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Liquidating Bankers' Acceptances: International Crisis, Doctrinal Conflict and American Exceptionalism in the Federal Reserve 1913-1932*

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Abstract

This paper seeks to explain the collapse of the market for bankers' acceptances between 1931 and 1932 by tracing the doctrinal foundations of Federal Reserve policy and regulations back to the Federal Reserve Act of 1913. I argue that a determinant of the collapse of the market was Carter Glass' and Henry P. Willis' insistence on one specific interpretation of the "real bills doctrine", the idea that the financial system should be organized around commercial bills. The Glass-Willis doctrine, which stressed non-intervention and the self-liquidating nature of real bills, created doubts about the eligibility of frozen acceptances for purchase and rediscount at the Reserve Banks and caused accepting banks to curtail their supply to the market. The Glass-Willis doctrine is embedded in a broader historical narrative that links Woodrow Wilson's approach to foreign policy with the collapse of the international order in 1931.

Keywords: Federal Reserve System; Acceptances; Great Depression
JEL Classification: B27; B30; E58; F34; N12; N22

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1 Introduction

In his seminal work on the Great Depression, Charles Kindleberger (1986) argued that the economic and political crisis of the interwar period resulted from a lack of leadership. More recently, Adam Tooze (2014) has adopted a revised version of the "hegemonic failure" interpretation of the interwar period. This new interpretation stresses the racist and nationalist elements of the Wilson administration and accuses its Republican successors of a reluctance to assume leadership. In this paper, I offer a direct link between Wilsonianism and Federal Reserve (Fed) policy at the height of the Great Depression in late 1931. I show how the insistence on a Wilsonian interpretation of the real bills doctrine, i.e. the idea that the financial system should be organized around bills backed by commercial transactions, was an important cause in the collapse of the market for the dollar-denominated trade credit instrument known as bankers' acceptances.

Before the Federal Reserve Act of 1913, U.S. foreign trade was financed through the London money market. Only 17 years later, bankers' acceptances were rivaling the mighty sterling bill. New York and London were both leading financial centers. By 1930, dollar acceptances were not only financing large parts of international trade outside the U.S., but had also become the major short-term credit instrument to channel funds into Germany. When continental Europe was hit by a financial crisis in the summer of 1931 and the standstill agreement between Germany and its creditors froze all outstanding German dollar acceptances, Senator Carter Glass insisted on the self-liquidating nature of acceptances as an eligibility requirement for purchase and rediscount at the Federal Reserve Banks. This political and public pressure triggered a negative shock to the supply of acceptances and contributed to the all but complete collapse of the market.

The importance of acceptances in the context of the U.S. banking crisis of late 1931 is highlighted by the fact that in addition to the 40 percent gold cover ratio of Federal Reserve notes in circulation, Reserve Banks had to hold other eligible assets to cover the remaining 60 percent of the note issue. If eligible assets fell short of 60 percent of Federal Reserve notes in circulation, the Reserve Banks had to hold additional gold to make up for the shortfall. The extent to which the Fed could have offset the largest decline in the monetary base (M1) in the history of the U.S. via open market purchases between September 1931 and January 1932, was thus constrained by the amount of eligible assets on the Fed's balance sheet. The so called "free gold problem" might have been alleviated had the Fed had purchased more acceptances (Friedman and Schwartz, 1963, p.400-404). This paper contributes to the literature on this crucial episode of U.S. monetary history by presenting a major obstacle that prevented the Fed from acquiring larger quantities of acceptances: The insistence on the self-liquidating nature of acceptances as an eligibility requirement.

This argument, however, is not a simple restatement of the hypothesis that adherence to the real bills doctrine was responsible for the Fed's policy failures in 1931 (Meltzer, 2003). In section (2), I show that the Federal Reserve Act of 1913 allowed for two different interpretations of the real bills doctrine to coexist until 1931. One version, put forward by Glass and economist Henry Parker Willis, focused on self-regulation and

decentralization. The second version of the real bills doctrine, favored by Paul Warburg and other New York bankers, focused on central active management and promoted the development of an international market for dollar acceptances.

I recount the early historiography of the Federal Reserve Act in section (3) as a battle between Glass and Warburg over the question of authorship. As the usage of dollar acceptances increased around the world, the Warburg doctrine became visible as an inherent feature of the Federal Reserve System. Glass' prime motive to do away with the acceptance system was to be seen as the father of the Federal Reserve System and to depict the Federal Reserve System as a product of Wilsonianism.

Section (4) highlights two factors that contributed to the rapid growth of the volume of dollar acceptances between 1927 and 1930. First, a direct outcome of the Warburg doctrine was the liberalization of eligibility requirements towards acceptances that covered the sale and storage between foreign countries. Second, the growth in these foreign acceptances coincides with an increasing demand for foreign short-term credits by Germany. At the time of the German financial crisis, dollar acceptances were the largest short-term asset group by type and denomination, accounting for 14 percent of all foreign short-term credits to Germany.

Section (5) describes the effort that Glass and Willis put into exposing the risks of acceptances. Starting with a Senate investigation in January 1931, Glass and Willis alleged that German acceptances were frozen. As the international financial system started to collapse and these accusations became a reality, both sides of the political spectrum blamed the Warburg doctrine for this development. Moreover, many Reserve Banks themselves were unsure about the eligibility of these frozen acceptances for purchase and rediscount. As markets expected more rigid examinations of the underlying transactions of acceptances, this increased the cost of gathering information for accepting banks. Moreover, holding frozen German acceptances in particular were seen as a sign of bad reputation. This caused accepting banks to curtail their supply of acceptances and contributed to the collapse of the market after 1931.

I conclude in section (6) by highlighting avenues for future research.

2 The Political and Economic Visions of the Real Bill Doctrinaires

In 1913, with the signing of the Federal Reserve Act, Congress established the Fed. It was the outcome of a long struggle for banking reform accompanied by ever more frequent financial crises. The movement for reform gained momentum in 1907, when a banking crisis put the responsibility of stabilizing the entire US banking system in the hands of J.P. Morgan and a few other large New York banks. The apparent defects of the National Banking System and the agitations of the agrarian populists against the money trust on Wall Street provided a counter balance to the deep-rooted suspicion towards a central bank and concentrated power in Washington. But the fatal controversies that

accompanied every attempt for currency reform produced a Federal Reserve Act full of ambiguity, undefined terms and unclear mandates. Even the locus of decision-making power was not clear and became a source of friction between the twelve Reserve Banks and the Federal Reserve Board, until the Banking Act of 1935 shifted the locus of power to the Board. The very nature of the Federal Reserve Act gave much responsibility and powers to central bankers in the Fed's early years. Because there was no Fed in 1913, only a mandate to create one, central bankers had to exercise discretion so broad that they were effectively taking legislative action (Chandler, 1958).

Even the doctrinal foundations of the Act were not clearly formulated. Indeed, the ambiguity of the Federal Reserve Act left space for various doctrines to coexist during the Fed's formative years (Eichengreen, 2014). Written into the heart of the Federal Reserve Act was the real bills doctrine. But there were, in fact, two versions of the real bills doctrine, one focused on self-regulation and decentralization and the other emphasizing central active management of real bills (Mehrling, 2002).

The first version of the real bills doctrine, proposed by Chicago economist Laurence Laughlin, argued that the monetary liabilities of the banking system should be secured by holdings of short-term, self-liquidating commercial bills. This would ensure that as bills mature, funds flow back to the banks. The inflow of funds would be available to pay out deposits and ensure that a bank could meet its obligations. The idea was that a financial system built around a market for commercial bills would be able to adjust elastically to the changing credit needs of the economy. A self-regulating system around real bills was supposed to be an alternative to central banking and was intended to privilege commercial credit over speculative credit to Wall Street. This doctrine was worked into the bill by Laughlin's student Willis and Virginian Representative Glass. I therefore call it the Glass-Willis doctrine.

The second version of the real bills doctrine focused on the centralization and mobilization of reserves to give the Fed the capacity to curb credit fluctuation and to stabilize the crisis-prone U.S. banking system. It envisioned an active acceptance market that allowed acceptances to serve as secondary reserves, salable when credit was tight and movable to where reserves were most needed. This version of the real bills doctrine further envisioned supporting the market by giving acceptances privileged access to the discount window and helping to foster the market with the central bank acting as a market maker of last resort. The control of the discount rate would then be the primary instrument through which the central bank would intervene to influence the market rate of interest. Open market purchases would serve to provide dealer liquidity and stabilize the price of prime bills (Mehrling, 2002; Eichengreen, 2014). This doctrine was worked into the Aldrich bill, the precursor to the Federal Reserve Act, by Paul Warburg, so I call it the Warburg doctrine.[1]

The Aldrich bill of 1912 was an important milestone in the founding of the Fed.

[1]Eichengreen (2014) defines the Warburg doctrine as the view that the Fed should act as a market maker to foster the development of a market for dollar acceptances. The definition I suggest also encompasses the view that the credit system can be centrally managed by the Fed through interventions in the acceptance market.

Warburg, the intellectual force behind the bill was a German-born banker from a famous Jewish banking dynasty. In 1910, together with Senator Nelson Aldrich and other prominent bankers, among them Frank Vanderlip of National City Bank and Benjamin Strong of J.P. Morgan, Warburg met on Jekyll Island to begin drafting the Aldrich bill. The hostility towards Aldrich and his Wall Street connections forced them to meet secretly to discuss their plan for monetary reform. From 1920 onward, the secret meeting would give rise to conspiracy theories that have lasted until today. But in 1912, when the Aldrich bill was presented to the House of Representatives, the name giver's close affiliation to Wall Street and the strong support of the American Bankers Association and other lobby groups was enough to discredit the bill as a creature of Wall Street (Lowenstein, 2015). Although the Aldrich bill failed, many features were adopted, and the Federal Reserve Act turned out to be strikingly similar to the bill.

