

# London merchant banks, the central European panic and the Sterling Crisis of 1931

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## Abstract

The central European panic of the spring 1931 is often presented as a cause of the sterling crisis of September. But what was the precise transmission channel? This paper proposes to explore how financial troubles on the continent affected Britain's financial system and currency. The freezing of central European assets was at the origin of a liquidity shock for London merchant banks because of their activity as acceptors/guarantors of commercial bills on account of German merchants. New balance sheet data are used to quantify the shock on various institutions. I then explore 1) how the various financial institutions reacted to the shock and 2) how the liquidity crisis transformed into a sterling crisis. The paper provides evidence that international contagion was crucial in transmitting the global financial crisis of 1931.

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# 1 Introduction

Among the numerous speculative attacks that punctuated the decade of the Great Depression, the sterling crisis of September 1931 occupies a central place. The pound's collapse was an important milestone in the progress of interwar financial instability because it hit the heart of the international monetary system. Sterling was at that time a major international currency<sup>1</sup> and its devaluation had far-reaching consequences. The crisis in Britain was followed by speculative attacks in other European countries and eventually led to the collapse of the gold exchange standard. In the United States, the Federal Reserve reacted to spreading exchange troubles by tightening its monetary policy, a move that contributed to banking instability and a deepening of the depression.

The sterling attack also remains of particular interest to economists because it took place in the midst of a more widespread, international financial crisis. The spring and summer of 1931 were marked by a wave of banking panics and exchange difficulties in central Europe. Austria was the first victim, soon followed by Hungary and Germany. Contemporary observers of the year 1931 were depicting a global crash that was spreading contagiously from country to country.<sup>2</sup> The episode therefore appears as a case study for international crisis transmission.

Explanations for the sterling crisis have alternatively emphasized the pound's overvaluation (Moggridge, 1972),<sup>3</sup> fiscal imbalances (Williamson, 1984, 1992) or the dramatic unemployment rate (Eichengreen and Jeanne, 2000).<sup>4</sup> Although they all certainly contributed, these factors cannot really account for the timing of the speculative attack. Whether overvalued or not, the pound's parity was maintained for more than six years after Britain returned to gold in 1925. The budget deficit had been deteriorating,<sup>5</sup> and the unemployment rate rising since as early as 1929. This is two years before the pound's final

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<sup>1</sup>Eichengreen and Flandreau (2008).

<sup>2</sup>Such a view appears clearly in Gates W. Mc Garrah's account of the year 1931: "The tidal wave of uncertainty and fear which endangered several national currencies and some banking systems, originated in Austria, swept quickly on to Hungary and Germany, and, after devastating these areas, flowed onward to Great Britain and the Scandinavian countries, sweeping down their currencies, and then, backlashing into the United States, carried with its unusual demands upon the American gold supply and credit system. No such widespread effects, which soon extended to Japan also, could have occurred except for the already existing essential unity of international finance and monetary relationships, which ignores political and geographical frontiers.", Bank for International Settlement, 1932, *Second Annual Report*, p. 10.

<sup>3</sup>In a famous pamphlet, Keynes (1925) already criticized Britain's stabilization, arguing that the parity retained would necessitate painful adjustments in terms of deflation and unemployment. However, Matthews (1985) and James (2001) have challenged the view that the pound was much overvalued.

<sup>4</sup>Eichengreen and Jeanne (2000) argue that a second-generation model of balance-of-payment crisis does well in explaining the sterling attack.

<sup>5</sup>According to The League of Nations, the budget registered a surplus of 7.9 million pounds for 1928/1929, and deficits of 25 million and 34.5 million for the years 1929/1930 and 1930/1931 (*Statistical Year-Book of the League of Nations*, 1930/1931 and 1931/1932)

collapse.

Given the sequence of events, financial contagion seems to be a better suspect for understanding the dynamics of the crisis. However, the literature is still divided on this question. On the one hand, many authors have presented the banking debacle in central Europe as the ultimate cause of the sterling crisis (Einzig, 1932, Morton, 1943, Williams, 1963, Sayers, 1976, James, 2001). On this account, the German panic would have directly affected British banks and impaired the pound's position. Yet little quantitative evidence has been advanced so far for supporting this claim and the transmission mechanism remains unclear. The extent of London banks' financial losses in Germany are mostly undocumented, while the link between the banks' troubles and the currency problems has never been formally specified. On the other hand, there also exists a view that the international financial system was relatively immune to contagion during the interwar years.<sup>6</sup> In an illustration of this argument, Billings and Capie (2008) have recently cast doubt on the hypothesis that London's City was impacted by global factors during the Depression.<sup>7</sup> Relying on archival material documenting the British joint-stock banks' balance sheets and investments in Germany, and on little published information on the merchant banks, the authors propose to assess the impact of the German crisis on the British banking system. Billings and Capie focus on banking stability over the medium run and conclude that this stability was not altered during the Depression. The authors therefore oppose Harold James' thesis that the crisis in central Europe had left London banks under fire. According to them, "no 'real financial crisis' " hit Britain in 1931. They conclude that "the routes for contagion were limited, and that the system was not at risk".<sup>8</sup>

In this paper, I adopt an opposite viewpoint and argue that financial contagion was a direct cause of the sterling crisis of 1931. Relying on new data on London banks' balance sheets collected in various archival records, I report evidence that financial troubles in central Europe translated into a liquidity crisis in the British banking system. The approach in this paper differs from previous works on several aspects. First, I primarily focus on the London merchant banks, which, as opposed to the clearing banks, were the most affected by the central European events.<sup>9</sup> Second, based on information on the institu-

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<sup>6</sup>This tradition goes back to Friedman and Schwartz (1963), who have argued that the banking panics in the United States were the result of the failures of domestic monetary policy rather than international transmission.

<sup>7</sup>The paper is not to be quoted without the authors' permission.

<sup>8</sup>Billings and Capie (2008, p.10).

<sup>9</sup>Billings and Capie recognize that the merchant banks were more seriously hit but they minimize the impact of their troubles on the overall banking stability because these were smaller institutions that could benefit from loans from the joint-stock banks. James (2001, p. 71) already noted the concentration of the banking troubles among the merchant banks: "The position in this regard of the large joint-stock clearing banks was much safer than that of the private bankers, Schroeders, Lazards or Kleinworts, who had committed themselves heavily to central Europe."

tional organization of international banking relations, I specify the precise transmission channel through which the central European panic endangered the liquidity of London banks. Last, I keep track of various indicators of the liquidity crisis in banks' balance sheets and in daily interbank interest rate data, identify the actions of the Bank of England to deal with the problem and relate this information to the collapse of the pound.

London's illiquidity, I argue, was the by-product of the merchant banks' activity as guarantors of short-term commercial debt on account of German merchants through a specific financial instrument: the bankers' acceptance. During the credit boom of the late 1920s, the weakly capitalized merchant banks had guaranteed bills for foreign merchants on an extensive basis because this activity did not necessitate them to immobilize resources, and therefore allowed them to earn substantial income. At the end of the 1920s, the amounts of the bills they had insured largely exceeded the value of their capital. This was not a problem in normal times because defaults on the side of merchants remained limited. However, just as the burst of the housing bubble affected the liquidity of monoline insurers during the recent crisis, an economic shock provoking substantial defaults among foreign merchants could at any time endanger the position of London banks. In the summer of 1931, exchange controls in central Europe and the Standstill agreements, by imposing a freezing on all assets, resulted in the effective default of all borrowers from this region. Since merchants could not honor their sterling debts anymore, the liability for these debts fell upon their guarantors in London. The result was a liquidity shock on largely exposed financial institutions.<sup>10</sup>

In this paper, I first document the extent of the shock on London banks. I then describe the banks' reactions to the shock. The crisis was followed by a drastic shrinkage of balance sheets. Fears that some institutions might fail resulted in a run on these banks. London acceptance houses were forced to liquidate their assets in order to meet their liabilities. They also severely restrained commercial credit over subsequent years. In the high-frequency, short-term interest rates surged in the interbank market, as banks started holding cash in anticipation of their liquidity needs. But the Bank of England immediately put a halt to this situation. In July, the Bank engaged in open market operations so as to stabilize the interbank rates. For this purpose, it had to print additional money and the limit of the fiduciary issue

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<sup>10</sup>Schnabel and Shin (2004) have emphasized the role of acceptances in transmitting the financial crisis of 1763 from Amsterdam to Hamburg and Berlin. Note however that the channel they are considering is the reverse from those at play in 1931. In this episode indeed, it is the Amsterdam acceptance houses that failed in the first place, making all subsequent discounters of the acceptances, and ultimately, borrowing Berlin merchants, liable to the bills' holders. A more relevant analogy is with the recent financial crisis, where troubles have been extensively propagated to institutions having sold credit default swaps on Collateralized Debt (or Mortgage) Obligations.

was removed. Evidence from exchange rates quotations and from the gold reserve shows that the Bank's move was crucial in provoking the collapse of the pound. Therefore, as in recent models of twin crises, a conflict of goals at the central bank level was responsible for the transmission of the banking problems into a speculative attack.<sup>11</sup> British monetary authorities clearly chose between financial stability and the gold standard.

The remainder of the paper is structured as follows. Section 2 presents the mechanism through which the German crisis transformed into a liquidity crisis in London. Section 3 presents data on London banks' balance sheets and exposure to central Europe. Section 4 describes the extent of the liquidity shock endured by London banks. Section 5 analyzes subsequent movements in the banks' balance sheets. In section 6, I describe movements in the interbank market in the weeks preceding and following the German crisis. I also look at the Bank of England's interventions on this market and relate its actions to the position of the currency. Section 7 concludes.

## 2 The transmission channel

There are many possible channels through which a financial crisis can transmit from one country to another but the most obvious one is through direct exposure of the banking sector. When considering the effect of the central European crisis on the London financial system, previous scholars have mainly emphasized two elements. First, London banks held large amounts of claims on the crisis region, particularly on Germany. These assets were immobilized in July 1931 as a consequence of exchange controls and the Standstill agreements.<sup>12</sup> Second, the financial houses also had huge foreign liquid liabilities which would have made them particularly vulnerable in the event of a shock.<sup>13</sup> The combination of frozen portfolios on the one hand and liquid foreign deposits on the other would have led the City to its illiquidity in the wake of the 1931 financial crisis.

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<sup>11</sup>See Chang and Velasco (2000).

<sup>12</sup>Williams (1963, p. 524) writes that "British short-term assets in Germany amounted to L. 70 m. and these were now effectively immobilized.", adding that this triggered "the possibility of a breakdown of British banking." James (2001, p. 71) writes that "Foreign exposure was the Achilles' heel of the London City" and that some institutions "had committed themselves heavily to central Europe". See also Einzig (1932), Truhtil (1936), Morton (1943), Balogh (1947) and Forbes (1987).

<sup>13</sup>Williams (1963, p. 520): foreigners held relatively large amounts of easily realizable British securities.", James (2001, p. 69): "Britain and the United States were vulnerable because of their position in the international capital markets as major short-term debtors. Britain was the first to be hit by the panic."

This explanation would require some clarifications though. First, it is not clear why foreign liabilities should have made the banks more vulnerable to a shock on their portfolio. If London financial houses were in troubles, all depositors should have withdrawn their balances from them, independently of their origin. Second, it is not obvious either why the German Standstill should at all have led to a run on the banks. The Standstill agreements stipulated that loans to German debtors would still pay interest and that they would be reimbursed after some delay; they were just turned from short-term to long-term (Harris, 1935, pp. 25-26). No loss was incurred as a consequence of the crisis. London banks could keep reporting their loans at nominal value on their balance sheets and continue operating. In the absence of fears for their long-run solvency, depositors had no reason to precipitate a run. A possible explanation is that they were in fact running out of the currency. In that case however, the causality would have run from the exchange troubles to the banking troubles, and not the other way around. I report evidence below that concerns over the currency cannot account for the pattern of deposits withdrawals from London banks during the year 1931.

