A new monetary system based on Keynes’ ICU

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Abstract

The banking crisis that exploded in 2008 has led western economies to what has been called the "Great Recession". Since then, a great deal of academic activity has tried to clarify the nature of the banking system and to identify the causes and remedies of the crisis. From this work, a consensus has emerged to the effect that the banking system is not merely a financial intermediary, but that it plays a major role as the chief creator of money (as the Austrian School of Economists pointed out long ago). As a result, inquiry has shifted from the banking system to the monetary system of which the banking system is part, in the hope that changes in the monetary system could lead to the end of the "Great Recession". Most recent proposals to change the monetary system are still based on the present system of fiat money, or else on a call to return to the gold standard. This paper explores the possibility of a new monetary system and its potential advantages for today’s economic system, society and environment. I call this type of monetary system "R-economy", a type of "credit-monetary system". It resembles Keynes’ Bancor, defined in his proposal for an International Currency Union at Bretton Woods and, like the later, has unavoidable political ramifications.

Introduction

(1). Money is (for the most part) created by banks

Despite the widespread assumption that banks are merely intermediaries, the banking system actually creates the greater part of the money supply. For this reason, the banking system should be considered part of both the monetary system and the

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financial system. Only notes and coins are created by other agents (governments or central banks). The rest of the money supply is created by the banking system itself. IMF economists Benes and Kumhof (2013) explain this process in a very instructive way:

“In the current financial system ... changes of a nation’s broad monetary aggregates depend almost entirely on changes in banks’ willingness to create deposits. But bank deposits can only be created (or destroyed) through the creation (or destruction) of bank loans ... Crucially, the present system imposes almost no constraints on the ability of banks to act on such changes in sentiment. The reason is that banks are able to generate their own funding, deposits, in the act of lending, an extraordinary privilege that is not enjoyed by any other type of business. Specifically, and without exception, whenever a bank makes a new loan to a non-bank customer X, it creates a new loan entry on the asset side of its balance sheet, and at the same time it creates a new and equal deposit entry on the liability side. Both entries are in the name of customer X. There is therefore no intermediation whatsoever at the moment a new loan is made. What is needed from third parties (i.e. other than the bank and X) is not a new deposit, but only the acceptability of the newly created money in payment for goods and services. This is given by legal fiat and therefore never in question. Note that at the level of the aggregate banking system it makes no difference that the new deposit (or the new loan, e.g. through securitization) might subsequently be transferred to another bank — so long as the loan remains outstanding at some bank, so does the deposit, at some other bank. The aggregate money supply has therefore increased. ¹

The interesting point arising from this passage is not only that money is created *ex nihilo* (Latin for ‘out of nothing’) but also that the concept of investment funds coming from savings is open to question. Following the same line of argument, Steve Keen agrees with J. A. Schumpeter [and Minsky] that investment is not financed by savings, but by expansion of the money supply by banks. As Schumpeter (1934), puts it: “It is always a question, not of transforming purchasing power which already exists in someone’s possession, but of the creation of new purchasing power out of nothing”²iii. In the same vein, Benes and Kumhof (2013) emphasise that:

The often heard prescription that in order to generate adequate levels of investment the economy first needs to generate sufficient savings is fundamentally mistaken. Because the credit system will generate the saving along with the investment.

This is fundamentally in contradiction to basic economic principles. We shall elaborate on this further bellow. For now, let us focus on the failure of another, far more conspicuous, basic economic principle: the notion that money, credit and banks are not relevant for macro models.
As it happens, mainstream macroeconomic (DSGE) models do not include a consideration of money, credit or the existence of a banking system. Werner (2012) explains that Donald Kohn, as Vice-Chairman of the Federal Reserve, reflected the sense of embarrassment of the economics profession when having to admit to the public [in 2009] that most economic models simply assume that banks do not exist:

> It is fair to say...that the core macroeconomic modelling framework used at the Federal Reserve and other central banks around the world has included, at best, only a limited role for ... credit provision, and financial intermediation. ... asset price movements and the feedback among those movements, credit supply, and economic activity were not well captured by the models used at most central banks.iv

(2). Links between Credit and the GDP

Although formal DSGE modes, as just stated, ignore credit, money or the banking system, credit is nonetheless linked to performance of the economic system. This link is demonstrated by the fact that the few economists who were able to predict the 2008 crisis did so with reference to the increasing and utterly unsustainable volume of debt. These economists include Steve Keen, Nouriel Rubini, Dean Baker, Ann Pettifor, Wynne Godley, and Michael Hudson.v

Werner (2012) makes more precise links between credit and GDP, and finds empirical evidence of the link between credit devoted to GDP transactions (final goods and services included in the GDP) and the nominal GDP, as shown in the following chart, taking Japan as a case in point.