The Federal Reserve Act in its initial form was so broadly formulated as to leave ample space for interpretations that could fit both versions of the real bills doctrine. The Federal Reserve Act deals with real bills in sections 13 and 14, which explain the powers of the Reserve Banks to rediscount and engage in open market operations in acceptances. The trade credit instrument known as Banker's Acceptance (or simply "acceptance") evolved out of the classical bill of exchange, which had been used for centuries to finance trading activities of merchants all over the world. The instrument made it possible for exporters to benefit from the proceeds of a sale before receiving payment. After the signing of a contract between an exporter and importer about the delivery of goods in a fixed amount of time, the exporter could draw a bill against the importer's bank, ordering it to pay the holder of that bill a certain amount at a certain date. The bank, upon presentation of the shipping documents, will then eventually have the bill "accepted" against some commission fee. The signature transforms the bill into a tradable security, and the importer can then discount the acceptance to receive immediate payment. When the bill is due, the accepting bank, which in the meantime has received payment from the importer, will then pay whoever is holding the bill. Because acceptances were backed by goods involved in a commercial transaction, they were considered self-liquidating, since the funds to repay the credit came automatically from the payment for the goods. Those were the real bills which Warburg thought were needed to transition from the national banking system, which had its money supply fixed to the amount of government bonds, to the Federal Reserve System. But until 1912, virtually no acceptances were provided by U.S. banks. Instead, U.S. banks provided trade financing through the London money market with acceptances denominated in sterling. Both the Aldrich bill and the Federal Reserve Act permitted the creation of acceptances by member banks, with the difference that the Aldrich bill required that acceptances underly a "commercial transaction", while the Federal Reserve Act only allowed for acceptances to be drawn for "transactions involving the importation or exportation of goods" (Warburg, 1930a, p.278). In 1916, under the leadership of Warburg on the Federal Reserve Board, the Federal Reserve Act would be amended to allow the creation of acceptances arising out of domestic transactions and finance drafts.

These war amendments and later regulatory changes would become the subject of sharp critique by Glass and Willis, who followed a much stricter interpretation of the real bills doctrine.

Under the Aldrich bill, the power to engage in open market purchases of acceptances would have been centralized at the board. Warburg, who had wanted a more centralized system, tried to influence Willis through Laughlin. Although Willis and Laughlin succeeded in convincing Glass to abandon his idea of totally independent regional Reserve Banks and persuaded him of the need for a unified system, they were not aiming for centralization (Lowenstein, 2016, p.154). For Willis and Laughlin, a unified but decentralized system was the optimal solution, since it rendered any need for central active management unnecessary. This stands in stark contrast to Paul Warburg, Benjamin Strong, Frank Vanderlip and other New York bankers, who saw a need for active central management of the market for commercial bills.

Paul Warburg's goal was to actively create a deep and liquid market for dollar acceptances through active purchases. But contrary to the Aldrich bill, the Federal Reserve Act provided the newly created Reserve Banks with the power to purchase acceptances. Handing the power over open market operations to the individual Reserve Banks, however, caused the Federal Reserve Bank of New York (NYFRB) to lead the way on open market purchases of acceptances. Because Benjamin Strong, governor of the NYFRB, shared Warburg's views about the acceptance system, the NYFRB was the one Reserve bank were there was a serious influence of the Warburg doctrine, the doctrine to actively create and manage a market for acceptances (Eichengreen, 2014). For Warburg, the dislocation of power and the higher capital requirements for holding acceptances stipulated in the Federal Reserve Act were to blame for the failure to develop a discount market outside New York (Warburg, 1930a, p.280). To Warburg this was "one of the System's most serious shortcomings" (Warburg, 1930a, p.457).

To Glass, it was quite the opposite. Towards the end of the 1920s, Glass , by then Senator, started blaming the Warburg doctrine for the speculative excess on Wall Street. As he wrote to Edmund Platt, Vice-Governor of the Federal Reserve Board, on February 9, 1929:

> I gather from your letter that the system and not the federal reserve bank of New York alone is carrying the excessive amount of approximately $717 Mio of outstanding volume of acceptances. [...] The domestic acceptance system inflicted on the federal reserve system by Warburg's so-called "war amendments", and of which Warburg's acceptance bank seems to have been the chief beneficiary, has no analogy, as far as I have been able to discover, in the banking system of any civilized nation on earth. I have been intending for two years to see if we might not get rid of it; but I have been so constantly immersed in other matters as to have had little time to consider an intelligent review of federal reserve legislation. At the next regular session of Congress I hope to have better luck. (Carter Glass Papers, 1858 - 1946, [hereafter CGP] 15/3)

An admirer of the Jeffersonian ideal of strong individual states rights, Glass was determined to fight against concentrated power in New York. For Glass, the Warburg doctrine departed from what the Federal Reserve Act stipulated and led to the corruption of the System by big finance in New York. Glass, whose political aims included maintaining white supremacy, worked towards preventing the southern banking industry from joining the Republicans, as this might undermine the system of racial exclusion (Lowenstein, 2016, p.153). From 1930 onwards, Glass and Willis tried to get rid of the acceptance system. However, a domestic view is insufficient to explain the developments of 1931, which led to the collapse of the acceptance market, which will be discussed in section (5). Both the Warburg doctrine and the Glass-Willis doctrine extended to the international sphere of monetary economics.

After his retirement from the Federal Reserve Board, Warburg founded the International Acceptance Bank, the market leader in issuing acceptances in the early 1920s, and was the first chairman of the American Acceptance Council, which provided important public goods to the market by disseminating information and using moral suasion to raise demand for acceptances (Ferderer, 2003).[2] In 1924, as the German currency stabilized after hyperinflation, Warburg pointed out to Owen D. Young, member of the First Committee of Experts on Reparations and director of the NYFRB, that "it would be invaluable advantage [*sic*] for American discount market if as a result of America's entering the field now substantial portion future German gold reserve [*sic*] were invested in dollar acceptances.[3]" Warburg took the lead and organized a bankers' consortium around the International Acceptance Bank that provided a 50 Mio USD loan to found the Gold Discount Bank, a subsidiary of the Reichsbank, which was organized to furnish trade credit to German exporters. At the same time Paul Warburg, as chairman of the Federal Advisory Council (FAC) of the Federal Reserve System, was the driving force behind important regulatory decisions of the Fed. In 1924, the Federal Reserve Board issued a ruling that made German dollar acceptances payable in the U.S. eligible for open market purchases and rediscount, if endorsed by the Gold Discount Bank and a U.S. member bank.[4] In 1927 bankers' acceptances saw a further relaxation in eligibility requirements for open market operations and rediscount at the Fed. Upon the suggestion of the Federal Advisory Council, the Board decided that it would deem acceptances eligible even if the goods on which the bill was based had already arrived at their destination.[5]

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[2]While living in the U.S., Warburg still maintained close ties with brother Max Warburg who headed the family-owned bank M.M. Warburg in Hamburg, Germany. The Warburgs used their informational advantage to extend the business of trade financing in dollars to Germany and beyond (Accominotti, 2019).

[3]Warburg to O. D. Young, March 14, 1924 (Clarke, 1967, p.61).

[4]See Federal Reserve Bulletin (June, 1924). A detailed description of the Boards decision process in the matter is found in Charles Hamlin's diary entry Vol. 8, 7 Jan.-17 June 1924 (pp. 580-656) (Charles S. Hamlin Diaries, 1887-1937, hereafter CHD). From Hamlin's diary it is clear that Warburg was the main proponent of this regulation. Warburg had proposed this relaxation of regulatory requirements as early as 1915 (Warburg, 1930b, p.325).

[5]Again, Warburg took part in advocating the new regulation. Having retired from the FAC in 1925,

Taking a business viewpoint, Warburg aimed at "putting America's discount market on the map and complete [America's] position as world bankers" (Clarke, 1967, p.62). Indeed, Warburg saw the London discount market and the Bank of England as a role model and thought that the U.S. should be put "in a position to finance the trade of other nations and to play, in this respect, the part of an international banker that has heretofore been played almost exclusively by England (Warburg, 1930b, p.324)." The aim was to promote the dollar acceptance market in order to make the U.S. a major international financial center and pursue management of the international gold standard à la Bank of England. This view was profoundly shared by Benjamin Strong (Chandler, 1958, p.87 ff). Moreover, Warburg saw the need for more cooperation under the gold exchange standard and supported the founding of the Bank for International Settlements (BIS), which to Warburg's regret, the United States did not officially join (The Commercial and Financial Chronicle, 1931b, January, 10). Finally, Warburg was in favor of a reduction in reparations and war debt relief to spur the recovery of Europe after the War (Warburg, 1930b, p.799). The international monetary system that Warburg envisioned had at its center a private discount market for acceptances, which required active management by the leading central banks. In the long run, the Fed would take the lead in this system of international central banking.

But Warburg's vision ran counter to contemporary tendencies in American life, as isolationism and the extreme nationalism that usually goes with it. Much of the electorate, especially to the west and south of the capital, showed racial, religious, and nativist phobias, resentment of big business and intellectuals, hatred toward Europe and Europeans, and toward the East Coast and its culture (Hofstadter, 1955). For this indigenous Yankee-Protestant political tradition central bank management, as stipulated by the Warburg doctrine, was an infiltration of Hamiltonianism, which would lead to a European-style monarchy.[6] Nevertheless, there was, at times, ample support for progressive reforms. After all, Glass not only championed the Federal Reserve Act, but was also a strong supporter of the League of Nations and even blamed the failure of the U.S. to join the League as the cause for the international monetary instability in the early 1920s (CGP, 10/15). For Woodrow Wilson and his followers, "Progressive internationalism was an integral part of Progressive nationalism" (Eisenach, 2006, p.284). This was true in their economic analysis, as well as in the larger sense of envisioning the U.S. as the vanguard nation leading the world in advancing democracy. It was an early form of American exceptionalism, the idea that the U.S. has a unique mission. But this American exceptionalism, contrary to the one propagated in the post-World War II era, refrained from intervention and active central management. Instead, it favored decentralization and self-regulation within a set of institutional boundaries.

An institution that would manage the international monetary system was at odds with the Glass-Willis doctrine. In May 1922, Wilson asked Glass for an opinion about

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he acted as an alternate to the New York representative in the FAC's meetings of November 17 and 18, 1927 when the issue was discussed and the recommendation drafted (Federal Advisory Council, 1927).