What I suggest instead is that the nature of London banks' exposure to central Europe was different from mere portfolio exposure. In order to see this, one needs to enter into the details of these houses' activity. In fact, portfolio holdings of central European debts only accounted for one sixth of the London merchant and clearing banks' exposure to this region in 1931. But the banks were exposed through a specific credit instrument: the bankers' acceptance.<sup>14</sup> Bankers' acceptances had been extensively used by merchants since centuries for financing their trade activities (Chapman, 1984, Schnabel and Shin, 2004). In the 1920s, they were still the main channel of trade finance. The principle, illustrated in figure 1, was very simple. Suppose a merchant from country A had sold goods to an importer from country B, and was to be paid after some delay. For example, payment might have occurred at the goods' delivery. Now, suppose country A's merchant wanted to benefit from the proceeds of her sale before receiving payment. A possibility for her was to draw a bill on country B's importer (using the shipped goods as collateral), and then, discount the bill on the London market. However, potential lenders in London were not willing to lend to a merchant on which they had no information. They required a guarantee. A London bank could assume this function of guarantor by "accepting" the bill, that is, by putting its signature on it, in

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<sup>14</sup>At the end of July 1931, German claims of London banks amounted to 64.7 million pounds, of which 53.5 million were acceptances (Archives, Bank of England, OV34/132, but see also Forbes (1987) as well as Richard Sayers' own estimates kept in Archives, Bank of England, ADM33/21). In the latter file, Sayers also estimated the total value of London's Austrian Standstill claims at 1 million pounds in August 1931. I was not able to find an estimate of the total amount of Hungarian Standstill claims before September 1933, at which date the remaining amount held was of 4.8 million pounds, of which 3.8 million were acceptances (Archives, Bank of England, OV33/84 and Sayers' estimates in the files ADM33/21.)

exchange for a fee (figure 1. I.).

Country A's merchant agreed to pay the fee in order to have her bill discountable on the market. Once arrived at maturity, the bill's holder could ask for payment at the accepting house, which in turn, received payment from the importer (figure 1.II.). Acceptances were similar to the modern Credit Default Swaps in that they only represented a contingent liability for the banks. Indeed, an accepted bill represented a bank's liability to the bill's holder, but this liability was always exactly matched by a corresponding claim on an importer. The banks reported the amount of the bills they had accepted on both sides of their balance sheets (figure 2). Liabilities and claims were maturing at the same date and were secured by a commercial transaction: they were "self-liquidating" (Greengrass, 1930, Vigreux, 1932). Therefore, the acceptance business did not require to immobilize funds, and banks could accept bills to a large extent, relative to their capital.

This specific nature of the acceptance activity made it particularly attractive to the London merchant banks. These houses indeed, unlike the large joint-stock clearing banks, were characterized by their low level of capital and deposits. In the nineteenth century, merchant bankers had an almost monopoly on the activity. In the postwar years however, they had to face two adverse trends: first, the competition with the New York market (Baster, 1937), and second the competition with the clearing banks, which were increasingly occupying this field (Roberts, 1991, p. 171). Yet, while the New York market was developing,<sup>15</sup> London seems to have resisted quite well. In the evidence he gave to the Macmillan Committee, Mr. Frederik Hyde (of the Midland Bank) described the City as "a magnet for money" and he declared that "New York ha[d] a long way to go before she [caught] up to London."<sup>16</sup> Similarly, the director of Lazards (and further director of the Bank of England) Sir Robert Kindersley, considered New York as not "so conveniently situated", and he declared: "its discount market is nothing approaching ours."<sup>17</sup> Acceptance houses were also able to face the competition with the clearing banks because the kind of services they provided was slightly different. Clearing banks usually relied on foreign banks as intermediaries in their acceptance activity: they provided credit lines on which these banks' customers could draw. The customers' debts, in these cases, were guaranteed by the intermediaries.<sup>18</sup> In contrast,

<sup>15</sup>On the development of the New York acceptance market, see Ferderer (2003).

<sup>16</sup>Macmillan Committee, 1931, *Minutes of Evidence*, vol. 1., p. 62, par. 961-964. According to Hyde, "London is the bank for the Continent and the East; New York is tending to become the bank for America and the West."

<sup>17</sup>Macmillan Committee, 1931, *Minutes of Evidence*, vol. 1., p. 72, par. 1167.

<sup>18</sup>According to Mr. Frederik Hyde for example, Midland was more "a bankers' bank" (Macmillan Committee, *Minutes of Evidence*, vol. 1., p.62, par. 955-956). Sir Robert Kindersley also stated that "the joint stock banks confine themselves very largely as far as foreign business is concerned to reimbursement for foreign banks." (Macmillan Committee, 1931, *Minutes of Evidence*, vol. 1., p.72, par.1161)

merchant bankers, because of the large connections they had maintained abroad since they settled in London in the nineteenth century, were able to deal directly with foreign merchants. Moreover, in the reconstruction years, the demand for commercial credit from central European countries, particularly Germany, was huge. The acceptance business therefore remained a substantial source of revenues for merchant banks.

But as recalled by the recent financial crisis, insuring credit also carries risks, and London banks had to manage them carefully. In case of an importer's default at the bill's maturity (a failure to proceed to operation 6a on figure 1), the accepting house, in its quality of guarantor, remained liable to the bill's holder. Usually, acceptance houses affected a part of their commission revenues to the coverage of the losses. The central European banking and exchange crises however, were a major shock to the general scheme because they resulted in the default of a much larger fraction of borrowers than acceptance houses were usually prepared to face. Exchange controls and the Standstill Agreements had rescheduled the reimbursement of merchants' debts and the houses that had guaranteed these debts had to assume them in the meantime. An immediate consequence was therefore to turn all London banks' contingent liabilities with respect to central European credit into real ones (Truptil, 1936). The banks had to find cash in order to meet these liabilities and bridge the gap until they would be in turn reimbursed. Institutions having accepted central European bills to a large extent relative to their capital could have found themselves suddenly illiquid, even in the absence of any deposits withdrawals.

### **3 Data and sources**

#### **3.1 Clearing banks**

In order to assess the degree to which London banks were affected by this problem, I rely on new data documenting their balance sheets and acceptances claims/liabilities in central Europe. Two types of financial institutions were accepting bills on the London market: the ten (as of 1936, eleven) publicly traded London clearing banks, and the private banks, known as acceptance houses or merchant banks. Balance sheet data for the clearing banks are relatively easily obtainable. As of 1921, further to the

publication of the Cunliffe Committee's recommendations, these banks started disclosing statements showing monthly averages of weekly balance sheets' items (Balogh, 1947, pp. 28-29).<sup>19</sup> These published balance sheets did not show the geographical repartition of their investments though but information on the amounts of outstanding German bills accepted by the clearing banks can be found in the archival records of the Committee of London Clearing Bankers as of December 1931 at an aggregate level.

### 3.2 Merchant banks

As opposed to the joint-stock banks, private banks were not required to publish their balance sheet. However, material on their position can still be found in various archival records. First, the Bank of England's Discount Office was collecting detailed information on most of the merchant banks on an annual basis. All institutions willing to "maintain the status of their acceptance as Prime Bank Paper" were required to report periodically at the Bank (Balogh, 1947, p. 309). These statements have been kept in the Bank of England's archives. They consist of reports made to the Bank by an external auditor (Deloitte, Plender, Griffith & Co), and disclosing end-of-year balance sheets for a large number of private houses. As of December 1931, the banks also indicated in the reports the amount of their acceptances blocked in Germany, Austria and Hungary. Unfortunately, access to these documents is submitted to the Bank of England's rules as to the disclosure of customers' information. Unless the Bank has a special agreement with these houses, they are not accessible for a period of 100 years. Banks for which the reports are accessible are Guinness Mahon & Co,<sup>20</sup> S. Japhet & Co. Ltd, Lazard Brothers & Co. Ltd., London Merchant Bank Ltd., A. Ruffer & Sons. Ltd. and M. Samuel & Co. Ltd.

Missing data can however be obtained by crossing different other sources. First, although they were not required to do so, six accepting houses were publishing their balance sheets at the end of the year (Baring Bros. & Co. Ltd., Hambros Bank Ltd.<sup>21</sup>, Erlangers Ltd., S. Japhet & Co. Ltd, Grace Brothers & Co. Ltd.<sup>22</sup> and London Merchant Bank Ltd.).<sup>23</sup> Second, several institutions have their own archival records, in which balance sheets can sometimes be found (Kleinwort, Sons & Co., Hambros Bank Ltd.<sup>24</sup>,

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<sup>19</sup>These statements were published in the weekly *The Economist*.

<sup>20</sup>Data are for years ended April.

<sup>21</sup>Data are for years ended March.

<sup>22</sup>Data are for years ended June.

<sup>23</sup>These data were reproduced in Truptil (1936), from 1927 to 1934.

<sup>24</sup>Data are for years ended March.

Morgan Grenfell & Co. Ltd.). Last, for the bank J. Henry Schroder & Co, I relied on the information published by Richard Roberts (1991).

In contrast to the Discount Office's reports, these alternative sources do not disclose the amounts of the banks' investments in central Europe. However, this information can again be found elsewhere. Roberts (1991) and Diaper (1986) indicate the amounts of Standstill acceptances of respectively Schrodgers and Kleinworts. A note recovered at the Bank of England and dated 30 September 1931 also provides an estimate of the central European acceptances of thirteen merchant banks.

In his 1936 book, Truutil (1936, pp. 137-156) gives a list of 22 significant accepting houses on the London market. The sources described above allowed me to obtain balance sheet information for a number of 12 out of these 22 houses. The sample includes 8 out of the 10 largest acceptors, according to Truutil and also covers 78% of the total amount of London banks' acceptances for the year 1928.<sup>25</sup>

## 4 The liquidity shock

### 4.1 The commercial credit boom of the 1920s and London banks' exposure to acceptances

A first feature that the balance sheet data allow to document is the general exposure of London banks resulting from their activity as guarantors of credit. The late 1920s saw a boom in commercial credit (Truutil, 1936, Balogh, 1947, Diaper, 1986, Roberts, 1991) and acceptances were at that time the main instrument used for trade finance. Figure 3 illustrates the credit boom by displaying the total amounts of outstanding acceptances on the balance sheets of the different banks at the end of each year from 1914 to 1940. The volume of trade credit granted by the City peaked in the year 1928 after having surged during the 1920s. The drop observed thereafter seems to have been the unavoidable consequence of the decline in commodity prices that characterized the early years of the Great Depression.<sup>26</sup> In December 1930 though, the total amount of trade credits guaranteed by London banks still exceeded those observed

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<sup>25</sup>In 1928, the total amount of acceptances outstanding was estimated at 232 million pounds, of which 149 million were from the accepting houses (Archives, BoE, C47/301).

<sup>26</sup>Macmillan Committee, 1931, *Minutes of Evidence*, Sir Robert M. Kindersley, vol. 1 p. 76 par. 1262 and Mr. R. H. Foa, vol. 1, p. 111, par. 1797.

by the mid-1920s.

Given the characteristics of the instrument described above, one should expect the credit boom to have been associated with considerable risk-taking behavior by the banks. Indeed, it was in the very nature of acceptances that they could be granted without need for additional resources. Accepting houses did not have to worry about raising more capital or debt (and about the costs associated with it) for financing their booming activity. As for their general exposure, the only rule they were submitted to was their own, self-imposed prudential rule. Yet several elements shall lead us to mitigate this statement. First, there is evidence that the Bank of England was carefully monitoring the merchant banks. Most of the data on which this paper relies actually owe their existence to the Bank's monitoring activity. The Bank was discriminating between the financial houses when choosing the paper eligible for rediscount or for direct purchases. For instance, bills carrying the signature of London Merchant Bank, Ltd., though eligible for rediscount, were not accepted for direct purchases by the Bank as part of its open market operations.<sup>27</sup> The reason invoked for this situation was that the house did not have sufficient capital.<sup>28</sup> Moreover, there also existed a market mechanism through which the banks were incited to prudence: their bills would hardly find their way on the discount market if bill brokers came to doubt their solvency. Merchant bankers understood the necessity to manage risks. According to Sir Robert Kindersley, a director of Lazards, acceptance houses willing to preserve the quality of their signature had to show they had "considerable means at [their] back" in order to face potential defaults.<sup>29</sup> An unwritten rule, according to Kindersley, was that a house's acceptances should never exceed three or four times the value of its capital and reserves.<sup>30</sup>

Figure 4 tests whether London banks complied to Kindersley's rule. The figure reports, for each house in the sample, the ratio of accepted bills to capital and reserves. The date chosen is the end of the year 1928, which coincided with the peak of the credit boom. The rule was clearly not universally respected. Five banks in the sample had acceptances exceeding four times their capital, and for three others, the ratio was located between 3:1 and 4:1.