Fig. 1 Credit creation used for GDP transactions (Cr) and nominal GDP growth in Japan. Source: Werner (2012) with data of Cabinet Office, Government of Japan, and Bank of Japan.

The above chart demonstrates the link between credit devoted to the productive or real economy and the nominal GDP. Here, GDP stands for Gross Domestic Product. It is
the market value of all final goods and services produced within a country in a given period of time.

Total credit is the sum of credit devoted to GDP-transactions and credit devoted to financial transactions (the purchase of assets such as property or equity). It is therefore reasonable to ask about the fate of the credit devoted to financial transactions.

Werner (2012) also found that when credit devoted to financial transactions grows, it creates unsustainable rises in asset prices, and that this is followed by a banking crisis. The ratio of financial credit to total credit is a predictor of such crises, as the aforementioned economists who predicted the crisis also observed.

(3). Redefinition of the Quantity Theory

According to the Quantity Theory of money, the total value of transactions during any period must be the same as the amount of money used to pay for these transactions, multiplied by the amount of times (on average) that the money in question has been used in these transactions:

\[ MV = PQ \] (Eq. 1)

where:

M = Quantity of Money
V = Velocity of Circulation of Money
P = Price level
Q = Output

In a neo-classically perfect world, velocity is assumed to be constant, and any change in the quantity of money in the system \( (M) \) leads to a concomitant change in the nominal production \( (PQ) \). This equation helps explain the emphasis of public policy in the USA, UK and Japan on injecting money through the banks resulting (as we can now see) in a rise in the GDP provided that the velocity remains constant.

The problem is that empirically, velocity has been proved to be inconstant, tending to fall dramatically during the crisis. Werner’s contribution dispels this mystery through his Quantity Theory of Credit. Considering that most money is created out of bank credit, as we have seen above, we may reformulate \( (M) \) as credit-money. Furthermore, considering that empirical evidence reveals a close link between credit devoted to GDP-transactions \( (M \text{ in Eq.} 1, \text{ redefined in this way}) \) and GDP \( (PQ \text{ in Eq.} 1) \), it follows that for the share of credit-money devoted to GDP-transactions, the velocity of circulation \( (V) \) is quite constant. Indeed, as Werner explains:

“With a stable 'real' velocity of money, VR, the effective amount of money used for GDP transactions during any period of time … must be equal to nominal
GDP. Meanwhile, the amount of money effectively used for non-GDP transactions will be equal to the value of these non-GDP transactions."

Thus, the other portion of credit-money, namely that devoted to financial transactions, is wholly culpable for the so far unexplained fall in velocity during the crisis.

From this point of view, the source of the banking crisis becomes fairly clear. Banking crises follow a build-up of asset prices caused by the creation of credit (and hence new money) by banks for the purpose of asset transactions. This is what boosts asset prices and creates the bubble that in turn, upon exploding, creates the crisis. To prevent the crisis, credit must be devoted mainly to productive purposes.

The problem with this approach is that it fails to define or provide monetary aggregates in a manner that can help to distinguish the two types of credit-money, As Werner (2012) observes,

The need to distinguish between GDP-based transactions and non-GDP-based transactions has been pointed out clearly in the literature, although this was not successfully linked to a corresponding separation of relevant monetary aggregates.

The same conclusion is reached through the approach to be found in Schumpeter's Credit Theory of Money, a more theoretic work that can enlighten these findings. Schumpeter believes that credit should only be used for productive purposes. To this end, he introduces key variables such as “money capital” (the money devoted to capital formation) and the notion that the banking system is a “social accountant”, which suggests that all credit should result in an output of goods or services.

