Fractional Reserves and Demand Deposits

Historical Evidence from an Unregulated Banking System

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Economists who otherwise favor a free market in monetary and banking services have engaged in long-standing debate regarding banks' ability to affect the money supply and the exact nature of that effect (Rothbard 1983, 1990, 1994; Selgin 1988, 2000, 2012; Hoppe 1994; White 1995, 2003; Hülsmann 1996, 2000, 2003; Selgin and White 1996; Hoppe, Hülsmann, and Block 1998; de Soto 2006; Bagus and Howden 2010; Yeager 2010). Should banks be made to operate under a 100 percent reserve rule that completely constrains their ability to affect money supply or a fractional-reserve rule that would leave the exact level of reserves to be determined by market forces? Under fractional reserves, banks issue notes or checking deposits that circulate in place of money proper, in excess of the level of reserves that would be required to redeem them all at one time. Hence, the focus of this debate is on the level and creation of inside money or banks' ability to affect money supply. However, there seems to be agreement on either side regarding the market's creation of outside money or money proper. Both sides tend to favor some sort of commodity money or several competing commodity monies over central banks' creation of fiat base money.

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The debate has proceeded along three broad dimensions: theoretical, legal, and historical. Theoretical considerations include questions such as the optimal supply of money and the economic benefits that may be obtained by allowing banks to expand and contract the money supply according to their clients' needs (Hülsmann 2000; Selgin 2000). The legal aspect of the debate revolves around the question of whether keeping fractional reserves constitutes fraud or not. Several economists have stressed the time dimension involved in the issuing of instantly redeemable claims to money (Rothbard 1983, 1990, 1994; Hoppe, Hülsmann, and Block 1998; de Soto 2006). In this interpretation, redeemable claims to money (bank notes or checkable deposits) are warehouse receipts, issued on the basis of money deposited for the purpose of safekeeping. Hence, the deposited money represents a bailment or a present good, and the overissue of money substitutes constitutes fraud. A bailment is legally defined as an act of delivering goods to a bailee for a particular purpose, without transferring ownership of the goods. In our case it would be deposits of money at the bank for the purpose of safe-keeping. This deposited money is contrasted to explicit credit transactions that involve forgoing the use of money for a certain time period during which the lender earns an interest return. Some analysts contend that fractionally backed banknotes or checkable deposits actually constitute a sort of hybrid instrument, somewhere in between pure present goods and pure credit transactions, and hence do not constitute fraud (Selgin 1988; Selgin and White 1996; White 2003).

This essay contributes to the historical aspect of the debate. The main issue is whether historical episodes of banks' keeping fractional reserves and affecting money supply in a truly laissez-faire setting exist or not. Such episodes would afford us the opportunity to understand and surmise better the development of banking products in the case of deregulation of banking in present times. In an essay titled "Has Fractional-Reserve Banking Passed the Market Test?" (2003), Jörg Guido Hülsmann first argues for two strict categories of banking products: warehouse receipts and IOUs issued on the basis of credit transactions. Warehouse receipts are money substitutes or inside money issued on the basis of money deposited for safekeeping, whereas IOUs represent investments made by people earning an interest return. He then points to the possibility of a third instrument that may develop on the free market, an IOU with a redemption pledge (RP) or promise to redeem at any time (IOU + RP). Although Hülsmann does not see such as instrument as fraudulent, he is skeptical about the extent to which it would exist and proliferate in a free market. He surmises that clear product differentiation would emerge, and market participants would be naturally discouraged from holding such a risky asset. He writes, "We can be fairly certain that virtually all monetary exchanges would be made in cash or genuine money titles only. . . . The IOUs + RP of the various issuing banks would be valued differently because these banks have different risk exposures owing to their particular geographical situation and especially to the particular structure of their assets and liabilities. From this condition, it follows that, for all practical purposes, each individual IOU + RP would be a heterogeneous good. It therefore would be unsuitable as a medium of exchange in a wide network of indirect exchanges" (2003, 403).

