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The Founders' Intentions: Sources of the Payment Services Franchise of the Federal Reserve Banks

by Edward J. Stevens

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Abstract

The reserve banks' check collection service was designed in 1913 to serve as "glue," attaching the new central bank to the commercial and financial markets through member banks. Successful creation and operation of the Federal Reserve System was thought to be more likely if the reserve banks could do more for member banks than lend occasionally and administer the reserve requirement tax. Initial drafts of the Federal Reserve Act would have allowed member banks to use required reserve deposits only for making interbank transfers. But correspondent banking relationships already provided interbank payment service, as well as check collection and other services, while offering a modest interest rate on interbank deposits. Nationwide check collection service was added to the bill in the latter days of the legislative process to show potential member banks that deposits maintained at the new regional reserve banks could play an integral part in the banking business.

Is it an anachronism that the twelve Federal reserve banks compete with commercial firms in producing and distributing payment services to depository institutions? Will their continued presence in the market become less useful? Such questions are beginning to have more than quaint historical interest. The future value of the priced-service operations of reserve banks is being viewed with increasing skepticism in some quarters, and not without reason.

Since the Monetary Control Act of 1980 required that reserve banks charge prices that recover full cost, their market share in check collection has declined, securities safekeeping services have been discontinued, and new commercial competitors have emerged in both the check collection and automated clearinghouse markets. The prospect of unfettered nationwide branch banking after December 1997 suggests further erosion of reserve banks' market share, as former collection items stay within the operating centers and accounting systems of newly created nationwide branch banking organizations.

Growing reliance on electronic technology in the payment system may compound these institutional forces. Reserve banks serve depository institutions, but if nondepository institutions become operators of electronic payment networks, reserve banks would be relegated to providing net settlement service, at most. Moreover, reserve banks are not the same as ordinary commercial suppliers, despite their need to recover full cost plus an allowance for profit. The Board of Governors must approve all major additions to, or changes in, the reserve banks' service lines, including those that take advantage of new electronic payment technologies. Board approval is based on public interest considerations as well as commercial standards. These may have different implications for electronic payments today than for paper payments in years past. Without adapting to modern payment methods, however, reserve banks could become mere museums of outmoded technology, delivering currency and check collection services to the last users of paper payment products.

The original public purpose of reserve bank operations is not widely appreciated. Much has changed, of course, since Woodrow Wilson signed the Federal Reserve Act in

December 1913. Institutional arrangements, financial technology, and the Act itself have evolved into new forms that might make the founders' intentions irrelevant in the contemporary environment. Reviewing those intentions, however, can be useful in thinking about the reserve banks' future role in providing payment services, for it entails understanding a world where no such involvement existed. At the very least, the exercise provides a useful historical perspective on the situation today.

This paper explores why the founders of the Federal Reserve System thought it was important for the reserve banks to provide check collection services. Certainly, the intentions of its founders have been examined in great detail ever since the beginning of the System, not least by those claiming to have founded it. This well-plowed field, however, does not extend into payment service operations. Instead, the central topic has been elasticity and control of the supply of money and credit. Contending founders have left scant explanation of why twelve reserve banks received a franchise to produce and distribute check clearing, collection, and settlement services. Even as late in the legislative process as October 1913, at a prestigious professional meeting to investigate the proposed Federal Reserve Act, the discussant dealing with the clearing and collection provisions of the House bill felt obliged to begin by saying that

> [t]he proposed plan to reform the American banking system presents a number of interesting and difficult problems. Few of these deserve more serious and thoughtful consideration, and none appear [*sic*] to have received in public discussions of the pending bill less attention than those involving the domestic-exchange and clearing-house functions of the federal reserve banks. (Talbert [1913-14], p. 192)

A quest for the founders' intentions has at least two branches. One is organizational. It concerns why the Federal Reserve System has twelve autonomous regional Banks, each with its own balance sheet, rather than (as was the case with other central banks in 1913) a single federal balance sheet operated upon by employees located in regional branch offices. This organizational matter was a fundamental issue in the national debate prior to passage the Act. It was argued that centralization would economize on base money, but that regional control would ensure the application of

informed local knowledge in local credit judgments.[1] Ultimately, however, this was a highly charged political matter reverberating with concerns about central authority versus local control and about public interest versus market outcomes that are not directly relevant here.

The second branch of the quest is functional, about why the reserve banks were given a check collection function in addition to the receiving, paying, lending, and open market functions of a bank. There is no necessary relationship between the collection and bankers' bank functions.[2] Early plans for a central banking-type institution did not include the collection business in their design. Some explicitly provided for central bank membership in local clearing houses, to avail the new banking institution of the services other banks received in making and receiving payments. Moreover, provision for the reserve banks' collection function seems to have been a late addition to the Federal Reserve Act. Why should this be? And what perspective does the answer provide in pondering the future of reserve bank payment services?

The remainder of this paper is in four parts. The first looks at the dominant strands of monetary reform proposals before the Act was drafted—essentially, before the national election of November 1912 brought Woodrow Wilson to the White House and Democratic Party control to the Congress. The question here concerns how widespread the conceptual case was for having a central banking institution enter the collection business. The second section looks at who some of the principal founders were. Identifying these founders is easier than understanding their intentions, for, as already noted, most of them were silent about the collection function. The third section analyzes clearing and collection provisions in successive versions of the Federal Reserve Act as it made its way through Congress in 1913. This section's purpose is to establish when, and to suggest why, the check collection provisions became part of the Act. The fourth part

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[1] Carter Glass was an ardent supporter of decentralized control; Paul Warburg emphasized local knowledge of local borrowers.

[2] For example, contrast the role of the Federal Reserve in the payments system with that of the Bank of Canada or the Bank of England, whose payment system operations are limited almost entirely to interbank settlement. These matters were not likely to have escaped the notice of the founders, who had only recently

brings together these apparent lessons of the past concerning why the reserve banks might have been given their initial payment services franchise, before the paper concludes with some thoughts about the relevance of the story to current issues.

To anticipate the findings of this paper, the reserve banks' check collection service was created to serve as "glue," attaching the new central bank to the commercial and financial markets through member banks. Successful creation and operation of the Federal Reserve System would be promoted if the reserve banks could do more for member banks than lend occasionally and administer the reserve requirement tax. Initial drafts of the legislation limited the reserve banks to making transfers of funds between member banks' reserve accounts—interbank payments. But correspondent banking relationships already provided interbank payment service, as well as check collection and other services, while offering a modest interest rate on interbank deposits. Nationwide check collection service was added to the bill in the latter days of the legislative process to show potential member banks that deposits maintained at the new regional reserve banks could play an integral part in the banking business, replacing correspondent bank services.

