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Rethinking banking. Debt discounting and the making of modern money as liquidity

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Abstract

The article radically challenges the conventional view of modern banking as financial intermediation and rejects the mutually-related notion, firmly entrenched in both the mainstream and alternative imaginary, of fractional reserve banking. By contrast, it argues that modern banks are peculiar financiers which, far from banking other people's money, are originally and primarily involved with making money by creating a most fundamental institution of capitalism: liquidity. Crucially, central to the bank-engendered creation of liquidity is a negotiation of value that does not involve any formal lending of cash by a creditor - in fact, it does not require a creditor at all. Instead, it relies on a quid pro quo of debts performed by means of discounting whereby a regime of fluid property relations of mutual indebtedness, commonly known as debt finance, is established. In this regime of liquidity money is constructed as entirely a debtors' money: it is the outcome of a process of monetisation of bank debts entangled with a capitalisation of other people's debts.

Keywords: Banking - Financial Intermediation - Fractional Reserve - Debt Finance - Liquidity - Discounting - Monetary Theory

Introduction

When today we think about capitalism and its primary agents the first thing that comes to mind are not industrialists, entrepreneurs, managers, workers, or state officials. Instead, often full of resentment, our mind goes to bankers. This should not be surprising: we live in an era where debt constitutes 'the most gigantic species of property' (Macleod 1883: 157) and bankers are the undisputed masters of debt. As we have abruptly come to experience in recent years, we owe banks our economic freedom and political sovereignty - indeed, we owe them everything. Banks have become more

influential than governments in shaping monetary and fiscal policies and, more generally, in setting the economic and moral standard for what needs to be done in order to earn the daily bread. This all-encompassing standard is epitomised by debt. Undoubtedly, debt has always been a fundamental aspect of social life (Graeber 2011). Its significance, however, has deeply changed over time. Traditionally, debt had a stigma attached to it. As an etymological study of the word would reveal, in Indo-European languages the word 'debt' arose out of notions of 'guilt' and 'sin' (Ingham 2004; Hudson 2004; Dodd 2014). And so, in classical antiquity as well as in the Middle Ages, being in debt normally involved being at the margins of political hierarchies: debtors were usually subject to bonded labour and it was very difficult (if not impossible under certain circumstances) for them to break their nexus. By contrast, starting from the modern era being in debt has progressively become the basic rule for being in society. That is, debt has lost its significance as a social and political burden (a synonym for 'not having' or 'lacking' political power) and it has turned into capital. Today the economic and social predominance of debt in capitalism is such that everybody - governments, corporations, households - have sunk into it well beyond any concrete possibility of getting out of it. Debt is so chronic and pervasive that even banks, which stand in our imaginary as the par excellence creditors, have managed to run into massive debt. Thus the expression 'too-big-to-fail' has been coined to make sense of the fact that, far from operating on a solid ground of credit, the biggest banks on earth are today the most heavily indebted and financially endangering agents of the global political economy. More than every other debtor, these megabanks cannot fail lest the entire financial infrastructure of capitalism would collapse.

This is very puzzling to say the least, and it calls for a number of questions. To begin with, why is it that banks, namely those who allegedly get to lend money in virtue of their exceptional credit, are in fact the biggest debtors on earth - so indebted that following the global financial crisis they have been basically granted with the privilege of not paying for their 'sins'? Secondly, provided that debt nowadays constitutes the most gigantic form of circulating capital, so much that owing has become a precondition to owning, who are the actual creditors that should be rightfully paid off? In asking these basic questions, this article wants to go in the direction of reformulating what a number of scholars have termed the 'problem with banks' (e.g. Rethel and Sinclair 2012). Its argument moves from the observation of a paradox at the foundation of modern finance. This paradox is so bright and dazzling that it prevents us from seeing a simple truth: modern finance is a system of liquid property relations whereby '*money cannot exist without the simultaneous existence of a debt that it will never discharge*' (Sgambati 2015: 331, emphasis in the original). Under this peculiar financial regime, not only do people need to run into debt in order to obtain liquidity but, what is more interesting, banks also need people to get into debt in order to make more money. All in all, this is a financial regime of money-making 'that would collapse if everyone paid his debts' (Bloch, cited in Ingham 2004: 108).

As absurd as it may sound, this vicious circle is perfectly in line with current financial developments. Indeed, as the progressive securitisation of household debt in the Western world seems to confirm, banks want us to get into debt regardless of whether we will honour it or not, because in the meantime they can make masses of money out of it. Debt is their goldmine. And yet, as the global financial crisis has made largely evident, the more money banks make by capitalising on other people's debt, the more prone to catastrophic bankruptcy they become as they find it more and more difficult to liquidate their debts (alas, to atone for their debts mankind is being crucified on a cross of austerity). All in all, this paradox is very reminiscent of the well-known

'Midas complex' (see Amato 2010). Notably, this complex is often interpreted as a psychological archetype of all those irrational practices that stem from an alienating experience of money. This article, however, will not cling to this line of argumentation to explain the agency of modern banks. As it will be argued, the problem with banks does not stem from 'animal spirits' or purely 'speculative motives', to borrow two popular metaphors from Keynes. Quite the contrary, this problem has a rational, pragmatic and technical foundation that can be traced back to financial innovations that historically arose out of the need to overcome structural problems of monetary scarcity (as connected to precious-metal coinage). More specifically, it will be suggested in what follows that the problem with banks is ultimately the problem of creating liquidity whilst making everybody liable for it.

Regrettably, this problem has not been sufficiently explored by current scholarship. Our understanding of banking is still anchored to a dogmatic notion of banking as a system of financial intermediation. This notion implicitly neglects the fact that through the banking process new money (qua liquidity) is infused in the financial system. It is therefore not a coincidence that the dogma of banking as intermediation is often preached together with the myth of modern money as a creation *ex nihilo* or by fiat. As I will show, these two beliefs support each other and are subtly employed to contrive an a-historical and pre-political view of modern banking as a neutral factor in the process of capitalist accumulation. The purpose of this article is therefore to restate the centrality and autonomy of bank agency in the making of modern money and finance. As I will argue, banks are neither neutral nor parasitic agents. Instead, like any other capitalist entrepreneur, 'they are in business to maximize profits' (Minsky 1986: 256) and this can have highly disruptive consequences for society. This said, banks nonetheless provide the basic financial infrastructure of capitalism and have been responsible for making its financial system flexible and responsive to business (Minsky 1986: 278). In other words, banks are productive forces - indeed the most productive of all capitalist forces. This is not simply because our systems of national accounting have progressively shifted the ideological boundaries of economic productiveness to include banks under the rubric of those who generate profits, as Christophers (2011; 2013) has recently argued. Instead, banks are productive because in the process of making money they have historically come to reshape the latter as liquidity and, in so doing, they have redefined the very 'constitutive rules' of capitalist accumulation and money-making.