Lawrence White (2003) agrees with Hülsmann about the possibility of the third type of instrument but believes fractional reserve banks would not only promise to pay money on demand for IOUs but would make legally binding contracts to pay money at any time. Thus, he believes banks would offer IOU plus redemption on demand contracts (IOU + RODC). He cites the historical experiences of free banking in Scotland, Canada, and Sweden, among others, in support of this claim. In the most prominent case of Scotland in the 19th century, where competing banks had a freedom to issue notes, there was widespread circulation and acceptance at par of fractionally backed notes. Although the case of Scottish free banking provides valuable insight into the economic mechanisms at work between banks with freedom of note issue, disagreement still exists over whether conditions there can be categorized as truly laissez-faire (Carr and Mathewson 1988; Rothbard 1988; Sechrest 1988; Munn 1991; White 1995).

George Selgin (2012) documents the origins of fractional-reserve banking in seventeenth-century England. Goldsmiths are believed to have originated the practice of lending out gold kept with them for safekeeping, while issuing demandable liabilities to the depositors. Although many economists see these origins as fraudulent, Selgin (2012) provides some evidence to the contrary. He not only shows that deposits with goldsmiths paid an interest return, hence pointing to the existence of a debt transaction, but also provides circumstantial evidence indicating that all parties were probably knowledgeable that the notes issued by the goldsmiths were only fractionally backed.[1]

This essay provides another historical episode of fractional-reserve deposits evolving on the free market. The Chettiar banking system in late-nineteenth-century India functioned without any government regulation, and there is clear unambiguous evidence (beyond Selgin 2012, which provides only circumstantial evidence) from various secondary as well as primary sources that bankers kept fractional reserves on checking deposits. They did this by offering interest-paying checking deposits that were redeemable at any time, very similar to the IOU + RP envisioned by Hülsmann (2003). Though they did not issue their own banknotes, their IOUs were in the form of bank deposit balances that could be drawn on by check. Hence, they were able to affect money supply, although the ultimate extent of that effect was not too large. The next section lays out the details of the Chettiar banking system and is followed by a section discussing the primary evidence that these bankers kept fractional reserves on checking deposits, as presented in government reports.

1. Selgin provides "circumstantial evidence consisting of (1) goldsmiths' practice of paying interest, or at least not charging any fees, to holders of their deposits and notes, which indicated that debts rather than bailments were being contracted; and (2) the lack of any contemporary testimony, in court or otherwise, to the effect that goldsmiths embezzled money placed with them for safekeeping" (2012, 6–7).

The Chettiar Banking System

The Chettiar banking system had an unusual amount of freedom from government regulation in both its inception and its functioning (Rudner 1994; Nair 2011a, 2011b). The origin of the Chettiar system can be traced back to the mid–eighteenth century, before the ascent of the British and long before any official regulation or oversight of business practices. The new British state that went about surveying, classifying, and recording the commercial and cultural practices of the Indian people found multitudes of financial firms or banks carrying on financial intermediation in the cities and towns. Such practices of taking deposits as well as making loans and negotiating bills of exchange were clearly different than those of the ubiquitous moneylender. Hence, the term *indigenous banker* was born. Lakshmi Jain, in a study devoted to indigenous bankers, says that they were "not required to register themselves as such under any law of the realm" (1929, 1). Although official government banks subject to government laws did exist, indigenous bankers such as the Chettiars (the name used by this banking and mercantile caste), formed a parallel system, one without any official regulation or involvement. Hence, their experience provides valuable insight into the working of a truly laissez-faire system, one with all the essential banking functions.[2] The Chettiar system, prevalent in the South Indian state of Tamil Nadu, was but one of many such financial intermediary systems existing throughout India (Jain 1929; MPBEC 1930).

The relevant time period spans from the mid–nineteenth century until about 1930, during which the Chettiar banking system expanded alongside the British Empire into various Southeast Asian countries such as Burma, Sri Lanka, Malaysia, and Singapore. As members of a common banking caste, the Chettiars were able to utilize and leverage the already existing social capital within their group. Their strong ties of kinship and several institutions that created and enforced rules proved crucial for the formation and enforcement of banking contracts. The boundaries of the caste—members married only within the group, and entry was restricted to those born into the group—along with a freedom to exit at any time resembled very closely the services of a club providing key services to members.[3] The Chettiars were but one of many hundreds of groups adapting keenly to the new entrepreneurial opportunities presenting themselves as a result of British rule through such means as the railways and the opening up of trading channels with other countries (Roy 2010).