According to Messori (2002), Schumpeter realizes that:

By falling into debt with banks, the entrepreneurs and their imitators become indebted with the whole society so that, at least from the economic point of view, the settlement of their debts does not end in the repayment to lenders of the principal and of the contractual interests, but it also requires the refund of the final goods withdrawn from the circular flow through the withdrawal of labour services. Therefore, by anticipating the money capital, the banking system plays a role of "social accountant": it issues a "claim ticket" which enables entrepreneurs – differently from any other economic agent – to buy before selling. This means that the banking system issues, on behalf of the economic system, that “claim" which is necessary to realize the decided innovations and imitations. vi

More importantly, Schumpeter is implicitly arguing that credit should be given or denied on the basis of its destination, i.e., in the light of what specific goal it is meant to finance. For, that is the only way the banking system could serve as a "social accountant" in the sense understood by him.
The International Monetary System

The monetary analysis we have presented so far applies potentially to any national economy. It would be worthwhile now to put it in perspective by relating it to the international monetary system, together with its evolution throughout the last century. According to Karl Polanyi, the failure of the gold standard at the beginning of the 20th century was the main triggering event for the breakdown of the world economic order that led to World War I and World War II. It behoves us, thus, not to forget the political implications of the international monetary system. As the author explains:

The true nature of the international system under which we were living was not realized until it failed. Hardly anyone understood the political function of the international monetary system, the awful suddenness of the transformation thus took the world completely by surprise (Polanyi 1944, p.21).

However, it was not only then that the political aspect of the monetary system escaped notice. It remains equally unappreciated today, seventy years since Polanyi made his seminal observation. Similarly, we would do well to remember his words about the social reaction that followed, for they too reflect our own situation to-day all too vividly:

According to the standards of that century the first post-war decade [1920's] appeared as a revolutionary era; ... it was precisely the contrary. The intent of that decade was deeply conservative and expressed the almost universal conviction that only the re-establishment of the pre-1914 system, ‘this time on solid foundations’, could restore peace and prosperity. Indeed, it was out of the failure of this effort to return to the past that the transformation of the thirties sprang.

The transformation of the thirties was indeed revolutionary, with such fateful events as the rise of fascism, culminating in World War II. A new international order created at the Bretton Woods Conference in 1944, following the war, was constructed on the basis of the US dollar earmarked as the world reserve currency. But one of the key rules governing this system was, again, the gold standard. The US dollar was to be redeemable in gold. It is therefore fair to say that this system has lain broken now for 42 years since the abandonment, one more time (in 1971) of the Gold Standard. This repeated failure of the gold standard lay behind the new way of creating money, which we have tried to explain at the outset of this paper, as well as to financialisation. Today, we still await world-wide agreement on the basis for a new international monetary system. Montani (2010) documented the need for a new international monetary system in a work called Money and Finance as Global Public Goods. The IMF emphasized the same need in 2010, and proposed to adopt the Bancor, an idea which had been canvassed by Keynes at Breton Woods. There have been other proposals in the same vein. Chalaux (1984) proposes a telematic Bancor system confined to transactions in goods and services. China is also calling for a new reserve currency,
and proposes to use Bancor design with Special Drawing Rights (SDR) as a world reserve currency.

(5). The International Currency Union

At the Bretton Woods Conference, there was a different proposal for an international monetary system. J.M. Keynes proposed the Bancor, a supranational currency that might have been the world’s reserve currency if it had been approved. The proposal was rejected however, thanks to the political supremacy of the U.S.A., and the US dollar was instead adopted as the world’s reserve currency.

The Bancor was based on a clearing system. Let us suppose that the inhabitants of a nation (A) have purchased items worth 100 monetary units to the citizens of nation B. (For the sake of simplicity, let us assume a one-to-one correspondence between the exchange rate of the currencies of nation A, nation B, and Bancor). Nation A would then show an entry of -100 in its Bancor balance sheet, while nation B, +100. The total amount of money will thus equal the aggregated debt. The nations would in effect be increasing and decreasing their Bancor balance whenever their citizens sold or bought goods and services to nationals of other countries. This is how the Bancor is created and destroyed. Each country’s Bancor balance would be capped by a positive limit to the balance on one side, and a negative limit on the other. Each country would set the exchange rate of its national currency with the Bancor, but whenever they reach the top or bottom limits of their Bancor balance, they would be obliged to take measures to return to the permitted range for their country – measures such as devaluation or appreciation of the national currency.

(6). Proposals to prevent a new banking crisis

On the basis of what has been said so far, it should be clear that the banking crisis was a result of the accumulation of an excessive and widespread debt caused by the creation of an asset bubble; and that to prevent such crises one would need above all to avoid speculative financing of assets. The question here is how this could be accomplished.

If we agree with Benes and Kumhof (2013), the answer to the banking crisis lies in depriving banks of powers to create money. According to this view, it is governments who are best placed to create money by spending it, while banks would do what most people think they do at present, which is to lend only that money which is deposited with them by their clients and thus relinquishing it for a given period of time. The outcome would be a 100% reserve banking system.