[6]See for example the letter and accompanied newspaper clip "Our Country - A Monarchy", T.J. Anketell to Glass (CGP, 15/26).

Frank Vanderlip's proposal to create an international reserve bank, which Glass after consulting with Willis dismissed as unnecessary. Willis saw the Vanderlip proposal as a mechanism to promote the dollar as an international currency that would be managed by a syndicate of central banks led by the Federal Reserve. This ran counter to Willis' belief in the traditional real bills doctrine of self-regulation. An international reserve system, therefore, was not needed. Glass adopted this line of reasoning in his reply to Wilson, to which he added his own argument:

> ...[Economics] aside, I am afraid there are inherent obstacles of an almost insuperable nature to the formation of an international reserve banking system. The various nations which might be expected to contribute to the establishment of such a bank and become stockholding factors are so different of race, temperament and habits as to make complete cooperation exceedingly difficult. (CGP, 10/15)

For Glass, the approach to international finance was that which Wilson applied to international relations. The strategy of Wilsonians was emphatically directed towards suppressing imperialism, understood as the violent rivalry of the great powers that threatened to divide the world into segmented spheres of interest (Tooze, 2014). Government involvement in the management of private international debt markets would only further escalate imperialist tendencies. Even worse, they felt that the United States was constantly threatened by imperialist ideas from Europe. Over dinner with Glass and Willis, Charles Hamlin, member of the Federal Reserve Board, called Warburg a German Imperialist whose sole aim was centralization of the Federal Reserve System. According to him, these Hamiltonian tendencies had to be avoided.[7]

Of course, for the U.S. to be the vanguard nation in terms of social justice and democracy it needed to live up to the moral standards which it held against Europe. In that sense, the desire to keep a distance from the violent forces in Europe came also from the realization of how fragile the U.S. system still was. After all, America's own entering into modernity, in the wake of the civil war, was just as violent as elsewhere in the world (Tooze, 2014). Glass himself experienced the end of the civil war as a young boy and took a leading part in the powerful social upheaval in Virginia that rewrote the state constitution and disenfranchised voters of color. Realizing the still apparent fragility of the political system, the vision of Wilsonians was to shield themselves from the violent forces of Europe and Asia in order to preserve their own national order that had formed in the wake of the civil war. This strategy would ensure a state-building process that lives up to their Jeffersonian ideal. Imperative for this vision were new institutions that evolved out of the reformism of the era, and had their origin in the U.S., Washington

[7] In that sense the League of Nations fits with the approach of relinquishing Jeffersonian means to achieve Jeffersonian ends (Schlesinger, 2003). The League of Nations would serve as the stage where the U.S. would act as the arbiter of the world and work towards disarmament and an end to imperialism. Political self-determination of each nation would go along with economic self-regulation between nations. This vision of Glass is just the Jeffersonian ideal of strong individual states rights and the aversion towards economic centralization in New York applied to the international level.

D.C. It is the insistence on the success of Jeffersonian Republicanism that made it imperative for Glass that the Federal Reserve Act was written in Washington and not by an "imperialist" European in New York.

3 The Fed: An early Historiography

In a 1926 letter to Glass, Warburg quipped that "the mother of the Federal Reserve Act must have been a very immoral woman because there are so many men who claim to be the father of the child." But Warburg's attempt to avert an escalation about the authorship of the Federal Reserve Act was fruitless. In late 1926, Glass had already drafted his own account of the founding of the Fed, which he first published in a series of newspaper articles and then, in 1927, in a book. In "An Adventure in Constructive Finance", Glass (1927) would present himself, with Willis as his right hand, as the main force behind the Federal Reserve Act, overshadowed only by the star of the Democratic Party, President Wilson. But this effort to narrate the history of the Federal Reserve Act as a legacy of Bourbon Democrats was only the response to the latest historical account of House and Seymour (1926) who ascribed the paternity of the Act to Colonel E. M. House and saw a greater role for New York bankers in the writing of the Act. In fact, in early 1923, Glass and Willis had already "agreed upon the facts to be presented...[because] Senator [Ladd] from North Dakota again retailed the Jekyll Island bunk and reiterated the stuff about Warburg being the author of the Federal Reserve Act" (CGP, 10/23). Hence, one must start earlier, if the aim is to investigate the impact of Fed historiography on Fed history. This section narrates the Fed historiography in three acts.

The first act starts just after the 1920-21 depression with the publication of a set of articles called "The International Jew" in Henry Ford's newspaper *The Dearborn Independent*. These anti-Semitic texts claimed that the Fed was a conspiracy of Jewish bankers created to achieve global domination. Drawing on and misusing an early contribution of Edward (Seligman, 1914) and the anti-Semitic fabricated text "The Protocols of the Elders of Zion", the *Dearborn Independent* stated that "the Federal Reserve Act will be associated in history with the name of Paul M. Warburg" (Ford, 1921).[8] The impact this had on historical narratives of the Fed can be seen by a correspondence between Glass and G.W. Armstrong, a Texas business man and politician (CGP, 7/32).[9] In the correspondence Armstrong, an avowed anti-Semite, asked Glass to admit that "the real authorship of the Federal Reserve Act was in New York and not in Washington." A similar conspiratorial narrative about the founding of the Fed was reiterated by North Dakota Senator Ladd (R), referred to in the above paragraph. Championing

[8] "The Protocols of the Elders of Zion" were forged in Russia around 1903. While the document has been proven to be fake, it had a major impact throughout Europe and the U.S. in the 1920s and 1930s. Today, the text is still presented by conspiracy theorists as a genuine document (Landes and Katz, 2012).

[9] Having lost a fortune during the 1920/21 deflation, Armstrong would campaign against the Fed in Texas and eventually run for governor of the state of Texas. For details about the life and influence of Armstrong, see Hendrickson Jr (2002).

easier credit for farmers before congress Ladd rejected further legislations on the basis of the Federal Reserve Act since "there could not be a more effectual way of abandoning the interests of the farmer and setting another trap for his enslavement" (U.S. Congress, 1922, p.30). Glass and Willis realized that questions about the Fed's legitimacy would inevitably be raised in the face of severe monetary restraint. Since the Glass-Willis doctrine necessarily accepted deflation as an unavoidable cure to speculative excess, they agreed upon the fact that the Federal Reserve Act had been written in Washington. This served to shield the Fed from attacks that depicted it as a conspiracy of Jewish bankers, created secretly to benefit the interests of Wall Street. By the time of Willis's (1923) publication on the origin of the Federal Reserve Act, however, prices were rising again and the Fed gained credibility.

The second act takes place around the time of the McFadden Act of February 1927, which re-chartered the Fed, liberalized branch banking for national banks and increased competition between member and non-member banks. Fearing that the Fed would be subject to the same fate as the First and Second Banks of the United States, Congress re-chartered the Fed seven years earlier and in perpetuity. Glass was a strong supporter of the bill and claimed credit for "the really outstanding features of the McFadden-Pepper bill, [...] which include] (1) the branch banking provision [. . .] and (2) the indeterminate charters of federal reserve banks to prevent a country-wide agitation against the system by demagogues" (CGP, 13/7). Glass even clashed with Willis over the McFadden Act, whom he accused of having assisted Democratic "Senator Wheeler and two or three of his radical associates to defeat the bank bill." Although Glass acknowledged "valid objections to certain provisions of the McFadden bill", he argued that "all they want is to [...] destroy the federal reserve system" (CGP, 13/11). Glass' prime motive was to shield the Federal Reserve System from the attacks of agrarian populists and anti-semites such as Rep. McFadden (R), Rep. Heflin (D), Sen. Brookhart (R), Sen. Ladd (R) or Sen. Wheeler (D).[10] To this end he published his narrative on the founding of the Fed in a number of newspaper articles between November 1926 and February 1927 when the heated discussion about the McFadden Act was taking place in congress. His case of the Federal Reserve System as a product of Wilsonianism, written in Washington, served to invalidate arguments that the Fed was controlled by Wall Street bankers.[11]

The immediate response to Glass were strident replies by Seligman (Feb 1, 1927) and Untermyer (1927). Soon after, by June 1927, Glass and Willis learned that Warburg started working on a book as a direct response to Glass and Willis. Having already

[10]Sen. and Rep. stand for Senator and Representative. Party affiliation is indicated by (D) for Democrat or (R) for Republican.

[11]Glass' narrative was also a response to the account of House and Seymour (1926) which depicts Colonel E. House as the political chief negotiator. A close confidant to President Wilson, House sympathized with the Aldrich bill early on and met frequently with Warburg and other New York bankers during the legislative process of the Federal Reserve Act. Having read Charles Seymour's account, which describes House as the crucial mediator between New York bankers and politicians in congress, Glass started to discredit everyone but himself, Willis and Wilson for the writing of the Federal Reserve Act.

published their own accounts, Glass and Willis changed their strategy to eliminate the main features of the Federal Reserve System that could be traced back to the Warburg doctrine. The shift in strategy is also explained by the fact that, after a secret meeting between central bankers of Germany, France, Great Britain, and the U.S. in New York, the Fed reduced discount rates and embarked on a large-scale program of acceptance purchases (Meltzer, 2003, p.176-177). From September 1927 onwards, Glass and Willis would take up the task to "get rid of [...] Warburg's so-called 'war amendments' [and his] acceptance system". Attacks by Willis in the editorial of *The Journal of Commerce* on Fed policy prompted Benjamin Strong to bring the matter to Glass, who promised "to meet [Willis] and talk over certain matters" (CGP, 14/2). But Glass himself warned Strong about "an unsound development of the use of acceptance credits" and argued that "the privilege [to issue acceptances] was not properly safeguarded by law, but left wide open for the free exercise of discretion and acquisitiveness by the thousands of banks which have no facilities or resources for the transaction of such business and should never have been accorded the privilege" (CGP, 14/2). The third act of the historiography thus encompasses the publications of Warburg (1930a,b), Laughlin (1933), and Willis' and Glass' Senate investigation of the acceptance system, which culminated in an influential senate report (Glass, 1932).