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<sup>27</sup>Archives, Bank of England, C48/93, Note dated 16 December 1931.

<sup>28</sup>Archives, Bank of England, C48/93, Note dated 2 February 1932.

<sup>29</sup>"if you are going to do an issue business as well as an acceptance business then the world must know that you have considerable means at your back, and as you increase your business you must have the capital." (Macmillan Committee, 1931, *Minutes of evidence*, vol. 1, p. 72, par.1163.)

<sup>30</sup>Macmillan Committee, 1931, *Minutes of evidence*, vol. 1, p. 73, par.1204. Also quoted by Burk (1989, p. 71) and Morton (1943, p. 34).

## 4.2 Acceptance houses' illiquidity

In this context, a major shock such as the central European crisis could potentially impair the liquidity of merchant banks. Figure 5 quantifies the liquidity shock endured as a consequence of this event. The graph shows the ratio of the banks' Standstill acceptances to the 1930 figure of their capital and reserves. Bills drawn on central European merchants (or banks) accounted for a large share of the commercial credit supplied through the London discount market. At the end of 1931, six out of the ten merchant banks for which information is available had more than half of their acceptances blocked in either Germany, Austria or Hungary. The extent of the troubles varied greatly across banks. For example, the clearing banks were almost unaffected, and some acceptance houses also had very low exposures (Barings, Morgan Grenfell, Ruffers). For some other institutions however, like Japhets, Schrodgers, and London Merchant Bank, the problems endured were extremely serious. Six out of the ten merchant banks in figure 5 had blocked acceptances larger than their capital's worth. This led *The Economist* to evoke "a situation of difficulty unprecedented, except in the case of war."<sup>31</sup>

The great heterogeneity across London banks can be well explained through both the nature of their business and the geographical area of their activities. For instance, the core of the clearing banks' activity consisted in making direct loans to domestic industry and households, and they only marginally engaged in the acceptance business.<sup>32</sup> This is reflected in the ratio of their acceptances to capital, which remained at the low level of 0.62 at the end of 1928 (figure 4). Other houses, like Morgan Grenfell, were more engaged in bonds issuance than in acceptances (Burk, 1989). Barings were largely exposed to acceptances at the peak of the credit boom but the firm had considerably increased its capital between 1928 and 1931. Among the acceptance houses, the geographical distribution of operations also greatly differed. Ruffers had particular connections with France (through their partner in Lyons) and Spain (Truptil, 1936). Morgans had strong relationships with the United States, where the firm's partners were located (Burk, 1989) and also tried to diversify their operations (Truptil, 1936). Hambros were primarily known for their connections with Scandinavian countries (Truptil, 1936). For these houses, the share of central European

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<sup>31</sup> *The Economist*, 18 July 1931.

<sup>32</sup> Sir Robert Kindersley stated that: "the acceptance business insofar as the joint-stock banks are concerned is a side line, if I may use the expression. The acceptance houses, on the other hand, are there primarily to do that business; they concentrate on it and it is their first business." (Macmillan Committee, 1931, *Minutes of Evidence*, vol. 1, p. 72, par. 1162).

acceptances remained low.<sup>33</sup> In contrast, Kleinworts were traditionally engaged in German business since the second half of the nineteenth century and their activity in this country expanded considerably in the 1920s, due in particular to connections with the German textile industry (Diaper, 1986). In the post-war years Schrodgers had made substantial efforts to reactivate their German operations as well. Relying on their close connections with the firm Schroder Gebruder in Hamburg, the house responded to the high demand for credit on the side of German merchants. Schrodgers guaranteed a substantial amount of bills for Hamburg industrial firms and developed close relations with the Deutsche Bank (Roberts, 1991). Last, London Merchant Bank was in close collaboration with the German Commerz und Privat Bank. These latter institutions were among the most gravely affected by the central European shock.<sup>34</sup>

### 4.3 The run on London merchant banks

Given the banks' critical position, and if sufficient information was circulating among the public, fears should have arisen that some of the London acceptance houses could actually fail. Figure 6 looks at the evolution of deposits. The year 1931 is clearly discernable on the liability side of the balance sheets, with some institutions experiencing severe deposit losses. Deposit withdrawals, though, are not proof in themselves that agents were worrying about possible banking failures. 1931 was also the year of the speculative attack on the pound and depositors might simply have been motivated by fears over the currency. Since deposit data are only available at an annual frequency, and only at the year-end, it is not possible to identify the cause of the withdrawals in the time-series. However, looking at the variation across banks (the cross-section) provides a test. Indeed, if the currency problems were the cause of the run, all banks should have been equally impacted. This is because all domestic and foreign depositors holding sterling balances in London should have wanted to exploit the arbitrage opportunities.<sup>35</sup> Figure 7 plots the deposit losses endured by London banks between 1930 and 1931 as a function of their initial Standstill exposure,<sup>36</sup> while table 1 reports the estimated parameters of the corresponding regression.

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<sup>33</sup>Only 4% of Ruffers' outstanding acceptances were drawn on central European merchants at the end of 1931. Morgans and Hambros had respectively 17% and 32% of their acceptances claims blocked in this region.

<sup>34</sup>In 1931, Kleinworts, Schrodgers and London Merchant Bank had respectively 45%, 54% and 74% of their acceptances frozen in central Europe.

<sup>35</sup>Schnabel (2009) looks at the heterogeneity across banks in order to discern between currency and banking causes of the German crisis of 1931. See also Schnabel (2003). In contrast, Wigmore (1987) focuses on the time-series and relies on daily data for the Federal Reserve's gold losses for identifying the cause of the US bank holiday of 1933.

<sup>36</sup>Standstill exposure is measured as in figure 5.

The estimates should of course be interpreted with precaution because of the small number of data points, even though the houses in the sample almost correspond to the entire population of London banks. But the relationship is clear-cut and the null that depositors treated all banks on an equal footing can be easily rejected. The ten clearing banks, as well as the merchant banks whose liquidity was not seriously threatened (Barings, Morgan Grenfell and Ruffers) remained perfectly immune to the withdrawals. An insignificant intercept in the deposits regression in table 1 suggests that withdrawals unrelated to the Standstill were in fact negligible. In contrast, deposits declined by 65 per cent on average for the houses that had been the most affected by the central European crisis (Erlangers, Japhets, Kleinworts, London Merchant Bank, Samuel and Schrodgers).

This strong relationship shows that currency problems cannot account for the huge deposit losses faced by several banks during the year 1931. This is also evidence that depositors were very well able to discriminate between sound and unsound banks, although exact information about their degree of involvement in central Europe was not publicly available. The central European crisis therefore triggered real fears that several London acceptance houses might not be able to meet their liabilities. The acceptance problem resulted in a run on these banks, and the deposit withdrawals in turn contributed to worsen their position.

## 5 Banks' reaction to the shock

### 5.1 Fire Sales

How did banks react to the liquidity shock? In this section, I track down the symptoms of the liquidity crisis in the London banks' actions, as revealed by their balance sheets. To begin with, the banks' liquid assets are examined. Figure 8 shows the amounts of bills and securities appearing on their balance sheets. It is apparent that several houses reduced this item quite dramatically in the year 1931. Indeed, the same pattern emerges as for the deposit losses. Figure 9 and table 1 relate the decline in the banks' amount of bills and securities between the years 1930 and 1931 to the extent of their exposure to the central European crisis. One acceptance house, Ruffers, is excluded from figure 9. This house

emerges as an outlier in the regressions in table 1. Ruffers sold liquid assets in 1931, but for reasons apparently unrelated to the Standstill. Except for this specific case however, the relationship is again straightforward. Illiquid banks liquidated their securities the most severely. Japhets, Lazards and London Merchant Bank reduced this item by more than seventy percent in 1931. This seems natural, as these banks were in urgent need of cash for meeting their acceptance liabilities and the only practicable way to obtain it was to get rid of their most liquid assets. But the fire sales are more evidence that a severe liquidity crisis was at play in the year 1931. Troubled banks were struggling to shrink their balance sheets.

## 5.2 Credit crunch

Finally, the volume of new commercial credit guaranteed by London financial houses in the wake of the central European crisis is considered. In the reports they made to the Bank of England's Discount Office, merchant banks were required to indicate the amounts of Standstill acceptances remaining on their balance sheet at the end of each year. These amounts correspond to short-term debts granted to central European customers before the crisis and that were subsequently rolled over. The information they provide allows to discern, in the amounts of outstanding acceptances, between the part corresponding to newly issued bills and the part being merely old credit renewed. Figure 10 shows this repartition for the few institutions on which the reports are available. Considering the gray part of the bars, it is evident that the volume of new credit guaranteed by the banks declined steeply after 1931.

This trend has important implications. Indeed, since acceptances were the main instrument of trade finance, the decline in their issuance must somehow have impacted international trade. Looking at the total estimates of bills guaranteed by London banks for the year 1928, I was able to establish that around 14% of world exports were financed through London acceptances.<sup>37</sup> Figure 11 reports a strong correlation between the annual value of world exports in the years 1924-1935 and the corresponding amounts

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<sup>37</sup>According to Maddison (1995), the total value of world exports amounted to 6669 million pounds in 1928. At the end of the year, the value of outstanding London acceptances was estimated by the Bank of England at 232 million pounds (Archives, Bank of England, C47/301, "Acceptances"). The large majority of acceptances were of three months maturity, and we should therefore multiply this value by four in order to obtain the value of the yearly issuance. This gives an amount of bills of 928 million pounds granted for the year 1928. This corresponds to 14% of the volume of world trade.

of acceptances guaranteed by a sample of 14 London banks.<sup>38</sup> Of course, this correlation does not imply causation and it is rather likely that the trends in the two series were both due to a common cause. For instance, the economic depression as well as restrictive trade policies were certainly causes of the fall in world trade, which in turn affected the demand for commercial credit.

However, here again, the heterogeneity across banks offers an identification strategy for determining whether the decline in the volume of credit was caused by supply-side factors as well. Indeed, the fall in the demand for credit should have impacted all banks homogenously. By contrast, figure 12 as well as the bottom part of table 1 report suggestive evidence that the decline in credit was heterogenous across banks. Table 1 shows the results of a regression of the decline (between 1930 and 1933) in banks' newly accepted bills<sup>39</sup> on their initial Standstill exposure. Although we should be extremely cautious when interpreting the results of a regression based on so few data points, it seems that the banks that were the most impacted by the Standstill were also those that cut credit the most in the following years. The constant of the regression emerges as highly significant and its value can be interpreted as the decline in credit due to factors unrelated to the central European crisis (in other words, it corresponds to the decline in credit that would have been observed for a bank with zero exposure to the Standstill). The estimate suggests that these other causes can account approximately for a 50% decline in credit. For the sample on which information is available, the total decline observed between 1930 and 1933 was 72% instead.