On the other hand, Werner (2012) holds that “banking crises can be avoided if bank credit is mainly used for transactions that are part of GDP, ideally for investment purposes (‘productive credit creation’).” Thus, his proposal is that by some means of regulation which, however, he fails to specify, banks should lend money fundamentally for productive purposes.
Werner is thus in implicit agreement with Schumpeter's view of a banking system as a “social accountant”, designed to ensure that bank lending is devoted mainly to productive purposes. However, neither of them suggests a way in which this can be achieved. The conclusions emerging from these works may be summarized as follows:

a. Money is credit. Banks create it though loans alone, except for notes and coins that are a small proportion of the total money in circulation. The banking system is thus a key part of the monetary system.

b. The ratio of financial credit (for non-GDP transactions) to total credit is a predictor of crisis.

c. Credit-money used for GDP transactions is linked to GDP.

d. The policy of creating money needs to change with a view to avoiding a banking crisis and resolving the one we are at present experiencing.

e. A new international monetary system is needed to overcome the problems created by credit-based national currencies. Keynes’ ICU (Bancor) represents the soundest expedient for this purpose.

(7). Pursuing Growth

Despite the justifiable emphasis on the importance of solving and preventing banking crises, there is a key factor missing from the above-mentioned contributions. What we have so far called a “solution” consists in setting the economic system once more on the path to growth. But we have problems pursuing economic growth. We have to reckon too with the risk of an ecological collapse of the biosphere. For a time, in the recent past, there was a hope that the economy could grow without adverse effects to the environment. This was a fantasy. The links between economic growth and degradation of the environment, exhaustion of fossil energy sources as well as key raw materials is now a proven fact.

Literature on the subject maintains that hope for solving the crisis lies in making the economy grow again. Yet this very measure seems to carry with it a death sentence on our future on this planet. We are in a “catch 22” situation: doomed if we grow, doomed if we don’t. When we contemplate a change in the monetary system, we would do well to bear this dilemma in mind.

(8). Reinterpreting the need for growth.

Let us specify the ultimate objectives of our pursuit of economic growth. Clearly, they include full employment and prosperity of the population. There is a prevailing belief that we ought to pursue economic growth with precisely these aims in view.

There is, however, another plausible interpretation of the basis of our drive to economic growth, which locates its source in the monetary system, taken to be the engine of this drive. As we have seen, the banking system creates most of the money in circulation at any given time by lending it. The loan, in other words, is the generator of the money.
We may derive an obvious mathematical argument from this. Let us call “A” the amount of money created in the first year of a new economic system. As money created is money loaned, in one year the whole society will owe A+I, the latter digit being the interest accrued on the loans which created the money. Obviously, you cannot repay the debt (A+I) with the existing money (A), unless I=0 or <0, or unless you obtain new loans the following year in order to pay for the interests now past due. According to Bernard Lietaer (2001) “The interest rate defines the pace at which everything must grow every year, at least in nominal prices, just to stay in the same place”\textsuperscript{xiii}. Consequently, the whole economic system grows to the tune of a compound interest – in short, at an exponential rate. Whenever growth at this rate fails to materialise, the banking system stops providing new loans to the economic system. Every time this happens, the arithmetic behind this scheme is realised: the debt is larger than the money in circulation. Individually, some of us might be able to discharge our debts, but collectively we cannot: there is just not enough money, and this is so by design.

Let us, for now, simply say that there is a reasonable doubt as to whether growth is essential for achieving the ideal of full employment and prosperity. This belief may be an illusion, fostered by the monetary model we have taken for granted.

(9). Inequality and the role of the monetary system in the distribution of income

The apparent need to grow is a product of the pattern of distribution of income in our economic system. Whenever the economic system fails to grow, the pattern of distribution forces income upwards along the social ladder. The rising social inequality we are experiencing since the start of the crisis in 2008 illustrates this phenomenon all too well. If an economy were to stay at the same size and enable the citizens to maintain prosperity in the absence of growth, it would necessitate a different model for the distribution of income. Thus, the question as to whether we really need to grow leads us to ask: What is responsible for the current pattern of the distribution of income? We should query whether the monetary system, together with its main arm, the banking system, does not pre-determine the distribution of income in its own favour. There is some evidence that this may indeed be so. According to the ILO Global Wages Report\textsuperscript{xiv}...