2. Nair 2011a and 2011b represent initial forays into seeing indigenous banking as laissez-faire banking. Although indigenous bankers form an important part of Indian economic history, economists have thus far not stressed the pervading freedom from government regulation that these bankers functioned under.

3. Nair 2011a provides a more detailed account of the caste's institutional features that acted as club goods. Temples that served as centers of dispute resolution, norms stressing the importance of trustworthiness and honesty, as well as an endogamous marriage rule whereby members married only within the group—all served to enforce contracts. Such an analysis of caste employing rational-choice theory differs significantly from existing economic analyses wherein caste is seen mainly as a retrogressive institution serving to create an inefficient and fragmented labor market.

The Chettiars' banking business revolved around making loans directly or through bills of exchange to fledgling industrial concerns, artisans, and agricultural laborers. Operating in a fragmented market, they provided credit services to those whom the European and government banks would not. The government banking sphere constituted three main Madras Presidency banks, along with some British joint-stock banks. Though government banks operated side by side, their main purpose was to give credit only to European business ventures. Hence, the Chettiars were operating in their own niche wherein they competed with other indigenous bankers, moneylenders, a few joint-stock banks, as well as landlords who would lend money to tenants. This feature of providing credit to "indigenous" industrial concerns holds true in all countries where they did business. Historians and specialists of regional economic history ascribe the development of several industries to the Chettiars, such as rubber and tin in Malaysia, rice in Burma, and tea in Sri Lanka (Krishnan 1959; Adas 1971; Weerasooria 1973; Rudner 1994).

Although its main business was the extension of credit, the Chettiar system was internally organized in a way to provide for certain crucial banking services. Each bank or firm was owned and managed by individual Chettiars, with each family typically owning a banking business. However, all banks within the group were ultimately connected to each other through clearinghouses, frequent exchange of information with one another, and a well-developed interbank lending system. The elite bankers among the group, who owned larger banks and more banking branches, acted as the de facto clearinghouses for the whole system. Every small to midsize Chettiar bank would maintain a deposit account with an elite or *adathi* banker, which allowed the clearing of debits and credits among different Chettiar banks to take place on the books of the *adathi* banks. A well-developed interbank lending system provided a voluntary social safety net, whereby a Chettiar bank in need of money on short notice could rely on a fellow banker to lend to him for a certain interest return. This rate of interest would be set communally once a month at a meeting that took place at each business region, which also allowed for the exchange of information about the creditworthiness of clients and fellow bankers.[4]

Thus, the Chettiars witnessed a massive expansion of their business that lasted from 1870 to 1930, with the latter widely cited as the year marking the definitive downfall of the Chettiar system. One major cause of the downfall was the Great Depression and the downward swing in exportable commodity prices. Involved in lending mainly to industries producing goods for the export market, the Chettiars experienced massive defaults on loans as a result of the Great Depression. These defaults had one or the other of two effects: either outright loss of the money lent or the acquisition of the collateral pledged on the loan. In Burma, for example, the Chettiars came to own 25 percent of rice-growing land by 1934, from a previous

4. Nair 2011b documents the functioning of these various voluntary regulatory mechanisms within the Chettiar system and contrasts them to regulation under a central bank.

6 percent. Increasing government legislation of indigenous business practices within India as well as nationalist movements in host countries such as Burma and Sri Lanka led to massive withdrawals from banking or to reinvestment into other industries. Hence, the starting point of decline of the Chettiar system from its heyday can be traced to 1930.

This essay presents evidence of fractional reserves being kept by Chettiar firms only in Burma, using the Burmese government's three-volume *Burma Banking Enquiry Committee Report* (1930, henceforth *BBEC*). The committee conducted a large-scale survey of all European as well as indigenous banking and financial institutions in 1929, of which the Chettiars were a prominent part. At their peak in 1929, the Chettiars owned 1,650 firms in Burma (Mahadevan 1978). They had 243 firms in South India in 1930 and 700 in Sri Lanka in 1916. The report also shows that the concentration of Chettiar working capital was highest in Burma as compared to other countries (see Table 1).