London merchant banks' activity mainly consisted in gathering information about international merchants/borrowers. In doing so, the banks were specialized in specific regions of the world where they had accumulated long-time expertise dating back to the nineteenth century. Therefore, the acceptance houses' need to shrink their activity was equivalent to a loss of this accumulated human capital and it certainly resulted in a decrease in the overall quality of trade credit intermediation.<sup>40</sup> The acceptance business owed its very existence to the information assymetry that existed between a merchant and her

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<sup>38</sup>The banks included are the ten clearing banks, Hambros, Morgan Grenfell, Kleinworts and Schrodgers and were chosen for reasons of data availability. Since the great majority of bills accepted were of three months maturity, the amounts of outstanding acceptances appearing on these banks' year-end balance sheets have been multiplied by four for estimating the total amounts of bills guaranteed yearly. Note that all acceptances, including the Standstill ones, are considered here. Due to data limitations, I have not been able to reconstitute the volume of newly issued bills for a sufficiently representative sample during the years 1924 to 1935. For the years after 1931, the amounts of acceptances retained are therefore an upper bound for the volume of new credit granted. However, this problem should result in an underestimate of the relationship only, since the years 1931 to 1935 were also characterized by small value of world exports.

<sup>39</sup>For Lazards, the decline in credit is measured between 1930 and 1935.

<sup>40</sup>The argument developed here is a trade finance version of Bernanke's (1983) theory that banking panics in the United States had a real welfare impact during the 1930s.

lender and it was by nature non-competitive. Therefore, merchants could probably not turn to another bank in order to obtain the signature that their house could not offer them anymore after the central European crisis. The outcome is that several “good” borrowers might have found themselves in a position where they could not obtain credit anymore and the whole process is likely to have been associated with substantial welfare losses. The losses are of course difficult to quantify, first because of the limited data available and second, because they were not confined to Britain but distributed among borrowers all over the world. However, the analysis developed above suggests that there might indeed have been credit constraints on international merchants after 1931.

### 5.3 London Merchant Bank, Ltd.: A case study

The conclusions drawn from balance sheet data are also supported by strong qualitative evidence that London acceptance houses were trying to shrink their balance sheets in the months and years that followed the central European crisis, and that, for doing so, they were liquidating their assets and restricting further credit.

The case of London Merchant Bank, Ltd. illustrates the situation of illiquid acceptance houses perfectly well. This bank, of a small size, was one of the most seriously affected by the Standstill (figure 5). In February 1932, an article in *The Times* mentioned its difficulties.<sup>41</sup> Documents found at the Bank of England allow to describe how illiquidity arose for London Merchant Bank and how the house reacted. On 6 November 1931, a Discount Office’s note noticed the extent of the bank’s involvement in central Europe. Its author wrote that, “like all weaker institutions, [it was] facing difficulties in placing its acceptances.” On 16 December, Mr. Harter, a director of London Merchant Bank, explained that the difficulty encountered on the discount market persisted. Moreover, he mentioned “a further decrease in liquidity, the quick assets being reduced by some 100,000 pounds in order to pay off deposits” (see figure 6 and 8). The National Provincial Bank granted 100,000 pounds in discounts facilities to the bank, but Harter doubted that this would be sufficient at all. In January 1932, the Bank of England noticed that the acceptance house was constrained to carry a substantial part of its own acceptances on its portfolio. In February, the Governor met the directors and urged them to “reduce commitments where possible

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<sup>41</sup> “London Merchant Bank: Review of a difficult year”.

with a view to eventual liquidation.” London Merchant Bank eventually survived the liquidity crisis, but it had to restrict credit considerably (see figure 10). In this policy, the house was encouraged by the Issuing Institute itself. On 4 August 1932, a Bank of England official was “glad to note that [London Merchant Bank’s] structure ha[d] been reduced in accordance with our wishes, the acceptances being down by 400,000 pounds of which 150,000 were for German account”.<sup>42</sup>

## 6 The Bank of England, banking stability and the sterling crisis

### 6.1 The Bank of England’s interventions in the money market

Having identified how the central European panic affected London’s liquidity, I now turn to the question how the sterling collapse was related to the merchant banks’ problems. Before being able to do this though, a small detour is in order so as to consider the developments of the summer 1931 in the London money market. The previous sections have provided evidence that London acceptance houses had strong difficulties to maintain their liquidity after the Standstill. If true, this situation should have left traces in interbank interest rates: one should expect banks to have become reluctant to lend to each other in anticipation of possible failures as well as of their own liquidity needs. In order to test for this hypothesis, I collected daily data for interbank interest rates in the London market from June to September 1931. I considered short-term interest rates quotations on bankers’ drafts as well as Treasury bills. The high frequency is clearly crucial here, as we will see that important movements were taking place in a few days. Figure 13 plots the rates on 3-months bankers’ drafts and T-bills against time, together with the Bank of England’s official discount rate. Assuming that the Bank was ready to rediscount paper without restriction at the current Bank rate, the latter can be considered as an upper bound for the market rate of discount. Market rates were usually located at approximately 0.5% below the official rate.

On figure 13 however, it appears that the Bank rate stopped being effective in the week just preceding the announcement of exchange controls in Germany (from 7 to 15 July). The spread between the Bank and market rate narrowed dangerously during these days and was close to zero when the German

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<sup>42</sup>Archives, Bank of England, C48/93.

moratorium was declared (15 July, see table 2). This situation is indicative of a shortage of money in the banking system. In contemporaries' words, the market was not far from being "into the Bank", which means that the point was soon reached where it would have been advantageous for discount houses to directly discount their paper at the Issuing Institute. These tensions in the interbank market seem to have been caused by rising expectations of capital controls on the continent. *The Economist* reported that most dealers were quoting higher rates due to concerns about the German situation.<sup>43</sup> Interestingly, the rise in quoted rates was more pronounced for bank bills than for T-bills. Indeed, while raising the general need for liquidity, the German moratorium also had the consequence of increasing the risk of failures of several acceptance houses, thus reducing the quality of their paper.

But the situation in the interbank market also very soon stabilized. As of 15 July, when the moratorium was declared, the Bank rate started being effective again (figure 13). This might seem surprising as the banks' liquidity troubles became real as of this date. To understand how this could arise, one needs to have a look at the Bank of England's balance sheet. Figure 14 shows the weekly evolution of the aggregate of four of the balance sheet's items in which the Bank was registering the amount of bills purchased on the market.<sup>44</sup> The stabilization of market rates exactly coincided with an increase in the Bank's securities. The Bank appears to have directly intervened to re-establish the effectiveness of its discount rate, through the means of open market operations. Between 15 July and the suspension of gold convertibility, 30 million pounds of securities were purchased. The interventions were mentioned at several occasions by *The Economist*<sup>45</sup> and the newspaper related them to the "considerable stringency in the money market" and to the necessity to "widen the margin between market rate and Bank rate".<sup>46</sup> The operations were probably not sufficient to completely resolve the liquidity crisis at play. They only

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<sup>43</sup> *The Economist*, 11 July 1931: "uneasiness as to the German situation, in view of the continued drain on the Reichsbank's foreign exchange resources led most dealers quoting a full 1 7/8 per cent."

<sup>44</sup> The items are the Issue Department's "Government Debt and Securities" and "Other Securities" and the Banking Department's "Government Securities" and "Securities". In contrast to the "Discounts and Advances" item, which was reporting the amount of bills rediscounted by customers at the official Bank rate, the items considered here correspond to the bills purchased on the open market. In the evidence he gave to the Macmillan Committee, Sir Ernest Musgrave Harvey, Deputy Governor of the Bank of England made it clear that the different items of the Bank's balance sheet did not correspond to different types of assets but to the different ways through which the Bank had acquired these assets: "I ought to make this point clear that "Government Securities" includes Treasury Bills, that is, Treasury Bills bought by the Bank where the Bank initiates a transaction. If a Treasury Bill is brought in by anybody for discount at the Bank it is treated as a discount and goes into "Discounts and Advances"."

<sup>45</sup> *The Economist*, "The Money Market", 25 July: "Early in the week the Bank tried to relieve the position by open market purchases of bills (...) and the increase shown in the Bank return (...) in Government securities suggests that buying took place upon a substantial scale"; 1 August: "This would have created considerable stringency in the money market had not the Bank of England bought bills heavily both this week and last." ; 8 August: "the open market policy of the Bank, which this week took the form of substantial purchases of September bills".

<sup>46</sup> *The Economist*, "The Money Market", 25 July.

amounted to fifty percent of the total of London banks' Standstill acceptances<sup>47</sup> and these houses also had to face deposits withdrawals. Hence, the Bank had to raise the discount rate twice on 23 and 30 July, while it continued intervening. However, the amounts involved were not negligible either. It is very probable that they contributed to relieve the pressure on the acceptance houses, and helped to avoid banking failures in London.<sup>48</sup>

## 6.2 The timing of the speculative attack

The Bank's efforts to provide liquidity to the banking system are also likely to have had an impact on the exchange rate. Officials at the Bank of England were very much aware of this mechanism, which the Deputy-Governor Ernest Harvey described in 1929 in the following terms: "when we are urged to create credit (...), we have always got to bear in mind the position of the exchanges and their tendency, whether it is weak, whether the additional creation of credit is likely perhaps (...) to weaken the exchanges to a point at which, having created 5,000,000 pounds of credit, we may lose it or a good deal of it in gold."<sup>49</sup> In 1931, the pound was emerging from a period of constant difficulties on the exchange market, with investors doubting the credibility of the gold parity since the year 1929 (Accominotti, 2008). In this context, one should predict the Bank's operations to have had severe repercussions on the position of sterling.

Figure 15 displays the weekly evolution of the gold reserve from April to December 1931. Harvey's prediction appears to have been respected. The Bank's interventions to supply liquidity was coincidental with a run on the gold reserve: gold outflows took place in the two weeks following 15 July. As a consequence of the run, the legal limit of the fiduciary issue (which corresponded to the difference between the notes issued and the amount of the gold reserve) was raised from 250 to 275 million pounds in the first week of August.<sup>50</sup> This gave monetary authorities some room for manoeuvre since it allowed them to continue supplying the banking system with funds while not violating the monetary law. However, a

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<sup>47</sup>The total of German Standstill acceptances amounted to 53.5 million pounds in 1931. See footnote 14 above.

<sup>48</sup>The opinion that the Bank's interventions considerably helped was shared by Morton(1940, p. 50): "When the acceptance houses and bill brokers came to the Bank of England asking it to aid them by discounting their paper, the Bank could have refused. (...) If the Bank had refused the City would have been thrown on its own resources, and those houses that did not have sufficient currency or liquid foreign assets would have failed."

<sup>49</sup>Macmillan Committee, *Minutes of Evidence*, vol. 1, p. 23, par. 327.

<sup>50</sup>The Bank of England was authorized by the Treasury to increase the limit of the fiduciary issue from August 1931 to May 1932 (Truptil, 1936, p.50).

simple model would predict that the two goals of maintaining the exchange target on the one hand while providing additional credit on the other should in fact have been incompatible.<sup>51</sup>

The last figure of this paper tests for this proposition. It displays weekly quotations of the French franc/pound sterling spot and forward exchange rates in Paris during the year 1931.<sup>52</sup> The spot exchange rate fell below the gold export point towards France in the week following 15 July and stabilized thereafter, showing signs of relief in August. However, forward sterling quotations reveal that the pound's rally was pure illusion. In fact, the apparent stabilization was probably the consequence of the Bank of England's active exchange market interventions in August, which were conducted with the support of the Bank of France's and Federal Reserve's credits.<sup>53</sup> They allowed to maintain the spot rate between the gold points, therefore avoiding further gold outflows. But in the opinion of investors, the fate of the pound was already sealed since mid-July. The forward franc/sterling rate continued its fall and never came back into the band, indicating strong devaluation expectations. This diagnosis was also shared by informed observers such as John Maynard Keynes. In a letter quoted by Cairncross and Eichengreen (2003) and dated 5 August, Keynes expressed the view that the abandonment of the gold parity was "nearly certain" at that point: "when doubts as to the prospects of a currency, such as now exist about sterling, have come into existence, Keynes wrote, the game is up..."<sup>54</sup>

This timing is suggestive that the exchange troubles were related to the Bank's efforts to relieve pressure on the banking system. During the summer of 1931, the Bank of England was confronted to a conflict of goals, as is typical in modern theoretical models of twin crises: the Bank could either decide not to intervene at the risk of provoking a wave of banking failures, or it could accommodate the banks and provide them with liquidity, therefore increasing the likelihood of a balance-of-payment crisis.<sup>55</sup> The Bank eventually opted for banking stability at the expense of the gold standard. When investors realized that monetary authorities were reacting to the central European shock by open market operations rather than an increase in the Bank rate, they provoked a run on the pound.