I. CLEARING AND SETTLEMENT IN THE BANKING REFORM MOVEMENT

The Federal Reserve Act evolved from banking reform movements that had been alive in the United States almost from the moment the National Banking Act was adopted during the Civil War.[3] The early and continued impetus for reform was the inelastic supply of money—i.e., of specie, greenbacks, subsidiary coin, national bank notes, and bank deposits. The incentives for banks to issue national bank notes produced a secular decline in the proportion of eligible Treasury debt not already posted as note collateral (Champ, Wallace, and Weber [1994], pp. 350-52). Deposit money was limited by the

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received the published research reports of the National Monetary Commission, including studies of the monetary and credit systems of a number of foreign countries.

[3] West provides a valuable condensed chronological account of the reform movement. He begins with Treasury Secretary Richardson's 1873 proposal (renewing similar Treasury proposals a decade earlier) to eliminate interest payments on demand deposits. See West (1977), pp. 36-88.

available stock of base money reserves, which excluded national bank notes. Interest paid on interbank deposits was thought to ensure that banks would hold no more vault coin than necessary to maintain customer satisfaction; any excess "reserves" would be held as interest-bearing deposits in the notorious pyramid of interbank deposits whose apex was invested in call loans that financed trading positions in the New York securities markets. Any outward shift in demand for specie money, whether seasonal, cyclical, or secular, required a contraction of bank deposits until the specie flow mechanism induced a specie inflow.

The Baltimore Plan, presented at the American Bankers' Association convention after the Panic of 1893, the Indianapolis Monetary Commission Plan, adopted after the Panic of 1897, and the Fowler Bill that emerged from the House Committee on Banking and Currency after the Panic of 1907, all had in common the provision of an asset-based currency, one whose supply was designed to vary with the demand for bank credit, rather than being limited by the stock of Treasury debt. In the Fowler proposal, this simply involved "a replacement of national bank notes with notes backed by bank assets, and a guarantee fund established by the banks" (West [1977], p.46).

None of these reform plans dealt directly with deposit money, or with the clearing and collection of checks. Asset-based currency, however, raised questions about what kind of organization might be allowed to create and redeem currency, and at what discount rate. Clearing houses already offered examples that oriented the reform movement "naturally" toward an expanded clearing house arrangement to ensure elasticity. Members of a clearing house maintained deposits of specie coin and currency. In addition to settling by offset, clearing house deposits avoided the repeated, costly transportation of coin and currency between two banks' offices to settle their bilateral position. The level of an individual bank's clearing house deposit would vary over time, reflecting the sequence of its multilateral net credit and net debit positions at successive settlements. Organizing a regional or national clearing house had appeal as a means of economizing on the aggregate amount of specie tied up in the banking system, unavailable for circulation. The assumption was that the more extensive the membership

of a clearing house, the narrower would be the range within which a bank's net debit and credit positions would be expected to vary over time.

At a more fundamental level, the clearing house example was instructive as a potential means of providing elasticity. Clearing houses issued interbank currency in the form of clearing house certificates to signify members' deposits of cash reserves. Also, they sometimes created additional certificates by lending to members, at least when banking panics made this expedient. One view of the reform needed in the United States was the organization of more extensive clearing houses. These could be linked to ensure the routine creation of base money through loans to member banks and open-market purchases of securities, as well as economy in the use of reserves.

It's not surprising that the next phase of reform proposals developed out of the clearing house concept. A central bank could institutionalize and regularize creation and destruction of money, providing elasticity in the clearing house model. None of the plans, however, provided explicitly for performance of any clearing or collection function. In fact, what was being proposed seems to have amounted to a bankers' bank, whose deposit and note liabilities would be a new vehicle for bilateral settlement of interbank debts arising out of any and all interbank transactions. Transferring ownership of deposits in a new institution might replace transfers of clearing house certificates, of deposits in a common correspondent bank by check or draft, and of shipments of specie coin and currency.

These implications for bilateral interbank settlements were clearly recognized. In 1908, Paul Warburg proposed creation of the United Reserve Bank, with branches throughout the nation. Banks using its services would maintain balances at this nationwide correspondent bank. The United Reserve Bank would have the right to transfer sums of money from the account of one bank to that of another upon request. Banks' transactions with the United Reserve Bank, however, would be settled through normal banking channels, as members of local clearing houses (Warburg (1930), vol. I, pp. 49-55).

A particularly lucid account of the settlement function came from Harvard Professor Oliver M. W. Sprague in 1910. He noted the

> … advantages gained if [a] central bank establishes a system for handling the domestic exchanges between all the places in which it has branches, by means of which all payments between banks can be met by transfers on its books. The Reichsbank has perfected a system of this sort which has proved of great advantage, making it possible to make payments throughout the country speedily and at a minimum of expense. …
> … The present situation regarding the domestic exchanges [in the United States] is far from satisfactory either to the business community or to the banks. Collections and payments are subject to delay and involve heavy expense, burdensome to most banks tho to some extent shifted upon their customers. Practically the entire expense of the domestic exchanges could be saved. The actual cost to [a] central bank would be far less than that inevitable under the present system, or lack of system … . (Sprague [1911], pp. 160; 162)

These benefits were becoming widely noted, with publication of National Monetary Commission studies that included Cannon's *Clearing Houses*, and investigations of the banking and payment systems of at least a dozen foreign countries, including studies of the roles of central banks in payment clearing and settlement (Cannon [1910]; National Monetary Commission [1910], various volumes).

The "system, or lack of system" to which Sprague referred was the check collection process of the day. Checks deposited in banks that were drawn on other local banks would be presented through the local clearing house, if one existed, either directly by a member bank or through a correspondent that was a member. Clearing house items allowed multilateral net settlement among members. Checks drawn on distant banks could be sent to a common correspondent, or to one that shared a local clearing house with the payor bank, either directly or through yet another correspondent, or could be sent by mail or other delivery service for direct presentment to the payor bank or its correspondent. Again, settlement might be through a correspondent balance, with final settlement always possible by shipping specie withdrawn from a correspondent or clearing house.

If the aggregate of payment flows between two regions netted to zero, local markets for distant "exchange" might redistribute ownership of distant correspondent

balances among local banks without needing to ship specie. When the aggregate did not net to zero, the price of "exchange," the local premium charged for the purchase of distant balances, might rise high enough to induce shipment of specie to achieve final settlement. The cost of exchange was used as a rationale for check collection fees charged by paying banks for items presented to them directly, ostensibly as reimbursement for making final settlement to the distant payee bank in funds drawn on a distant correspondent.

