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**Title of paper: Re-Engineering the Economic Processes**

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**Abstract**

Perhaps the least-coherent aspect of Keynes's 'habitual modes of thought and expression' in macro-economics is the all-pervasive and ill-considered use of the expression 'money'. This paper starts from first macro-economic principles, and uses process re-engineering techniques in an attempt to define a more coherent paradigm for the concepts currently 'enclosed' by that expression. This paper argues that there are two radically-distinct concepts currently 'enclosed' by the single expression 'money' – wealth and currency- , and that, if we wish to facilitate integrity of thought and expression, we must reserve two radically-distinct expressions for those two radically-distinct concepts, and we must consider those two radically-distinct concepts in isolation before considering policy options (potentially to try to link them). Finally, this paper argues that the central banking system already in effect acts as implicit guarantor for every Non-Equity Owed-Wealth liability of every financial institution and state ('money' and non-'money' without distinction), and that that role should be made explicit. The central banking system (including the global and state banks and regulators from the IMF downwards) should act as borrower/lender of first/default recourse for banks and states (i.e. rather than borrower/lender of last recourse as currently). This would eliminate (the need for) lower-level inter-bank Owed-Wealth, and would eliminate bank liquidity as a macro-economic factor. In order to moderate the risk implicit in such a facility (i.e. the risk currently already carried by the central banking system), the central banking system should itself commission all valuation and auditing standards and processes conservatively on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). Again, in doing so, they should follow the precautionary principle in regulating financial innovation. Indeed, the vast majority of financial innovation (including the securitisation of Owed-Wealth such as with GB Gilts, US Treasuries, and other state, commercial and mortgage-backed securities) should be outlawed in favour of simple inflation-linked current-accounting.

**Keywords**

money, currencies, currency, economics, finance, process re-engineering, radical

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## Abstract

Perhaps the least-coherent aspect of Keynes's 'habitual modes of thought and expression' in macro-economics is the all-pervasive and ill-considered use of the expression 'money'. This paper starts from first macro-economic principles, and uses process re-engineering techniques in an attempt to define a more coherent paradigm for the concepts currently 'enclosed' by that expression.

This paper argues that there are **two radically-distinct concepts** currently 'enclosed' by the **single** expression 'money', and that, if we wish to facilitate integrity of thought and expression, we must reserve **two radically-distinct expressions** for those two radically-distinct concepts, and we must consider those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them). More specifically, in this paper:

1. The expression '**Wealth**' is reserved **solely** to encompass anything which possesses the characteristic of value ('money' and non-'money' without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression '**Currency**' is reserved **solely** to encompass the concept of a **Unit of Measure of Value** (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.). Units of measure are merely figures of speech. They cannot in themselves possess the characteristic of value, and their sole role in a balance sheet is in the **enumeration** of the value of Wealth ('money' and non-'money' without distinction).

With regard to 'Wealth' (as defined in this paper), this paper argues that the sole worthwhile **macro-economic** distinction (i.e. as opposed to legal, administrative or slang distinction) between different types of Wealth is **not** the distinction between 'money' Wealth and non-'money' Wealth, but the distinction between **Owned-Wealth** ('money' or non-'money' without distinction) and **Owed-Wealth** ('money' or non-'money' without distinction). More specifically, in this paper:

1. The expression 'Owned-Wealth' ('money' and non-'money' without distinction) is reserved **solely** for anything which appears in precisely **one** balance sheet. Each such item is therefore a 'net-equals-gross' increment to 'the wealth of nations'.
2. The expression 'Owed-Wealth' ('money' and non-'money' without distinction) is reserved **solely** for anything which appears in precisely **two** balance sheets: once as an asset; and once as an equal and opposite liability. Each such item is therefore a 'zero-sum' increment to 'the wealth of nations'. Indeed, the global network of Owed-Wealth is simply a zero-sum book-keeping exercise which 'keeps the score' on where we are in our non-barter trading and employment activity. Buyers/Employers effectively 'borrow' from Sellers/Employees at the point of trade/employment (and record that Owed-Wealth in trading accounts). Those who have sold more than they have bought accumulate net-positive Owed-Wealth, and those who have bought more than they have sold accumulate net-negative Owed-Wealth. The aggregate (of course) is zero. Buyers/Employers and Sellers/Employees then use the cash/banking processes merely to 'intermediate' that Owed-Wealth. The aggregate (of course) remains zero.

Indeed, this paper argues that macro-economists, central bankers and politicians should ignore all concepts, expressions and aggregates associated with the expression 'money'. The **distinction** between 'money' Wealth and non-'money' Wealth is **(or ought to be) a purely-administrative factor**; of interest only to students of the history of routine commercial and financial administration, and completely-irrelevant to macro-economics.

With regard to ‘Currencies’ (as defined in this paper), this paper argues that macro-economic factors whose value is determined by fiat **ought** to be inflation-linked passively ‘by default’. This inflation-linking **ought** to include Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments. This passive inflation-linking would establish the global zero-sum network of Owed-Wealth as a **global, macro-economically-neutral, level-value** frame of reference for ‘real’ macro-economic activity (i.e. production, consumption, trade and employment). The macro-economic issues currently associated with inflation and Currency-‘exchange’ rate instability should be seen as self-inflicted wounds caused by wilful variations from that ‘default’ inflation-linking. Thus, this paper argues that macro-economists, central bankers and politicians should promote that ‘default’ inflation-linking through global and state institutions from the IMF downwards, should abandon ‘monetary’ policy altogether, and should confine macro-economic policy **exclusively** to fiscal policy. The concept of Currencies is **(or ought to be) a purely-administrative factor**; of interest only to students of the history of routine commercial and financial administration, and completely-irrelevant to macro-economics.

With regard to ‘market forces’, this paper argues that the theoretical self-optimising influence of ‘market forces’ is based **not** on the interplay between ‘supply’ and ‘demand’ in the context of some form of ‘market’, but on the interplay between production and consumption of **Owned-Wealth** within the context of a supply-chain. That interplay between production and consumption results **not** in stable-equilibrium investment and prices, but in business cycles **around** stable-equilibrium investment and prices. For **Owed-Wealth**, there is no such thing as quantity, production, consumption or a supply-chain. Thus, the market prices of Equity and Securitised Owed-Wealth (as well as ‘speculative’ Owned-Wealth, such as land and raw materials) are dominated by speculative investment/disinvestment. Self-fulfilling expectations lead to ‘bubbles’, which are exacerbated by excessive leverage, derivatives and other financial engineering. In the interest of economic stability, the central banking system (including the global and state banks and regulators from the IMF downwards) should moderate conservatively the level of such financial engineering on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). In doing so, they should follow the precautionary principle in regulating financial innovation (i.e. financial innovation should be ‘prohibited unless specifically approved’, as opposed to ‘permitted unless specifically prohibited’).

Finally, this paper argues that the central banking system **already** in effect acts as **implicit** guarantor for every Non-Equity Owed-Wealth liability of every financial institution and state (‘money’ and non-‘money’ without distinction), and that that role should be made **explicit**. The central banking system (including the global and state banks and regulators from the IMF downwards) should act as borrower/lender of **first/default** recourse for banks and states (i.e. rather than borrower/lender of **last** recourse as currently). This would eliminate (the need for) lower-level inter-bank Owed-Wealth, and would eliminate bank liquidity as a macro-economic factor. In order to moderate the risk implicit in such a facility (i.e. the risk currently already carried by the central banking system), the central banking system should itself commission all valuation and auditing standards and processes conservatively on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). Again, in doing so, they should follow the precautionary principle in regulating financial innovation. Indeed, the vast majority of financial innovation (including the securitisation of Owed-Wealth such as with GB Gilts, US Treasuries, and other state, commercial and mortgage-backed securities) should be outlawed in favour of simple inflation-linked current-accounting.

# 1 Introduction

*'Since I've become a central banker, I've learnt to mumble with great incoherence. If I seem unduly clear to you, you must have misunderstood what I said'*

*Alan Greenspan*

*'I know you believe you understand what you think I said, but I am not sure you realise that what you heard is not what I meant'*

*Alan Greenspan*

*' . . . irrational exuberance . . . '*

*Alan Greenspan*

*And on the pedestal these words appear: "My name is Ozymandias, king of kings: Look on my works, ye Mighty, and despair!" Nothing beside remains: round the decay of that colossal wreck, boundless and bare.*

*Percy Bysshe Shelley*

*'Those of us who have looked to the self-interest of lending institutions to protect shareholders' equity (myself especially) are in a state of shocked disbelief'*

*Alan Greenspan*

*'I feel like someone who has been forcing his way through a confused jungle . . . (A)lthough my field of study is one which is being lectured upon in every University in the world, there exists, extraordinarily enough, no printed Treatise in any language – so far as I am aware – which deals systematically and thoroughly with the theory and facts of Representative Money as it exists in the modern world.'*

*John Maynard Keynes*

*'The composition of this book has been for the author a long struggle of escape, and so must the reading of it be for most readers if the author's assault upon them is to be successful, - **a struggle of escape from habitual modes of thought and expression.** The ideas which are here expressed so laboriously are extremely simple and should be obvious. **The difficulty lies, not in the new ideas, but in escaping from the old ones,** which ramify . . . into every corner of our minds'*

*John Maynard Keynes*

*'I think it is true to say that I am not the first Nobel Prize winner in economics to have little formal training in economics'*

*Clive Granger, Nobel Prize winner in 2003*

There is a general consensus at present that 'radical things must be done' with the basic economic and banking processes, but great controversy as to what those 'radical things' could or should be. Unfortunately, because of limited public attention spans when compared to the perceived complexity of the issues, propositions are typically presented using the current hotchpotch of **administrative** processes as the frame of reference, and it is often difficult to distinguish form from substance through the fog of terminology and inter-dependencies. How many of the general public really understand the underlying relationships between inflation, Currency-conversion rates (conventionally called Currency-'exchange' rates), interest rates, 'money', 'money' supply, quantitative easing, credit and debt? Indeed, how many macro-

economists, central bankers and politicians could genuinely claim to be able to articulate their understanding to the general public, or even to understand these concepts and relationships in the first place?

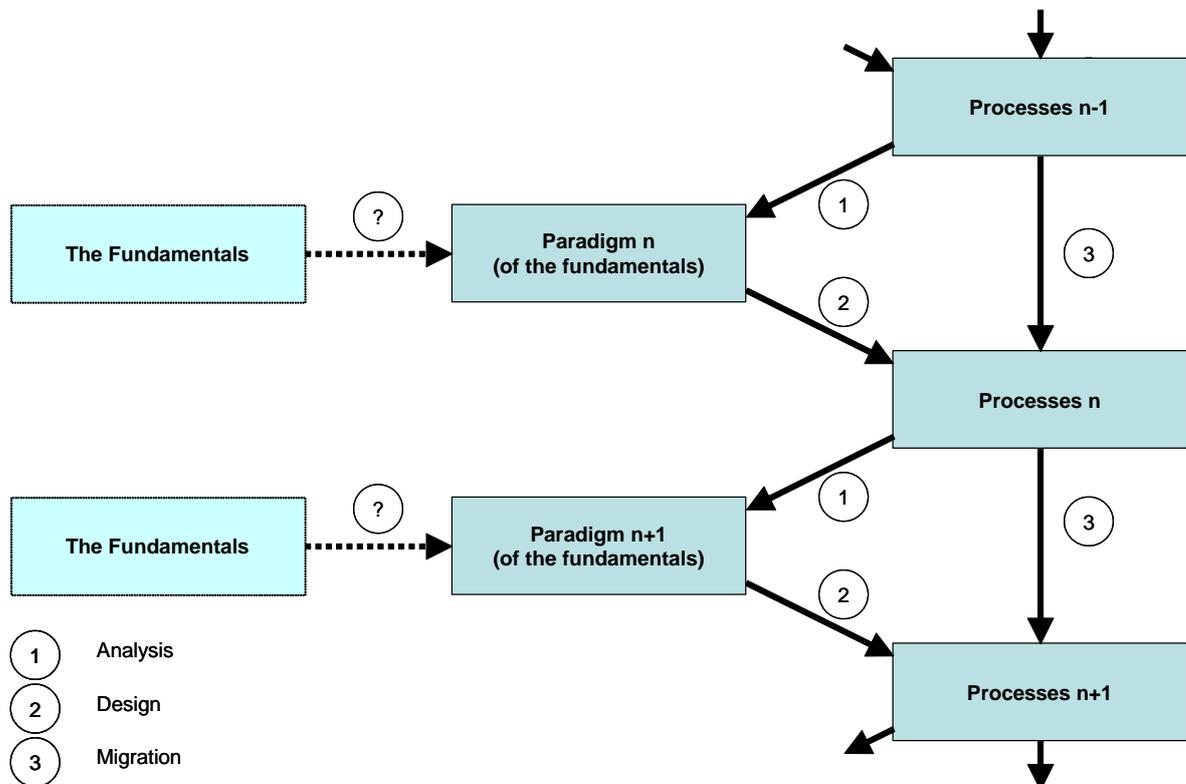
However, this paper argues that the **underlying concepts and relationships** themselves are **not** complex. The perception that they **are** complex arises mainly from the perverse and spurious complexity of many of the current **administrative** processes which most people, by default, use as the frame of reference for their understanding. Too many people are suffering from ‘bureaucratic alienation’; give up trying to understand, and simply ‘go with the flow’. They presume that the ‘experts’ know what they are doing, and have the community’s best interests at heart, when all the evidence suggests that most ‘experts’ are renowned (and remunerated) not so much for their fundamental insights and goodwill, but for their expertise in the **use (and/or abuse) of the current administrative processes**. At best, the ‘experts’ have a conflict of interest in commenting on radical analysis and proposals for reform.

This paper presents an outline case for radical re-engineering of the administrative processes associated with macro-economics.

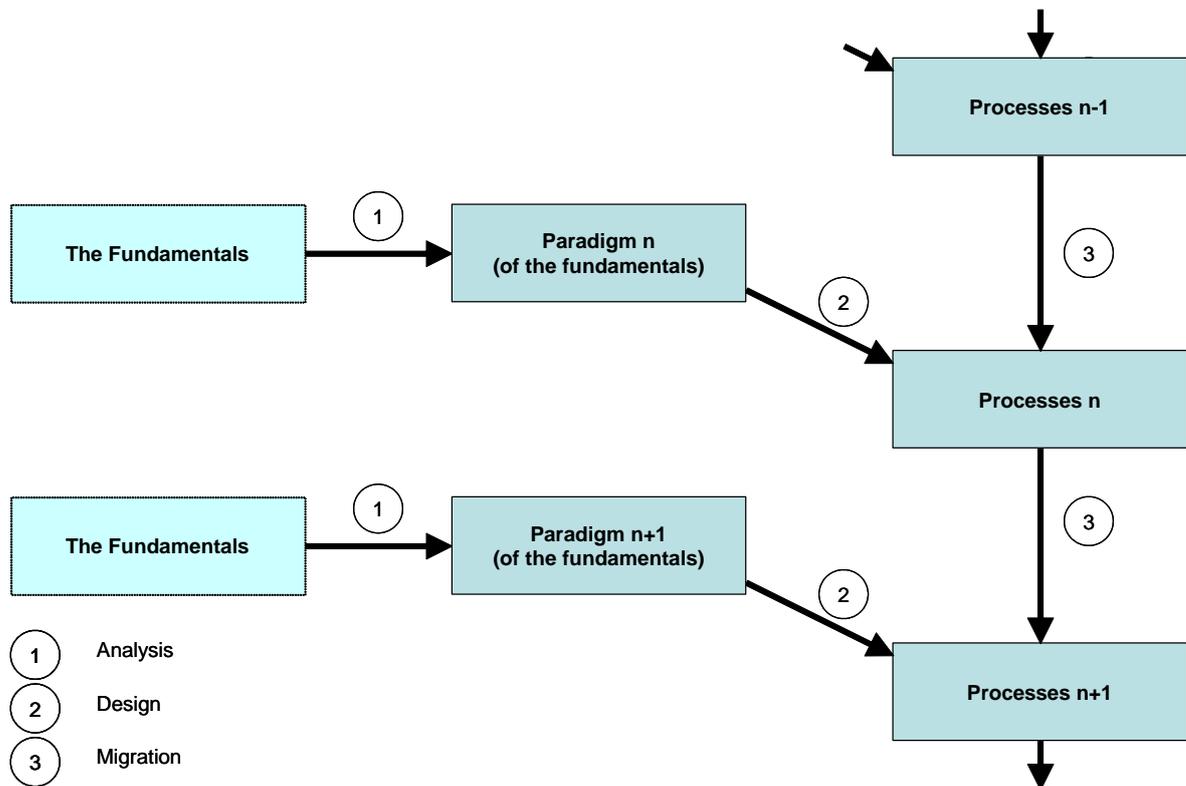
As depicted in the following diagrams, all process-development uses a paradigm (of the fundamentals) as the frame of reference for analysis (1), design (2), and migration (3).

Process re-engineering differs from conventional process-development as follows:

1. Conventional process-development typically uses a paradigm **supposedly** based on the underlying fundamentals, but **actually** based on **current processes**. Over time, conventional process-development can lose sight of the underlying fundamentals, and can result in false assumptions and an incoherent network of processes each accommodating incoherent inter-dependencies.



2. Process re-engineering uses a paradigm based on **a more radical analysis of the nature of the issues under consideration**. It attempts to address and resolve those issues more directly ‘at source’ through re-engineered processes directly aligned to the underlying fundamentals. Successful process re-engineering typically leads not only to a more rational, accurate, flexible and sophisticated resolution of the fundamental issues and requirements, but invariably also to much simpler and more transparent processes.



The requirement for simple transparent processes in a liberal democracy should not be underestimated. If liberal democracy is to survive and prosper, and if we citizens are to survive and prosper in liberal democratic regimes, it is essential that social and macro-economic justice is not only done, but is seen and **understood** to have been done. Without a solid base of coherent insight and understanding amongst the general population, the policy debate in a democracy will always be limited to what a politician can get into a sound-bite. With coherently re-engineered processes, we can hope to dispel ‘bureaucratic alienation’, raise the integrity of proposals and debate, and build the sense of one-nation community essential to the success of democracy. Thus, by working from radical analysis through to definition of administrative processes more closely aligned to the fundamentals, process re-engineering techniques can introduce new insights into the macro-economic and political debates, and thereby facilitate an escape from the policy and process inheritance, and from Keynes’s ‘habitual modes of thought and expression’.

Perhaps the least coherent aspect of Keynes’s ‘habitual modes of thought and expression’ in macro-economics is the all-pervasive and ill-considered use of the expression ‘money’. Unfortunately, the concepts ‘enclosed’ by that expression dominate the paradigm (supposedly of the underlying fundamentals) on which conventional macro-economic wisdom and conventional process-development is based. However, using a process re-engineering

approach, we must not start with the expression ‘money’ as a given, and then ask what that expression means, or ought to mean. That would lock us into the ‘habitual modes of thought and expression’ from which we are (potentially) trying to escape. Macro-economists, central bankers and politicians cannot agree on a **macro-economic** distinction (i.e. as opposed to a legal, administrative or slang distinction) between ‘money’ Wealth and non-‘money’ Wealth. The reason may well be because they are all fools or knaves (or even both). However, a much more likely reason is that there is simply **no** such macro-economically-significant distinction there to be made.

Experts in any and every field have a tendency to use ‘woolly’ expressions and concepts to cover gaps in their insight and understanding, and to then obfuscate in a patronising manner about the meaning of those expressions in order to disguise those gaps. Early clinicians used the expression ‘the humours’ as part of their conventional wisdom, and many such clinicians built reputations and fortunes on their claimed insight into the nature of ‘the humours’. The clinician community re-enforced and built on each other’s theories out of mutual self-interest. We now know that they were all talking complete codswallop. Many may well have been fools or knaves (or even both), but most were well-intentioned people groping their way forward in the manner of the partially-sighted leading the blind. They used such expressions in the absence of more fundamental insights, and gained the confidence of their patients with a form of smoke and mirrors. Similarly, early physicists used the expression ‘the ether’ as the presumed carrier of light, and explored many theories about the nature of ‘the ether’. We now know that light does not need a carrier in that sense, so we now know that their quest was doomed from the start.

The ‘habitual modes of thought and expression’ with regard to the expression ‘money’ include many variations on the following ‘woolly concepts’:

1. A slang synonym for ‘cash in your pocket’.
2. A slang synonym for ‘wealth’.
3. A store of ‘intermediate’ wealth (intermediate between income and outgoings).
4. A means of payment (for income and outgoings).
5. A unit of measure of value.
6. A slang synonym for ‘buying/employing power’.
7. A slang synonym for ‘propensity to buy/employ’.

However, using a process re-engineering approach:

1. We will ignore the first two ‘woolly concepts’ altogether for the rest of this paper (other than remaining on our guard against using the expression as such).
2. We will defer consideration of the last two ‘woolly concepts’ until much later in this paper, when we will look at ‘real’ economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping).

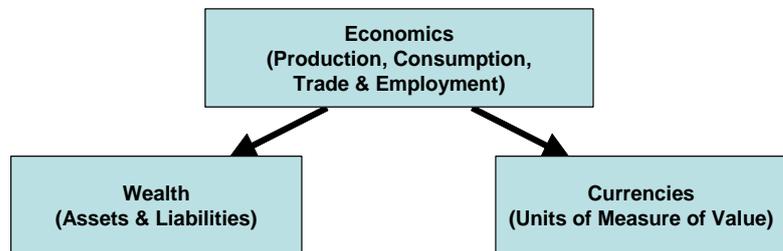
That leaves us with the middle three ‘woolly concepts’; the ones used in most conventional (and unconventional, orthodox and heterodox, incremental and radical) economics textbooks:

1. A store of ‘intermediate’ wealth (intermediate between income and outgoings).
2. A means of payment (for income and outgoings).
3. A unit of measure of value.

However, using a process re-engineering approach, this paper argues that the use of the expression ‘money’ to ‘enclose’ these three ‘woolly concepts’ obfuscates and conflates **two radically-distinct concepts**, and that, if we wish to facilitate integrity of thought and

expression, we must reserve **two radically-distinct expressions** for those two radically-distinct concepts, and we must consider those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them). More specifically, in this paper, the expression **Economics** is reserved to encompass the study of **Production, Consumption, Trade** and **Employment**, and the first level of analysis within Economics qualifies the following two radically-distinct concepts:

1. The expression '**Wealth**' is reserved **solely** to encompass anything which possesses the characteristic of value ('money' and non-'money' without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression '**Currency**' is reserved **solely** to encompass the concept of a **Unit of Measure of Value** (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.). Units of measure are merely figures of speech. They cannot in themselves possess the characteristic of value, and their sole role in a balance sheet is in the **enumeration** of the value of Wealth ('money' and non-'money' without distinction).



**Chapter 2 – ‘Money’ and Currencies** substantiates this protocol in more detail. Indeed, in this paper, the expression ‘money’ is reserved **solely** to encompass an **administrative subset** of Wealth, and the **distinction** between ‘money’ Wealth and non-‘money’ Wealth is deferred to a lower level of analysis.

Of course, much of ‘the literature’ acknowledges a minor and incidental distinction between ‘money’-Wealth and Currencies (with expressions such as ‘money things’ and ‘monies of account’). However, even ‘the literature’ which **does** acknowledge the distinction then immediately obfuscates and conflates that distinction.

In contrast, this paper insists that the distinction is **fundamental** and must be considered as such. Indeed, it argues that, contrary to conventional wisdom, whenever there was a relationship between some form of ‘money’ Wealth and a Currency (as defined in this paper):

1. The value associated with the given **Currency** was **always** the **exogenous** factor (i.e. the externally-determined ‘given’ factor in the relationship; determined on a rolling **macro-economically-incident** basis by millions of naive economic agents agreeing millions of prices each day).
2. The value of the given item of **‘money’ Wealth** was **always** the **endogenous** factor (i.e. the ‘managed’ factor in the relationship; determined by wilful policy).

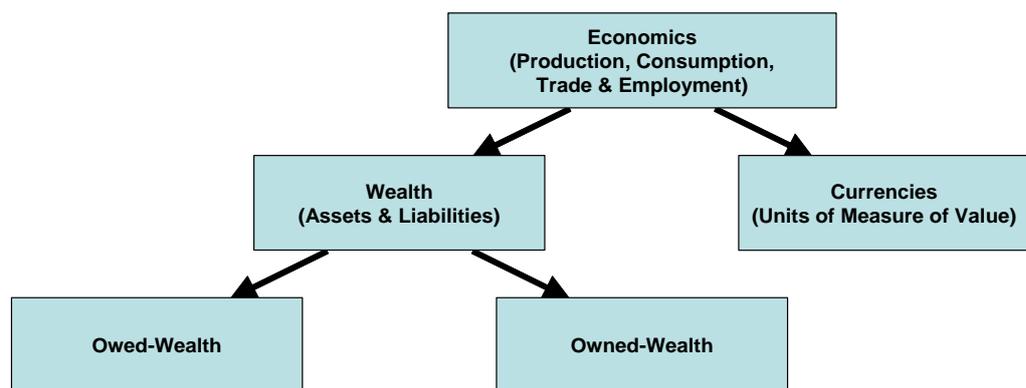
In particular, the Bretton Woods agreement should be seen not as an attempt to anchor the value associated with the US Dollar (a Currency) to the ‘market’ value of some form of gold ‘money’ Wealth, but as an (ultimately futile) attempt to rig the ‘market’ value of gold (‘money’ and non-‘money’ without distinction) by acting as ‘bottomless’ ‘supplier’ and ‘demander’ at a rigged price in a rigged market for gold.

Thus, the rest of this paper analyses the two radically-distinct concepts of Wealth ('money' and non-'money' without distinction) and Currencies (Units of Measure of Value) in isolation **before** considering policy options (potentially to try to link them).

**Chapter 3 - Wealth** analyses from first principles the concept of Wealth (as defined in this paper). It argues that the sole worthwhile **macro-economic** distinction (i.e. as opposed to legal, administrative or slang distinction) between different types of Wealth is **not** the distinction between 'money' Wealth and non-'money' Wealth, but the distinction between **Owned-Wealth** ('money' or non-'money' without distinction) and **Owed-Wealth** ('money' or non-'money' without distinction).

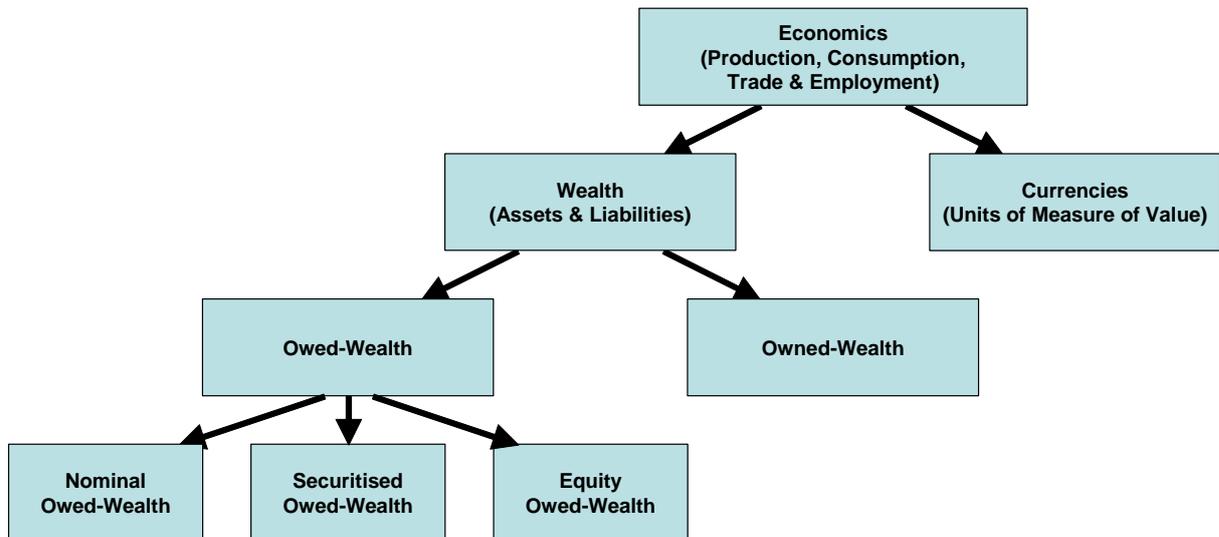
More specifically, in this paper:

1. The expression '**Wealth**' is reserved **solely** to encompass anything which possesses the characteristic of value ('money' and non-'money' without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression '**Owned-Wealth**' ('money' and non-'money' without distinction) is reserved **solely** for anything which appears in precisely **one** balance sheet. Each such item is therefore a 'net-equals-gross' increment to 'the wealth of nations'.
3. The expression '**Owed-Wealth**' ('money' and non-'money' without distinction) is reserved **solely** for anything which appears in precisely **two** balance sheets: once as an asset; and once as an equal and opposite liability. For every item of Owed-Wealth, there is a borrower and a lender within the same macro-economic system (and indeed, 'within' the same Currency). Each such item is therefore a 'zero-sum' increment to 'the wealth of nations'. Indeed, Owed-Wealth is simply a zero-sum book-keeping exercise which 'keeps the score' on where we are in our non-barter trading and employment activity. Those who have sold more than they have bought accumulate a net-positive balance, and those who have bought more than they have sold accumulate a net-negative balance. The aggregate (of course) is zero.
4. The expression '**Net-Wealth**' ('money' and non-'money' without distinction) is reserved **solely** for the sum of Owned-Wealth and Owed-Wealth; for each economic agent, and in aggregate. Because aggregate Owed-Wealth is zero-sum, aggregate Net-Wealth is equal to aggregate Owned-Wealth.