This finding casts doubt on the thesis that the British economy had fallen victim of a "Bankers' Ramp".<sup>56</sup> According to this view, representatives of the City would have pressed for costly macroeconomic

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<sup>51</sup>For example Krugman's (1979) seminal model of balance-of-payment crisis depicts how a two-sided policy of continuous credit creation and exchange rate targeting eventually results in a speculative attack.

<sup>52</sup>The reference currency is the French franc here since it was the most credible currency of the gold exchange standard period. See Accominotti (2008) for details.

<sup>53</sup>On the Bank of England's exchange market interventions, see Sayers (1976) and Cairncross and Eichengreen (2003).

<sup>54</sup>Cairncross and Eichengreen (2003, p. 69).

<sup>55</sup>A formal model is provided by Chang and Velasco (2000).

<sup>56</sup>See Williamson (1984).

policies in order to obtain the maintaining of the gold standard. But the abandonment of the gold parity actually served the banks. They could not have obtained the liquidity they needed if the Bank had remained firm and faithful to the principles of the gold peg. It is worth adding here that several factors made the devaluation less costly. Thanks to the role of sterling as an international currency, the bulk of the London banks' liabilities were denominated in their own currency, so that exchange rate depreciation did not result in perverse balance sheet effects. On the contrary, the pound's devaluation contributed to relieve the burden on central European debtors, and the banks should have looked this prospect favorably.<sup>57</sup> These factors made the abandonment of the gold standard a good operation for the London houses. There was no such divergence between the interests of the industry and the interests of finance.

## 7 Conclusion and discussion

This paper has provided new evidence on the role of international contagion in transmitting the global financial crisis of 1931. Dating back to Friedman and Schwartz (1963), economists have traditionally neglected international factors when explaining the banking and exchange crises of the 1930s. Instead, ill-advised monetary policies have generally been held responsible for the panics. In a recent paper, Billings and Capie (2008) have defended this thesis for the case of Britain, arguing that global factors did not endanger the stability of the London banking system during the Great Depression. I have proposed here to revisit this question by reconsidering the famous sterling crisis of September 1931. Based on new data and material, I was able to document the repercussions of the central European panic of the spring 1931 on British banks and currency. I found that large interdependencies existed within the international financial system on the eve of the Great Depression. These close interconnections had their roots in the credit boom of the late 1920s and in the institutional organization of trade finance, which facilitated the transmission of shocks. The central European panic endangered the liquidity of London merchant banks because these houses had guaranteed large amounts of short-term commercial debt on account of merchants from this region. Evidence from balance sheet data and high-frequency money market rates quotations show that the troubles on the continent resulted in a serious liquidity crisis in the City. The

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<sup>57</sup>Truption (1936, p. 315) argues that sterling depreciation gave German debtors "considerable inducements to repay sterling credit". Baster (1937, p. 301) also writes that "British creditors fared considerably well after September 1931, because their German debtors seized the opportunity of paying off sterling debts at favorable rates of exchange".

precise timing of events of the month of July 1931 suggests that the Bank of England's decision to provide liquidity to the financial system then contributed to transform the liquidity crisis into a currency crisis. These findings are in line with accounts of the attack made by contemporaries (Einzig, 1932, Morton, 1940) and historians (Sayers, 1976, James, 2001).

I did not intend to argue here that financial contagion was the unique cause of the sterling collapse, nor that it can account for all aspects of the crisis. For instance, my emphasis on the central European events does not offer a fully satisfactory explanation for why the Bank of England did not raise its interest rate much more aggressively in the summer of 1931. Several reasons might explain this attitude. First, a high Bank rate was likely to divert business from the merchant banks, and from the City in general, since merchants always preferred to discount their acceptances in financial centers where low interest rates prevailed (Greengrass, 1930, Rist, 1931-1932). Second, a rise in the Bank rate would also have increased the service of Treasury bills for the British government (Greengrass, 1930). This could have deteriorated an already critical fiscal position, therefore undermining the efforts to defend the parity. Last, monetary authorities might also have wanted to avoid the repercussions of a restrictive monetary policy on the unemployment rate. Therefore, previous explanations emphasizing the budget deficit (Williamson, 1984, 1992) or unemployment (Eichengreen and Jeanne, 2000) are not necessarily incompatible with the story presented here. The will to support the banking system probably coincided with other objectives at the central bank level. How much these different factors contributed to the final decision of monetary authorities and whether an increase in the Bank rate could have saved the gold parity are questions that are beyond the scope of this paper. I simply notice here that financial contagion fares much better than these other factors in explaining the timing of the speculative attack. The central European shock was the final trigger behind the sterling crisis.

Finally, this paper has interesting implications for the current financial crisis. First, it illustrates the role of credit insurance instruments in propagating liquidity problems during a period of high default rates. From this perspective, acceptances then were not very different from Credit Default Swaps now in propagating and magnifying the effects of the financial crisis. Second, at a time when central banks have never been so active in attempting to stabilize the banking systems, the sterling crisis allows to draw important lessons for the role of monetary policy in achieving economic recovery. Since now more than twenty years, a substantial body of research has shown that leaving the gold standard was the right thing to do for countries wanting to find the path to economic recovery during the 1930s. The

mechanism traditionally emphasized is that devaluation offered the opportunity to reflate the economy and stimulate industrial activity (Eichengreen, 1992, Eichengreen and Sachs, 1985, 1986). But the British episode reveals that the abandonment of the gold peg also had a nice side effect: it allowed central banks to stabilize the banking system. Had Britain been faithful to the gold parity, the Bank of England would not have been able to provide necessary liquidity to the banks. Several acceptance houses might have failed, and the effect would have been felt in terms of dramatic welfare costs. Therefore, the British economic recovery of the late 1930s might also have been a result of the Bank of England's decision not to let the banking system collapse as a consequence of financial contagion.

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## Appendix. Data and Sources

### I. London banks' balance sheets and Standstill claims

#### - Ten Clearing Banks

a) Balance sheets

1921-1941: *The Economist*, "Monthly Return of London Clearing Banks", various issues.  
Monthly averages of weekly balance sheet data.

b) Acceptances outstanding

In their published balance sheets, London clearing banks reported the "Liabilities of customers for acceptances, endorsements & c." This item comprises all contingent liabilities associated with endorsing bills and therefore does not allow distinguishing the amount of acceptances outstanding. The following sources provide the true amount of London clearing banks' acceptances:

1921-1930: *Committee on Finance and Industry Report*, table 1, pp. 284-289.

1931-1935: Archives, Bank of England.

c) Standstill acceptances (Germany only)

12/1931-12/1935: Guildhall Library, Monthly Return to the Bank of England.

Assets / Acceptances given by us on a/c on foreigners / Germany

#### - Baring Bros. & Co. Ltd.

a) Balance sheets

1927-1934: *Truptil* (1936, pp. 336-337)

b) Standstill acceptances

9/1931: Bank of England's estimate: Archives, Bank of England, September 1931.

#### - Erlangers Ltd.

a) Balance sheets

1928-1934: *Truptil* (1936, pp. 336-337)

b) Standstill acceptances

9/1931: Bank of England's estimate: Archives, Bank of England, September 1931.

#### - Grace Brothers & Co. Ltd.

a) Balance sheets

1928-1935: *Truptil* (1936, pp. 336-337)

b) Standstill acceptances

Non available.

#### - Guinness Mahon & Co.

a) Balance sheets

1924, 1927-1939: Archives, Bank of England, Discount Office's files.

b) Standstill acceptances

Non available.

#### - Hambros Bank, Ltd.

a) Balance sheets

1920-1938: Guildhall Library.

b) Standstill acceptances

9/1931: Bank of England's estimate: Archives, Bank of England, September 1931.

#### - S. Japhet & Co. Ltd.

a) Balance sheets

1928-1939: Archives, Bank of England, Discount Office's files.

b) Standstill acceptances

12/1931-12/1938: Archives, Bank of England, Discount Office's files.

- Kleinwort, Sons & Co.

- a) Balance sheets  
1921-1941: Guildhall Library.
- b) Standstill acceptances  
9/1931: Bank of England's estimate: Archives, Bank of England, September 1931.

- Lazard, Brothers & Co. Ltd.

- a) Balance sheets  
1928, 1930-31, 1935-1937: Archives, Bank of England, Discount Office's files.
- b) Standstill acceptances  
12/1931, 12/1935-12/1937: Archives, Bank of England, Discount Office's files.

- London Merchant Bank Ltd.

- a) Balance sheets  
1927: Truptil (1936, pp. 336-337)  
1928-1934: Archives, Bank of England, Discount Office's files.
- b) Standstill acceptances  
12/1931-12/1934: Archives, Bank of England, Discount Office's files.

- Morgan Grenfell & Co. Ltd.

- a) Balance sheets  
1924-1941: Guildhall Library.
- b) Standstill acceptances  
9/1931: Bank of England's estimate: Archives, Bank of England, September 1931.

- A. Ruffer & Sons Ltd.

- a) Balance sheets  
1926, 1929-1935: Archives, Bank of England, Discount Office's files.
- b) Standstill acceptances  
12/1931-12/1935: Archives, Bank of England, Discount Office's files.

- M. Samuel & Co. Ltd.

- a) Balance sheets  
1925-1940: Archives, Bank of England, Discount Office's files.
- b) Standstill acceptances  
3/1932-3/1940: Archives, Bank of England, Discount Office's files.

- J. Henry Schroder & Co.

- a) Balance sheets  
1914-1941: Roberts (1991, pp. 527-537).
- b) Standstill acceptances  
7/1931: Roberts (1991, p. 264).

**II. Bank of England's balance sheet**

*The Economist.*

Table 1: STANDSTILL EXPOSURE AND LONDON BANKS' BALANCE SHEETS

Dependent variable	Standstill Exposure	Intercept	Obs.	Adj. R-squared
<i>Deposit Losses</i>				
1. All banks	44.19 (4.39)***	2.09 (0.20)	11	0.65
<i>Fire Sales</i>				
2. All banks	21.15 (1.71)*	25.01 (1.99)**	11	0.16
3. Excluding Rufflers	32.46 (2.84)***	10.91 (0.90)	10	0.44
<i>Credit Crunch</i>				
4. Six banks	18.86 (2.08)**	51.11 (10.52)***	6	0.40

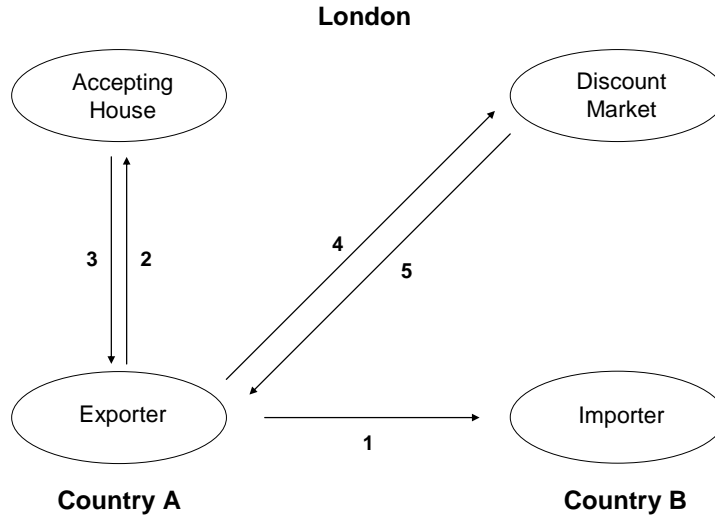
Standstill Exposure is measured as the ratio of the banks' 1931 Standstill acceptances to the 1930 value of their capital and reserves. Dependent variables definitions: Deposit Losses: Percentage decline in deposits between 1930 and 1931. Fire Sales: Percentage decline in bills and securities between 1930 and 1931. Credit Crunch: Percentage decline in newly issued acceptances between 1930 and 1933 (For Lazards, 1930-1935). OLS estimates. t-statistics in parentheses. \*, \*\* and \*\*\* indicate significant coefficients at respectively the 10%, 5% and 1% levels.