Glass, Willis and Laughlin went so far as to deny Warburg any intellectual credit in the making of the Federal Reserve Act:

> Prof. Seligman becomes increasingly amusing when he assumes to think that nobody on this side the Atlantic Ocean knew or cared anything much about the principles of European banking until Mr. Warburg came to America: Not even the memorable lectures of Dunbar at Harvard, or the exposition of Conant, unsurpassed in their clarity, ... nor ... other ... virile writers in such periodicals as the AER, the QJE, the PSQ — none of this constant pounding, accentuated by recurring financial panics, excited any real interest in the US until Mr. Warburg "recalled to our minds" how things were done in Europe! (The New York Times, 1927, February 15)

The fact that Warburg had been working on his book, which turned out as a two-volume account of the origins of the Federal Reserve Act, with a detailed comparison to the Aldrich bill, continued to occupy Glass and Willis through the late 1920s, as their constant exchange of "hearsay" about Warburg's progress shows (CGP, 13/11, 14/22, 15/5, 15/9).[12] Meanwhile, Glass and Willis focused their energy on blaming Warburg's war amendments and the acceptance policy of the NYFRB for the stock-market boom and the supposedly excessive lending to German banks (Glass, 1932, 4-5). Supporters of the Glass-Willis doctrine saw active central management as the cause of both maladjustment and a major determinant in the Great Depression. They believed that, to ignite recovery in the 1930s, it was necessary to restore confidence and have

[12] See also CHD.

liquidation run its course (Laughlin, 1933, p.273-275).[13]

The antagonism of Glass, Willis and Hamlin against Warburg reached its peak with the publication of Warburg's book. After Platt's resignation from the Board in late 1930, Warburg and Eugene Meyer were considered as candidates for chairman. This was unacceptable to Hamlin, Glass and Willis. Despite acknowledging that Warburg was of practical banking experience, he was "the central figure" in the advocacy for a central bank, "a German imperialist" and "loyal only to himself" (CHD, Sept. 2, 1930).[14]

Although Warburg's (1930a) book would soon bring about another reply by Laughlin (1933), this is beyond the scope of this paper. By 1933, the volume of acceptances was in rapid decline, power over monetary policy had shifted from New York to the Board in Washington, and the Fed had failed to counteract at least part of the monetary contraction in October 1931 through increased purchases of acceptances. Importantly, these three events are connected to the historiography described above. The Senate investigation into the acceptance system, which Glass and Willis launched in January 1931, was an attempt to eliminate traits of the Warburg doctrine and strengthen the Glass-Willis doctrine as the fundamental feature of the Federal Reserve Act. Section (5) argues that the insistence on "self-liquidating commercial bills" as an eligibility requirement for the note issue contributed to all three of these events. I attribute the increase in adherence to the Glass-Willis doctrine in 1931 to the senate investigation and the direct pressure of Glass and Willis. Yet, this focus on the acceptance market itself served a specific purpose: To get rid of the Warburg doctrine and present the Fed as a product of Glass, Willis, Wilson and Laughlin.

4 The Rise of the Acceptance Market

The period from 1925 to early 1931, was marked by extraordinary growth in the volume of dollar acceptances. This period preceded the final clash of the two doctrines and the collapse of the market for acceptances between 1931 and 1932. The growth in acceptances was subsequently characterized as a period of speculative excess and blamed for the Great Depression. Moreover, this growth made the U.S. dollar the main source of international trade credit and the international currency, surpassing the pound sterling just before the international financial crisis of 1931 (Eichengreen and Flandreau, 2012). This section argues that this growth was caused by two factors. First, growth was driven by Germany's demand for U.S. short-term credits to finance her balance of payments deficit. Second, active support by the Fed and deregulations of the Fed's eligibility requirements, both caused by the Warburg doctrine, increased the supply of acceptances.

[13] The view that the Warburg doctrine is responsible for the Great Depression has been reiterated in more recent accounts of early Fed history (Rothbard, 2009, p.77).

[14] Glass was chiefly responsible for the reappointment of Hamlin to the board in 1926 (CGP, 12/14). Despite being a close ally to Glass, Hamlin was resentful of Warburg because of Warburg's claim that Hamlin was subservient to Secretary of the Treasury McAdoo during the redistricting episode in 1915 (CGP, 15/9 and CHD, Nov. 26, 1930).

Both factors went directly against the ideology of the Glass-Willis doctrine.

Figure (1) shows total dollar acceptances outstanding. The data comes from the American Acceptance Council (various issues 1919 - 1935), which also reports total acceptances disaggregated into six categories.[15] Figure (1) disaggregates total acceptances into acceptances based on storage in and shipment between foreign countries, and acceptances where at least one leg of the trade in goods is the U.S.. Acceptances based on foreign goods were virtually nonexistent prior to 1925 and showed only a modest increase in the next two years. But from 1927, the growth in the volume of foreign acceptances accelerated.[16] The total volume of acceptances shows a drastic increase in the late 1920s and the main driver of the boom in acceptances was the growth of foreign acceptances.[17] By 1930, the amount of foreign acceptances made up about a third of all acceptances outstanding.

Ferderer (2003) has argued that the stagnation of U.S. trade between 1927 and 1929, combined with an explosion of the volume of dollar acceptances suggests that American and international firms were substituting away from sterling-denominated acceptances towards dollar acceptances. The explanation according to which increased competitiveness of U.S. trade finance products caused this growth is only part of the story. Indeed, the supply of sterling acceptances had also grown in 1927 and 1928 (Truptil, 1936; Baster, 1937). On the demand side, dollar acceptances were becoming an important instrument in the reparations recycling process.[18] This was facilitated through deregulation on the U.S. side.

The growth in foreign acceptances starts in 1924, just after German monetary stabilization under the Dawes loan. Since acceptances were commercial credits, they fell under the transfer protection clause of the Dawes Plan, which made them senior to reparations in the event of a foreign debt crisis. This provided an incentive to foreign lenders, as the risk of default decreased with the transfer protection clause (Ritschl, 2002).[19] Competing with London, the U.S. was hoping that Germany would hold at

[15] These different categories are acceptances based on (1) U.S. imports, (2) U.S. exports, (3) shipment within the U.S., (4) storage in U.S. warehouses, (5) furnishing dollar exchange and (6) storage in and shipment between foreign countries.

[16] Direct observations for such foreign dollar acceptances does not exist prior to February 1925. Instead these acceptances seem to have been included in the series for acceptances based on furnishing dollar-exchange before February 1925. Dollar-exchange acceptances increased by a factor of about 5 from February 1925 to their peak in December 1929. Although significant, this is low in comparison to the 33 fold increase in foreign acceptances in the same period.

[17] Between November 1924 and November 1930, the total volume of acceptances increased by 154 percent. More than half (57 percent) of that growth was due to the increase of foreign acceptances.

[18] The process linked U.S. credits with reparations payments to France and Great Britain, which in turn owed war debts to the US.

[19] Moreover, Ritschl (2002) has argued that the Dawes Plan provided an incentives for German policy makers to undermine reparations payments and when seniority was reversed under the Young Plan, foreign lending halted. Although short-term credits based on acceptances increased until early 1931, this does not refute Ritschl's (2002) argument, since since short-term credits could have compensated for the decline in long-term lending.

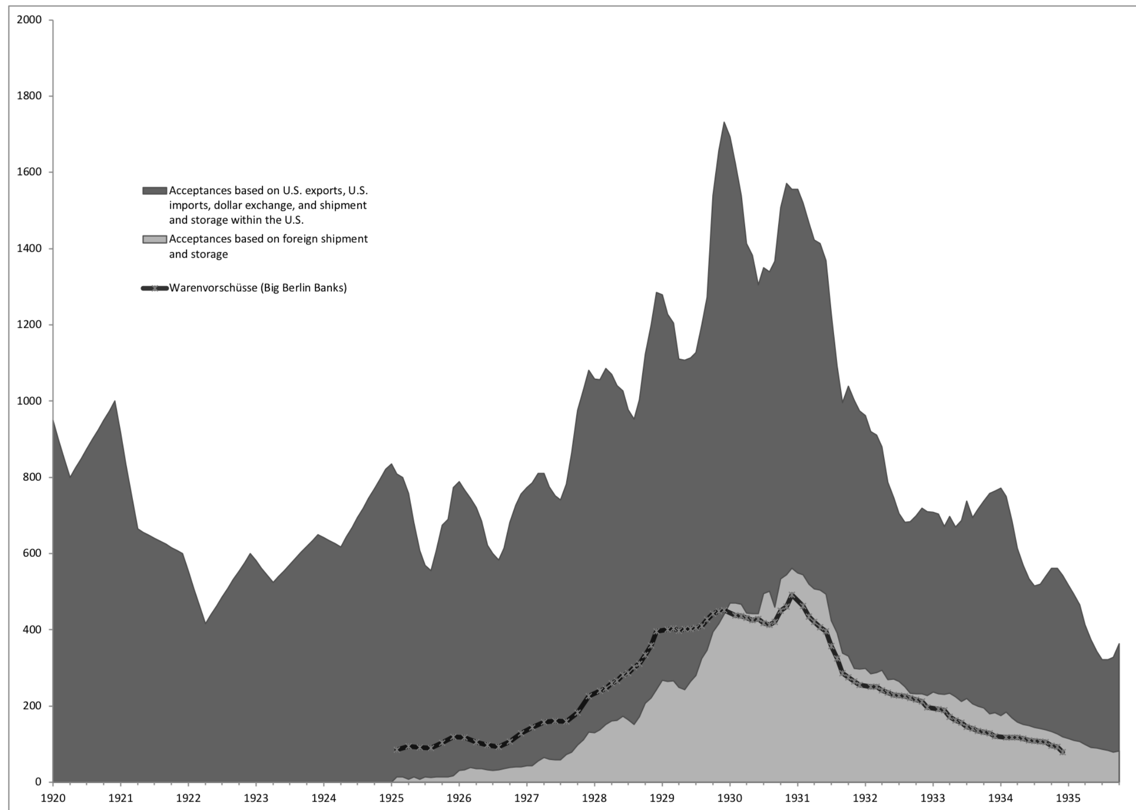

Figure 1: Dollar acceptances Outstanding (in Mio. USD); *Total Acceptances* are acceptances created to finance U.S. exports, U.S. imports, good shipped between and stored in foreign countries ("Foreign Shipment and Storage"), goods shipped within the U.S. or stored in U.S. warehouses, and dollar exchange. *Source: American Acceptance Council (various issues 1919 - 1935)*; Advances on goods (*Warenvorschüsse*) (in Mio. USD); *Source: Reichsamt (1936)*

least part of its foreign exchange reserves not in gold but in dollar acceptances.[20] With a 50 Mio USD loan a bankers consortium around the International Acceptance Bank, under the chairmanship of Paul Warburg, helped to found the Gold Discount Bank, a subsidiary of the Reichsbank, which was organized to furnish trade credit to German exporters.[21] At the same time the Federal Reserve Board issued a ruling that made German dollar acceptances, payable in the U.S., eligible for open market purchases and rediscount, if endorsed by the Gold Discount Bank and an American member bank.[22] Beginning in 1924, the Fed changed the institutional structure by relaxing the eligibility

[20]Warburg, by then chairman of the International Acceptance Bank, the market leader in issuing bankers' acceptances and chairman of the FAC, was the driving force behind this idea see (Clarke, 1967, chapter, p. 61 ff.).

