

# **A Commentary on Patrizio Lainà's 'Proposals for Full-Reserve Banking: A Historical Survey from David Ricardo to Martin Wolf'**

## **Currency School versus Banking School: An Ongoing Confrontation**

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Patrizio Lainà's paper, and our commentary here, reflect the perennial battle between the Currency and the Banking Schools.<sup>1</sup> The main contention of the Currency School is that the functions of money creation and financial intermediation not only are, but should be, separable, and only became entwined by a (reversible) accident of history whereby commercial banking developed on a fractional reserve basis in Europe, (i.e. an example of path dependence).

Thus Ronnie Phillips (1995) opens his book on '*The Chicago Plan and New Deal Banking Reform*', which is the main source of parts of Lainà's paper, as follows:

'In 1823 the great economist David Ricardo drafted a "Plan for the Establishment of a National Bank" that was published in February 1824, six months after his death. The document opened with the following statement:

"The Bank of England performs two operations of banking, which are quite distinct, and have no necessary connection with each other: it issues a paper currency as a substitute for a metallic one; and it advances money in the way of loans, to merchants and others. That these two operations of banking have no necessary connection, will appear obvious from this – that they might be carried on by two separate bodies, without the slightest loss of advantage, either to the country, or to the merchants who receive accommodation from such loans (Ricardo, 1951, vol. 4, 276)"

Phillips then goes on to show that Henry Simons, one of the founders of the Chicago Plan, explicitly modelled that on the 1844 Bank Act. Thus Phillips writes, (1995, p. 17):

'At one point Simons notes:

"Your remark about the Bank of England reminds me that I got started toward this scheme of ours about ten years ago, by trying to figure out the possibilities of applying the principle of the English Act of 1844 to the deposits as well as to the notes of private banks. This Act would have been an almost

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<sup>1</sup> The hey-day of this controversy was the 19<sup>th</sup> century. The best surveys are to be found in Arnon (2011) and Fetter (1965). The Currency School triumphed in the 1844 Bank Act, but the Banking School regained ascendancy by the end of that century. Currency School ideas have since resurfaced, perhaps temporarily, in the aftermath of the financial crises in the 1930s and in 2007/8.

perfect solution of the banking problem, if bank issue could have been confined to notes (Simons to Fisher, January 19, 1934, Simons Papers).”

‘Indeed a comparison of David Ricardo’s “Plan for the Establishment of a National Bank,” which served as a guide for the 1844 legislation, with the November 1933 Chicago memorandum indicates a striking similarity on several key points.’

One of the reasons sometimes put forward by Currency School advocates for this separation, though not emphasised by Lainà, is the claim that money creation should be a State monopoly,<sup>2</sup> so that having much of such creation done by private sector banks is, in some senses, an inappropriate transfer of seignorage from the public sector to private sector bodies. A problem with this position is that many of these same economists would probably also endorse the (invalid) Karl Menger (1892) theory of the creation of money as a *private sector* market response to the constraints of bartering, in which story the government only plays a subsidiary role.<sup>3</sup> Holding both positions simultaneously would seem to be logically inconsistent.

In any case the proposed separation of money creation and financial intermediation then leads on to the question of what should then determine the level and growth of the separately provided money stock. Here there is a stark divide between Currency and Banking School supporters. The Currency School supporters, almost to a man, propose rules, but a wide variety of rules: a gold standard rule (Ricardo, 1824), a k-percent rule (Friedman, 1960), a price level rule (Fisher, 1935), or an inflation target, or whatever the politicians want. Even nowadays, when there is an unusual degree of harmony around the maintenance of a 2% inflation target, there are those who challenge whether this target should be replaced by something else. Whereas supporters of the Currency School prefer rules, there remains much debate amongst them over which rule to adopt. Banking School proponents prefer discretion and flexibility.<sup>4</sup> No rule can take account of all eventualities. To Banking School adherents the financial system is evolutionary, not static,<sup>5</sup> and a rule adopted in one set of circumstances may soon become out-dated and inappropriate.