The dogma of banking as intermediation

The idea of banking as intermediation is firmly entrenched in the contemporary imaginary. As it is typically argued, a bank provides an intermediation function between savings and loans: it takes deposits from those who have a surplus of money and lends part of these funds to those who need money to meet their payments and/or start a business. The bank lends in exchange for a fee, called interest, representing a premium that the bank accrues for the risk it takes whenever it makes a loan. From this perspective, the bank functions as a portfolio manager and book-keeping agency (see Fama 1980): it borrows cash from its creditors and then lends it at interest to its debtors with the purpose to make a profit from the difference between what is paid to depositors and what is received from borrowers, and in the process of brokering this peculiar type of stock, it keeps the total accounts of creditors and debtors in the time-structure of its double-entry balance sheet.

According to this view banks cannot generate value but can only be instrumental to its redistribution: consequently, profits in banking will be dependent upon profits in the

real economy, where value will be ultimately produced. Notably, this view is not only shared by mainstream economics but is also endorsed by many heterodox scholars who, despite recognising the central role of banks in producing liquidity, similarly contend that banks 'are not the actual source of the credit granted to the borrowers' but mere 'go-betweens' (Gnos 2006: 96), for they 'cannot provide the "content" of payments' (Rossi 2006: 122). In general, scholars tend to deny the possibility of an intrinsic productiveness of banking, thus promoting the misleading idea of banking as a third party that is economically neutral in the process of value creation (or, even, parasitic). That is to say, despite lending money, banks are not genuine financiers. Instead, they merely facilitate the meeting of actual creditors and debtors by 'equilibrating' the demand and supply of cash via their interest-earning lending operations.

Such an understanding of banking is intimately connected to the notion of fractional reserve banking. This notion can be extensively found not only in mainstream textbooks of economics (e.g. Mankiw 2009; Case *et al* 2011) but also in critical accounts of modern banking, money and finance (e.g. Wray 1998: 86, 163; Ingham 2004: 139; Rethel and Sinclair 2012: 32; Christophers 2013: 30), and is used as an educational tool for learning money creation (Pearlman and Rebelein 2013). The fractional reserve mechanism captures in a nutshell a fundamental principle, or logic, of intermediation: when banks (or agencies alike) intermediate, they do not lend their own funds but part of overall deposits held by account holders, whilst retaining a fraction as a reserve to meet reasonable demand. Such a logic of intermediation practically corresponds to the institution of 'loan and deposit banking' or, simply, 'deposit banking': a form of finance where the mobilisation of capital does not necessarily require the circulation of cash but is ultimately accomplished by means of credit-debit bookkeeping. In fact, under the regime of deposit banking cash can be safely stored in banks' vaults while clearing checks and deposit transfers are employed to execute payments and debt settlements. More generally, the logic of fractional reserve banking implies an institutional separation between credit and money that can be exemplified as the following principle: 'money is the means of circulation of goods, while credit is the means of circulation of money' (de Boyer 2013: 556).

The peculiarity of fractional reserve banking lies in the asymmetrical time-structure of the bank's balance sheet, whereby liabilities are to be met in the short run (on demand) whereas assets are only disposable in the long term. In jargon, 'reserves fall short of deposits'. As a result of this maturity mismatch, a bank operating on the basis of the fractional reserve mechanism is at any point in time inherently bankrupt (Rothbard 1983; Huerta De Soto 2006; Admati and Hellwig 2013) or, as Bjerg (2014: 146) says, '*ontologically insolvent*'. That is, it is unable to convert at once its total liabilities into cash. Having said this, the structural insolvency of fractional reserve banks does not necessarily prevent the banking system as a whole from being solvent over a predictable 'ergodic' time[1]. This is because at the aggregate level assets are bound to match liabilities *ceteris paribus*, so that credits and debts will cancel each other out. In particular, if a bank is found 'short' of reserves (with insufficient funds to meet its depositors' demands, or its reserve requirements), some other bank part of the same fractional reserve system will be 'long': all that is needed for fractional reserve banking to work smoothly is a clearing facility and an interbank market for reserves, so as to overcome frictional shortages of cash. As a result, fractional reserve banks are collectively able to overcome the maturity mismatch and enhance the payment system *in spite of their inability to create money*. However, they can do so only on condition that they co-operate *in view of the closure of all accounts between creditors and debtors* by functioning as a multilateral clearinghouse.

What is more, banks must be very careful to set a reserve ratio in harmony with the growth rate of the economy[2]. This is because under such a monetary management although no single bank can create money 'out of thin air', the banking system as a whole is able to stretch the total quantity of means of payment in circulation (as economists say, it gives 'elasticity' to the money supply) in conformity with the principle of the 'money multiplier' (see Mankiw 2009; Case *et al* 2011). This can have potentially destabilising effects for the economy, especially if bank lending is steered away from production. In particular, the bank management of other people's money may involve asymmetrical information, adverse selection and moral hazard (Mishkin 2004). Altogether, this is likely to induce banks into bad and/or speculative loans, with the risk of incurring forfeitures and, more importantly, a loss of credibility. This can cause a bank run or, worse, a bank panic that could seriously endanger the payment system and the economy at large.

To prevent a bank run, it would be sufficient for the bank that has incurred a loss of credibility to raise its reserves to avoid defaulting on its obligations. It could do so by selling its own capital, by calling in short-term loans and, especially, by borrowing in the interbank market. However, during a bank panic banks fear for their own solvency - as they are all technically bankrupt - and they might refuse to lend to each other, thus failing to cooperate and unknowingly helping to precipitate the crisis. This allegedly provides a rationale for the establishment of a central bank that is responsible for supervising bank lending and setting bank reserve requirements in accordance with the rhythm of the economy, and which in addition serves as a centralised clearing facility and, especially, as the 'lender of last resort' whenever banks fail to cooperate (Mishkin 2004; see also Wray 1998: 163-5).

The myth of the origins of modern money and finance

Interestingly, while the notion of fractional reserve banking is generally employed to explain the lending operations of modern banks and, even, to justify the emergence of central banking (e.g. Knittel *et al* 2006: 258), '[t]he existence of fractional reserve banking is in itself not a distinct characteristic of the contemporary paradigm of money' (Bjerg 2014: 141). Indeed, as many scholars have pointed out, the basic accounting logic underpinning fractional reserve banking can be envisaged in the clearing operations of medieval Great Fairs (see Amato 2008; Amato and Fantacci 2012; Knafo 2013), and was already known in classical antiquity well before the mass development of paper instruments (Cohen 1992; 2008; Harris 2006; 2008; von Reden 2010). In fact, I would go further to say that, as a rule of thumb, one should expect to find the basic logic of intermediation underpinning fractional reserve banking whenever in history complex clearing systems for debts have been seen at work, and this goes as far as the late third millennium BC (Davies 2002; Hudson and Wunsch 2004).

