

Public financial institutions after the crisis: a new financial deal in the making? ¹

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“It would be quite mistaken to regard ... the granting of bank credit without already existing commodities, as a deviation from sound banking principles... . Rather it is one of the most important functions of the banking business to do just this. ... As is well known, it is not readily regarded as “regular” banking business to grant short-term credit for long-term investment ... But let it be recalled that without this method modern industrial development, especially in Germany, could never have taken place so quickly and that many a talent would have remained sterile for lack of credit. ... The short-term nature of bank credit is indeed one of the fictions of banking theory and rests on the prejudice that banks essentially lend their depositors money, whereas the essential function lies in their creation of money, not in acting as an intermediary between borrowers and depositors.” (Schumpeter, (Marget translation) Money and the Social Product, 1917/18, pp. 203-4)

I. Introduction: The Schumpeter-Keynes-Minsky Approach to Financing Investment

This background paper builds on Schumpeter’s representation of the business of banking to make three basic points. The first is that historically it has been public banks that have led the way in financing the long-term investment necessary for the economic industrialization of developing countries. Second, that financial innovation in the “essential function” of the “creation of money” has had a major impact on the evolution of financial structure and in particular the evolution of the mix of private and public finance for investment and innovation. Third, it will suggest that the recent dominance of private financial institutions and the presumption of their efficiency advantage have reduced the availability of long-term finance for development. Finally, it will seek to assess the implication of recent financial innovations in mobile payments systems for the evolution of financial structure and the role of public banks in the financing of development.

A Summary of the Argument

The argument may be summarized as follows. At the origin of the banking business was the public bank producing government means of payment which formed the basis of the Schumpeterian transfer. Innovation in the form of private bank notes and then

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private bank deposits allowed private financial institutions to innovate and provide an alternative, competing payments system which eventually displaced the public banks and government issued means of payment. However, since private means of payment were private institutions' liabilities, unlike government money, they were subject to risk of non-payment and the possibility of liquidity scarcity bank runs and insolvency when banks engaged in excessive financing of long-term investments. Government regulations were thus introduced to reduce this risk, and these in general meant restricting bank lending to short-term, self-liquidating commercial loans. Indeed, in the form of the "real bills" doctrine it was the theoretical basis of the US Federal Reserve System and the Glass-Steagall Act. Banks were to be prevented from providing the basic long-term lending function that Schumpeter considered crucial. The long-term financing was to be left to other institutions who were constrained by private savings. Thus the regulation to restore stability to the private financial institutions issuing means of payment meant restoring the system in which saving provided a binding constraint on investment. Indeed, this is the objective of all reforms to guarantee stability of the payments system, evidence the current 100% Narrow bank or positive money plans. This can also be seen in the Dodd-Frank Act which is designed to limit bank lending in general and to limit it to short-term lending in particular.

Currently, traditional regulated banks are under pressure from mobile payments systems. For such systems to be efficient either they must be interlinked, or a single system must prevail. Experience with typewriter keyboards and telephones suggest that there will eventually be convergence on a single mobile payments system which would be similar to a private giro or clearing system. But, this would not remove the risk associated with private systems, nor would it they provide any advance on providing financing for innovation and investment. The solution to the financing of long-term investment is to be found in another form of mobile banking, the P2P loan market. This is also a system in which an electronic platform substitutes for the intermediation function between savings and investment performed by investment banks and is still constrained by existing savings available for investment. Thus, the full establishment of mobile/e-banking could eliminate the business of banking that Schumpeter credits for the economic development of the industrialised world in the same way that regulations to insure systemic stability!

There is a solution to this problem, the establishment of a government electronic payment clearing house or giro system which would by definition be riskless because it is a debit/credit offset system and would carry the same government guarantee as government issued notes and coin. But, this would leave the need for the Schumpeterian transfer of resources. This could only be provided by public investment banks which would avoid the constraint of savings on investment because they could be funded by the government budget. Since the government budget is not constrained, the government's fiscal deficit would replace the liquidity creation currently provided by private banks. This would make clear that impossibility of an separation of the functions of monetary creation and the management by the Treasury of the government budget.