Much of the structure of obtaining and pricing domestic exchange would be eliminated if all banks were to become members of, or have access to, a common clearing house, and if that common institution absorbed transportation charges for delivery of the residual coins or notes used for final settlement.[4] The "burdensome" aspect cited by Sprague was not so much the domestic shipment of specie balances between regions, much of which may have reflected changing seasonal needs for hand-to-hand currency. The true cost came from extra bookkeeping and transportation of checks routed through strings of correspondents, and resource allocation distortions that fees and float introduced to markets when compared with a payment system served by a nationwide clearing house.

A variety of proposals for improving the check collection system had appeared during the decades leading up to the Federal Reserve Act. Recommendations from the National Monetary Commission clearly recognized the possibilities noted by Professor Sprague, and were incorporated in the Republican bill introduced in 1912 by the chairman of the commission, Senator Nelson Aldrich. It proposed a National Reserve Association, whose 15 branches would have the duty "upon request, to transfer any part of the deposit balance of any bank having an account with it to the credit of any other bank having an account with the National Reserve Association … by mail, telegraph, or otherwise, at rates to be fixed at the time by the manager of the branch at which the transaction originates" (Warburg [1930] p. 296). While the national association could require local associations to act as clearing houses, "[i]t should be noted that none of the

[4] Both the Aldrich Bill and The Federal Reserve Act (after amendment in October 1918) stipulated that the central institution would absorb the costs of shipping notes. See Warburg (1930), pp. 350-351.

commission's recommendations for payment system reform required par clearing, nor did they authorize the main NRA branches to engage in clearing operations, leaving clearing to the local associations instead. So the commission's recommendations could hardly be said to add up to a national clearing system" (Duprey and Nelson [1986], p. 24).

When the Republican bill died in the Democratic Congress, Paul Warburg circulated a memorandum in January 1913 that contained a new plan involving four regional banks (consistent with the Democratic platform's opposition to a central reserve), including "a system of free transfers of balances from one [of the four] to the other … to be worked out regulating exchanges between cities." (Warburg [1930], p. 90)

An important point to keep in mind about clearing and collections in the banking reform movement is that, although some persons pointed to an inefficiency, the system then in place worked. Clearing, collection, and settlement of payments was not a major concern of the movement.[5] Centralization, concentration, or mobilization of the specie reserves of the banking system, and elasticity in the supply of money were the consuming functional objectives. Reducing the burden of interbank transfers of funds outside of clearing houses—domestic exchange—was simply a potential byproduct of reform.

II. WHO WERE THE FOUNDERS?

Federal Reserve System founders came in many varieties. Indeed, so many writers made proposals to reform the U.S. banking system before 1913 that there is no easy way to specify which complaints and cures ultimately led to creation of the Federal Reserve, or even to determine when the process of creation began. William Jennings Bryan is a good example of this fuzziness. The Federal Reserve hardly represented his triumph over the Cross of Gold, but silverites' concerns about powerful interests in control of money and credit resonated through the Pujo Subcommittee Hearings in 1912 and 1913, and may have echoed in the legislation. Even as Wilson's Secretary of State, Bryan is

[5] For example, "[A] peripheral concern [after the Panic of 1907] was the private banking sector's failure to develop an efficient national clearing mechanism for intercommunity checks" (Nelson and Duprey [1986], p.23).

acknowledged to have played a crucial role in designing certain parts of the legislation (Willis [1923], pp. 247-57).

Founders also came after 1913, in the form of implementers like Treasury Secretary McAdoo, the galvanizing presence on the Reserve Bank Organizing Committee that determined the number and coverage of reserve banks and supervised their organization. Also, members of the original Federal Reserve Board were especially important for the collections business. The reserve banks encountered serious difficulties in implementing this part of the new legislation. As a result, the Board had to wrestle with some fundamental competitive and legal issues that soon went to the Supreme Court as part of a long-simmering controversy over par collection.

The present focus, however, is on those who came between the writers and the implementers. These were people involved in the legislative process that began with Senator Aldrich's introduction of the Republican bill in January 1912, an effort doomed by the 1912 electoral triumph of the Democrats. From this starting point, the process continued for almost two years, ending with passage of the Act on December 23, 1913.[6] Drafts of legislation had circulated before 1912, but we are interested primarily in those who translated concepts into legislation through negotiation and compromise. Which of these people determined the Act's design has been a subject of controversy for three-quarters of a century, because the major participants published conflicting accounts of the process. Even a cursory review of the sequence of these accounts suggests that potential founders were not bashful about identifying themselves and their contributions, but that few of them claimed any responsibility for, or even awareness of, the payment services franchise in the Act.

The Federal Reserve Act is sometimes referred to as the Owen/Glass Bill. Robert Owen was Chairman of the Senate Committee on Banking and Currency in 1913. He yielded "… to the suggestion that [he] should write a short sketch of [the Act's] origins and principles, as a personal reminiscence" in 1918. His account traced the major

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[6] The full story of the Act is an oft-told tale, nowhere better than in *A Christmas Present for the President* (Dunne [1984]).

features of the Act to positions he had taken in national monetary reform debates, starting with the 1896 Democratic Party Convention. Nowhere in this short book does he mention the clearing and collection functions of the reserve banks (Owen [1919]).

Carter Glass was Chairman of the House Committee on Banking and Currency in 1913 and sponsor of the legislation that emerged from the House of Representatives. In 1926, Charles Seymour, history professor and later president of Yale, published *The Intimate Papers of Colonel House*. House, a self-confessed confidant and advisor of Woodrow Wilson, was considered by Seymour to be the "guardian angel" who, more than anyone else, was responsible for the Act.[7] Glass was offended, "because the rank and vocation of [Seymour] are calculated to get for this utterly unfounded claim a measurable credence among those unacquainted with the facts." He determined to publish "the real truth of the matter…to…overtake and destroy the fiction which has been launched by Professor Seymour in the guise of history." Glass' 1927 account suggests that he, with some guidance from President Wilson "… under whose direction the Federal Reserve Act became law," maneuvered his draft legislation through the House of Representatives and into law, beating off efforts to achieve a different design by Senator Owen, Secretary McAdoo, and Samuel Untermyer (who conducted the Pujo Subcommittee's Money Trust Hearings). The account deals with the Act's clearing and collection provisions, beginning at his initial conference with the newly elected Woodrow Wilson, when Glass proposed, as an optional item, providing for par collection of interbank payments (Glass [1927]).