Chapter 3 goes on to argue that Owed-Wealth can itself be sub-divided as follows:

1. **Nominal** Owed-Wealth ('money' and non-'money' without distinction) can be characterised as follows:
  - a. Ongoing cash-flows are determined by ad-hoc and/or scheduled fiat.
  - b. Ongoing values are determined by fiat.
  - c. E.g. cash, bank accounts, credit accounts, loan accounts, hire-purchase accounts, mortgage accounts and trading debts.
2. **Securitised** Owed-Wealth ('money' and non-'money' without distinction) can be characterised as follows:
  - a. Ongoing cash-flows are determined by scheduled fiat.
  - b. Ongoing values are determined by the market.
  - c. E.g. GB Gilts, US Treasuries, and other state, commercial and mortgage-backed bonds.
3. **Equity** Owed-Wealth ('money' and non-'money' without distinction) can be characterised as follows:
  - a. Ongoing cash-flows are determined by the debtor.
  - b. Ongoing values are determined by the market.
  - c. E.g. stocks and shares.



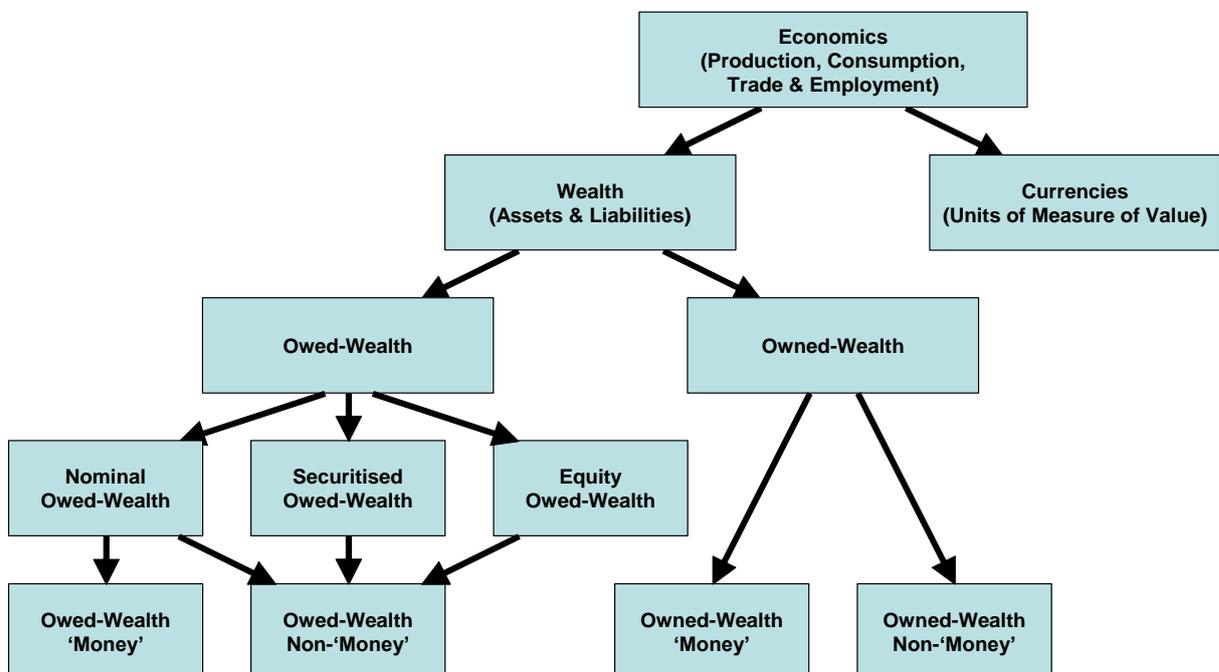
Chapter 3 goes on to argue that the **distinction** between ‘money’ Wealth and non-‘money’ Wealth is far from coherent. Indeed, in this paper:

1. The expression **Precious Cash** is reserved **solely** for the wealth 'evidenced' by each ‘monetary token’ ‘transacted’ at the free-market value of its constituent commodities or as a collector's item (and **irrespective** of its ‘face’ value).
2. The expression **Non-Precious Cash** is reserved **solely** for the wealth 'evidenced' by each ‘monetary token’ ‘transacted’ at a ‘face’ value **higher** than the free-market value of its constituent commodities or as a collector's item.
3. The expression **Non-Cash ‘Money** is reserved **solely** for wealth ‘associated with’ a bank ‘current’ account.

However, Chapter 3 argues that all of these definitions of ‘money’ (and indeed all other explicit and implicit definitions of ‘money’) are **purely-administrative** subsets of Owned-Wealth and Owed-Wealth:

1. Each item of **Precious-Cash** is **Owed-Wealth**; Owed-Wealth which appears solely as an asset in the balance sheet of the owner.
2. Each item of **Non-Precious-Cash** is **Owed-Wealth**; Owed-Wealth which appears as an asset in the balance sheet of the bearer and which appears (or **ought** to appear) as an equal and opposite liability in the balance sheet of the issuer (typically as part of the M0 part of a national debt).
3. All **Non-Cash ‘Money’** is **Owed-Wealth**; Owed-Wealth which appears as an asset in one balance sheet and as an equal and opposite liability in another balance sheet.

Thus, Chapter 3 argues that ‘money’ and non-‘money’ should be seen as subsets of Nominal Owed-Wealth and Owned-Wealth as follows:

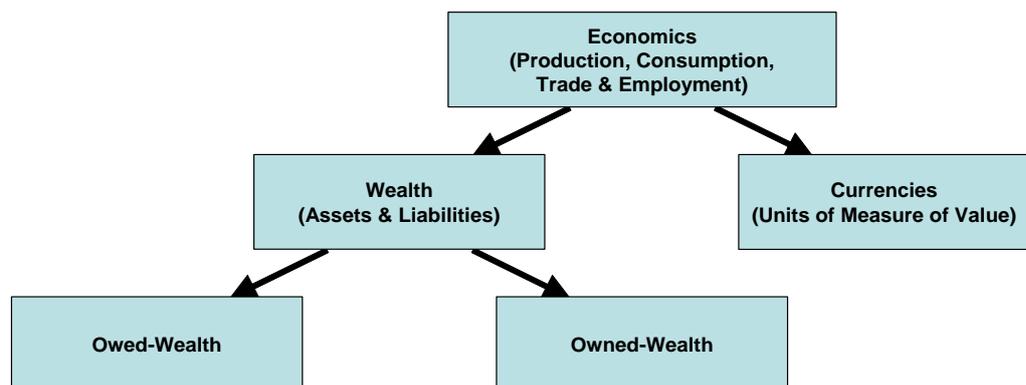


However, Chapter 3 argues that:

1. The **distinctions** between ‘money’ Wealth and non-‘money’ Wealth, are (or **ought** to be) **purely-administrative** distinctions; of interest only to students of the history of routine commercial and financial administration.
2. The **distinctions** between Nominal Owed-Wealth, Securitised Owed-Wealth and Equity Owed-Wealth are (or **ought** to be) **purely-micro-economic** distinctions; of interest only to students of the history of routine commercial and financial administration.

Thus, Chapter 3 uses a more-basic macro-economic paradigm as the basis for its **initial** analysis; a paradigm in which:

1. The **distinction** between Wealth (‘money’ and non-‘money’ without distinction) and Currencies is recognised as **fundamental** (and **is** therefore represented).
2. The **distinction** between Owned-Wealth (‘money’ and non-‘money’ without distinction) and Owed-Wealth (‘money’ and non-‘money’ without distinction) is recognised as **fundamental** (and **is** therefore represented).
3. The **distinction** between Nominal Owned-Wealth, Securitised Owed-Wealth and Equity Owned-Wealth is considered to be a **micro-economic** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).
4. The **distinction** between ‘money’ Owned-Wealth and non-‘money’ Owned-Wealth is considered to be a **purely-administrative** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).
5. The **distinction** between ‘money’ Nominal Owed-Wealth and non-‘money’ Nominal Owed-Wealth is considered to be a **purely-administrative** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).



Finally, Chapter 3 argues that, if the ‘atomic units’ of economic **status** (as reported in balance sheets) are Owned-Wealth and Owed-Wealth (as above), then the ‘atomic units’ of economic **activity** (as summarised in profit and loss reports and cashflow reports) are:

1. **Production/Consumption** transactions (as defined in this paper).
2. **Trade/Employment** transactions (as defined in this paper).
3. **Owed-Wealth-Rotation** transactions (as defined in this paper).

However, Chapter 3 argues that:

1. Production/Consumption transactions (as defined in this paper) require no ‘finance’ (i.e. Owed-Wealth is not affected).
2. Trade/Employment transactions (as defined in this paper) are ‘self-financing’ (i.e. the buyer/employer effectively ‘borrows’ from the seller/employee at the point of trade/employment; as recorded in payables/receivables accounts).
3. Owed-Wealth-Rotation transactions (as defined in this paper) are ‘self-financing’. They are simply zero-sum closed-circles of zero-sum double-entry postings by which the cash/banking processes ‘intermediate’ Owed-Wealth.

Thus, macro-economists, central bankers and politicians should ignore all concepts, expressions and aggregates associated with distinctions between different types of Wealth other than the distinction between Owned-Wealth and Owed-Wealth. Instead, they should recognise that the sole key factor determining ongoing economic activity is **the net propensity to buy/employ for production/consumption**, that that propensity is pro-cyclical and destabilising, and that economic stability is possible **only** with communal initiatives to ‘swim against the market tide’.

**Chapter 4 – Currencies** analyses from first principles the concept of ‘Currencies’ as units of measure of value (as defined in this paper). It argues that inflation/deflation in the value associated with each Currency is (or **ought** to be) a **purely-administrative** factor. **By default**, macro-economic factors whose value is determined by fiat **ought** to be inflation-linked passively. This passive inflation-linking should include Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments. This passive inflation-linking would establish the zero-sum network of Owed-Wealth as a **global, macro-economically-neutral, level-value** frame of reference for ‘real’ macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping). The macro-economic issues currently associated with inflation and exchange-rate instability should be seen as self-inflicted wounds caused by wilful variations from that default. Thus, macro-economists, central bankers and politicians should promote that default through global and state institutions from the IMF downwards, should abandon ‘monetary’ policy altogether, and should confine macro-economic policy exclusively to fiscal policy.

**Chapter 5 – Market Economics** argues that ‘market forces’ are actually a compound of three radically-distinct **perfectly-rational** factors:

1. In considering **supply-chain Production/Consumption** of Owned-Wealth, economic agents are **price-takers**. There is no feedback into market prices. If the de-facto market price is above/below the equilibrium level, net Production/Consumption will be positive/negative. The perfectly-rational but sub-optimal **aggregate** result is **inadvertent supply-chain investment/disinvestment in Owned-Wealth** (i.e. investment in market opportunity, productive capacity and stocks which, with the benefit of hindsight, the economic agent would not have made).
2. In considering **deliberate supply-chain investment/disinvestment** in Owned-Wealth, economic agents become **price-makers** as they attempt to increase/decrease their investment and prices to what they judge to be a revised equilibrium level. The perfectly-rational but sub-optimal **aggregate** result is **business-cycles of supply-chain investment/disinvestment in Owned-Wealth**.
3. In considering **speculative investment/disinvestment** in Owned-Wealth, Equity Owed-Wealth or Securitised Owed-Wealth, economic agents become **bubble-makers** as they attempt to increase/decrease their de-facto investment purely to take advantage of anticipated increases/decreases in market prices. The perfectly-rational but sub-optimal **aggregate** result is **de-stabilising self-fulfilling expectations**, which can be moderated **only** by ‘communal’ initiatives to ‘swim against the market-sentiment tide’.

The conclusion is that the (supposedly) self-optimising influence of ‘market forces’ arises not from the interplay between ‘supply’ and ‘demand’ in the context of some form of ‘market’, but from the interplay between production and consumption of **Owned-Wealth** within the context of a supply-chain. That interplay between production and consumption results not in stable-equilibrium investment and prices, but in **business cycles around** stable-equilibrium investment and prices. However, even for production and consumption of Owned-Wealth within the context of a supply-chain, the optimising influence of ‘market forces’ is overlaid by long-run booms and busts created by the last of the above radically-distinct factors, and the perfectly-rational but sub-optimal **aggregate** result is **de-stabilising self-fulfilling expectations**, which are exacerbated by excessive leverage, derivatives and other financial engineering, and which can be moderated **solely** by communal initiatives to ‘swim against the market-sentiment tide’.

For **Owed-Wealth**, there is no such thing as Production/Consumption or a supply-chain. Owed-Wealth is simply a zero-sum book-keeping exercise. Thus, the market prices of Equity and Securitised Owed-Wealth are dominated by the last of the above radically-distinct influences. Again, **de-stabilising self-fulfilling expectations** are exacerbated by excessive leverage, derivatives and other financial engineering, and can be moderated **solely** by communal initiatives to ‘swim against the market-sentiment tide’.

**Chapter 6 – Solvency and Liquidity of Financial Institutions** argues that state and global banks and regulators **already** in effect acts as **implicit** guarantor for every Non-Equity Owed-Wealth liability of every financial institution and state, and that that role should be made **explicit**. The central banking system should act as borrower/lender of **first/default** recourse for banks and states (i.e. as opposed to borrower/lender of **last** recourse in current conventional wisdom). This would eliminate (the need for) inter-bank debt, and would eliminate liquidity as a macro-economic factor. In order to moderate the risk implicit in such a guarantee, the central banking system (including the global and state banks and regulators from the IMF downwards) should require a transparently-conservative valuation of every asset of every financial institution and state, and of every asset offered by a debtor as security. In particular, in order to remove the perverse incentives and conflicts of interest in the current valuation and auditing standards and processes, the central banking system (including the global and state banks and regulators from the IMF downwards) should itself commission all of those valuation and auditing standards and processes conservatively on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). Again, in doing so, they should follow the precautionary principle (i.e. financial innovation should be ‘prohibited unless specifically approved’, as opposed to ‘permitted unless specifically prohibited’). Indeed, the vast majority of financial innovation (including securitised Owed-Wealth such as GB Gilts, US Treasuries, and other state, commercial and mortgage-backed bonds) should be outlawed in favour of simple inflation-linked current-accounting. Thus, in turn, macro-economists, central bankers and politicians should abandon all concepts and aggregates associated with the expressions ‘money’ and ‘liquidity’.

To return to the introductory discussion, given the enormous volume of literature (orthodox and heterodox, conventional and unconventional, incremental and radical) speculating on the nature and consequences of ‘money’, it would be a normal courtesy to acknowledge, reference and summarise that literature, and to present new insights as developments from that literature. Indeed, the scope and depth of citations appended to a paper is often equated with ‘scholarship’. However, the author of this paper has little formal training in economics (along with Clive Granger, winner of the Nobel Memorial Prize in 2003; cited at the beginning of this paper), and is not an academic ‘scholar’ in that sense. In spite of a great deal of ad-hoc research, he has been unable to find **any** literature relevant to his purpose:

1. All of the literature simply **assumes** that ‘money’ is a single concept with two or more ‘roles’ or ‘characteristics’. Of course, much of ‘the literature’ acknowledges a distinction between ‘money’-Wealth and Currencies at an incidental level (with expressions such as ‘money things’ and ‘money of account’). However, even ‘the literature’ which **does** acknowledge the distinction then immediately obfuscates and conflates that distinction. None of the literature considers seriously the possibility that there are two **radically-distinct concepts** currently ‘enclosed’ by the single expression ‘money’; that if we wish to facilitate integrity of thought and expression, we must reserve **two radically-distinct expressions** (e.g. ‘Wealth’ and ‘Currencies’) for those two radically-distinct concepts; and that we must consider those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them).
2. None of the literature distinguishes clearly between the three distinct types of ‘money’ (my definitions), whereas, in this paper:
  - a. The expression **Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at the higher of the free-market value of its (assumed) contents and its ‘collector’s valuation’ (and irrespective of its ‘face’ value). Each such item is **Owed-Wealth**, and appears as an asset in the balance sheet of the owner.
  - b. The expression **Non-Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at a ‘face’ value **higher** than the free-market value of its (assumed) contents and its ‘collector’s valuation’. Each such item is merely a token ‘evidencing’ **Owed-Wealth** (owed by the issuer to the bearer); Owed-Wealth which appears as an asset in the balance sheet of the bearer and (which **ought** to appear) as an equal and opposite liability in the balance sheet of the issuer. Indeed, the vast majority **ought** to be recorded as a liability in a national debt.
  - c. The expression **Non-Cash ‘Money** is reserved **solely** for wealth ‘associated with’ a bank ‘current’ account. Each such item is **Owed-Wealth**; Owed-Wealth which appears as an asset in one balance sheet and as an equal and opposite liability in another balance sheet.

Indeed, all of the literature uses the expression ‘money’ as a catch-all; attributes characteristics of one type (e.g. Precious-Cash) to the catch-all expression ‘money’; and then attributes those characteristics to the other types of ‘money’ by association without pause. Whilst acknowledging that Precious-Cash has been almost totally superseded, and that the vast majority of ‘money’ currently comprises zero-sum Owed-Wealth (i.e. Non-Precious-Cash and Non-Cash ‘money’), all of the existing literature uses terminology and paradigms which might **potentially** apply to Precious-Cash, but which **could not possibly** apply to zero-sum Owed-Wealth (e.g. terminology such as quantity, supply, demand, market forces, value-density, flows, circulation, velocity of circulation, on-lending of deposits, etc.).

3. All of the literature simply **assumes** that there is a well-found **macro-economically-significant** concept (i.e. as opposed to a legal, administrative or slang concept) ‘enclosed’ by the expression ‘money’. However, none of the literature offers a macro-economically-significant **distinction** between ‘money’ Wealth and non-‘money’ Wealth. None of the literature offers a **‘monetary litmus test’** to allow such a distinction to be made. Indeed, none of the literature considers seriously the possibility that there is simply **no** such macro-economically-significant distinction there to be made.
4. All of the literature which discusses a potential relationship between ‘money’ and ‘Currencies’ (as defined in this paper) simply **assumes** that it is the value-density of ‘money’ which is the **exogenous** factor in that relationship (i.e. the externally-determined given factor), and that it is the value associated with the Currency which is the **endogenous** factor in that relationship (i.e. the internally-managed factor). None of the literature considers seriously the possibility that this paradigm **could not possibly** apply to Non-Precious-Cash or Non-Cash ‘Money’ (the value of which rises or falls in line with the value associated with the Currency in which it is administered). Even for Precious-Cash, none of the literature considers seriously the possibility that it is the value associated with the Currency which is **always** the **exogenous** factor (i.e. determined on a rolling **macro-economically-incident** basis by millions of naive economic agents agreeing millions of prices each day), and that it is the value of Precious-Cash which is always the **endogenous** factor (i.e. internally-managed by ‘the authorities’ acting as bottomless suppliers and demanders at a rigged price).
5. All of the literature subscribes to the idea that there exists a macro-economically-significant **quantity** and/or **supply** of ‘money’ (i.e. as opposed to a legal, administrative or slang quantity); that that quantity and/or supply corresponds in some way to ‘buying/employing power’; that that ‘buying/employing power’ corresponds in some way to aggregate demand; and that that aggregate demand must somehow be brought into balance with the equivalent aggregate supply of goods and services. Most of the literature subscribes to some variation of Say’s law; whereby aggregate supply is deemed to create the ‘buying/employing power’ to buy/employ that aggregate supply. None of the literature tackles seriously the insight that all trade/employment is actually self-financing; that Buyers/Employers effectively ‘borrow’ from Sellers/Employees at the point of trade/employment (and record that Owed-Wealth in payables/receivables accounts), and that all parties then use the cash/banking processes merely to ‘intermediate’ that Owed-Wealth. None of the literature considers seriously that the sole key factor determining ongoing economic activity is **the net propensity to buy/employ for production/consumption** (i.e. the net propensity to **deploy** the **infinite** ‘buying/employing power’), that that propensity is pro-cyclical and destabilising, and that economic stability requires counter-cyclical stabilising policies by social agencies.
6. None of the literature tackles seriously the fact that all ‘money’ other than Precious-Cash is zero-sum Owed-Wealth; for which there is an equal and opposite asset and liability within the same economy; totalling **zero** within that economy.
7. None of the conventional ‘monetary’ aggregates embrace the required concept of **negative ‘money’**. If the only way in which one can generate a non-zero ‘monetary’ aggregate is by counting the asset sides of some macro-economically-indeterminate subset of Owed-Wealth whilst ignoring the equal and opposite liability sides, how can one justify the macro-economic attention given to such non-zero aggregates?

8. None of the conventional ‘monetary’ aggregates embrace the required concept of **funds available** (i.e. the gap between each overdraft or credit balance and the corresponding overdraft or credit limit). If all of the conventional ‘monetary’ aggregates ignore the concept of funds available in overdraft and credit facilities, how can one justify the macro-economic attention given to such aggregates?

It is of course very difficult to provide exhaustive **negative** evidence and citations; negative evidence and citations which highlight ‘black holes’ and ‘elephants in the room’. Whatever one cited, one would always leave open to the reader the possibility that the black hole was ‘obvious’ or ‘intuitive’ or filled elsewhere, and that the elephant was an illusion. However, if we take just one very famous work - John Maynard Keynes’s ‘The General Theory of Employment, Interest, and Money’, perhaps the reader could check their own ‘definitive’ reference literature against the claims and challenges above and later in this paper.

In the General Theory, Keynes provides almost a whole column of index entries related to ‘money’, and over 60 actual references from there to the text. He even dedicates a whole Chapter 17 to ‘The Essential Properties of Interest and Money’. However, none of the referenced texts make any attempt to **define** ‘money’ as such, and none discuss the presumed macro-economic significance of the presumed **distinction** between ‘money’ Wealth and non-‘money’ Wealth. Indeed, Chapter 17 does not even discuss ‘money’ as such. It should more accurately have been titled ‘The Essential Properties of Interest and Owed-Wealth (‘money’ and non-‘money’ without distinction)’. One seeks in vain in that Chapter and elsewhere in that book, and in other work by the same author (including ‘A Treatise on Money’), and indeed in work by all other authors, for ‘engagement with’ the claims and challenges outlined above and later in this paper.

Thus, the author of this paper is presenting an analysis which attempts to start from a more radical base than **all** of the orthodox and heterodox macro-economic literature, and has therefore **had** to work from first principles. He refers to conventional and unconventional, orthodox and heterodox, wisdom **solely** in order to highlight what he perceives to be ‘black holes’ and ‘elephants in the room’ in the foundations of that wisdom.

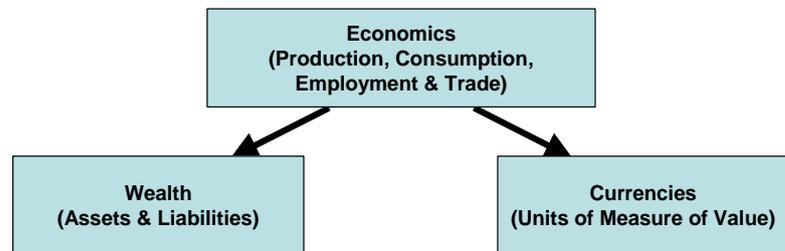
There is also the issue of ‘style of exposition’. The author of this paper is accustomed to organising his analysis and arguments in heavily structured text to highlight the heavily structured nature of that analysis and argument, to using underlining and boldfacing to highlight key points within that structure, to using capitalisation for expressions which he pleads to reserve for highly-specific definition (e.g. the expressions ‘Wealth’ and ‘Currencies’), and to using repetition of key points as a foundation for further analysis and argument. He does this as a discipline for his own analysis, but also to aid assimilation by his readers (think of the concept of herding cats). The author is accustomed to building his exposition as if he were presenting in person to a business audience, and to using such special formatting as a substitute for visual aids, voice modulation, eye contact and body language. He is well aware that the academic world is very different from the business world, but has found it impossible to convey the full import and precision of his analysis and argument in writing without such special formatting. As for so many issues, the devil is in the detail. A major part of the author’s argument is that the detail of the macro-economic fundamentals **is** heavily structured (please excuse the emphasis), and therefore so must the exposition be if it is to explore, differentiate and pin down those fundamentals. For the author, to analyse heavily structured detail with ‘stream of consciousness’ text is like asking Newton to explain differential calculus in ‘plain English’.

So, the author begs for a temporary ‘suspension of disbelief’ with regard to the content, and a sympathetic acceptance of a style of exposition which varies from standard academic practice.

## 2 ‘Money’ and Currencies

The previous Chapter introduced the idea that there are **two radically-distinct concepts** currently ‘enclosed’ by the **single expression** ‘money’, and that, if we wish to facilitate integrity of thought and expression, we must reserve **two radically-distinct expressions** for those two radically-distinct concepts, and we must consider those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them). More specifically, in this paper:

1. The expression ‘**Wealth**’ is reserved **solely** to encompass anything which possesses the characteristic of value (‘money’ and non-‘money’ without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression ‘**Currency**’ is reserved **solely** to encompass the concept of a **Unit of Measure of Value** (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.). Units of measure are merely figures of speech. They cannot in themselves possess the characteristic of value, and their sole role in a balance sheet is in the **enumeration** of the value of Wealth (‘money’ and non-‘money’ without distinction).



The rationale for this proposal is as follows:

1. When we use the expression ‘five dollars’ as the value of a good, we are **enumerating** the value of the good in dollars; just as we might **enumerate** the weight of the good in tons. The ton does not in itself possess the characteristic of weight (one can drop a ton’s **weight of lead** on one’s foot, but one cannot drop ‘**a ton**’ or even ‘**the ton**’ on one’s foot). Similarly, the dollar does not in itself possess the characteristic of value. It is **the good** which possesses the characteristics of weight and value. The ton and the dollar are merely figures of speech; enabling us to **enumerate** the magnitude of that weight and value.
2. When we use the expression ‘five dollars’ as a quantity of ‘money’, we are using a shorthand slang expression for ‘five dollar’s **worth of money**’ (in the same way that we use the expression ‘a pint’ as a shorthand expression for ‘a pint’s **volume of milk**’ or ‘a pint’s **volume of beer**’).

These shorthand slang expressions are very convenient for practical day-to-day administration and discourse, but a very dangerous deceit if extended into macro-economic theory and practice. Using the shorthand expression, it is natural to go along with the idea of a ‘quantity’ of ‘dollars’ ‘in circulation’, and with the idea of ‘market’ forces applying to the ‘supply’ and ‘demand’ for ‘dollars’. However, if we use the full expression, we soon have to abandon such notions. Demand for ‘Non-Precious-Cash whose value is enumerated in dollars’ can no more be equated to demand for ‘dollars’ than demand for ‘coffee futures contracts whose weights are enumerated in metric tons’ could be equated to demand for ‘metric tons’. The supposed ‘market’ in ‘Currencies’ is really a spuriously complex zero-sum book-keeping exercise in

Owed-Wealth **administered** incoherently in different Currencies.