[21]London also played a major role in the establishment of the Gold Discount Bank. (.ibid).

[22]See Federal Reserve Bulletin (June, 1924) .

requirements to "foreign" acceptances.[23] In 1927, bankers' acceptances saw a further relaxation in eligibility requirements. Upon the suggestion of the FAC, the Board decided that it would deem acceptances eligible even if the goods on which the bill was based had already arrived at their destination. This regulatory change was a main contributor to the growth of foreign acceptances (Federal Reserve Board, 1936).[24]

Foreign acceptances reached their peak in December 1930, with a total volume of 561 Mio USD outstanding, despite the fact that world trade had been contracting rapidly since 1929. Although world trade between June 1929 and June 1931 had fallen by 38 percent in nominal values, foreign acceptances increased by 87 percent over the same period. The majority of U.S. acceptance credits was employed in Germany. Acceptance credits extended to Germany by U.S. banks at the height of the German financial crisis in July 1931 were 396 Mio USD, which made up roughly a quarter of all dollar acceptances outstanding in July. Acceptance credits represented over half of all U.S. short-term loans to Germany at the time.[25]

In addition to the shaded areas, figure (1) includes data on advances on goods (*Warenvorschüsse*) by the big Berlin banks, depicted by the black line. Almost all of those advances were foreign acceptance credits and therefore serve as a good proxy for the total amount of acceptance credits by foreign banks extended to Germany.[26] Even though the series includes foreign acceptance credits granted in currencies other than USD, it tracks the market development of dollar acceptances extremely well. This

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[23]A detailed description of the Boards decision process in the matter is found in Charles Hamlin's diary entry Vol. 8, January 7 - June 17, 1924 (pp. 580-656). Although the board is explicitly talking about German trade acceptances (not bankers' acceptances), the distinction in this instance is not relevant. Trade acceptances carry more default risk since without an acceptor the drawee is primary liable. Therefore, extending eligibility requirements to trade acceptances should include bankers' acceptances. This alone should have given banks an incentive to act as acceptors. Hence, even if trade acceptances don't show up in the data presented in figure (1) the new regulation will have contributed indirectly to the growth of the market for bankers' acceptances through liquidity spillovers. Moreover, from Hamlin's diary it is clear that Warburg was the main proponent for this regulation. Indeed, Warburg had proposed this relaxation of regulatory requirements as early as 1915 (Warburg, 1930a).

[24]Paul Warburg advocated for the new regulation. Having retired from the FAC in 1925, he acted as an alternate to the New York representative in the FAC's meetings of November 17 and 18, 1927 when the issue was discussed and the recommendation drafted (Federal Advisory Council, 1927).

[25]The 38 percent fall in world trade is calculated from the statistics given by (Kindleberger, 1986, p.172). The acceptance figure of 396 Mio USD comes from the Federal Reserve Board (1936), which uses data from American banks. The figures by the Wiggin committee report Germany's foreign trade acceptance liabilities in the order of 1487 Mio RM (351 Mio USD) and total U.S. short-term credits as 2093 Mio RM (497 Mio USD) (Wiggin, 1931).

[26]Foreign acceptance credits that financed imports and exports appeared as *Rembourskredite* on German banks' balance sheets (Palyi and Quittner, 1933; Wiggin, 1931). From March 1928 onwards monthly data on *Warenvorschüsse* disaggregated into *Rembourskredite* and others can be found in Die Bank (1908) for a larger number of banks. The series in figure (1) tends to underestimate the total volume of foreign acceptance credits for two reasons. First, the big Berlin banks intermediated the majority but not all of those credits (e.g. 77 percent of all *Rembourskredite* in March 1928). Second, foreign banks could also lend directly to German companies. For March 1931, *Warenvorschüsse* by the big Berlin banks are equal to 70 percent of all foreign acceptance credits (Wiggin, 1931). The series is converted into USD with a constant exchange rate of 4.20 RM/$.

constitutes additional evidence that much of the growth in the volume of dollar acceptances between 1927 and 1931 was driven by an increase in short-term capital flows to Germany.

Relaxing the eligibility requirements was not the only way how the Fed contributed to increasing the supply of acceptances. There is strong evidence that the Fed actively and successfully supported the acceptance market by acting as a market maker of last resort. The reduced risk born by dealers, increased market liquidity and made dollar acceptances an attractive investment (Ferderer, 2003; Eichengreen and Flandreau, 2012).

Figure (2) illustrates the activity of the Fed by showing the distribution of all acceptances outstanding by holders. The Fed held acceptances for its own account and for the account of foreign central banks. The rest was held by the private banking system. While the share of the Fed in the market was about 50 % on average between 1925 and 1929, the Fed began to replace its own holdings with the holdings for the account of foreign central banks after 1927. Total Fed holdings, for its own account plus for foreign central banks, were trending downwards from 1930 and decreased sharply after the financial crisis of late 1931, when Fed holdings briefly spiked to 80% of total acceptances outstanding. The proportion of bills held by the Reserve Banks fell sharply after 1931. The next section analyzes the Fed's acceptance policy during the Great Depression and the reasons for the decline in the Fed's share in the market in more detail.

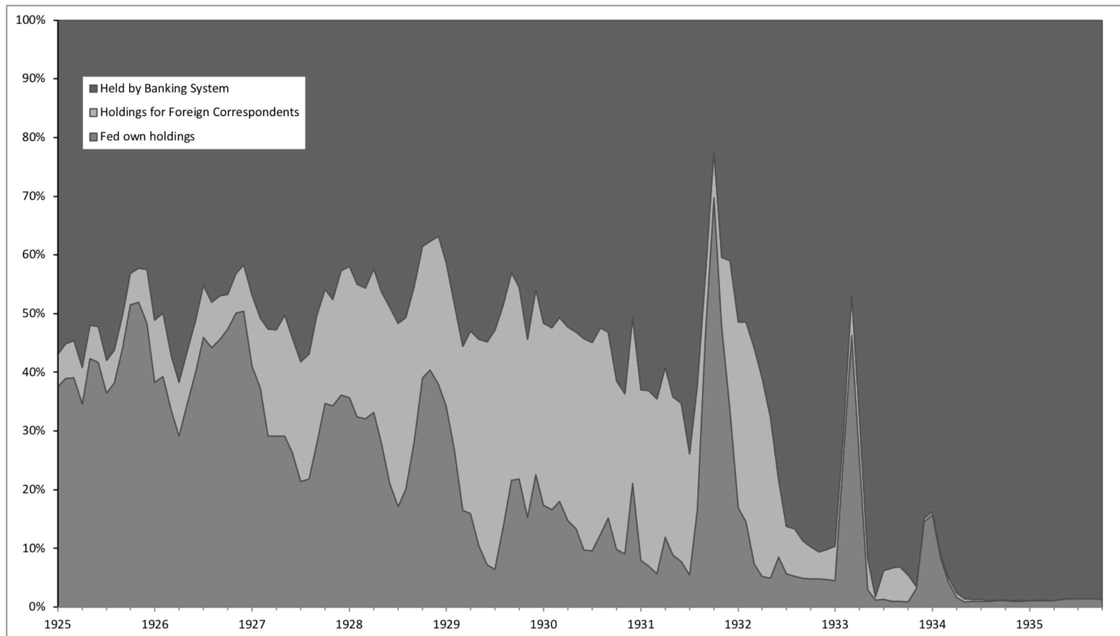


Figure 2: Distribution of Acceptances (in percent); *Source: American Acceptance Council (1931) and American Acceptance Council (various issues 1919 - 1935)*

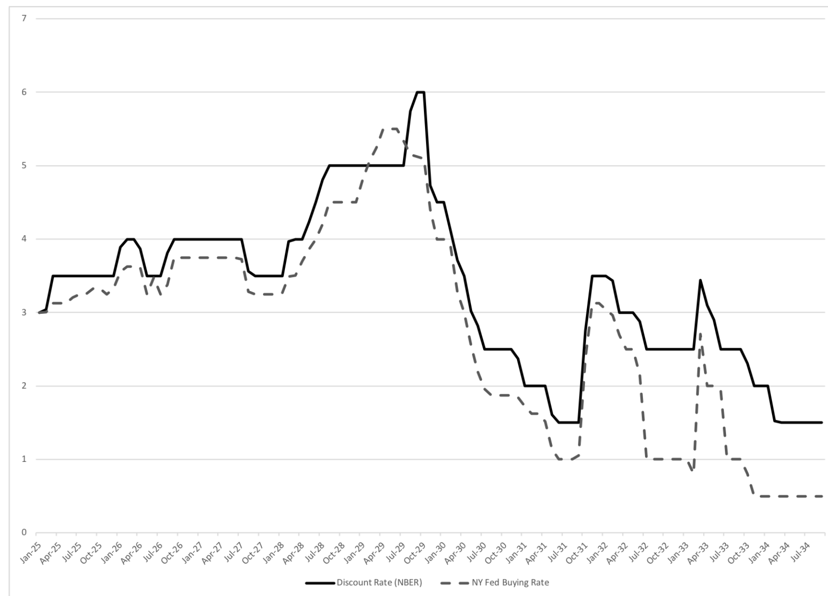
5 The Liquidation of the Acceptance Market