Untermyer then disputed Glass' story, immediately and with equal passion. Among other things, he claimed that Glass "by indirection and implication undertakes to filch from Senator Owen and others and to take unto himself credit for accomplishments to which he is not entitled and which history will not accord him," but with no mention of clearing and collection (Untermyer [1927], p. 2).

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[7] "The Colonel was the unseen guardian angel of the bill, constantly assisting the Secretary of the Treasury and the Chairmen of the Senate and House Committees in their active and successful labor of translating it into law" (Seymour [1925] vol. 1, p. 160).

Paul Warburg weighed in next, with his monumental book, *The Federal Reserve System*, begun in 1927 because Glass' account "impelled [Warburg] to lay down in black and white [his] recollections of certain events in the history of banking reform" (Warburg [1930], p. vii). Warburg had been an early, persistent, and consistent advocate of a central bank for the United States, modeled on European examples. He was among the select group at Jekyll Island that formulated the Aldrich Bill, and a respected expert on banking matters.

In addition to these principal actors in the legislative process, staff members claimed to have played a significant role. H. Parker Willis was the "Committee expert" hired by Carter Glass to assist in producing the House bill. Not surprisingly, his story of the legislative process, published in 1923 in his massive tome, *The Federal Reserve System*, was essentially the same as that later told by Glass, though without the evident passion. J. Lawrence Laughlin, whom "[s]ome friends …urged…to set down [his] personal experiences connected mainly with the events before the actual passage of the Federal Reserve Act," replied ten years later (Laughlin [1933]). He and Willis had worked together at the National Citizens' League for the Promotion of a Sound Banking System. Laughlin had been Chairman of the organization's Executive Committee in 1910-13, and earlier had been Willis' professor at the University of Chicago. Laughlin is at pains to show that, although they did not acknowledge it, both Glass and Willis were intellectually indebted to Laughlin's own early draft of reform legislation, "Plan D," submitted to them privily and at their behest in early December 1912.

This list undoubtedly could be extended further, to other underappreciated founders of the System who depend, to varying degrees, on self-promotion for their proofs. By 1931, when he published his memoirs, William McAdoo wrote that "[t]here must be at least a dozen" people who "claim the credit for having originated the Federal Reserve Act" (McAdoo [1931]). The important point, however, concerns the subjects covered in these recollections, not the overabundance of claims to founder status. Much of the controversy among the founders has been blamed on the secrecy with which Glass and Willis operated, and their apparent inability to share credit for ideas (West [1977], pp. 113-35). In the case of clearings and collections, however, none of the other founders

disputed the limited remarks of Glass and Willis, except for a two-sentence stipulation of "a system of clearings for all checks of member banks throughout the nation" in Laughlin's "Plan D." Even after the Act had become law and the reserve banks' collection problems landed in the Supreme Court, none of the other founders had anything to say about why the reserve banks were designed to provide check collection service. The fact that the rationales of Glass and Willis for the reserve banks' payment business franchise excited no response from the other founders suggests that it is reasonable to accept their versions of how this aspect of the Act evolved.

III. EVOLUTION OF THE ACT IN 1913

Willis' book (1923) provided appendices containing complete texts of the initial bill created by Senator Owen and the competing initial drafts of Chairman Glass' bill, as well as successive versions of the Federal Reserve Act as it emerged from the House, the Senate, and as signed by Woodrow Wilson. These drafts, and the commentary from various founders, provide evidence about reasons for the reserve banks' payment services franchise. Tables 1 and 2 of the present paper contain a chronological digest of the clearing and collection provisions of six versions of the legislation, starting with the doomed Aldrich bill and ending with the Act as passed in 1913. Differences from one of these drafts to the next, charting the development of the Act, are discussed in what follows.

The Democrats' 1912 party platform opposed the Aldrich Bill. According to Warburg,

> The Democratic platform, as printed, … contained the provision: "The Democratic party is opposed to the Aldrich Plan or a central bank." At the time, it was widely stated that the plank, as adopted by the Democratic Convention, read "the Aldrich Plan *for* a central bank," and that, when the document was printed, either by inadvertence or by a Machiavellian trick, it was made to read "the Aldrich Plan *or* a central bank." Whatever the truth may be, the Chairman of the House Committee of Banking and Currency, Mr. Glass, who, later on, was charged with the formulation of a new plan, adopted the second version as binding upon himself. (Warburg [1930], p. 79)

The party platform was not explicit, however, about any features to be desired in reform legislation.

Democrats had reason to avoid referring to the product of their legislation as a central bank, but they also had reason to soft-pedal clearing house terminology in the legislation. The Pujo Subcommittee of the House Banking and Currency Committee conducted its Money Trust Hearings in 1912 and early 1913, and published its recommendations at the end of February 1913. Relations between that subcommittee and the one chaired by Carter Glass are said to have been strained. Arsene Pujo, Chairman of both the House Committee and Money Trust Subcommittee, had staked out an investigation of anticompetitive banking practices as the most promising endeavor for the period leading up to national elections. Carter Glass, next ranking member of the full Committee, accepted the less promising task of chairing a subcommittee to draft reform legislation. The 1912 three-party national election, however, allowed the Democrats to capture both houses of Congress as well as the White House. Legislation became a strong possibility, overshadowing the Money Trust. Samuel Untermyer, Counsel to the Pujo Subcommittee, tried to have the new Congress undo the division of labor between the two subcommittees, so that the Money Trust subcommittee would shape central banking legislation. Carter Glass, having become Chairman of the full Committee upon Arsene Pujo's retirement, objected and prevailed, and the Money Trust investigation ended quickly.[8] Its own legislative recommendations were restricted to a number of proposed amendments, mostly to the National Bank Act, and mostly dealing with national banks and clearing houses.

The Pujo Hearings' sensational emphasis on the role of clearing houses in anti-competitive banking behavior might not have been supportive of the reforms envisioned by someone like Carter Glass. His initial conception was of reserve banks with a banker-controlled national coordinating board. This might have placated banking interests, but

[8] The Pujo investigation ended after the Subcommittee was unsuccessful in getting the lame duck president, Taft, to instruct the Comptroller of the Currency to collect, from large national banks, loan and investment data that would allow overlapping interests from the financial sector to be traced into the commercial and industrial sectors. Ironically, the Subcommittee made its final, unsuccessful request for data on December

not those worried about a "Money Trust." In a decision that may be related, Glass, having tested on Wilson the option of providing par collection of interbank payments, made this a feature of all but one of the subsequent drafts of the Act in the House. Thus, even if reserve banks were banker-controlled, the law would not allow the incidence of exchange charges to rest visibly on customers.