This relationship is illustrated in the chart below:

1. Characteristics of things (such as weight, size, volume, worth, etc.) can appear **only** in the third column, and are the **only** things which can appear in that column.
2. Things which possess the characteristic can appear **only** in the final column, and are the **only** things which can appear in that column.
3. Units of measure can appear **only** in the second column, and are the **only** things which can appear in that column.

#	Unit of Measure	Characteristic	'of'	What
1	Kilograms	Weight	of	Coffee
2	Metres	Length	of	String
3	Metres	Length	of	Space
4	Litres	Volume	of	Petrol
5	Litres	Volume	of	Space
6	US Dollars	Worth	of	Petrol
8	US Dollars	Worth	of	US Cash
9	US Dollars	Worth	of	UK Cash
7	US Dollars	Worth	of	Owed-Wealth

In particular, note that, in a balance sheet denominated in US Dollars, the value of US cash and GB cash would both be denominated in US Dollars, as would the balances in bank accounts denominated in both US Dollars and GB Pounds.

This issue is neither an accounting issue, nor a macro-economic issue. It is a **purely-semantic** issue (i.e. to do with the use of language to think and to express ourselves).

Of course, there is a body of opinion which argues that there have been a number of occasions in the past, and attractive options for the future, in which the value associated with a Currency (my definition) was, or could be, 'anchored' to the market value-density of an indeterminate form of 'money', or to the value-density of a specific commodity ('money' or non-'money' without distinction), or to the value-density of a basket of commodities ('money' or non-'money' without distinction), or even to some more abstract notion such as 'a unit of labour'.

However, this body of opinion obfuscates and conflates two radically-distinct issues:

1. There is no problem in using a commodity as a primitive and minor **administrative** sophistication from basic barter (typically in the form of Precious-Cash).
2. However, no Currency (my definition) has ever been, **or ever could be**, 'anchored' to **anything**. There is simply no process by which this could be achieved.

More specifically:

1. There is no problem in using a commodity as a primitive and minor **administrative** sophistication from basic barter (typically in the form of Precious-Cash):
  - a. Economic agents would agree prices for non-'money' goods and services in a 'going Currency' (nothing to do with the value-density of any of the 'money')

commodities).

- b. Economic agents would then ‘settle up’ by ‘counter-trading’ in Precious-Cash at the current market price for that Precious-Cash (as expressed in the same ‘going Currency’).

However, the only differences between this and basic barter would be that:

- a. Economic agents would use a single ‘going Currency’ (nothing to do with the value-density of any of the ‘money’ commodities) to agree all market prices (including the market prices of Precious-Cash), instead of a multitude of direct peer-exchange rates.
- b. There would be much less haggling about the current market price of Precious-Cash because it would be so heavily and freely ‘transacted’.

Indeed, many macro-economic regimes have in earlier times used a wide range of Precious-Cash simultaneously in this way (Precious-Cash made from different alloys of gold, silver, copper, iron and other commodities in varying quantities and qualities). In each such case, there was a ‘going Currency’ independent from the value-density of any of the ‘money’ commodities (as above), and a ‘going price’ in that Currency for each item of Precious-Cash based on its (assumed) content and/or its ‘collector’s valuation’ (and **irrespective** of its ‘face’ value). Indeed, much Precious-Cash did not even have a ‘face’ value as such. The (**administrative**) utility of Precious-Cash as ‘money’ lay simply in the fact that such items were trusted for their **weight and quality**. However, one seeks in vain for a **macro-economic** distinction (i.e. as opposed to a legal, administrative or slang distinction) between the gold in a shoe buckle, and the gold in Precious-Cash used to pay for that shoe buckle.

2. However, no Currency (my definition) has ever been, **or ever could be**, ‘anchored’. There is simply no process by which this could be achieved. It is instructive to **try to imagine** such a process. Perhaps the head of the United Nations could stand on a very large soapbox with a very large loudhailer, and make a ‘proclamation’ that the value associated with the dollar would from now on be linked to the value of 1/20<sup>th</sup> of an ounce of gold (1791-1933) or 1/35<sup>th</sup> of an ounce of gold (1933-1971), or even to some more abstract concept such as ‘a unit of labour’. Perhaps the head of the United Nations could then ‘exhort’ the population at large to ‘bear that in mind when shopping’? Would naïve shoppers have to start evaluating their potential purchases for worth against the value-density of gold, or even to some more abstract concept such as ‘a unit of labour’? If a shopper wanted to buy a good at a **higher** price than last week (assuming they could remember historic prices and qualities), would they have to also select something else at a **lower** price than last week before they were allowed to purchase? Surely, logic and history has long since established that naïve economic agents in the market would fail to notice, fail to understand, or simply ignore, any such ‘proclamations’ and/or ‘exhortations’. Whenever there has been such a linkage (extremely rare in practice), it has **always** been the other way round:
  - a. The value associated with the Currency was **always** the **exogenous** factor in any such linkage (i.e. it was the externally-determined given). The value associated with each Currency was determined on a rolling **macro-economically-incident** basis by millions of naïve economic agents agreeing millions of prices each day (see later).
  - b. The value-density of the commodity concerned (‘money’ or non-‘money’ without distinction) was **always** the **endogenous** factor in the linkage (i.e. it was **always** determined by wilful policy). Invariably, there was ‘interference’ by ‘the authorities’ (such as the Bretton Woods agreement); interference which

amounted to a crude attempt to rig the market in the commodity concerned ('money' or non-'money' without distinction). Such agreements established closed networks of 'responsible' and 'bottomless' suppliers and demanders (i.e. central bankers) who all colluded in agreeing to 'transact' (i.e. buy and sell) at a 'proclaimed' price irrespective of supply and demand in the 'free' or 'black' markets. All such agreements persisted only until 'free' market sentiments moved too far against them, and then capitulated (e.g. the UK in 1918 and 1931, and the US in 1933 and 1971). Without such 'interference' by 'the authorities', the very idea of such a linkage would have been a deceit. There would always have been a 'going price' in the 'going Currency' for each item of Precious-Cash based on its (assumed) content and/or its 'collector's valuation' (and irrespective of its 'face' value). Thus, the Bretton Woods agreement should be seen not as an attempt to anchor the value associated with the US Dollar to the 'market' value of some form of gold 'money', but as an (ultimately futile) attempt to rig the 'market' value of gold ('money' and non-'money' without distinction).

Of course, the vast majority of macro-economic regimes also and simultaneously employed **Owed-Wealth** (i.e. Non-Precious-Cash and/or Non-Cash 'Money') as 'money'. In such macro-economic regimes, there is no question of a causal link **from** some manifestation of a 'quantity' of some manifestation of 'money' **to** the value associated with a Currency. **Again**, it was **always** the other way round:

1. The value of one dollar's worth of US Non-Precious-Cash rises and falls in line with the de-facto market value associated with the US Dollar.
2. The value of one dollar's worth of Non-Cash 'money' in a bank current account denominated in US Dollars rises and falls in line with the de-facto market value associated with the US Dollar, plus interest (itself determined by wilful policy).

Surely, logic and history has long since established that the value associated with each Currency is determined on a **macro-economically-incidental** basis by millions of naive economic agents agreeing millions of prices each day. Each such agreement not only resets directly the price/value concerned, it also resets indirectly the value associated with the Currency concerned, and thereby resets indirectly every other value expressed contemporaneously in that Currency.

For example, if:

1. The **market value** of oranges represented 5% of the 'total value in the market'.
2. The **market price** of oranges rose by 20% (as expressed in a given Currency).

Then it is reasonable to **infer** that:

1. The **value associated with** the given Currency had fallen by 1%.
2. The **market value** of oranges had risen by 19% (relative to the aggregate value of all goods; including oranges).
3. The **market value** of all goods other than oranges had fallen by 1% (relative to the aggregate value of all goods; including oranges).

After millions of such market agreements every day, by naive economic agents with little knowledge or interest in macro-economic affairs, it would be an astonishing coincidence if the value associated with each Currency remained unchanged over time (**hence inflation/deflation**), or changed in step with the value associated with other Currencies (**hence differential inflation/deflation**).

Thus, the value associated with a given Currency should be seen:

1. **Not as a direct** product of market forces acting on **the supply and demand for the Currency itself** (there is no such thing as supply and demand for a unit of measure).
2. **Not as a direct** product of market forces acting on the supply and demand for **some version of ‘money’ denominated in that Currency** (there is no such thing as supply and demand for book-keeping).
3. **But as** the **macro-economically-incidental** product of market forces acting on the **relative** prices of goods, services and labour **denominated** in that Currency.

Thus, we must accept that there are **two radically-distinct concepts** currently ‘enclosed’ by the **single expression** ‘money’, and that, if we wish to facilitate integrity of thought and expression, we must reserve **two radically-distinct expressions** for those two radically-distinct concepts, and we must consider those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them). More specifically, in this paper:

1. The expression ‘**Wealth**’ is reserved **solely** to encompass anything which possesses the characteristic of value (‘money’ and non-‘money’ without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression ‘**Currency**’ is reserved **solely** to encompass the concept of a **Unit of Measure of Value** (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.). Units of measure are merely figures of speech. They cannot in themselves possess the characteristic of value, and their sole role in a balance sheet is in the **enumeration** of the value of Wealth (‘money’ and non-‘money’ without distinction).

In particular, we must abandon all notions of market forces for Currencies, including quantity, supply and demand for Currencies (my definition).

Further, we must accept that whenever there was a relationship between those two radically-distinct concepts:

1. The value associated with the **Currency** was **always** the **exogenous** factor (i.e. the ‘given’ factor determined externally on a rolling **macro-economically-incidental** basis by millions of naive economic agents agreeing millions of prices each day).
2. The value of each item of ‘**money**’ was **always** the **endogenous** factor (i.e. the ‘managed’ factor determined internally by wilful policy).

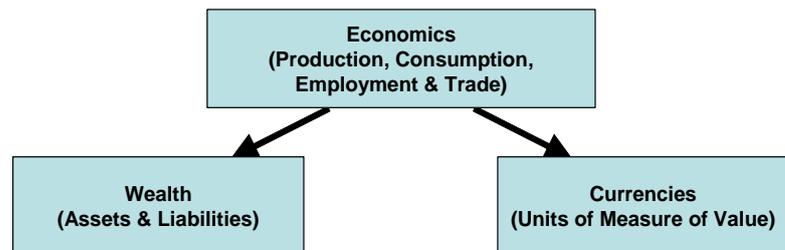
Thus, the rest of this paper analyses those two radically-distinct concepts in isolation **before** considering policy options (potentially to try to link them).

### 3 Wealth

At the end of this Chapter, two Appendices provide some background insights into the analytical conventions used by the author in the earlier sections of this Chapter. Readers untroubled by the earlier analysis could well skip this more detailed discourse. Readers requiring more ‘substance’ should refer to those Appendices before proceeding.

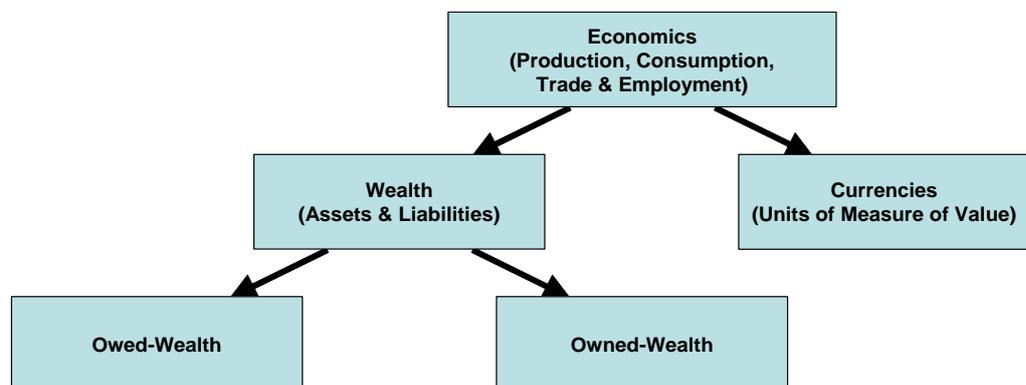
Earlier, we reserved the expression **Economics** to encompass the study of **Production**, **Consumption**, **Trade** and **Employment**, and argued that the first level of analysis within Economics must qualify two distinct concepts. More specifically, in this paper:

1. The expression ‘**Wealth**’ is reserved **solely** to encompass anything which possesses the characteristic of value (‘money’ and non-‘money’ without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression ‘**Currency**’ is reserved **solely** to encompass the concept of a **Unit of Measure of Value** (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.). Units of measure are merely figures of speech. They cannot in themselves possess the characteristic of value, and their sole role in a balance sheet is in the **enumeration** of the value of Wealth (‘money’ and non-‘money’ without distinction).



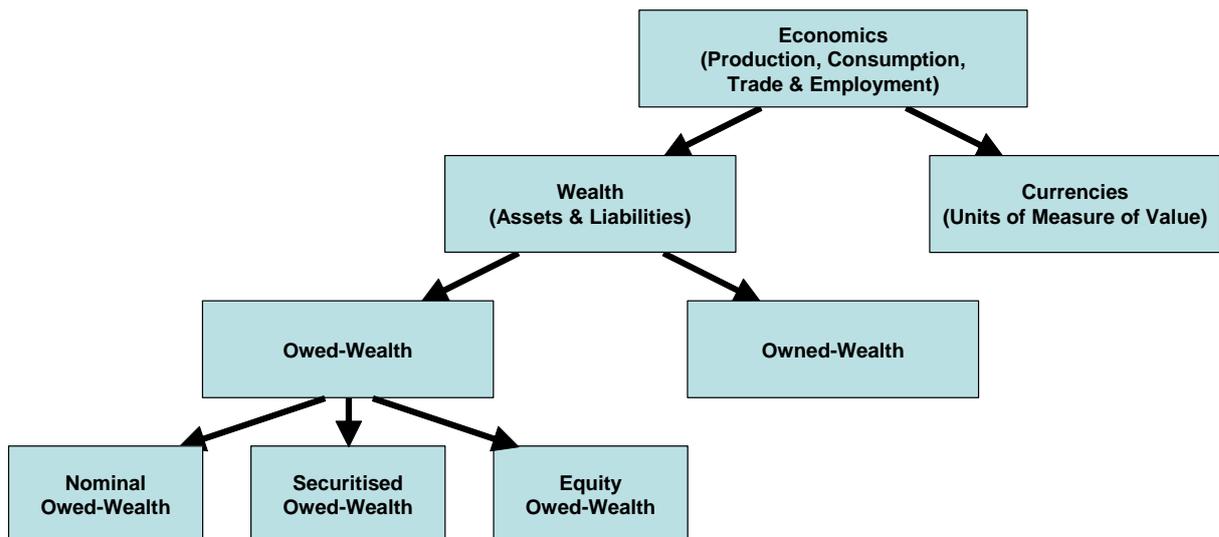
This Chapter analyses from first principles the concept of Wealth (as defined in this paper). It argues that the sole worthwhile **macro-economic** distinction (i.e. as opposed to legal, administrative or slang distinction) between different types of Wealth is **not** the distinction between ‘money’ Wealth and non-‘money’ Wealth, but the distinction between **Owned-Wealth** (‘money’ or non-‘money’ without distinction) and **Owed-Wealth** (‘money’ or non-‘money’ without distinction). More specifically, in this paper:

1. As already discussed, the expression ‘**Wealth**’ is reserved **solely** to encompass anything which possesses the characteristic of value (‘money’ and non-‘money’ without distinction); value which could be represented in a balance sheet in the form of an **Asset** or a **Liability**.
2. The expression ‘**Owned-Wealth**’ (‘money’ and non-‘money’ without distinction) is reserved **solely** for anything which appears in precisely **one** balance sheet. Each such item is therefore a ‘net-equals-gross’ increment to ‘the wealth of nations’.
3. The expression ‘**Owed-Wealth**’ (‘money’ and non-‘money’ without distinction) is reserved **solely** for anything which appears in precisely **two** balance sheets: once as an asset; and once as an equal and opposite liability. For every item of Owed-Wealth, there is a borrower and a lender within the same macro-economic system (and indeed, ‘within’ the same Currency). Each such item is therefore a ‘zero-sum’ increment to ‘the wealth of nations’. Indeed, Owed-Wealth is simply a zero-sum book-keeping exercise which ‘keeps the score’ on where we are in our non-barter trading and employment activity. Those who have sold more than they have bought accumulate a net-positive balance, and those who have bought more than they have sold accumulate a net-negative balance. The aggregate (of course) is zero.
4. The expression ‘**Net-Wealth**’ (‘money’ and non-‘money’ without distinction) is reserved **solely** for the sum of Owned-Wealth and Owed-Wealth; for each economic agent, and in aggregate. Because aggregate Owed-Wealth is zero-sum, aggregate Net-Wealth is equal to aggregate Owned-Wealth.



Continuing the analysis one step further, Owed-Wealth can itself be sub-divided as follows:

1. **Nominal** Owed-Wealth ('money' and non-'money' without distinction):
  - a. Ongoing cash-flows are determined by ad-hoc fiat.
  - b. Ongoing values are determined by fiat.
  - c. E.g. cash, bank accounts, credit accounts, loan accounts, hire-purchase accounts, mortgage accounts and trading debts.
2. **Securitised** Owed-Wealth ('money' and non-'money' without distinction):
  - a. Ongoing cash-flows are determined by scheduled fiat.
  - b. Ongoing values are determined by the market.
  - c. E.g. GB Gilts, US Treasuries, and other state, commercial and mortgage-backed bonds.
3. **Equity** Owed-Wealth ('money' and non-'money' without distinction):
  - a. Ongoing cash-flows are determined by the debtor.
  - b. Ongoing values are determined by the market.
  - c. E.g. stocks and shares.



Continuing the analysis one step further, in this paper:

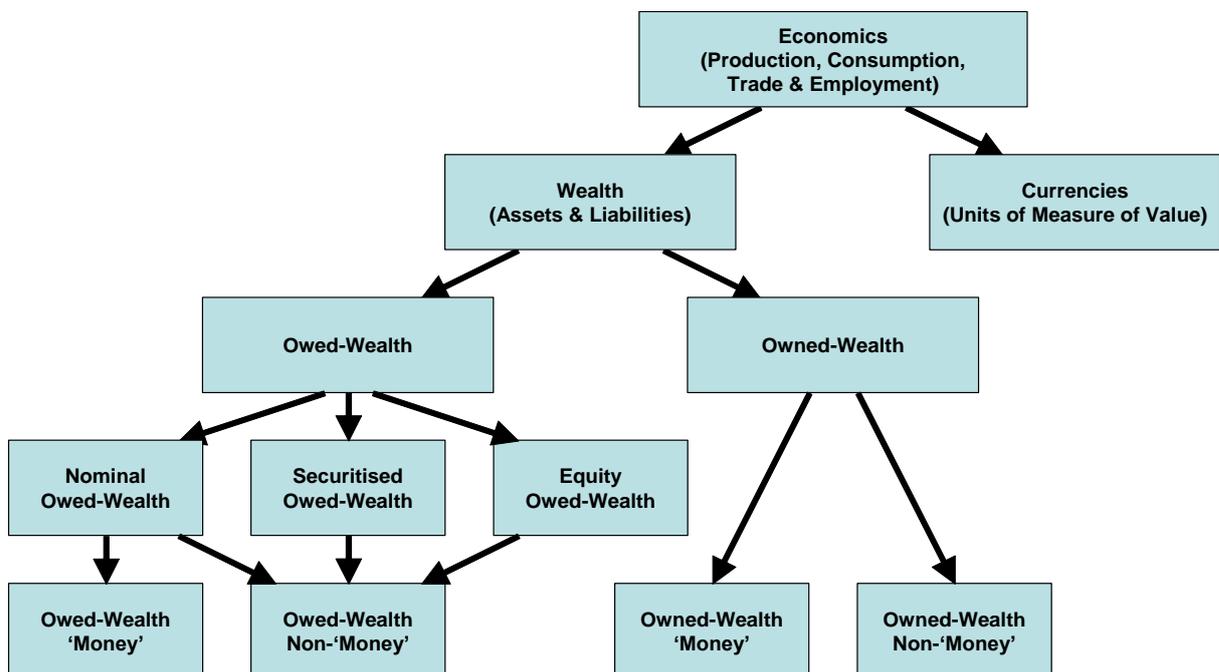
1. The expression **Precious Cash** is reserved **solely** for the wealth 'evidenced' by each 'monetary token' 'transacted' at the free-market value of its constituent commodities or as a collector's item (and **irrespective** of its 'face' value).
2. The expression **Non-Precious Cash** is reserved **solely** for the wealth 'evidenced' by each 'monetary token' 'transacted' at a 'face' value higher than the free-market value of its constituent commodities or as a collector's item.
3. The expression **Non-Cash 'Money'** is reserved **solely** for wealth 'associated with' a bank 'current' account.

However, This Chapter argues that all of these definitions of 'money' (and indeed all other explicit and implicit definitions of 'money') are **purely-administrative** subsets of Owned-

## Wealth and Owed-Wealth:

1. Each item of **Precious-Cash** is **Owed-Wealth**; Owed-Wealth which appears solely as an asset in the balance sheet of the owner.
2. Each item of **Non-Precious-Cash** is **Owed-Wealth**; Owed-Wealth which appears as an asset in the balance sheet of the bearer and which appears (or **ought** to appear) as an equal and opposite liability in the balance sheet of the issuer (typically as part of the M0 part of a national debt).
3. All **Non-Cash 'Money'** is **Owed-Wealth**; Owed-Wealth which appears as an asset in one balance sheet and as an equal and opposite liability in another balance sheet.

Thus, this Chapter argues that 'money' and non-'money' should be seen as subsets of Nominal Owed-Wealth and Owned-Wealth as follows:

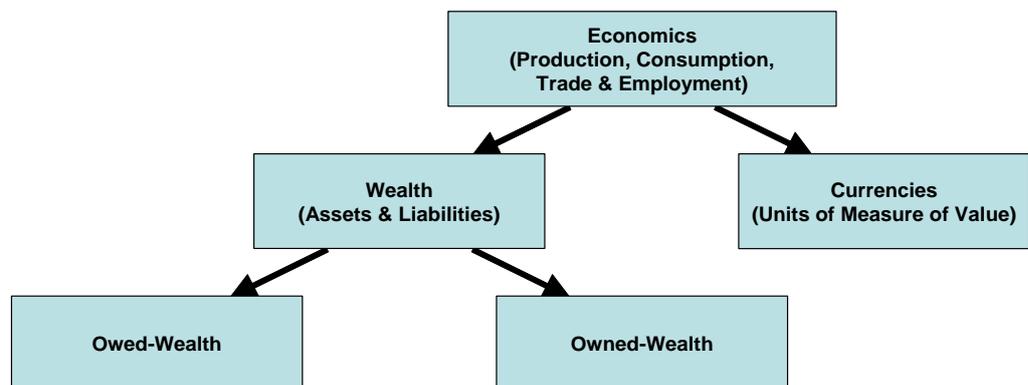


However, this Chapter argues that:

1. The **distinction** between ‘money’ Wealth and non-‘money’ Wealth, is (or **ought** to be) a **purely-administrative** distinction; of interest only to students of the history of routine commercial and financial administration.
2. The **distinctions** between Nominal Owed-Wealth, Securitised Owed-Wealth and Equity Owed-Wealth are **purely-micro-economic** distinctions; of interest only to students of the history of routine commercial and financial administration.

Thus, this Chapter uses a more-basic macro-economic paradigm as the basis for its **initial** analysis; a paradigm in which:

1. The **distinction** between Wealth (‘money’ and non-‘money’ without distinction) and Currencies is recognised as **fundamental** (and **is** therefore represented).
2. The **distinction** between Owned-Wealth (‘money’ and non-‘money’ without distinction) and Owed-Wealth (‘money’ and non-‘money’ without distinction) is recognised as **fundamental** (and **is** therefore represented).
3. The **distinction** between Nominal Owned-Wealth, Securitised Owed-Wealth and Equity Owned-Wealth is considered to be a **micro-economic** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).
4. The **distinction** between ‘money’ Owned-Wealth and non-‘money’ Owned-Wealth is considered to be a **purely-administrative** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).
5. The **distinction** between ‘money’ Nominal Owed-Wealth and non-‘money’ Nominal Owed-Wealth is considered to be a **purely-administrative** distinction, and is therefore **irrelevant** in a macro-economic paradigm (and is therefore **not** represented).



In particular, macro-economists, central bankers and politicians should ignore all concepts, expressions and aggregates associated with the above distinctions. Instead, they should recognise that the sole key factor determining ongoing economic activity is **the net propensity to buy/employ for production/consumption**, that that propensity is pro-cyclical and destabilising, and that economic stability is possibly **only** with communal initiatives to ‘swim against the market tide’.

If the ‘atomic units’ of economic **status** (as reported in balance sheets) are Owned-Wealth and Owed-Wealth (as above), then the ‘atomic units’ of economic **activity** (as summarised in profit and loss reports and cashflow reports) are:

1. **Production/Consumption** transactions.
2. **Trade/Employment** transactions.
3. **Owed-Wealth-Rotation** transactions.

However, this Chapter argues that:

1. Production/Consumption transactions (as defined in this paper) require no ‘finance’ (i.e. Owed-Wealth is not affected).
2. Trade/Employment transactions (as defined in this paper) are ‘self-financing’ (i.e. the Buyer/Employer effectively ‘borrows’ from the Seller/Employee).
3. Owed-Wealth-Rotation transactions (as defined in this paper) are ‘self-financing’. They are simply zero-sum closed-circles of zero-sum double-entry postings by which the cash/banking processes ‘intermediate’ Owed-Wealth.

We will first define these fundamental ‘atomic units’ of economic status and activity, and then discuss payment transactions as follows:

1. Each payment based on use of an item of Precious-Cash is ‘mapped’ as an example of a Trade/Employment transaction; as a minor sophistication of barter.
2. Each payment based on use of Non-Precious-Cash or Non-Cash ‘Money’ is ‘mapped’ as an example of an Owed-Wealth-Rotation transaction.

### 3.1 Macro-Economic Status (Wealth)

#### 3.1.1 The Zero-Sum Network of Owed-Wealth

The nature of the zero-sum global network of Owed-Wealth is illustrated in more detail in the diagram below.

##### The Zero-Sum Network of Owed-Wealth

	A	B	C	M	N	O	X	Y	Z	
A	-	D(ab)	D(ac)	D(am)	D(an)	D(ao)	D(ax)	D(ay)	D(az)	A
B	D(ba)	-	D(bc)	D(bm)	D(bn)	D(bo)	D(bx)	D(by)	D(bz)	B
C	D(ca)	D(cb)	-	D(cm)	D(cn)	D(co)	D(cx)	D(cy)	D(cz)	C
M	D(ma)	D(mb)	D(mc)	-	D(mn)	D(mo)	D(mx)	D(my)	D(mz)	M
N	D(na)	D(nb)	D(nc)	D(nm)	-	D(no)	D(nx)	D(ny)	D(nz)	N
O	D(oa)	D(ob)	D(oc)	D(om)	D(on)	-	D(ox)	D(oy)	D(oz)	O
X	D(xa)	D(xb)	D(xc)	D(xm)	D(xn)	D(xo)	-	D(xy)	D(xz)	X
Y	D(ya)	D(yb)	D(yc)	D(ym)	D(yn)	D(yo)	D(yx)	-	D(yz)	Y
Z	D(za)	D(zb)	D(zc)	D(zm)	D(zn)	D(zo)	D(zx)	D(zy)	-	Z
	A	B	C	M	N	O	X	Y	Z	

##### Notes:

- D(xy) is the debt owed to X by Y:
- D(yx) is equal and opposite to D(xy).
- D(xx) is zero.
- The sum of all D(xy) is zero.

