Some Clarity on Banks as Financial Intermediaries and Money 'Creators'

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ERSA working paper 523

June 2015

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June 8, 2015

Abstract

Although the phrase 'banks create money' forms part of popular discourse, it has precipitated a factually incorrect understanding of a bank's role in the money creation process. Bank money creation is the result of an underlying value-for-value exchange transaction; the bank facilitates the transaction, takes over responsibility for obligations created and records the money created—the bank is not the source of money creation. This has long been understood, even if it is not immediately evident, but contemporary explanations have confounded the issue. In exploring and explaining this fact, we clarify the bank's primary function as financial intermediary between buyer and seller as opposed to borrower and lender. We also address a further problematic belief—that banks create money out of nothing. This opinion has gained popularity, fueling criticism of the banking system by the general public.

Keywords: Money creation; Money supply; Financial intermediation

JEL Classification: E50, G20

*We are grateful to our colleagues as well as an anonymous referee from Economic Research South Africa (ERSA) for all feedback received. Earlier versions of this article were presented at the 4th International Conference on Financial Services, Wild Coast, South Africa, 2–4 October 2013; the staff research seminar series, University of the Witwatersrand, South Africa, 6 May 2014; the ERSA 4th Annual Monetary Economics and Macroeconomic Modelling workshop, University of Pretoria, 15–16 May 2014; and the University of Johannesburg Value 2014 conference, Emperors Palace, South Africa, 26–27 May 2014. All opinions and errors remain our own.

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1 Introduction

This article examines the phenomenon of money creation and the role played by traditional commercial and retail banks (hereafter simply referred to as banks)[1] in this process. The phrase 'banks create money' forms part of the popular discourse, but it conveys an erroneous representation of a bank's role in the money creation process. Additionally, it is increasingly acknowledged that the money creation process is not well understood and that popular views are underpinned by a number of misconceptions which are entrenched and perpetuated by the explanations found in leading undergraduate textbooks.[2] This was of sufficient concern to the Bank of England (BoE) that it recently published two companion articles on money creation, refuting the general textbook explanations (McLeay, Radia, & Thomas, 2014a; 2014b). However, a common public misconception that the BoE publications do not dispel, but continue to perpetuate, is that banks create money. Sometimes this is stated more emphatically as 'banks create money out of nothing, out of fresh air—*creatio ex nihilo*!'[3]

Understanding the role of banks in money creation has implications for the perceived role of banks in the global economy and in society. The notion that banks can create money out of nothing has generated public anger. Fuelled by the recent banking crisis, organisations, individuals and public officials have used public media to call for an end to the current practice of money creation by banks and an overhaul of the current banking system,[4] making the topic of money creation by banks particularly relevant today. A need therefore exists to clarify the statement, 'banks create money' and correctly explain the money

[1] The discussion presented concerns the primary activities of traditional banking practice as opposed to what is generally considered investment banking. Investment banking activity is, however, briefly discussed in Section 5.

[2] Misleading explanations of the money creation process can be found in International Monetary Fund (IMF) chief economist, Olivier Blanchard's *Macroeconomics* (Blanchard, 2011); previous chairman of the US Federal Reserve, Ben Bernanke's *Principles of Economics* (Frank & Bernanke, 2013), and Chairman of Economics at Harvard University, Gregory Mankiw's *Principles of Macroeconomics* (Mankiw, 2012).

[3] Examples of well-known contemporary authorities within the world of finance who have promulgated the notion that banks create money include: Sir Mervyn King, the former governor of the BoE (King, 2012); and Lord Adair Turner, former chairman of the now defunct Financial Services Authority (FSA) (Turner, 2012; Turner, 2013). Werner (2014) attempts to demonstrate empirically that banks create money out of nothing, however, Werner's experiment does not reflect general banking activity; Section 5 presents a discussion that is relevant to this assertion.

[4] As examples of the public outcry, Martin Wolf, veteran financial journalist, calls for an end to the practice of money creation by banks (Wolf, 2014). In the US, long serving former senator Ron Paul has called for an end to fractional reserve banking and the Federal Reserve System in general (H.R. 1094, 2011). In the UK, the organisation Positive Money continues to campaign against the ability of the current banking system to create money (Positive Money, 2014). In South Africa, this view underpinned the ill-constructed litigation by the New Economic Rights Alliance (The New Economic Rights Alliance v Absa Bank Limited and others, 2012) against the banking system, arguing that banks create money out of nothing yet require that people who borrow this freely created money repay this money with interest, and thereby banks profit unduly. The Ubuntu Party contested the 2014 national elections in South Africa with a primary focus on monetary reform that was critical of the private banking system's supposed ability to create money out of nothing (Ubuntu Liberation Movement, 2014).

creation process. This article argues that misunderstandings concerning the role of banks in the money creation process arise from a failure to stress the importance of the underlying value-for-value exchange transactions underpinning the money creation process, and these misunderstandings are compounded by and incorrectly encapsulated in the phrase 'banks create money'. Detailed expositions of a bank's role in the money creation process including discussions of the underlying money creating transactions underpinning the process are common in late 19^{th} century literature at a time when bank demand deposits were emerging as a common means of payment,[5] and can also be found in more recent explanations by industry practitioners,[6] yet the understanding that money is created as the result of an underlying exchange transaction, and not directly by the bank, has been largely lost to contemporary explanations.