The Aldrich, Glass, and Owen Proposals

The first draft attributed to Chairman Glass was completed in February 1913, near the end of the Pujo Hearings that had resumed in December 1912, and after Committee Hearings in the House and consultation with President Wilson. The proposed clearing and collection provisions differed from those of the earlier Aldrich Bill in three ways. First, reflecting Warburg's *for/or* matter, the Aldrich Bill had envisioned a National Reserve Association with a single national balance sheet, operating through regional branches. This early Glass bill, on the other hand, called for at least 15 autonomous regional banks, joined together through a national board of oversight—Woodrow Wilson's suggested government "capstone," which would regulate interregional interbank funds transfers.[9]

Second, whereas Aldrich proposed a credit transfer system, Glass specified debit transfers. The National Reserve Association of the Aldrich Bill was intended to transfer balances from the account of one bank to that of another, at the request "by mail, telegraph, or otherwise" of the *paying* bank. Glass reversed the process, directing a Reserve Bank to respond to a request (the deposit of a check or draft) by a *receiving* bank for a credit to its account. It was then up to the Reserve Bank accepting the deposit to arrange, directly or indirectly, for authorization to debit the account of the paying bank, by presenting the item for its scrutiny. This early preference for debit transfers helped encumber the American payment system with what became one of its more vexing institutional problem: Transferring debits means that the payor has little, if any, incentive to improve the speed of the collection process, and the payee has little leverage to do so.

26, 1912, the same day Carter Glass and Parker Willis traveled to Princeton for their first consultation with Woodrow Wilson about prospective banking reform legislation.

Third, while the National Reserve Association was to have had unspecified blanket regulatory authority over the credit transfer process, the Glass draft was more specific. Debit transfers were to be made "at par and without charge for exchange," and the Federal Reserve Board was to set "regulations governing the transfer of funds *at par* among Federal Reserve Banks."

In the Senate, the original Owen Bill of May 1913 was more like the earlier Aldrich bill than the Glass bill. It authorized credit transfers, with no mention of par payments. Perhaps recognizing the issue of exchange charges raised in the Pujo Hearings, however, to which Glass' response was par collection, Owen would have given the Board explicit authority to fix reserve bank charges for transfers, as well as general authority to regulate transfers between reserve banks.

A curious feature of this early Owen draft is that, unlike the Aldrich bill, it would have created eight independent regional reserve banks, but with no provision for settling gross or net transfers between reserve banks. The Board was only to "provide regulations and to establish charges for the transfer of deposits from accounts kept with one reserve bank to accounts kept with another." Owen's bill seemed designed merely to use government price setting to override the commercial interbank exchange markets.[10]

Of course, interregional transfers were easy under the Aldrich Bill because of the National Reserve Association's single nationwide balance sheet. Like shipments of specie, but far cheaper in operation, "shipments" of ownership of account balances on the books of the association would have accomplished nationwide settlement. Glass' early draft could not adopt Aldrich's centralized account holding because of the Party platform. Without a common central bank or clearing house, 15 Reserve Banks settling with each of 14 other Reserve Banks would have entailed 105 bilateral net settlement positions,

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[9] Livingston (1986), pp. 190-91 says that, after 1909, "proposals for a central bank, whatever their source, nearly always used the concept of regional reserve centers." This seems valid in characterizing the regional emphasis in location and organization, but not in the crucial sense of autonomous regional balance sheets.

[10] This conception persisted even after the Act was passed and the Reserve Banks began operation. In May 1915, the "Governors" of the twelve Banks recommended that the charge for interdistrict mail transfers of funds be fixed at each of the Banks based on cost, but, mimicking pre-1913 exchange markets, that the charge "not exceed the cost of shipping currency to the nearest subtreasury city" (Willis [1923], p. 788).

probably requiring that many specie shipments or purchases of exchange to settle each period's interregional interbank transfers. Apparently in recognition of this complexity, Glass proposed that the Board have discretion to act as a clearing house for the Reserve Banks. This would at least limit to 14 the maximum number of specie shipments or other transactions needed to complete a net settlement—a distinct cost saving, even if not quite as simple as the Aldrich proposal.[11]

Taken together, these three early legislative proposals promised more timely, less costly interbank adjustments of balances. Transfers of Reserve Bank account balances between banks would replace purchases of exchange and shipments of specie in achieving final settlement of interbank payments. Whether at par or not, interbank payments would be expected to be completed faster and more cheaply because settlement could be on the books of a nationwide set of institutions that did not necessarily have to ship specie to reflect regional imbalances in payments.

Each of the three early bills provided for nothing more than interbank transfers, except for the hint of one additional feature in a single sentence of Glass' proposal. This would have allowed the Federal Reserve Board to require a Reserve Bank "to exercise the functions of a clearing house for its shareholding banks." Accepting Cannon's then-recent definition of a clearing house as "a device to simplify and facilitate the daily exchanges of items and settlements of balances among the banks …, " a Reserve Bank could have provided a settlement service without resort to this clearing house provision (Cannon [1910], p.1). The Glass bill already contained authority for the Reserve Banks to accept checks and drafts drawn *by* any bank with an account at any Reserve Bank *on* any bank *in the district* that had an account with the Reserve Bank.

If the Board had directed a Reserve Bank to act as a clearing house for member banks in its district (not for all its depositors), convincing those members to use the clearing house might not have been so easy. Somehow, the Reserve Banks would have needed to "facilitate the daily exchange of items." In a city, this typically would involve

[11] The System Gold Settlement was the eventual solution, allowing settlement by transferring ownership of gold that was stored immobile in a warehouse.

at least providing a meeting place and clerks to calculate net debits and credits of banks attending meetings of the clearing house.[12] In an era of fledgling telephone, rail, and truck networks, a lot more would have been required to induce members across a whole district to transport items to a central clearing house instead of shipping them directly to the paying bank or to a correspondent bank.

The House, Senate, and Reconciliation Bills

Glass introduced his bill into the House in late June. The clearing and collection provisions of this version were somewhat different from those of the February version (and even from those of the early June print for the House Banking and Currency Committee). The minimum number of reserve banks was reduced to 12 (the words "reserve bank" no longer were capitalized), and the Board would be allowed to designate one as the inter-reserve bank clearing house, rather than doing the job itself.[13] More significant, however, were two other changes.