### 3.1.2 Net-Owed-Wealth

The nature of the zero-sum global network of Owed-Wealth **and Net-Owed-Wealth** is illustrated in more detail in the diagram below. Note that **total Owed-Wealth** is zero (of course).

The Zero-Sum Network of Owed-Wealth												Net-Owed-Wealth		
	A	B	C	M	N	O	X	Y	Z					
A	-	D(ab)	D(ac)	D(am)	D(an)	D(ao)	D(ax)	D(ay)	D(az)	A	D(a)			
B	D(ba)	-	D(bc)	D(bm)	D(bn)	D(bo)	D(bx)	D(by)	D(bz)	B	D(b)			
C	D(ca)	D(cb)	-	D(cm)	D(cn)	D(co)	D(cx)	D(cy)	D(cz)	C	D(c)			
M	D(ma)	D(mb)	D(mc)	-	D(mn)	D(mo)	D(mx)	D(my)	D(mz)	M	D(m)			
N	D(na)	D(nb)	D(nc)	D(nm)	-	D(no)	D(nx)	D(ny)	D(nz)	N	D(n)			
O	D(oa)	D(ob)	D(oc)	D(om)	D(on)	-	D(ox)	D(oy)	D(oz)	O	D(o)			
X	D(xa)	D(xb)	D(xc)	D(xm)	D(xn)	D(xo)	-	D(xy)	D(xz)	X	D(x)			
Y	D(ya)	D(yb)	D(yc)	D(ym)	D(yn)	D(yo)	D(yx)	-	D(yz)	Y	D(y)			
Z	D(za)	D(zb)	D(zc)	D(zm)	D(zn)	D(zo)	D(zx)	D(zy)	-	Z	D(z)			
	A	B	C	M	N	O	X	Y	Z			0		
												Total Owed-Wealth		

**Notes:**

**D(xy)** is the debt owed to X by Y:

**D(yx)** is equal and opposite to **D(xy)**.

**D(xx)** is zero.

The sum of all **D(xy)** is zero.

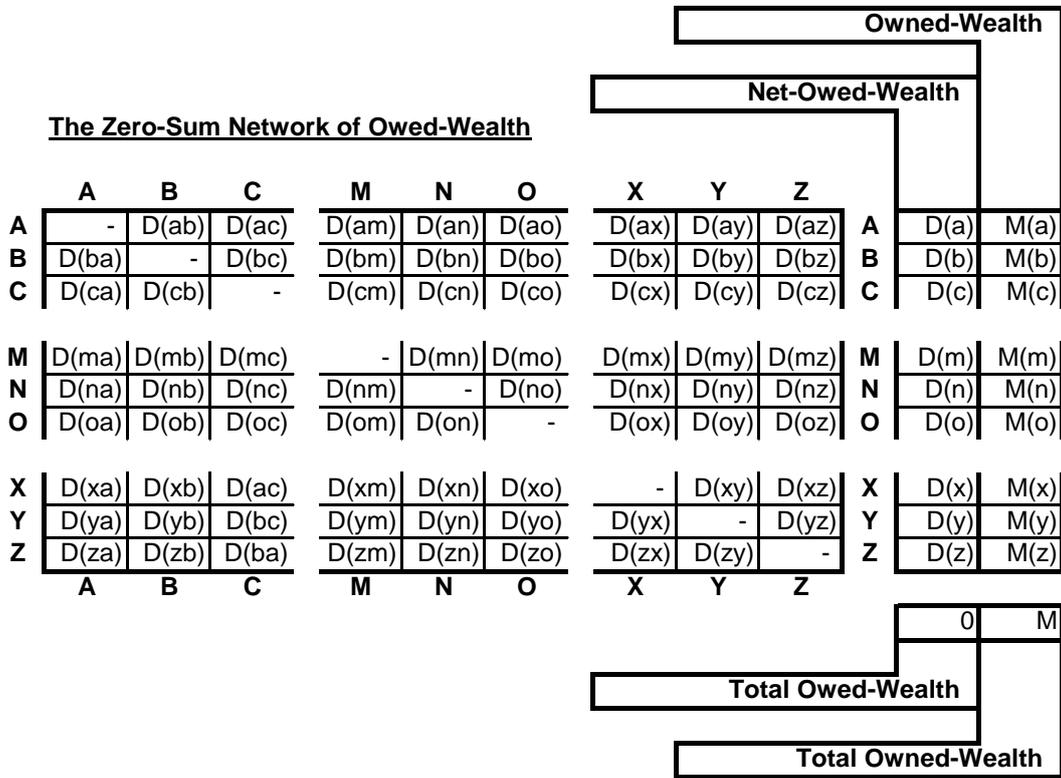
**D(x)** is the Net-Owed-Wealth of X:

**D(x)** is the sum of **D(xa)** to **D(xz)**.

The sum of **D(a)** to **D(z)** is the sum of all **D(xy)** (i.e. zero).

### 3.1.3 Owned-Wealth

The nature of the zero-sum global network of Owed-Wealth, Net-Owed-Wealth **and Owned-Wealth** is illustrated in more detail in the diagram below. Note that the **total Owned-Wealth** equals ‘the wealth of nations’ (of course).



**Notes:**

**D(xy)** is the debt owed to X by Y:

D(yx) is equal and opposite to D(xy).

D(xx) is zero.

The sum of all D(xy) is zero.

**D(x)** is the Net-Owed-Wealth of X:

D(x) is the sum of D(xa) to D(xz).

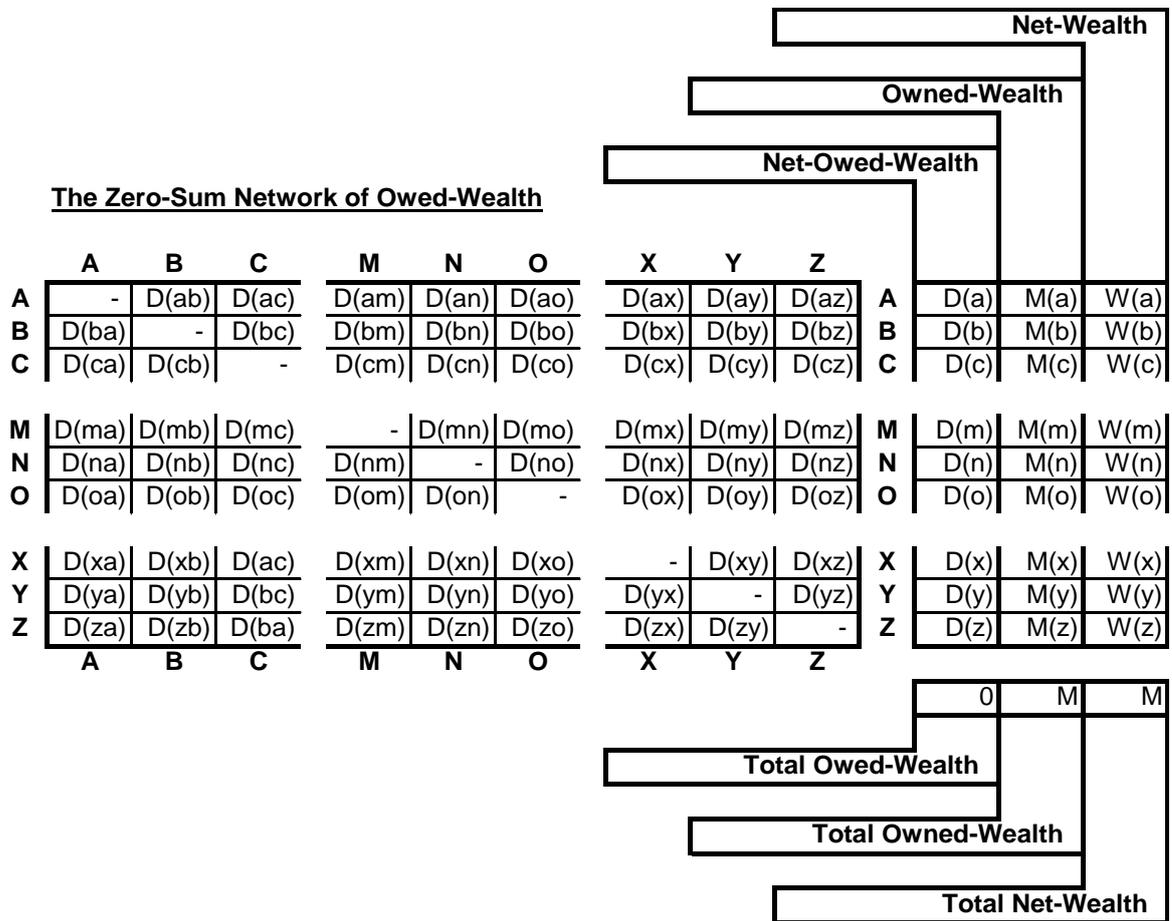
The sum of D(a) to D(z) is the sum of all D(xy) (i.e. zero).

**M(x)** is the Owned-Wealth of X:

The sum of M(a) to M(z) is M.

3.1.4 Net-Wealth

The relationship between the zero-sum global network of Owed-Wealth, Net-Owed-Wealth, Owned-Wealth and Net-Wealth is illustrated in more detail in the diagram below. Note that the total Net-Wealth equals the total Owned-Wealth equals ‘the wealth of nations’ (of course). Each detail row could now be seen as a balance sheet for the macro-economic agent concerned.



Notes:

**D(xy)** is the debt owed to X by Y:  
**D(yx)** is equal and opposite to **D(xy)**.  
**D(xx)** is zero.  
 The sum of all **D(xy)** is zero.

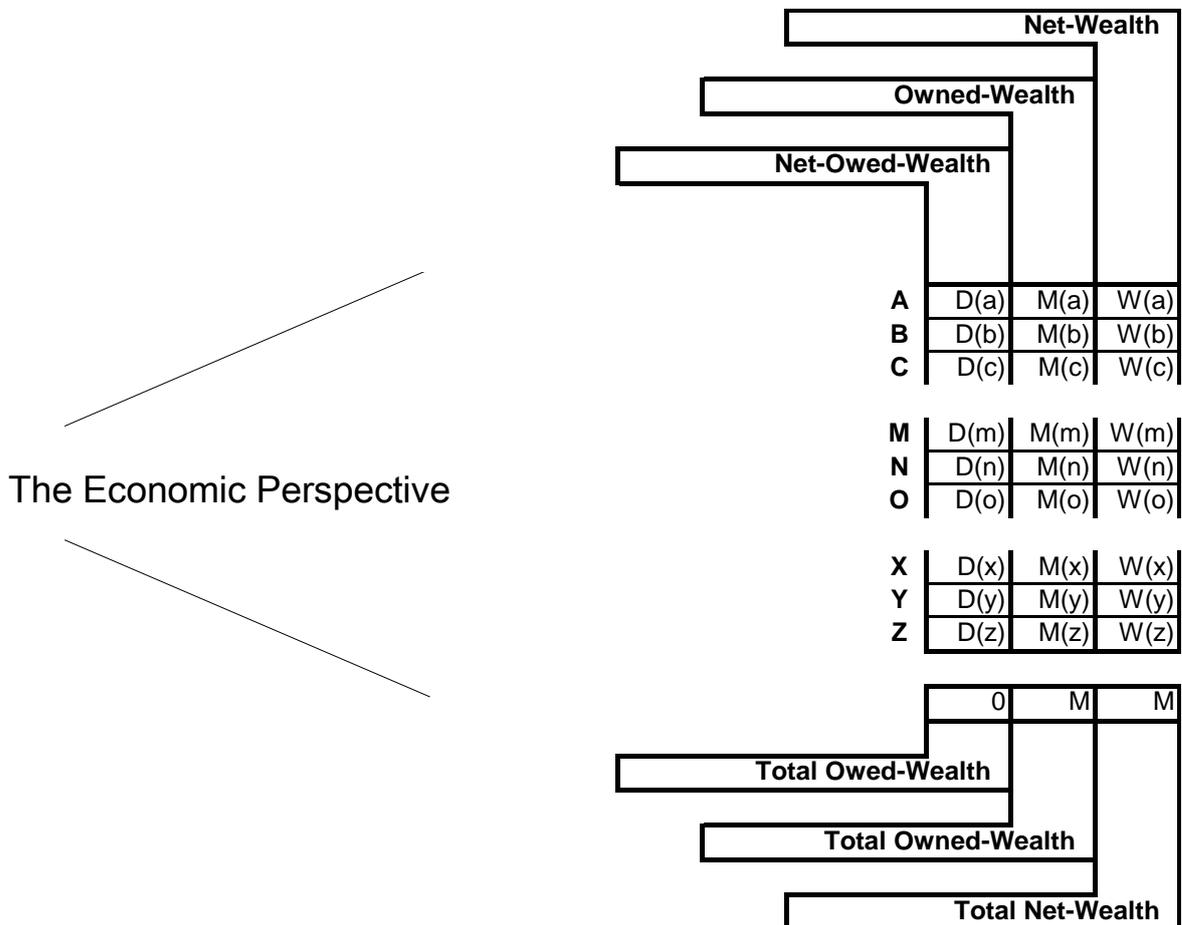
**D(x)** is the Net-Owed-Wealth of X:  
**D(x)** is the sum of **D(xa)** to **D(xz)**.  
 The sum of **D(a)** to **D(z)** is the sum of all **D(xy)** (i.e. zero).

**M(x)** is the Owned-Wealth of X:  
 The sum of **M(a)** to **M(z)** is **M**.

**W(x)** is the sum of **D(x)** and **M(x)** (i.e. the Net-Wealth of X):  
 The sum of **W(a)** to **W(z)** is **M**.

### 3.1.5 The Macro-Economic Perspective

However, this paper argues that, within a macro-economic perspective, the only relevant factors are the **Net-Owed-Wealth**, **Owned-Wealth** and **Net-Wealth** of each macro-economic agent (IMF, State, issuer of Non-Precious-Cash, central bank, merchant bank, commercial bank, retail bank, commercial organisation, charity or individual without distinction); as illustrated in the diagram below.



**Notes:**

**D(x)** is the Net-Owed-Wealth of X:

**D(x)** is the sum of D(xa) to D(xz).

The sum of D(a) to D(z) is the sum of all D(xy) (i.e. zero).

**M(x)** is the Owned-Wealth of X:

The sum of M(a) to M(z) is M.

**W(x)** is the sum of D(x) and M(x) (i.e. the Net-Wealth of X):

The sum of W(a) to W(z) is M.

### 3.1.6 The Administrative Perspective

Indeed, this paper argues that the detail make-up of the zero-sum network of Owed-Wealth is (or ought to be) of interest only to students of the history of routine commercial and financial administration, and should be excluded from the macro-economic debate.

#### The Zero-Sum Network of Owed-Wealth

	A	B	C	M	N	O	X	Y	Z	
A	-	D(ab)	D(ac)	D(am)	D(an)	D(ao)	D(ax)	D(ay)	D(az)	A
B	D(ba)	-	D(bc)	D(bm)	D(bn)	D(bo)	D(bx)	D(by)	D(bz)	B
C	D(ca)	D(cb)	-	D(cm)	D(cn)	D(co)	D(cx)	D(cy)	D(cz)	C
M	D(ma)	D(mb)	D(mc)	-	D(mn)	D(mo)	D(mx)	D(my)	D(mz)	M
N	D(na)	D(nb)	D(nc)	D(nm)	-	D(no)	D(nx)	D(ny)	D(nz)	N
O	D(oa)	D(ob)	D(oc)	D(om)	D(on)	-	D(ox)	D(oy)	D(oz)	O
X	D(xa)	D(xb)	D(xc)	D(xm)	D(xn)	D(xo)	-	D(xy)	D(xz)	X
Y	D(ya)	D(yb)	D(yc)	D(ym)	D(yn)	D(yo)	D(yx)	-	D(yz)	Y
Z	D(za)	D(zb)	D(zc)	D(zm)	D(zn)	D(zo)	D(zx)	D(zy)	-	Z
	A	B	C	M	N	O	X	Y	Z	

The Book-Keeping Perspective

#### Notes:

**D(x)** is the Net-Owed-Wealth of X:

**D(x)** is the sum of D(xa) to D(xz).

The sum of D(a) to D(z) is the sum of all D(xy) (i.e. zero).

The sum of all D(xy) is zero.

### 3.2 Macro-Economic Activity (Transactions)

This section will define the ‘atomic units’ of macro-economic activity in terms of **macro-economically-independent**, **macro-economically-self-contained** and **macro-economically-indivisible** transactions.

These are as follows:

1. Production/Consumption transactions.
2. Trade/Employment transactions.
3. Owed-Wealth-Rotation transactions.

We will first define these fundamental building blocks, and then discuss payment transactions as follows:

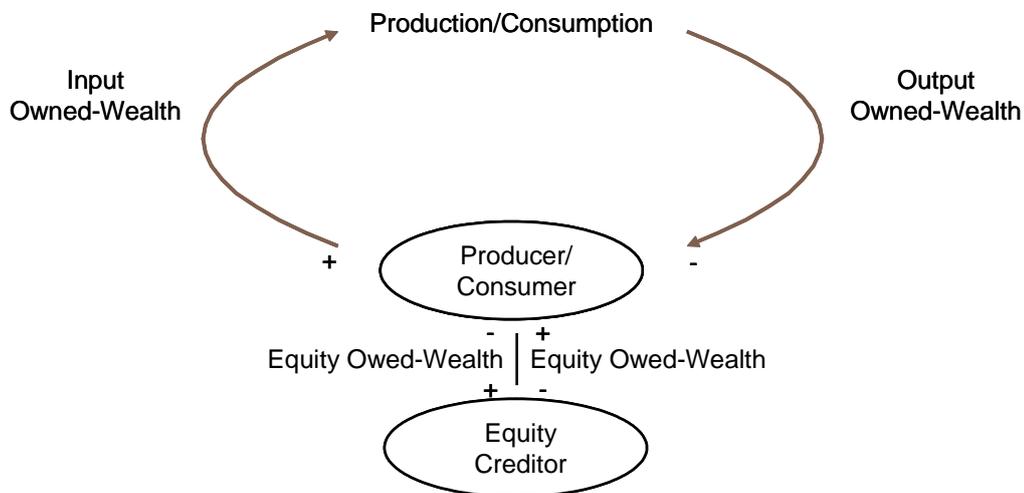
1. Each payment based on the use of an item of Precious-Cash is ‘mapped’ as an example of a Trade/Employment transaction; as a minor sophistication of barter.
2. Each payment based on the use of Non-Precious-Cash is ‘mapped’ as an example of an Owed-Wealth-Rotation transaction.
3. Each payment based on use of Non-Cash ‘Money’ is ‘mapped’ as an example of an Owed-Wealth-Rotation transaction.

### 3.2.1 Production/Consumption Transactions

All activity which accumulates or dissipates value should be considered to be ‘enclosed’ within Production/Consumption Transactions by a single macro-economic agent. Such activity would include production, consumption, proliferation, shrinkage, appreciation, and depreciation activity. The recording of each such transaction is contained within the books of the single macro-economic agent concerned and the equity-creditors (i.e. the owners or shareholders):

1. The producing/consuming macro-economic agent administers a zero-sum set of postings:
  - a. A credit to an Owned-Wealth account for each input, and an equal and opposite credit to an Equity Owed-Wealth account.
  - b. A debit to an Owned-Wealth account for each output, and an equal and opposite credit to an Equity Owed-Wealth account.
2. The equity-creditor macro-economic agent administers a non-zero-sum set of postings:
  - a. A debit to an Equity Owed-Wealth account for each input.
  - b. A credit to an Equity Owed-Wealth account for each output.

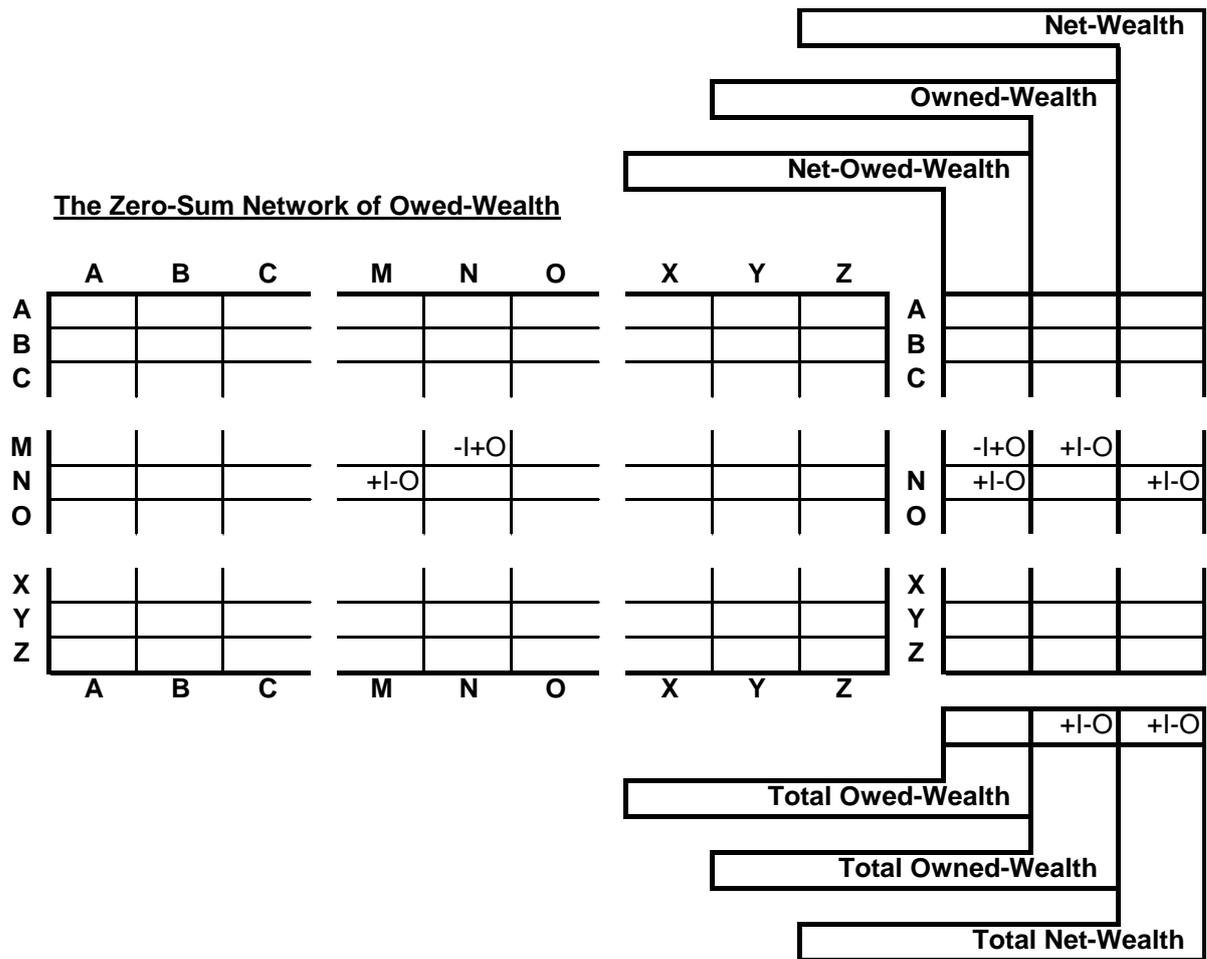
### A Production/Consumption Transaction



Note that:

1. In a Production/Consumption Transaction, the input Owned-Wealth ‘disappears’, and the output Owned-Wealth ‘appears’. Thus, in the diagram above, there are arrows indicating that movement.
2. However, it is meaningless to talk about Owed-Wealth ‘moving’ from one macro-economic agent to another. The producer/consumer and the equity-creditor move in equal and opposite directions in the Equity Owed-Wealth position outstanding between those two economic agents. Thus, in the diagram above, there is no arrow indicating movement; just a balancing pair of ‘+’ and ‘-’ signs at opposite ends of a line.
3. Production/Consumption Transactions **are** macro-economically significant, but are in effect self-financing. Owed-Wealth is not affected.
4. **Production/Consumption Transactions are the only Transactions which change the Net-Wealth of an economic agent, and in aggregate.**

## A Production/Consumption Transaction



Notes:

M is the Consumer/Producer

N is the Equity Creditor of M

+I-O is the (negative) net value of a Production/Consumption transaction, in which:

- I is the value of the Owned-Wealth inputs.

- O is the value of the Owned-Wealth outputs.

The (negative) value of all Consumed/Produced Owned-Wealth is attributed to the equity creditors.

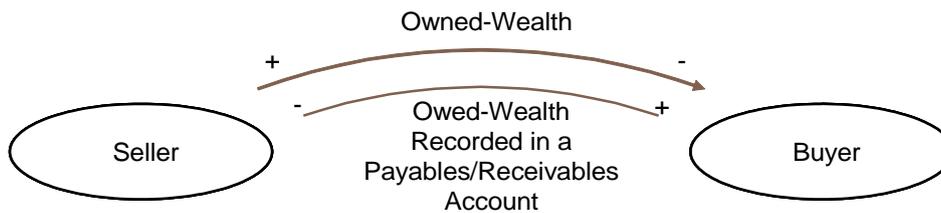
### 3.2.2 Trade/Employment Transactions

Trade/Employment Transactions include transfers of tangible Owned-Wealth (such as capital assets, intermediate goods and consumer goods), as well as transfers of intangible Owned-Wealth (such as the risk-insurance and administrative services inherent in interest, other risk-insurance, rent, labour, services and consumables).

A Seller/Employee sells to an Buyer/Employer in a Trade/Employment Transaction:

1. The Seller/Employee issues an invoice, and administers a zero-sum pair of postings:
  - a. A credit to an Owned-Wealth account (reducing the debit balance in that account).
  - b. A debit to a receivables Owed-Wealth account for the Buyer/Employer.
2. The Buyer/Employer administers a zero-sum pair of postings:
  - a. A credit to a payables Owed-Wealth account for the Seller/Employee.
  - b. A debit to an Owned-Wealth account (increasing the debit balance in that account).