The Importance of Controlling the Means of Payment in the Business of Banking

It is common today to think of banks as institutions that take deposits and make loans according to a credit multiplier determined by the legal or internally imposed reserve requirement. But, as Schumpeter already had stated in 1917, this is not how banks operate. For Schumpeter, "Credit is essentially the creation of purchasing power for the purpose of transferring it to the entrepreneur, but not simply the transfer of existing purchasing power," (1934, 107), or in what was the predominant view of the time, in Hartley Wither's (1920, p. 56) phrase, banks "manufacture money" which echoes Mcclloed:" A bank is therefore not an office for 'borrowing' and 'lending' money, but it is a Manufactory of Credit" which Hahn used as the leitmotiv for his book. Or Schumpeter, "The banker, therefore is not so much primarily a middleman in the commodity "purchasing power" as a *producer* of this commodity" (ibid., p. 74) For Hahn "Credit takes the goods out of nothing, where they would have remained without credit extension" (p. 141) The implications of this approach are major: "Capital formation is not the result of saving but of the granting of credit" (Hahn, p. 120). If this is how banks operate then there can be no "savings constraint" limiting investment, but only a finance constraint most completely explained by Keynes's idea of liquidity preference applied to banks as well as households. Indeed, after Keynes it would be more appropriate to talk about the creation of liquidity rather than the creation of money or credit.

The process of credit creation, or transfer of purchasing, that provides the basis for development via creative destruction takes place through provision of the means of payment by financial institutions. , "The activity of banks consists ..., if one ignores the legal form and considers the economic significance of the process as decisive, in providing guarantees, in acting as the guarantors of borrowers. They furnish ,so to speak, borrowers with the general trust that they lack. In this view, therefore, they are none other than intermediaries of credit in the literal sense of the expression, or in other the intermediaries of trust." (Hahn, 1924, p. 45 of Italian edition.)

For Minsky :” Banking is not money lending; to lend, a money lender must have money. The fundamental banking activity is accepting, that is, guaranteeing that some party is creditworthy. A bank, by accepting a debt instrument, agrees to make specified payments if the debtor will not or cannot. Such an accepted or endorsed note can then be sold in the open market. A bank loan is equivalent to a bank's buying a

note that it has accepted. ...When a banker vouches for creditworthiness or authorizes the drawing of checks, he need not have uncommitted funds on hand. He would be a poor banker if he had idle funds on hand for any substantial time.” (Stabilizing, 256)

“In our system payments banks make for customers become deposits, usually at some other bank. If the payments for a customer were made because of a loan agreement, the customer now owes the bank money; he now has to operate in the economy or in financial markets so that he is able to fulfill his obligations to the bank at the due dates. *Demand deposits have exchange value because a multitude of debtors to banks have outstanding debts that call for the payment of demand deposits to banks.* These debtors will work and sell goods or financial instruments to get demand deposits. The exchange value of deposits is determined by the demands of debtors for deposits needed to fulfill their commitments.

Bank loans, while ostensibly money-today for money-later contracts, are really an exchange of debits from a bank's books today for credits to a bank's books later. (258, italics added)”²

Control and provision of the means of payment is thus critical to the Schumpeterian/Keynesian view of the operation of the financial system in creating credit and in freeing innovative investment from the constraint of existing savings,. As noted by Minsky, in the modern financial system this function is provided by deposits provided by private financial institutions. But, not only is it not the case that banks simply lend the deposits they receive, deposit creation is not the only way in which liquidity can, and has been, created and is not the only payments system that has provided for the creation of liquidity. Indeed, this point is now better known since the recognition of the “shadow banking” system.

II. Public Banks and Government Means of Payment

The most obvious example is the creation of liquidity by government. As is well known, every sovereign ruler or government has jealously guarded the power to create money. Indeed, for the US this power to coin money is enshrined in the Constitution, and the right to issue currency was supported by a decision of the Supreme Court. In this case it was a question of whether the government could issue debt that would become a legal means of payment: the Civil War Greenback, which still gives the US currency its common name. Here it is easy to see the creation of means of payment that is in fact government debt. Although it is usually in times of war that the government uses its unconstrained ability to create and transfer purchasing power, it is clear that this is a power that is always possesses. Today it is often derogated to a National or Central Bank, viz. the statements by Marriner Eccles in the 1930s, echoed recently by then

² In an economy where government debt is a major asset on the books of the deposit-issuing banks, the fact that taxes need to be paid gives value to the money of the economy. The virtue of a balanced budget and a surplus insofar as the commodity value (purchasing power) of money is concerned is that the need to pay taxes means that people work and produce in order to get that in which taxes can be paid.

Federal Reserve Chairman Ben Bernanke, that there is no constraint on the ability of the Central Bank to create money (see Kregel, 2014). Thus, the original source of the power Schumpeter identifies with the banking business resides with government's constitutional control over the issue of coin and currency. And historically, it was through the creation of government debt that public banks and government means of payment were created.

