

A proposal for radical monetary reform

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Abstract

This paper builds on the proposal of the Dutch citizens' initiative for monetary reform "Ons Geld". "Ons Geld" advocates the disentanglement of public and private matters in money and banking by separating money and credit. Care for the money supply is considered a public matter. Credit is considered a private affair, as it stems from agreement between contracting parties.

The separation of money and credit is achieved by replacing bank deposits as the prevalent means of payment with state issued Digital Cash, combined with the dismantling of all government support for means of payment that are not issued by the state itself. In the process interbank clearing is phased out as the prevalent core of the payment infrastructure, and replaced by a digital payment system, based on a public Digital Cash System, in which money is directly transferred from payer to payee, without involvement of any bank balance sheet.

This paper puts the "Ons Geld" proposal in context and explores the characteristics of the proposed public Digital Cash System, and the migration of the current payment system based on bank deposits to state issued Digital Cash. This migration is primarily driven by demand for Digital Cash as a substitute for bank deposits, which is free of credit risks and free of interest, both negative and positive. Access to Digital Cash Accounts is provided by payment service providers such as banks, as a front-end-service under public supervision.

Migration to a public Digital Cash System changes monetary policy radically and implies the introduction of new monetary instruments and requires adaptation of the regulatory regime. Credit markets become liberalized as interest rates are no longer centrally managed, and become fully subject to market forces in which supply and demand of money for lending, and the risks involved are reflected. The money supply, in the form of state issued Digital Cash, becomes tightly controlled and directly managed by a separate (4th) power of government; the Monetary Authority. In this Digital Cash System money is essentially information, with no backing other than the power of central government, strengthened by transparency, democratic control and institutional oversight. This requires specific (statutory) principles that govern the monetary power to ensure a sound and stable monetary system serving society at large, enabling it to flourish to its full potential.

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² <http://onsgeld.nu/>

Introduction

In March 2016, Parliament of the Netherlands called for closer inquiries into the workings of the current monetary system and its alternatives.³ This was a result of citizens' initiative "Ons Geld"⁴ ("Our Money") supported by 120.000 Dutch citizens. These inquiries are entrusted to the Scientific Council for Government Policy⁵, which will help the government, as the Dutch Finance Minister Jeroen Dijsselbloem puts it: "to investigate and elaborate in greater detail the option to have money creation returned to public hands".⁶

The Dutch citizens' initiative "Ons Geld" is an example of growing interest in structural reform of the monetary system. In 2015 in Switzerland over 110.000 people petitioned for a referendum on monetary reform, which will be held in 2018.⁷ In a 2016 lecture, ECB vice president Vítor Constâncio made reference to various proposals for monetary reform published recently (Constâncio 2016). The Bank of England is preparing to open up its settlement services to non-banking entities -payment service providers- (Bank of England 2016), and considers to issue a new form of money: Central Bank Digital Currency (Barrdear 2016).

The monetary reform movement can be traced back to the work of Joseph Huber and James Robertson in Europe (Huber 2001), and Stephen Zarlenga in the United States (Zarlenga 2002).⁸ Their work on monetary reform predates the financial crisis of 2007, but gained attention thereafter. Former IMF researcher Michael Kumhof⁹ contributed to the credibility of the monetary reform movement, by presenting a monetary transition scheme (Kumhof 2012) and by demonstrating the actual impact of commercial bank money creation on the economy (Jakab and Kumhof 2015). The UK based NGO Positive Money¹⁰ contributed to the popularization of the subject. In the Netherlands, a popular theatre show¹¹ inspired by monetary reformers raised monetary awareness. In cooperation with the Dutch NGO "Ons Geld" the actors¹² managed to put the subject on the national agenda, via the citizens' initiative mentioned above.

³ TK 34 346 nr. 19, Burgerinitiatief «Ons Geld», Nader gewijzigde motie van de leden Omtzigt en Merckies, Voorgesteld 29 maart 2016. <https://www.tweedekamer.nl/kamerstukken/moties/detail?id=2016Z06289&did=2016D12937>

⁴ <http://burgerinitiatiefongeld.nu/>

⁵ Wetenschappelijke Raad voor het Regeringsbeleid (wrr). <http://www.wrr.nl>

⁶ TK 32013 nr. 135, Nederlandse Bankensector, Verslag AO van 28 juni 2016
<https://www.tweedekamer.nl/vergaderingen/commissievergaderingen/details?id=2016A00841>

⁷ <http://www.vollgeld-initiative.ch/>

⁸ The monetary reform movement is often placed in a longer tradition of economic literature; notably the work of Frederick Soddy (1926, 1934), Henry Simons (1933) and Irving Fisher (1935), often referred to as 'Full Reserve Banking' and 'The Chicago Plan' (Lainà 2015). The current monetary reform movement however, is strongly influenced by digitalization, which -as this paper points out- provides an entirely new perspective for the monetary system, that was not feasible when the literature mentioned above emerged. Therefore, the current monetary reform movement and those older proposals should not be treated as one and the same thing. They have much in common, but divert on fundamental points, that form an important part of the subject matter of this paper.

⁹ Currently Michael Kumhof holds a position as senior research advisor at the Bank of England.

¹⁰ <http://positivemoney.org/>

¹¹ De Verleiders, Door de bank genomen, Bos theaterproducties.

<http://www.de-verleiders.nl/doordebankgenomen/>

¹² Pierre Bokma, Victor Löw, Leopold Witte, George van Houts and Tom de Ket.

What is monetary reform?

Until recently a striking unity prevailed under the leading monetary reformers. They propose a return of money creation into public hands, to make it serve society at large in a transparent, accountable and democratic way, ruled by law. A forth, separate branch of government is foreseen to exercise the monetary power and to insulate money creation and management of the monetary system from any influence of private, commercial and political nature.