It is clear that Chettiar business was most extensive and well developed in Burma, a fact corroborated by secondary and primary sources (Adas 1971; Chakravarti 1971; Rudner 1994). Hence, it is reasonable to assume that studying the banking instruments in Burma will give us a picture that is representative of the Chettiar system.

Volume 1 of the *BBEC* consists of the official report created by the committee members after studying the data collected. Volumes 2 and 3 reproduce the original primary evidence and data collected and used for the volume 1 report. The main questionnaire for the survey is also printed and divided into several chapters, with chapter 7 devoted to questions on "indigenous banking" (*BBEC* 1930, 2:259). This chapter's subsections include categories titled "General," "Demand Deposits," "Fixed Deposits," "Provision of Cash," "Advances," and "Recoveries," among others. The "Demand Deposits" section contains questions about the kind of demand and checking deposits offered by indigenous bankers, whether such deposits

Table 1
Location of Working Capital by Country

Location of Working Capital in 1930	Amount (in Millions of Rupees*)
Burma	750
Federated Malay States	250
Ceylon	140
Cochin China	50
Madras Presidency	10
Total	1,200

*In 1930, 1 USD = 2.77 Rupees, thus 795 million rupees was the rough equivalent of 287 million dollars. In 2011 dollars, that would be 287*13.50 = 3.87 billion dollars.
Source for exchange rates: www.measuringworth.com.
Source: BBEC 1930, cited in Krishnan 1959, 36.

paid interest, and whether they could be drawn upon by check. The "Provision of Cash" subsection contains questions related to the reserves kept by indigenous bankers, such as "How do indigenous bankers who accept deposits payable on demand arrange to have sufficient cash ready at all times to pay depositors who ask for their money or to pay the people who bring cheques?" (*BBEC* 1930, 2:261)

Interest-Paying Checking Deposits

This section lays out the relevant evidence from the *BBEC* showing the keeping of fractional reserves within the Chettiar banking system. As mentioned earlier, though the Chettiars did not issue their own banknotes, they did provide checkable demand deposits that also paid an interest return. Hence, their IOUs were in the form of bank balances, not bank notes. However, because there exists an equivalence in economic terms between the functions performed by banknotes and checkable bank balances, the same analysis applies in either case. Further, paying an interest return on an IOU that may be redeemed at any time necessarily implies the keeping of fractional reserves. Although the holders of the IOUs may use their bank deposits via check, the bank must invest or loan out the actual money in order to pay an interest return to the depositors. Therefore, the supply of money understood as the sum of money proper plus deposits (M1) expands.

The Chettiars offered interest-paying fixed deposits and interest-paying checking deposits to their clients. Because lenders forgo the use of money for a certain time period in the case of fixed deposits, there is no effect on the money supply. Fixed-term deposits serve unambiguously to make up the supply of loanable funds and are not a disputed category within this debate. However, the practice of offering interest on checking deposits is a disputed category because it automatically implies the keeping of fractional reserves and the ability to affect money supply. Apart from this, the Chettiars also relied on a practice of delaying payment to customers for a few hours or one day in case sufficient reserves were not present to meet all demands for redemption. This practice is similar to the "option clause" stressed by George Selgin and Lawrence White (Selgin 1988; White 1995, 2003; Selgin and White 1996). An option clause gives the banker the option to delay payment when the banker is met with large redemption demands, while helping liability holders to maintain trust and not initiate a run on the bank, thus shoring up the system's overall stability.

A typical balance sheet is shown in Table 2. David Rudner (1994) studied old Chettiar account books and reconstructed several balance sheets. Deposits were differentiated along two dimensions, time or checkable deposits and deposits from Chettiars or non-Chettiars. The account books thus reveal the practice of distinguishing liabilities into four clear categories: checking deposits from Chettiars, time deposits from Chettiars, checking deposits from non-Chettiars, and time deposits from non-Chettiars (*BBEC* 1930; Chakravarti 1971; Rudner 1994; Turnell 2009).