Historical Evidence of Public banking producing Means of Payment: Monte

This relation is most easily understood by tracing the origins of the word "Bank".³ Historical evidence suggests that the origin is the German word "banck", the equivalent of the Italian "monte", which means a "mound" or a "store" where things are kept for future use.⁴ In the case of banks, it is a "mucchio di denaro", but the structure was not restricted to stores of money, as in "monte frumentari" representing stocks of non-perishable agricultural products. The closest English equivalent would be a "fund", which is the name commonly used for the public debt issues of the English sovereign.⁵

One of the earliest examples is the 12th century Venetian "Monte", which came to be called the "Monte Vecchio", following the creation of a "Monte Nuovo", and then a "Monte Nuovissimo". Venetian citizens were provided a "credit" certificate paying an annual interest. The "Monte" was managed by the Camera degli Imprestiti, who made the interest payments and recorded transfers of the certificates between citizens suggesting a secondary market in which the liabilities of the Monte served as means of payment: "From being convenient and valuable as an investment readily obtained, and as readily disposed of, it became, by a natural process a medium of payment in transactions of commerce" (Colwell, p. 292). In 1423 a decree was issued requiring all bills of exchange to be paid through the bank.⁶

³ It is widely, but erroneously, thought that the word "bank" is derived from the Italian "banco", the bench or long table used by money changers to conduct their business in the public markets of the early Italian city-states (this in turn is a probable confusion with the now more common "panca").

⁴ This interpretation follows MacLeod (1892, I, p. 315). Conant (1896, p. 22) notes his reference to "The definition given in an Italian dictionary in 1659 ... '*Monte*, a standing bank or mount of money, as they have in divers cities of Italy'." He also quotes Blackstone to the effect that the government of Firenze in 1344, unable to pay a debt of £60,000 "formed the principal into an aggregate sum, called, metaphorically a *Mount* or *Bank*, the shares whereof were transferable, like our stocks". A contemporary observer of the founding of the Bank of England quoted in Clapham (I, p. 20, italics added) refers to the "seal of [the Bank], being the Britannia sitting on a *bank* of money".

⁵ As the German "Banck" was retransliterated into Italian as "Banco", it became synonymous with "Monte" and thus came into common usage to signify a particular public loan issue. Today, just as investors talk about the price and conditions of a particular government bond issue, say the 8% Republic of Italy maturity 2000, Venetians would talk in the same way about the performance of a particular Banco or Monte, such as the Monte Nuovissimo. As noted above, this same usage is found in the 18th century English expression of "being in the funds", which means to have loaned money to the government against the issue of public debt.

⁶ This Venetian innovation for financing public expenditure spread quickly and the practice was soon adopted by other Italian city states. Florence organised its first monte in 1336 to finance its

The best known modern survivor of this banking structure is the *Monte non vacabile de' Paschi della Città e Stato di Siena*, created in 1642. The original "monte" in this case was produced from the grant by the Sovereign of the future pasturage payments for the grazing lands (paschi) around Siena. The income of 10,000 scudi per annum was capitalised at 5% as the basis for the sale of shares to the Sienese citizenry for 200,000 scudi which formed the "pile of money" the bank used as the basis for loans to merchants and farmers and the discounting of exchange bills. Just as in the Venetian Monte, the institutions liabilities, the "luoghi di monte", were "non vacabile", which means they were perpetual notes that were generally accepted as means of payment.

As Clapham points out, that a "Monte" would not today be recognised as a bank since it resembles what would now be called a public debt agency. . He notes that such banking" is so closely associated with public borrowing and with what is the oldest and most jealously guarded function of the state, the issue of money, that governments can seldom afford to leave it entirely unlicensed and uncontrolled..." (Clapham, I, p. 2) However, it represents the most important principle associated with banking before the introduction of note issue and deposit taking by the Bank of England: the capitalisation of long-term future income flows against the issue of circulating liabilities. \

In one sense, the structure of the BNDES is not much different from these forms of development banking, for instead of the rights to pasturage it has the steady receipts of the FAT and its accumulated earnings from lending allow for capital growth. The difference is that its liabilities are issued by the government.

Alternative Public Banks: Giro Banks and Clearing Houses

An alternative means of creating means of payment emerged from the business operations of money changers and goldsmiths. Money changers have existed at least since Greek and Roman times. Their function was to convert the various types of stamped or minted metal coins which were in general circulation into local currency, or to convert them into "ideal" units of account at rates determined by the assayed metal content of the circulating coins. They are reputed to have thrown coins down on their "banco di prova" to test the quality of the metal, providing the common, but erroneous, explanation of origins of the term "bank". A money changer often provided transfer services, holding customers balances which could be paid by transfer to the credit of third parties. They were also called money "scriveners", because they kept written record of the transfers between clients of the coins held on their books. But, they did not issue any counter liability or receipt similar to a bank note or check against the money held in their safekeeping.