The American Monetary Institute (AMI) considers money creation the sovereign prerogative of the state. It claims that the current monetary system suffers from confusion of money and credit, which are essentially different things, but are often treated as one and the same. It aims at abolition of 'fractional reserve banking', which refers to the prevailing monetary system in which 'bank deposits', issued by commercial banks, serve as money, supported by a credit and clearing system run by the central bank.¹³

The "Ons Geld" proposal resembles the AMI-approach. It claims that the current monetary system is exploited for private interests, and lacks proper statutory regulation that is consistent with democratic values and the rule of law (Wortmann 2015). Its main focus is on disentanglement of public and private interests in money and banking. It regards the money system a public utility to be provided by the state. It proposes introduction of a public Digital Cash System, combined with liberalization of credit markets, by elimination of all state aid to financial institutions, and simplification of financial law.

In his book *The Money Problem* (2016), US based law professor and former treasury advisor Morgan Ricks departs from similar assumptions. Ricks shares the analysis that money creation is the prerogative of the state, that the current monetary system suffers from the absence of a clear definition of money, and that money issuance lacks proper statutory regulation (Ricks 2016). Ricks asserts that the 2007 financial crisis has not resulted in reforms that adequately address the vulnerabilities of the current monetary system. He regards recurrent financial crises not a natural necessity, but the result of faulty monetary system design. His reformist approach aims at implementation of an institutional framework for issuance of the broad money supply that better reflects monetary reality.

Ricks does distinguish money from credit, as AMI and "Ons Geld" do, but he does not seek to disentangle them. He aims instead at institutional recognition of the entanglement of money and bank credit, by a statutory established public private partnership between the state and the banks. The state grants full support for all money 'deposits' issued by banks. In return, banks share their profit with the state. Banks fit into a system in which a separate branch of the state, the monetary authority, fixes the total extent of credit to be supplied and allocated by the banks.

At the surface, Ricks' analyses seems similar to that promoted by the monetary reform movement. Ricks uses similar wordings like 'monetary reform', 'sovereign money' and 'monetary authority' as a forth separate branch of government. His conclusions however are entirely different and contradictory to the "Ons Geld" proposal. Thus two opposites are framed under the same heading. Ricks characterizes his proposal as conservative and not radical. And it is, for it basically invites the institutional order to acknowledge the true nature of the prevailing monetary system, and submit it to an appropriate institutional legal framework. In that context the "Ons Geld" proposal can be characterized as 'radical'

¹³ <http://www.monetary.org/>

since it does not only seek to submit the monetary system to an appropriate legal framework. It also wants to improve its societal subservience.

Objections to the prevailing monetary system

The “Ons Geld” proposal has its roots in fundamental objections to the current monetary system. This system is a patchwork historically grown particularly in response to financial crises. It has not been designed from scratch out of a set of requirements. It is accepted by tradition. Even economists, especially in the 50 years preceding the 2007 financial crisis, didn't bother to wonder how money is actually created and how this actually influences banking and the economy (Graziani 2003, Werner 2015, Jakab and Kumhof 2015). Money is the prime lever of power in society. But the use and existence of this power is virtually unchecked. It is not subjected to the rule of law, as one might expect in a democratic society. It is traditionally and rather mystically pledged to ‘invisible hands’. “Ons Geld” aims at making these hands visible and accountable.

“Ons Geld” asserts that the current monetary system is not based on *money*, but on a special group of *money claims*, commonly called ‘bank deposits’. These money-claims are issued by banks to finance their operations, and are generally used as money. Authorization to pursue the business of banking actually permits a private entity to create what is used as money. This privilege is granted without appropriate compensation and measures that ensure it is used in a transparent and desirable way. According to “Ons Geld” this distorts competition and stands in the way of any level playing field. Free, non-discriminatory and effective competition is illusory if access to the money printing press is a matter of privilege. Especially if this privilege can be exploited at will and for private benefit (Wortmann 2015, 2016). According to “Ons Geld” this ultimately undermines democracy itself, for it systematically awards circles of private financiers with the ultimate lever of power in society. Thus “Ons Geld” called on the members of Dutch parliament, to submit the monetary power to the rule of law and democratic oversight.

The use of bank deposits is convenient but has important drawbacks. Bank deposits are subject to counterparty risk. Their true value depends on the solvency of the issuing bank. Naturally the value of a bank deposit is less than its nominal amount. Therefore, such money claims cannot generally be used as money, traded at par with the general unit of value, without government support (Gabor 2016).

The five presidents of the EU summarize this as follows: *“As the vast majority of money is bank deposits, money can only be truly single if confidence in the safety of bank deposits is the same irrespective of the Member State in which a bank operates. This requires single bank supervision, single bank resolution and single deposit insurance.”* (Junker 2015)

As this quotation shows, the use of bank deposits as money requires profound government interference with the banking system and credit markets, which hampers competition. It also implies that bank bankruptcy is a systemic issue which burdens the public and the state with the ultimate risks that banks are exposed to. The result is an unhealthy entanglement of public and private interests in money, credit and banking, and blurred demarcations between public and private affairs.

Systemic debt

This however is not the only drawback of use of bank issued money-claims as money. Most bank deposits are originally issued as bank loans, on interest. The prevailing monetary system requires society to borrow its money supply on net interest from the banking system. “Ons Geld” refers to this as the ‘systemic debt’

which it estimates on 700 billion Euro for the Netherlands alone (Wortmann 2016). The burden of this debt hampers the economy. As the money stock is associated with a *systemic debt burden*, the money stock is unduly restricted. It is limited by the debt burden a society can service on aggregate. If such debt levels are reached, prosperity growth is unduly impaired, for lack of money in places where it is needed to make society flourish to its full potential (Wortmann 2015, 2016).