What caused the decline in the total volume of outstanding acceptances? Eichengreen and Flandreau (2012) have argued that the Fed withdrew its support for the market after 1931, thereby contributing to both its absolute and relative decline. Here, I argue that the Fed did not withdraw its primary mechanism of support. Instead, the German financial crisis made investors and Federal Reserve Banks realize that German acceptances were not as self-liquidating as previously thought. Political pressure by Glass and public denunciation in newspaper articles by Willis created doubts about the eligibility of frozen acceptances for purchase and rediscount at the Federal Reserve Banks. From October 1931 onwards, the discount market started to discriminate against German acceptances. German acceptances became a sign of bad reputation and were held until maturity by the accepting banks. In essence, 1931 was a trust-destroying year for the acceptance market. It destroyed the trust that member banks had in the asset that was supposed to be the cornerstone of the Federal Reserve System. In particular, investors expected more rigid examination by Reserve Banks and dealers on the self-liquidating nature of bills. This significantly reduced the probability that Reserve Banks would serve as reliable purchasers or rediscount facilities of acceptances. Mistrust can be classified as an expected reversal of the regulatory policies, which had liberalized the acceptance market prior to the Great Depression, and thus represents a negative real shock to the market, like a tax on the banking system that raises the cost of gathering information.[27]

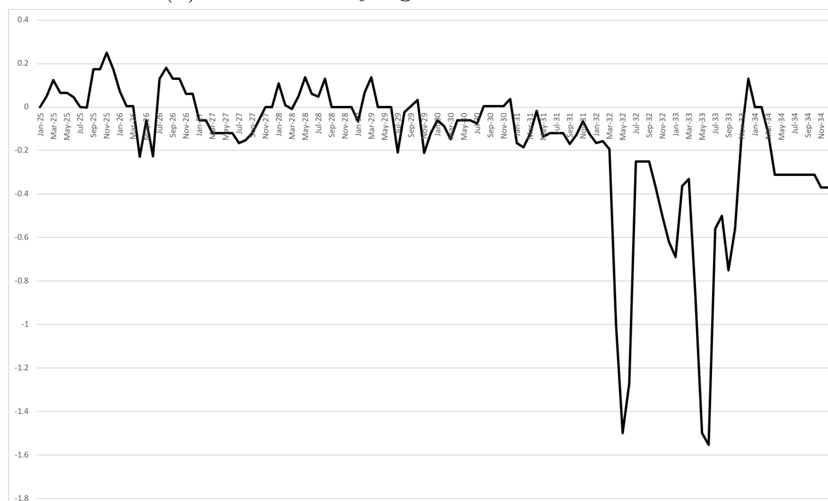
The primary channel of support that the acceptance market received was the Fed setting its buying rate below its rediscount rate. This provided an incentive for banks to sell acceptances to the secondary market rather than refund themselves at the discount window. In essence, the NYFRB served as the market maker of last resort and promoted the private supply of liquidity by limiting the risk borne by dealers (Ferderer, 2003). If the Fed had withdrawn its support for the market after 1931, we would observe it in the spread between the buying rate and rediscount rate.

Figure (3a) shows the NYFRB's buying rate and rediscount rate between 1925 and 1936. The rediscount rate is above the buying rate for most of the period, except for the brief period between February and July 1929. Importantly, the rediscount rate is well above the buying rate throughout the depression years. The spread between these rates even increased to 150 basis points in early 1932, suggesting that the Fed increased its support for the acceptance market. This contrasts with the decline in the holdings of acceptances in the portfolio of Federal Reserve Banks as depicted in figure (2). Eichengreen and Flandreau (2012) have argued that the Fed's holdings of acceptances indicates the extent to which the Fed supported the market. But Fed holdings of acceptances is not a good indicator of Reserve bank support. As NYFRB's deputy director Case explained to governor Young of the Board:

[27] Toma (2013) has recently argued that such a trust-destroying event had already occurred in early 1929 during the direct pressure episode. Toma's (2013) argument goes much further than the present study, as it claims that the direct pressure episode reduced the probability that Reserve Banks would, more generally, serve as reliable lenders of last resort. This is compatible with the present study.



(a) NYFRB Buying and Rediscount Rate



(b) Spread between Market and Buying Rate

Figure 3: (a) shows the NYFRB's rediscount rate and the NYFRB's buying rate of acceptances; (b) shows the spread between the market rate and the NYFRB's buying rate of acceptances. *Source: Federal Reserve Board (1943)*

> Operations in bankers acceptances are, of course, governed by a technique quite different from operations in government securities. Whereas the volume of purchases or sales of government securities may be determined directly, the volume of holdings of bankers acceptances on the other hand is subject largely to a rate control which must be adjusted promptly from time to time to changing market conditions, and therefore does not subject itself to determination in advance by an open market policy conference. (OMPC Minutes, 1930-1933, Case to Young, May 15, 1930)

The volume of acceptances for the Fed's own account and for the account of foreign banks was determined by how much dealers were willing to sell to the NYFRB at its prevailing buying rate. Only when the market rate for acceptances rose above the NYFRB's buying rate did the Fed start to accumulate bills. Thus, Fed holdings were determined by the spread between the market rate and the NYFRB's buying rate as shown in figure (3b). This spread is the second indicator that Eichengreen and Flandreau (2012) suggest as a measure for Reserve bank support. And indeed, the negative spread after 1931 suggests that Reserve bank support had ended. In particular, the sharp spikes after March 1932 show that market rates fell much faster than the Fed reduced its buying rate. It is, however, not clear that the Fed intentionally withdrew support from the acceptance market by not reducing buying rates fast enough, for three reasons. First, facing heavy gold withdrawals from foreign central banks, the Fed was hesitant to lower interest rates any faster. When the Fed did start reducing interest rates in January 1932, the reduction in the buying rate preceded the reduction in discount rates with the explicit intention to increase the Fed's acceptance holdings (OMPC Minutes, 1930-1933, Jan 1932). Second, as we will see, the secondary market was hit by a shock in 1931, which caused large volumes of acceptances to be withheld from the secondary market so that even a sharper reduction in the buying rate would not necessarily have translated into larger Fed holdings of acceptances. Finally, the market rate for acceptances fell sharply once the Fed embarked on a program of large-scale open market purchases, after the Glass-Steagall Act had liberalized eligibility requirements for the note issue. I will elaborate on the first two reasons in more detail.

The British suspension of the gold standard led to large withdrawals of gold from the U.S.. The attack on the dollar caused the liquidation of large volumes of acceptances held at the Fed for the account of foreign central banks. As figure (2) shows, holdings for foreign central banks gradually substituted for the Fed's own holdings during the late 1920s. When the crisis hit in autumn 1931, the Fed defended the external drain with a 2 percentage point hike in its rediscount rate. The buying rate was also increased but the positive spread between the two rates was maintained. At the end of October 1931 the Fed was holding, for its own account, almost $725 million (or 70% of all acceptances outstanding in the system). Foreign withdrawals slowed down in late October, in particular because the higher interest rates encouraged the Bank of France to resume its purchase of dollar acceptances. In January, however, the article "Inflation is the order of the day" by Willis appeared in the French newspaper *Agence economique et financiere*

Table 1: Acceptances held by institutions ($ Mio)

	Dec- 1928		Dec- 1930	
	Amount	(in %)	Amount	(in %)
N.Y. Private banks and Dealers	249	21%	489	31%
NYFRB	250	21%	270	17%
Private Banks and Dealers outside N.Y.	130	11%	311	20%
11 Federal Reserve Banks	562	47%	497	32%
Total	1191	100%	1567	100%

Notes: Data on acceptance holdings of private banks comes from American Acceptance Council (1931) and Federal Reserve Board (1930) and is calculated as accepting banks own acceptances held in portfolio, acceptances of other banks held in portfolio of accepting banks and purchased acceptances held by member banks on call dates. Data on dealer inventories comes from NYFRB (1929-1933, Box 13111). Reserve bank holdings of acceptances is calculated from The Commercial and Financial Chronicle (1928 & 1931c) and deducting the amount of bills payable in foreign currency from the NYFRB's bill holdings. Data on bills payable in foreign currency is from Federal Reserve Board (1930).

and predicted, correctly, that the Fed would lower its acceptance buying rate. This caused the central banks of France, Belgium and Switzerland to resume gold purchases (Chandler, 1971, p.171). Thus, a faster reduction in the buying rate would not only have endangered the already low gold reserves of the Fed, but it would almost certainly have caused a faster liquidation of the acceptances held for the account of foreign central banks. Could the Fed have taken on a larger volume of acceptances for its own account, had it reduced the bill buying rate faster? Could a faster rate reduction have, perhaps, even induced new issues of acceptances? Given the large negative supply shock to the market, this paper suggests a negative answer to these questions.

We can use available data on acceptances to observe the negative supply shock to the secondary market, because of the way the market was structured. On the one hand, 74 percent of all acceptances were created by New York banks. On the other hand, New York dealers were holding 92 percent of all bills held in inventory by dealers in 1930 (Ferderer, 2003). Although the market was regionally concentrated in New York, acceptances were not held exclusively by New York banks. Once created by the accepting bank and sold to the secondary market, these acceptances were sold on to private investors throughout the country. Likewise, those acceptances purchased by the NYFRB were allotted to other Reserve Banks. From 1931 onwards, however, supply from New York to the other Reserve districts was curtailed.

Table (1) provides estimates of the distribution of acceptances across private and public institutions for New York and the other reserve districts at year end for 1928 and 1930. Holdings of private banks are calculated as the sum of acceptances held in the portfolios of accepting banks and acceptances purchased by member banks, the data for which comes from the American Acceptance Council (1931) and the Federal Reserve

Board (1930).[28] To this I add the inventory of private dealers, which can be found in the archives of the NYFRB (New York Federal Reserve Bank, 1929-1933, [hereafter NYFRB] Box 13111). Holdings of the individual Reserve Banks can be found in the weekly statements of the Commercial and Financial Chronicle(1928 & 1931c).[29] At both points, over 50 percent of all acceptances outstanding were held by institutions outside New York. Lacking data on New York's accepting banks' holdings of acceptances after December 1930, I cannot provide estimates for later periods. There is however strong evidence that the share of acceptances held outside New York declined in 1931 and 1932, as can be seen in figures (4a) and (4b).

