximately zero as well.

If q is the presentment fee, then using our earlier notation, $q = -p$. With this change of variables, the condition for efficient participation is now $c_i - v_i < q < v_n - c_n$. The presentment fee must exceed the paying banks' cost of participating, net of benefits, $c_i - v_i > 0$. Similarly, the presentment fee must not exceed $v_n - c_n \approx -c_n > 0$, the net incremental benefit to the collecting bank of adding the paying bank to the mail presentment network. The net benefit of switching to mail presentment is $v_n + v_i - c_n - c_i \approx -c_n - c_i$, which is positive when the cost savings to the presenting bank, $-c_n$, exceeds the incremental cost to the paying bank, c_i . It seems likely that for many country checks, direct presentment was more costly than postage for remittance, and therefore mail presentment was economically efficient.

Under the property rights inherent in the pre-Fed check clearing, the paying bank was free to choose the presentment fee q . In this setting one would predict that paying banks would set q as high as possible. We therefore should have observed $q = -c_n$, presentment fees equal to the collecting bank's net willingness

to pay to avoid over-the-counter presentment.⁵⁵ For checks drawn on country banks the cost savings associated with mail presentment were substantial, and thus $-c_n$ was large. When the paying bank was nearby, the resource cost of over-the-counter presentment was likely to be quite low, and the collecting bank's willingness to pay for mail presentment would be correspondingly small. This is consistent with country bank presentment fees that are close to the cost to collecting banks of making a direct presentment through an agent or an express company, and the general absence of presentment fees in the city. The presentment fee effectively passes the collecting bank's cost savings on to the country paying bank as an inducement to participate via mail presentment. All of the joint benefits of mail presentment, $-c_n - c_i = q - c_i$, accrue to the paying bank.

Although some banks complained that presentment fees exceeded the direct outlays of the *paying bank* for remittance (postage, the cost of exchange, and so on),⁵⁶ there is no economic efficiency reason why they should not. It is clearly possible for the presentment fee to exceed c_i , the paying bank's direct outlays for remittance, without violating the condition for efficient participation. Thus presentment fees that are "excessive" in this sense are not necessarily evidence of monopoly power as some have claimed.⁵⁷

Did the system in fact economize on the costs of moving checks? Much of the commentary on this topic has argued the contrary, based on well-documented instances of circuitous routing. But it is not at all obvious that the examples of circuitous routing constitute strong evidence of excessive costs. Cannon (1900, p. 76), commenting on the famous Sag Harbor check, writes that

The reason why banks forward checks in this apparently unreasonable way, often getting the items far out of their regular course, is easy to explain. It sometimes appears cheaper to the one who has the check in hand to enclose it with other items to some regular correspondent, who, assumedly, is nearer the bank on which the check is drawn, than to hunt up a special correspondent for it alone.

This reasoning suggests that the cost comparison implicit in the conventional interpretation of the circuitous routing examples is not the relevant one. The appropriate comparison for the bank holding the check is between the cost of sending the item directly to the paying bank (or a "special correspondent" for this check alone) and the cost of including the item with a batch of checks being sent to an established correspondent in the hope that the correspondent

⁵⁵ An alternative property rights regime in which collecting banks were entitled to mail presentment at par would result in $q = c_i - v_i$. In this case the cost savings from mail presentment would accrue to the collecting banks rather than to the paying banks.

⁵⁶ Spahr (1926, p. 240-43).

⁵⁷ Stevens (1998), for example.

would be better able to get the check to its ultimate destination. For an irregular check—one drawn on a bank with whom one does not have a correspondent relationship—the incremental cost of sending the check directly to the paying bank would include the postage on the letter, along with the cost of preparing a separate shipment. The incremental cost of adding a check to a regular shipment to a nearby correspondent was probably negligible. Note also that settlement was probably less costly through established correspondent relations. Consequently, the latter was almost certainly less costly than direct presentment for a bank holding a check drawn on a country bank. Critics of pre-Fed check clearing implicitly attribute to the wayward check *all* of the common cost of the shipment to the correspondent.⁵⁸