Table 2
Typical Chettiar Balance Sheet

Assets	Liabilities
Loans to non-Chettiars: 80%	Deposits from Chettiar bankers: 20%
Loans to Chettiars: 20%	Deposits from Chettiar nonbankers: 40–50%
	Deposits from non-Chettiars: 15–20%
	Owners' equity: 15–20%

From the table, it is clear that a sizable portion of liabilities were made up of deposits from fellow Chettiars (bankers or nonbanking caste members). Of these liabilities, the proportion between fixed-term liabilities and demandable liabilities would vary. For our purposes, only the redeemable or checkable liabilities are of interest. The checkable or callable deposits that Chettiars made among each other paid the interbank or *nadappu* rate of interest. These deposits could be redeemed at any time and thus embodied the interbank lending mechanism that the Chettiars relied on. If Banker A was in need of liquid resources, he could rely on either redeeming his callable deposit with Banker B or on Banker B's making a deposit at his bank on short notice. This process worked well because it relied on and reinforced the strong norm of trust within the community. Given this well-developed network and strong ties of kinship and trust, it is not surprising that the Chettiars would be able to successfully keep low reserves on interbank deposits and still meet sudden needs of redemption among one another.

However, the Chettiars also offered interest-bearing checking accounts to non-Chettiars, people with whom they did not share kinship ties or a self-enforcing norm of trust. David Rudner (1994), Nalini Chakravarti (1971), and Sean Turnell (2009) confirm that checking accounts to non-Chettiars paid an interest return. Chakravarti (1971), however, erroneously claims that these accounts were not operable by check.[5] This claim is directly contradicted by primary evidence from the *BBEC*. Given that the interest-bearing demandable deposits were operable by check implies that depositors were able to fully use the cash balances as though they were money. Total non-Chettiar deposits amounted to 57 million rupees in 1929, out of which 13 million rupees were demandable deposits (*BBEC* 1930, 1:219). The report states that this ratio had declined only recently and that "until about ten years ago nearly all deposits by non-Chettiars were on current account although about 30 to 40 percent of them were made by customers who made no withdrawals or, even if they had cheque books could be relied upon to give notice" (*BBEC* 1930, 1:221).

Evidence that checks could be operated on these accounts is clear from the testimonies provided in the report. In answering the question whether indigenous

5. Rudner (1994) does not go into the details of whether these accounts were operable by check, and Turnell (2009) cites only Chakravarti (1971).

bankers allowed the use of checks on demand deposits, testimony from Pegu District in Burma reads: “Chettiars give cheque-books to depositors. If two seals are stamped, that cheque should be paid on presentation. *Usually cheques are paid one day after sight*. Interest is calculated to cease either from the day the cheque is drawn or after the cheque is paid. . . . If there is sufficient deposit Chettiars never refuse payment for their cheques” (*BBEC* 1930, 3:421, emphasis mine). Testimony from Pakokku District in reference to Chettiar practices stated that “[c]heques are paid at once when brought to the banker. Yes, interest does cease when the money is paid. There has been no instance in which a banker refuses to give money for a cheque although he has enough money deposited on current account” (*BBEC* 1930, 3:425). The official Chettiar Association testimony corroborates the use of checks as well: “Cheques are promptly paid if the depositor puts on a double seal or if the cheques are marked ‘urgent.’ Generally cheques are paid on the next day after presentation” (*BBEC* 1930, 3:428).

Regarding the level of reserves or cash kept on hand to meet redemption on demand deposits, testimony from the rural Pyapon District indicated that “Chettiars are not in the habit of keeping a reserve fund. If cash to pay depositors runs short at any time it is their practice to obtain what is required from other firms. They obtain funds locally and subsequently adjust their accounts by obtaining funds from Rangoon” (*BBEC* 1930, 3:433).