Figure (4a) shows the distribution of acceptances held by member banks in and outside New York City. In March 1931, just before the international financial crisis, member banks outside New York City held 46% of all acceptances in the portfolio of member banks. By December 1932 this had decreased to 14.8%. Figure (4b) divides all acceptances held privately into two categories; held by accepting banks and held by others. The share of acceptances in the portfolios of accepting banks, of which the vast majority was situated in New York, increased from 51.7% in March 1931 to 90% in December 1932. What emerges is a picture of a steady reduction of the supply of acceptances from accepting banks in New York to the rest of the U.S. banking system between 1931 and 1932.

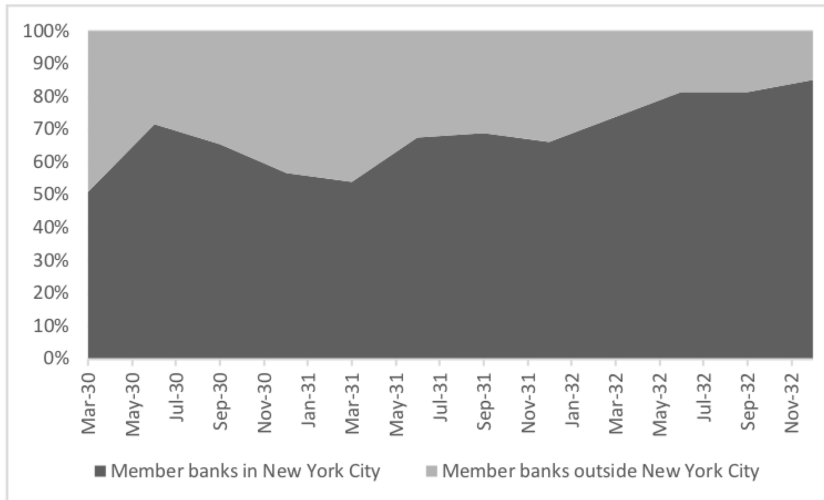
The cause of the curtailed supply of acceptances to the secondary market was the international financial crisis of 1931, which froze a large volume of acceptances. Together with the renewed assertion of the Glass-Willis doctrine this created doubts about the eligibility of acceptances. In 1931, the Glass-Willis doctrine was reinforced by Fed officials outside New York, the financial press and Glass, the most influential member in the Senate Banking and Currency Comittee.[30] Adherents to the Glass-Willis doctrine insisted on the self-liquidating nature of bills as an eligibility requirement for purchase and rediscount at the Reserve Banks. Public denunciation of frozen German acceptances caused accepting banks not to sell them on to the secondary market out of fear of reputation losses. As NYFRB's Deputy Governor Edwin R. Kenzel wrote to Governor George L. Harrison in June, 1932 about the $250 Mio American acceptances still outstanding for the German account:

> That figure includes a considerable volume of bills which acceptors hold in portfolio because they regard them as ineligible or of doubtful eligibility, and includes also, of course, the considerable volume of bills which are held by acceptors as a matter of policy because they do not wish their name in the

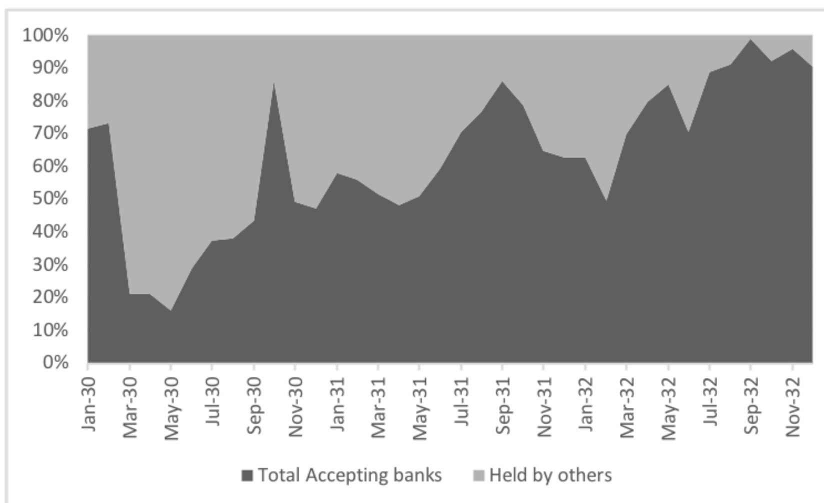
[28] This estimate neglects the amount of acceptances held at nonmember banks which were not accepting banks. It also double counts the amount of acceptances of other banks held in the portfolio of accepting banks, if these other banks were also member banks.

[29] Reserve bank holdings are calculated as total bill holdings minus holdings of bills payable in foreign currency plus acceptances held for the account of foreign central banks.

[30] Even though Senator Norbeck was the chairman of the Senate Banking and Currency Committee, historical accounts agree that Glass was the dominating force on the committee (Patrick, 1993, p.58).



(a) Geographical Distribution of Acceptance holdings by Member banks



(b) Distribution of Acceptance holdings between Accepting banks and Others

Figure 4: Distribution of acceptances held by different institutions. *Source*: Federal Reserve Board (1932, No.90 and No. 91)

market on any German paper. (NYFRB, Kenzel to Harrison, June 6, 1932; Box 0122219)

Confidence in acceptances as an eligible asset experienced several shocks during 1931. In January, Glass chaired a subcommittee of the senate committee on banking and currency "to make a complete survey of the national and Federal Reserve banking systems" and Willis served as its technical advisor. Testimony before the subcommittee was given by top Fed officials and bankers. In addition, the Reserve Banks were asked to answer questionnaires concerning Fed policy and practices. Both, the testimonies and the questionnaires, focused extensively on the acceptance market. Glass and Willis claimed that acceptance credits based on goods stored in warehouses abroad were being rolled over and were therefore not self-liquidating (Senate, 1931, p.212). Willis argued that acceptances were used to substitute for the decline in long-term German lending and was interrogating Harrison about the purchases of German acceptances (Senate, 1931, p.235 and p.101). The same allegations had been made by Willis in the weeks prior to the Senate investigations in various newspapers and periodicals.[31] As a result of these articles, George R. James, member of the Federal Reserve Board, called on the NYFRB for a thorough investigation of the issue (NYFRB, James to Case, February 6, 1931; Box 0122219).

The allegations of Glass and Willis against German acceptances turned out to be true. On July 4, 1931, after large gold withdrawals and the failure of its second largest commercial bank, Germany effectively abandoned the gold standard by introducing capital controls.[32] In addition, the top New York banks agreed to maintain their existing short-term credit lines in a "Gentlemen's Agreement" (The New York Times, 1931d, Aug, 1). Acceptances were therefore frozen. Whereas the frozen acceptances caused an almost immediate transmission to the London money market, panic did not spread to New York, possibly because of the more diversified portfolios and higher capital ratios of New York's accepting banks (Accominotti, 2012, 2019). In any case, a substantial amount of acceptances were held by institutions in the rest of the country, as shown above. The German crisis could therefore have affected banks outside of New York, if the freezing of acceptances made them ineligible for purchase and rediscount at the Reserve Banks.[33]

[31] In particular, the *Journal of Commerce* where Willis was the editor-in-chief until his resignation on May 13, 1931, frequently featured Willis' views on the acceptance market. Kenzel, who was the expert for the acceptance market at the NYFRB, summarized Willis' views stated in these articles as follows: As opposed to the continuation of the War amendments to the Act; As opposed to the broadened acceptance powers of member banks; As regarding acceptance credit as frequently, if not generally abused, and bankers' acceptances as representing to a large extent credits against frozen goods; As believing the discount market has been and is dependent almost entirely upon Federal Reserve Banks; As opposed to international bankers, i.e. American acceptance corporations doing international business (NYFRB, Kenzel to Harrison, January 16, 1931; Box 616523).

[32] The exact nature of the German crisis is disputed. All accounts on the crisis have stressed the importance of foreign withdrawals. However, Ferguson and Temin (2003) argue for a first-generation type currency crisis and blame politics, whereas Schnabel (2004) also stresses bank behavior.

[33] It has been documented that banks outside of New York held between \$300–\$400 million in German

On July 31, 1931 Germany owed a total of $2840 Mio short-term credits to foreign creditors, of which approximately $746 Mio. were owed to American banks. Of these American short-term credits, $396 Mio were held in the form of acceptances (Federal Reserve Board, 1936). Negotiations about an official standstill agreement began in London (July 20–23) and quickly moved to Basle. An agreement was proposed by the Wiggin-Layton committee on August 19. The committee was chaired by Albert Wiggin, chairman of Chase National Bank, who was considered to be speaking for all American banks. At the same time, the private banking systems of each country organized their own committees and standstill schemes. The committee of U.S. banks that was chaired by F. Abbot Goodhue had evolved out of the "Gentlemen's agreement", in place since mid-July, and consisted of 11 New York banks (Wegerhoff, 1982, p.98-102). The standstill agreement that the committee of New York banks under the chairmanship of Goodhue, chairman of the International Acceptance Bank, announced on September 17, increased the maturity of all short-term claims on German entities until February 29, 1932.

Goodhue immediately sent notice to 486 clearing house associations throughout the country and advised them to instruct their members that such an agreement existed and that, if they held any German loans, they should communicate at once with the committee, or with their Federal Reserve bank, so as to become parties to the agreement (The New York Times, 1931a, September, 16). The first standstill agreement was signed by 80 banks, 46 of which were in New York (Federal Reserve Board, 1936). Smaller institutions refused to comply after the first conference at the Fed on July 22 (Wegerhoff, 1982, p.102). The issue was whether these bills would be eligible for purchase and rediscount at the Reserve Banks. Only 39 percent of the German standstill acceptances were considered definitely self-liquidating on October 31, 1931 (Federal Reserve Board, 1936).[34] When announcing the standstill agreement, Goodhue was therefore forced to touch upon the issue of eligibility:

> It would be a mistake to look upon this transaction as a freezing transaction in as much as the underlying transactions which will be financed will be running business based upon import and export transactions which will be self-liquidating and form the basis for eligible bills which can be purchased by or rediscounted with the Federal Reserve Banks. (The Commercial and Financial Chronicle, 1931a, September 19)

On September 11, however, Kenzel observed possible discrimination in the discount market against bankers' acceptances which had their origin in German trade (NYFRB, Kenzel to Clerk, September 11, 1931; Box 171546). On September 30, Kenzel had to calm

debt, almost as much as the New York banks (Boyce, 2009, p.312).