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<sup>2</sup> See Gaitskell (1933, pp 377-379) Here Soddy’s moral argument is discussed by Gaitskell: ‘The issuer of money gets “something for nothing” and it therefore should be the prerogative of the state to engage in such activity’. Also ‘manufacture of currency used to be the privilege of the crown’, the community alone should reap the benefits which the creator of money obtains. Also see Wolf (2014), Fisher (1935); and Jackson and Dyson (2013).

<sup>3</sup> Thus Desan (2014, p. 27) writes on ‘The conventional creation story’ that,  
‘Many narratives stage its start in the wild simplicity of an early world. In that conjured space, exchange was a murky broth of barter. People traded all sorts of objects among themselves – grain, gold, cows and hides, promises, services, cider, and salt. In the fluid mix of exchange, they found silver and gold especially easy to give and take. Metal gradually rose like fat to the surface, becoming a favored medium and marker of value as it passed endlessly from hand to hand. People cut silver and gold into pieces to make the process easier and more regular; disks of the commodity became coin. Its brokers were buyers and sellers converging upon pieces of precious metal to mediate each transaction and, ultimately, to create prices in a common medium.

Content changes and the government assists as society becomes more complicated or bankers become more powerful – but the medium has a constancy across all those details that is clearly sourced in the primal spring of exchange.’

Also, see Goodhart (1998).

<sup>4</sup> For earlier examples, see Tooke (1844), Laidler (1972) and Arnon (2011, Chapter 12). For some more recent examples, see Modigliani (1977), Tinbergen (1952), Goodhart (1989) and Greenspan (1997).

<sup>5</sup> This can be argued by referring to the continuous evolution of banking legislation in the UK and the US as *The Economist* (2015) author writes: ‘Another important issue for academics to consider is that the financial sector is not static. Each crisis induces changes in behaviour and new regulations that prompt market participants to adjust (and to find new ways to game the system).’

The 1844 Bank Charter Act subsequently had to be suspended during crises, and soon ceased to operate as initially intended. To Currency School supporters this was due to a (somewhat accidental) shift from notes to bank deposits as the main component of money. To Banking School adherents, there was nothing accidental about this shift; if the authorities try to impose constraints on the private sector's access to liquidity, it will attempt to innovate its way around that.<sup>6</sup> Crises have invariably found strict rules of money creation to be wanting (e.g. 1907 in the USA, 1914 in London, see Roberts, 2013), and have led to calls for 'a more elastic currency'. The adoption of 'full-allotment' by the ECB, and the introduction of a whole gamut of schemes by the Fed and Bank of England, to allow the banking system, and near-banks, to obtain the liquidity that they craved during the Great Financial Crisis (GFC), 2008/9, were typical examples of the application of Banking School principles.

It is somewhat odd in some ways that the 2008/9 GFC has called forth greater interest in FRB. Central Banks responded flexibly in unconventional ways to the GFC, leading to a huge increase in the monetary base. Had a rule-based money creation been in place, would we have got through it as well as we did? (Banking School) opponents of Currency School monetary rules believe that such rules will tend to be too inflexible, and quite often too deflationary.<sup>7</sup> For example, Ann Pettifor, (2013, p. 22), states that,

'Linking all current and future activity to a fixed quantity of reserves (or bars of gold, or supplies of fossil fuel) limits the ability of the (public and private) banking system to generate sufficient and varied credit for society's purposeful and hopefully expanding economic activity.'

Currency School advocates might respond by claiming first that, without a fractional-reserve banking system there would have been no crisis in the first place, and second that, with a price level, or even an inflation, target the money supply should have been forced to increase even more than it did.<sup>8</sup> Perhaps. One cannot help noting that many of those who prefer rules were worried that the increase in the money base was excessive, and would cause serious inflation if not now, then sometime in the future.