Considering its applicability to the financial praxis of the ancient world (as *the* basic logic of intermediation), it is striking to find out that the concept of fractional reserve banking is not only used to explain the functioning of modern banking but is also evoked in many cases to justify the historical transition from precious-metal 'commodity money' to scriptural 'fiduciary money' (or 'fiat money'). This is indeed a transition that has not only taken place in relatively recent times, but which has also involved the institutional transformation of something that fractional reserve banking, other than intermediate, is unable to produce in principle: money. The basic argumentation for this epochal change is rather straightforward: once banks have established a stable financial infrastructure for the liquidation of debts via cash intermediation, they will be trusted

enough to introduce scriptural substitutes for cash - cheques or certificates of deposits universally known as 'banknotes' - with the purpose to reduce transaction costs on hard currency such as bullion and precious-metal coinage[3]. The introduction of banknotes, indeed, not only counteracts the phenomenon of clipping but it also makes more secure and efficient the transfer of considerable sums of money between economic agents. The Bank of Amsterdam provides a good example of this monetary development. The bank was established in 1609 as a bank of deposit that issued at a premium certificates of deposits (akin to dock warrants) to the exact same amount of hard currency kept in its vaults, in line with the so-called 'currency principle' (also known as the '100 percent fractional reserve' rule)[4].

The introduction of substitutes for cash, however, only tells half the story. What is more interesting is that according to this common-sense view the material transition from metal to paper is also bound to magnify inflationary pressures on the economy, since the very possibility to employ substitutes for cash carries the irresistible opportunity for bankers to issue notes in excess of reserves, that is, to *fake* certificates of deposits. Typically, scholars associate the fraudulent practice of over-issuing paper money with the financial operations of London's goldsmiths in the mid-seventeenth century. The 'parable' (Mehrling 2000: 400) of the greedy and dishonest goldsmith bankers has been reproduced countless times in mainstream as well as alternative texts (e.g. Rothbard 1983; Case *et al* 2011; Werner 2005). As the story goes (I am here providing an archetypical version of it), in a time of political turmoil for the English society, the market for luxury jewellery was particularly sluggish, and the goldsmiths of the City of London had to reinvent their business. And so, in exchange for a fee, they began to offer safe-keeping services to people who feared for the safety of their valuables. To certify these bailment contracts, goldsmiths issued certificates against all precious metal and coins kept in their vault. Because of goldsmiths' reputation, these certificates were deemed to be 'as good as gold' and, in time, depositors began to pay for their purchases by handing their certificates over. The certificates thus started to circulate widely. Smelling an opportunity, goldsmiths began to accept deposits for free and even pay interest on time deposits to add more capital to their portfolio. But then, and here the story gets interesting, they did not just simply lend at interest the coins kept in custody to make a profit in conformity with the principles of fractional reserve banking. Instead, they began to issue anonymous gold certificates redeemable on demand to the bearer *in excess of* their deposits, that is, certificates that *did not circulate on behalf of cash*, as a 'veil' of creditor-debtor relations, but *in addition to* it, as a 'net worth'.

And so, legend has it that goldsmiths 'had managed to do what kings, emperors and alchemists had failed to do' (Werner 2005: 172): they had learned how to create money *out of nothing*, thus infringing on a basic principle governing the transfer of property, namely the *nemo dat quod non habet* rule (Fox 1996; 2008). In so doing, they committed fraud, embezzlement and counterfeit. But what is more important, they also brought about an enormous confusion as to whether the money circulating in their name actually represented a title of property in the hard currency, and thus a 'real' share in the wealth of the English nation, or a mere promise of redemption in specie, hence a 'nominal' debt of dubious value. In fact, the goldsmith alchemy gave shape to a money with no record in history: for unlike any previously existed means of payment and exchange, the broad acceptability and circulation of this money was not directly linked to the value of a commodity, but ultimately rested on the credibility of its issuer[5]. It was the dawn of modern finance. Or so they say.

In fact, as I will show in this last section, the above-mentioned story is nothing but a blatant mystification of the scopes of the English financial revolution started in the mid-seventeenth century. Yet the story has the merit of showing, though unwillingly, that in fact the modern banking alchemy has nothing to do with fractional reserve banking and the intermediation of money in the sense that is commonly attributed to it. Quite the contrary, it is connected with the institutionalisation of a financial practice that involves the *creation* of money, allegedly out of nothing, and by fraudulent means, but in reality out of something that has not been quite understood yet. Indeed, other than dissimulating fractional reserve banking with fake certificates of deposit, goldsmiths learned how to discount other people's debts with their own IOUs in a way as to expand their 'credit' beyond their original portfolio in a sustainable fashion. The direct consequence of this peculiar financial innovation was the creation of something that fractional reserve banking is logically unable to attain: liquidity.

Creating liquidity: a critical, no-nonsense look at banking

While virtually every scholar of money and finance takes somehow for granted that the origins of modern banking can be traced back to innovations in fractional reserve banking (such as its capacity to hybridise currency and credit via note-issuing and hence promote a culture of trust), it is worth noting that this notion can hardly be found in the writings of one of the most prominent scholars of modern finance: Hyman Minsky. Indeed, in furthering Keynes' insights, Minsky has promoted a 'critical, no-nonsense look at banking' (Minsky 1986: 255-6) that defies common sense and radically challenges a whole set of theoretical assumptions about what banks actually do. To begin with, according to Minsky the main business of banking is not money-lending: 'to lend, a money lender must have money' (Minsky 1986: 256). Banks, on the contrary, 'do not operate under the constraint of a money lender' (Minsky 1986: 278). Instead, they 'lend by taking on an obligation to make payments on behalf of a borrower in the future, confident that when the time comes they will obtain the asset needed to fulfil these obligations either as a result of flows in their favour by prior borrowers or by dealing (borrowing, selling) in some market' (Minsky 1986: 251; 1987). Secondly, and related to the first point, 'banks and bankers are not passive managers of money to lend or to invest; they are in business to maximize profits' (Minsky 1986: 256). Crucially, the way banks make profits is not by brokering cash, but by *dealing* debts on expectation of future cash flows: they are essentially 'merchants of debts' (Minsky 1986: 279; 1987).