... since the 1980s a majority of countries have experienced a downward trend in the “labour income share”, which means that a lower share of national income has gone into labour compensation and a higher share into capital incomes. This has happened most frequently where wages have stagnated but also in some countries where real wages have grown strongly. On a social and political level this trend risks creating perceptions that workers and their families are not receiving their fair share of the wealth they create. On an economic level, it could endanger the pace and sustainability of future economic growth by constraining wage-based household consumption. This is particularly true where the era of debt-based consumption has now led to an extended period in which households must pay off earlier debts.
The share of labour income in the USA, for instance, decreased from 72% in 1970 to 68% in 1980 and to 63% in 2011\textsuperscript{xv}. Interestingly, at the same time (as the data shows) there has been a steady monopolisation of capital income by financial capital. As Benjamin Friedman stated in 2009,

\begin{quote}
\ldots to ask just how efficient a financial system is in allocating capital leads naturally to the question of the price that is paid for such efficiency. In recent years the financial industry has accounted for an unusually large share of all profits earned in the US economy. The share of the “finance” sector in total corporate profits rose from 10\% on average from the 1950s through the 1980s, to 22\% in the 1990s, and an astonishing 34\% in the first half of this decade\textsuperscript{xvi}.
\end{quote}

Accordingly, at least in the USA the financial capital income share has been growing at the expense not only of the labour income share but also the corporate sector’s profits.

Interestingly, both these tendencies -- towards a reduction of the labour income share and a corresponding growth of the financial income share -- began in 1980. The financialisation which commenced in 1980 was the result of a major monetary event, namely the demise of the gold standard, earlier, in 1971. The fact that these events were related has been highlighted by the ILO (2013), which has shown how the bargaining power of labour has been crucially affected by globalisation and financial markets, with a commensurate increase in options for investment available to enterprises:

\begin{quote}
The international integration of financial markets has been a major driver of falling wage shares, at least in advanced economies. The switch in the 1980s to corporate governance systems based on maximizing shareholder value and the rise of aggressive returns-oriented institutions, including private equity funds, hedge funds and institutional investors, put pressure on firms to increase profits, especially in the short term. (ILO 2013 - p.50).
\end{quote}

If, then, we were to recognise that the impulse to growth is an artefact of the dominant feature of our monetary system today -- i.e., continual creation of money with interest -- which serves, at the same time, to bequeath the financial sector with a mounting share in the distribution of income, a key question arises, as follows: Can we escape at one stroke from the pressure for growth, from the banking crisis, and from a distribution of income which caters increasingly to the financial sector, by changing the monetary system altogether?

If it is proved feasible, this strategy would represent an alternative solution to the crisis, replacing the need to revert to economic growth. By transforming the monetary system we may thus hope to solve the whole series of interconnected crises confronting us today: the banking crisis, the sovereign debt crisis, the social crisis, as well as the environmental crisis. However, it is important to note that this argument leads us straight into the political arena. For, the monetary system is a quintessentially political expedient.
(10). Implications of the idea that banks are money creators rather than intermediaries

Bearing in mind that the logic of our argument takes us into the political arena, we may now reframe some of the findings arrived at so far. As we saw under section 1 above, the key economic assumption that banks provide savings to investors is more than open to question. In fact, the assumption is groundless. Banks create money by allocating credit and generate the deposit along with the investment. To call such deposits ‘savings’, and to claim that investment comes out of them is at best a highly imaginative mis-representation. What it does is to fuel this very myth as well as the business model which the banks seek to uphold. The notion that investments come from savings is nothing more than an alibi for the paradigm, devoted to accumulation, which enthralls our economic system at present.

The point at which we have now arrived gives us a glimpse of several available options. We may deplore the fact that banks have the power to create money; and we may urge them to behave in the manner in which people in fact take them to be behaving – that is, as financial intermediaries. We might also seek to revert to the gold standard. But we may also court the bolder option of recognising that the whole notion that savings must be encouraged and rewarded, and that we need intermediaries to bring savings to investors, is not a tenable economic principle any more. It does not reflect the reality of today, nor is it, for that matter, a desirable eventuality. We may do better to face the reality and open our eyes to the untapped opportunities inherent in this mechanism of money. This may well be a superior and more effective way of facing the economic challenges which confront us today. There is good reason for us to be prepared to relinquish this economic principle, which we have effectively elevated to a quasi-sacred status. To do is also to be prepared to modify the economic theory bolstering this principle, however daunting this may seem.