To be useful in describing the bank's role in the money creation process, the phrase 'banks create money', in describing the primary financing activities of traditional banking practice, must convey the fact that: (i) banks make accounting entries (as they must), recording the value of money created between two parties conducting value-for-value exchange transactions in terms of credit and debt; (ii) the bank is thereby acting as an intermediary between buyers and sellers as opposed to borrowers and lenders (an important distinction that is rarely, if ever, acknowledged and is often confused in intermediation theory); (iii) the banks additionally agree to both take over and service the administration of the debt obligations of the buyers created by the transactions, and provide liquidity to the sellers; and (iv) this process results in significant risk exposures for the bank in terms of both default and liquidity risks which the bank must subsequently manage. As shorthand for the role of banks just described, the phrase 'banks create money' is woefully inadequate.

The contemporary explanation of the role banks play in the money creation process needs to be recast in order to emphasise the importance of the value-for-value exchange transaction underpinning the money creation process and the bank's role as facilitator of this underlying transaction between buyers and sellers. The need to emphasise the correct nature of the relationship between banks and the process of money creation is required for more than a matter of mere semantics or for the sake of clarity and academic integrity. It is pertinent given the increased emphasis on incorporating financial sector mechanics into macroeconomic models,[7] and it is necessary as the relationship must be correctly understood to accurately inform meaningful public debate and ultimately, the resulting public policy.[8] Without the correct understanding, the misguided belief that banks create money out of nothing will continue in general discourse and continue to influence models of the financial sector, monetary

[5] See for example Macleod (1866) and Wicksell (1936 [1898]), chapter 6.

[6] See Gillet Bros. Discount Co. Ltd (1964) chapter 5.

[7] Benes et al. (2014) and Borio and Disyatat (2011) provide insightful discussions on the theoretical considerations concerning money creation usually omitted from macroeconomic models.

[8] The phrase is often used to set the tone for discussions on private indebtedness, debt burdens, debt relief and credit legislation, see James (2014) as a recent example.

policy interventions, as well as Basel III and other regulations currently being formulated in the wake of the recent financial crisis.

This article is structured as follows: in the second section we briefly clarify the term money; in the third section we present an explanation for why the contemporary erroneous understanding of the bank's role in money creation differs from earlier (correct) views; in Sections 4 and 5 we explore the process of money creation, the bank's role therein, and how this process relates to modern banking practice and the bank's role as financial intermediary. Finally, the sixth section concludes the article and offers a practical modern recasting of the phrase 'banks create money'.

2 Money: Cash Money and Bank Money

Money is commonly defined according to its functional roles traditionally identified as: a measure of value (also referred to as a unit of account), a medium of exchange, a store of value, and a standard of deferred payments.[9] The latter two functions focus on money's ability to facilitate inter-temporal exchange. Modern money consists primarily of two types of monetary instruments which fulfil these roles. The first type of monetary instrument (and that which is most commonly understood by the proverbial man on the Clapham omnibus to be money) is fiat money—the notes and coins issued by central banks—also referred to as currency, state money or cash money. The second type of monetary instrument is composed of bank liabilities, also referred to as deposits, credit money or bank money. The measurement of money supply in modern economies therefore includes measures of both the amount of cash money and bank money within an economy, such that an increase in the amount of bank money (recorded as deposit liabilities on bank balance sheets) constitutes an increase in the money supply of the economy. There is thus cash money and bank money as distinguished by all notable commentators on the subject, including Tooke (1844), Macleod (1866), Bagehot (1873), Wicksell (1936 [1898]), Withers (1909), von Mises (1953 [1912]), Pigou (1917), Keynes (1930), Hayek (1933), Schumpeter (1961 [1934]) and many others before and since.

The subject of this article is bank money only, not cash money or any other manifestation of money. This is the first potential point of confusion that requires clarification—the money that banks are said to create is bank money, not cash money. Banks do not create cash money, which is only issued by central banks.[10] Bank money is a record of debt-credit relations and the creation of this type of money has been understood to be the result of an inter-temporal exchange transaction between parties since the earliest influential discussions

[9] Schumpeter (1954, p. 1053) refers to these as being the "old four functions" having been discussed in some way or another as early as the likes of Plato, Aristotle and many others since.

[10] There are specific instances of banks issuing their own currency notes—as was common for Scottish banks in the 18^{th} century (Dow & Smithin, 1992)—but this does not represent the general case, nor is this representative of the general bank money creation process criticised today.

on modern bank money (Macleod, 1866; Wicksell, 1936 [1898]; von Mises, 1953 [1912]; Innes, 1913; Schumpeter, 1961 [1934]).[11,12,13,14,15]

[11] "So long as the things exchanged were equal in value there would be no need for money... But it would often happen that when one man required the services of his neighbour, that neighbour would not require an equal amount of service at the same time, or even perhaps any at all. If then such a transaction took place between them, with such an unequal result, there would remain ... a Debt—that is to say, a Right or Property would be created in the person of the creditor to demand something at some future time from the debtor ... And if any man can render services to his neighbour, he must in return receive either other services, or the evidence of their being due; and if he renders more services than he immediately requires in return, he will accumulate a store of this evidence for his future want. These simple considerations at once shew [sic] the fundamental nature of a currency" (Macleod, 1866, pp. 15-16).

[12] Wicksell's explanation is extensive and runs throughout his book, but the essence of the explanation is captured by the following extract: "The actual exchange of commodities proceeds very simply. The buyer draws a cheque ... for the appropriate sum, and the seller cashes the cheque, the sum being thus credited to him by the Bank. But within a short space of time goods must be paid for by goods... [and a] certain interval will, however, elapse between the sale of one lot of goods and the purchase of another equivalent lot. During this time, the sellers are in reality extending credit to the buyers to the amount of the sum in question... although on the surface the payment has the appearance of being immediate. This is brought about as a result of the facilities and the guarantees provided by the Bank" (1936 [1898], pp.71 – 80).