In the wake of Minsky I argue in this article that modern banks are peculiar capitalist entrepreneurs, namely financiers, which, far from being neutral (or parasitic) in the process of wealth production and accumulation, are originally and primarily involved with the creation of what, from a financial perspective, constitute a most fundamental institution of capitalism: liquidity. Accordingly banks do not merely facilitate payments (as in the 'fractional reserve' paradigm) but, more significantly, they enable a type of finance commonly known as debt finance. The latter consists in a regime of fluid property relations whereby debts are routinely monetised and, consequently, can be readily traded as commodities and accumulated as capital.

Therefore, in order to understand the problem with banks we need to grasp the problem of liquidity. This is not an easy task for the simple reason that liquidity connotes a number of different phenomena. Liquidity is a measure, a quality, a quantity and even a probability; it is a structural property of markets as well as a contingent attribute of financial assets (see Nesvetailova 2010: 6). Perhaps a way to tackle the complexity of this notion is to acknowledge that liquidity is not really a material thing

but is best understood as a relation. In effect, as the word immediately suggests, liquidity has nothing of the solid's properties: in financial jargon one could say that it is not a 'stock' but a 'flow'. As such it appears as having neither beginning nor end. And yet, like Heraclitus' river, liquidity too can be traced back to an organising principle that ultimately governs its existence and in absence of which it would become literally impossible to think about. This organising principle, or *logos*, is money. More specifically, liquidity is created out of the desire or need to make money - *more* money than there currently is. Accordingly, the creation of liquidity cannot be understood without reference to financial practices of *money-making*.

The link between liquidity and money-making is such that to speak of illiquid money would be 'either an oxymoron or a definition of a monetary crisis' (Bryan and Rafferty 2015: 1). This said, liquidity is not the same as money: it is neither simply another way to define the intrinsic 'exchangeability' or 'marketability' of money, nor is it semantically identical with 'cash', though it is often used as a synonym for both. Instead, liquidity is a *metaphor* for money - one that conveys the porosity of its modern phenomenon and fills its metaphysical vacuity with a fluid meaning[6]. Significantly, as a metaphor, liquidity does not really provide a statement about what money is but 'a statement about what happens to money' (Bryan and Rafferty 2015: 3): it is 'a social process relating to money' (Bryan and Rafferty 2015: 3). In particular, it is here argued that the phenomenon of liquidity relates to the institutionalisation in modern times of the possibility to readily negotiate and trade debts *by means of bank debt*. Crucially, this is a *historically-specific process* of capitalisation and monetisation of debts that, as will be pointed out later, can be traced back to financial innovations in early English banking. The corollary to this thesis is straightforward: modern money is neither a product of the market nor a creature of the state. Instead, it is entirely a creation of banking.

To properly address the question of liquidity - therefore of how banks have historically come to monetise their debts - it is important to preliminarily recognise that modern money is not simply an accounting phenomenon connected to bookkeeping and balance-sheet operations, as many heterodox thinkers like to think[7]. Instead, it is entirely a *financial* phenomenon. That is to say, the institution of modern money does not stem from the quasi-universal economic necessity to 'measure value' (e.g. the value of debts), but is entangled from the start with the contradictory, self-referential and speculative desire to make (more and more) money. This desire is responsible not only for inducing alienation but also for sparking financial innovations in the ways people *do* make money. Notably, in modern times these innovations have converged on one crucial *ratio*: to make money one must find new ways to promote, sell and finance indebtedness. This rational motive is especially relevant for banks. Indeed, as they engage with the systematic creation of liquidity through their pseudo-lending operations, they grow more and more indebted and are consequently forced to develop new strategies to sustain their levels of indebtedness and/or honour their financial commitments.

Needless to say, this sounds rather paradoxical at first: how is it possible that the more banks lend, the more they become indebted? The common explanation for this is that the money that banks lend to their customers is the same money they have borrowed in the first instance from depositors. In contrast with this line of argumentation, I am going to explain that banks do not run into debt when they 'borrow' from depositors but as they 'lend' to their customers. That is, *they get indebted with their borrowers* and, more generally, with all those who will bear their 'loan'. The liquidity they create through their pseudo-lending operations therefore stems from the comparative advantage of *owing* money vis-à-vis owning it. Crucially, exploiting this

comparative advantage has very little to do with taking advantage of asymmetrical information between creditors and debtors by lending at a higher rate whilst borrowing at a lower one (in line with the arbitraging logic of financial intermediation). Instead, it relates to the art of swapping other people's debts, which are less credible and secure, with banks' own debts, which are much safer and far more credible. Hence, as countless scholars have already pointed out, what a bank has to offer to those who seek liquidity is nothing but a promise of payment that nonetheless functions as a pro tem means of payment in virtue of its credibility. Like a modern Jesus (though one lacking in Christian piety), the bank agrees to take on its debtor's debt and guarantees for its redemption[8]. In so doing, the bank relinquishes its traditional status as a powerful creditor that looks down on its debtor and chooses to become a prophet-debtor that walks among debtors whilst preaching faith in money.

The problem of creating liquidity is therefore the problem of establishing a sustainable regime of mutual and permanent indebtedness. If we consider the relevance that debt plays in our daily lives, this makes terrible sense. In the contemporary world we own to the extent that we owe, and we owe to the extent that we hold money. In other words, modern money is that title of property that gives us the power to owe without having to lose our prerogatives (and liberties) as property-owners. The peculiar character of money as power is evinced from the fact that *we can never fully own it* (indeed, in referring to it, we are likely to say that we 'have' money or 'owe' money, but it would be simply awkward to say that we 'own' money). Like a liquid, money cannot be seized and grasped, not even by an 'invisible hand'. It is property that never materialises as such - the paradoxical blind spot of modern property relations. How have banks managed to place such a *objet petit a* (Cooper and Konings 2015: 242; Bjerg 2014: 30; 162) at the foundation of modern life? Is the institution of modern money simply a spectacular example of self-fulfilling prophecy or is there a story of self-made prophets behind it?

Once again, referring to Minsky can help us shed light on this mystery. As he insightfully pointed out, modern money is 'a *type of bond* that arises as banks finance activity and positions in capital and financial markets' (Minsky 1986: 250; 1987: 3). Central to the bank process of money creation is what Minsky called the 'position-making activity', that is, the ability of a bank to arrange 'its asset structure so that it always has assets that can be used to force cash to flow towards it without forcing a halt to its basic line of business, the short-financing of commerce and industry' (Minsky 1986: 81). This position-making activity of banks involves a strategic expansion of banks' original portfolio of assets through an active pursuit of 'good securities' (debts that are either self-liquidating or can be easily sold to third parties). Altogether, this practice has nothing to do with the portfolio management performed by fractional reserve banking, but is best known as 'asset management' - a form of banking that historically found in the real bills doctrine its original ideological foundation (Konings 2011: 19).