Table 2: SPREAD BETWEEN BANK AND MARKET RATES, July 1931

Day	Bankers' draft 3-months	Treasury Bills 3-months
July 7	0.66%	0.66%
July 8	0.63%	0.63%
July 9	0.56%	0.63%
July 10	0.47%	0.53%
July 11	0.44%	0.47%
July 13	0.25%	0.31%
July 14	0.22%	0.31%
July 15	0.06%	0.25%

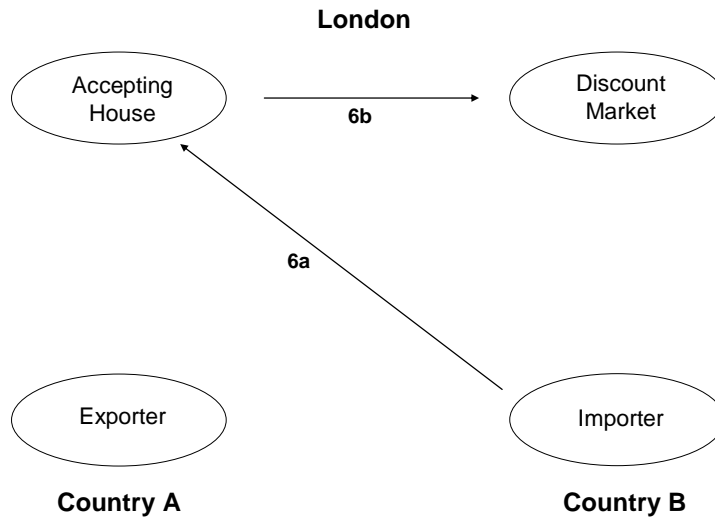
Source: *The Economist*.

Figure 1: ACCEPTANCE FINANCING  
 I. OPERATIONS AT BILL'S DISCOUNT



1) Draws the bill on the importer; 2) Sends the bill for acceptance/Pays fee; 3) Accepts the bill; 4) Sends the bill for discount; 5) Provides cash;

II. OPERATIONS AT BILL'S MATURITY



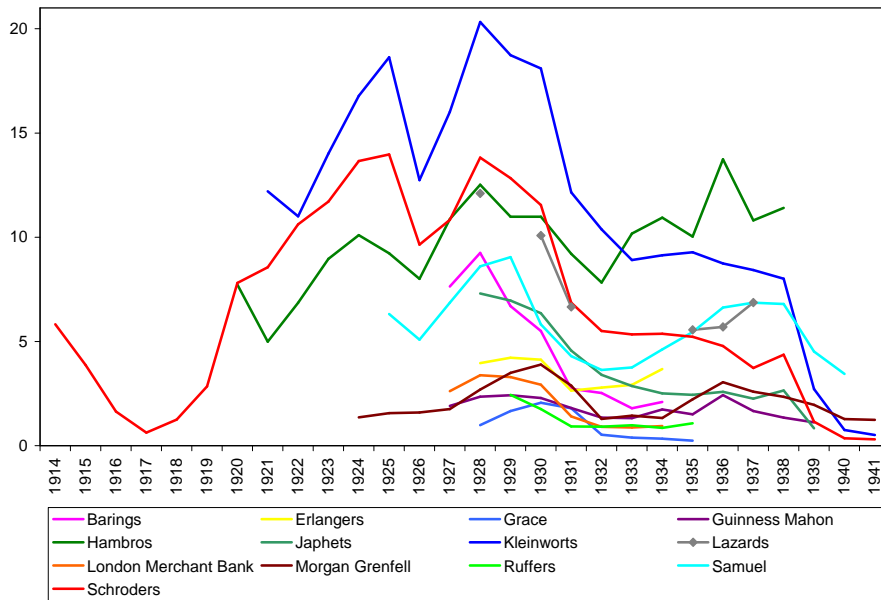
6a) Provides cash; 6b) Provides cash

Figure 2: TYPICAL ACCEPTANCE HOUSE'S BALANCE SHEET

<b>Liabilities</b>	<b>Assets</b>
Acceptances (Liabilities to bills' holders)	Acceptances (Liabilities of Customers)
Deposits	Cash, bills and securities
Capital and Reserves	Loans

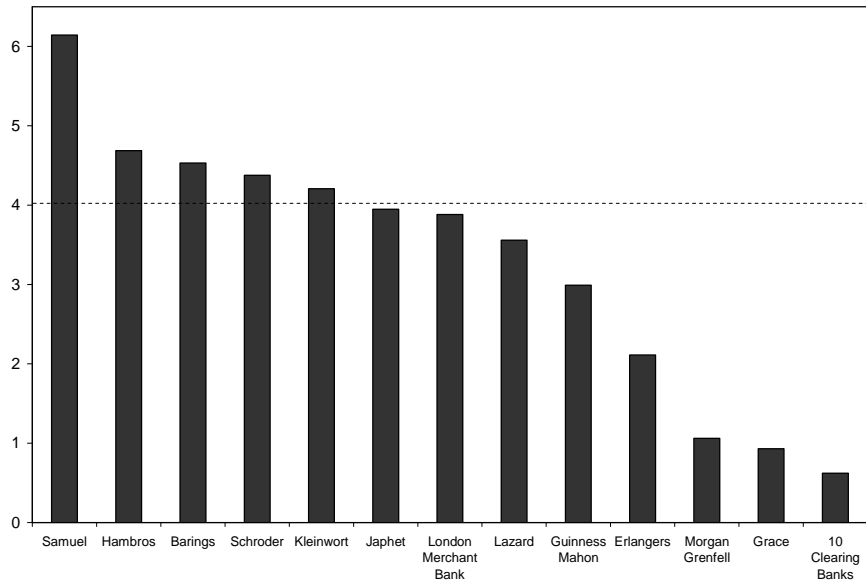
Note: A similar diagram was published in Truutil (1936).

Figure 3: THE COMMERCIAL CREDIT BOOM



Amount of acceptances outstanding (in million pounds), London merchant banks, 1914-1941. Sources: See text and appendix.

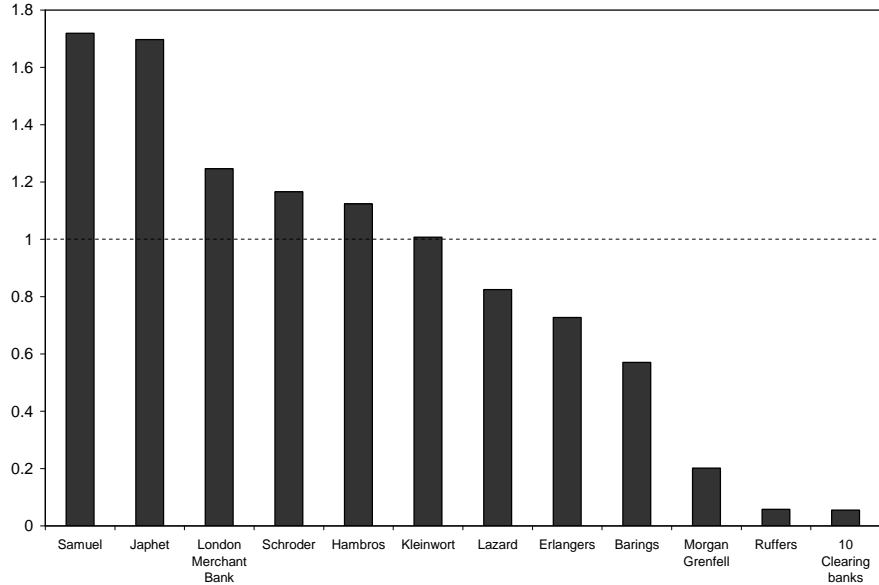
Figure 4: DID LONDON BANKS FOLLOW KINDERSLEY'S RULE?



**Ratio of total acceptances to capital and reserves, 1928.**

Sources: See text and appendix.

Figure 5: LONDON MERCHANT BANKS' ILLIQUIDITY



**Ratio of 1931 central European acceptances to 1930 capital and reserves.**

Sources: See text and appendix.

Figure 6: DEPOSITS (in thousand pounds).

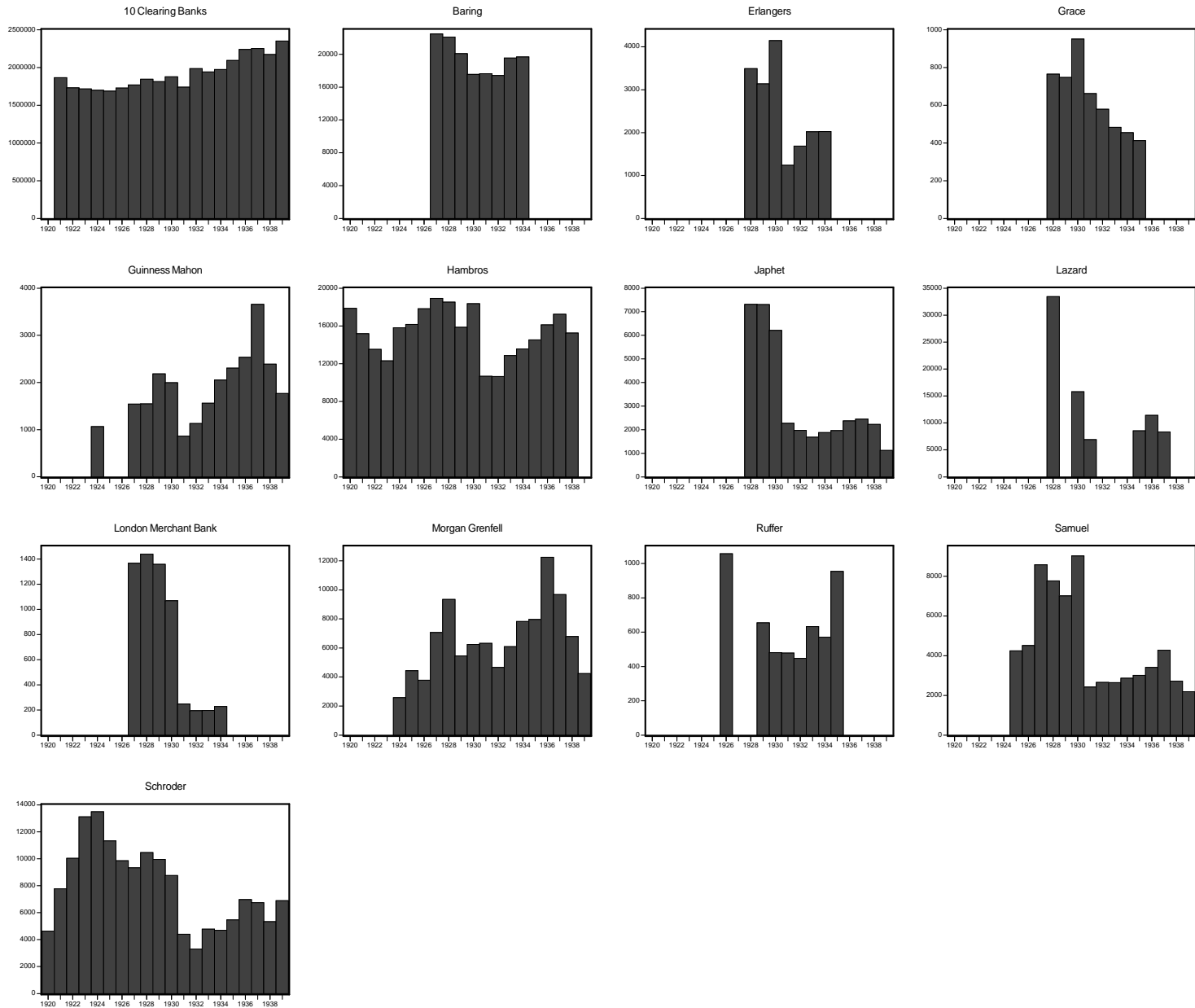
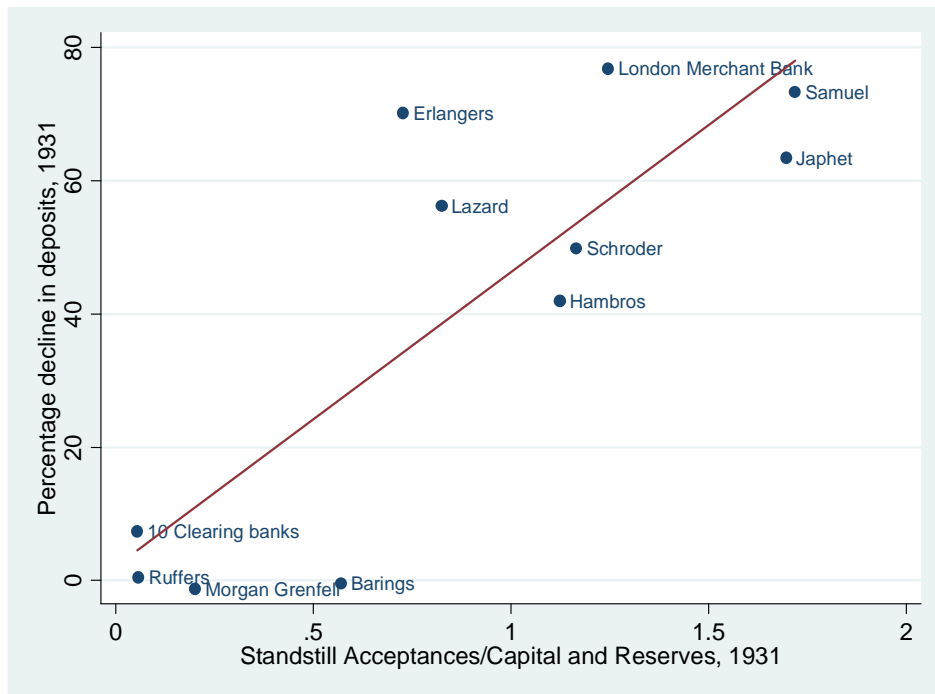