[13] "The simple statement, [is] that money is a commodity whose economic function is to facilitate the interchange of goods and services ... This applies in the first place to the function fulfilled by money in facilitating credit transactions. It is simplest to regard this as part of its function as medium of exchange. Credit transactions are in fact nothing but the exchange of present goods against future goods" (von Mises, 1953 [1912], pp. 34-35).

[14] "Money, then, is credit and nothing but credit. A's money is B's debt to him, and when B pays his debt, A's money disappears ... Debts and credits are perpetually trying to get into touch with one another, so that they may be written off against each other, and it is the business of the banker to bring them together ... either by discounting bills, or by making loans ... The process of discounting bills is as follows: A sells goods to B, C and D, who thereby become A's debtors and give him their acknowledgments of indebtedness, which are technically called bills of exchange ... The banker buys from A the bills held by him on B, C and D, and A now becomes the creditor of the banker, the latter in his turn becoming the creditor of B, C and D ... [L]et us see how the same result is reached by means of a loan ... the banking operation, instead of following the sale and purchase, anticipates it. B, C and D before buying the goods they require make an agreement with the banker by which he undertakes to become the debtor of A in their place, while they at the same time agree to become the debtors of the banker. Having made this agreement B, C and D make their purchases from A and instead of giving him their bills which he sells to the banker, they give him a bill direct on the banker. These bills of exchange on a banker are called cheques or drafts. It is evident that the situation thus created is precisely the same whichever procedure is adopted, and the debts and credits are cleared in the same manner. There is a slight difference in the details of the mechanism, that is all" (Innes, 1913).

[15] Schumpeter's reference to "[t]he creation of money by banks establishing claims against themselves" makes clear that there are two simultaneous events occurring, "a purchase [of goods] and an extension of credit ... [and] both are ... legally distinct parts of one and the same economic process" (1961 [1934], pp. 96-98). Schumpeter explains further that in so far as credit is not given out of the results of past enterprise, "in the absence of past productive services ... [the money created serves as] certificates of future services or of goods yet to be produced" (p. 101). Schumpeter is therefore unambiguous that bank money creation is linked to an inter-temporal exchange transaction.

3 Horizontal and Vertical Money Supply

Debate concerning the mechanics of money supply appears to be behind contemporary confusion concerning bank money creation. The debate centres on the central bank's purported control over money supply. The ideological divide between proponents of endogenous (Horizontalists) and exogenous (Verticalists) money supply theory was vehemently expressed in the debate between the Post-Keynesians and Monetarists from the late 1950s through to the early 1990s.[16] Contemporary undergraduate texts express the exogenous explanation of money creation (Blanchard, 2011; Mankiw, 2012; Frank & Bernanke, 2013), which is testimony to the widespread acceptance of the Monetarist view that has been dominant. Given the heated exchanges on this issue,[17] the endogenous view of bank money creation has relatively discretely re-emerged as the mainstream view expressed by contemporary monetary authorities (Goodhart, 1984; King, 1994; McLeay, Radia, & Thomas, 2014b). With the exogenous view as precedent for the past half century, an unfortunate by-product has been a focus on money creation that has centred on money supply, with treatment of money demand offered almost as an afterthought. Despite the shift to an endogenous explanation of bank money supply, the focus of monetary policy has remained on the supply side, with relatively little focus on the underlying demand for money, despite its recognised importance in terms of endogenous money theory.[18] With the recognised inability of central banks to directly control money supply, monetary policy discussion has focused instead on banks as money creators. However, a superficial treatment of money demand and the focus on banks as creators of money fundamentally misrepresents the role of banks in the money creation process as illustrated in the following sections.

[16] According to the Horizontalist description of bank money creation, a bank grants a loan to a customer and credits the borrowing customer's bank account with a deposit amount equal to the size of the loan. This increase in the liability deposit value represents the creation of bank money. No physical cash money is required for these accounting entries to be recorded. This description represents an endogenous view of money supply and this process is précised as "loans create deposits" (Moore, 1988; McLeay, Radia, & Thomas, 2014b). According to the Verticalist view, a bank lends out cash money that customers have previously physically deposited at the bank. The granting of a loan once again creates a liability deposit entry; however, bank money is created in this process once the bank lends out existing physical cash money deposits to customers. This process is précised as "deposits create loans" and is the exogenous view of money supply as discussed in Friedman (1956).

[17] See, for example, Kaldor (1970).

[18] Moore (1988) represents the quintessential endogenous view, explaining that "bank loans ... are typically made at the initiative of the borrower [not the bank]" (p. 24), that "bank loans are essentially demand-determined" (p. 88), and that "changes in money stock are attributable primarily to changes in the demand for bank credit" (p. 162).

4 Money Creation and the Underlying Transaction

4.1 Money creation in the absence of banks

The traditional view adopted in the money supply debate is that banks create bank money by granting loans, and this explanation is then extended to suggest that banks thereby create money out of nothing; however, this is an inadequate caricature of the process of bank money creation. The process of bank money creation may be understood by means of rational, factually based argument, and need not rely on appeal to misinterpreted authority.[19] The fact that banks act as facilitators of inter-temporal exchanges, of which bank money serves as a record of underlying debtor-creditor relationships resulting from the exchange transactions, is clearly illustrated by a simple, detailed narrative; a narrative which begins with the situation where someone wishes to purchase, in this example, immovable residential property without the aid of banking institutions.