Bank asset management directly points to a crucial issue that scholars of banking should always keep in mind: in the effort to force a cash flow in their favour without affecting their basic lending posture, position-making banks are not really concerned with the so-called 'maturity mismatch' or 'maturity transformation problem' (e.g. Howells and Bain 2005: 14; Rethel and Sinclair 2012: 32). The latter is in fact a bookkeeping problem that arises when banks shift other people's credits and debts by borrowing 'short' and lending 'long' in line with the fractional reserve logic. Asset management, on the contrary, involves what has been termed the 'liquidity transformation problem' (Admati and Hellwig 2013: 158) or 'liquidity risk' (de Boyer

2013). This problem arises precisely when banks stop acting as mere intermediaries and start acting as genuine financiers by 'expanding' their own credit, that is, by issuing their own money in the form of 'immediately payable debts (notes and deposits) in counterpart of future payable assets' (de Boyer 1998: 62). Indeed, in order to honour their financial commitments, position-making banks ought to organise their asset structure in a way so that they can either force a cash flow from their debtors or sell assets to increase their liquidity on demand. Accordingly, the problem they face is not really how to 'swap' credits from savers to borrowers in order to be ergodically solvent, but how to 'capitalise' other people's debts in such a way as to be structurally liquid[9].

As a result, 'banks make financial commitments' not because they have idle money (i.e. fractional reserves), but 'because they can operate in financial markets to acquire funds as needed' (Minsky 1986: 256), in line with the financing logic of asset management. This means that they are able to finance activities and monetise their own debts to the extent that they can take the risk (and opportunity) of capitalising and transforming other people's debts into securities that can be readily *liquidated*. Crucially, as I am going to argue in the next section, at the basis of this process is a speculative calculus commonly known as discounting.

Discounting: monetising bank debts whilst capitalising other people's debts

Notably, one of the first scholars to emphasise the capacity of modern banks to construct debts as capital and, ultimately, as money, was Scottish political economist Henry Dunning Macleod, a contemporary of Karl Marx who, according to Schumpeter, failed to achieve recognition 'owing to his inability to put his many good ideas in a professionally acceptable form' (Schumpeter 1986: 1081). Macleod was in fact a forefather of twentieth-century credit theories of money (Mitchell Innes genuinely praised his work for its originality and vision[10]). In his *Theory and Practice of Banking*[11] he insightfully suggested that modern money is neither a product of the market nor a creature of the state, but peculiarly a creation of banking. Central to Macleod's analysis is the notion of discounting: a method by which the present price of a debt is constructed in relation to its prospective value, that is, in view of future earnings that are expected to flow from its ownership[12]. To paraphrase Keynes (1937: 216), discounting is a calculation that 'lulls our disquietude': one that, unlike the type of accounting performed by fractional reserve banking, does not involve the mere book-keeping of debts, and thus the commensuration of values that are already given, but their active fabrication on the spot.

Now, according to some scholars the discount rate is essentially an inbuilt interest rate devised by moneylenders as a way to get round the historical ban on usury (see De Roover 1974). There might be some truth in this argument. Yet it must be pointed out that discounting follows a logic that is radically different from the one that underpins the practice of lending at interest. Money-lending moves indeed from the premise that a sum of cash today is worth more than the same sum of cash tomorrow, because in the meantime the sum can be lent out at interest. As it is typically argued, *interest values the certain above the uncertain* (Fantacci 2010: 80). Discounting by contrast moves from the premise that a debt tomorrow is worth more than the same debt today, once its solvability is verified. Hence *discounting values the uncertain above the certain*. Accordingly, the debt discounter does not ponder over how much a £100 in cash will be worth in one year if it is lent at 5 percent, but rather how much a £100 bill due in 3 months would be worth today before maturity. Upon making its calculation, the banker buys the bill at a lower price than its nominal value (minus the discount), with the

confidence to gain a greater cash inflow in the future, as connected to the liquidation of the discounted debt. The more distant and less certain the future, the greater the cash inflow.

And so, whereas the interest rate assesses the future value of a present sum of money, thus allowing for a mobilisation of the past (what is freely owned by the lender in the form of equity and by the borrower in the form of collateral) the discount rate establishes the present value of a future sum of money, thus allowing for a capitalisation of the future (what is owed in the form of debt). Notably, the higher risk that is associated with discounting vis-à-vis money-lending is translated into a higher profitability. As Macleod (1883: 372) explains, '[i]f a person lends £100 at 20 percent interest, he advances £100, and at the end of the year he receives £120: which is a profit of 20 percent. If he discounts a bill for £100 at 20 percent, he advances only £80, and at the end of the year he receives £100: which is a profit of 25 percent'[13].

The notion of discounting is currently at the core of a profound reconsideration of the historical and institutional foundations of modern capitalism (see for instance Nitzan and Bichler 2000; 2009; De Soto 2000; Amato and Fantacci 2012). This is with good reason. However, I will argue that the exclusive focus on the technical dimension of discounting fails to capture the specificity of modern banking. Instead of looking at the mere act of discounting, we ought to look at the type of financial relation that is constructed by means of it. In this respect, we must distinguish as a heuristic expedient between two ways of discounting debts: one, 'pre-modern', is the buying of a debt at a discount with cash; the other, 'modern', is the exchange of an interest-earning debt with a maturity date for an interest-free debt that is redeemable on demand (such as a banknote or a demand deposit). Whereas in the first case the negotiation carried by means of discounting qualifies as a standard creditor-debtor relation (akin to an extent to money-lending), in the second case it assumes the contours of a debtor-debtor relation, that is, a relation of *mutual indebtedness* between 'lender' and 'borrower' (see Kim 2011).

Macleod understood well the difference between these two forms of debt discounting. As he emphasised on more than one occasion, what truly characterises the modern banker is not his propensity to buy debts at a discount with money (by which he meant 'cash'), for 'that is the business of a bill discounter, or a bill broker' (Macleod 1883: 325). On the contrary:

> [the modern banker] always buys money with his own credit: or, by giving in exchange a right of action to demand back an equal sum at any time: and, moreover, when he buys commercial debts, or discounts commercial bills of exchange, as it is technically termed, he does it in exactly a similar way: in exchange for the bill of exchange he gives his customer a credit in his books: or the right to demand a sum of money from him....[The banker] buys the bill, which is debt payable at a future time, by giving his customer a credit in his books for the amount of the debt, less the discount: which is a right of action the customer has to demand the money if he chooses. That is, *he buys a right of action, payable at a future time, by creating or issuing a right of action, payable on demand* (Macleod 1883: 320, 325, emphasis added).