The bank deciding where to send an item would not consider the costs incurred by the next bank to hold the check. The next bank could send it on to another correspondent, which could send it on again to one of its correspondents, and so on. Could this lead to excessively costly check routes? From a social point of view, the correct cost comparison is between the *expected* cost of sending the check along to the next correspondent bank (including the cost of sending it to subsequent correspondents) and the cost of a more direct route. Again, there is no reason to believe that the expected cost of indirect routing was not almost always less than that of direct routing of irregular interregional checks. The fact that some items ended up following routes that look excessively costly *ex post* does not mean that routing choices were inefficient *ex ante*.

Some mistaken routing choices were inevitable in a decentralized system with thousands of banks. The average costs of such mistakes constitute a valid part of the social cost of the pre-Fed system. The mere existence of such costs, however, does not imply inefficiency for the system as a whole. Only if the costs of the decentralized system exceeded the costs of creating a centralized system would inefficiency be implied. None of the critiques of the pre-Fed system has presented evidence on this dimension.⁵⁹ Evidence that it is possible to reduce some collection costs is not, by itself, conclusive evidence that an alternative arrangement would be superior. Yet as implied in the comments by Carter

⁵⁸ A possibility we do not pursue here is that the cost of postage does not represent the social cost of mailing checks. Since postage rates, then as now, are uniform across destinations, it is quite likely that postage on the irregular country checks in question was lower than incremental social cost, in the sense that the total postal revenue on shipments to the country bank's location failed to cover the incremental cost of service to that location. This would provide yet another reason to question the cost comparison implicit in the circuitous routing evidence. It would also cast doubt on the social value of the movement to shift to direct mail presentment as opposed to direct presentment by an agent such as an express company.

⁵⁹ There appear to be no available estimates of the frequency of such circuitous routing. Cannon (1900), Hallock (1903), and Spahr (1926) cite only eight examples between them. Referring to the Sag Harbor check, James (1998, p. 144) notes that "Given the paucity of other examples, one might be suspicious of this example's general applicability."

Glass above, to build an alternative system that reduces the costs associated with collecting certain checks would itself be costly. Similarly, some pre-Fed writers, such as Cannon (1900) and Hallock (1903), used evidence on the costs of collecting country checks to argue for the value of creating and operating a country clearinghouse. As noted above, the frustratingly slow pace of such efforts suggests that the costs of creating a country clearinghouse exceeded the available cost savings.

If the status quo was efficient, why was there so much dissatisfaction with it? Here, it is important to note that complaints about the system are almost entirely voiced from the point of view of *city banks*. It was argued that the cost of collecting country checks was too high, and it was widely acknowledged that a par collection system would reduce the earnings of the nonpar country banks.⁶⁰ In other words, par collection would reduce net costs for city banks and raise net costs for nonpar country banks. The complaints of the city banks seem to have been driven by dissatisfaction with the *allocation* of costs implied by the status quo arrangements, rather than by dissatisfaction with *aggregate cost*.⁶¹

What city banks wanted was for presentment through the mail to have parity with direct presentment, in which case the paying bank would be obligated to pay at par, without deducting a presentment fee. Such a regime would have inevitably shifted costs toward country banks and away from city banks. Although city banks were generally unable to obtain par presentment legislation, the Federal Reserve Board ultimately granted that right to Reserve Banks by regulatory fiat.

7. THE FED'S ENTRY INTO CHECK CLEARING RECONSIDERED

According to the conventional view, self-evident inefficiencies motivated and rationalized the Fed's entry into the check collection industry. The process involved a struggle between a progressive reform effort and the vested interests of nonpar banks. Our alternative view suggests a very different interpretation

⁶⁰ Most of Spahr's (1926, pp. 240–43) "arguments for par collection" amount to claims that costs borne by collecting city banks could and should be reduced. For example, he argues that par collection under the Federal Reserve would "relieve trade . . . of the burden" of clearing costs because "the costs would fall to the Federal Reserve Banks and reduce to that extent the earnings that go to the government" (Spahr 1926, p. 240). That is, the government should defray collecting bank costs.