We begin with an example of immovable residential property because residential mortgage loans are at the heart of explanations of the recent financial crisis, and it is argued that the irresponsible *creation of money by banks out of nothing* fuelled this process. Cash money ($; issued by a central authority and used as the circulating medium of exchange) provides a numeraire enabling debt instrument to be issued in terms of the generalised legally accepted monetary unit.[20] Assume further that there are two individuals, Ms S (the seller) and Mr B (the buyer). S owns a house and wishes to sell her house to B, who wishes to buy the house. S and B thus enter into a common exchange transaction. S is willing to transfer her house to B; B is willing to accept transfer of the house. The price of the transaction is $1m expressed in the accepted currency unit. B does not have the $1m in cash money available and therefore must come to some debtor arrangement with S. B offers to pay off the $1m over a 20-year period in monthly instalments; this may be called a promissory note, a debt instrument or a debt-credit instrument (and in this case may be accompanied by a Deed of Trust contract). Therefore B's offer in exchange for the house is to make periodical payments. In the absence of a bank, this is the best that S can expect and thus she accepts this offer and the two parties enter into an inter-temporal exchange process. Before the transaction took place, S had a current property worth $1m; after the transaction has taken place, S has a current claim against B for the future periodical payments, the face value of which (or the principal sum), is also $1m. It is a value-for-value exchange transaction. After the transaction, S has exchanged the house for another asset—a claim

[19] Among early influential literature concerning the role of banks, the works of Wicksell and Schumpeter are used to support the notion that 'banks create money out of nothing', but this too is an inaccurate characterisation of their views. For further details of this argument see the draft paper by Spearman and Vivian (2015).

[20] While we have chosen some cash money symbol to function as the numeraire in this example, this is not of importance as any unit of account (commodity based or otherwise) used to denominate the value of the transaction would suffice. Thus, the first function of money is encountered—the unit in terms of which a value is assigned to the underlying transaction.

for periodical payments; B has a current asset in the form of a \$1m house and a current obligation to make the future periodical payments. The agreement to make periodical payments and the corresponding claim for these repayments (contained in the form of a debt-credit instrument) were not created out of nothing. The debt-credit instrument was generated as a result of and acquired its value from the value of the underlying exchange transaction. In the absence of modern banking institutions, agreements to make repayments and the claims for the repayments were a common way for inter-temporal transactions to take place[21] having been used in the recent past[22] and since the earliest societies (Innes, 1913). The debt-credit instrument is a record of a debtor-creditor relationship and if generally accepted as means of payment, would constitute money as defined previously and as described by Pigou (1949).[23,24] The debt-credit instrument is the counter exchange to the exchange of the residential property and it is a form of monetary instrument that was, in the absence of banking institutions, commonly used for all manner of inter-temporal debt-credit transactions: S accepts the \$1m periodical repayment obligation in exchange for her \$1m house; B accepts the \$1m house in exchange for the obligation to make the periodical payments. Far from creating money out of fresh air, the money—the debt-credit instrument—was created as an instrument of exchange to facilitate a value-for-value transaction. More so, it was created as a result of the underlying transaction, it derives its value from the exchange,[25] and its value is underpinned by the obligation of B to make future payment.

Both S and B's net wealth positions remain unchanged by the transaction. S started off with a \$1m house and ended with a \$1m claim against B, as evidenced by the debt-credit instrument. B started off with no wealth and ended with a \$1m house matched by a \$1m obligation. B's net wealth is still zero. The debt-credit instrument has a \$1m face value as a claim and an attached obligation

[21] Wicksell (1936 [1898]), writing in a period that had only recently witnessed the emergence of modern banking, explains: "[l]et us suppose that several individuals, A, B, C, D, etc., have been given credit (e.g., merchandise credit) by one another, so that A owes money to B, B to C, C to D, etc.... It is only on account of their relative inconvenience, and for similar reasons... that this original use of bills has gradually become less prevalent since banking was perfected" (pp. 62–64).

[22] Gillet Bros. Discount Co. Ltd (1964) provides a thorough description of the workings of the bill of exchange well into the second half of the 20^{th} century.

[23] "[Money is] anything ... accepted fairly widely as an instrument of exchange" (Pigou, 1949, p. 5).

[24] Wicksell (1936 [1898]) noted that the simple bill of exchange was an inadequate substitute for cash money lacking general acceptability, however, an informal system of concurrent endorsement enabled these promissory notes to function as practical money substitutes: "We have seen how simple merchandise credit and the lending of money from one individual to another, while not capable of providing a definite substitute for money, do give rise to an increase in the velocity of circulation ... [However, it] is of course usual for the acceptability of such a promissory note to be further strengthened through each endorser undertaking by means of his endorsement a subsidiary liability. A payment made by means of a bill of exchange is therefore not final, for if the bill fails to be met the [cash] money can be demanded from the endorser. It is precisely for this reason that bills provide a great source of strength to the credit system" (pp. 62–63).

[25] This is what von Mises (1953 [1912]) refers to as the "objective exchange-value of money".

arising from the underlying transaction. The debt-credit instrument did not obtain its value out of nothing, but as a direct consequence of the value of the goods given in exchange for the instrument. Over the 20-year period, the $1m obligation will be extinguished by payments made by B to S. Allowing the purchaser to pay the purchase price over some period of time has never been the sole domain of a bank; individuals may enter into this arrangement without directly involving a bank, as evidenced by today's shadow banking systems (Bernanke, 2012) and anthropological evidence that the system is as old as civilisation itself (Graeber, 2011).[26] This transaction would take place whether banks existed or not, because a need exists for the managed exchange of property.