To support this claim “Ons Geld” refers to Van Egmond and De Vries, who modelled the monetary system in the Netherlands (Egmond 2016). Their model remarkably replicates the actual monetary development over the past 50 years, which saw great monetary expansion (and inflation) through (shadow) bank credit extension. For the coming 50 years however, it predicts persistent economic stagnation. This is caused by current aggregate debt levels, inherent to the prevailing bank credit system, that blocks society from further raising living standards. As debt levels increase, credit risks for banks increase, which reduces their willingness to lend, thereby unduly limiting monetary expansion and allocation. This situation can however, according to the model, easily be reversed if the state takes over money creation from the banking system, and starts issuing ‘debt free’ Digital Cash. That is to say, if the monetary system is switched over from operating on bank issued money-claims, to state issued money.

This claim is also supported by modellings of Benes and Kumhof (Kumhof 2012). Benes and Kumhof explored what would happen if the existing bank money stock is replaced with ‘indestructible government issued money’, combined with repayment of the systemic debt. They found this would result in a 10% output gain for the entire economy. It would also enable the state to implement anti-cyclical monetary policies to persistently stabilize the financial system at no inflation.

Based on the foregoing, “Ons Geld” argues that conversion of bank issued ‘debt money’ (money-claims) to state issued ‘debt free money’ (Digital Cash) is very beneficial and could compensate society for prosperity losses incurred by the 2007 crisis, and could release society from ongoing economic stagnation and financial insecurity.

Payment with money claims

Payments with bank deposits are executed on the balance sheet of the banks involved. If payer and payee have the same bank, their payment involves transfer of a money-promise of the bank¹⁴ to the payer, to the payee. With such payment the obligation to pay a sum of money to the payee is not extinguished. It is taken over by the bank. The debt is not redeemed but concentrated as money-promises (bank deposits) on the bank’s balance sheet.

If payer and payee have different banks, payment involves the balance sheet of both banks. Here bank liquidity becomes relevant. Payment of payer to payee is not executed as a direct transaction between those two parties. It is transformed in a transaction between their banks. The payer’s money-claim on his bank is reduced with the nominal amount of the payment. The other bank allows the payee an increased money-claim, to the same nominal amount. The transaction between the banks results in the bank of the payee accepting greater liability to its client. In return, the payer’s bank will pay the bank of the payee the amount of its reduced liability to the payer. This payment is typically settled via the balance sheet of a third bank; the central bank. This payment system requires no money to settle any payment. It is entirely

¹⁴ The money-claim of the payer on his bank, is mirrored by a money-promise of the bank to the payer, recorded as a liability on the bank’s balance sheet.

based on issuance of money-claims, and transfer of these claims between banks, that mutually accept each other's requests for crediting the accounts of their accountholders. It is a credit system that requires close collaboration between the banks involved. This collaboration is supported by the central bank, that maintains a system that guards the ability of banks to fulfill their mutual obligations, rising out of this payment system, and to settle them.

Given modern technology this system is rather complicated. Nowadays it is feasible to design and operate a general payment system, that is as convenient as the payment system based on bank deposits, and in which payment is just a *direct transfer of money from payer to payee*. Involvement of any bank's balance sheet would not be required, and would not add any value to the payment system either. It does however, imply risks and complexity, which are indeed unfortunate and important characteristics of the current money system, which we can do away with easily by creating a public Digital Cash System.

Digital Cash System

A public Digital Cash System can potentially resolve all drawbacks typically associated with the use of money-claims as money. As pointed out it can reduce complexity of the payment system, by executing payments directly from payer to payee, without involvement of any bank's balance sheet. Digital Cash payment would only require sufficient liquidity of the payer, in the form of Digital Cash. It would not require any liquidity within the banking system. This would insulate the payment system from all credit and market risks it is currently exposed to.

With the public Digital Cash System, the state provides a money system, that is fully backed by the power of government, and that is not directly entwined with the credit system. This enables the state to confine itself to backing the state issued currency only, and to abstain from backing banks and their money-promises. This is essentially what "Ons Geld" envisions with the disentanglement of money and credit. The state will care directly for the public money system, and leaves the credit system to free and undistorted competition (Wortmann 2015, 2016). It guards essential preconditions of the credit system, like a level playing field and consumer protection, but it is not implicated in it nor exposed to risks rising out of it, as it currently is.

Money is a generally accepted means of payment, which typically implies that transfer of money extinguishes the corresponding obligation to pay. As pointed out, payment with money-claims (bank deposits) does not extinguish the obligation to pay, but passes it on to another counterparty (the bank). In this respect the Digital Cash System is fundamentally different from the monetary credit system. It provides a means of payment that ultimately settles debt, thereby reducing debt burdens in society. Transition to a Digital Cash System is inextricably linked to debt relief, whereas the current monetary system is built on debt accumulation. This reflects a fundamental difference between a money system and a monetary credit system, and asserts the importance of not confusing money and credit.

Issuance of Digital Cash would entitle the state to seignorage; income derived from money creation. This could be used to eliminate the systemic debt, which yields prosperity gains as mentioned above. Furthermore, to support economic growth, additional money issuances will be required, which provides extra income to the state, which gives way to tax cuts and extra public investment e.g. in education, infrastructure and the general quality of life.