Eventually, the modern banker does not profit from intermediating other people's money as a broker of cash, but he literally makes money by buying other people's debts with its own IOUs, as a dealer of debt[14]. As Macleod put it, he is 'a trader whose business is to buy money and debts by creating other debts' (Macleod 1883: 321).

Central to this negotiation of debts is the bank's *capitalisation* of the debtor's obligation. That is, upon discounting one's debt, the bank immediately turns this debt into a security that accrues on the asset side of the bank's balance sheet. Crucially, this is done *without the requirement of actual collateral* (that is, physical collateral), because the debt itself, pooled together with other debts, goes to serve as the intangible security for the undertaking of the bank's own debt. And so, the capitalisation and pooling of debtors' obligations provides a foundation for the *monetisation* of bank IOUs. In exchange for the debtor's promise of payment, the bank makes its own promise of payment which, unlike the borrower's own, is readily negotiable and generally accepted at par, and it thus carries a 'liquidity premium'. This premium consists in the *bank guarantee of the borrower's ability to pay*: 'by accepting a debt instrument, [the bank] agrees to make specified payments if the debtor will not or cannot' (Minsky 1986: 256).

Needless to say, modern discounting is a financial practice that radically challenges our understanding of banking, as it is currently exemplified by the logic of fractional reserve banking and the notion of money-lending. Indeed, from the perspective of traditional money-lending, money is semantically identical with cash: as Keynes (1936; 1937) put it, it is the price the borrower has to pay (via interest payment) corresponding to the lender's reward for partying with cash for a specific period (see also Fantacci 2010). On the contrary, from the perspective of modern discounting, money is not the same as cash but, quite the contrary, something that is able to *overcome the institutional limits of cash*. In other words, money is the price one has to pay to establish a relationship of mutual indebtedness that allows the holder of money to enter a speculative game that can be protracted indefinitely without ever having to 'cash in'. In short, money is liquidity: the power to 'buy time' in financial markets for debts (Sgambati 2015: 327-8). As it will be argued in the next section, it is not a coincidence that the institutionalisation of bank money is connected with: the progressive demobilisation and marginalisation of hard currencies; the corresponding shift in financial governance from currency exchange to debt management; the rise of financial markets; the growing obsolescence of coins as the main emblem of what is current in exchange.

Significantly, in addition to entailing a growing marginalisation of cash, modern debt discounting is also responsible for turning physical collateral into a 'barbarous relic', to paraphrase Keynes. Indeed, for much of the history of civilisations pledging physical property was a *conditio sine qua non* to secure the borrowing of money (see Heinsohn and Steiger 2000; 2009). By contrast, the most innovative aspect of modern bank discounting lies in its capacity to do without the encumbering of any physical property by the debtor. As Minsky (1987: 4) has pointed out in this respect, in modern banking 'the collateral [behind a debt] is of secondary importance - the bank-customer relation has failed whenever there is a need to capture collateral'. Instead, the success of the bank-customer relationship depends on the ability to negotiate debts to the mutual benefits of both counterparts. Hence, upon discounting a debt, the bank does not need to collateralise any physical pledge; instead, it capitalises the very debtor's obligation. however, in exchange for discounting the debtor's promise to pay, the bank does not offer hard currency ('sound money'). Instead, it creates liquidity in the form of an intangible promise to pay that supposedly preserves the bearer's right to access the currency on demand for final debt settlements. Money is thus constructed as an anonymous promise of payment that is readily negotiable and accepted at par, and which consequently fulfils *pro tempore* the function of means of payment and general medium of exchange. Once again, no actual lending of cash is involved, let alone its intermediation (by means of bookkeeping). Instead, the creation of liquidity relies

exclusively on a silent *quid pro quo* of debts that entails a marginalisation of cash and a superfluity of physical collateral. Liquidity, unlike cash, is utterly a *debtors' money*.

Historicising money as liquidity: the 'goldsmith alchemy' revised

The early history of liquidity is for all practical purposes the story of the rise of modern banks of issue. This story is largely weaved in the context of seventeenth-century England, but it is fair to say that its plot is deep-rooted in a broader narrative that encompasses (at least) the entire European continent and which goes back to the Middle Ages and the early modern era. The prologue to this narrative can be summarised by one word: scarcity. Before it was inherently liquid, money was inherently scarce[15]. Throughout the Middle Ages a number of financial strategies and practices were devised on the European continent to counteract and exploit the structural lack of cash. This included in particular the use of credit instruments as paper substitutes for precious-metal coinage (Boyer-Xambeau *et al* 1986; Davies 2002; Amato 2008). Notably, employing substitutes for coins was not as easy as the myth of the fraudulent goldsmith bankers would seem to imply. Indeed, '[w]hen substitutes, such as paper money, were created there was always a danger of fuelling inflation and thus undermining the credibility of these substitutes. [...] Despite innovations such as bills of exchange and certificates of deposits, it proved difficult to transcend the reliance on precious metal' (Knafo 2013: 43). To further complicate matters, the reliance on financial instruments was restrained by the pontifical stigma attached to usury.

Consequently, by the end of the Middle Ages, European finance had come to rely mostly on currency exchange, a practice that often concealed a speculative form of money-lending whereby interest was earned by arbitraging between currencies (Knafo 2013: 44-5). Notably, currency exchange led to the consolidation of two forms of finance that, though in different ways, were similarly linked to the institutionalisation of credit instruments: merchant banking and money-changing (Knafo 2013: 45). In particular, while merchant banking made extensive use of bills of exchange as a means to avoid constraints on the export of specie and outflank the ban on usury (De Roover 1974; Knafo 2013; Christophers 2013), money-changing played an important role in the development of deposit transfer and cheque clearing (Knafo 2013: 46). As a result of these credit innovations, 'premodern finance came to rely increasingly on the elaboration of a complex clearing system through which accounting procedures could help simplify monetary payments' (Knafo 2013: 46). In this respect, the emergence on the continent (starting from Renaissance Italy) of deposit banking and giro transfer networks and, in turn, the establishment of the great public banks of Northern Europe (among which the Bank of Amsterdam stood as the most prominent), ought to be seen in continuity with those clearing practices performed during the Great Fairs of the Middle Ages, and whose accounting logic is best exemplified by the fractional reserve mechanism.