4.2 The involvement of banking institutions

The exchange transaction holds a number of disadvantages for S. First is the liquidity disadvantage. S may not want to wait 20 years to receive her cash money (even if she is enticed by interest payments, although we do not engage in discussion concerning the role and purpose of interest in this article). Second, S is exposed to solvency and default risk. S could mitigate these risks by carrying out a due diligence exercise and by insisting on a mortgage bond (every seller would thus need the skills and acquire information necessary to conduct the due diligence and have knowledge about mortgage bonds). Third, S faces an administrative burden. S would have to spend 20 years collecting outstanding amounts and keeping a record to this effect. S thus faces potentially considerable risks, inconveniences and other associated transaction costs by entering into the transactions in the absence of a bank. S would benefit if these problematic disadvantages could be reduced or avoided. An opportunity therefore exists for an institution able to reduce S's disadvantages. Hence, if institutions with the characteristics of modern banks did not exist, the space for them (or similar institutions) to spontaneously evolve is present; S's disadvantages can be resolved by inserting a traditional banking institution into the transaction.[27] Such a theory for the existence of banks is common place (Freixas & Rochet, 2008), is consistent with the transactions theory of the firm (Coase, 1937) and evidence of this emergent evolution is provided by Wicksell (1936 [1898]).[28] Thus banks emerge because, as intermediaries, they reduce a broad spectrum of associated transaction costs.

[26] Financial columnist Frances Coppola offers a personal contemporary description of this (Coppola, 2012).

[27] In this regard, the bank is an institution which accepts deposits from the public (bank liabilities) and advances loans (bank assets) to the public.

[28] "We have seen how simple merchandise credit and the lending of money from one individual to another ... give rise to an increase in the velocity of circulation ... [and it] is of course usual for the acceptability of such a promissory note to be further strengthened through each endorser undertaking by means of his endorsement a subsidiary liability ... It is precisely for this reason that bills provide a great source of strength to the credit system ... It is only on account of their relative inconvenience, and for similar reasons ... that this original use of bills has gradually become less prevalent since banking was perfected" (Wicksell, 1936 [1898], pp. 62-64).

Assume now that Ms S and Mr B are fortuitously (to simplify matters) both customers of the same bank. If Customer S sells her house to Customer B, S could cede her claim, the debt-credit instrument against B, to the bank in return for the promise of immediate access to cash money or payment of cash money on demand. S may not need the cash money, or all of it, and the bank could merely make it clear to S that she can make withdrawals from the bank's coffers to the value of the transaction at any time. Being a claim for cash money on demand, S's asset is no longer a claim for periodical payments from B, but a claim for cash money on demand from the bank. This obligation is recorded by the bank as a liability accounting entry called a 'call deposit', which is to say, as bank money. The increase in bank money thus reflects money created as a result of an underlying transaction, which had taken place externally from the bank and has been *recorded* by the bank. The ceded claim against B is the bank's matching asset. With this arrangement, S has solved her liquidity, default and administrative problems. It is correct to note that S is now exposed to the risk of the bank's liquidity and solvency, but it is enough for the purposes of this article simply to assume that the reputation of the bank and bank regulation is such that S, and indeed others, have faith that the bank will provide cash money on demand when requested, as is the case in contemporary banking systems.

4.3 Cession no longer necessary

If it is accepted that some form of banking institution can be called upon to assist, then the process of first drawing up a promissory note, effecting mortgage bond security, and then ceding these to a banking institution will fall away—if the bank was to accept the cession, it would still have to carry out a due diligence exercise, and having taken cession, register a mortgage bond. If both S and the bank did this, this would double the transactions costs as both the seller and the bank duplicate the process. Instead, the system has evolved, as would be expected according to the transactions theory of the firm, to minimise these costs. The seller, Ms S, now agrees to sell to the buyer, Mr B, on condition that B negotiates the services of a bank to act as intermediary between seller and buyer to the transaction. Having entered into a suspensive contract of purchase (the offer to purchase), B approaches the bank, which carries out the due diligence exercise, and if satisfied that B can make periodical payments, issues B with a guarantee to make a cash money facility available on demand to S for an amount of $1m. On transfer of the property, the guarantee is presented to S (or more likely her legal representative), who returns it to the bank (or more likely the bank's legal representative) whereby S acquires the right to make withdrawals on demand up to $1m from the bank. The outcome is precisely the same as if the promissory note and mortgage bond had been entered into and ceded to the bank. In this evolved state, the process is more efficient as the transactions theory of the firm predicts. No *formal* cession is carried out between the parties. The bank simply (i) indicates its willingness to make available cash money on demand in favour of S by issuing a guarantee of payment on behalf of B, and (ii) the bank honours the guarantee by recording a 'deposit' in favour of S once the sale is concluded and S returns the guarantee to the bank. Thereafter S's claim for cash money on demand appears as a liability from the bank's perspective. The bank acquires the claim against B for the periodical repayments, which is an asset from the bank's perspective (and a liability from B's perspective). The accepted position of the bank *after the transactions* is indicated in Table 1.