Since trade dominated medieval economies, coin often had to be sent over long distances, through territory without the benefit of government or the rule of law.

war with Pisa; another followed in 1344. The loans of public creditors (compere) of Genoa were reorganised on the same principles in the 14th century and probably circulated as means of payment. This system was again reorganised to produce the Casa di San Giorgio in 1407.

Precious metals were easy prey for bandits who frequented isolated mountain passes or desert trails. The foreign exchange bill developed as a response to the problem of ensuring the safety of means of payment. It was specialisation in this instrument that allowed the British trading merchants or "counting houses" to transform themselves into "merchant bankers" transferring their excess funds internationally via bills of exchange. Since they had flows of goods and counterflows of payments which did not always balance, they discovered that they could sell their imbalances as payments services to third parties by accepting current payment against the issue of a bill of exchange, or a credit, which they guaranteed to pay either on presentation to themselves or to their agents or representatives at their offices abroad. In the latter case the bill was denominated in foreign money and was a foreign exchange bill, traded in the market for "foreign exchange" bills.

Since the bills were drawn against transport and sale of goods, and subject to repayment on presentation to the issuer, usually at a predetermined date, they were the equivalent of short-term self-liquidating paper. The effective international means of payment from medieval times thus was not gold, but foreign exchange bills. The purchase at discount of bills of exchange represented one of the major investments of excess funds for banks formed on capital, such as the Monte dei Paschi and the Bank of England, because of their safety due to multiple endorsements guaranteeing their payment and their relatively short term to maturity. Discounting did not require either the issue of notes or the creation of deposits, it could be done by advancing specie and thus represented a temporary investment of earnings for a bank that did not issue notes or take deposits.

Similar attempts to provide a replacement for the physical use of gold coin in internal transactions led to the activities of the money scriveners, mentioned above. Soon private bankers offered transfer services. Venetian private banks developed the use of a slip (*contado di banco*) which confirmed a client's deposit. They took the form of a promise by the banker to repay the sum deposited, or a verbatim extract from banker's records, showing the particulars of the transaction. These slips eventually began to circulate and by the 14th century they could be used to effectuate payment. Their value was discounted from the face amount according to the reliability of the banker. The "*contado*" represent the forerunner of the bank note and the deposit subject to cheque (Cf. Orsingher, p. 75).

Given the diversity of the different types and fineness of circulating coin there was always a question of what fineness of coin or type of coin would be accepted in payment of a debt. This was especially important for bills of exchange, which were often written in imaginary units of account such as the *ecu de marc*, the *fiorino*, etc., (cf. Einaudi's 1953 discussion of "Imaginary Money") and paid by book clearing or transfer. Publicly regulated banking institutions were expressly created to resolve the problem of a safe means of payment and certainty over the value of the means of payment.

These banks, called deposit or giro banks, represent the second major form of banking institution. In 1587 Venice made provision for a publicly regulated bank, entirely independent of the various "*Monte*" which eventually produced the Bank of

Rialto and the Banco del Giro. The Bank of Amsterdam was founded in Holland in 1609, and the Bank of Hamburg in 1619. Similar banks were founded in Nuremburg in 1621 and the Bank of Stockholm, the antecedent of the Sverige Riksbank, founded in 1608, issued receipts which circulated throughout Sweden as means of payment. These banks were founded on the basis of what came to be called the "Currency Principle" in the monetary debates in Britain in the 19th century the receipt is just a sign or substitute for the coin on deposit, it cannot be considered as an addition to the monetary circulation. The first public Giro banks were thus pure clearing houses, the equivalent of "money scriveners" that did not issue notes or make loans.

By the fact that these banks did not make investments in trade or in investment securities, they were, in principle simply clearing house systems set up to make payments via bookkeeping transfers between members' accounts. Their existence also facilitated the use of exchange bills by creating a common and generally accepted legal unit of account for use in contracts: the Florin and Mark Banco which is the origin of "Moneta di Banco" or "bank money", (now Central Bank money, or high powered money) of fixed value in terms of precious metals in which bills could be written and provided the clearing mechanism for the book settlements in this unit. The importance of this function was already recognised by Adam Smith in the *Wealth of Nations*. All credit that was advanced was private credit, financed through the merchant trading houses. But in difference from a modern deposit-taking bank it was not the asset owned by the bank and financed with the issue of a bank liability and they were technically 100 per cent reserved.