Migration to Digital Cash

Various schemes have been proposed for migration to a public Digital Cash System. The Kumhof model (Kumhof 2012) envisions a compulsory top down overnight transition, in which all bank deposits are instantly converted in state issued money. UK based NGO Positive Money proposed a similar overnight transition scheme (Dyson 2013). “Ons Geld” envisions a different scenario,¹⁵ in which the general public gets the option to convert its monetary money claims in Digital Cash (Wortmann 2016). This represents a gradual and non-compulsory but market driven conversion scheme, in which the public decides what amount of its savings it wants to lend to a bank, and what amount it wants to save as Digital Cash. It includes a transition period, in which the current payment system based on bank deposits is phased out and replaced by a payment system based on Digital Cash. During the transition there are two concurring currencies on the market, which might lead to currency shocks. “Ons Geld” however proposes a guided transition, driven by market forces but tightly controlled by the state, to avoid any of these shocks.

One control lever of the state is the gradual dismantling of state support for the use of bank deposits as a means of payment and a store of value. This includes a gradual dismantling of deposit guarantee schemes (Wortmann 2016). As long as state backed deposit guarantees are in place, accountholders have little incentive to redeem their insured interest bearing money-claims for Digital Cash, that yields no interest.¹⁶ The schedule in which deposit guarantees are discontinued is likely to control the conversion of insured bank deposits into Digital Cash. Deposit guarantees however, do not include uninsured bank deposits and money-claims on shadow banks. Uncontrolled conversion of these money-claims has to be avoided by other means, such as restrictions on the amount of Digital Cash to be converted or to be possessed. Another option is one-way conversion, denying reversion of Digital Cash back to bank deposits, by permitting Digital Cash payments only to Digital Cash Accounts (and not to bank accounts). During the transition period the Digital Cash System will issue Digital Cash in return for money-claims on the central bank (‘reserves’). This enables it to support payments from Digital Cash Accounts to bank accounts, which provides a seamless transition in the public eye.¹⁷ For small retail payments this can be allowed as it poses no threat to financial stability. To avoid currency shocks however, reversion of large sums must be limited or even excluded.

To large liquidity holders (like institutional cash managers) Digital Cash would provide a new, currently nonexistent alternative to bank deposits and other debt instruments to hold money in a safe way, without lending it out. Currently cash managers have no real money at their disposal. They only have debt instruments available, with varying levels of risk, interest and moneyness. Digital Cash allows them to hold cash at no interest and no risk (apart from fraud, breakdown of the legal order or technical breakdown of the Digital Cash System). This is unprecedented and it is therefore hard to assess their demand for Digital Cash under normal conditions. It can be expected that demand for Digital Cash will be greatest under

¹⁵ The different approach can be explained as Kumhof (2012) and Dyson (2013) focus on transformation of the current monetary system, whereas “Ons Geld” envisions migration to another system.

¹⁶ Interest rates go naturally with bank accounts, since the money on account is actually borrowed by the bank to finance its operation. These interest rates are comparable to dividend, since banks normally preserve the freedom to change these rates unilaterally. By contrast, interest rates are irreconcilable with Digital Cash Accounts, since the money on the account is not lent to the state, nor to anyone else. It is possessed by the accountholder himself.

¹⁷ The Digital Cash System does not end nor contradict the business of payment service providers. It rather enhances competition on this market. Digital Cash Accounts can be offered to the public by payment service providers (and banks), as a front-end-service under public supervision.

stressed conditions. However, to avoid currency shocks, availability of Digital Cash to large liquidity holders must be carefully managed, especially during the transition period, but also thereafter.

Recently the Bank of England started to explore a monetary system in which two concurring national currencies (expressed in the same unit of value) exist, that are both backed by the central bank (Barrdear 2016). One is on the balance sheet of the central bank itself, and the other on the balance sheets of its member banks (on aggregate). It is thus a system in which the central bank competes to some extent with the commercial banks. To avoid currency shocks, direct transfer of money-claims from commercial banks to the central bank (and vice versa) is ruled out. Instead money claims on the central bank can be acquired only in return for government bonds. This limits the outflow of liquidity from the commercial banks. To switch over from a commercial bank to the central bank, the accountholder has to acquire government bonds first. The seller will get a money-claim on its commercial bank in return. Thus on aggregate, liquidity is not drained out of the commercial banking system. The model presented by the Bank of England aims at a monetary system in which the concurrent currencies coexist perpetually.¹⁸

By contrast, the coexistence of the two currencies in the “Ons Geld” proposal is temporary, to enable a market driven and guided conversion to the Digital Cash System. In the process, banks will lose a significant part of their funding, as money-claims they have issued are redeemed for Digital Cash. They will have to transform themselves from issuers of short term debt, into financial intermediaries. This contributes to financial stability, as shown by a working paper of the Bank of England (Jakab and Kumhof 2015). Banks will lose cheap credit favored by state support, which must be replaced by unsubsidized funding, or has to be compensated by shrinking their balance sheets. To bridge the time this takes, a temporary credit facility is foreseen offered by the state to the commercial banks. This will prevent undue calamities rising out of a liquidity drain from the commercial banks.¹⁹

To the extent banks make use of this credit facility, bank liabilities to accountholders are replaced by bank liabilities to the state. “Ons Geld” calls this the ‘conversion liability’, which is mirrored by a conversion claim of the state on the banks. To the extent of this claim, public and private debt with the banking system can be netted,²⁰ which helps the banking system to adequately shrink its aggregate balance sheet, and improve equity ratios. When the conversion debt is settled in this way, the systemic debt is reduced or even eliminated.