The first of these eliminated nonmember banks as potential customers for the interbank funds transfer service of the reserve banks. The February version authorized accepting deposits from any bank or trust company, but the late-June version restricted depositors to member banks. The second major change (see table 1) was the addition of a more explicit legal basis for operating a check collection business:

> It shall be the duty of every Federal reserve bank to receive on deposit at par and without charge for exchange or collection checks and drafts drawn *upon any of its depositors or* by any of its depositors upon any other depositor and checks and drafts drawn by any depositor in any other Federal reserve bank upon funds to the credit of said depositor in said reserve bank last mentioned.

[12] Before technological change made this method obsolete, the Cleveland Federal Reserve Bank's main office provided the Cleveland Clearing House with: a meeting room with a table and chair for each local bank, bins in which packages of items might be placed, and a clerk with forms and a 10-key calculator for figuring net positions and testing their consistency with settlement.

[13] Chicago and Richmond were considered (Warburg [1930], pp. 163-64).

The addition of the six italicized words (emphasis added) meant that each reserve bank now would accept from its members any check drawn by any account holder at a member bank, on that account, rather than accepting only interbank checks.[14]

Opening up each reserve bank to a much broader set of checks meant that it would have to collect a potentially large volume of items. This would involve presenting items to member banks directly or through their correspondents and local clearing houses in the district. Each reserve bank now would be an intradistrict clearing house in both meanings of the words: settlement, and simplifying and facilitating the daily exchange of items. Authorization to operate an intradistrict check collection business thus was added to the business of making interbank transfers nationwide at par—without exchange charges and (in a new provision, added to accompany authorization to enter the check collection business) without collection charges.

The bill that emerged from the House in September had clearing and collection provisions identical to those in the bill that Glass had introduced in June. By December, however, the Senate bill added one last new feature. This clearly enabled the reserve banks to operate a nationwide check collection business, not just 12 independent intradistrict collection businesses. A reserve bank now would be allowed to accept members' deposits of checks drawn on any other member in its own district, as well as on any member in another district. In addition to the nationwide system for making interbank transfers that had been envisioned by the earliest founders, the Act now authorized the reserve banks to operate a nationwide check collection system, in competition with local clearing houses, correspondent bank services, and direct presentments.[15]

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[14] This study deals with the development of Section 17 of the Federal Reserve Act. Section 13 also relates to acceptable deposits. Spahr suggests that difficulties in reconciling the two sections confused the Board, adding a layer of difficulty to their decisions about what to do with the underutilized collections franchise when it was newly introduced. See Spahr (1926), p. 164.

[15] Other differences in the clearing and collection provisions of the various drafts were of minor importance The Senate removed the phrase "at par," but the final version of the Act retained it. Both the Senate's and the final version altered the prescribed method of interdistrict transfers of exchange. The House version had required an in-district member bank to draw funds from an out-of-district bank by having the distant bank send a check or draft drawn on its reserve bank. The Senate modified the procedure so that any member bank or customer of a member bank (such as a respondent bank or corporate cash manager)

IV. WHY?

The final clearing and collection provisions of the Federal Reserve Act contained two distinct authorizations for the reserve banks, one for nationwide interbank transfers of member bank balances on deposit with a reserve bank, and the other for operating a nationwide check collection business. The question is what the founders intended to accomplish with these two authorizations.

First and foremost, they wished to take advantage of a new federal institution that could reduce the cost of exchange almost to zero both within a district and, if properly designed, between districts. Any of the three initial legislative drafts was capable of accomplishing this, simply as a byproduct of the larger intention of creating a federal institution that could manufacture and distribute base money through visible administrative decision, not the Invisible Hand.

The new vehicle for eliminating exchange charges was intended to achieve efficiencies from what today would be called network externalities in both demand and production. Carter Glass alluded to economies of this sort, as well as to the correction of anticompetitive pricing practices, when he urged the House to support the reconciliation bill on December 23, 1913. The bill would, he said, "put an end to the flagrant abuse involved in excessive charges … for collections and exchange." Although some had tried to remove the par collection provision, "those of us in the House who sought to tear down these tollgates upon the highways of commerce prevailed." Nor was this merely a reform of abuse. "It will eliminate wastefulness incident to many independent collection organizations by substituting one compact collection system. It will abolish … exchange charges altogether and appreciably reduce charges against collections" (Glass [1927], pp. 326-27).

Second, the franchise for reserve banks to operate a check collection service did not appear in the Federal Reserve legislation until the latter months of 1913. Only halfway through the year did the House bill acquire explicit provisions for a reserve bank

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could draw a check on its out-of-district account, deposit the check in its own local account, and have the check remitted to the other district reserve bank for collection.

to accept anything other than interbank checks. Only in the last week of the legislative process did the Senate version of the bill provide the basis for nationwide check collection service.

Increasing efficiency was not the reason for adding this franchise to operate "one compact collection system." The apparent waste involved in circuitous routing of checks through the correspondent collection system was long recognized and should have been eliminated when exchange charges disappeared. Free—or much cheaper—exchange should have provided the basis for something much closer to par collection of checks. The rationale for check collection fees had been that a paying bank absorbed the exchange charges involved in making funds available in the locale of the receiving bank. If the reserve banks were going to supply exchange without charge, competition among banks supplying checking accounts would eliminate the check collection fees that reflected those charges.

The basic reason for the collection franchise was some combination of waning faith in the power of market competition and waning faith in passage of the Act. Bankers' reactions to the developing legislation in 1913 must have raised doubts about both competition and legislative success. Many bankers resolutely opposed the Act, which would oblige national banks to become members of the new system, to subscribe to its stock, and to maintain reserves in the form of deposits at reserve banks. These cash reserves would be over and above both coin and currency held for operating purposes and, after a transition period, over and above any balances maintained in other banks. Requirement levels seemed likely to be comparable to those of the Comptroller, then in force for national banks. Sagacious bankers, of course, would be expected to consider the prospective advantages and disadvantages of membership in the new institution, as compared to those of avoiding membership.

Even without the check collection feature, membership would have permitted banks to credit their depositing customers at par—without any exchange charge—and to sell exchange at par, should anyone want to buy exchange instead of simply sending a check that would be collected at par. Disadvantages were several. Reserve banks would

not pay interest on deposits, whereas correspondent banks typically did pay interest on interbank balances. A reserve bank would not be a full-service bankers' bank, so balances would have to be maintained at correspondents over and above required reserves. A bank's customers would still be depositing some items drawn on nonmember banks that charged collection fees. Thousands of small banks across the nation were said to book significant portions of their revenue in the form of exchange charges and collection fees. As long as membership in the new institution and par collection were not universal, a bank that reduced its income from charges and fees might not experience a comparable reduction in expenses from charges and fees.