Figure 7: WERE DEPOSIT LOSSES CAUSED BY A RUN ON THE POUND? A TEST



Note: Variables are the same as in table 1. Sources: See text and appendix.

Figure 8: BILLS AND SECURITIES (in thousand pounds)

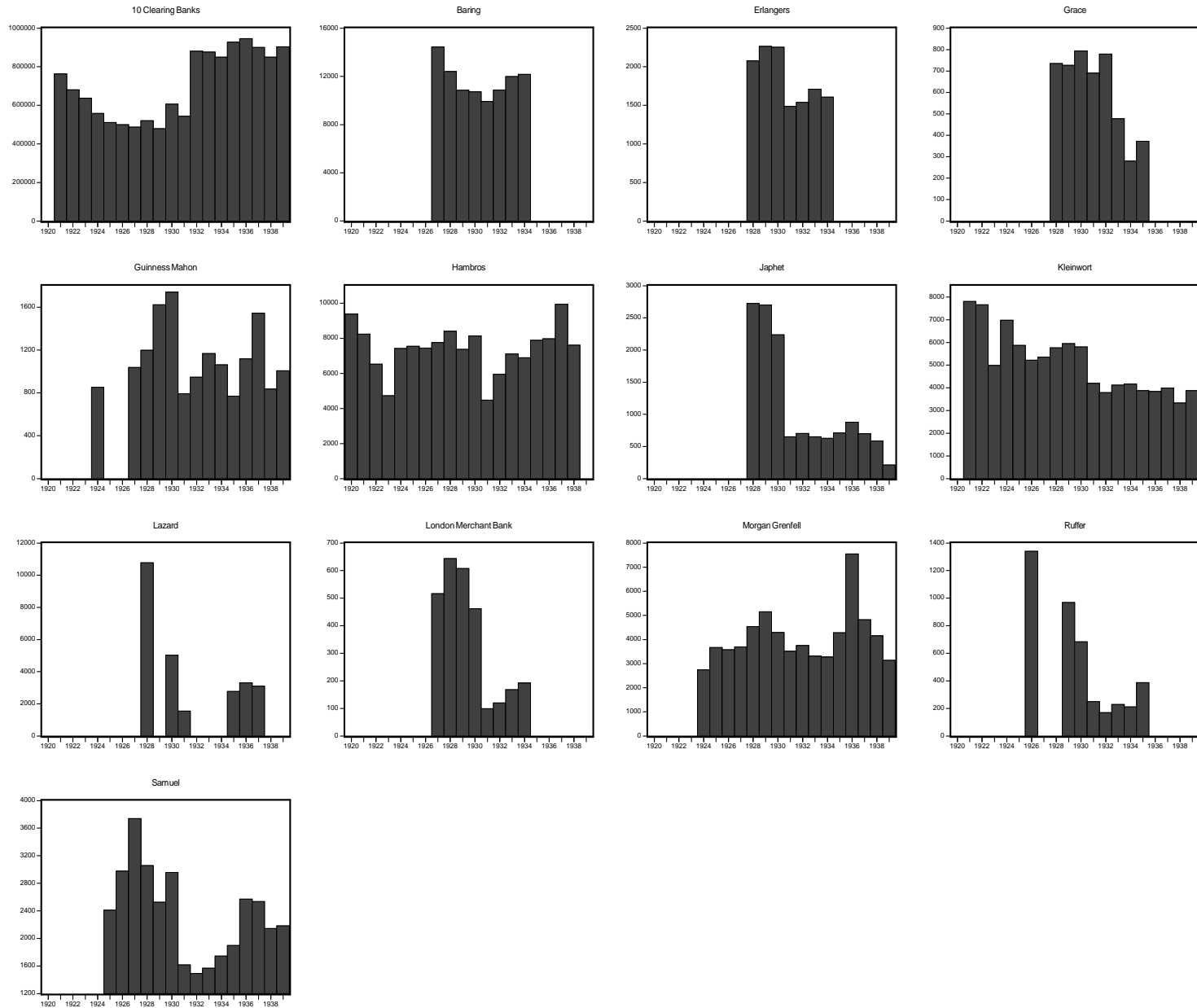
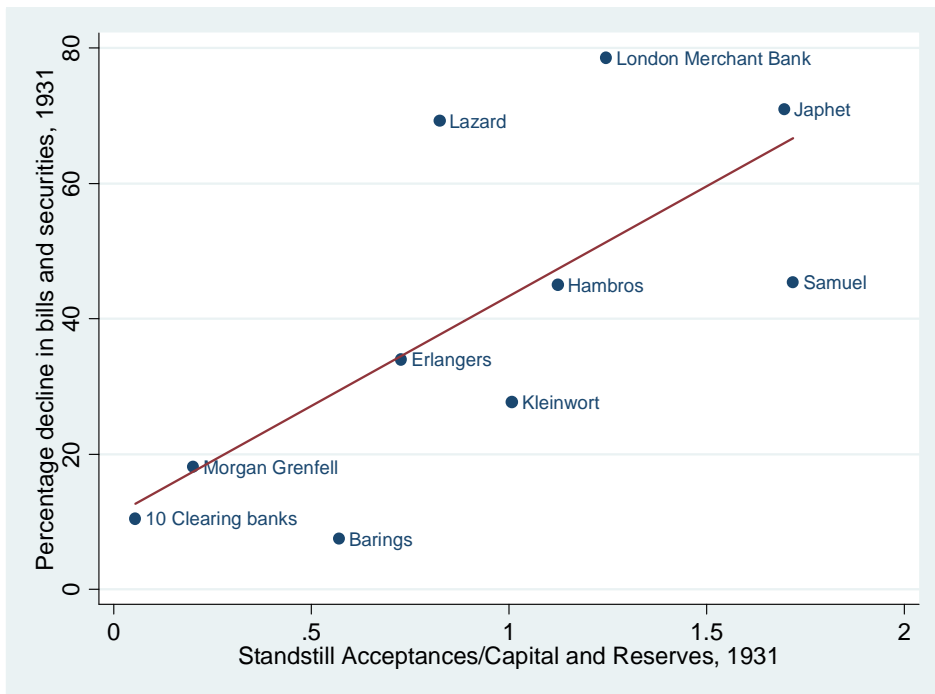


Figure 9: FIRE SALES



Note: Variables are the same as in table 1. Sources: See text and appendix.

Figure 10: STANDSTILL BILLS vs. NEWLY ISSUED BILLS (in thousand pounds)