Be that as it may, the Banking School may lose a few battles (as in 1844), but usually wins the war. One reason for this is that the monetary authorities like to maintain discretionary control, and do not much want to be constrained by the rules that academic economists propose. Per contra, academic economists generally prefer rules to discretion. Even Tobin (1985; 1987) flirted with narrow bank proposals. Besides the time inconsistency argument, economists can devise rules that provide 'optimal' welfare in the context of their own models, which they naturally wish to proselytise.

Perhaps the main problem for followers of the Currency School (and FRB) is that, in order for their proposals to work, there needs to be a clear, hard and fast, distinction between 'money' and 'near-money'.<sup>9</sup> Let us take an example. Suppose that narrow, FRB, banks were

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<sup>6</sup> Tooke (1856), Arnon (2011, Chapter 12).

<sup>7</sup> Allen (1993, p. 715, footnote 49), writing on 'Irving Fisher and the 100% Reserve Proposal', records that Keynes declined Fisher's plea to become an 'advocate'.

'In my judgment deflation is in the near future a much more dangerous risk than inflation. I am afraid of your formula because I think it would, certainly in England, have a highly deflationary suggestion to a great many people. Apart from that, I am satisfied that in British conditions anyhow... we can obtain complete control over the quantity of money by means much less capable of exciting unfavourable comment and opposition.'" (Letter from Keynes to Fisher, July 7, 1944 [Yale].)

<sup>8</sup> Jackson and Dyson (2013).

<sup>9</sup> Prior to 1844 the Currency School supporters did not recognise deposits as having any importance as circulating medium, while the Banking School advocates stressed the fact that only controlling bank notes was not sufficient (Fetter, 1965, p. 187).

established, while other (risky) banks continued to be allowed to offer seven-day time deposits, as now. Banks would still be able to make loans by writing up both sides of their balance sheet, only in the form of short-dated time deposits rather than demand (sight) deposits. Borrowers would have to wait a week before accessing their funds, but that is a short time for most purposes. It would, of course, make the use of credit cards considerably more expensive, since retailers would have to wait before getting paid, (n.b. debit cards could only be issued by narrow, FRB banks).

Such a system would be even more systemically dangerous than at present. As noted in Goodhart's earlier papers (1987 and 1993), private sector agents would shift the bulk of their liquid funds to risky banks during normal times. Such time deposits would have a higher return, better ancillary services (book-keeping, investment advice, access to credit, etc.), and could normally be switched back into claims on a narrow bank easily and just-in-time to make necessary payment.<sup>10</sup> *Per contra*, when fears about the solvency of risky banks arose during crises, (n.b. the standard Currency School proposal is to withdraw all deposit insurance and the public sector safety net from the risky banks), there would be a rush by private sector agents to switch funds from risky banks to FRB banks. Such a system would become even more terrifyingly pro-cyclical, indeed a recipe for disaster.

So, in order for the FRB system to work safely, banks would have to be banned from offering any form of liquid, short-maturity liability. Perhaps a one or three month time deposit, with a rigorously enforced (how?) penalty for early encashment, should be the most liquid liability which the risky banks could be allowed to offer. And what about marketable certificates of deposit? Would it be possible to impose a sharp and deep dividing line between the sight deposits of the FRB banks and the necessarily illiquid liabilities of the risky banks? And if such a division could be achieved, would not other intermediaries rush in to fill the gap? In a system without controls on international capital movements, and with electronic banking, banks situated abroad could still provide a full range of commercial banking in the domestic currency, transferring funds to and from the FRB banks instantaneously as and when a payment needed to be made. Even in a closed economy, a variety of non-banks (e.g. IT companies) could move easily to fill the gap in the liquidity spectrum needed to make the FRB, Currency School program work.