III. Modern Private Banking - The Bank of England

As Clapham notes, it was in the creation of the Bank of England that a private bank acquired the dominance over the creation of means of payment. He points out that "issue was the last of the classical banking functions to evolve spontaneously in England, and it was England's main contribution to the evolution of European banking." He notes that the real novelty of the Bank of England was that its balance sheet was composed of government debt as its major income earning asset, and by notes payable to bearer as its major liability "the combination of all these functions in one pair of hands, which constituted modern banking, and the supplementing of deposit by use of the "write-off" from one account to another, and of the cheque for making payments to anyone, only took place finally in England between 1630 and 1670." (Clapham, I, p.5)

Although not initially permitted, from 1683 the Bank made advances against deposits of coin via issue of a deposit receipt in bank money. These eventually began to circulate. The same was the case of the Bank of Sweden (Cf. Orsingher, p. 24) whose receipts took the form of notes, since in principle these pieces of paper were simply representations of specie on deposit in the bank and could be presented for payment.⁷

⁷ Although there were limits. For example, the credits the Bank of Amsterdam granted in "bank money", representing official weight coin, against the deposit of circulating coin valued according to its actual weight and against bills falling due, could not be converted into gold on demand. It also issued bullion receipts at a 5% discount to mint price which could be converted within six months upon payment of a keeping charge of 0.5% for gold and 0.25% for silver. (Cf. Dunbar, 1909, pp. 95ff.)

In the view of deCecco, "Compared to recent financial innovations, the rise of deposit banking systems in the nineteenth century was a veritable revolution. It was a true technical revolution, as cheques, discounts, giros, clearing houses and telegraphic transfers developed very rapidly throughout the advanced world." (de Cecco, p.1) Indeed, deposit banking invaded all other forms of banking as even German Kredit banks became deposit takers. However, along with deposit taking went the risk of bankruptcy of the issuing bank and the loss of deposits. And the response was for governments to impose increasing regulation on private banks in the form of reserve requirements, capital standards and so forth.

An entire theory of banking was developed which eventually gave rise to the Federal Reserve System in the US and then to the 1930s Glass-Steagall regulations, including deposit insurance, to protect the value of depositors. The basis of the regulation and the theory of banking associated with H. Parker Willis (cf. Willis, 1921), one of the most important advisers to the architects of the Federal Reserve was the "real bills" doctrine. "The theory of automatic elasticity, upon which the Federal Reserve Act was founded, assumes that commercial bank credit will be used for commercial purposes only" (Whitney, 1934, pp.184). If bank loans were limited to the creation of deposits to finance self-realising short-term commercial credits, there could be no excess or deficient creation of money. And since the credits were of short term, and usually partially collateralized or otherwise hedged, there was little risk of non-payment on the loans and thus little risk of loss to depositors. But in the period after the 1929 Stock market crash this approach placed severe constraints on the ability of monetary policy to counteract the crisis since there were no commercial credits to be financed, only commercial losses. As a result, the 1932 Glass-Steagall Act allowed Reserve Banks to lend against government debt. This brought sharp criticism from the banking school that it made banking less sound since banks could now hold long-term, illiquid government securities which were by definition not self-liquidating and could lead to losses resulting from change in their value when interest rates changed.

The 1933 Glass-Steagall regulations were also meant to limit deposit-taking banks investments to short-term, self-liquidating commercial lending. But, the legislation also included deposit insurance, which the banking theorist considered as unnecessary and a source of moral hazard; all that was necessary was for banks to keep their lending to commercial real bills. (See Whitney, 1934)

The result was that the "manufacture of money" was increasingly limited to financing short-term trade and consumption, rather than providing the transfer of resources to innovative entrepreneurs. Investment banking, which had been an afterthought in the 1930s regulations became the sole source of investment financing and these banks could not produce means of payment and were extremely constrained in their financing of investment to the savings flowing into capital markets. This is not to say that there was no liquidity creation, stock market margin accounts, loan of call

money to stock market specialists and the funding of the inventory of primary securities dealers are all examples of what today would be called shadow banking. But, the point is that long-term investment shifted farther and farther away from the financial institutions in control of the payments system and thus able to break the fatal linkage between savings and investment.