Significantly, while on the European continent finance and speculation remained anchored to the management and the financial intermediation of the currency, the type of finance that emerged in seventeenth-century England became largely enmeshed with the management of debt and, in turn, with those forms of speculation (such as financial bubbles, asset-price inflation and liquidity crises) that are specific to modernity. As many scholars of money and finance have consistently argued in recent years (e.g. Ferguson 2001; Ingham 2004, 2008; Knafo 2006, 2008, 2013; Ito 2011, 2013; Kim 2011, 2014), a number of financial innovations took place specifically in England throughout the seventeenth century which were responsible for producing no less than

an 'epistemological revolution' in the English culture of credit (Wennerlind 2011). Now I do not wish to enter the debate on the historical transition to capitalism in England or Europe[16], but one fact is incontrovertible: the financial innovations that occurred in the context of seventeenth-century England were entangled with complex and multifaceted institutional transformations that, among many things, involved: the establishment of a constitutional proto-parliamentary state; the consolidation of a modern form of sovereignty based on a new regime of taxation and public spending; the institutionalisation of money as a 'hybrid' of traditional public currencies and modern private credit; lastly, the rise of financial markets. In particular, from a banking perspective we can envisage two crucial moments in this historical process: the first was the financial revolution accomplished by goldsmith bankers, as linked to note-issuing and the debt financing of trade and commerce; the second was the monetary revolution accomplished by the Bank of England, as connected to the securitisation of the English national debt, the progressive construction of a financial market for public securities and the institutionalisation of Bank of England IOUs as the new currency. For the purpose of this article, in the remaining of this section I will briefly discuss the first moment, namely the rise of goldsmith banking.

As Richards writes in *The early history of banking in England*, in the mid-seventeenth century London's goldsmith bankers conceived 'the epoch-making innovation to issue banknotes not only as warehouse certificates for deposits, but also to finance borrowers (Richards 1958: 24). More specifically, they started to discount short-term bills of exchange with depersonalised promissory notes that were convertible into cash in three months (Davies 2002; Knafo 2008, 2013; Kim 2011). To get an idea of how this works, Macleod (1883: 325-6) makes the example of a hypothetical bank that manages deposits for a sum of £10,000 in cash. The bank thus chooses to discount short-term bills of exchange for a face value of £40,000 at a discount rate of 4 percent. That is, it proceeds to issue promissory notes that are redeemable in cash on demand for the face value of £38,400 to get £40,000 in the near future. The bank balance sheet will thus look as follows: assets corresponding to £10,000 in cash plus £40,000 in near-to-maturity bills (total assets equal to £50,000); liabilities corresponding to £10,000 in deposit accounts plus £38,400 circulating banknotes issued against bills (total liabilities equal to £48,400); profit equal to £50,000 - £48,400 = £1,600, based on an initial deposit of £10,000. As a result, provided that the discounted bills are effectively secure and self-liquidating, the bank alone increases five-fold the amount of money circulating under its pledge, and it realises a 16 percent profit rate by discounting bills at the relatively low rate of 4 percent.

Significantly, by discounting commercial bills, goldsmith bankers 'established the foundations for a highly responsive banking structure that could adjust the supply of money to the needs of an economy in a relatively precise way' (Knafo 2008: 182). Besides being highly profitable and relatively safe, the debt financing of commerce was also beneficial for the economy of the City, hence for the domestic and overseas trade of the nation (Richards 1958: 29), as it dramatically increased the availability of means of payment at non-usurious rates and in a non-inflationary fashion. Once again, the type of finance devised by goldsmith bankers had nothing to do with fractional reserve banking but it was connected to asset management and debt finance. In this respect, it is also worth noting that goldsmith banking was not confined to the low-risk debt financing of trade, but it soon started to encompass the debt financing of the state via the discounting of fiduciary exchequers orders and other treasury bills (see Richards 1958: 58-60). Notably, unlike commercial bills, these debts were not connected to any actual transaction of goods and services, but exclusively relied on the nominal security offered

by the state. This added a new dimension of risk to goldsmith banking, for while the profit yielded by commercial paper was claimed upon past transactions and thus highly predictable, the profit promised by an exchequer order was dependent upon the performance of future payments (i.e. tax settlements) and therefore was highly uncertain (see Macleod 1883: 308-9). As the Stop of the Exchequer in 1672 shows, goldsmiths miscalculated the risk of accommodating the state's demand of liquidity and did not develop a proper liability management to hedge themselves. It was only following the establishment of the Bank of England that a proper strategy of liquidity risk management was progressively elaborated in order to *securitise* the 'unfunded debt' of the English state. This, however, is another story.

Conclusion

With this article I have started a radical reconsideration of modern banking by attacking the pervasive dogma of banking as financial intermediation. As many heterodox scholars have been pointing out in recent years, banks do not simply intermediate money but they create it through their financial operations. This proposition has profound conceptual implications that have not been sufficiently explored by social and economic theories of money and finance, and which this article has endeavoured to unravel. To begin with, the money that banks have come to mould in modern times is entangled with financial practices that are radically different from the ones that informed the pre-modern era. While pre-modern finance was essentially rooted in currency exchange, modern finance has been involved form the start with debt financing, namely with creating fluid relationships of mutual indebtedness that could overcome the institutional limits of currency-based finance. In particular, at the foundation of modern money is a bank-engendered creation of liquidity that entails a systematic capitalisation and monetisation of debts, as performed by means of discounting. Crucially, the latter practice does not involve any formal lending of cash by a creditor - in fact, it does not require the direct involvement of a creditor at all. Indeed, all that is needed for discounting to be performed is a supply of secure debts (such as commercial paper) and the bank pledge to pay on demand in behalf of its debtors.

Notably, in the process of creating liquidity, the bank and its customer are cast together: the customer owes money to the bank and the bank owes money to the customer, minus the discount (in fact, it owes money to the customer's creditors who may happen to be indebted with another bank). The significance of this *quid pro quo* of debts is that the bank and its customer implicitly agree to start a speculative game of money-making whose purpose - as for any other gambling game - is not really to 'cash in' but to play until the 'rendering of accounts' (i.e. until the final clearing of debts). However, if we imagine debt discounting as being a collective rather than an individual practice, it becomes clear that the capitalisation and monetisation of debts performed by the banking system at large can entail a regime of liquidity whereby money is sought-after mostly in order to buy time to debtors (Sgambati 2015). In effect, modern debt discounting is predicated upon the premise that banks will cooperate not in view of the closure of all accounts between creditors and debtors (as in the fractional reserve logic) but *in view of procrastinating debt settlements for the time being*. Debt discounting is therefore involved with furthering a logic of non-redemption that, far from rewarding economic frugality and monetary thrift, promotes a secular disposition to *borrow as if there were no tomorrow*.