Henry Simons recognised this problem clearly, (unlike several of his colleagues, e.g. Irving Fisher; Simons comes across in Ronnie Phillips book as a particularly sensible economist). Thus Phillips (1995, pp 89-90) wrote:

'In a letter to Paul Douglas, Simons added the post-script:

"Have been a little upset lately about the banking scheme – trying to figure out how to keep deposit banking from growing up extensively outside the special banks with the 100% reserves. Just what should be done, for example, to prevent savings banks (a) from acquiring funds which the depositors would regard as liquid cash reserves or (b) from providing through drafts a fair substitute for checking facilities? After all, it is important that the reform which we propose should be more than nominal! The problem can be dealt with, of course; but just what is the best combination of expedients?

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<sup>10</sup> Governments have frequently provided narrow-type banks providing safe-keeping and payment functions, usually as a service to the otherwise un-banked poorer segments of the population. The Post Office Savings Bank (POSB) in the UK is an example. As a generality such narrow banks have rarely prospered when in open and free competition with commercial banks.

Perhaps you will have some suggestions to pass on” (Simons to Douglas, January 25, 1934, Simons Papers).

Continuing concern is also emphasized in a letter to Fisher in which he wrote: “Much is gained by our coming to regard demand deposits as virtual equivalents of cash; but the main point is likely to be lost if we fail to recognize that savings-deposits, treasury certificates, and even commercial paper are almost as close to demand deposits as are demand deposits to legal-tender currency. The whole problem which we now associate with commercial banking might easily reappear in other forms of financial arrangements. There can be no adequate stability under any system which permits lenders to force financial institutions into effort at wholesale liquidation, and thus to compel industry to disinvest rapidly – for orderly disinvestment on a large scale is simply impossible under modern conditions. Little would be gained by putting demand deposit banking on a 100% basis, if that change were accompanied by increasing disposition to hold, and increasing facilities for holding, liquid ‘cash’ reserves in the form of time-deposits. The fact that such deposits cannot serve as circulated medium is not decisively important; for they are an effective substitute medium for purposes of cash balances. The expansion of demand deposits,<sup>11</sup> releasing circulating medium from ‘hoards,’ might be just as inflationary as expansion of demand deposits – and their contraction just as deflationary; and the problem of runs would still be with us” (Simons to Fisher, July 4, 1934, Simons Papers).”

Although Simons recognised the problem, neither he, nor anyone else, to the best of our knowledge, has ever managed to resolve it. It is the Achilles heel of the Currency School, and most proponents deal with it by ignoring it.

If it were possible to maintain such a gap between narrow money and illiquid risky bank liabilities there could be further structural problems. When a bank makes a loan, it expects the money to be spent and usually end up in another bank. But, unless it is expanding far faster than average, it will expect to get back its share of the available high-powered-money. Under the ‘risky’ bank system that reflux<sup>12</sup> could be expected to be far less; indeed that is the intention. If so, all lending which occurs at the initiative of the borrower, up to a pre-committed limit set by the bank, e.g. credit cards, overdrafts, etc., would either have to be withdrawn or made more expensive and less attractive. Indeed, there are concerns that such a system, with all risky bank lending financed by long-term liabilities, would not be in a good position to meet the short-term, working capital needs of industry. Thus Phillips, (1995, pp. 149-50), notes that,

‘Thomas was concerned, however, that the 100 percent reserve system might lead to the total abolition of short-term lending, which would present difficulties for business borrowing over the business cycle (Thomas 1940, 318). During an economic downturn, a fall in loans would lead to increases in reserves of the lending institutions, thereby decreasing the money supply. This is why, Thomas notes, that the institutions offering savings and time

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<sup>11</sup> Sic. He presumably meant ‘time deposits’.

<sup>12</sup> Concern about the extent of such reflux is another hallmark of Banking School theorists, notably Fullarton (1844).

deposits must be investment trusts without the privilege of making short-term loans (Thomas 1940, 319). The result, Thomas argued, would be to “drive a large volume of such borrowing into the field of trade credit.”