The transition sets the money system apart from the credit system. Bank liquidity and the accompanying risks are taken out of the payment system, which is then run as a public utility by a separate branch of

¹⁸ The model presented by the Bank of England predicts an 3% output gain resulting from issuance of Central Bank Digital Currency (Barrdear 2016). That is a meagre result if compared to the predicted 10% output gain following conversion of bank deposits to government issued money (Kumhof 2012) and the subsequent strong and stable economic growth predicted by Van Egmond and The Vries (2016) resulting from additional money issuance by the state.

¹⁹ After migration to the Digital Cash System bank liquidity is no longer of importance to the payment system. Its importance for the credit system could also be reduced since after the transition, maturity transformation would not be fundamental to banking anymore, and might even be prohibited to enhance transparency on credit markets and protect investors against run prone credit.

²⁰ Kumhof (2012) proposes private debt redemption via distribution of a citizens’ dividend, which has to be used for instant debt repayments.

government, the Monetary Authority, with payment services provided by payment service providers, as a front-end-service under public supervision.

Separation of the monetary power

The prevailing view commonly asserts a separation of monetary and fiscal policies, to safeguard operational conduct of monetary policy, from political influence. “Ons Geld” takes a different view. It asserts the insulation of the monetary power from *all undue influences, including influence of private, commercial and political nature* (Wortmann 2015, 2016). Therefore, monetary power is removed from private exploitation, and entrusted to a separate branch of government that institutionally safeguards it from political exploitation. Use of fiscal policies for monetary objectives is not categorically rejected. Dismantling of state aid to the banking system requires for instance that the state accepts Digital Cash as the only means of payment for taxes. Acceptance of other means of payment increases demand for those currencies and implies state aid to its issuers, which is incompatible with the transition, and with fair competition.

“Ons Geld” proposes various guidelines to secure the independence of the monetary power, within the institutional framework of the state. Among these a separation of the power to create money, and the power to allocate newly created money. Money creation must be conducted solely in the public interest and on objective monetary grounds and basically under a zero inflation policy. The Monetary Authority is entrusted to fix the windows for money creation and allocation. It does not enjoy any financial interest in it. The benefits of money creation flow to the national budget, and are likely to significantly reduce tax levels (Wortmann 2015).

This does not mean however that the Monetary Authority cannot lend money on interest. It can but in a limited way. If the liberalized credit markets, supported by enhanced liquidity provided by the Digital Cash System, offers insufficient credit for real economy trade and investment, the Monetary Authority can offer supplementary lending facilities to financial institutions. However, its role on the credit markets remains complementary and focused on the needs of the real economy and bound by a zero inflation policy.

If newly created money is lent into circulation, the corresponding money-claim becomes a financial asset of the state, which adds to the equity of the state. Most of the Digital Cash supply will not be lent in circulation however, and will therefore not result in a corresponding money-claim. During the transition period, Digital Cash is issued to redeem bank deposits and other monetary debt instruments. After the transition, new money issued will primarily be spent into circulation, typically by government investments and social welfare. As Digital Cash represents money and not a money-claim on the issuing entity, issuance of Digital Cash does typically not result in any liability of the state, nor the Monetary Authority. It is *a registration of money possessed by the Digital Cash Accountholder*, administered by the Monetary Authority. It is an asset of the accountholder and no liability of any counterparty. It does not represent a debt nor a credit relation. The Digital Cash supply is registered in a digital system, but it is no part of the balance sheet of the owner nor the administrator of that system. The branch of government that is entrusted with the administration of the Digital Cash System has no self-interest in the money it issues, nor needs to acquire ‘backing’ of the money it issues with financial assets. The Monetary Authority is not a bank. It is a governmental administration that is not exposed to any market or credit risk.

The financial asset backed monetary credit system

In the prevailing monetary credit system, the entire money supply is mirrored on the aggregate balance sheet of the banking system. The money-claims issued by the banks are balanced with assets on the banks' balance sheets. This is typical for monetary money-claims. Issuance of these claims needs backing by assets, to give these claims substance and credibility. In this monetary credit system, the money supply is a function of the financial assets on the aggregate balance sheet of the (shadow) banking system. A highly complex and intertwined financial industry has grown out of that, squeezing broad money out of available assets, exposing the money system to ever increasing risks and generating strong demand for financial assets, most importantly government bonds (Gabor 2015, 2016). The monetary system craves debt, whereas society crumbles under it, while economic inequality grows.

This monetary credit system has replaced the metallist system, based on the gold and/or silver standard, in which the money supply was a function of gold and/or silver hoardings. It is commonly held that the current monetary system is a fiat money system, in which money is issued entirely at will. This however, is erroneous since the current monetary system is based on financial assets, and set on a 'financial asset standard'. It is more instructive to call it a 'financial asset backed monetary credit system'. Transition to the public Digital Cash System is actually migration to a plain fiat money system, in which the broad money supply is not a function of holdings of financial assets by specific entities. It becomes a function of direct governmental monetary control. In a fiat money system, money is not a liability backed by assets, but an asset itself. It represents no claim nor obligation of anyone. It represents an abstract power to discharge oneself of an obligation. It is a measured power to pay. Correspondingly Digital Cash is only recorded on the balance sheet of the issuing state, if it is lent into circulation (as a financial asset, thus a claim), or if it is possessed by the issuing state (as an asset).