[34]The numbers in table 9 in the supplementary report are based on reports of 100 American banks. 39% of acceptances were regarded as self-liquidating because they had definitive proof of shipment or other documents. A further 31% was regarded as probably self-liquidating and 30% were regarded as definitely not self-liquidating.

the Reserve bank of Cleveland who questioned the eligibility of the German acceptances allotted to them by the System (NYFRB, Kenzel to Zurlinden, September 30, 1931; Box 171546). Tensions increased as more acceptances were offloaded to the Reserve Banks in late October and early November. The Reserve bank of Kansas for example, for some time and until Kenzel convinced them otherwise, refused to rediscount acceptances from the Fidelity National Bank and Trust Co. which were backed by German imports from Rotterdam (NYFRB, Worthington to Kenzel, November 2, 1931; Box 0122219).[35] Between October 15 and 19, five Reserve Banks discontinued their participation in the purchase of bankers' acceptances, officially due to their reserve position. This line of reasoning is not convincing, since acceptances served as secondary reserves for the note issue and the purchase of eligible bills would have increased the systems amount of free gold (Friedman and Schwartz, 1963, p.400-404).[36]

On July 16 and again on October 7, Glass pressured Federal Reserve Board member Hamlin, claiming that the Federal Reserve Act did not grant the System the right to purchase German acceptances since these were not "genuine commercial bills".[37] At the same time, it became ever more apparent that there was a shortage of eligible assets for purchase and rediscount at the Fed. To increase lending to the economy, President Hoover suggested the establishment of the private National Credit Corporation (NCC), which began its operations on November 11. As the NCC quickly proved ineffective, the U.S. administration on December 7 introduced a bill before Congress for the establishment of the Reconstruction and Finance Corporation. Moreover, by January 1932, bankers and top Fed officials lobbied for legislative action that would increase the lending powers of the Fed. Yet, it was clear that no banking bill could be enacted without Glass' consent (Chandler, 1971, p.188). To the contrary, Glass was working hard towards introducing his own banking bill to the Senate, which he did on January 21.[38] Only on October 8, Glass had announced that he would not agree to any legislation that liberalized the rediscount rules of the Fed towards frozen assets (The New York Times, 1931b, October, 9). To prevent any broadening of eligibility towards frozen acceptances, Glass used his political capital to win over Sen. Frederic C. Walcott (R) on his subcommittee and Rep. Louis McFadden (R) leader of the House Committee on Banking

[35]Which policy should be adopted was also questioned by the Reserve bank of San Francisco, which inquired about the NYFRB's policy with respect to German acceptances (NYFRB, Clerk to Kenzel, November 2, 1931; Box 0122219). The St. Louis Reserve bank had inquired about the eligibility of German trade bills already in 1929 (NYFRB, Gilmore to Gidney, October 29, 1929; Box 0122219).

[36]The free gold problem comes from the requirement that Federal Reserve notes must be backed by a minimum of 40 percent in gold and the rest was backed by eligible paper, which until the passage of the Glass-Steagall Act in 1932 did not include government securities. A decline in eligible paper means that Reserve Banks would have to substitute them for gold.

[37]See the letter from Glass to Hamlin on July 16 (Charles S. Hamlin Papers, 1894-1939, [hereafter CHP] 364/8) and Hamlin's diary entry on October 7, 1931 (CHD). See also the letters between Platt and Glass that were forwarded to Hamlin (CHP, 365/1]).

[38]A first version of the Glass bill, as it was known throughout its legislative process, was already introduced on June 17, 1930. In total there were at least six distinct Glass bills that led to the passage of the Glass-Steagall Act of 1932 and to the Banking Act of 1933 (Preston, 1933).

and Currency (CGP, 17/2).

When President Hoover announced that he favored changes in the Federal Reserve Act to broaden eligibility requirements to enable smaller banks to liquidate their sound but now frozen assets, Glass immediately released the answers to the questionnaires, which his sub-committee had sent to all Reserve Banks at the beginning of the year. The answers seemed to imply that Reserve Banks opposed any change in existing regulations on eligibility requirements (The New York Times, 1931e, December 1). Moreover, the release made it clear that the sub-committee considered the liberalization of the acceptance market in the 1920s as having gone too far and beyond the intentions of the original Federal Reserve Act (The Commercial and Financial Chronicle, 1931d, December 26). A hateful speech by Rep. McFadden in the House, where he accused Warburg of "having engineered the great depression [and] stuffed this country full of worthless German acceptances", did the rest (The New York Times, 1931c, December 16).

What markets expected was not a widening of eligibility requirements, but the stricter enforcement of existing rules, at least in the (secondary) market for acceptances. As the New York times observed on December 1, 1931:

> The general examination of foreign bills occasioned last summer by the anxiety over German acceptances forced most bankers here to the conclusion that a more rigid examination of the underlying transaction should be enforced in the future by foreign acceptance dealers (The New York Times, 1931e, December, 1).

Prior to 1931, the underlying transaction of a banker's acceptance was not factored into the risk evaluation in the secondary market. Final investors deemed a bill safe as long as they regarded the names of the endorser and acceptor on the bill as creditworthy. Screening of the underlying transaction was thus passed on from the investor to the accepting bank, who in turn passed it on to the endorser who in many cases was in another country. The Senate investigation and the publicity around them revealed a real risk for the final investor of an acceptance. If the accepting bank went bankrupt, investors would have to collect the proceeds from the next institution down the line. This risk, however, was negligible as long as the Reserve Banks stood ready to take acceptances onto their own balance sheets in times of need (Senate, 1931, p.557).[39] Throughout 1931, however, the perceived probability that the Reserve Banks would discount and purchase all acceptances, as long as the credit of the accepting bank was of prime quality, declined drastically. Instead, as shown above, there were instances when Reserve Banks rejected or at least delayed the rediscounting of frozen acceptances. This caused the secondary market to discriminate against German acceptances. Without a well-functioning secondary market accepting banks stopped creating new acceptances.

[39] Such was the case with the Bank of the United States, which failed in late 1930. According to Robert Bean, Chairman of the American Acceptance Council, investors did not lose a single dollar on the acceptances guaranteed by the Bank of the United States (Senate, 1931, p.457). In another testimony one banker stated that there was no problem with the marketability of bills accepted by the Bank of the United States even after its failure (Senate, 1931, p.556).

As James P. Warburg, freshly elected President of the International Acceptance Bank, told his Uncle Max, who headed the family owned bank M.M. Warburg in Hamburg, Germany:

> I absolutely disagree about new business, even if it is, as you say, absolutely first class and self-liquidating (James P. Warburg Personal Papers, 1912-1969, J. P. Warburg to M. Warburg, December 30, 1931; 4/1).

6 Conclusion

This paper has argued that the insistence on the Glass-Willis doctrine, a legacy of Wilsonianism, was an important factor in the collapse of the market for bankers' acceptances. Insistence on this version of the real doctrine by Glass, Willis and their followers imposed a real constraint on the Federal Reserve System - what kind and therefore what amount of bills where eligible for purchase and rediscount at the Fed. This is an important finding, but one that needs to be weighed against the other potential causes of the collapse of the market: The collapse of international trade and the overproportionate price decline in agricultural commodities.

I have presented evidence that a substantial amount of acceptances was held by institutions in Reserve districts other than New York at the end of 1930. Future research would do well in collecting information on the amount of frozen continental European acceptances held by banks outside New York. Although Ritschl and Sarferaz (2014) have provided empirical evidence on financial factors in the transmission of the international financial crisis from Europe to the United States in 1931, this banking channel has largely been rejected in favor of the monetary "golden fetters" transmission channel (Richardson and Van Horn, 2009, 2018). However, this literature has so far only considered the effect on the New York money market, neglecting the fact that New York's accepting banks organized revolving syndicate credit lines, which extended all the way to institutions such as the Fidelity Trust Bank in Kansas, the Guardian Trust Company in Cleveland or to Continental Illinois in Chicago. This latter institution in particular, apart from holding and accepting German trade bills, was also the largest holder of German state debt among U.S. banks.[40] Moreover, the majority of short-term claims came due between August and September (Wiggin, 1931). The crisis might have started only when U.S. banks started to test the self-liquidating nature of their acceptance holdings by not renewing their credit lines.

[40] On the Fidelity Trust Bank see section (5); To avoid taxes and restriction by the German government, the acceptance credit line in which the Guardian Trust Company took part was in favor of N.V. Centrale Handelsvereenigung Rotterdam, which drew bills on Vereinigte Stahlwerke (NYFRB, Burgess to Keepers & McLaughlin, October 11, 1933; Box 0122219); Continental Illinois was part of the syndicate loan organized by the IAB on which the Gold Discount Bank drew in July 1931 (The Commercial and Financial Chronicle, 1924, April, 24); For data on holdings of German municipal and state debt by individual U.S. banks see Bundesarchiv (1878-1945, R43 I / 316).

Finally, one puzzling fact about short-term capital flight from Germany in the first half of 1931 is that U.S. institutions were able to reduce their short-term claims on Germany at a much faster rate than their British counterparts. U.S. short-term claims were reduced by 37 percent between end of March and mid July, against an 8 percent reduction for Britain. Moreover, acceptance liabilities for British banks actually increased over the period (Wiggin, 1931, Annex V). Furthermore, there is evidence that U.S. short-term credit lines were extended to Germany via subsidiaries in Holland to avoid taxes and restrictions by the German government. An assessment of the causes and transmission channels of the international financial crisis of 1931 would need to take into account these facts.

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