Moreover the longer term liabilities that the risky banks could offer would, because they would be less liquid, require a higher rate of interest. Such extra costs would get passed onto the borrower. So, the FRB system would result in a system of risky bank loans that would be both more expensive and less flexibly available. The private sector would find its access both to liquid assets and to borrowing from banks impaired. A FRB (Chicago Plan) supporter would, no doubt, claim that this would be a small price to pay if financial stability could be thereby ensured. But that would require a whole panoply of restrictions on the issuance of near-moneys, and/or banking abroad, and it is doubtful that they could be deployed.

Furthermore (investment) banks facilitate the smooth functioning of capital markets by using their balance sheets elastically to offset sizeable discrete shifts in market flows, e.g. by underwriting and managing IPOs in the primary market and by acting as market makers in secondary markets. If investment banks could not vary their books flexibly by adjusting their needs in short-term money markets, then capital markets would become less liquid with significantly higher transactions costs. The contribution of liquid secondary markets was also highlighted by Lavington (1934)<sup>13</sup> in his book *The English Capital Market*. He argued that liquidity draws forth more investment, as opposed to a less liquid market which would deter the risk averse investors, increasing financing costs. Keynes (1934, Chap. 12) also recognised the importance of liquid secondary markets despite the risk of speculation creating instability. The alternative would be increased hoarding and less available financing capital due to illiquid markets.

One of the great attractions of the Currency School (Chicago Plan, FRB, narrow bank) proposals, however, is their elegant simplicity. Separate money creation and intermediation between savers and lenders. Control money creation through some rule, and then leave intermediaries free to compete without government regulation or support. We have tried to demonstrate why this simple version is flawed. But you cannot beat something with nothing. What alternative structure does the Banking School have to offer? This is somewhat more difficult to set out clearly since the Banking School has traditionally been rather fuzzier in its proposals.<sup>14</sup> This is partly because Banking School adherents have been more inclined to work backwards from practical empirical observation towards general principles, whereas Currency School have tended to work forwards from certain theoretical axioms to more general conclusions. But, perhaps, the Banking School can be represented as generally holding the following beliefs, (Arnon, 2011):

- In the spectrum of liquid assets there is no clear gap between monetary assets and quasi-monetary assets;
- The determination of the money stock (any definition) is largely endogenous;
- Causation runs as much from the macro-economy to money, as vice versa;
- Credit creation is the key link between money and the real economy; control over credit creation is vital, but difficult.

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<sup>13</sup> Also see Toporowski (2005).

<sup>14</sup> Viner (1932, p. 220) and Fetter (1965, p. 191).

Instead of rules the Banking School tends to aver that the various monetary aggregates should respond flexibly to the 'needs of trade'.<sup>15</sup> This is best done by having the Central Bank set its interest rate to achieve some macro-economic target, (e.g. the Gold Standard, via the Palmer Rules, but not blindly following them), or an Inflation Target (via the Taylor Reaction Function, again using judgment), and then meeting all commercial banks' demand for reserves at this chosen rate. Thus the monetary base becomes an endogenous variable, and the money multiplier works in reverse to determine  $H$ , *not*  $M$ . Similarly, given the official short rate set by the Central Bank, commercial banks should set their terms and conditions for lending, and then meet the needs of all potential borrowers who can satisfy those conditions.

This is, of course, broadly how modern monetary systems work, i.e. according to Banking School precepts. But there is an inherent problem with it; this is that borrowers and banks tend to behave pro-cyclically, getting over-excited and over-optimistic in booms and too risk averse in busts.

Banking School supporters used to think that they had a well-designed response to this, in the guise of the 'Real Bills Doctrine'.<sup>16</sup> Unlike nowadays where most bank lending is property related, in the 19<sup>th</sup> century under the Anglo-Saxon banking model, most bank lending went to industry to finance trade, inventories and working capital.<sup>17</sup> If trade increased, then output would increase in line, and under the Quantity Theory, the monetary aggregates could increase alongside without any increase in prices.<sup>18</sup>

The opposite of a 'real bill' was (not a 'nominal bill' but) a speculative, or a 'finance' bill, drawn not against productive trade and output, but for a speculative investment in an asset which was hoped to rise in price. Thus the counterpart instrument (to the choice of interest rate) which a Central Bank would use, prior to the 1930s, to maintain financial stability was to assess the quality of private sector bill finance in the money market, and to discriminate against low-quality finance bills, e.g. both by refusing to discount them and by communicating its warnings to the relevant market participants.