The prevailing 'financial asset backed monetary credit system' is not devised to primarily serve society. It serves self-interested profit maximization by entities that participate in that system, thereby supported by a central bank, that has at its disposal the exclusive right to create the national currency, that enables it to provide its member banks with potentially unlimited credit, at the expense of society. Therefore, "Ons Geld" concludes that the current money system primarily serves the financial industry, which is practically entitled to its exploitation (Wortmann 2015, 2016). The resulting monetary system is unfit to provide the appropriate money supply to enable society to flourish to its full potential. Instead it yields unwanted symptoms like (asset price) inflation, financial bubbles, economic stagnation, unfair competition, adverse incentives, moral hazard, systemic debt burdens and inequality. It is virtually unmanageable and imposes risks and austerity on society, and waste of available capacities to improve the general quality of life. It demands social reform to sustain the financial system. "Ons Geld" however, claims it is the monetary system that needs an overhaul, not society. The social fabric ought not to be changed, to better serve the money system. The money system should be revised to better serve society.

Juxtaposition of assets and liabilities on a balance sheet makes perfect sense in relation to issuance of money-claims by an entity. There is no logic however, in use of that mechanism (on aggregate) to determine the general money supply. Focus on financial assets does not optimize the broad money supply, nor its allocation. It rather puts it at risk and prone to shocks on financial markets. The money supply should not be determined by the solvency of the money-issuer, but by the economic and societal need for money, given its potential to prosper.

A 'financial asset standard' is more flexible, but as primitive as the gold standard, in which the monetary system is not consciously and competently mastered, but left to coincidental circumstances, like the availability of gold. In the course of history, due to less advanced technological and administrative circumstances, it may have been necessary to resort to imperfect solutions to maintain a general money system, by using gold and silver to represent money. Even tobacco did its service as money in monetary history. As a rule, that which was plentiful to the few and powerful, and scarce for the rest, did best as a money substance (Zarlenga 2002). This goes for financial assets as it did for gold and tobacco. But neither substance could maintain a monetary system that primarily served society at large. Digital technology however can. It can maintain a system in which money is essentially information about the allocation of the embodiment of the general unit of value. Gold, tobacco nor financial assets are required to store that information, and make it serve as the monetary system. Only the digital technology is required and the institutional framework to operate it in the appropriate way. Ideally the money supply and allocation should not be a function of gold, tobacco or financial assets hoarded somewhere. It should not focus on what certain financial entities have in store. It should focus on the real economy. Ideally the money stock is a function of all tradable value in the real economy to enable its exchange for greater prosperity.

Monetary policy

In the prevailing 'financial asset backed monetary credit system' official monetary policy fulfills an auxiliary function. Direct operation of the monetary system is left to private commercial exploitation. Monetary policy is mainly used to support this exploitation, and intervene if it runs apparently contrary to the general interest. Monetary policy instruments are primarily designed to serve the financial institutions that operate the money system, as a by-product of their commercial undertakings. The adjusting monetary powers of these instruments are rather limited and inefficient. They have not been designed to control the monetary system, but to support it. This may explain why the outcome of monetary policy is often puzzling and uncertain, subject to speculation and sometimes complete ineffective and contrary to its objectives. Monetary policy is determined and implemented by the central bank. It operates via the credit and settlement services that the central bank offers to its member banks, and via 'open market operations'.²¹ The central bank is directly involved in the business of commercial banks, and in trade of financial assets. It does not implement its policies from an independent governmental position. It is directly exposed to market and counter party risks. It operates primarily as a financial service provider to the entities it is supposed to supervise. Transition to a Digital Cash System alters this fundamentally.

The Digital Cash System separates the money and the credit system. Thereby providing a clear demarcation of public and private affairs in the financial system. Providing credit is a private business, whereas care for the money system is a public responsibility (Wortmann 2016). The Digital Cash System is directly managed by the Monetary Authority, who is not implicated in the affairs of banks, the trade in assets and the risks involved. It keeps its distance from private trade, but can intervene effective and directly, by use of its monetary powers.

The Digital Cash System is essentially a registration of personal possession of money, comparable to the cadastral registration of land ownership. This can be designed as a technologically centralized or

²¹ <http://www.bankofengland.co.uk/markets/Documents/money/publications/redbook.pdf>

distributed system.²² But either way, it is a transparent system that renders exact information in real-time about the flow and allocation of money. This provides an entirely new basis to monetary policy, that enables a more precise and scientifically calibrated approach to its implementation. The main parameters relevant to manage a monetary system become controllable, which will yield a new class of monetary management tools, widening the range of feasible policy objectives, and reducing the occurrence of adverse side effects.

The prevailing monetary credit system is grafted on a low inflation policy. This serves the interest of the banks that finance their operations by issuance of money-claims. They benefit from a gradual decrease of the actual value of their borrowings, and gradual decrease of default risks on their lendings. This low inflation policy is generally legitimized by assertion that deflation cannot be countered in a monetary credit system. Whether this is true or not,²³ in a Digital Cash System it is certainly not true, since deflation can be countered for instance by directly injecting additional cash in the economy. It can be injected at no costs, and exactly where and when it is needed to sustain demand for the actual supply, or to increase supply to satisfy actual demand, as desired. Digital Cash injection typically takes the form of tax cuts, government spending or supplementary monetary credit facilities. Conversely, inflation can be countered directly as well, by raising taxes (on transactions) and divert spending from industries that apparently are unable to meet demand, or by directing supplementary credit to these industries, as desired. The payment-power of Digital Cash can also be protected by influencing the money flow. To this end Trond Andresen (2013) proposes for instance a flexible tax on payments. Increase of this tax could slow down the money flow. For more precision, specific payment categories could be taxed, discouraging demand on certain markets, and leaving other markets unaffected.

The foregoing shows a close relationship between monetary management tools and fiscal policy. This is a natural characteristic of a money system that is run as a public utility, and in which all seignorage flows to the general budget. To avoid undue political influence on the monetary system however, the relation between fiscal policies and monetary management tools need to be addressed in the institutional monetary framework. Politically desired goals can actually be implemented in the monetary management tools, thereby significantly gaining efficiency. But such implementation runs via legislation, and is in effect limited by the responsibility entrusted to the Monetary Authority, to care for the monetary system.