⁶¹ City banks' complaints about the costs of collecting country checks should also be viewed in the context of secular trends in the structure of the banking industry. The total number of banks in the country grew from 12,424 in 1902 to 26,765 in 1914, and many of these new banks were small country banks (U.S. Treasury, Office of the Comptroller of the Currency 1903, 1915). Thus there were a growing number of country banks to contend with.

of the process by which the Fed entered the check collection industry. In our view, the motive was to attract membership, and the process involved a struggle over the allocation of the common costs of check collection.

All national banks were required to join the Federal Reserve System, but for state-chartered banks, membership was optional. From the beginning, attracting members, and their reserve balances, was viewed as critical to the success of the institution (White 1983, p. 130). A key perceived defect of the previous system was the “pyramiding” of reserves in financial centers, which left the latter vulnerable to sudden widespread withdrawals. Through rediscounting the Reserve Banks would provide an elastic supply of balances in response to rapid demand shifts, preventing financial panics (White 1983, pp. 63–125).

In this context, the Reserve Bank check clearing service authorized by the Act could help attract members, as the early leaders of the Federal Reserve clearly understood. A mid-1915 report to the Reserve Bank Organizing Committee spelled out the link between Reserve Bank check clearing services and the membership question:

It must be borne in mind that the banking power of the United States will divide more sharply than it has ever done before into two groups—members and non-members. It is the intent of the Act itself to bring non-members into the system. But so long as there is any considerable body of non-member banks, the two groups will of necessity be in competition with one another, producing two parallel clearing systems. . . . (T)he domestic exchange business of the Federal reserve system must be so arranged as to offer constant inducements to non-members to enter the system. At the same time, members must find it more profitable to use the Federal reserve system than to make collections as at present. The situation is more complex when it is taken into consideration that member banks are in a position to deal on favorable terms either with the Federal reserve banks and their members or with non-members.⁶²

The Fed’s check clearing service should aim to reduce costs to members and attract nonmembers to join the system. To do so, they would need to attract the check clearing business of their members, who were under no obligation to clear through the Fed.

The reserve requirements in the Federal Reserve Act, while essential to the monetary goals of the Act, made it more difficult to attract members. Prior to the founding of the Fed, banks kept reserves with correspondents in addition to specie and notes in their vaults. Correspondent balances could be used to satisfy legal reserve requirements, up to a limit, under state laws and the National Bank Act (Watkins 1929, pp. 67, 96). Moreover, correspondents would often grant

⁶² Preliminary Committee on Organization (1914, pp. 58–59). The organizing committee consisted of the Comptroller of the Currency and the Secretaries of the Treasury and Agriculture. The Preliminary Committee on Organization reported to them and was chaired by H. Parker Willis.

immediate credit for deposited checks, and these counted toward the respondent's required reserves. Under the Federal Reserve Act, reserve requirements had to be met with balances held at the Reserve Banks; correspondent balances would no longer count. If the Reserve Banks did not offer check clearing services, member banks would have to hold separate correspondent balances in order to clear checks, and these balances would have a higher opportunity cost, since they would no longer do double duty. Willis (1923, p. vi) described the implications in dramatic terms:

It was recognized that, without these powers, [referring to Reserve Bank check clearing authority] the reserve banks would become merely the holders of dead balances carried for the member banks without any service to them; and, since the business public abhors an idle or unnecessary institution, just as nature is traditionally said to abhor a vacuum, it would not submit long to the needless burden created by such emergency institutions designed to put out financial fire.