Universal membership seemed less and less likely as the legislative process continued. Reserve bank services that originally were designed for all banks became restricted exclusively to member banks, and only national banks might be compelled to become members. The proposal for compulsory membership of national banks met an outcry of opposition. There was always the possibility that banks would give up national charters in favor of state charters, so as to avoid compulsory membership. These possibilities were recognized, as illustrated in this defensive diatribe of Senator Owen in response to an unidentified questioner in October 1913:

> *A Voice*: Why should the national banks be compelled to go into the organization?
>
> *Mr. Owen*: They are not compelled to come into the organization. They can go out of it if they don't like it. … When the government of the United States establishes this new system, which has been found necessary to prevent panics, and gives the national banks as well as the state banks and trust companies the advantage of cooperation, under government safeguard, if a national bank happens to be unwilling to conform to the reasonable and just requirements demanded by the national welfare and the bank's own best interest, it would be a vital error on the part of the government to permit this whole system to be destroyed, by leaving it optional whether a bank avails itself of it or not. If the indifference of a bank, its lack of understanding, its apathy, its neglect or its ignorance of the law and its advantages is to be controlling, the system would not be established with any certainty. Men would stand off and say, "Let others join this; I will see how it works before I go into it." The consequence would be that the possible advantages of this system would not be realized. It is a righteous and just thing that when the government has worked out carefully the details of this plan, and after long study is well assured of its advantages, having put the microscope upon the bill with extreme care to see that it is just and sound in every particular—it is

> righteous and just, I say, to make the plan compulsory. Obviously the system itself cannot be permitted to fall by leaving it merely optional. It ought to be made a success. It deserves to be made a success. The national interest requires and therefore justifies it. (Owen [1913-14], pp. 9-11)

Check collection service was added to the bill's original exchange provisions to make membership in the Federal Reserve System, par remittance, and the potential elimination of exchange charges more palatable to banks and more probable to legislative leaders. In midyear, the House version had added intradistrict check collection service, with provision for distant paying banks to use checks drawn on their reserve accounts to remit the proceeds of their customers' checks sent directly to them. Then, at year's end, the Senate added nationwide check collection service.

Parker Willis had not mentioned these considerations in drafting the commentary of the House Banking and Currency Committee on the proposed Federal Reserve Act when it was submitted to the House in June, before nationwide check collection was added to the Act. He said only that

> [t]he object of these [clearing and collection] provisions is twofold:
>
> 1. To establish par transfers of funds among the banks in each Federal reserve district.
>
> 2. To establish par transfers of funds between Federal reserve districts (Willis [1923], p. 334).

Nothing is new here, for these two objects clearly were intended by the earlier Aldrich, Owen, and Glass bills. Willis' comments on the same matter a decade later, however, are more pertinent:

> [T]he reason for calling for par collection and for requiring each reserve bank to act as a clearing house for its members, was found in the fact that only in this way did it seem likely that the federal reserve system would ever attain its full stature or would succeed in getting a regular flow of business to and from its member banks. (Willis [1923], p. 1053)
>
> [T]he reason for the existence of the federal reserve clearing system was far deeper and more important than any consideration of exchange charges. Par clearance was necessary in order to direct the stream of checks and drafts to the reserve banks and thus to keep the reserve balances there constantly living and changing, thus preventing them from becoming mere dead sums of cash held simply because required by law. (Willis [1923], p. 1062)

This matter of living versus dead cash balances was not unique to Willis. For example, in responding to questions from Laughlin on plans for the Aldrich Bill two years earlier, James W. Forgan, president of Chicago's First National Bank spoke to the question "whether banks through the country should keep their active accounts with the branch of the [proposed] National Reserve Association in their district or keep them with their legal reserve agents [correspondent national banks] located in the same city, having their balances with the National Reserve Association more or less idle" (Laughlin [1933], p. 28). Walter Spahr came at the same point from the other side in 1926. The Act contained transitional provisions permitting member banks to hold part of their required reserves as correspondent balances with national banks. He argued that ending this permission would increase the demand for the reserve banks' collection service by raising the relative cost of a correspondent relationship (Spahr [1926], pp. 195, 197). The perspective is the same as that of Forgan and Willis. The viability of the reserve banks depended on their taking clearing and collection business away from the correspondent banks.

To summarize, the intention of the founders in specifying reserve banks' activities in the payment system largely were developed within the single year of active legislative drafting that preceded passage of the Act. Until late in June 1913, before Carter Glass introduced his bill into the House of Representatives, the clearing and collection provisions of the Owen and Glass bills were much the same as those of the Aldrich Bill a year and a half earlier. All versions would have institutionalized the market for exchange by allowing nationwide interbank transfers of funds on the books of the new institution.

Addition of intradistrict check collection provisions in late June and of interdistrict check collection in December were the real innovations, for they moved beyond the widely recognized settlement efficiencies of a bankers' bank. As long as membership in the new System was more or less voluntary, check collection business

might be used to attract members and ensure the viability of both the legislation and the System.[16]

V. LESSONS FOR TODAY

The founders added the check collection franchise to the Act to ensure success in weaving reserve banks' operations into the fabric of everyday financial market activity. They sought success in order to achieve the lofty objectives of reform: " … 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." Of course, the reserve banks did not have authority to do whatever they wished in seeking the success of their nationwide check collection system. A series of court cases set limits on some of the reserve banks' methods of inducing nonmembers either to become members or, at least, to refrain from imposing exchange and collection charges.[17] The point remains, however, that the basic reason for including check collection in reserve banks' franchise was to anchor the existence of the reserve banks with a significant operating role in the financial system.

The founders' practical insight is clear. The central bank needed institutional glue to become attached to the commercial and financial system. This was to be provided by taking over a significant share of the market for interbank and check collection services, previously provided by the correspondent banking system. To this they added other correspondent services over the years. The reserve banks' provision of financial services was not intended to secure public benefit directly by correcting market failures or externalities, but rather to avoid irrelevance. The public benefit provided by the reserve banks' check collection and other services was to be the institutional anchor they could provide for the monetary policy and lender-of-last-resort functions of the central bank.

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[16] Duprey and Nelson ([1986], p. 26) have argued that the intention of the clearing and collection features of the Federal Reserve Act was to "make the personal check a more advanced, convenient, and acceptable means of payment for intercommunity transactions," and only incidentally to ensure passage of the legislation and the viability of reserve banks. Analysis of the evolution of the Act over the course of 1913 suggests the opposite: Legislative success and institutional survival were the primary motivation, with promotion of the use of personal checks as a byproduct.