[Insert table 1 approximately here]

4.4 The illusion of money creation by banks

A number of observations can now be made concerning what has transpired. First, bank money (the aggregate of bank deposits) has increased despite the fact that nothing was deposited with the bank. The bank's deposit entries have increased by \$1m and this has been *recorded* in the books of the bank. This increase gives the illusion that the bank has created money.

Second, the \$1m recorded figure was not created out of nothing. The \$1m was created as a result of an inter-temporal, value-for-value exchange attached to an underlying transaction: the \$1m sale of a house between S and B, for which B agrees to make future payments.[29] The \$1m in bank money was not created directly by the bank, nor was it created out of nothing. The \$1m bank money represents the value of S's initial claim against B arising out of the exchange transaction. The bank acquired a claim against B for \$1m and a liability towards S for the same \$1m. The rationale for the existence of the bank is not money creation, but the reduction of the various risks and costs associated with the transaction and faced by S. In the process, the bank has become exposed to default and solvency risks and the liquidity risks associated with cash money demand and supply dynamics. It is the bank's ability and skill to manage these risks and to take over the 20-year administration facing S which justify its existence. For its services, the bank will benefit and be paid from an interest cost (or fees charged) built into the repayments made by B. B agrees to pay these costs when he agrees to the bank acting as intermediary. B may also potentially benefit from the reduced transactions cost, in the face of competition among banks, by paying a lower interest rate than he would otherwise be afforded without the services of a bank.

The third observation is that the bank is not acting as an intermediary between a lender and a borrower in this process; it is an intermediary between a buyer and a seller that mitigates risks, inconveniences and other associated transaction costs. The nature of the relationship therefore differs to that discussed by Tobin (1963)[30] and it is not the nature of the relationship described

[29] As argued by Cencini (2002): "As for the real object of payments, it is evident that it cannot result from an act of creation *ex nihilo*. The bank deposit earned by the payee has a positive value only if it defines a positive purchasing power, a condition which is fulfilled only if money income [the necessary real content which finances transactions ie: future goods and services (p.70)] results from the association ... with current output. The credit that banks grant to firms is thus strictly related to production" (p. 67).

[30] "[T]he essential function of financial intermediaries, including commercial banks, is to satisfy simultaneously the portfolio preferences of two types of individuals or firms. On one

in financial intermediation theories generally (Allen & Santomero, 1998; Freixas & Rochet, 2008). S has not lent anything to B. S has sold property to B and does not expect it to be returned; S expects to receive payment for the sale. Hence to consider B to be borrowing from S goes against what the term borrow denotes. To facilitate this money creation process, the bank did not make use of any pre-existing deposits as per the mainstream explanation of money creation and so no pre-existing lender is *required*. Nevertheless, one may argue that in effect B is borrowing from the bank which is paying on his behalf, and S is lending to the bank by not withdrawing her deposit in cash money. This conforms to Tobin's explanation and does not contradict the explanation presented thus far, but it would be incorrect to then regard the bank as intermediary to this relationship. The bank is the lender to B and itself the borrower from S, it is not an *intermediary* between B borrowing from S. As an intermediary in these inter-temporal debtor-creditor money-creating exchange transactions, the bank intermediates between buyers and sellers who may then *individually* become lenders and borrowers directly of the bank *thereafter*.[31] This is an important but rarely acknowledged and often confused distinction. This role of intermediation between buyers and sellers is consistent with Schumpeter's and earlier explanations, but it is not the role currently understood in terms of bank intermediation generally today. This role of intermediator of buying-selling activity is often confounded with the bank's role as intermediator of borrowing-lending activity which may occur, but not in relation to the type of transaction we have been discussing. The direct role of bank as intermediator to borrowing-lending activity is discussed in the following section.

5 Modern Banking

The process above can now be summarised. In modern day-to-day banking, the seller of the property, as in our example, does not need to seek out a buyer, request a promissory note and a Deed of Trust contract and then cede the contracts to a bank. As predicted by the transactions theory of the firm, buyers and sellers deal directly with the firm (the bank). The seller will put the property on the market subject to the suspensive condition that the prospective buyer will obtain financing from a bank, that is, on condition that a bank will accept the offer of periodical payments from the buyer (assuming the buyer requires this financing). With the involvement of the bank, the seller no longer needs to

side are borrowers, who wish to expand their holdings of real assets—inventories, residential real estate; productive plant and equipment, etc.—beyond the limits of their own net worth. On the other side are lenders, who wish to hold part or all of their net worth in assets of stable money value with negligible risk of default ... [and it is through lending that] banks 'create' means of payment" (Tobin, 1963, pp. 4-7).

[31] The bank has only an indirect connection between borrowers and lenders, its intermediation role is directly between buyer and seller as correctly discussed by Cencini (2010): "When bank B pays agent C on behalf of agent A, both A and C are simultaneously debited and credited by B. Correctly understood, double-entry bookkeeping entails the debiting and crediting of each economic agent taking part in a transaction, and not the simple debiting of one agent and crediting of another." (p. 49).