Failure to offer attractive check clearing services to justify member bank reserve balances would threaten support for the System.⁶³

The reserve requirement provisions of the Federal Reserve Act were to be phased in over three years, so the System had time to develop a strategy. According to the original Act, member bank required reserves would be transferred over from correspondents in annual steps from November 16, 1914, to November 16, 1917.⁶⁴ These provisions were revised by the amendments of June 21, 1917, in connection with measures to aid financing of the government's war effort, lowering the requirements but making them effective immediately.⁶⁵

The Fed's struggle to establish its check clearing service is readily understandable from our alternative perspective. The first national check clearing venture, the "voluntary reciprocal plan" initiated by the Board in March 1915, was unsuccessful, never attracting more than a third of the member banks. In exchange for agreeing to accept mail presentment at par, member banks were able to clear at par on members that joined. This was essentially a voluntary clearinghouse, modeled after the city clearinghouses. That it failed should be no surprise, given the terms that were offered. Reciprocal par presentment allocates common costs according to each bank's outlays. This allocation successfully attracts members where the cost of over-the-counter presentment is low, as among city banks. In this case, a bank joining the scheme gives up little in presentment fee income. But where over-the-counter presentment costs are

⁶³ Stevens (1998) also discusses the role of reserve requirements in the evolution of the Fed's check clearing activities.

⁶⁴ Starting on November 16, 1914, correspondent balances could count towards a maximum of 6/15 of required reserves in the first year, 5/15 the second year, 4/15 the third year, 3/15 the third year, and not at all after November 16, 1918.

⁶⁵ The Board gave banks until July 15, 1917, to comply (*Federal Reserve Bulletin* 1917, pp. 508–09).

high and banks have the right to charge for remittance outside the scheme, this allocation of common costs may fail to induce participation; some prospective members would have no incentive to join, even if their participation would be worthwhile. Two-thirds of member banks apparently did not want to join under the reciprocal par presentment cost allocation. Some might have brought large benefits to the other participants in the scheme by lowering presentment costs, even though they themselves placed a relatively low value on participation. As we noted above, these are just the types of banks that charge presentment fees. The Fed needed to find a way to induce their participation.

With its second venture, the “compulsory” plan, the Fed found a solution to the problem: under Circular No. 1 (May 1, 1916), members were required to accept mail presentment at par. Having failed to induce more than a third of their members to voluntarily give up charging presentment fees against the Reserve Banks, the Fed prohibited such fees outright. The compulsory plan was more attractive to members than the voluntary-reciprocal plan on two counts. First, the Reserve Banks were offering to clear checks on any member bank, regardless of how many member banks joined the scheme. The Reserve Banks immediately had over 7,000 par endpoints. Second, the cost of joining the second plan was much lower for many banks. Under the previous plan they would have had to give up presentment fees. Under the new plan, the Board had already taken away their right to charge presentment fees against the Reserve Banks. Joining was less of a sacrifice now.

Success was not yet assured. In about a year, reserves would be transferred over from correspondents to the Reserve Banks under the new reserve requirements. As we noted above, correspondent balances were a key component of the bundle of mutual clearing services that made up the typical correspondent banking relationship. Settling cleared checks by crediting or debiting correspondent balances was less costly than remitting specie or exchange drafts. Members would need to retain some correspondent balances to clear checks on nonmembers, and such balances would no longer do double duty as required reserves. The new reserve requirements would break apart some of the shared common costs built into pre-Fed correspondent banking arrangements, raising member bank costs.⁶⁶ The Fed’s strategy now was to rebuild that cost sharing around member bank balances at Reserve Banks. The objective was to offer to collect at par checks drawn on every bank in the country.⁶⁷ In theory, member banks would no longer need external correspondent balances, the Reserve Banks having taken over all the essential clearing functions connected with them.

To this end, the Board sought the amendments passed on September 7, 1916, allowing Reserve Banks to clear checks drawn on nonmembers. But the

⁶⁶ Martin, et al. (1915, pp. 369–70).

⁶⁷ “Any clearing and collection plan to be effective must be so comprehensive as to include all checks” (*Federal Reserve Bulletin* 1917, p. 100).