This 'real bill' doctrine had numerous advantages. At a time when data were scarce and Central Banks were, in most cases, unable to supervise commercial banks directly, it played to a Central Bank's strength as the key player in the money market. The doctrine unified macro-monetary policy, (an increase in  $M$  based on expanded trade will not be inflationary), and financial stability policy (preventing an expansion of 'finance' bills will constrain boom and bust), to a degree never subsequently achieved.

But the real bills doctrine was, unfortunately, wrong.<sup>19</sup> In a boom, trade can expand and unemployment fall, beyond the sustainable level leading to subsequent upwards pressures on prices and inflation. Much more important, if a severe depression should occur, trade will contract to a point where the Central Bank will not be presented with sufficient trade bills to discount to generate enough cash/liquidity to return the economy to equilibrium. The

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<sup>15</sup> See Arnon (2011) for 19<sup>th</sup> Century discussions on this. More modern writers include Kaldor (1986), and Moore (1981; 1988).

<sup>16</sup> For a concise guide to this doctrine, see Green (1989). It was a key pillar of the Banking School, e.g. Fullarton (1844) and Tooke (1844), and has been consistently attacked by the Currency School from Ricardo and Thornton (1802) onwards.

<sup>17</sup> In the 19<sup>th</sup>, and earlier centuries, increases in government expenditures were usually war-related. Wars did not increase real incomes and output. Hence bank lending to governments was regarded as inherently inflationary.

<sup>18</sup> 'If the loans or discounts are advanced on proper banking securities, for short periods, the reflux of the notes, if any have been issued, will be equal to the efflux, leaving the circulation unaltered. If, indeed, the transactions of the district, or the trade of the country generally, require more instruments of exchange, a larger amount of notes would remain out; but this increase of the outstanding circulation would be the effect of increased transactions and prices, and not the cause of them' (Tooke, 1848, p. 194. Also see, p. 185).

<sup>19</sup> Although wrong, it had some illustrious forebears, notably Smith, (1776, Chapter 2) 'Of Money'; also see Arnon (2011, Chapter 2).

Federal Reserve System had been created in 1913 specifically to operate along procedures established by the Banking School 'real bills' doctrine.<sup>20</sup> There is, alas, little doubt that a, somewhat slavish, adherence to the 'real bills' doctrine by the Fed played a significant role in the intensification of the Great Depression (1929-33). Part of the attraction of the Currency School's Chicago Plan in the 1930s was not only the purported merits of the scheme itself, but also a general acceptance of the claim that (in the USA at any rate) the 'real bills' doctrine of the Banking School had not only failed, but had failed disastrously.<sup>21</sup>

In so far as there is a current analogue to the 1930s failure of the 'real bills' doctrine, it probably lies in the failure of bank regulation to prevent the prior boom and subsequent GFC bust in 2008/9. Currency School supporters express doubt that regulation can ever achieve a satisfactory balance between control and evolutionary growth. Would it not be better to have a tightly managed, protected, core payments/monetary system, and then allow intermediation outside those limits to be largely unregulated, and unsupported by any safety net? The Currency School arguments are certainly seductive, which is, of course, why they persist in 2015, just as they did two centuries ago.

Indeed the Vickers Report in the UK (2011) is suffused with Currency School ideas. To an adherent of the Banking School, the attempt to separate money from near-money assets, or money issuing entities from other intermediaries will prove illusory and self-defeating. And the idea that the money-issuing bodies should be protected by the public sector safety net, while the rest, e.g. the risky investment banks, can be left to the mercy of the market and the operation of special resolution and bankruptcy laws, is just wrong. Recall that Lehman Bros did not offer demand deposits, and in 2008 was not even classified as a bank!