Mr. P. L. N. N. Narayanan Chettiar, in answer to the same question, wrote of the practices at his bank that there was “no sufficient cash on hand always. The lenders borrow here and there. They roll the money and money is available at all times” (*BBEC* 1930, 3:435). Chettiar testimony from an urban inquiry in Pyapon town stated that “[i]t is not customary in Pyapon to keep any cash reserve against demand deposits; to meet demands temporary borrowing is resorted to. Up to Rupees 20,000 can thus be paid at once. For a larger sum it would be necessary to get money from Rangoon” (Witness B, *BBEC* 1930, 2:93). Yet another Chettiar witness reported, “[W]e do not keep large cash balances. If we are short we get money from Rangoon. Even in Rangoon it is not the custom to hold much cash; any reserve is deposited in banks” (Witness C, *BBEC* 1930, 2:95).

Regarding the custom of delaying payment for a day, similar to the use of option clauses, the official committee described that “[a]ll cheques received without previous notice are marked with the date and time and initialed by the Chettiar and returned to the presenter for presentation again in the morning or afternoon of next day; according as the first presentation was in the morning or afternoon; payment is made at once on second presentation. This practice is a device of the Chettiars to avoid the expense of maintaining liquid resources; they like to have all their capital actively employed and not merely waiting in the till to meet contingencies” (*BBEC* 1930, 1:220).

From this evidence, it is clear that the keeping of fractional reserves within the Chettiar system stemmed from debt contracts and not from bailments. White (2003) stresses the possibility of a hybrid instrument between a pure debt and a pure safekeeping transaction, calling it "demandable debt." This in-between category of demandable debt seems to apply well to the Chettiar case. Chettiars offered interest-bearing deposits to their clients that were also checkable and could be redeemed at any time. Even though the proportion of these checking deposits to total liabilities was not large for any Chettiar (between 5 to 10 percent of liabilities, but larger for larger banks), it is still clear that such instruments were evolving in a near-pure market setting.

Proponents of 100 percent reserves have stressed that keeping fractional reserves constitutes fraudulent economic activity on part of the bank. However, they envision the genesis of fractional-reserve banking as coming from warehouse deposits or deposits made for safekeeping. Issuing IOUs over and above the total amount of money deposited thus undermines the legal-ownership rights of the original depositor over the money. These proponents also stress that for such activity to go on successfully there must exist asymmetric information or customers must be duped into thinking their money is safe.

In contrast, the Chettiars offered up-front debt instruments that paid interest and could also be redeemed at any time. There was no attempt to create an impression that such deposits were being kept locked up in a safe, for how could they offer an interest return if not invested further? The types of people who deposited their money in these accounts were lawyers, professional men, traders, and shopkeepers (*BBEC* 1930, 1:219). The type of clientele again points to the fact that these deposits clearly represented investments and that the depositors were aware of the terms involved. Had these deposits been for the purpose of safekeeping, one would expect to see mainly nonprofessional people and women depositing their money out of fear of keeping it at home. At the time, family safes and strongboxes kept hidden in individual homes probably fulfilled the function of safekeeping, not banks.

Conclusion

The debate between those who support 100 percent reserves in banking and those who advocate fractional reserves has proceeded along a few different dimensions. This essay attempts to contribute to the historical dimension of the debate. It shows that the Chettiar banking system can be categorized as very close to pure laissez-faire and that it kept fractional reserves by offering interest-bearing checking deposits to clients. Though the Chettiars did not issue their own bank notes, they impacted the money supply by issuing checkable bank accounts.

Even though the ratio of interest-bearing demandable deposits to total liabilities was not very high and there was not a large impact on the money supply, this case does offer a look into how such instruments may possibly originate on the free market. The essay shows that the keeping of fractional reserves originated out of unambiguous debt contracts that could *also* be redeemed at any time. The Chettiars further used a practice of delaying payment on checks, very similar to an "option clause."

The argument for 100 percent reserves has relied on the strict divergence between redeemable warehouse receipts, on one hand, and interest-bearing, fixed-term investments, on the other. This essay demonstrates that it is possible to have a middle path, an instrument stemming from an interest-bearing investment that may also be redeemed at any time. Such an instrument differs fundamentally from a warehouse receipt, and there is no reason not to expect heterogeneity in banking products on a free market.

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