The high point of this transition was the reactions of commercial banks to the 1980s deregulation of the segregation of deposit and investment banking and the shift in these banks business model from originate loans and hold then on the balance sheet to originate loans and sell them to capital markets in the form of long-term securities. And the associated shift of the source of liquidity creation from banks' issue of deposits to the creation of what I have called "fictitious liquidity. As the 2000s evolved the banks were no longer the manufacturers of liquidity which had shifted to the capital market instruments of derivatives and securitization. And with very little lending to long-term innovative activity which was taken over by private investment funds which again, were primarily limited by the savings of their rich limited partners.

As large banks have shifted away from the creation of liquidity and concentrated more and more on their trading activities, that is the purchase and sale of securities or companies or commodities for profit, technological competitors have started to steal away their transactions business and may eventually threaten their core deposit business. This may be seen in two innovations in the payments system. The first is electronic payment systems and mobile payment systems which use personal electronic devices to make retail payments transfers.

The first question is whether mobile or electronic payments services will challenge bank deposits as the dominant means of payment in the financial system and whether this will provide the same "manufacture" of money as the traditional commercial bank. And if this is the case, how the will liquidity function provided by banks to borrowers be affected? And how will it be controlled?

There are already numerous alternative transactions systems. Pay Pal, which originated as the internal payment mechanism for eBay auction transactions, is now generally available for most domestic payment transactions and has recently expanded to handle international payments. Google has produced Google Wallet, Mastercard had generated PayPass and Square has recently announced that Starbucks will use it payments systems. These systems use either the internet or a smartphone wireless connection to provide payments transfers between members, and in some cases non-members. They all link the clients' bank account or credit/debt card for the origination and final receipt payments. Recently many have added free individual card readers such as provided by Square to attach to laptops, tablets an smartphones that replace traditional fixed-line point of sale terminals. American Express was an early entry with its Blue card providing guaranteed encrypted internet payments through its own network, but the system required a separate card reader that had to be linked to PC, and the card is now marketed as a simple no-fee credit card. Some also provide lending

services and issue branded credit cards through one of the major credit card networks. This in general requires a formal or informal link to a traditional bank.

IV. Alternative Payment Systems

For example, PayPal processes payments through a Single Bank Holding Company, Bancorp, that owns a Delaware chartered bank of the same name that is a member of the FDIC, but not a member of the Federal Reserve System. It issues debit cards to PayPal customers. Bancorp is an innovator in branchless banking (that is, banks without physical “branch” premises), private label banking (that is setting up a “bank” for an individual or entity) and affinity credit cards and prepaid debit cards.

PayPal Here has recently expanded its services with a global mobile payments system, including a free app and fully encrypted thumb-sized card reader for iPhone that allows small businesses, service providers and casual sellers to send invoices or accept debit and credit cards, checks and PayPal using one system.

The PayPal Mobile app for iPhone complements PayPal Here. It can notify the recipient merchant by a tap on the phone and the merchant accepts the payment by simply referencing the shopper’s name and picture.

It has also announced a quasi interchange system Payflow Services: Payflow Link and Payflow Pro payment gateways that process credit and debit cards, PayPal payments, delayed shipment billing, and electronic checks that come from online, mail, and telephone orders.

Google Wallet is operated in conjunction with Mastercard by the Google Payment Corporation (GPC). It makes the disclaimer “GPC is not a bank or other chartered depository institution. Funds held by GPC or its service providers (including any bank service providers) in connection with the processing of Payment Transactions are not deposit obligations of Buyer and are not insured for the benefit of the Buyer by the FDIC or any other government agency.”

The Square system that allows the user to accept payments, including card-based payments using MasterCard and Visa makes the disclaimer “We are not a bank, and we do not offer banking services as defined by the United States Department of Treasury. We also do not offer money service business (“MSB”) services as defined by the United States Department of Treasury.” It relies on a merchant payment processing service offered by Chase called “Paymentech” which provides a digital service. Square also provides a free card reader that can be attached to a smart phone, tablet or laptop as well as standard PC. Chase is representative of the response of banks, who have rapidly expanded their units providing mobile payments mechanism to alternative transactions systems.

In general, all of these payments systems provide a digital link between the

purchaser's bank or bank issued credit card to the seller's bank. In addition to providing these transfer services at rates that are in general competitive with credit card interchange and assessment fees, they hold excess cash and to use it to generate income. For example, a PayPal legal notice says "While your funds are in our custody PayPal will combine your funds with the funds of other Users and place those pooled funds into Pooled Accounts with one or more banks. These Pooled Accounts will be held in PayPal's name for the benefit of its collective Users at one or more banks. Balances in U.S. Dollars that are held in Pooled Accounts at one of the banks may be eligible for FDIC pass-through insurance. ... You agree that you will not receive interest or other earnings on the funds that PayPal handles as your agent and places in Pooled Accounts. In consideration for your use of the PayPal Services, you irrevocably transfer and assign to PayPal any ownership right that you may have in any interest that may accrue on funds held in Pooled Accounts. This assignment applies only to interest earned on your funds, and nothing in this Agreement grants PayPal any ownership right to the principal of the funds you maintain with PayPal. In addition to or instead of earning interest on Pooled Accounts, PayPal may receive a reduction in fees or expenses charged for banking services by the banks that hold your funds."