(11). The Bancor and its technology limits

Let’s put the Bancor in context. The Bancor was a currency meant for nations. Keynes envisioned it this way when he proposed it at Bretton Woods in 1944. There were no computers at the time, not to mention the Internet, which had not been broached even in science fiction. The key material requisite for the Bancor was that, for any transaction to occur, the seller needed to know whether there was credit or deposit available in the buyer’s balance. This fact determined whether payment into the system was acceptable. Moreover, the new balance had to be recorded immediately in the system if its integrity was to be ensured. At that time, the central bank of the country concerned (or the institution responsible to keep each nation’s Bancor entries updated) could communicate with other central banks by telex. However, individuals or companies could not do the same with regard to their daily sales or purchases.

The state of the art has changed dramatically in this respect. Electronic payments are now ubiquitous. Even credit and debit cards are becoming obsolete as considerably more sophisticated means of payments, effected through mobile phones or smart phones, gain ascendancy. Today it is possible to have a Bancor monetary system providing not only a supranational currency but also a national currency, suited to all forms of transactions constituting a real economy.
This Bancor-like monetary system, which we might conveniently call an R-Economy\(^2\), would be a digital money system where money is created neither by the banking system nor by the government. Money would be created (or destroyed) in each transaction.

Repeating the Bancor pattern in a country’s currency, like a fractal, would replicate the Bancor’s benefits for the economy on a smaller scale. In this case, enterprises and governmental institutions would enjoy, as countries in the original ICU design did, a balance capped by a positive limit on one side, and a negative limit on the other. When an agent A buys an item for 100 monetary units from another agent B, A ends up with an entry of -100 in his balance sheet, and B, with +100. Thus, in the course of the transaction, money is created or destroyed, depending on whether the total balance is increased or decreased. The total sum of money equals the total debt in one country, similarly to what happens in the world reserve currency at a global level.

(12). Requirements of an R-Economy

It will be helpful at this stage to recapitulate the conclusions we reached in section 4 above, and see how they relate to the R-Economy:

Money is credit. This is literally true in a credit clearing system. Moreover, this money aggregate is a response to the need, mentioned above, to distinguish between GDP-based transactions and non-GDP-based transactions, thanks to the informative potential of digital money.

Credit must be devoted to productive purposes. In other words, the allocation of credit must be faithful to the spirit animating Schumpeter’s concept of a “social accountant”. All credit must be seen to produce the output it is destined to do. Hence, it is imperative that credit is available solely to productive companies or governmental institutions. Consequently, only productive agents would be entitled to create money. To prevent speculative use of credit by the agents concerned, it would be necessary (and feasible) to:

- record goods and services transferred in each transaction by means of a codification such as the CN\(^{\text{vii}}\). The so-called invoice-check\(^{\text{xviii}}\) proposed by Chalaux and Grau (1984) is a means for recording a transaction of this type.

- allow only those goods and services to be purchased with credit-money which a given company requires strictly for its production. All this is feasible today through digital media.

- individuals, in their capacity as individuals, i.e. representing a consuming rather than productive unit or institution, would join the scheme with the option to maintain a positive balance in their accounts so as to receive payments and spend money in final goods and services.

\(^2\) The R stands for Registered, Real and Responsible. A complete description of the model is available in Martín Belmonte, Susana (2011)
In this way, the R-economy represents an answer to all the challenges highlighted in section 4. A currency unit in this system is capable of producing just those monetary aggregates which are designed to meet the regulatory needs of the system and are targeted exclusively to a productive economy. Moreover, as the R-economy has the same features as the international monetary system envisaged in Bancor, it can easily be integrated into this system.

In the R-Economy system, all money is digital. The parties which operate in it are enterprises, government institutions and individuals rather than countries. While a single currency would apply to any particular zone, an international currency unit would serve real economy transactions on an international or inter-regional scale, thus providing for all external operations. R-economy is also amenable to being dovetailed into existing official currencies. Indeed, the desired result may be accomplished without the intervention of currency markets. This, however, is a topic for another paper, in which I will explore the possible transition strategies, including complementary currencies. Meanwhile, let us analyse, in some more detail, what the change from fiat money to credit-money involves.