Reserve Banks had trouble getting nonmember banks to accept presentment at par, as one would expect; the Reserve Banks had nothing of value to offer in exchange. This led the Board in early 1917 to seek amendments allowing the Reserve Banks to accept checks deposited by nonmembers. Perhaps reciprocal check clearing privileges would entice nonmembers to give up their presentment fee income. By early 1917, however, the Board's ban on presentment fees against the Reserve Banks made clear that check collection costs would be reallocated as a by-product of the Fed's strategy to eliminate presentment fees. Bankers who would be disadvantaged by such a reallocation mobilized to push the Hardwick Amendment. The resulting legislative battle exposed the divergent interests in the allocation of check collection costs. The Hardwick Amendment was effectively defeated following a "nationwide campaign . . . by the Credit Men's Association, the mail-order houses, manufacturers, jobbers, wholesalers and merchants in the large centers."⁶⁸ Payees, in other words, lobbied in favor of shifting costs towards payor banks.⁶⁹

An ensuing opinion by the Attorney General spelled out the new distribution of property rights.⁷⁰ Reserve Banks could not pay presentment fees. Nonmember banks could decide for themselves whether to charge fees, but assessing fees against a Reserve Bank for mail presentment was the equivalent of not accepting mail presentment from them. In this environment, the Reserve Banks attempted to exercise as much leverage as possible to persuade nonmembers to pay at par. During the period from early 1919 through 1923, the Reserve Banks resorted to a number of costly collection techniques, such as sending Reserve Bank employees to present over the counter or hiring local agents to make direct presentation. These were characterized in litigation as outside the bounds of customary banking practice; in many cases the expenditures on such techniques exceeded the presentment fees that were avoided and thus would not have been undertaken by private sector collecting banks.⁷¹ The list of banks accepting par presentment was naturally largest in the presence of such measures. When court decisions struck them down, Reserve Bank leverage was commensurately reduced and the par list shrank.

⁶⁸ "The Hardwick Amendment" (1917, p. 40). See also Tippetts (1929, pp. 272–74).

⁶⁹ Note that costs were shifted to taxpayers as well, since the Fed stopped recovering its costs when collection fees were eliminated in June 1918 (Spahr 1926, pp. 192–93).

⁷⁰ *Federal Reserve Bulletin* (1918, pp. 367–70).

⁷¹ Spahr (1926); Tippetts (1929).

8. CONCLUSION

The Reserve Banks were able to achieve what reformers had been unable to bring about—a more centralized clearing of interregional checks. Although early reform-minded writers, like Cannon (1900) and Hallock (1903), had argued that the cost savings from eliminating what they saw as inefficiencies in clearing irregular interregional checks would exceed the cost of setting up a more centralized arrangement, no such schemes had emerged. The Fed succeeded where earlier efforts failed, under our alternative view, because the Board arrogated the right to present at par on member banks. No such unilateral ability to reallocate property rights was available to private sector collecting banks. Reallocating property rights had the effect of shifting the common costs of check collection away from collecting banks that used the Reserve Bank system, toward member banks and, after fees were eliminated in 1918, toward federal taxpayers.

The par presentment right granted to the Reserve Banks by the Board in Circular No. 1, Series of 1916 (now Regulation J), is essentially a barrier to competition in the sense that it allows the Reserve Banks to offer check collection services at lower costs than competitors. Other banks could obtain the right to present at par, but they would have to offer paying banks material compensation in order to do so. The Reserve Banks did not need to offer any compensation. Note that this barrier to competition persists today in the form of differential presentment times (Lacker and Weinberg 1998). Private sector collecting banks must present by 8:00 a.m. in order to obtain same-day funds (at par), while Reserve Banks can present until 2:00 p.m. for same-day funds; the Reserve Banks have a “six-hour monopoly.” Interestingly, the Board of Governors recently revisited the presentment time differential.⁷² The statement announcing the Board’s decision to retain the competitive advantage notes that any equalization would reallocate costs in a way that would be disadvantageous to some segment of the industry. Moving the private presentment time later, for example, would make collecting banks better off and paying banks worse off.⁷³ Ironically, the Fed’s original entry into check collection appears to have been accomplished by reallocating the common costs of check collection in just this fashion.

⁷² Board of Governors of the Federal Reserve System (1998).

⁷³ Board of Governors of the Federal Reserve System (1998, p. 12).

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