One of the ways that funds may be accumulated is given in the a recent announcement sent to Ebay sellers: "Starting Jan. 16, 2012, money from payments you receive will be placed in a pending balance for up to 21 days. By doing this, we're making sure that there's enough money in your account to cover potential refunds or claims. Even though you can't access the money right away, please ship orders quickly and communicate with your customers. After 21 days, you can withdraw money from each payment as long as the customer hasn't files a dispute, chargeback, claim, return or reversal". There are also special "verification" delays on transactions. All of these are mechanisms that are presented as "risk prevention".

Every delayed payment remains to the credit of PayPal. The customer can expedite this process by signing up for a PayPal affiliated credit card, or by borrowing through the "bill me later" option from PayPal. This is done via Web Bank, a Utah State Chartered "Industrial Bank" Industrial banks have a special exemption from Federal Reserve regulation; the bank has been subject in the past to an FDIC Cease and Desist order.

The condition of these systems is similar to that in the wildcat banking stage and then the evolution of deposit-taking. Private bank notes circulated at a discount rather than at par, because of collection difficulties and credit differentials across issuers. Today's credit rating agencies started business producing manuals of private bank notes

and their credit worthiness and the standard discount.

The same was true of check collection until the Federal Reserve imposed par clearing of checks through what came to be the Federal interbank market. The main point is that the claims across the different transactions systems have to be negotiable at par and this usually requires an external organizer such as the Federal Reserve. The alternative is that only a single provider of the service will survive. The example of the development of the telephone is instructive. A telephone is only useful if everyone else has one, a Facebook page is of no use if you have no friends, and the same is true of the transactions systems. Thus, the evolution of alternative payments systems will only be a challenge to banks if the Federal Reserve provides a clearing mechanism for the claims across systems, or if one system prevails over all the others.

If this is the case it is unclear why a private sector monopoly should be allowed to operate the payments system, or why the Federal Reserve should subsidise a private system. In a recent Minsky Conference Henry Kaufman forecast that “in the future the entire deposit function will be handled by some giant cloud computer facility” and he also went on to say that this system would be “controlled and guaranteed by the government.” Which would be a return to the system of government provision of the means of payment. However, this would not provide the transfer of resources that Schumpeter suggested were at the basis of economic development.

Non-bank Lending: P2P loans

The other aspect of electronic banking is the development of person to person (p2p) lending systems that link borrowers and lenders directly via the internet without intermediation. Here a number of lenders seeking higher returns are grouped together through a p2p lender to provide a loan to the buyer. These private lending systems outside of formal financial regulation are now in existence throughout the world. The lending activity ranges from micro loans to consumer and business development loans. An example of a micro loan is the San Francisco based Kiva \$3,200 loan to a group designated as “Las Perlas del Mar” (Pearls of the Sea) of good, honest woman and consider themselves to be as beautiful as pearls. The group representative is 19 years old, single, and has been selling shoes from a catalog for close to three months. ... She will use the loan to buy catalogs, shoes, runners, sandals etc. so she can better stock her business. The other group members have a variety of businesses: butcher, fruit seller, shoe seller, and clothes seller. The group is there to provide support to the members and to provide a system of peer pressure, but groups may or may not be formally bound by a group guarantee. In cases where there is a group guarantee, members of the group are responsible for paying back the loans of their fellow group members in the case of delinquency or default. Kiva is a non-profit organisation founded in 2005 and has made \$337 million in loans with a 98.94% repayment rate since creation.

In Germany Smava.de offers p2p lending. Anybody can lend or request a loan

online. Borrowers, after registering will be checked for identity and credit grade by Smava using PostIdent (a service offered by German postal service Deutsche Post) to verify the identity of the borrower and relies on credit report information from Schufa, a leading German credit bureau. Smava is only open to borrowers with credit grades A to F (which Smava says leads to expected default rates between 1.4% and 7.2%).