(13). From fiat money to credit-money

Despite the fact that money is nowadays predominantly created through bank loans, the essential nature of any money, including the notes and coins we use for everyday dealings, remains unvarying. What counts as an asset of the party who owns it is commonly a liability to another party, which is the “money generating sector” comprising central banks, central governments, and the banking system. This liability is of a non-enforceable kind, similar to that incurred by a company with respect to its shareholders. One cannot, for instance, present a £10 sterling denomination to the Bank of England and demand its counter value. For, it would be replaced only with another £10 sterling. This example epitomises the essence of fiat money. The fact that the bulk of such money is put into circulation as a bank loan creates a situation that deserves critical attention. For every currency unit put in circulation as a loan, there are two liabilities:

   a. a non-enforceable liability of the “money generating sector” towards the holder of that currency unit, and

   b. an enforceable liability (which is the debt owed by the beneficiary of the loan to the providing bank). This second liability exceeds the amount provided by the loan as it includes the component of the interest. Bank notes and coins are not affected by this situation, only credit money is.

A transformation of fiat money to real credit-money in a credit clearing system reduces these two types of liabilities to just one. This is credit money, put into circulation by companies or governmental institutions through payments such as remuneration to their employees. This credit is redeemed when the companies sell their output, or when governments levy taxes. The whole liability supporting the money in circulation would be backed in this case by companies and institutions – specifically, by their aggregate ability to produce the goods and services destined for the market or the society.
(14). The Quantity Theory in the perspective of the R-Economy

As the R-economy works with credit-money the quantity theory (see Eq.1) remains pertinent, requiring only a minor redefinition of the variables. It remains similarly relevant to individual agents.

Let us remind ourselves of our original equation:

\[ MV = PQ \]  \hspace{1cm} (Eq. 1)

where \( M \) is the maximum credit allowed to each productive agent, \( V \) is the velocity of circulation of credit-money, \( P \) is the level of prices (as per the initial formulation) and \( Q \) is output in goods and services (again as per the initial nomenclature).

We might now apply this equation to an example, as follows:

Imagine a company with a credit-limit of 10000 m.u., committed to it upon an undertaking, on its part, to deliver a turnover of 40000 m.u. per year. Suppose the company plans to sell 4000 items per year at a price of 10 m.u. each. The values of this company as per Eq. 1 are:

\[ M: 10000 \text{ m.u.} \]
\[ P: 10 \text{ m.u.} \]
\[ Q: 4000 \text{ items} \]

The theoretical velocity of circulation for this company can be estimated as follows:

\[ V = \frac{PQ}{M} \]

Therefore \( V = 4 \frac{PQ}{M} \)

In the terminology of business management this ratio is known as the ‘asset turnover ratio’. 

In this way, given the individual values for each entity, and adding the values in this class for the total number of all companies, we can ascertain the theoretical value of \( V \) for the whole system. We can then verify this value in real time, and compare the forecast created by each agent with reality. Since the real-time flows of goods, services, payments and balances are recorded in a digital system, it is relatively easy to identify which entities (companies or governmental institutions) are dysfunctional, and need appropriate action. Further elucidation of the putative tools of analysis of a political economy along these lines may be found in Martin Belmonte (2011)\textsuperscript{xix}.

Discussion

(15). Resolution and prevention of the financial crisis

The type of monetary and financial system that we have proposed here (the R-economy) provides the requisite means (in our view) for avoiding crises. This is
because it represents a technical device for ensuring that credit is allocated only for productive purposes. This credit system would serve as a “social accountant”, in Schumpeter’s terms. It would eliminate financing of speculative bubbles and would take account of social criteria in addition to technical criteria, in the allocation of credit. The rules on how to finance capital formation and asset transfer would be included in these criteria. As speculation results in the gains of the few at the expense of the price rise for the majority, it is unlikely that these criteria to allocate credit, under the social control, permit that asset bubbles are financed. The overall result would be an end to financial crises.

It is interesting to note that this type of money does not need to be returned. The productive sector would be permitted to make use of it with a resulting negative balance without incurring a charge in the form of interest. At most, it would entail a small fee necessary for maintaining the system. In return, enterprises and governmental institutions would be required to commit themselves to a given turnover and expenditure specified in their business plan. As fulfillment of these objectives is a condition to realising anticipated profits, thus serving the interests of the company in question while also contributing to the health of the economy, the prospect of actual conflict between these two goods is effectively precluded.

(16). Escaping the liquidity trap and saving SME from the credit crunch

What we have proposed represents a direct injection of credit in a productive economy. As small and medium enterprises are the ones most in need of credit, of which they are starving at present, the credit allocated under our scheme is bound to be put to use fully and instantly. Governments would be expected in this scenario to both provide public services and to formulate public policies offering subsidies to people at risk of exclusion and, likewise, devoting funds to social sectors in need of attention. Such subsidies would be compensated for by income from taxes on citizens and corporations. The public debt, on its part, would cost no interest whatsoever.