### A Trade/Employment Transaction

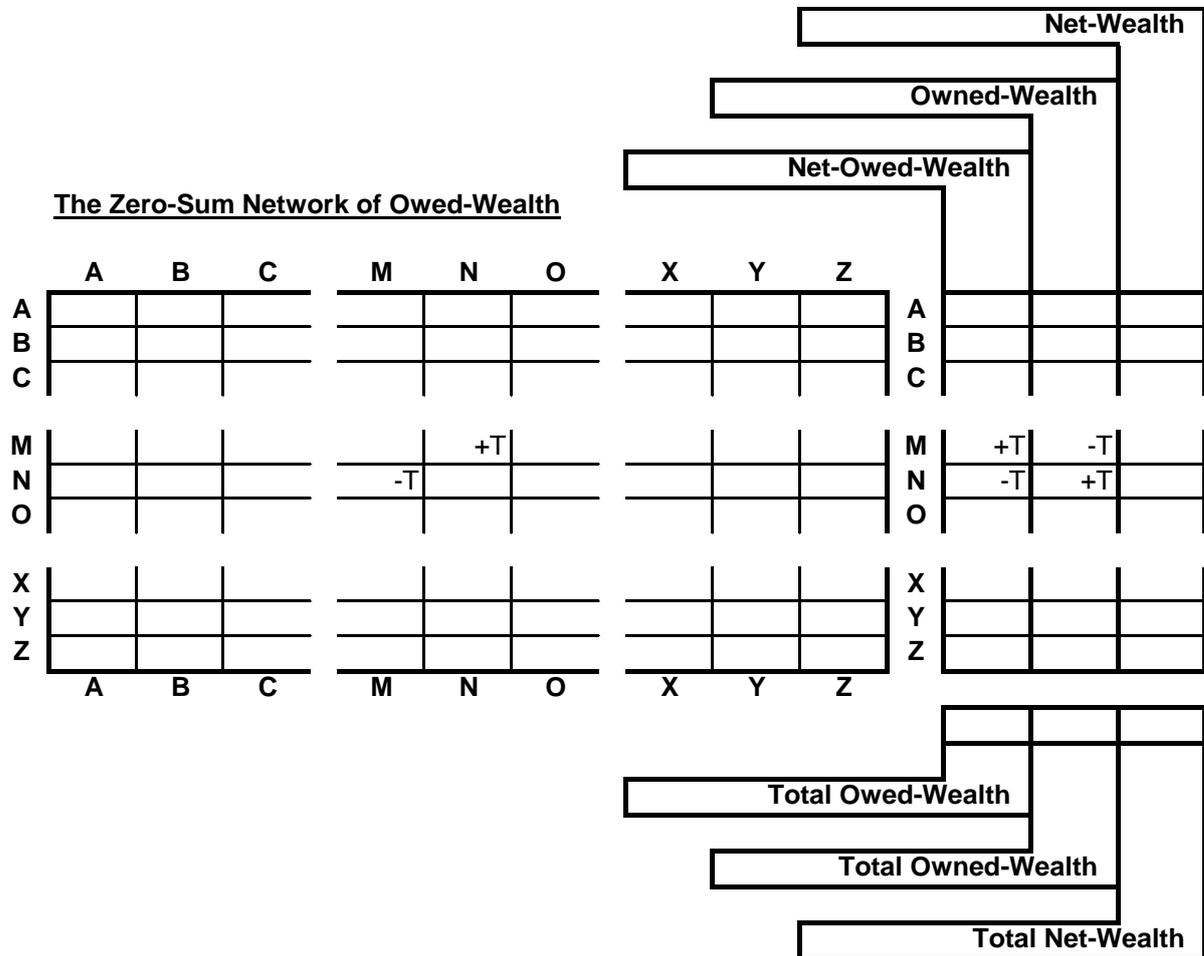


Note that:

1. The value of Owned-Wealth transferred in a Trade/Employment Transaction will have been created earlier by the Seller/Employee through Production/Consumption transactions, and will be dissipated later by the Buyer/Employer through a Production/Consumption transactions.
2. Payment with Precious-Cash is a Trade/Employment Transaction – the ‘payer’ ‘sells’ the Precious-Cash to the ‘payee’ in a minor administrative sophistication from basic barter.
3. In a Trade/Employment Transaction, ownership of Owned-Wealth ‘moves’ from seller to buyer. Thus, in the diagram above, there is an arrow indicating that movement.
4. However, it is meaningless to talk about Owed-Wealth ‘moving’ from one macro-economic agent to another. The seller moves positive, and the buyer moves negative, in the Owed-Wealth position outstanding between those two economic agents. Thus, in the diagram above, there is no arrow indicating movement; just a balancing pair of ‘+’ and ‘-’ signs at opposite ends of a line.

5. Trade/Employment Transactions **are** macro-economically significant, but are in effect self-financing. The Buyer/Employer in effect borrows from the Seller/Employee. Thus, Trade/Employment Transactions do **not** change the Net-Wealth of the economic agents concerned, or in aggregate.

### A Trade/Employment Transaction



Notes:

$T$  is the value of a Trade/Employment transaction, in which:

- Owned-Wealth worth  $T$  is transferred from  $N$  to  $M$ .
- The Owed-Wealth position between  $M$  and  $N$  is changed in  $N$ 's favour.

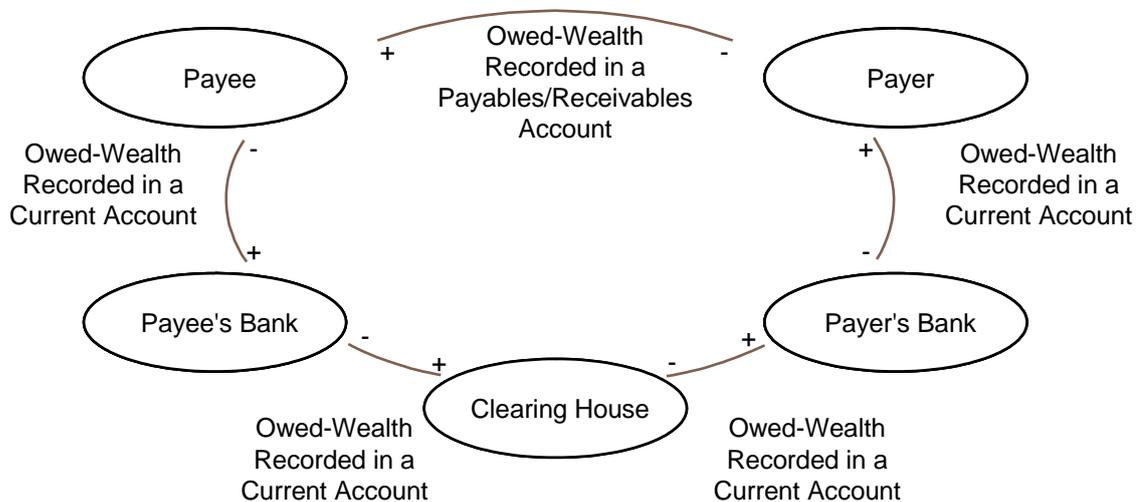
The Buyer/Employer borrows from the Seller/Employee.

### 3.2.3 Owed-Wealth-Rotation Transactions

A payer can pay a payee by means of an Owed-Wealth-Rotation Transaction; in a zero-sum closed-circle of zero-sum book-keeping postings (e.g. a buyer can pay a seller through the banking system):

1. The banking system administers a series of zero-sum pairs of postings:
  - a. A credit to its current account for the payee.
  - b. A debit to its current account for the payer.
2. The payer administers a zero-sum pair of postings:
  - a. A credit to its current account with the banking system.
  - b. A debit to its payables account for the payee (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
3. The payee administers a zero-sum pair of postings:
  - a. A credit to its receivables account for the payer (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
  - b. A debit to its current account with the banking system.

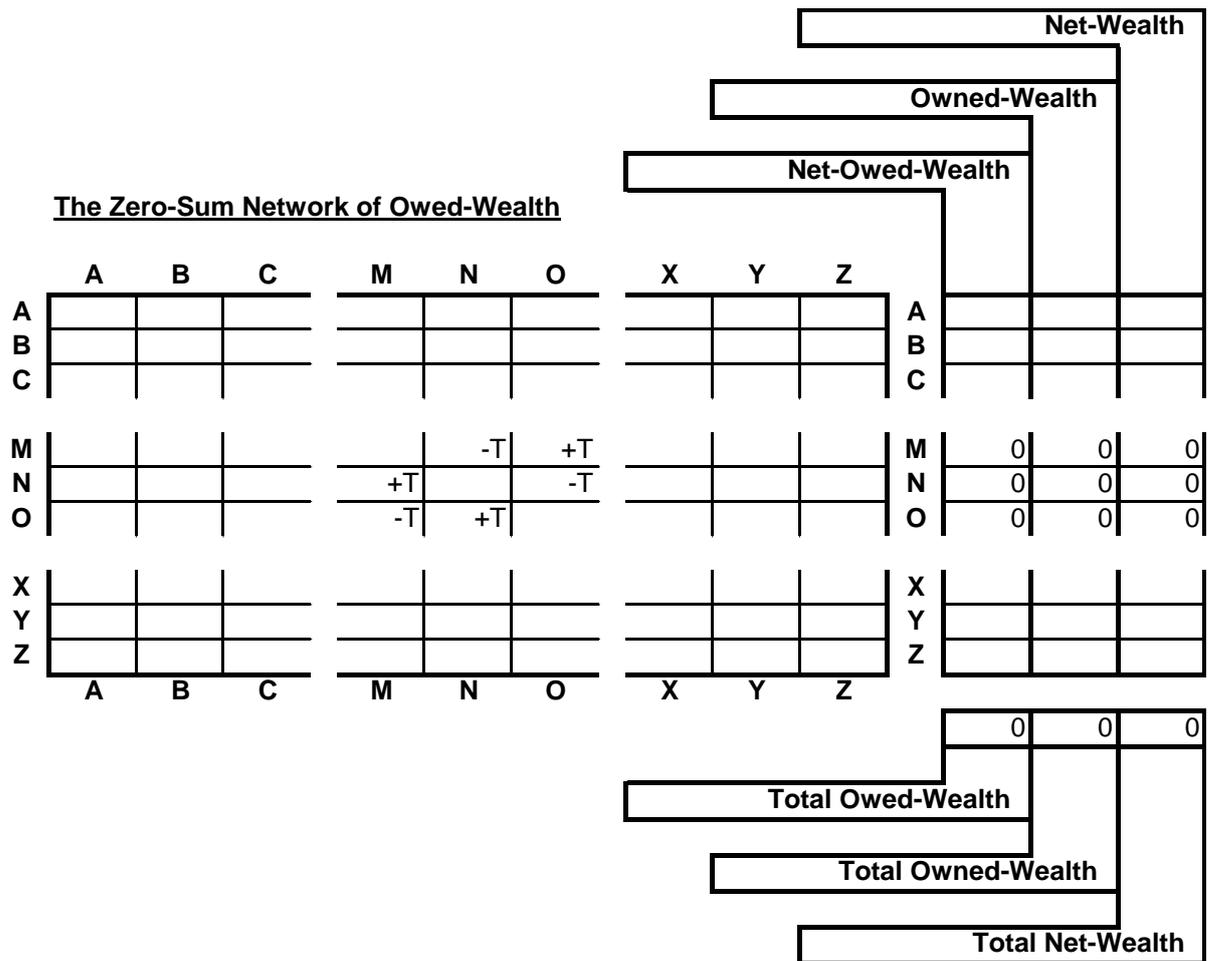
### An Owed-Wealth-Rotation Transaction



Note that:

1. In an Owed-Wealth-Rotation Transaction, it is meaningless to talk about Owed-Wealth 'moving' from one macro-economic agent to another. Thus, in the diagram above, there are no arrows indicating movement; just balancing pairs of '+' and '-' signs at opposite ends of each line.
2. Each Owed-Wealth-Rotation Transaction is an integral and indivisible whole. The whole 'zero-sum closed-circle of zero-sum double-entry postings' either happens in total, or doesn't happen in total (i.e. is reversed in total). In a macro-economic perspective (i.e. as opposed to an administrative perspective), one must not focus too closely on the 'deposit' by the payee into the payee's bank as if it could happen in isolation, and then ask what the payee's bank does with that deposit. There is simply no 'deposit' there to 'on-lend'.
3. Owed-Wealth-Rotation Transactions are **not** macro-economically significant. None of the parties involved experience any change in any of their Net-Owed-Wealth, Owned-Wealth, or Net-Wealth positions.

## An Owed-Wealth-Rotation Transaction



**Notes:**

T is the value of an Owed-Wealth Rotation transaction, in which:

- The Owed-Wealth position between M and N is changed in M's favour.
- The Owed-Wealth position between N and O is changed in N's favour.
- The Owed-Wealth position between O and M is changed in O's favour.

No Net-Owed-Wealth, Owned-Wealth or Net-Wealth positions are affected.

### 3.3 Payments

One of the primary supposed purposes of ‘money’ is to make ‘payments’.

This paper will now analyse the various methods of making payments; in terms of the fundamental economic Transactions defined earlier.

The fundamental economic Transactions defined earlier are as follows:

1. Production/Consumption Transactions.
2. Trade/Employment Transactions.
3. Owed-Wealth-Rotation Transactions.

This paper will argue the following:

1. A Payment using **Precious-Cash** is a Trade/Employment **Transaction**.
2. A Payment using **Non-Precious-Cash** is an **Owed-Wealth-Rotation Transaction**.
3. A Payment using **Non-Cash ‘Money’** is an **Owed-Wealth-Rotation Transaction**.

### 3.3.1 Payment using Precious-Cash

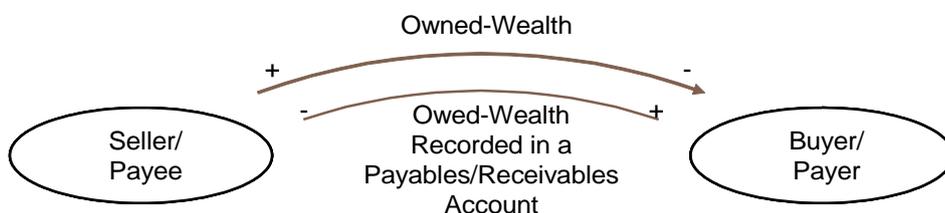
In this paper, the expression **Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at the higher of the free-market value of its (assumed) contents and its ‘collector’s valuation’ (and irrespective of its ‘face’ value). Each such item is **Owned-Wealth**, and appears as an asset in the balance sheet of the owner.

In each Transaction involving Precious-Cash, the physical Owned-Wealth changes hands from a payer to a payee. Each such Transaction is simply a Trade/Employment Transaction; used as a minor **administrative** sophistication from basic barter; and involving just a payer and a payee:

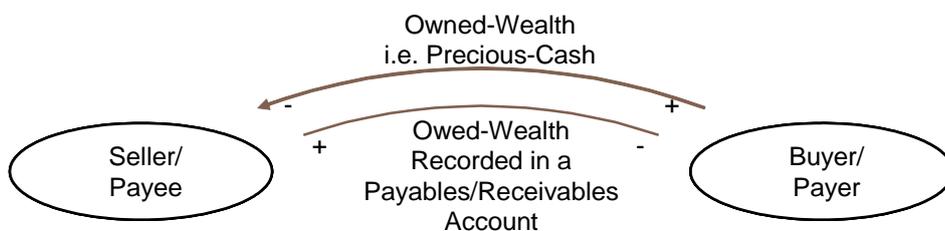
1. The buyer/payer administers a zero-sum pair of postings:
  - a. A credit to an Owned-Wealth account (reducing the debit balance in that account).
  - b. A debit to a payables Owed-Wealth account for the seller/payee.
2. The seller/payee administers a zero-sum pair of postings:
  - a. A credit to a receivables Owed-Wealth account for the buyer/payer.
  - b. A debit to an Owned-Wealth account (increasing the debit balance in that account).

This processing is illustrated in the diagrams below and overleaf.

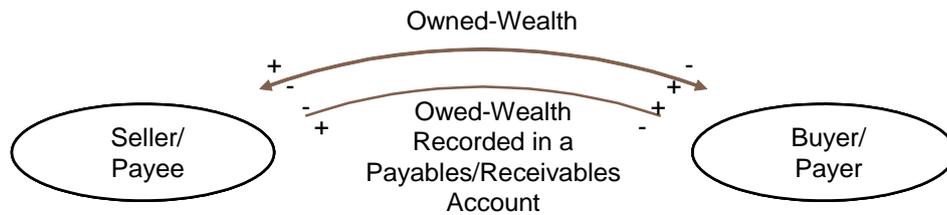
## An Associated Trade/Employment Transaction



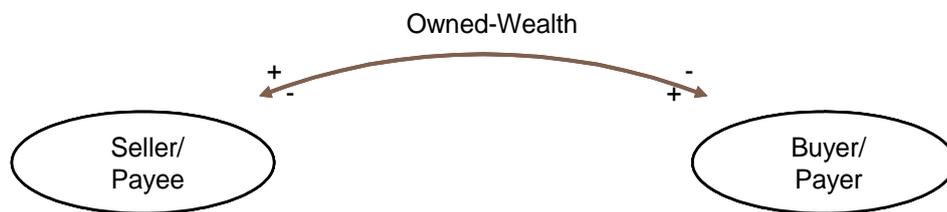
## Payment using Precious-Cash



## An Associated Trade/Employment Transaction Plus Payment using Precious-Cash



**An Associated Trade/Employment Transaction**  
**Plus Payment using Precious-Cash**  
**The Net Effect**



Many macro-economic regimes have in earlier times used a wide range of Precious-Cash simultaneously in this way (Precious-Cash made from different alloys of gold, silver, copper, iron, and other commodities in varying quantities and qualities). In each such case, there was a 'going Currency' independent from the value-density of any of the 'money' commodities, and a 'going price' in that Currency for each item of Precious-Cash based on its (assumed) content and/or its 'collector's valuation' (and irrespective of its 'face' value). Indeed, much Precious-Cash did not even have a 'face' value as such. The (**administrative**) utility of Precious-Cash as 'money' lay simply in the fact that they were trusted for their **weight and quality**. However, one seeks in vain for a **macro-economic** distinction (i.e. as opposed to a legal, administrative or slang distinction) between the gold in a shoe buckle, and the gold in Precious-Cash used to pay for that shoe buckle.

### 3.3.2 Payment using Non-Precious-Cash

In this paper, the expression **Non-Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at a ‘face’ value **higher** than the free-market value of its (assumed) contents and its ‘collector’s valuation’. Each such item is merely a token ‘evidencing’ **Owed-Wealth** (owed by the issuer to the bearer); Owed-Wealth which appears as an asset in the balance sheet of the bearer, and as an equal and opposite liability in the balance sheet of the issuer. Indeed, the vast majority of Non-Precious-Cash is recorded as a liability in a national debt.

In each Transaction involving Non-Precious-Cash (i.e. the physical tokens, and the Owed-Wealth ‘evidenced’ by those tokens), the physical tokens ‘circulate’ in a manner similar to the way in which Precious-Cash does. However, the underlying Owed-Wealth does not ‘circulate’ as such. Each such Transaction is simply an Owed-Wealth Rotation Transaction; a zero-sum closed-circle of zero-sum double-entry bookkeeping postings involving the issuer of the Non-Precious-Cash, as well as a payer and a payee:

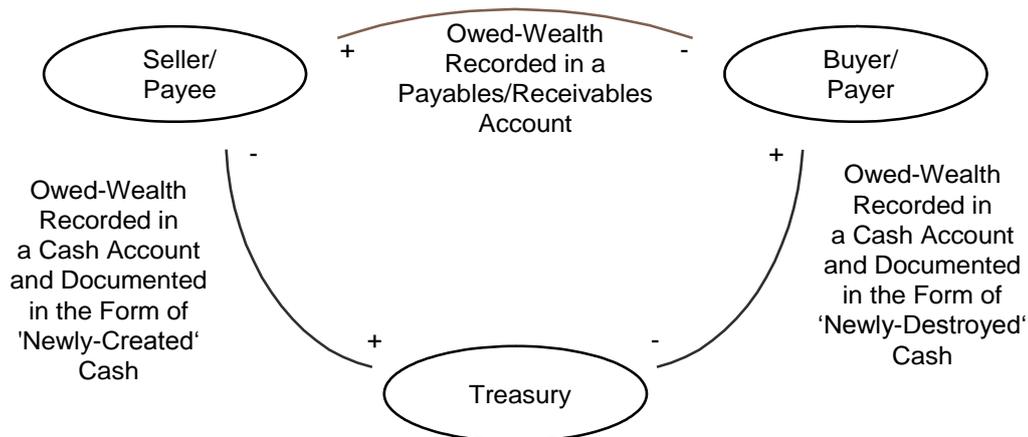
1. If the issuer maintained an individual cash account to reflect the Owed-Wealth owed to each individual bearer, the issuer would administer a zero-sum pair of postings:
  - a. A credit to its cash account for the payee.
  - b. A debit to its cash account for the payer.

In practice of course, issuers do not do so. They merely maintain a single cash account reflecting the aggregate value of all such Owed-Wealth. However, these zero-sum adjustments to the underlying individual Owed-Wealth positions **do** take place, even if the issuer does not bother to track them.

2. The payer administers a zero-sum pair of postings:
  - a. A credit to its cash account (for the issuer).
  - b. A debit to its payables account for the payee (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
3. The payee administers a zero-sum pair of postings:
  - a. A credit to its receivables account for the payer (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
  - b. A debit to its cash account (for the issuer).

This processing is illustrated in the diagram overleaf.

## Payment using Non-Precious-Cash



Note that, if we wished the **administration** to have been aligned **directly** to the **underlying fundamentals**, an agent of the issuer would have had to be present:

1. The payer would have passed to the agent of the issuer the required value of **old** physical tokens (i.e. tokens which **prior to the Transaction** had served to 'evidence' that value of Owed-Wealth owed by the issuer to the payer), and the agent of the issuer would have **destroyed** those physical tokens (in recognition of the fact that the corresponding cash account had been reset by the required amount in favour of the issuer).
2. The agent of the issuer would have **created** the same required value of **new** physical tokens (i.e. tokens which **subsequent to the Transaction** had served to 'evidence' that value of Owed-Wealth owed by the issuer to the payee), and the agent of the issuer would have passed those **new** physical tokens to the payee (in recognition of the fact that the corresponding cash account had been reset by the required amount in favour of the payee).

In practice of course, the following **administrative 'wheezes'** are used to simplify the administration:

1. The agent of the issuer re-cycled the old physical tokens from payer to payee, and was therefore able to leave his shredder and printer at home!
2. The agent of the issuer let the payer re-cycle the old physical tokens directly to the payee, and was therefore able to keep his hands clean!
3. The agent of the issuer dropped the requirement to record the postings to the individual cash accounts, and was therefore able to stay at home in bed!

But these three administrative 'wheezes' should not divert us from the underlying fundamentals described earlier. Each such Transaction is simply an Owed-Wealth Rotation Transaction; a zero-sum closed-circle of zero-sum double-entry bookkeeping postings involving the issuer of the Non-Precious-Cash, as well as a payer and a payee.

## Introduction to Cash Accounting

Before analysing the flow of Non-Precious-Cash tokens in more detail; from the issuer to a payer's bank, to a payer, to a payee, to a payee's bank, and back to the issuer, it is worth introducing some basic concepts.

Each item of Non-Precious-Cash is a token reflecting Owed-Wealth owed by the issuer to the bearer:

1. In theory, each issuer of cash should maintain a cash account for each individual bearer of their issued cash. Each such account would reflect the total current Owed-Wealth owed by the issuer to that individual bearer (**as 'evidenced'** by the Non-Precious-Cash currently held by that individual bearer).
2. In practice, of course, issuers do not even **try** to track the current Non-Precious-Cash balance of each **individual** bearer. They simply track the **total** of Non-Precious-Cash tokens in circulation in an **aggregate** cash account which reflects the **total** of the individual Non-Precious-Cash Owed-Wealth owed to **all** of the bearers.

Thus, Owed-Wealth 'evidenced' by Non-Precious-Cash is recorded as follows:

1. The issuer's cash account has a credit balance (i.e. reflecting a liability); reflecting the **total** Non-Precious-Cash Owed-Wealth owed by the issuer to **all** of the individual bearers (as 'evidenced' by the Non-Precious-Cash tokens held by **all** of those bearers).
2. Each bearer's cash account has a debit balance (i.e. reflecting an asset); reflecting the Non-Precious-Cash Owed-Wealth owed by the issuer to that individual bearer (as 'evidenced' by the Non-Precious-Cash tokens currently held by that individual bearer).

The total (of course) is zero; always was, and always will be, by definition.

## Cash Reserves and Liquidity

In a liberal democracy, the amount of Non-Precious-Cash held by each individual bearer, and therefore also in aggregate, should be (and is) determined at the absolute discretion of those bearers. Each issuer should respond freely and fluently, but passively, to the demand to hold Non-Precious-Cash. Specifically:

1. Issuers should never presume to try to ‘push’ additional Non-Precious-Cash into circulation. Indeed, neither the state nor an issuer is **able** to ‘push’ additional cash into circulation without legal and/or regulatory compulsion (typically to force banks to hold ‘excess’ Non-Precious-Cash reserves). For example, if the state tried to ‘spend cash into circulation’, the recipients would simply deposit the Non-Precious-Cash ‘in excess of their normal requirements’ straight back into the banking system (and/or would reduce their ‘normal’ withdrawals of Non-Precious-Cash from the banking system). The banking system would then deposit the Non-Precious-Cash ‘in excess of their normal reserve requirements’ straight back to the state/issuer (and/or would reduce their ‘normal’ withdrawals of Non-Precious-Cash from the state/issuer).
2. Issuers should never presume to try to ‘ration’ the Non-Precious-Cash in circulation. That would only create liquidity crises and ‘runs’ on the banking system. Indeed, given that cash is perceived to be the ‘backstop’ for liquidity, and that banks typically provide the **administrative conduit** for the give and take of Non-Precious-Cash into and out of circulation, it can be argued that the state/issuer should distribute ‘excess’ Non-Precious-Cash reserves to be held as ‘un-issued’ Non-Precious-Cash by banks on behalf of the state/issuer. Thus, banks would not lose ‘seigniorage’ interest on that Non-Precious-Cash, and would feel free to maintain substantial reserves of Non-Precious-Cash on behalf of the state/issuer. This **administrative** arrangement would be macro-economically irrelevant, but would offer the following **administrative** benefits:
  - a. There would be less likelihood of liquidity crises and ‘runs’ on the banking system, because the issuer and its agents would be able to ‘issue’ virtually unlimited quantities of Non-Precious-Cash ‘on demand’.
  - b. There would be less need to courier Non-Precious-Cash around in bulk on a day-to-day basis.

### **Transfer of Non-Precious-Cash from the Issuer to the Banking System**

Non-Precious-Cash (i.e. the physical tokens) is transferred from the issuer to the banking system by means of an Owed-Wealth-Rotation Transaction; in a zero-sum closed-circle of zero-sum book-keeping postings which includes the issuer of that Non-Precious-Cash:

1. If the issuer maintained an individual cash account to reflect the Owed-Wealth owed to each individual bearer, the issuer would administer a zero-sum pair of postings:
  - a. A credit to its cash account for the bank.
  - b. A debit to its current account for the bank.

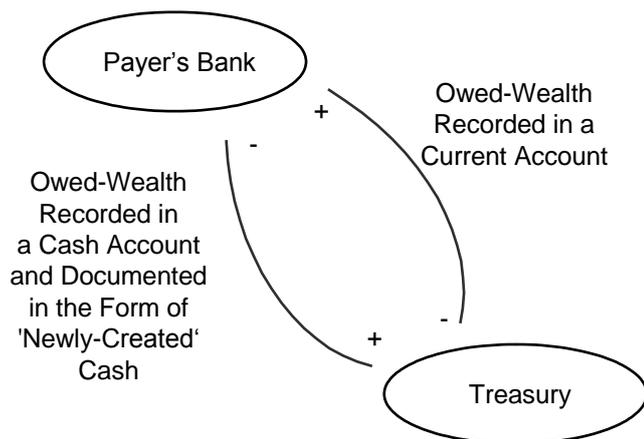
In practice of course, issuers do not maintain an individual cash account to reflect the Owed-Wealth owed to each individual bearer. Indeed, they do not even maintain an individual cash account for each bank through which they 'issue' cash. They merely maintain a single cash account reflecting the aggregate value of all such cash accounts (typically, as part of the M0 part of the national debt). However, the above zero-sum adjustments to the underlying individual Owed-Wealth positions **do** take place, even if the issuer does not bother to track them.

2. The bank administers a zero-sum pair of postings:
  - a. A credit to its current account for the issuer.
  - b. A debit to its cash account (for the issuer).

Note that this Transaction is **not** macro-economically significant. None of the parties involved experience any change in any of their Net-Owed-Wealth, Owned-Wealth, or Net-Wealth positions.

This processing is illustrated in the diagram below.

### **A Transfer of Cash** **from the Issuer to the Banking System**



## Transfer of Non-Precious-Cash from the Banking System to Citizens/Enterprises

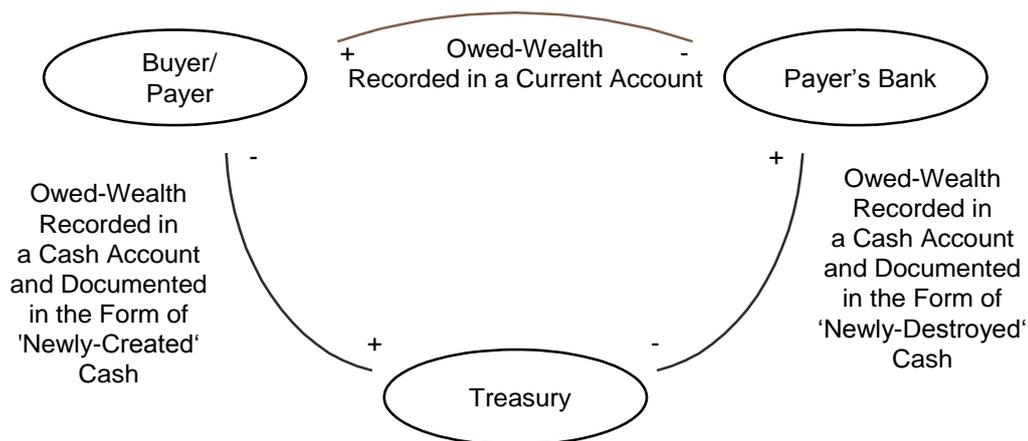
Non-Precious-Cash (i.e. the physical tokens) is transferred from the banking system to citizens/enterprises by means of an Owed-Wealth-Rotation Transaction; in a zero-sum closed-circle of zero-sum book-keeping postings which includes the issuer of that cash:

1. If the issuer maintained an individual cash account to reflect the individual items of Owed-Wealth owed to each individual bearer, the issuer would administer a zero-sum pair of postings:
  - c. A credit to its cash account for the citizen/enterprise.
  - d. A debit to its cash account for the bank.