carry out a due diligence exercise, register a mortgage bond or cede the claim to the bank. The seller no longer has concerns that the buyer will default. From the seller's point of view, the liquidity, solvency and default risks with respect to the buyer have been resolved.[32] The bank, dealing with thousands of property transactions, acquires specialised skills necessary to assess whether the buyer is a good default risk or not, and sells these skills to its clients. In theory, the bank can largely protect itself from the idiosyncratic default risk of individual contracts through diversification, since it accepts the obligations of a large number of buyers, and by insisting on mortgage bonds as securities. The bank need not deal directly with the seller to take cession of the buyer's obligation. The bank knows that once it issues a guarantee to the buyer for the purchase of the property, the guarantee will be presented to the bank and treated as 'deposited'. The bank will thereafter acquire an obligation to the depositor. By issuing the guarantee, it will authorise a deposit (bank money) to the account of the depositor (seller), obviating the need for any cession. The obligation to the depositor (the seller) is matched by an outstanding liability on the buyer's account (a bank asset), if not within a single bank, then within the larger banking system. To an outsider simply viewing the books of the bank, it appears as if by recording an asset account entry connected to the buyer and by recording a corresponding deposit entry, the bank has created money out of nothing; this is the illusion of the bank having created money. But this is only the *prima facie* appearance and not the truth of the matter because the outside observer has neglected to acknowledge that the deposit value records the value-for-value exchange conducted through an underlying transaction. In reality, the seller no longer has a house and the buyer now has a house.

The exchange transaction created the money that is now reflected in the bank's financial statements. Thus, the nature of bank money as a social construct (Zelizer, 1989) and the product of a legal and/or institutional framework—a broadly cartalist position (Cesarano, 2014)—is clear. The inter-temporal exchange creates an obligation on the buyer of the current property that is expected to be repaid in the future, more often than not over a fixed period of time. This debt incurred is not created out of nothing, but in exchange for property received in the present and for which payment is expected to be received in the future. Thus the bank money created (the debt-credit instrument used to facilitate the exchange) obtained its value from the value of the goods given in exchange for the bank money.[33] While our example was of an immovable property transaction, the salient features of the discussion extend to all manner of inter-temporal exchange transactions for which the buyer cannot immediately exchange cash money and which are thus facilitated by means of a bank.

This explanation differs from the standard textbook explanation where pre-existing physical cash deposits are loaned out directly by the bank. According to this explanation, the bank grants a credit facility and simultaneously cre-

[32] A cursory analysis of modern real estate processes indicated that the seller in fact has little discretion with regard to the purchaser.

[33] How the creation of bank money affects general price levels or the value of the bank money itself is an important issue, but is beyond the scope of this particular discussion.

ates a deposit entry in favour of the borrowing client who then (according to these explanations usually first withdraws and then) physically transfers the cash money directly to another economic agent who subsequently physically deposits the cash money at another bank. Bank money is recorded and money supply increases at the moment the credit facility is granted and the deposit entry in the name of the borrowing client is made, with the bank functioning as a cash money lender when the borrowing client physically withdraws the cash money. In this case, the bank's function is the same as that of any other cash money lending enterprise, a loan shark for example. This process just described, however, is not reflective of banks' *primary* financing activities in terms of commercial or residential loans, or of banking practice in general. Rather, banks grant credit facilities with no corresponding accounting entries being made until the conclusion of a specific transaction. The account of the *seller* receives a deposit entry and the buyer is held liable for repayment only after the transaction has taken place. In the example of the loan for the purchase of property, although the buyer is guaranteed a credit facility prior to the sale as a necessary condition for the sale to take place, no accounting entries take place at this point and no money is yet created. It is only on conclusion of the sale of the property that the deposit value is recorded in favour of the seller, and the buyer is held liable for payments. It is only on conclusion of the sale of the property that the relevant credit and debit accounting entries are made by the bank recording the value of bank money created as a result of the transaction. Prior to the actual transaction taking place, a record of the credit facility will only appear as an accompanying accounting note on the bank's balance sheet for prudential purposes.[34] These off-balance-sheet operations do not appear until after transactions have taken place. Thus the entrepreneur wishing to start a new business, funded by an overdraft for example, will appear as an accounting entry in the books of the bank only once the entrepreneur has made a purchase which draws upon the facility.[35] If cash is drawn directly against the overdraft facility, then the bank's role is that of cash money lender, a situation which is not generally representative of core banking activity.

The record of a bank asset (the debt of the buyer) and a corresponding deposit in the name of the seller takes place on conclusion of a transaction, and in practise the majority of day-to-day, bank lending is not done with the direct loan of cash money to clients borrowing from the bank.[36] Additionally,

[34] This can be readily verified by reviewing any listed banking entity's financial statements issued in terms of GAAP or IFRS standards.

[35] "As rightly pointed out by Keynes, unused overdrafts do not 'appear anywhere at all in a bank's statement of its assets and liabilities' " (Cencini, 2002, p. 69).

[36] In this regard, Werner's (2014) experiment to demonstrate that banks create money from nothing fails to be representative of general banking practice. In Werner's experiment, his newly created bank account is directly debited with the amount of an essentially fictitious loan. The bank (upon receiving guarantees that no money would be transferred from the account) waived its usual requirement of "[p]ayment of [the] loan at the value date, in exchange for evidence of use of the loan in line with the declared use in the loan application". Werner was, in effect, granted an overdraft facility, and the bank was acting as a cash money lender with the waiver of its usual requirements.

there are activities which are not covered by this general discussion that involve intermediation between borrowers and lenders, and which are found primarily in investment banking practise and the practises of other non-bank financial firms.[37] In these instances, investment banks fulfil a functionally different intermediation role to the buyer-seller-intermediation role previously discussed. But differences in investment banking and commercial and retail banking are widely acknowledged—so much so that the two functions were legally separated in the US until recently by the Glass-Steagall Act. In terms of the money creation discussion, investment banking practises are not representative of general retail and commercial banking, and the distinction is important to emphasise since it is less obvious in practise where modern banking organisations offer a variety of retail, commercial and investment banking services along with other off-balance-sheet operations, all under the same banner. The repeal of the act and the integration of commercial, retail and investment banking practises within umbrella financial services organisations has been a potential catalyst for public misunderstandings concerning the intermediation role of banks in terms of the money creating process.