For the Banking School the essential requirement is that the quality, i.e. maturity, risk, etc., of an intermediary's assets should match that of its liabilities. If the liabilities are very short-term and of fixed value, then the assets should also be liquid, subject to little price variation, with enough equity backing to meet any expected declines in asset prices.<sup>22</sup>

A basic problem has been that the banking sector has departed massively from such Banking School precepts. Instead of making short-term, self-liquidating loans to industry, it is now making long-term, illiquid, property-related, mortgage loans to individuals, and on commercial real estate. Meanwhile banks' own liquid assets were massively run-down under

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<sup>20</sup> See Meltzer (2003, pp 69-71); Bordo and Wheelock (2013); Calomiris (2013); Sissoko (2015).

<sup>21</sup> Lloyd Mints (1945), a Chicago-based monetary economist, wrote in the Preface of his book, *A History of Banking Theory*, that,

'Monetary theory is a matter of paramount importance in a free-market economy; but, to the present time, banking legislation has been too much controlled, in the United States at any rate, by the belief that a restriction of the banks to the making of loans for bona fide commercial purposes will automatically provide for all needed variations in the means of payment. This belief, which I have called the "real-bills doctrine," is utterly subversive of any rational attack on the problem of monetary policy. If there is a central theme in what I have written, it is that this doctrine is unsound in all its aspects.'

<sup>22</sup> In the April 1861 edition of *The Economist*, in the article on 'How to read Joint Stock bank accounts', Walter Bagehot (1861) warned against judging a bank primarily on the adequacy of its capital and reserves. Rather, 'we should add together all the liabilities of the bank – its circulation, its drafts, and its deposits: see what the total is carefully; and then we should compare it with the amount of cash, loans to bill brokers, Government securities, and other immediately tangible and convertible assets which the bank has in hand. If the available money bears a good proportion to the possible claims, the bank is a good and secure bank'. On the question of 'the specific proportion between the cash reserve and the liabilities of the bank to the public', Bagehot refused to 'lay down any technical or theoretical rule upon it'. The cash ratio must be allowed 'to vary in some degree with the nature of the bank's business'. Not for Bagehot rigid control of the banking system through operations on the cash base and a stable multiplier. But then, the Banking School was a family matter for him; he had married Eliza Wilson, daughter of James Wilson, an early member of the Banking School and founder of *The Economist* in 1843. See Arnon (2011, p. 245).

the influence of the myth that any bank can always borrow necessary cash from wholesale markets. Their equity capital was, furthermore, way below that necessary to ride out a housing bust.

There is overwhelming evidence that the GFC, and indeed most post-WWII financial crises, have been the result of an interaction between cycles in the housing market and bank credit expansion, see the many papers by Jordá, Schularick and Taylor.<sup>23</sup> It is this nexus that needs fundamental reform, (in addition to the needed rebuilding of equity capital and liquid assets). Indeed one effect of the Vickers Report will be to focus the assets of the ring-fenced retail banks even more heavily on residential mortgages, thereby making the system even riskier.

One reason why there has been so little attention paid to the deleterious effect of allowing banks to fill their portfolios with long-dated, illiquid mortgages was that the encouragement of house-ownership has been, in most developed countries, a major plank of government policy. So, getting banks to finance home-ownership was consciously encouraged by (various aspects of) government policy (Wallison, 2015). Rather than do a thorough review of housing finance, with the aim of returning bank balance sheets to their traditional composition, it is easier to leave the housing/bank credit nexus untouched while blaming investment bank 'culture' and toxic exotic derivatives for the GFC, and supposing that (hesitant) moves towards separation in the banking sector will do the trick. It will not do so.

Meanwhile, the perennial battle between the Currency and the Banking Schools will continue, as the contents of Lainà's paper and our commentary on it indicate.

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<sup>23</sup> For example, see Jordá, Schularick and Taylor (2014; and 2015).

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