In practice of course, issuers do not do so. They merely maintain a single cash account reflecting the aggregate value of all such cash accounts. However, these zero-sum adjustments to the underlying individual Owed-Wealth positions **do** take place, even if the issuer does not bother to track them.
2. The bank administers a zero-sum pair of postings:
  - e. A credit to its cash account.
  - f. A debit to its current account for the citizen/enterprise.
3. The citizen/enterprise administers a zero-sum pair of postings:
  - a. A credit to its current account for the bank.
  - b. A debit to its cash account.

This processing is illustrated in the diagram below.

### A Transfer of Cash from the Banking System to Citizens/Enterprises



### Payment using Non-Precious-Cash

Before and/or after a Trade/Employment Transaction (in which an Buyer/Employer credits an Seller/Employee in a payables account, and in which that Seller/Employee debits that Buyer/Employer in a receivables account – see earlier), the Buyer/Employer can ‘pay’ the Seller/Employee by means of an Owed-Wealth Rotation Transaction; a zero-sum closed-circle of zero-sum book-keeping postings which includes the issuer ‘evidenced’ by a transfer of Non-Precious-Cash (i.e. the physical tokens):

1. If the issuer maintained an individual cash account to reflect the individual Owed-Wealth owed to each individual bearer, the issuer would administer a zero-sum pair of postings:

- a. A credit to its cash account for the payer.

- b. A debit to its cash account for the payee.

In practice of course, issuers do not do so. They merely maintain a single cash account reflecting the aggregate value of all such cash accounts. However, these zero-sum adjustments to the underlying individual Owed-Wealth positions **do** take place, even if the issuer does not bother to track them.

2. The payer administers a zero-sum pair of postings:

- a. A credit to its cash account (for the issuer).

- b. A debit to its payables account for the payee (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).

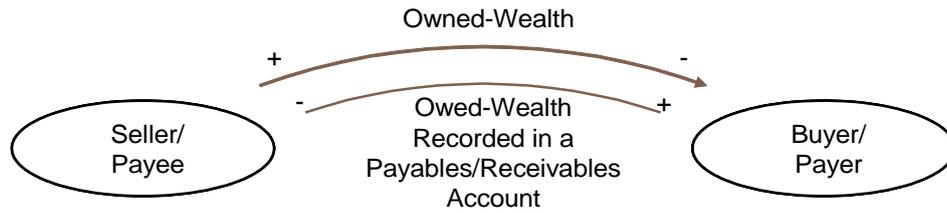
3. The payee administers a zero-sum pair of postings:

- a. A credit to its receivables account for the payer (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).

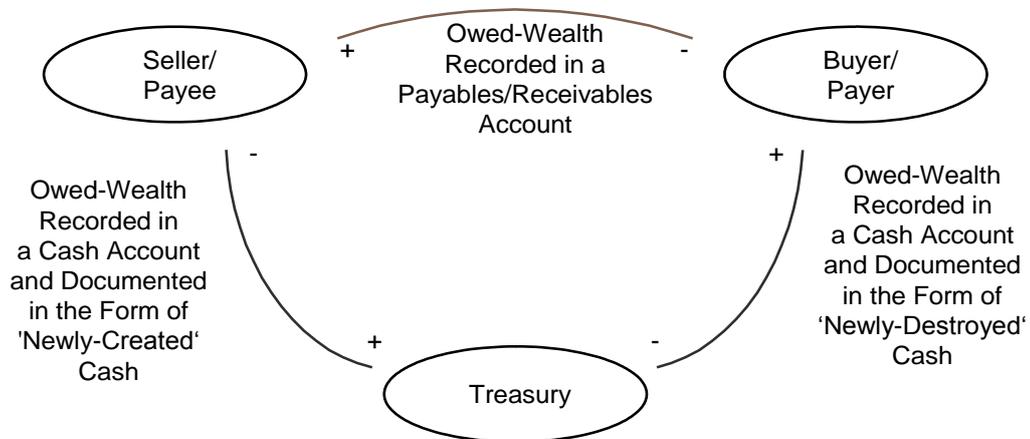
- b. A debit to its cash account (for the issuer).

This processing (including a Trade/Employment Transaction with which a Payment is typically associated) is illustrated in the diagrams overleaf.

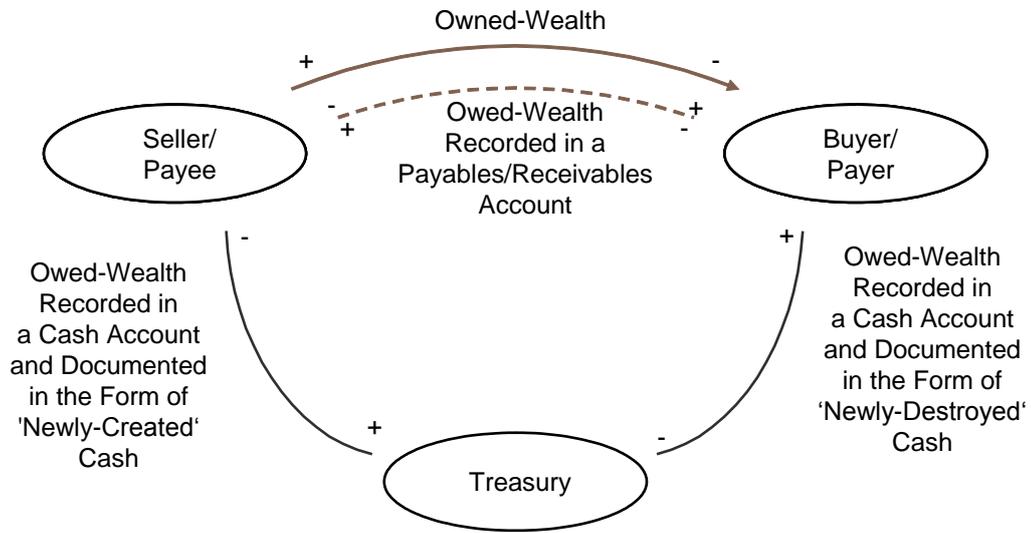
## An Associated Trade/Employment Transaction



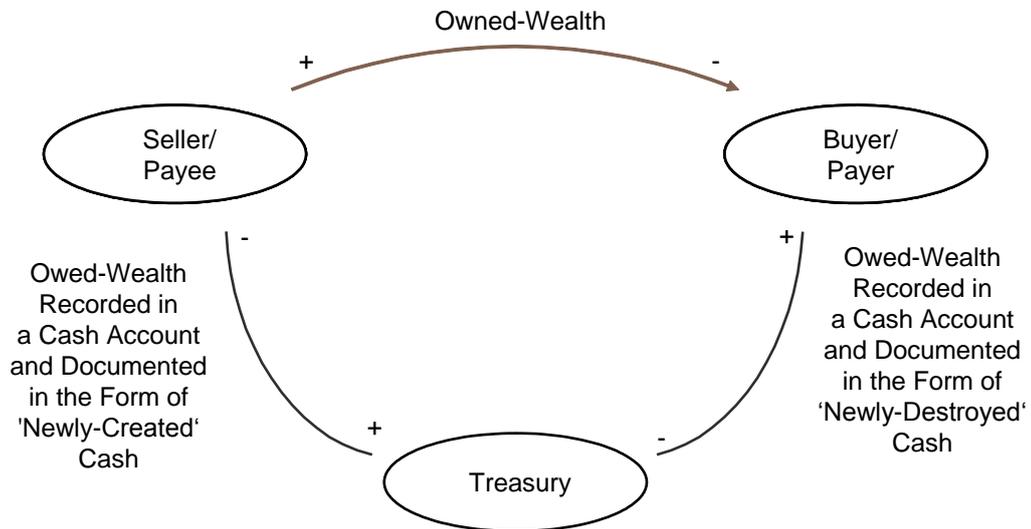
## Payment using Non-Precious-Cash



**An Associated Trade/Employment Transaction  
Plus Payment using Non-Precious-Cash**



**An Associated Trade/Employment Transaction  
Plus Payment using Non-Precious-Cash  
The Net Effect**



## Transfer of Non-Precious-Cash from Citizens/Enterprises to the Banking System

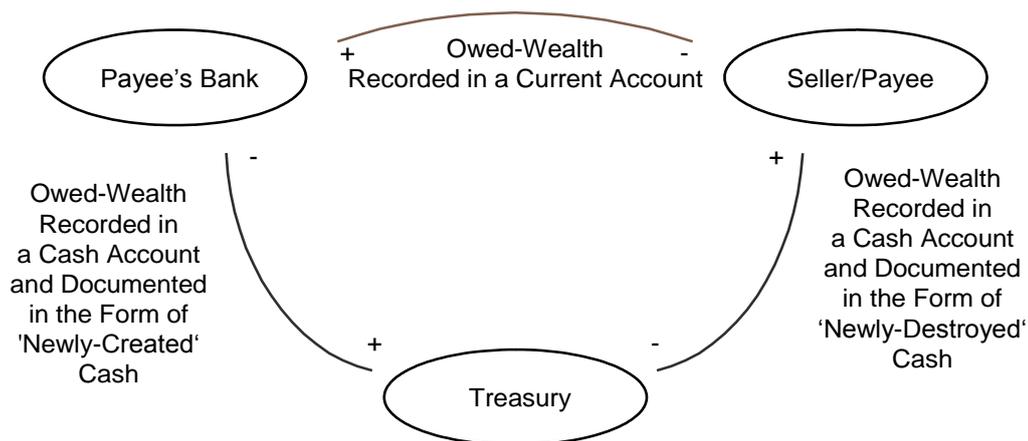
Cash is transferred from citizens/enterprises to the banking system by means of an Owed-Wealth-Rotation Transaction; in a zero-sum closed-circle of zero-sum book-keeping postings which includes the issuer of that cash:

1. If the issuer maintained an individual cash account to reflect the individual Owed-Wealth owed to each individual bearer, the issuer would administer a zero-sum pair of postings:
  - a. A credit to its cash account for the bank.
  - b. A debit to its cash account for the citizen/enterprise.

In practice of course, issuers do not do so. They merely maintain a single cash account reflecting the aggregate value of all such cash accounts. However, these zero-sum adjustments to the underlying individual Owed-Wealth positions **do** take place, even if the issuer does not bother to track them.
2. The citizen/enterprise administers a zero-sum pair of postings:
  - a. A credit to its cash account.
  - b. A debit to its current account for the bank.
3. The bank administers a zero-sum pair of postings:
  - a. A credit to its current account for the citizen/enterprise.
  - b. A debit to its cash account.

This processing is illustrated in the diagram below.

### A Transfer of Cash from Citizens/Enterprises to the Banking System



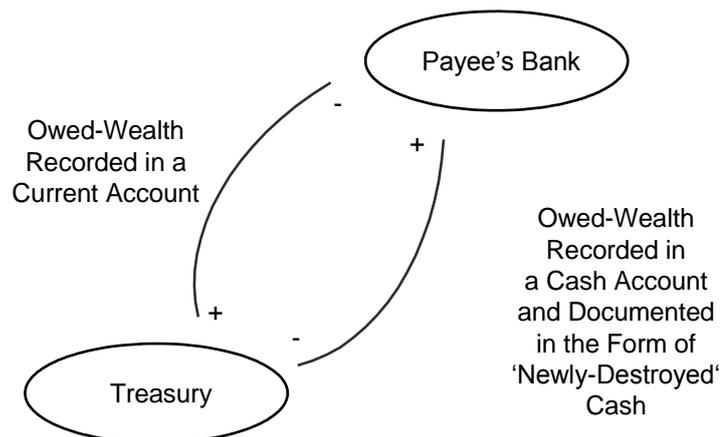
### **Transfer of Non-Precious-Cash from the Banking System to the Issuer**

Cash is transferred from the banking system to the issuer by means of an Owed-Wealth-Rotation Transaction; in a zero-sum closed-circle of zero-sum book-keeping postings which includes the issuer of that cash:

1. The issuer administers a zero-sum pair of postings:
  - a. A credit to its current account for the bank.
  - b. A debit to its cash account.
2. The bank administers a zero-sum pair of postings:
  - a. A credit to its cash account.
  - b. A debit to its current account for the issuer.

This processing is illustrated in the diagram below.

### **A Transfer of Cash** **from the Banking System to the Issuer**



### 3.3.3 Payment using Non-Cash ‘Money’

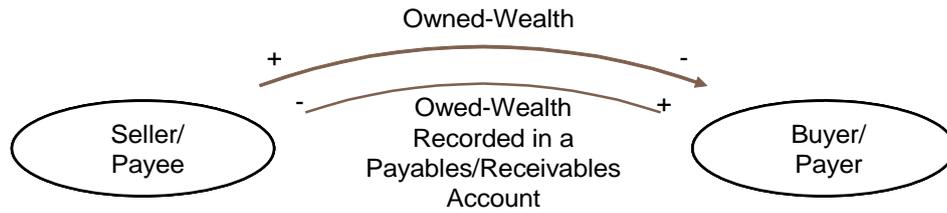
The expression **Non-Cash ‘Money’** is reserved **solely** for wealth ‘associated with’ a bank ‘current’ account. Each such item is **Owed-Wealth**; Owed-Wealth which appears as an asset in one balance sheet and as an equal and opposite liability in another balance sheet.

A payer can pay a payee by means of a Non-Cash payment. In terms of fundamental economic Transactions, such a payment would comprise an Owed-Wealth-Rotation Transaction:

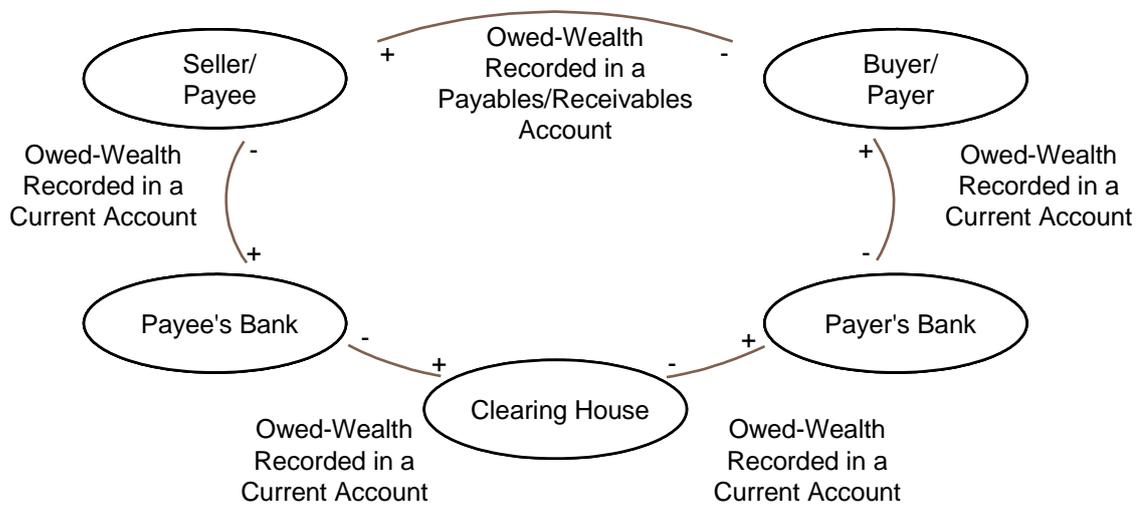
1. The banking system administers a zero-sum pair of postings:
  - a. A credit to its current account for the payee.
  - b. A debit to its current account for the payer.
2. The payer administers a zero-sum pair of postings:
  - a. A credit to its current account with the banking system.
  - b. A debit to its payables account for the payee (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
3. The payee administers a zero-sum pair of postings:
  - a. A credit to its receivables account for the payer (typically thereby anticipating and/or reversing an Owed-Wealth position established by associated Trade/Employment Transactions).
  - b. A debit to its current account with the banking system.

This processing (including a Trade/Employment Transaction with which a Payment Transaction is typically associated) is illustrated in the diagrams overleaf.

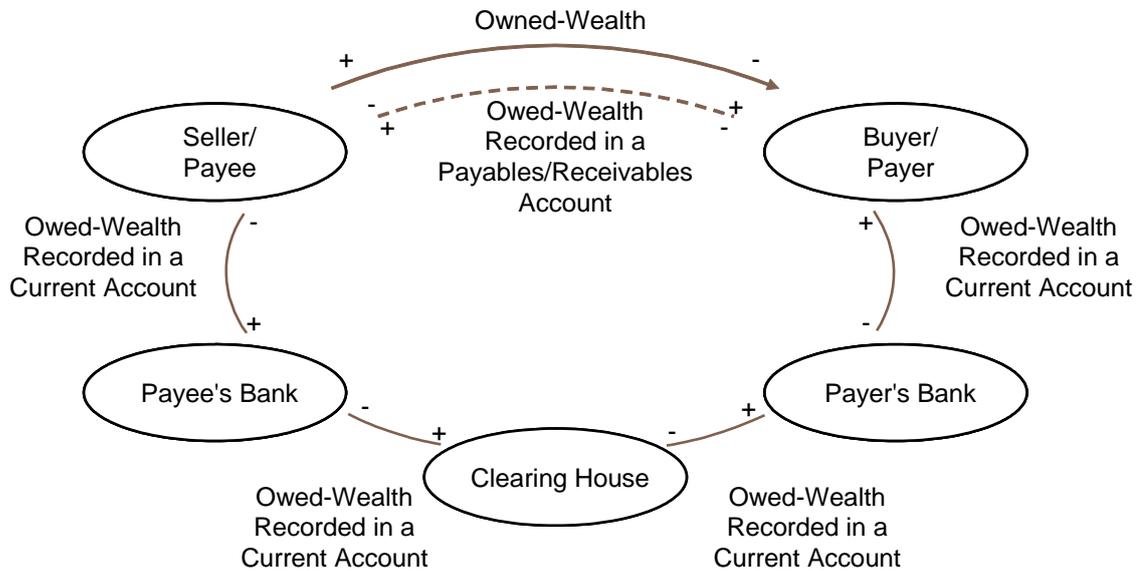
## An Associated Trade/Employment Transaction



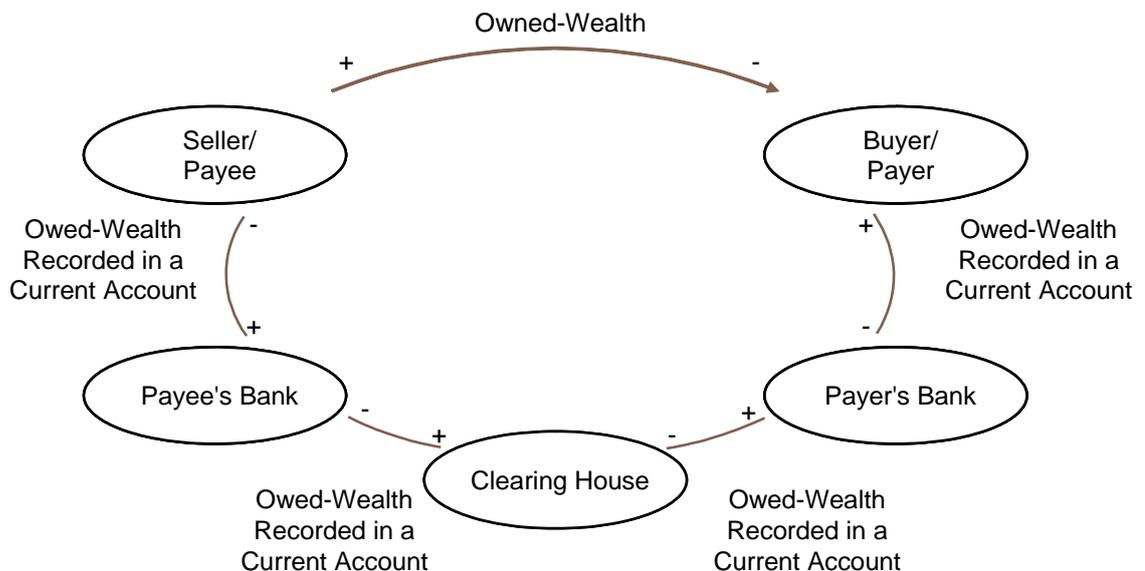
## Payment using Non-Cash 'Money'



**An Associated Trade/Employment Transaction  
Plus Payment using Non-Cash 'Money'**



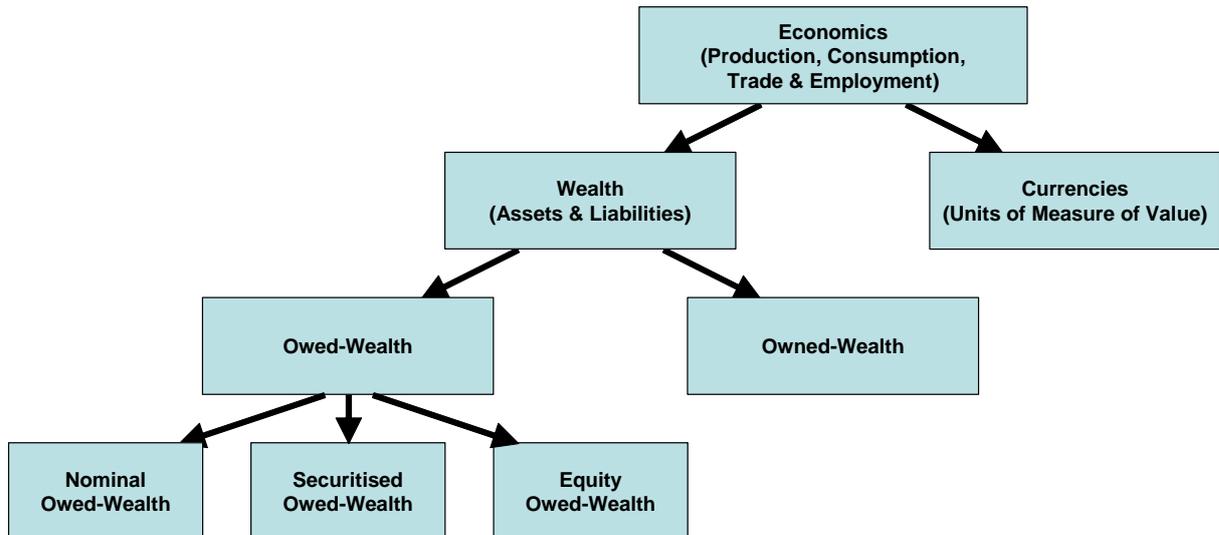
**An Associated Trade/Employment Transaction  
Plus Payment using Non-Cash 'Money'  
The Net Effect**



### 3.4 Nominal, Securitised and Equity Owed-Wealth

Owed-Wealth can be further sub-divided as follows:

1. **Nominal** Owed-Wealth:
  - a. Ongoing cash-flows flexible.
  - b. Ongoing value determined by fiat.
  - c. E.g. cash, bank accounts, credit accounts, loan accounts, hire-purchase accounts, mortgage accounts and trading debts.
2. **Securitised** Owed-Wealth:
  - a. Ongoing cash-flows determined by fiat.
  - b. Ongoing value determined by the market.
  - c. E.g. GB Gilts, US Treasuries, and other state, commercial and mortgage-backed bonds.
3. **Equity** Owed-Wealth:
  - a. Ongoing cash-flows determined by the debtor.
  - b. Ongoing value determined by the market.
  - c. E.g. stocks and shares.



However, one has to question the role of Securitised Owed-Wealth. Indeed, if Securitised Owed-Wealth did not exist:

1. Creditors **could** choose their optimum balance between risk and reward by simply choosing an appropriate allocation of their Owed-Wealth assets between simple inflation-linked current accounting and equity, in the light of debtor preferences exhibited in the market for equity.
2. Debtors **could** choose their optimum balance between risk and reward by simply choosing an appropriate allocation of their Owed-Wealth liabilities between simple inflation-linked current accounting and equity, in the light of creditor preferences

exhibited in the market for equity.

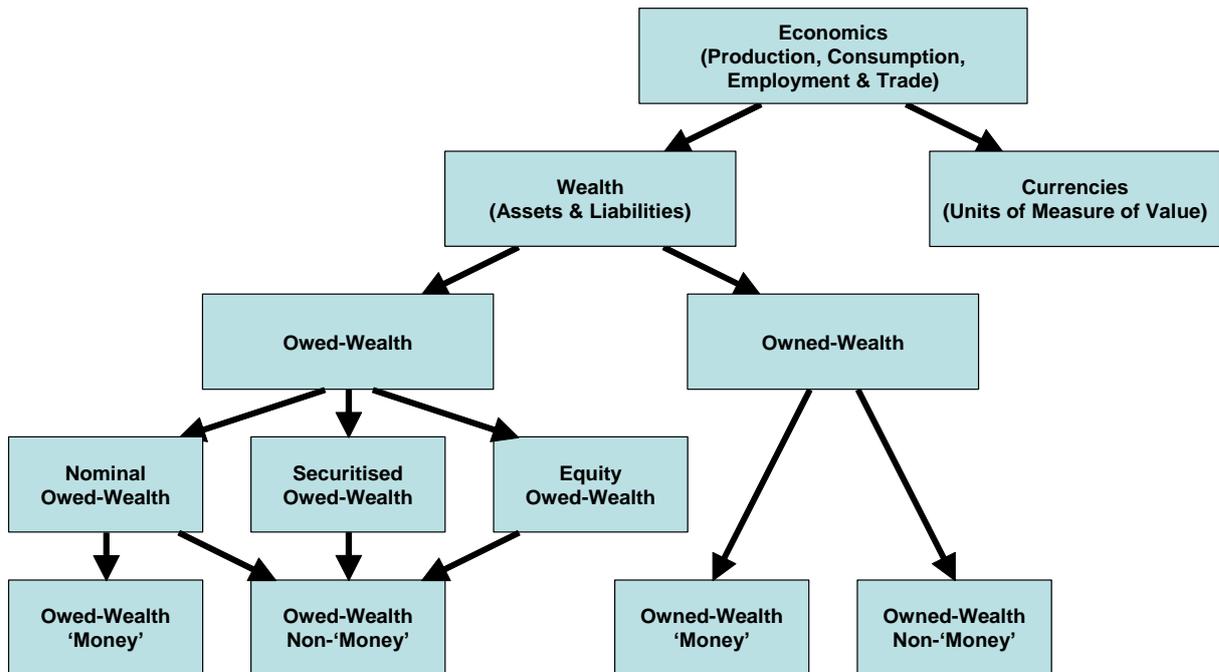
3. All global and state Owed-Wealth liabilities (e.g. IMF Special Drawing Rights, GB Gilts and US Treasuries) **could** be replaced by simple ‘current’ accounting with global and state banks and treasuries.

Securitised Owed-Wealth generates a spurious degree of freedom in the ongoing ‘market’ value of that Owed-Wealth, in that that ongoing ‘market’ value is hyper-sensitive to changes in interest rates, ‘market sentiment’ and self-fulfilling expectations. In particular, if a state (e.g. the UK) indulges in massive-scale ‘quantitative easing’ by buying up its own securitised Owed-Wealth, then that securitised Owed-Wealth will be ‘traded in the market’ at a premium to its ‘natural’ value, allowing that state (i.e. the UK in this case) to claim (spuriously) that the (low) yield on its debt reflects ‘market confidence’ in its macro-economic management. One has to consider the possibility that securitisation of Owed-Wealth is ‘a spurious accident of **administrative** history’; dating from the days before computer-based current-accounting, and promoted and extended by politicians, bankers, economists and financial services professionals in their own self-serving interests. We will return to this discussion later; towards the end of the final Chapter 6 - Regulation, Solvency and Liquidity of Financial Institutions.