At this point the heedful reader may ask: provided that banks create liquidity by dealing debts, what or who prevents others from doing what banks do? In other words,

why do banks enjoy the unique privilege to have their fiduciary debts accepted at their nominal value in the exchange of commodities and the settlement of debts? Unfortunately, this is a question that cannot be comprehensively dealt with in abstract but ought to be properly addressed in the context of a history of banking and finance, which is beyond the scopes of this article. We nevertheless gather from what has been argued so far that bank money is ideally able to circulate because its creation is backed by an array of collateralised debt-assets[17]. Notably, this view is supported by post-Keynesian theories of endogenous money. As Moore (2003: 118) explains, bank money is essentially 'backed by borrowers' liabilities (IOUs) in the bank's possession'. As appealing as it may be, this explanation is based on a vicious infinite regress: for endogenous money to exist debtors must trust each other forever, and without having any actual reason for doing it. In reality, though it appears to rely exclusively on the 'nominal' security offered by debts, the 'illusion of liquidity' (Nesvetailova 2010) can only deceive its victims 'by reassuring them that it is an illusion, that they are not deceived' (Graeber 2007: 146). In other words, liquidity must ultimately rest on people's faith that something beyond liquidity will eventually redeem them. Notably, this something is not money per se but *equity*. Indeed, as Minsky (1986; 1987; 1994; 1995) has rightly noticed on several occasions, it is the infusion of equity, not simply the inflow of money from bank borrowers, what ultimately enhances bank 'credit' and prevents liquidity crises. Unfortunately, addressing the question of equity is also beyond the scopes of this article. As for now, it suffices to say that the creation of liquidity is dependent upon the construction of a peculiar form of equitable trust among debtors. This trust is articulated and maintained as a relationship of ready inter-changeability between bank debt and equity. Crucially, the dynamics of this relationship cannot be properly grasped by focusing exclusively on the technical dimension of discounting, but ought to be framed as part of a more comprehensive analysis of modern banking as the art of leverage. Equity, trust and leverage will accordingly constitute the primary topics of a further work on banking.

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[1] An ergodic system is a dynamic system, such as a thermodynamic system, whose average behaviour can be predicted over space and time. (Un)fortunately, banking is not part of an ergodic system because unlike the world of thermodynamics the world of finance moves 'from an irrevocable past to an uncertain, not reliably predictable (non-ergodic) future (Davidson 2006: 143).

[2] This is tantamount to saying that, in order to survive, banks must avoid *speculative lending* as much as possible. Reality however seems to suggest that, in the modern world of banking and finance, speculation is sovereign.

[3] This, of course, only on account of the fact that the technical means of the time allow for the mass production of paper instruments.

[4] As Macleod explained, the currency principle is based on the idea 'that a bank should only be allowed to create exactly as much credit as the specie paid in, and no more. And that its sole function should be to exchange credit for money and money for credit: and thus the quantity of credit would always be exactly equal to the money it displaces' (Macleod 1883: 321).

[5] Notably, the credibility argument is also employed as a rationale for the institution of central banking and the construction of modern financial governance. As it is typically argued, following the establishment of the Bank of England, the power to create money got finally monopolised by an authority that, unlike goldsmiths or any other private agent for that matter, was bestowed with political legitimacy so that it could enhance and sustain *ad infinitum* (in the vest of the lender of last resort) the credibility of fiduciary money 'by fiat'. It must be noted in this respect that the notion of 'fiat money' implicitly normalises the goldsmith anomaly of money 'out of nothing' and, in a stroke of genius, it relieves scholars from solving the riddle of how the value of money gets actually constructed within financial relations. For fiat money is by definition money that is brought into being by decree and which is therefore *exogenous* to the economic process. It is thus called 'outside money', or 'base money', because it is vertically dropped by the central bank to form the monetary base, or bank reserves, on top of which the banking system must pyramid its 'inside money', or 'deposit money', in conformity to the fractional reserve principle.

[6] The term 'porosity' refers to the measure of the void in a material. A porous object is thus an object that can be easily penetrated by a liquid. Notably, in suggesting that modern money is a porous entity, I am implicitly subscribing to the view that sees money as a sign for and performance of nothing (Rotman 1987; Amato 2010). As a number of scholars have argued, money is a constitutive absence (Yuran 2014: 99) and a central lack of symbolization (Bjerg 2014) - all in all, the metaphorical blind spot, or ellipsis, that structures our experience of value.

[7] Hence, for instance, while Bell (2001: 150) contends that modern money is 'at once an asset (credit) and a liability (debt) that is treated as a balance sheet operation', Rossi (2007: 24) points out that money is an 'asset-liability'. As such, 'it appears at one and the same time on both sides of a bank's balance sheet, thereby affecting at one and the same instant the payer's as well as the payee's position in the bank's account'. Accordingly, 'the bank is neither a net creditor nor a net debtor of the economy when it issues money, as it is simultaneously debited and credited with the number of (x) money units that it issues'. Needless to say, from this perspective, the bank still 'functions' as an intermediary, not a financier.

[8] In fact, as I suggest in the conclusion, the bank guarantees the *unnecessariness* of redemption.

[9] We often find in the literature an unproblematic conceptual conflation of solvency and liquidity (e.g. Knittel *et al* 2006). In effect, their converse notions, insolvency and illiquidity, are closely connected. To clarify the position held in this article, I shall argue that solvency relates to the capacity to pay one's debt *when due*; liquidity, on the contrary, relates to the capacity to sell one's debt *on demand* and without loss of value.

[10] See Mitchell Innes (1913: 62).

[11] The first edition was published in 1856. In this article, however, I refer to the fourth edition published in 1883.

[12] As he pointed out in this respect, 'the profitable business of banking consists in buying up, or discounting, as it is technically termed, the present value of future profits' (Macleod 1883: 314).

[13] It is worth noting in this respect that while discounting tends to be more risky and profitable than money-lending, it is not necessarily more speculative. It only becomes so when it is driven by capital gains, namely when the discounter has no *interest* in the solvability of the debtor but primarily aims to make a *profit* by selling the discounted debt at a greater price before maturity.

[14] There is a fundamental difference between broker and dealer. As Minsky (1986: 81) explained, 'the dealer owns that which he trades, if only for a brief interval'. On the contrary 'brokers never own the instrument beings traded. Thus, dealers have inventories that need financing'.

[15] By contrast, since it has been reconfigured as liquidity, money has become normally overabundant and prone to flooding financial markets.

[16] For an overview of the debate on the historical transition to capitalism see Teschke (2003) and Heller (2011).

[17] Interestingly enough, the monetisation of bank debts is not dissimilar from a *securitisation* process (see Kim 2011: 945). Indeed, the value of bank IOUs is not backed by a specific collateral, but relies on a pool of liquid collateralised debt-obligations.