The Digital Cash System enables scientifically calibrated control of both stock, flow and allocation of Digital Cash. This transforms monetary policy into management of a panoptic digital money system, conducted by the Monetary Authority. The legislator however, sets the standards for this conduct, and organizes disclosure, supervision and oversight procedures, to ensure compliance to these standards. Fiscal decisions, such as the rules for reallocation of Digital Cash, are up to political debate which requires an

²² The actual technical implementation is not relevant for this paper. A distributed system might fit best, given the state of technology, and elementary requirements for the Digital Cash System like reliability, scalability and availability.

²³ A monetary system is not a creation of nature but a product of human making. It can be designed so as to make it comply to any reasonable requirement. Even a monetary credit system could be organized in a way that allows money to be injected when and where it is needed. What complicates it however, is the net interest the banking system seeks to yield on provision of the money supply. It is this interest that is protected by asserting that deflation cannot be countered in the prevailing monetary system. It actually can, but runs contrary to commercial exploitation of the money system.

orderly cycle, that typically takes considerable time. Monetary decisions however, can be taken instantly, and executed directly within the institutional framework in which the Monetary Authority operates.

The public Digital Cash System provides liquidity to society, in order to sustain exchange of value and to provide sufficient liquidity buffers throughout society. Digital Cash has no intrinsic value. There is no use in holding it apart from its moneyness. *It provides a measured and stable payment power to its possessor.* Accumulation of this power beyond reasonable limits, undermines the soundness of the monetary system. It would drain liquidity, and might impact the system by sudden liquidity floods. Thus accumulation of Digital Cash must be restricted. This restriction does not limit the wealth that can be acquired within society. It only limits the amount of Digital Cash that can be held inactive, which actually encourages investment. The accompanying policy tools support the building up of appropriate liquidity buffers held safely as Digital Cash, but discourage and ultimately prevent accumulation beyond that. Obviously such measures that directly impact on the Digital Cash allocation, exemplify the relation between monetary management tools, and fiscal policies.

In the current monetary credit system, negative interest rates are a likely instrument to discourage hoarding. Application of negative interest rates however, is unfit to siphon off excessive digital cash hoardings, since it would impact all Digital Cash holdings, and could unduly increase the money flow. In general, interest rates are irreconcilable with Digital Cash Accounts, since the money on the account is not lent to the Monetary Authority, nor anyone else. It is possessed by the accountholder himself. Moreover, negative interest would actually imply a gradual decline of the payment-power the accountholder possesses. This is irreconcilable with the Digital Cash System as well. Digital Cash should provide the accountholder at all times the same payment-power it had when he received it. Otherwise he would in retrospect, be insufficiently rewarded by the original transfer of Digital Cash to his account. Costs for payment services, and statutory taxes are consistent with the Digital Cash System. Gradual decline of payment-power is not, regardless whether it is explicitly imposed as negative interest, or obscured as inflation. Either way it reflects inappropriate management of the monetary system. As Aristotle rightly observed the validity of money is arbitrarily determined, and can be changed or voided at will (Aristotle, Ethics 1133).²⁴ It is the responsibility of the Monetary Authority to secure that Digital Cash maintains its payment-power, which i.a. requires a zero inflation policy. This holds true from ethical as well as practical principles, since currencies with fluctuating or decreasing payment-power are less preferable as money, than stable currencies. They may provide a means of payment, but not a reliable and convenient source of liquidity. With direct control over the money supply, and instruments to influence money flow and allocation, the Monetary Authority is well equipped to maintain price stability. It does not need to revert to inflation to avoid deflation. It can counter deflation as easy and effective as inflation. It can actually adhere to a zero inflation policy (KPMG 2016),²⁵ which it should do, to avoid a hidden negative interest on Digital Cash holdings.

²⁴ In Ethics 1133, Aristotle puts reciprocity (not equality) to the foundation of trade and society. Reciprocity is accomplished in society with money, a societal convention and unit of value, that enables comparison and exchange of different things, on equal footing, according to their value. Decrease of the payment-power of money over time undermines societal reciprocity, and compromises its *raison d'être*. As the value and validity of money is essentially determined by humans, it is their ethical responsibility to bring about its stability.

²⁵ According to KPMG (2016) all currently available scientific publications presenting the results of economic modelling of monetary reform proposals, unambiguously conclude that a public monetary system would allow for a zero inflation economy (and improved control of the business cycles, and elimination of public debt).

Management is essential to the Digital Cash System. It is a system designed by humans and operated by humans. Its statutory implementation must acknowledge that, and provide an appropriate monetary framework, strengthened with transparency, democratic control and institutional oversight. The Digital Cash System does not rely on contingencies such as the availability of gold or financial assets. It does not rely on invisible hands either. It relies on rationality and accountability and the assumption that humanity is able to master its own invention, money, eventually. Notably, the Digital Cash System is not focused on financial assets to back currency. This insulates it from financial instability and credit and market risks, which fundamentally safeguards its stability. Its soundness fully depends on the quality of its management and its institutional and technical implementation. The Digital Cash System requires the legislator to face and take up its monetary responsibility, and to stop running away from it, as it currently does, surrendering it to exploitation by unaccountable invisible hands, thereby compromising free competition and the credibility of the state, and burdening society with systemic debt and hampering its ability to improve general quality of life.