### 3.5 ‘Money’ and ‘Moneyiness’

In this paper:

1. The expression **Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at the higher of the free-market value of its (assumed) contents and its ‘collector’s valuation’ (and irrespective of its ‘face’ value). Each such item is **Owed-Wealth**, and appears as an asset in the balance sheet of the owner.
2. The expression **Non-Precious-Cash** is reserved **solely** for each ‘monetary token’ ‘transacted’ at a ‘face’ value **higher** than the free-market value of its (assumed) contents and its ‘collector’s valuation’. Each such item is merely a token ‘evidencing’ **Owed-Wealth** (owed by the issuer to the bearer); Owed-Wealth which appears as an asset in the balance sheet of the bearer and (which **ought** to appear) as an equal and opposite liability in the balance sheet of the issuer. Indeed, the vast majority **ought** to be recorded as a liability in a national debt.
3. The expression **Non-Cash ‘Money** is reserved **solely** for wealth ‘associated with’ a bank ‘current’ account. Each such item is **Owed-Wealth**; Owed-Wealth which appears as an asset in one balance sheet and as an equal and opposite liability in another balance sheet.



However, within a macro-economic paradigm (i.e. as opposed to a legal, administrative or slang paradigm), we must accept that there are difficulties even with this reduced scope of the expression ‘money’:

1. If we are talking about **Precious-Cash** as ‘money’:
  - a. What is the **macro-economic distinction** (i.e. as opposed to legal, administrative or slang distinction) between the gold in a shoe buckle, and the gold in Precious-Cash used to pay for that shoe?
  - b. How can Precious-Cash be considered to be macro-economically-neutral as a store of intermediate Wealth, when Precious-Cash diverts resources into extraction, manufacture and circulation, is prone to counterfeiting, wears a hole in your pocket, is easy to lose, is liable to theft, and has a value which varies over time through the market dynamics of supply and demand?
2. If we are talking about **Non-Precious-Cash** as ‘money’:
  - a. If each item of Non-Precious-Cash is **not** considered to be a token reflecting zero-sum Owed-Wealth (owed by the issuer to the bearer), so that the bearer can be deemed to have an asset whilst the issuer does not have an equal and opposite liability, then an issuer could simply print an unlimited quantity of Non-Precious-Cash, pile it up in a warehouse, and declare itself to have created Wealth out of thin air as bearer whilst denying its liability as issuer. Anyone embracing an economic paradigm which itself embraces such nonsense is quite clearly ‘out with the fairies’.
  - b. If each item of Non-Precious-Cash **is** considered to be a token reflecting zero-sum Owed-Wealth (owed by the issuer to the bearer), and if that Owed-Wealth is deemed to be ‘money’, then presumably the bearer should be deemed to have a **positive** amount of ‘money’, and the issuer should be deemed to have an equal and opposite **negative** amount of ‘money’; zero-sum. If not, why not? There is one integral and indivisible item of Owed-Wealth here; recorded as an asset in the bearer’s books and as an equal and opposite liability in the issuer’s books (i.e. typically as the M0 part of a national debt); zero-sum.

- c. What is the **macro-economic distinction** (i.e. as opposed to legal, administrative or slang distinction) between the Owed-Wealth **administered** as Non-Precious-Cash and the Owed-Wealth **administered** in payables/receivables accounts, current accounts, mortgage accounts, deposit accounts, budget accounts, loan accounts, credit card accounts, bonds, GB Gilts, US Treasuries, other Securitised Owed-Wealth, etc.?
- d. How can Non-Precious-Cash be considered to be macro-economically-neutral as a store of intermediate Wealth, when it is prone to counterfeiting, wears a hole in your pocket, is easy to lose, is liable to theft, and has a value which varies over time through inflation?
3. If we are talking about **Non-Cash 'Money'**:
- a. If I have a bank current account with a balance of **plus** 100 dollars (i.e. in credit), and if the Owed-Wealth recorded and administered in that account is deemed to be 'money', then presumably I should be deemed to have **plus** 100 dollars worth of 'money', and the bank should be deemed to have **minus** 100 dollars worth of 'money'; zero-sum. If not, why not? There is one integral and indivisible item of Owed-Wealth here; recorded as an asset in my books and as an equal and opposite liability in the bank's books; zero-sum.
- b. If I have a bank current account with a balance of **minus** 100 dollars (i.e. in overdraft), then presumably I should be deemed to have **minus** 100 dollars worth of 'money', and the bank should be deemed to have **plus** 100 dollars worth of 'money'; zero-sum. If not, why not? There is one integral and indivisible item of Owed-Wealth here; recorded as a liability in my books and as an equal and opposite asset in the bank's books; zero-sum.
- c. If I have a current account with an overdraft limit of 1,000 dollars and a current balance of **minus** 400 dollars (i.e. in overdraft), should that count as **minus** 400 dollars worth of 'money' (because that liability will inhibit my propensity to spend), as **plus** 600 dollars worth of 'money' (because that represents my remaining spending power), or as **plus** 200 dollars worth of 'money' (split the difference)?
- d. If I have two bank current accounts, each with a balance of **plus** 100 dollars (i.e. in credit), then presumably that counts as **plus** 200 dollars worth of 'money' for me (and **minus** 200 dollars worth of 'money' for the bank). If I then 'transfer' 500 dollars' from one to the other, so that I have one with a balance of **plus** 600 dollars (i.e. in credit) and the other with a balance of **minus** 400 dollars (i.e. in overdraft), should that count as **minus** 400 dollars worth of 'money' (because that liability will inhibit my propensity to spend), as **plus** 600 dollars worth of 'money' (because that represents my remaining spending power), or as **plus** 200 dollars worth of 'money' (split the difference)?
- e. If I have a deposit account with a balance of **plus** 1000 dollars (i.e. in credit), and a current account with a balance of **minus** 400 dollars (i.e. in overdraft), and my bank offers automated facilities to draw down additional funds from my deposit account to top up my current account if it goes overdrawn, should that count as **minus** 400 dollars worth of 'money' (because that liability will inhibit my propensity to spend), as **plus** 600 dollars worth of 'money' (because that represents my remaining spending power), or as **plus** 200 dollars worth of 'money' (split the difference)?
- f. If I have a credit-card account with a limit of 1,000 dollars and a current

- balance of **minus** 400 dollars (i.e. in ‘overdraft’), should that count as **minus** 400 dollars worth of ‘money’ (because that liability will inhibit my propensity to spend), as **plus** 600 dollars worth of ‘money’ (because that represents my remaining spending power), or as **plus** 200 dollars worth of ‘money’ (split the difference)?
- g. If my house is worth 100,000 dollars, and my mortgage is 40,000 dollars, and my bank offers automated facilities to draw down additional funds from my mortgage account to top up my current account if it goes overdrawn, should that count as **minus** 40,000 dollars worth of ‘money’ (because that liability will inhibit my propensity to spend), as **plus** 60,000 dollars worth of ‘money’ (because that represents my remaining spending power), or as **plus** 20,000 dollars worth of ‘money’ (split the difference)?
  - h. If I am inundated with offers of credit (e.g. extensions to my mortgage, equity-release schemes, personal loans, credit-card accounts, and bank overdraft facilities), should the ‘funds available’ count as ‘money’ (because those offers represent ‘spending power’)?
  - i. In each of the above scenarios, do the answers to the questions imply that any macro-economically-worthy definition of ‘money’ must include the concept of **negative** ‘money’, and that any macro-economically-worthy ‘monetary’ aggregate must be based on **net** values (totalling **zero**)? If not, why not? If so, which conventional ‘monetary’ aggregates reflect the answer? If all of the conventional aggregates ignore the concept of negative ‘money’, how can one justify the **macro-economic** attention given to such aggregates?
  - j. In each of the above scenarios, do the answers to the questions imply that any macro-economically-worthy definition of ‘money’ must include the concept of **funds available** (i.e. the gap between each overdraft or credit balance and the corresponding overdraft or credit limit, and indeed credit which I have been offered but which I have so far declined to take up). If not, why not? If so, which conventional ‘monetary’ aggregates reflect the answer? If all of the conventional aggregates ignore the concept of funds available in overdraft and credit facilities, how can one justify the **macro-economic** attention given to such aggregates?
  - k. If the only way in which one can generate a **non-zero** ‘monetary’ aggregate is by counting the asset side of some macro-economically-spurious subset of Owed-Wealth whilst ignoring the equal and opposite liability half, how can one justify the **macro-economic** attention given to any such non-zero aggregates.
  - l. Why is it that the most tangible manifestation of ‘monetary’ policy is the manipulation of base interest rates, when non-‘money’ Owed-Wealth often **does** attract interest, whereas ‘money’ Owed-Wealth often does **not** attract interest?
  - m. What is the **macro-economic distinction** (i.e. as opposed to legal, administrative or slang distinction) between the Owed-Wealth **administered** as Non-Cash ‘Money’ (e.g. current accounts) and the Owed-Wealth **administered** in payables/receivables accounts, mortgage accounts, deposit accounts, budget accounts, loan accounts, credit card accounts, bonds, GB Gilts, US Treasuries, other Securitised Owed-Wealth, etc.?
  - n. How can Non-Cash ‘Money’ be considered to be macro-economically-neutral as a store of intermediate Wealth, when it has a value which varies over time through inflation (after allowing for nominal interest of course)?

4. If we are talking about **‘money’** as a general concept:
  - a. Why do we refer to a ‘money supply’ (with all the implied macro-economic supply/demand dynamics), when at best we are talking about a ‘money quantity in circulation’ (for which the implied macro-economic supply/demand dynamics do not apply).

Of course, there has been much discourse amongst ‘money reformers’ about some forms of (Owed-Wealth) ‘money’ being ‘debt-free’, ‘created out of thin air’, and ‘never needing to be honoured’. However:

1. If we are talking about **Precious-Cash** as ‘money’, these concepts do not apply.
2. If we are talking about **Non-Precious-Cash** as ‘money’, we have to accept that each item of Non-Precious-Cash is a token reflecting zero-sum Owed-Wealth (owed by the issuer to the bearer). More specifically:
  - a. If each item of Non-Precious-Cash is **not** considered to be a token reflecting zero-sum Owed-Wealth (owed by the issuer to the bearer), so that the bearer can be deemed to have an asset whilst the issuer does not have an equal and opposite liability, then an issuer could simply print an unlimited quantity of Non-Precious-Cash, pile it up in a warehouse, and declare itself to have created Wealth out of thin air as bearer whilst denying its liability as issuer. Anyone embracing an economic paradigm which itself embraces such nonsense is quite clearly ‘out with the fairies’.
  - b. If the bearer of each item of Non-Precious-Cash is freely acknowledging the Owed-Wealth reflected by that item as an asset, and the issuer is freely acknowledging the Owed-Wealth reflected by that item as a liability (i.e. it **ought** to be recorded as the M0 part of a national debt), it would seem perverse to deny that acknowledgement.
  - c. The Owed-Wealth reflected by each item of Non-Precious-Cash is ‘honoured’ on a rolling basis, merely by the ongoing recognition by the issuer and bearer. A truth does not cease to be a truth simply because no-one is planning to change it any time soon!
  - d. The Owed-Wealth reflected by each item of Non-Precious-Cash is ‘honoured’ every time that item changes hands. The Owed-Wealth owed to the old bearer is ‘honoured’ when the issuer settles a debt owed by old bearer to the new bearer, and the Owed-Wealth owed to the new bearer is ‘honoured’ when the issuer settles a debt owed by new bearer to a subsequent bearer in turn. The fact that the single token served to ‘evidence’ Owed-Wealth owed by the issuer to the old bearer up until the payment transaction, and Owed-Wealth owed by the issuer to the new bearer from the payment transaction onward, is a wonderfully convenient **administrative** characteristic of any type of bearer bond.
  - e. The Owed-Wealth reflected by each item of Non-Precious-Cash is ‘honoured’ when that item is recalled and replaced because of wear and tear, and/or a new/replacement issue.
  - f. There is no macro-economically-significant difference between ‘money’ and non-‘money’ state Owed-Wealth (Non-Precious-Cash, GB Gilts, US Treasuries, premium bonds, bank current accounts, bank deposit accounts, accounts-payable, accounts-receivable, etc.; without distinction). For each such type of Owed-Wealth, individual items of Owed-Wealth are maintained on a rolling basis, but there has never been any need or intention to reduce the

total of any such type to zero. Indeed, the economy of each state relies on the state maintaining a substantial national debt as the backstop for personal and commercial deposits. However, only the **signed total** of **all** state Owed-Wealth (i.e. the national debt) is of interest in the **macro-economic** debate. The only factors which affect the national debt are benefits, taxes, charges, employment, purchases and sales. Payments merely move the Owed-Wealth ‘money’ and non-‘money’ Assets and Liabilities from one **administrative** pot to another without changing the Net-Owed-Wealth of any of the economic agents concerned.

3. If we are talking about **Non-Cash ‘Money’**, the same arguments apply as to Non-Precious-Cash.

Thus, the detail makeup of the zero-sum network of individual items of Owed-Wealth is (or **ought** to be) of interest only to students of the history of routine commercial and financial administration, and should be excluded from the macro-economic debate. Thus in turn, it would perhaps be more constructive to abandon the **quantitative** expression ‘money’, and to focus here instead on **‘moneyness’** (the rather hazy **qualitative** distinction between ‘money’ Wealth and non-‘money’ Wealth. Thus, in this paper:

1. The expression **‘Moneyness’** is reserved **solely** to encompass the characteristic of a financial regime related to the fluency with which Owed-Wealth created by trade and employment could be intermediated.
2. The expression **‘Currencies’** is reserved **solely** to encompass units of measure of value (such as the US Dollar, the GB Pound, the Euro, the Yen, etc.).

We can define a ‘theoretical ideal’ for ‘moneyness’, and then work backwards through practical proposals to current and historic options:

1. The ‘theoretical ideal’ for ‘moneyness’ would be a ‘God-like book-keeper in the sky’, who would simply debit Buyers/Employers and credit Sellers/Employees in an inflation-linked zero-sum book-keeping system (inflation-linked to be macro-economically-neutral as a store of intermediate Wealth).
2. In the absence of such a God, the ‘practical ideal’ would be fluent processes which allowed Buyers/Employers and Sellers/Employees to intermediate their Owed-Wealth into an inflation-linked zero-sum book-keeping system administered by the global cash and banking processes (inflation-linked to be macro-economically-neutral as a store of intermediate Wealth).
3. In practice, they have to resort to the range of current processes which allow them to intermediate their Owed-Wealth into the non-inflation-linked zero-sum book-keeping processes currently administered by the global cash and banking processes. Unfortunately, such non-inflation-linked Owed-Wealth is not macro-economically-neutral as stores of Wealth (because the values change with inflation), and are therefore sub-optimal in their contribution to the ‘moneyness’ characteristic of a financial regime.
4. In the absence of suitable zero-sum book-keeping processes, Buyers/Employers and Sellers/Employees would have to resort to counter-trade or barter, which would represent a very low level of ‘moneyness’.

Thus, the expressions ‘money’ and ‘moneyness’ should be seen as relating to **‘absence of negative’ administrative** factors, rather than **‘positive’ macro-economic** factors; a little like the expressions ‘oil’ and ‘lubrication’ to a mechanical engineer:

1. A mechanical engineer is not really interested in lubrication per-se, and certainly not in the quantity of oil in the sump of an engine. Indeed, there may not even be any oil

at all. Friction may well be contained by use of counter-balancing, low-friction materials, air bearings or electro-induction techniques. A mechanical engineer is interested only in how much **mechanical friction** is left which might compromise the theoretical operation of his machines. Once he has arranged for sufficient friction-reduction to allow him to ignore the residual friction, he can ignore lubrication, and concentrate on the fundamentals of his machine.

2. A macro-economist should not really be interested in ‘moneyness’ per-se, and certainly not in the quantity of ‘money’ ‘in circulation’ (whatever those two expressions might mean). A macro-economist should be interested only in how much **administrative friction** is left which might compromise ‘real’ macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping). Once he has arranged for sufficient ‘moneyness’ to allow him to ignore the residual administrative friction, he should be able to ignore ‘moneyness’, and concentrate on ‘real’ macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping).

### 3.6 Summary

The global zero-sum network of Owed-Wealth (‘money’ and non-‘money’ without distinction) is (or **ought** to be) simply a zero-sum book-keeping exercise which ‘keeps the score’ on where we are in our non-barter trading and employment activity. Those who have sold more than they have bought accumulate a net-positive balance, and those who have bought more than they have sold accumulate a net-negative balance. The aggregate (of course) is zero.

The zero-sum network of Owed-Wealth is a little bit like the matrix recording ‘goals for’ and ‘goals against’ in a football league.

1. In a football league, teams which score more than they concede accumulate a positive net total, and vice versa. The aggregate (of course) is zero. In the study of the game of football, one can have a legitimate debate about the makeup of the governing body, the rules of the game, the skills of the players, and even the eyesight of the referee. These factors are all legitimate and fundamental parts of the game. The goals-for and goals-against scores however, and the fact that they are zero-sum, are simply a matter of passive objective recording (don’t shoot the messenger!).
2. Similarly, in the study of macro-economic affairs, one can have a legitimate discussion about market forces, macro-economic incentives, business ethics, business law, business practices, tax policy, and even the even-handedness of the regulators. These factors are all legitimate and fundamental parts of the macro-economic game. The scores however (i.e. the zero-sum network of Owed-Wealth) are simply a matter of passive objective recording (don’t shoot the messenger!).

Conventional wisdom, and indeed much ‘alternative’ wisdom, makes a great deal of the rather hazy distinction between ‘money’ and non-‘money’ Wealth and Transactions, and very little of what **ought** to be the ‘hard’ distinction between Owned-Wealth and Owed-Wealth. However, this Chapter has argued that this emphasis should be reversed, and has defined a new **quantitative** macro-economic paradigm from first principles; ignoring the rather hazy **qualitative** distinction between ‘money’ and non-‘money’ Wealth and Transactions.

In this new macro-economic paradigm:

1. The **significance** of the ‘atomic units’ of **macro-economic status** can be characterised as follows:
  - c. The allocation of **individual items of Owned-Wealth** (‘money’ and non-

‘money’ without distinction) to individual economic agents is **not** macro-economically-significant. The characteristics of each individual item of Owed-Wealth are of interest only to students of the history of routine commercial and financial administration.

- d. The **zero-sum network of individual items of Owed-Wealth** (‘money’ and non-‘money’ without distinction) between individual economic agents is **not** macro-economically-significant. The characteristics of each individual item of Owed-Wealth are of interest only to students of the history of routine commercial and financial administration.
  - e. The **Owned-Wealth, Net-Owed-Wealth, and Net-Wealth** (‘money’ and non-‘money’ without distinction) of each macro-economic agent **are** macro-economically-significant. However, at the **aggregate** level, the total of Net-Owed-Wealth is zero, and the total of Net-Wealth is equal to the total of Owed-Wealth.
2. The **significance** of the ‘atomic units’ of **macro-economic activity** can be characterised as follows:
- f. Production/Consumption Transactions **are** macro-economically-significant, but are ‘self-financing’. Owed-Wealth is not affected.
  - g. Trade/Employment Transactions (**including** ‘trade’ of Precious-Cash) **are** macro-economically-significant, but are ‘self-financing’. In effect, the Buyer/Employer ‘borrows’ from the Seller/Employee.
  - h. Owed-Wealth-Rotation Transactions (**including** administration of Non-Precious-Cash) are **not** macro-economically-significant. They are zero-sum closed-circles of zero-sum book-keeping postings. None of the parties involved experience any change in any of their Net-Owed-Wealth, Owed-Wealth, or Net-Wealth positions.

Thus, this Chapter has argued that the sole worthwhile **macro-economic** distinction between different types of Wealth is **not** the distinction between ‘money’ Wealth and non-‘money’ Wealth, but the distinction between **Owned-Wealth** (‘money’ or non-‘money’ without distinction) and **Owed-Wealth** (‘money’ or non-‘money’ without distinction). In particular, it argues that Owed-Wealth is simply a zero-sum book-keeping exercise which ‘keeps the score’ on where we are in our non-barter trading and employment activity. Those who have sold more than they have bought accumulate a net-positive balance, and those who have bought more than they have sold accumulate a net-negative balance. The aggregate (of course) is zero. The distinction between ‘money’ Wealth and non-‘money’ Wealth is (or **ought** to be) a **purely-administrative** factor; of interest only to students of the history of routine commercial and financial administration.

Thus, in turn, **macro-economists should abandon all concepts, expressions and aggregates associated with the expressions ‘money’, ‘credit’, ‘capital’, and ‘buying/employing power’.** ‘Buying/employing power’ is effectively infinite (subject to the solvency of the Buyer/Employer). Buyers/Employers ‘borrow’ from Sellers/Employees in Trade/Employment transactions, and then use the cash/banking processes merely to ‘intermediate’ that Owed-Wealth. The sole key factor determining ongoing economic activity is **the net propensity to buy/employ for production/consumption** (i.e. the net propensity to **deploy** the infinite ‘buying/employing power’). That propensity is pro-cyclical and infinitely destabilising; and requires counter-cyclical policies by social agencies.

More specifically, this would exclude all of the following from macro-economic paradigms:

1. The expression ‘money’, and all its variations and sub-divisions such as high-

powered/low-powered, narrow/broad, base/non-base, etc..

2. The expression 'credit', and all its variations and sub-divisions.
3. The expression 'capital', and all its variations and sub-divisions.
4. The expression 'monetisation' of Owed-Wealth (i.e. conversion of non-'money' Owed-Wealth into 'money' Owed-Wealth), and all its variations and sub-divisions.
5. The expression 'sterilisation' of Owed-Wealth (i.e. conversion of 'money' Owed-Wealth into non-'money' Owed-Wealth), and all its variations and sub-divisions.
6. The expression 'quantitative tightening', quantitative easing, and all its variations and sub-divisions.
7. The expression 'recycling' of Owed-Wealth (i.e. as in recycling international 'money' Owed-Wealth established by international Trade/Employment into international non-'money' Owed-Wealth), and all its variations and sub-divisions.
8. The expression 'fungibility' of 'money' Owed-Wealth, and all its variations and sub-divisions.
9. The concepts of quantity, volume, and value of the above; including all 'monetary' aggregates such as M0, M1, etc., supply, stock, demand, circulation, and velocity.
10. Elasticity of the above.
11. The formula 'MV=PQ'.
12. The expression 'to save', and all its variations and sub-divisions. One cannot 'save' as such. One can vary Production/Consumption activity, and one can vary Trade/Employment activity. However, the concepts 'enclosed' by the expression 'savings' are simply the **macro-economically-incident consequence** of cumulative Production/Consumption and Trade/Employment activity.
13. Deposits and loans as stand-alone context-free transactions (i.e. as opposed to as one half of one of the zero-sum double-entry postings in a zero-sum closed circle of zero-sum double-entry postings).
14. On-lending of deposits (there is nothing to on-lend – each 'deposit' is one half of one of a zero-sum closed circle of zero-sum double-entry postings).
15. The link between 'money' (my definition) and 'Currencies' (my definition).
16. The link between 'money' (my definition) and inflation.
17. The expression 'monetary policy' (i.e. as opposed to interest-rate policy and exchange-rate policy – covered in Chapter 4 – Currencies).
18. **Issuing** 'money' (as a macro-economic concept, as opposed to the **administrative** concept of minting and issuing Non-Precious-Cash).
19. Debt-free 'money'.
20. Creating 'money' 'out of thin air'.

Finally:

1. We must abandon the idea that there exists a **macro-economically-significant quantity** of 'money' (i.e. as opposed to a legal, administrative or slang quantity); that that quantity corresponds in some way to 'buying/employing power'; that that 'buying/employing power' corresponds in some way to aggregate demand; and that that aggregate demand must somehow be brought into balance with the equivalent aggregate supply.

2. We must abandon the concept that interest rates should be used to balance the ‘demand for’ and ‘supply of’ ‘money’. The only relevant factors here are the distinction between Owned-Wealth and Owed-Wealth, and the fact that the global network of Owed-Wealth is zero-sum. There is nothing to balance. The ‘authorities’ can set the global base rate of interest to whatever they like. However, from an ‘economic’ point of view, to set **real** base rates to anything other than zero should be seen as introducing spurious ‘time-preference’ market distortions. This point is developed in more detail in three subsequent Chapters:
  - a. Chapter 4 – Currencies, Inflation and Macro-Economically-Null Processes.
  - b. Chapter 5 – De-Constructing Interest Rates.
  - c. Chapter 6 – Market Forces.
3. We must abandon the significance of Say’s law; whereby aggregate supply is deemed to create the ‘buying/employing power’ to purchase that aggregate supply. We must accept that all trade and employment is actually self-financing; that the Buyer/Employer initially borrows from the Seller/Employee (administered in trading accounts); that each such debt is then intermediated by a zero-sum closed circle of zero-sum postings through the Non-Precious-Cash or banking processes; and that ‘buying/employing power’ is therefore indeterminate and unlimited.
4. We must accept that the sole key factor determining ongoing economic activity is **the net propensity to buy/employ for production/consumption** (i.e. the net propensity to **deploy** the infinite ‘buying/employing power’), that that propensity is pro-cyclical and destabilising, and that economic stability requires counter-cyclical stabilising policies by social agencies.

### 3.7 Appendix - Economic Transactions and Administrative ‘Bundling’

This section provides some background insights into the analytical conventions used by the author in the earlier sections of this Chapter with regard to the ‘re-engineering deconstruction’ of current administrative processes, and the mapping into the re-engineered ‘atomic units’ of economic status and activity.

Readers untroubled by the earlier analysis could well skip this more detailed discourse.

Readers requiring more ‘substance’ should be aware that, in practice, we all ‘bundle’ economic transactions for **administrative** purposes.

#### 3.7.1 Administrative ‘Bundling’ of Economic Activity

In practice, we all ‘bundle’ economic transactions for **administrative** purposes.

1. When barter was the normal practice, it was quite normal to ‘bundle’ a Trade/Employment (‘sale’) transaction worth £100.00 with another Trade/Employment (‘purchase’) transaction worth £100.00.
2. If we wish to produce outputs worth £200 from inputs worth £100, it is quite normal to ‘bundle’ a Trade/Employment (purchase) transaction worth £100, a Trade/Employment (employment) transaction worth (say) £50, a Production/Consumption transaction worth net plus £50, and a Trade/Employment (sale) transaction worth £200.
3. If we wish to buy a good at a price of £100.00, it is quite normal to ‘bundle’ an Owed-Wealth-Rotation (cash-withdrawal) transaction worth £100.00, a Trade/Employment (purchase) transaction worth £100, and an Owed-Wealth-

Rotation (payment) transaction worth £100.00.

However:

4. When barter was the normal practice, it was quite normal to ‘bundle’ a Trade/Employment (‘purchase’) transaction of a specific quantity of one commodity at one point in time with a Trade/Employment (‘sale’) transaction of a specific quantity of another commodity at a different point in time (e.g. a ‘purchase’ of seed in spring for sowing, and a ‘sale’ of corn in autumn after the harvest).
5. It is quite normal to schedule purchases of capital equipment for depreciation over many years of production, purchases of labour by the month, purchases of other inputs in varying quantities optimised for incoming shipments, production in quantities optimised for production, and sales of outputs in response to demand.
6. If we wish to buy a good at a price of £85.40, it is quite normal to make a special trip to a cash dispenser to withdraw £100 in cash in order to be able to pay for that good. The ‘extra’ £14.60 would be added to the ‘stock’ of cash in our wallet, and would be used to pay for other purchases and/or to reduce the need for routine cash withdrawals on a rolling basis.
7. It is quite normal to make a pre-payment as a deposit at the time of the order a week before the delivery of a good, and to make a deferred payment of the balance a week after delivery in response to a mailed invoice.
8. It is quite normal to make regular (monthly) ‘account’ payments in response to a mailed statement of account, to pay for the balance outstanding from the previous statement plus all purchases made since that statement.
9. It is quite normal to make regular (monthly) ‘budget’ payments for utility services based on estimates of rolling consumption, and to make occasional (yearly) ‘adjustment’ payments in response to a mailed statement of account if accumulated consumption gets too far out of line with accumulated payments.