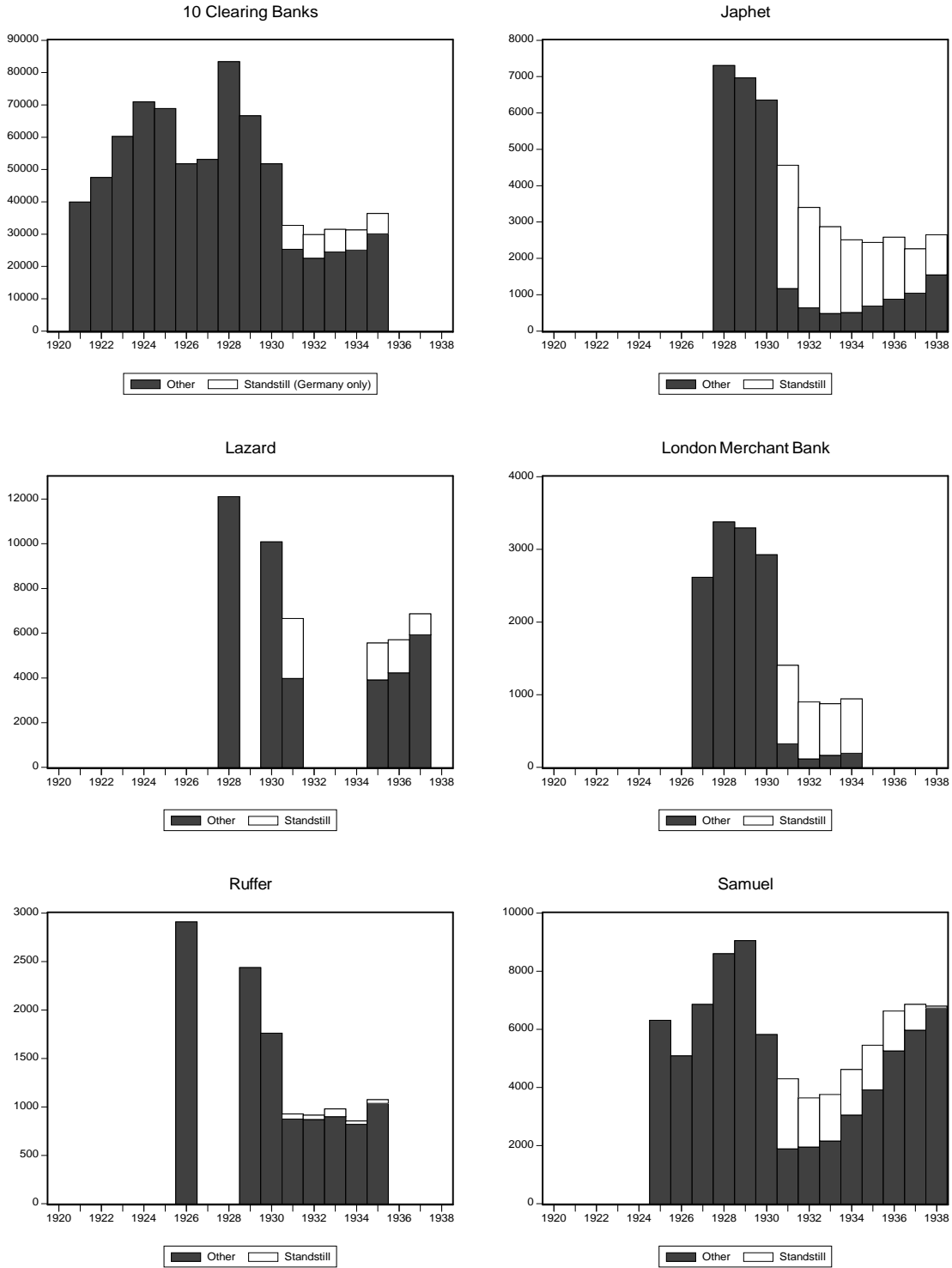
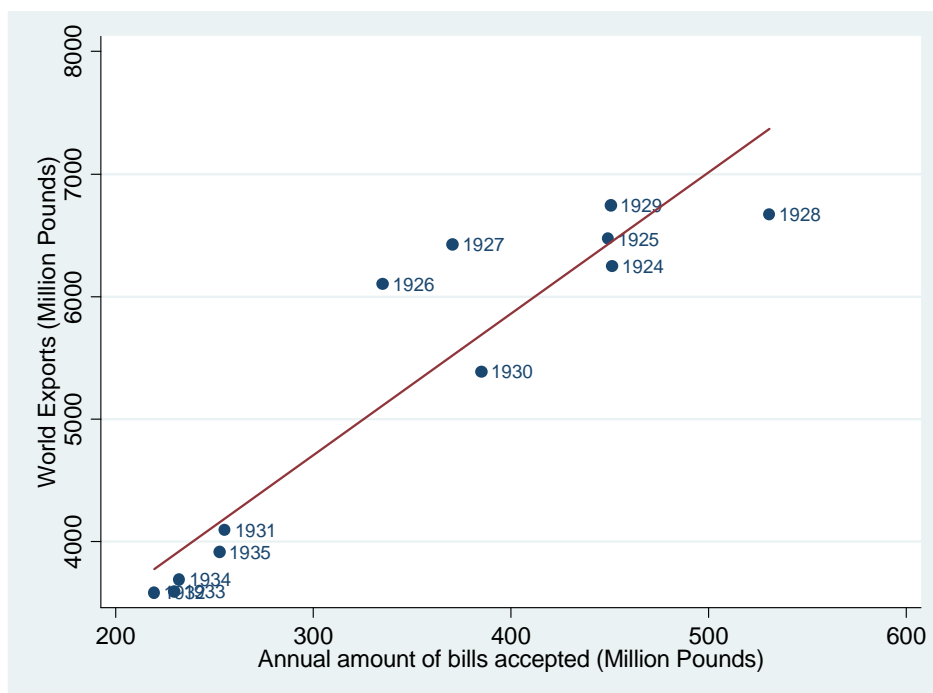
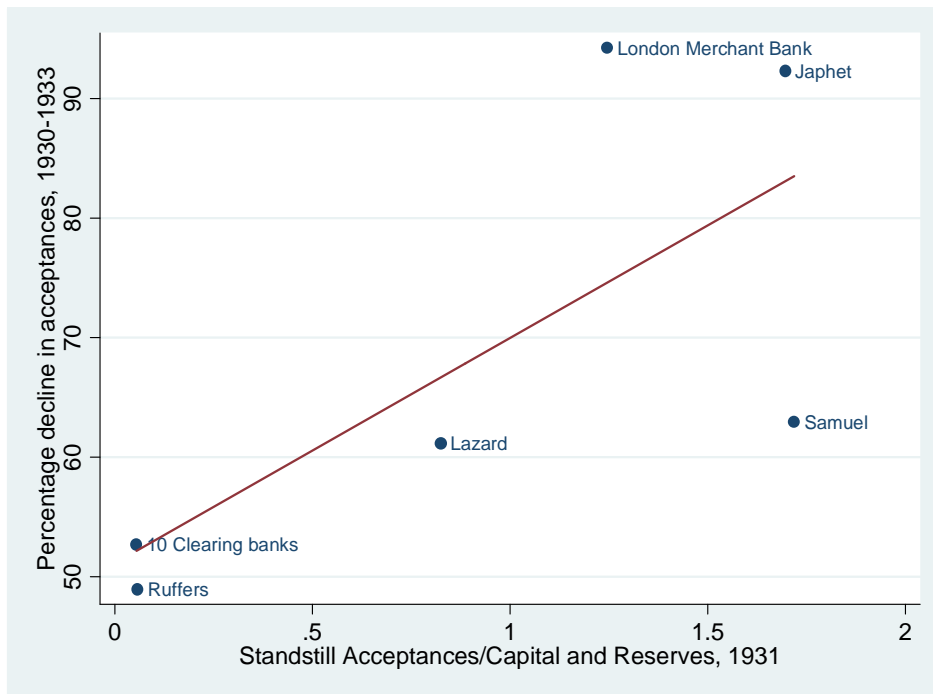


Figure 11: WORLD EXPORTS AND LONDON ACCEPTANCES



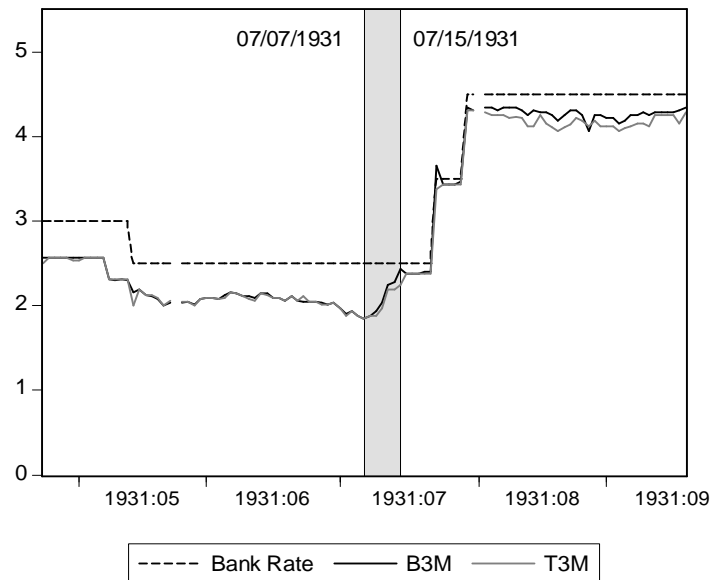
Note: y-axis: World Exports in current US dollars are from Maddison (1995, pp. 238-239) and have been converted into current pounds. The exchange rate comes from League of Nations, *Statistical Year-Book*, various issues. x-axis: Annual amount of bills accepted by a sample of 14 banks (10 clearing banks, Hambros, Morgan Grenfell, Kleinworts and Schrodgers). The annual amount of acceptances is estimated by multiplying by four the year-end volume of outstanding acceptances. Sources: See text and appendix.

Figure 12: CREDIT CRUNCH



Note: Variables are the same as in table 1. Sources: See text and appendix.

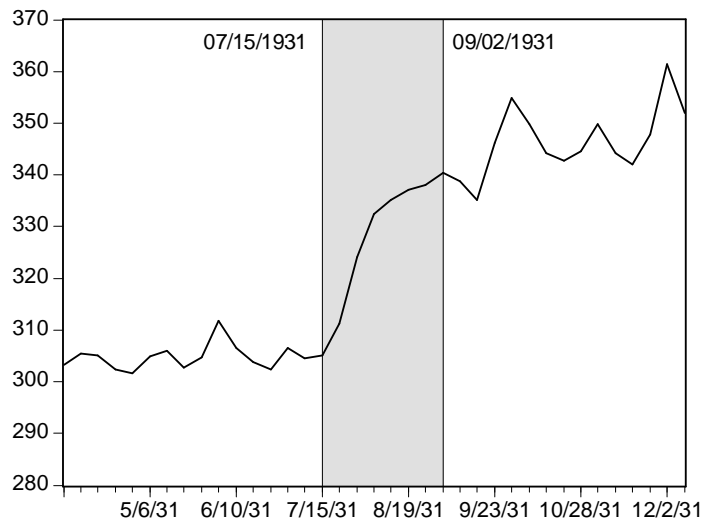
Figure 13: INTERBANK INTEREST RATES



**Daily money market rates (April-September 1931).**

Note: B 3 months: 3 month bankers' drafts; T 3 months: 3 month Treasury bills. Source: *The Economist*.

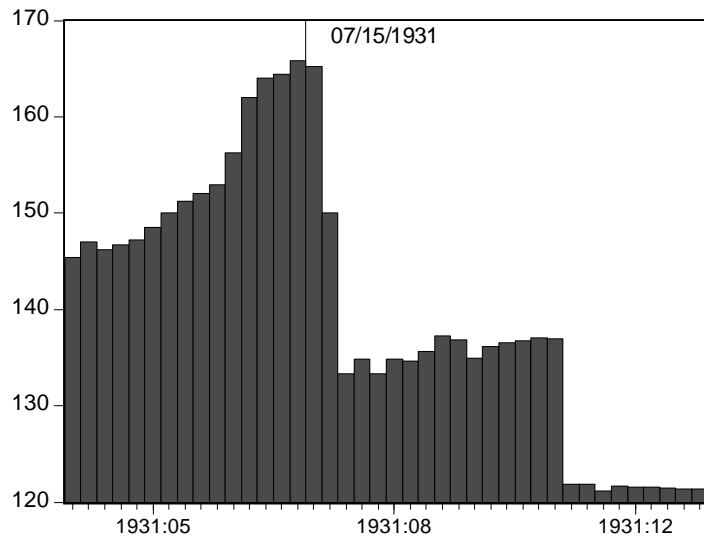
Figure 14: OPEN MARKET OPERATIONS



**Bank of England's total securities (in million pounds). Weekly, April-December 1931.**

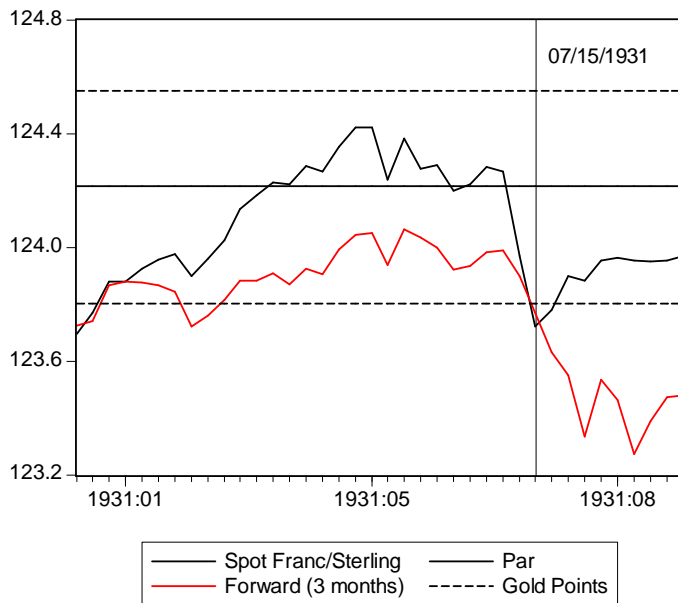
Note: Total securities correspond to the sum of Issue Department: "Government Securities" and "Other Securities" and Banking Department: "Government Securities" and "Securities". Source: *The Economist*.

Figure 15: BANK OF ENGLAND'S GOLD RESERVE (million pounds)



Weekly, April-December 1931. Source: *The Economist*.

Figure 16: SPOT AND FORWARD FRANC/STERLING EXCHANGE RATES



Weekly, January-September 1931.

Note: Paris quotations. Source: Archives, Bank of France, *Cours des Changes*, 1377200101/9. Gold points are taken from Francois-Marsal (1930-31).