[17] A detailed review of the series of relevant court cases is given in Spahr (1926), pp. 232-290.

Nationwide par collection of checks drawn on member banks did not prove to be a sufficient inducement to membership in the initial experience of the Federal Reserve Board.[18] Additional legislation in 1916 authorized the reserve banks to collect from nonmember banks, and, in 1917, to collect *for* nonmember banks that remitted at par and maintained clearing balances with the reserve banks. Moreover,

> [i]n addition to the attempts already made by the Federal Reserve Board to enlarge the scope of the clearing and collection system, the Board consciously and persistently made arrangements and innovations that were designed to make the system more advantageous and attractive to the non member banks … [including] … the elimination of service charges and the absorption of other costs by the Federal reserve banks. (Spahr [1926], pp. 200-201)

In the long run, these measures never guaranteed robust membership in the Federal Reserve System, although nonpar banking finally disappeared. Eventually, in 1980, the Monetary Control Act extended reserve requirements to all depository financial institutions and ensured their access to reserve bank services. The reserve tax no longer acts as a disincentive to membership, but neither does exclusive access to "free" services act as an incentive. Since 1980, further reductions in the stated level of reserve requirements and repeated banking inventions for avoiding such requirements have elevated the role of services in determining the volume of deposits banks hold at the reserve banks, through operational needs for clearing balances. At the same time, the Monetary Control Act now requires the reserve banks to price services to recoup full cost plus an allowance for the profits a competitor would have to earn to survive. The demand for clearing balances rests squarely on the reserve banks' ability to be successful in providing services.

Concerns about central bank irrelevance have begun to emerge again, reflecting three somewhat different forces. As noted, demand for central bank deposits has been withering, as technology and legislation whittle down the coverage and tax rate of reserve requirements (Stevens [1993]). The imminent arrival of full-scale interstate branch banking is capable of melting some of the glue that now attaches the Federal Reserve

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[18] The Board's *Annual Report* during this period summarizes its experience. Details are in Warburg (1930), Willis (1923), and Spahr (1926).

System to the financial system. Nationwide banks will be in a better position to offer competing nationwide correspondent bank and check collection services; nationwide banking consolidation will make “on-us” items out of former interbank payments. Looking further into the future, the spread of electronic banking and of nonbank participation in the operation of new payment networks raise questions about the viability of a central bank organized on pre-World War I principles (Jordan and Stevens [1996]).

Demise of the gold standard magnified the importance of the elasticity (monetary policy) role of the Federal Reserve System, adding secular choice of an inflation rate to its original seasonal, cyclical, and panic-moderating functions. The indispensable roles of monetary policy making and last-resort lending might be sufficient to ensure the relevance of the central bank, but also might increase the value of information flowing from operational roots in the financial system. The issue now is how much institutional glue the central bank needs to assure the successful performance of its duties.

Table 1

Evolution of the Collection Provisions of the Federal Reserve Act

Aldrich Bill January 1912	Glass Bill February 1913	Owen Bill May 1913	Introduced in House June 1913	Senate-passed version December 19, 1913	Federal Reserve Act December 23, 1913
It shall be the duty of the National Reserve Association or any of its branches,	It shall be the duty of every Federal reserve bank	A reserve bank shall,	It shall be the duty of every Federal reserve bank	Every Federal reserve bank shall	Every Federal reserve bank shall
	to receive on deposit		to receive on deposit	receive on deposit	receive on deposit
	at par and without charge for exchange,		at par and without charge for exchange or collection		at par
(b) by mail, telegraph, or otherwise	checks and drafts		checks and drafts	from member banks or from Federal reserve banks checks and drafts	from member banks or from Federal reserve banks checks and drafts
			drawn upon any of its depositors or	drawn upon any of its depositors,	drawn upon any of its depositors,
(c) to the credit of any other bank having an account with the National Reserve Association	drawn by any of its stockholders or depositors upon any other stockholder or depositor or	(c) to the credit of any other depositor in any reserve bank	[drawn] by any of its depositors upon any other depositor or		
(a) upon request, to transfer any part of the deposit balance of any bank having an account with it	drawn by any stockholder or depositor in any other Federal reserve bank upon funds to the credit of said stockholder or depositor in said reserve bank last mentioned	(b) upon request, transfer any part of the deposit balance of any depositor	[drawn] by any depositor in any other Federal reserve bank upon funds to the credit of said depositor in said reserve bank last mentioned	and when remitted by a Federal reserve bank, checks and drafts drawn by 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	and when remitted by a Federal reserve bank, checks and drafts drawn by 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

Sources: Willis (1923) and Warburg (1930).

Table 2

Evolution of the Clearing House and Regulatory Provisions of the Federal Reserve Act

Aldrich Bill January 1912	Glass Bill February 1913	Owen Bill May 1913	Introduced in House June 1913	Senate-passed version December 19, 1913	Federal Reserve Act December 23, 1913
Under regulations to be prescribed by the National Reserve Association	The Federal Reserve Board shall … promulgate … regulations governing the transfer of funds at par among Federal Reserve Banks	The regulations under which such transfer shall be made and the transfer charges shall be fixed by the national Currency Board	The Federal Reserve Board shall … promulgate … regulations governing the transfer of funds at par among Federal reserve banks,	Nothing herein contained shall be construed as prohibiting a member bank from making reasonable charges for checks and drafts so debited to its account, or for collecting and remitting funds, or for exchange sold to its patrons. The Federal Reserve Board shall … promulgate … regulations governing the transfer of funds and charges therefor among Federal reserve banks and their branches,	Nothing herein contained shall be construed as prohibiting a member bank from charging its actual expense incurred in collecting and remitting funds, or for exchange sold to its patrons. The Federal Reserve Board shall, by rule, fix the charges to be collected by the member banks from its patrons whose checks are cleared through the Federal reserve bank and the charge which may be imposed for the service of clearing or collection rendered by the Federal reserve bank. The Federal Reserve Board shall … promulgate … regulations governing the transfer of funds and charges therefor among Federal reserve banks and their branches, and
	… may at its discretion exercise the functions of a Clearing House for such Federal Reserve Banks, and may also require each such bank to exercise the functions of a clearing house for its shareholding banks.		… may at its discretion exercise the functions of a clearing house for such Federal reserve banks, and may also require each such bank to exercise the functions of a clearing house for its member banks.	… 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 such bank to exercise the functions of a clearing house for its member banks	… 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 members.

Sources: Willis (1923) and Warburg (1930).

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