(17). Introducing financial sovereignty of the citizenry

Beyond its technical advantages, the R-economy provides the empowerment that is currently needed in our societies, as it can change the pattern of income distribution to a more egalitarian end. We have named this capacity for empowerment “financial sovereignty” of citizens.

Let us start by identifying the hidden political side of money. As now money comes from bank loans bearing interest, whenever the economic system fails to be replenished by new credit every year, some of the participants tend to default. As the economic system turns these defaults into job redundancies, dwindling effective demand, lower levels of consumption, etc., the spectre of recession becomes a reality. Naturally, political representatives would be expected to do everything in their power to avoid this outcome. The current monetary model turns our societies into new-currency-addicts. The banking system feeds the addiction, which is sustained by renewed credit from year to year. All this is contingent, of course, on society’s willingness to comply with the conditions set by the system.
It is a serious question whether the political powers that be are capable of regulating the financial system. It is as illogical to expect a society governed by a system to regulate the latter as it is to expect a child to regulate the behavior of its parent. Contemporary globalisation is tantamount to a political surrender to the financial system. It is based on, and reinforces, the illusory hope that the system will keep pouring in the finance to keep crisis at bay. This asymmetrical power relationship has found expression in a matching legal arrangement intended to enable financial capitalists to appropriate an increasing share of the income and wealth in the economic system. By this logic, it is their prerogative to do just this, it being an unwritten golden rule of the powers that be, that deregulation is necessary for attracting capital. It is only by generating money through an alternative route, eschewing money creation as a debt with interests, that the economic system can be emancipated from the imperative of economic growth and thus reach sustainable levels of production, and a fairer distribution of income. The citizenry can lay claim to effective sovereignty through successful regulation of the economic system and social control of credit, with advantages such as reduction of working hours or an increase in the minimum wage per hour, factors critical to income distribution.

In other words, this is where the monetary and financial system coincides with political power. From the common person’s point of view, it is governments and parliaments which rule countries. In fact, these are subjects to a superior power. Financial power does not exist officially, for the market is supposed to be neutral, and money is assumed to make no difference to the real economy. Let us recognize at once that money is nothing less than the ultimate instrument of political power. It should be treated as such, and placed under democratic control as a precaution against abuse.

Although this proposed monetary and financial system can be managed by a government, it is preferable for an independent central bank to be in charge of this process. This is because division of powers is a cornerstone of democracy. The central bank ought to implement, as far as possible, procedures of direct democracy in order to harness popular sovereignty to the economic system. In so doing, it would be instituting social control of credit. These procedures, which are a crucial condition for success in regulating the economic system, rest squarely on the issuance of money as a debt with no interest tied to it whatsoever and the social control of credit.

Recognising that money is created by the banking system, that investment does not proceed from savings, that there is no compelling need to encourage savings with such incentives as the rate of interest, and that money can just as well be generated by allocation of credit subject to social control – recognising all this is the first step towards building a better monetary system. To summarise: the proposed alternative would generate money by allocating credit solely for productive purposes; it would accord priority to those investments which the citizenry deems most appropriate, and it would do so without recourse to interest. The net result would be a monetary system devoted truly to public interest and the common good.
Notes:


v The Revere Award in Economics was granted to the economists who were able to foresee the 2008 crisis. Available at: http://rwer.wordpress.com/2010/05/13/keen-roubini-and-baker-win-revere-award-for-economics-2/


xi A more detailed explanation on how this system works can be found in Riese, Martin (2003), Reforming the Global Financial Arquitecture. A Comparison of Different Proposals. Johannes Kepler Universitat Linz. Pag. 33 a 39.

xii KRAUSMANN, Fridolin; GINGRICH, Simone; EINMENGER, Nina; ERB, Karl-Heinz, HABERL, Helmut; FISCHER-KOWALSKI, Marina: “Growth in global materials use, GDP and population during the 20th century”. In Ecological Economics, n° 68, 2009.


xiv Global Wage Report 2012/13. International Labour Office. Available at:


xvii Combined Nomenclature: Council Regulation (EEC) No 2658/87 of 23 July 1987, creates the goods nomenclature called the Combined Nomenclature, or in abbreviated form ‘CN’, established to meet, at one and the same time, the requirements both of the Common Customs Tariff and of the external trade statistics of the European Union.