After validation the borrower can post his request which can range from 500 to 10000 Euro and state the interest rate he is willing to pay. Lenders can bid in intervals of 500 (minimum) Euros. If the loan request is fully funded the loan is paid to the borrower which will repay it in monthly rates for a period of 36 months. The borrower has the right to payoff early anytime (without any additional fees). Smava does not take fees from the lenders. Smava charges 1% fee of the loan amount from the borrower.

A British p2p operated by Funding Circle Ltd, London, UK was launched August, 13th 2010. Lenders have to be UK residents and borrowers have to be UK businesses that are at least 2 years old. Loan terms are for 1 to 3 years with loan amounts possible range from 5,000 GBP to 50,000 GBP. Funding Circle has a secondary market. Loans have been made to over 700 businesses for over 30 million BP.

When John Mack retired from Morgan Stanley he joined the leading US P2P lending called Lending Club, an online financial community that brings together creditworthy borrowers and investors replacing the high cost and complexity of bank lending with a faster, smarter way to borrow and invest. Investors choose their portfolio from a range of risk rated prime consumer notes from borrowers with an average 715 FICO score, a 14.07% debt-to-income ratio (excluding mortgage), 15 years of credit history, \$69,225 personal income (top 10% of US population). The average loan size is \$11,439. Investors purchasing 20,000 or more of these notes have earned from 6-18 per cent returns. Lending Club opened in 2007. To the middle of August it has funded \$807,228,525 in Loans and paid investors \$69,274,857.

All loans are made via WebBank, the same bank used by PayPal. Lending Club Notes are offered pursuant to a prospectus filed with the Securities and Exchange Commission. Recently an Internet based P2P lending platform "i-lend" opened in India and is available in Hyderabad, Andhra Pradesh. The portal connects the two sets of customers i.e. borrowers and investors who register online, undergo a verification process, list their requirements on the portal and agree for a mutually beneficial financial transaction.

These are only a few examples of the range of lending activities that have been taken out of the regulated financial system. The conclusion is that information and transfer technology seems to be replacing both the regulated payments system and the lending system into a mosaic of differing technologies and approaches with the unifying characteristic that they are unregulated.

The full evolution of these systems will have massive implications for the current financial system. Paper checks will disappear, bank branches will disappear, financial advisers will disappear. Again, Kaufman notes that "The financial future will

be one in which credit is socialized and our major financial institutions are financial public utilities.” However, from the present point of view the most important aspect of the p2p systems is that they intermediate savings and investment and preclude the creation of purchasing power to fund innovation and investment. They restore the constraint of saving on investment that Schumpeter’s view of the business of banking had broken to the benefit of development. But, Kaufman also suggests that the Schumpeterian function of banking business should be provided by a public utility which is exactly the definition of a public development bank.

V. Financing Investment in Henry Kaufman’s future world

The full implementation of a mobile giro system, whether it is organized by Google or the Government, would still leave the possibility for instability. As seen in the case of the Bank of Amsterdam a single operator clearing house system provides the operator with the possibility to create liquidity by simply providing credits without making the appropriate offsetting debt entries. Electronic Ponzi. It is for this reason that it is likely that such a system, as Kaufman expects, will be operated by the government (although even this provides no guarantee that it will not be abused). In either case, if the system is run on a clearing house or giro basis it cannot serve the transformative function elicited by Schumpeter.

This leaves the question of how purchasing power can be created in the absence of previously existing commodities and savings. The P2P systems cannot do this, and the investment funds envisaged in 100% banking proposals cannot do this. Even the government would have difficulty doing this because even though the government retains the unconstrained ability to create notes and currency it normally uses this power only to purchase goods and services from the general public. It thus cannot be a source of liquidity to the private system unless it uses its ability to run budget deficits which would produce an expanding amount of outstanding means of payment which would accrue as credits to the public in the general clearing/giro system. To convert the ability of the government to exploit the lack of an effective constraint on its ability to create liquidity into a mechanism to fund investment in innovation would require an additional mechanism to normal government budgeting. Keynes has already suggested the division of the government budget into a current and capital account, with the former run at balance the latter running a deficit in order to provide the purchasing power required to produce Schumpeterian transformation. This capital budget could be much more efficiently operated via a public development bank which would be able to break the constraint of savings on investment by use of the government’s ability to run a budget deficit. Alternatively, the Central Bank would undertake this function, as in the past Central Banks have served as government banks. Whatever the solution found to preserving the Schumpeterian nature of the financial system, it will require the ability to sever current creation of purchasing power from the production of existing commodities and freeing investment from the constraint of current savings.

Stability measures that seek to ensure that savings are a binding constraint will provide not only stability but stagnation and lack of innovation.

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