6 Concluding Remarks

This article reiterates concepts past explained, but ambiguous in the contemporary vernacular. The sage words of Hayek are pertinent in this instance: "If old truths are to retain their hold on men's minds, they must be restated in the language and concepts of successive generations. What at one time are their most effective expressions gradually become so worn with use that they cease to carry a definitive meaning. The underlying ideas may be as valid as ever, but the words, even when they refer to problems that are still with us, no longer convey the same conviction; the arguments do not move in a context familiar to us; and they rarely give us direct answers to the questions we are asking." (Hayek, 1960, p. 1)

The discussion of bank money creation presented herein is kept apart from debates concerning both regulatory reserve requirements and policy debates concerning interest rates, control of money supply and central bank mandates. While these debates are clearly important, urgent and of great concern, they are unnecessary to engage in for the purposes of explaining the basic process of bank money creation and are avoided to prevent readers from being distracted from the issue at hand. An examination of standard textbook explanations of money creation demonstrates the conflation of the explanation of money creation and

[37] As a practical example, an investment bank purchasing bonds directly from a firm through a private placement transaction, may at the time of the purchase hold the bond asset directly and create a liability deposit entry in favour of the issuing firm. The mechanism of financing these deposit obligations, however, is primarily through activities such as selling the bonds as repackaged assets to institutional investors and other financial market participants involving the transfer of already existing bank money (deposit values) from elsewhere in the banking system. The purpose of the investment bank is therefore to act as intermediary between the institutional savers and the firms as borrowers.

regulation.[38] These explanations usually frame money creation in terms of the regulatory cash money reserves required to be held by banks. But whereas the stability of banks may be of concern to regulators (given that banks intercede in the transactions of many buyers and sellers, taking over solvency risks, liquidity risks and administrative responsibilities, and are therefore integral to the system), the issue of regulation can be separated from the explanation of how money is created in order to avoid obfuscation. To simplify matters, the concepts of bank money creation and regulation of banks should be treated as distinct topics. In a similar vein, conflating the explanations of money creation and monetary policy is a further source of the current confusion regarding money creation. These two are related, but, again, separable topics. This article does not examine whether it can be said that banks earn excessive profit for the functions they perform, and broader questions surrounding bank conduct and profiteering have also been omitted; nor have we discussed issues such as bank liquidity management, although these too are important topics.

We conclude with two final points. Firstly, policy debate couched in terms of the banking system's ability to create money out of nothing obscures and confounds important underlying issues. The phrase 'banks create money' does little to convey the fact that a bank's role in terms of the money creation process is primarily as an intermediary of inter-temporal exchange transactions between buyers and sellers. A more accurate recasting of the phrase would therefore be to say that *the core business of commercial and retail banks is to facilitate the process of inter-temporal exchange transactions between buyers and sellers through debt-credit contracts.* This is an important distinction emphasising a specific economic relationship which carries different policy implications to those associated with the relationship between borrowers and lenders. Investment banking practise is arguably better understood in terms of intermediation between borrowers and lenders and is therefore likely to be effectively regulated by different policy interventions to those of commercial and retail banks. This is not to say that commercial and retail banks do not perform complementary functions to those associated with intermediation between buyers and sellers, including acting as cash money lenders, but these are ancillary functions to the core activities of traditional banking, involving relatively little physical cash money requirements to finance.

The second point is that the understanding that banks operate as intermediaries between buyers and sellers in the money creation process shifts and broadens the scope of potential regulatory intervention measures. The willingness of sellers to hold payment in the form of bank money is a key factor to understanding monetary policy dynamics, but additionally, factors underlying bank money demand serve as important signals of economic imbalances, and yield potential avenues of direct intervention anchored in theory. Failure to acknowledge the bank's role as intermediary between buyers and sellers obscures the need to consider the requirements of sellers and the demand side factors of buyers when investigating money supply dynamics. Framing the motives of a

[38] This criticism was already expressed over 50 years ago by Tobin (1963).

seller in terms of a lender for example, obfuscates the analysis of a seller's actions with that of a lender's. Similarly the motives of buyers should not necessarily be seen in terms of borrowers.[39] Current explanations of the bank money creation process ignore the underlying transaction relationship and so undermine these aspects. A supply side policy focus can therefore be enriched by increased attention to underlying capital demand factors, working capital management, and the exchange process which governs the buyer-seller relationship.

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[39] As a brief expansion on these points, consider how the financial flow of funds associated with the term lending involves (excess) financial capital in search of productive use, or the economic injection of previous leakages, usually associated with longer-term time frames. The financial flow of funds associated with selling, on the other hand, involves working capital management converting final goods into sales income and back into the raw materials needed for final goods within short-term time frames. Hence the framing of the discourse is entirely different. Similarly the term borrowing implies a financing constraint, whereas credit facilities may be convenient and cheap payment alternatives available to non-financially constrained buyers. For example the capital structure of modern firms usually consists of a simultaneous mix of both short-term debt and retained earnings in the form of bank money. To label these firms as borrowers downplays this complexity.

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TABLES

Table 1: Bank balance sheet post cession

Party	Transaction	Assets (loan) Dr	Liabilities (deposit) Cr
Mr B (buyer)	Obligation to make re-payment of the loan	$1m	
Ms S (seller)	Right to make cash money withdrawal		$1m