The Digital Cash System introduces a new approach to monetary management, that enables it to intervene with precision, avoid adverse side effects and attain desired fiscal effects at the same time. Monetary policy tools employed in the current monetary credit system will become obsolete. Interbank clearing and settlement will no longer be of importance to the payment system, and have to be divested from the public sphere, to rule out any state aid to the banking system. Accordingly, after the transition, bank liquidity will lose much of its monetary relevance, and will not be of direct concern to the Monetary Authority, as it currently is to the central bank. Interest rates gain a different monetary policy function. The Monetary Authority is not concerned with setting the 'risk free' interest rate.²⁶ It leaves interest rates to the markets, to genuinely reflect supply and demand for credit, and the risks involved. This yields useful information that helps to determine the appropriate monetary policies, since it reflects the demand for Digital Cash relative to its availability.

Near monies

Migration to the public Digital Cash System presumes abolition of the general use of money-claims as money. But how is this achieved? "Ons Geld" does not conceive a ban on monetary debt instruments. On the contrary, it emphasizes the freedom of contract, and the countervailing power of private money creation, to compel the public Digital Cash System to be sufficiently responsive to market demands (Wortmann 2016). A sound Digital Cash System and an appropriate supply and allocation of Digital Cash are the first requirements to stimulate the public to use the Digital Cash System. Equally important is elimination of all state aid to financial institutions and state support for money-claims. As money-claims become fully exposed to their risks, their trading at par with the general value unit at nominal value

²⁶ The 'risk free' interest rate would actually be a misnomer in a Digital Cash System. Digital Cash serves as risk free money, that the accountholder has in its possession. As he does not lend it out, he yields no interest on it. It rests inactive in his possession. Lending it out, might yield the lender some interest, but inherently exposes its Digital Cash to risk. 'Risk free' is attached to possession of money, and interest to lending it out. One cannot possess and lend out the same Digital Cash at the same time. Lending it out, means transferring possession. By contrast, a money system based on money-claims allows money to be lent, and the resulting money-claim to be rewarded a money status as well, which makes the money system run prone and inherently unstable.

becomes highly improbable. Therefore, “Ons Geld” does not consider use and existence of ‘near monies’ a serious threat to the Digital Cash System (Wortmann 2016).

Elimination of state support for money-claim, cuts deep into the prevailing monetary system. It involves recalibration of the role of the central bank. It either has to abolish banking to be transformed into the Monetary Authority, as proposed by Van Egmond and De Vries (2016), or it is fully privatized and divested from the public sphere (Wortmann 2016). The privatized central bank would lose its mandate to issue the national currency, to the non-bank Monetary Authority, and become a mere central counterparty and clearinghouse to its member banks. Its credit would fully depend on its solvency, and would not be backed by the state, nor the ‘money printing press’. This renders the current interbank clearing system definitely inferior to the public Digital Cash System, and ultimately unwinds the entanglement of public and private affairs in money and banking.

Prudential oversight is recalibrated as well. It currently is designed to support the use of bank deposits (money-claims) as money, thereby obscuring and levelling the risks attached to lending to a bank. That will be overturned. Its main concern will be transparency of risks and securing undistorted and fair competition on credit and investment markets, including consumer protection. The dual system of prudential and financial oversight, common in many states, would become superfluous (Wortmann 2016).

“Ons Geld” believes that complete elimination of state aid for private credit will suffice to keep use of money-claims as money in check. In the unlikely event this is not the case, additional measures can be considered, like those proposed by Ricks (2016) and McMillan (2015). Ricks (2016) proposes a ban on issuance of short term debt, which would block issuance of monetary money-claims. Apart from that, this ban could be useful to protect investors from run prone financial arrangements. McMillan (2015) proposes a solvency rule that excludes financial assets as a sufficient backing for monetary money-claims. This could also protect investors via improved accounting rules, that better reflect risks in the annual accounts. Apart from their potential monetary impact, these proposals deserve attention because of their ability to enhance protection of investors and transparency on credit markets.

Conclusions

The prevailing monetary system operates on private money-claims issued by (shadow) banks and is inherently build on debt accumulation. Monetary reform, as proposed by citizens’ initiative “Ons Geld”, involves migration of this *‘financial asset backed monetary credit system’* to a fiat money system, provided by the state, as a public utility. In the process *systemic debt* accumulated under the current monetary system is paid off, which relieves society from unnecessary debt burdens that hamper its development, and which helps the banking system to improve its equity ratios.

Migration to a public fiat money system is enabled by digital technology. The resulting system is therefore referred to as the Digital Cash System. Transition to Digital Cash strongly reduces the complexity of the money system and the risks it is exposed to, as Digital Cash is not a liability of the issuing entity, and payment with Digital Cash does not involve any balance sheet other than those of payer and payee. Digital Cash sets the money system aside from the credit system, and clearly demarcates public and private affairs in the financial system. As the state provides the money system itself, it can (and must) eliminate all state aid to financial institutions and state support for money-claims. Prudential oversight is thereby transformed from obscuring and leveling credit risks, to strengthening transparency and market efficiency.

In the Digital Cash System, the money supply is no longer a function of financial assets acquired by financial institutions, but grafted on the actual need for money, enabling society to flourish to its full potential. This is supported by improved monetary management tools, strengthened by real-time insight in the flow and allocation of money, and enabling exact adjustment of the main parameters of the money system.

To safeguard monetary management from all undue influences including private, commercial and political influences, it is entrusted to a separate (4th) branch of government, the Monetary Authority, that has no self-interest in the money it issues, and that is bound by a zero inflation policy. Demarcation and attribution of fiscal and monetary policy making, is implemented in the accompanying institutional legal framework of the Digital Cash System. As the seigniorage on Digital Cash flows to the general budget, fiscal and monetary policies are undeniably linked, with structurally reduced tax levels and more effective policy instruments as a likely outcome.

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