Thus, a precisely ‘bundled’ pair of trade transactions in ‘spot’ barter, a cash-withdrawal transaction precisely ‘bundled’ with a purchase transaction, a ‘spot’ payment transaction precisely ‘bundled’ with a purchase transaction, and a production transaction precisely ‘bundled’ with associated trade and employment transactions should all be considered to be special **administrative** cases.

### 3.7.2 Atomic Units of Economic Activity

The more general case is as follows:

1. All **Production/Consumption transactions** take place within the accounts of a single economic agent, with all inputs taken from the pre-existing Owned-Wealth of that economic agent, and with all outputs placed into the ongoing Owned-Wealth of that economic agent. More specifically:
  - a. Labour is produced by citizens into their own stock of Owned-Wealth in Production/Consumption Transactions. Those citizens then have the option to ‘consume’ that Owned-Wealth themselves in further Production/Consumption Transactions (i.e. in leisure or DIY activity), or to transfer that labour to consuming economic agents through Trade/Employment Transactions.
  - b. Other intangible Owned-Wealth (such as rent, tenancy services, insurance services, and interest services) is produced by enterprises in Production/Consumption Transactions. Those producing enterprises typically then transfer that intangible Owned-Wealth to consuming economic agents

- through Trade/Employment Transactions.
- c. Appreciation, depreciation, proliferation and shrinkage of capital assets and working stocks are recorded in Production/Consumption Transactions.
2. All **Trade/Employment transactions** move Owned-Wealth from the seller to the buyer, and create a debt (Owed-Wealth) owed by the Buyer/Employer to the Seller/Employee. More specifically:
    - a. Intangible Owned-Wealth (such as labour, rent, tenancy services, insurance services, and interest services) is transferred to consuming economic agents through Trade/Employment transactions.
    - b. All barter transactions should be considered to be two economically-independent Trade/Employment transactions.
  3. All **Owed-Wealth-Rotation transactions** payment transactions are zero-sum closed circles of zero-sum double-entry book-keeping postings. More specifically:
    - a. All Owed-Wealth-Rotation transactions should be considered to be independent from the Trade/Employment transactions with which they are **administratively** associated.

### 3.8 Appendix - Accounting Conventions

This section provides some background insights into the analytical conventions used by the author in the earlier sections of this Chapter with regard to the accounting conventions used in current administrative processes, and the author's variations from those conventions.

Readers untroubled by the earlier analysis could well skip this more detailed discourse.

Readers requiring more 'substance' should be aware of two 'counter-intuitive' accounting conventions, and the author's variations from those conventions.

#### 3.8.1 Credits Reflect Liabilities – Debits Reflect Assets

In conventional accounting wisdom and practice, when an economic agent credits a counter-party in an account reflecting Owed-Wealth, it is acknowledging a change in the liability direction in its own books. Conversely, when an economic agent debits a counter-party in an account reflecting Owed-Wealth, it is acknowledging a change in the asset direction in its own books. In order to maintain the integrity of double-entry book-keeping, each economic agent records all assets as debit balances, and all liabilities as credit balances.

All transactions are recorded by each economic agent in double-entry postings.

For examples:

1. When a buyer buys a good from a seller, only the buyer and seller are involved:
  - a. The buyer posts as follows:
    - i. The buyer records the purchase of the good as a debit in an Owed-Wealth account. That debit reflects a change in the asset direction.
    - ii. The buyer credits the seller in an Owed-Wealth payables account. That credit reflects a change in the liability direction.
  - b. The seller posts as follows:
    - i. The seller debits the buyer in an Owed-Wealth receivables account. That debit reflects a change in the asset direction.
    - ii. The seller records the sale of the good as a credit in an Owed-Wealth account. That credit reflects a change in the liability direction.
2. When a buyer pays a seller through a bank, the buyer, the seller and the bank are involved in a zero-sum closed-circle of zero-sum double-entry postings:
  - a. The buyer posts as follows:
    - i. The buyer debits the seller (in an Owed-Wealth payables account). That credit reflects a change in the asset direction.
    - ii. The buyer credits the bank. That debit reflects a change in the liability direction.
  - b. The bank posts as follows:
    - i. The bank debits the buyer. That debit reflects a change in the asset direction.
    - ii. The bank credits the seller. That credit reflects a change in the liability direction.
  - c. The seller posts as follows:

- i. The seller debits the bank. That credit reflects a change in the asset direction.
  - ii. The seller credits the buyer (in an Owed-Wealth receivables account). That debit reflects a change in the liability direction.
- 3. When a buyer pays a seller with cash, the buyer, the seller and the issuer of the cash are involved in a zero-sum closed-circle of zero-sum double-entry postings:
  - a. The buyer posts as follows:
    - i. The buyer debits the seller (in an Owed-Wealth payables account). That credit reflects a change in the asset direction.
    - ii. The buyer credits the issuer of the cash. That debit reflects a change in the liability direction.
  - b. The issuer of the cash posts as follows:
    - i. The issuer of the cash debits the buyer. That debit reflects a change in the asset direction.
    - ii. The issuer of the cash credits the seller. That credit reflects a change in the liability direction.

In practice of course, issuers of cash do not actually record Owed-Wealth owed to individual bearers. They merely record the overall Owed-Wealth owed to all bearers (it **ought** to be recorded as the M0 part of a national debt).

  - c. The seller posts as follows:
    - i. The seller debits the issuer of the cash. That credit reflects a change in the asset direction.
    - ii. The seller credits the buyer (in an Owed-Wealth receivables account). That debit reflects a change in the liability direction.

Thus, in summary:

- 1. An account in credit reflects a liability (or a negative asset).
- 2. An account in debit reflects an asset (or a negative liability).
- 3. A credit to an account reflects a change in the liability direction.
- 4. A debit to an account reflects a change in the asset direction.

In this paper, this conventional accounting wisdom and practice is maintained.

### 3.8.2 Equity and Goodwill

The ‘books’ of each enterprise are conventionally ‘balanced’ by recording an equity liability equal and opposite to the (normally net-positive) value of (assets) minus (non-equity liabilities) of that enterprise. Thus, the equity liability of each enterprise is often referred-to as the ‘net asset value’ of that enterprise. The idea is that that equity liability is owed to the equity-creditors of that enterprise. However, the ‘market’ value of the share-holdings of that enterprise (as recorded as equity assets in the ‘books’ of the equity-creditors of that enterprise) usually varies (often quite radically) from the equity liability recorded in the ‘books’ of that enterprise. The difference is often referred-to as the ‘goodwill’ of the enterprise as a going concern.

Thus, the conventional approach to book-keeping leaves a ‘black hole’ difference between the Equity Owed-Wealth liabilities in the books of the enterprise (owed to the equity-creditors,

but **ignoring goodwill**) and the (supposedly corresponding) Equity Owed-Wealth assets in the books of the equity-creditors (owed by the enterprise, and **including goodwill**).

Thus, in turn:

1. The books offer no informed insight into the ongoing credibility of the value of the goodwill implied by the market value of the enterprise.
2. The ‘black hole’ difference gives rise to major anomalies in the accounting of disposals, mergers and acquisitions.

For each enterprise, the recording **ought** to be as follows:

1. The Equity Owed-Wealth liabilities of that enterprise (owed to the equity-creditors in the ‘books’ of the enterprise) **ought** to be set to the best-efforts estimate of the value of enterprise as a going concern (i.e. the ‘market’ value of the enterprise as a going concern: equal and opposite to the Equity Owed-Wealth assets recorded in the books of the equity-creditors).
2. The ‘books’ of each enterprise **ought** to be then ‘balanced’ by recording a ‘goodwill’ Owned-Wealth asset equal and opposite to the (normally net-negative) value of (non-goodwill) assets minus (total) liabilities.
3. The books of an enterprise **ought** to offer an informed insight into the ongoing credibility of the value of the ‘goodwill’ implied by the ‘market’ value of the enterprise as a going concern.

For each citizen, the recording **ought** to be as follows:

1. The above issues are meaningless. Thus, the ‘books’ should not be ‘forced’ to balance, and the de-facto imbalance should reflect the citizen’s (non-zero) Net-Wealth.

In this paper, the ‘ought-to-be’ recording above is assumed for both enterprises and citizens. Thus:

1. The ‘goodwill’ of each enterprise is recorded as Owned-Wealth assets in the books of that enterprise.
2. The ‘mark-to-market’ value of each enterprise (i.e. including ‘goodwill’) is recorded as Owed-Wealth liabilities in the books of that enterprise.
3. The ‘mark-to-market’ value of each enterprise (i.e. including ‘goodwill’) is recorded as Owed-Wealth assets in the books of the citizens who owning that enterprise.
4. All Net-Wealth is attributed to citizens without ‘black holes’.

## 4 Currencies

This Chapter analyses the concept of Currencies as units of measure of value. In particular, it analyses the nature of inflation, and the role of ‘monetary policy’.

As discussed earlier, logic and history has surely long since established that the value associated with each Currency is determined on a **macro-economically-incidenta** basis by millions of naive economic agents agreeing millions of prices each day. After millions of such market agreements, by naive economic agents with little knowledge or interest in macro-economic affairs, it would be an astonishing coincidence if the value associated with each Currency remained unchanged over time (**hence inflation/deflation**), or changed in step with the value associated with other Currencies (**hence differential inflation/deflation**).

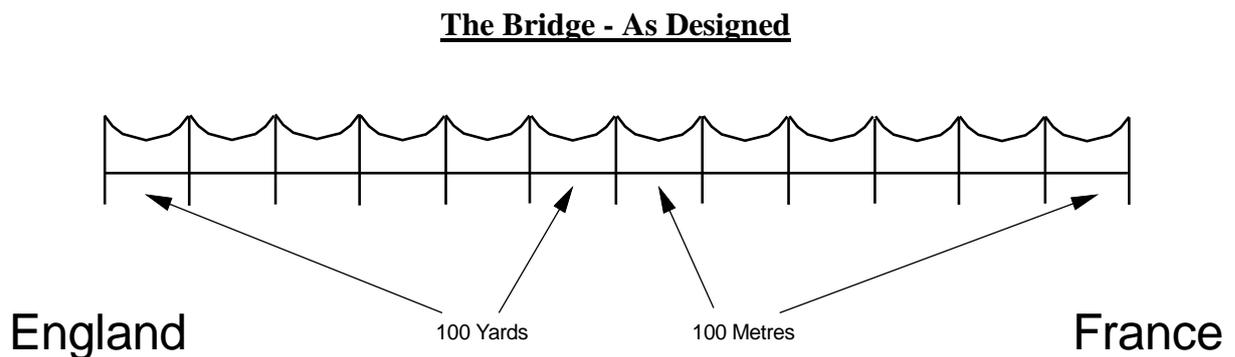
However, this Chapter argues that inflation/deflation in the value associated with a given Currency is (or **ought** to be) a **purely-administrative** factor (each expression of value enumerated in an inflating/deflating Currency requires an inflated/deflated numerical expression). The macro-economic issues which are **associated** with inflation, and which are attributed in conventional wisdom as **macro-economic effects** of inflation as a **macro-economic cause**, are caused not by inflation itself, but by the ‘dumb things’ ‘the authorities’ (i.e. macro-economists, central bankers and politicians) do in the face of inflation (like failing to inflation-link Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments. This is the subject of this Chapter.

The ‘process re-engineering’ argument here is that, before presuming to identify and define issues, and to define and qualify policy options, one must first define ‘null’ or ‘default’ processes; processes which are sufficiently aligned to the underlying fundamentals to avoid creating ‘self-inflicted wound’ issues. The ‘null’ or ‘default’ processes would then provide a ‘null’ or ‘default’ frame of reference from which one could identify and define the ‘real’ or ‘fundamental’ issues (if any), and from which one could define and qualify policy options to address those ‘real’ or ‘fundamental’ issues (if any).

## 4.1 The Cross-Channel Bridge Analogy

The following apocryphal story highlights the nature of the ‘null’ or ‘default’ process concept.

Recently, a rail tunnel was built and opened between England and France. In all the excitement, few remembered an attempt some few hundred years before to build a bridge across the same gap. The design was agreed between the English and French engineers; as depicted below. The English engineer annotated his copy with imperial measures (yards) and the French engineer annotated his copy with metric measures (metres). At the time the design was agreed, the yard and the metre were unanchored, but happened to be equal by happenstance and/or serendipity, so the two **numerical expressions** of each size were identical.

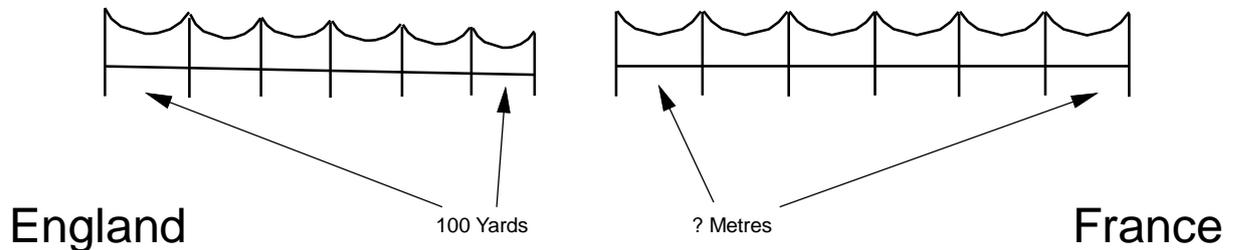


They parted company; each agreeing to build halfway from their own shoreline.

Unfortunately, because of interminable public enquiries and extended debates about public vs private finance, the bridge took some considerable time to complete. Even worse, neither the yard nor the metre was yet 'anchored' by fixed standards and inspectorates, and both varied over time according to popular usage on a rolling basis.

However, in due course, building progressed, and a meeting was arranged. The French engineer stood at the end of the French half of the bridge; built as-designed. The English engineer rowed across from the sad apology for the English half of the bridge.

### The Bridge - As Constructed



The following conversation took place:

1. The English engineer said 'I'm sorry that the English half of the bridge has failed to meet expectations. Unfortunately, the yard shrank, and the bridge ended up shorter and lower than our original design. However, all is not lost. I've arranged an international conference to discuss potential **engineering solutions** to the **engineering problems** caused by variations in our units of measure (my emphasis). We have speakers promoting cut-and-shut extensions, pontoon bridges, floating tubes and shuttle ferries. We even have one speaker promoting the idea of inclined ramps and catcher nets, but there seem to be some safety concerns'.
2. The French engineer looked puzzled. 'What engineering problems' he said with a Gaelic shrug. 'The metre shrank as well, but that did not present an **engineering** problem (his emphasis). We simply index-linked the metric annotations on the original design. It was a simple **administrative** problem, with a simple **administrative** solution'.
3. The English engineer looked aghast. 'You can't do that' he exclaimed. 'That will only encourage the metre to shrink even faster'.

I believe our sympathies must lie with the French engineer. After all, engineering is about **size**. The numerical expression of size is an **administrative** aid to convey the sizes over time, and from designer to builder. If the unit of measure varies in magnitude between the design and build stages, the **numerical expression** of those sizes **must** be index-linked to retain the intentions of the designer. The English engineer's problems were self-inflicted wounds; caused by his wilful pre-occupation with the sanctity of numerical expression.

The following table illustrates the issues raised here.

1. The English engineer saw variations in the units of measure as engineering factors ('look what happened to my bridge!'), considered his own processes to be null in both administrative and engineering terms (indeed, he did not even 'engage' with the difference), considered the processes of the French engineer to be spuriously active in both administrative and engineering terms (indeed, he did not even 'engage' with the difference), and considered his own problems to be engineering problems requiring engineering solutions.
2. The French engineer saw variations in the units of measure as purely-administrative factors, considered the processes of the English engineer to be null in administrative terms but spuriously-active in engineering terms, considered his own processes to be active in administrative terms but null in engineering terms, and considered the problems of the English engineer to be self-inflicted wounds caused by the spuriously-active engineering pre-occupation with the sanctity of numerical expression.

	<b>English Paradigm</b>	<b>French Paradigm</b>
<b>Units of Measure</b>	Engineering Factors	Administrative Factors
<b>English Processes</b>	Null	Null Administration Active Engineering
<b>French Processes</b>	Active	Active Administration Null Engineering
<b>English Problems</b>	Engineering Factors	Self-Inflicted Wounds Caused by <b>Spurious</b> Active Engineering

Note that this argument is not intended to belittle the challenging nature of many engineering problems (including the spurious self-inflicted problems dominating the attentions of the English engineer), nor the design and building skills required to resolve them (including the spurious engineering solutions to the spurious self-inflicted problems dominating the attentions of the English engineer). Nor indeed are they intended to suggest that index-linking could in any way resolve defects in a poor original design, or improve an adequate original design.

What they **are** intended to suggest is that index-linking would remove a source of **spurious self-inflicted** diversions from the design and building processes:

1. The French engineer was able to spend all his time on designing and building; without being diverted by the need to attend international conferences to discuss potential 'engineering solutions' to the 'engineering problems' caused by variations in the units of measure.
2. The French engineer was able to spend all his design time on fundamental design; without being diverted by the need to build in flexibility to accommodate potential 'engineering solutions' to the potential 'engineering problems' caused by potential variations in the units of measure.
3. The French engineer was able to spend all his build time on building the fundamental design; without being diverted by the need to design 'engineering solutions' to the 'engineering problems' caused by actual variations in the units of measure.
4. The French engineer was able to build the bridge he designed; uncompromised by spurious 'engineering solutions' to the 'engineering problems' caused by actual variations in the units of measure.

Unfortunately, because of the English engineer's intransigence, the bridge was never completed, and the partially-built bridge collapsed and disappeared!

Clearly, in the absence of fixed standards, the engineers and citizens of France and England, and indeed the world, had a great deal to gain from such index-linking. However, it is instructive to note that an individual engineer could not introduce such index-linking unilaterally. To gain the full benefits, all his customers, suppliers and sub-contractors would have to do so too. Indeed, some of the customers, suppliers and sub-contractors of the French engineer may well have been English. Thus, international co-operation would be required to promote and manage the indexes. However, this international co-operation would not need to be anything like that required to impose **fixed** standards for the units of measure. The management of the indexes would be limited to **passive monitoring of de-facto popular usage**. There need be no attempt to enforce some arbitrary fixed standard. The promotion of the indexes would be limited to publication and education. There need be no attempt to enforce use of the indexes, because it would be in each individual's enlightened self-interest to use them.

Thus, the French engineer's index-linking processes were engineering-null processes; processes which were sufficiently aligned to the underlying fundamentals to avoid creating 'self-inflicted wound' issues. Those engineering-null processes then provided the French engineer with a engineering-null frame of reference from which he would have been able to identify and define the 'real' or 'fundamental' engineering issues (but there weren't any!), and from which he would have been able to identify and qualify policy options to address those 'real' or 'fundamental' engineering issues (but there weren't any!).

## 4.2 Macro-Economically-Null Processes

The 'process re-engineering' argument here is that, just as engineering is about size, macro-economics is about Wealth; the creation, accumulation, trade and dissipation of Wealth. The current macro-economic problems **associated** with inflation and exchange-rate instability **must** be self-inflicted wounds; caused by the wilful pre-occupation with the sanctity of numerical expression. International co-operation **must** be able to devise, promote and manage simple administrative rules to prevent such self-inflicted wounds **irrespective** of variations in the magnitudes of the Currencies used to **enumerate** value.

So what would be the macro-economically-null processes; equivalent to the French bridge-

engineer's index-linking? Well, macro-economics is about **Wealth**; the creation, accumulation, trade and dissipation of Wealth. In order to establish the zero-sum network of Owed-Wealth as a **global, passive, level-value** frame of reference for that 'real' macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping), a **global** authority should be established to develop the following:

1. The global authority should maintain and publish an index for each Currency; linked to the nominal cost of adding internationally-tradable value through new production in regimes using that Currency.
2. All economic agents should inflation-link all factors determined by fiat. This would include the following factors:
3. Currency-conversion rates (conventionally called Currency-'exchange' rates).
4. Owed-Wealth (either by inflation-linking the Owed-Wealth itself, or by inflation-linking Currency-related nominal base interest rates).
5. Scheduled payments.
6. All macro-economic regimes should set base **real** base interest rates to zero (on top of inflation-linked Owed-Wealth).

Note that these proposals are not just a wish list. They comprise the required **macro-economically-null processes** in the face of inflation. The argument is that current macro-economic problems **associated** with inflation and exchange-rate instability are self-inflicted wounds; caused by wilful variations from those macro-economically-null processes; by the wilful pre-occupation with the sanctity of numerical expression.

#### 4.2.1 Inflation-Linking of Currency-Conversion Rates

The reason why macro-economically-null processes **must** include passive inflation-linking of Currency-conversion rates (conventionally called Currency-'exchange' rates) is illustrated in the following diagram.

	UK Pound	US Dollar	Japanese Yen	European Euro
Start of Year	1.00	2.00	240	1.40
Inflation Rate	20%	15%	5%	3%
End of Year	1.20	2.30	252	1.44

To take just the Currency-conversion rate (conventionally called Currency-'exchange' rate) between the GB Pound and the US Dollar, if:

1. The Currency-conversion rate between the GB Pound at the beginning of the year and the US Dollar at the beginning of the year was 1.00/2.00 (the starting point).
2. The Currency-conversion rate between the GB Pound at the beginning of the year and the GB Pound at the end of the year was 1.00/1.20 (by the definition of inflation).

3. The Currency-conversion rate between the US Dollar at the beginning of the year and the US Dollar at the beginning of the year was 2.00/2.30 (by the definition of inflation).

Then:

1. The Currency-conversion rate between the GB Pound at the beginning of the year and the US Dollar at the end of the year **must be** 1.00/2.30.
2. The Currency-conversion rate between the GB Pound at the end of the year and the US Dollar at the beginning of the year **must be** 1.20/2.00.
3. The Currency-conversion rate between the GB Pound at the end of the year and the US Dollar at the end of the year **must be** 1.20/2.30.

There are only four ‘real’ degrees of freedom here. One is used up by the first (arbitrary) nominal expression. The other three are used up by the first three Currency-conversion rates above. Thus, macro-economically-null processes **must** manage the second three Currency-conversion rates above as a passive reflection of the first three. In the more general case, macro-economically-null processes **must** include passive inflation-linking of all Currency-conversion rates.

With those macro-economically-null processes in place, there would be no macro-economic consequences of differential inflation. If the manufacture of a widget cost 1.00 GB Pounds in the UK and 2.00 US Dollars in the US at the beginning of the year (and that that reflected neutral competitiveness), then at the end of the year (on average) the manufacture of a widget would cost 1.20 GB Pounds to make in the UK and 2.30 US Dollars to make in the US (i.e. still neutral competitiveness – no problem). However, if the processes used to manage Currency-conversion rates vary from those macro-economically-null processes, those macro-economically-null processes **must** have spurious degrees of freedom. What can we expect but macro-economic anarchy! But don’t blame differential inflation. The cause of the macro-economic anarchy would be the wilful variations from those macro-economically-null processes.

#### 4.2.2 Inflation-Linking of Non-Equity Owed-Wealth

The reason why macro-economically-null processes **must** include passive inflation-linking of Non-Equity Owed-Wealth (i.e. Nominal Owed-Wealth and Securitised Owed-Wealth) is because that would **maintain** the ongoing **real** value of that Non-Equity Owed-Wealth. If the processes by which the ongoing value of Non-Equity Owed-Wealth is managed vary from that macro-economically-null passive inflation-linking, those processes **must** have spurious degrees of freedom. The ongoing **real** value of Owed-Wealth would be a hostage to fortune; a hostage to the relationship between the de-facto rate of inflation and the de-facto nominal rate of interest. What can we expect but macro-economic anarchy! But don’t blame inflation. The cause of the macro-economic anarchy would be the wilful variations from those macro-economically-null processes.

#### 4.2.3 Inflation-Linking of Currency-Conversion Rates and Non-Equity Owed-Wealth

If Currency-conversion rates and the value of Non-Equity Owed-Wealth were **both** passively inflation-linked (i.e. **both** of the above macro-economically-null processes), then the current macro-economic problems associated with inflation and exchange-rate instability would simply not occur. There would be no spurious degree of freedom for speculators to exploit. Whichever Currency Owed-Wealth was administered in, it would **maintain** its original **real** value, and could be converted at any time from administration in any one Currency to administration in any other Currency without loss or gain. With current processes, the prime

cause of the macro-economic anarchy is the wilful variations from these macro-economically-null processes.

#### 4.2.4 Inflation-Linking of Scheduled Payments

The reason why scheduled payments should be inflation-linked is illustrated in the following diagram.

Cashflow Inflation Real Interest Compound Initial Pay	Current Process		Current Process		Proposed Process	
	0%	5%	20%	5%	20%	5%
	1.05	1.05	1.26	1.26	1.26	1.26
	71	71	261	261	71	71

	Payment Balance		Payment Balance		Payment Balance	
<b>End Year 0</b>		1,000		1,000		1,000
<b>1</b>	71	979	261	999	85	1,175
<b>2</b>	71	957	261	998	102	1,378
<b>3</b>	71	934	261	997	123	1,614
<b>4</b>	71	910	261	995	147	1,886
<b>5</b>	71	884	261	993	177	2,200
<b>10</b>	71	736	261	972	439	4,560
<b>15</b>	71	548	261	904	1,093	8,441
<b>20</b>	71	307	261	687	2,720	11,777
<b>24</b>	71	68	261	207	5,640	5,372
<b>End Year 25</b>	71	0	261	0	6,769	0

Each of the three columns illustrates scheduled repayments for a mortgage of 1,000 over 25 years with a **real** interest rate of 5%:

1. The first column represents the standard current process, with inflation at 0% and a **real** and **nominal** interest rate at 5%. Repayments would be set to a **real** and **nominal** 71. Let us use it as the frame of reference for the second and third columns.
2. The second column represents the standard current process, with inflation at 20% and a **real** interest rate at 5%, but a **nominal** interest rate at 26%. Repayments would be set to a **nominal** 261.
3. The third column represents the null process with inflation at 20% and a **real** interest rate at 5%, but a **nominal** interest rate at 26%. Repayments would be set initially to a **nominal** value of 71, and would then be inflation-linked until a final repayment set to a **nominal** value of 6,769. The **nominal** value of the outstanding debt would rise to over 11,000 with twenty years gone and only five to go.

With the 'macro-economically-null process as used in the third column, the **real** value of each repayment, and the **real** value of the outstanding debt at every stage, would be identical to the first column. That is why it would be the macro-economically-null process in the presence of

inflation.

However, with the standard current process as used in the second column, with inflation at 20%, the borrower would be expected to repay over 25% of the **value** of the mortgage in the first year, and the repayment in the final year wouldn't buy a cup of coffee! What can we expect but macro-economic anarchy! But don't blame inflation. Don't blame the consequentially-high **nominal** interest rate. The cause of the macro-economic anarchy would be the wilful variations from the macro-economically-null processes defined in the third column.

#### 4.2.5 Setting the Global Base Real Interest Rate to Zero

The reason why all macro-economic regimes should set base **real** interest rates to zero (on top of inflation-linked Owed-Wealth) is illustrated in the following discussion:

1. Realistic levels of real interest are unlikely to influence demand to the required extent, or with the required degree of control. Retail demand is frequently funded by borrowing at real interest rates of 15-30%, and entrepreneurs are typically looking for a 20-40% real return on capital (i.e. a three to five year payback). None are likely to be influenced sufficiently by 'fine-tuning' of real interest rates against the boom/bust grain. An employee anticipating good times will cheerfully borrow to increase spending and/or consumption in spite of slightly more expensive credit. An entrepreneur anticipating a boom in demand will cheerfully borrow to invest in stocks, productive capacity and production. An employee anticipating redundancy will cut back on spending and/or consumption even if offered slightly cheaper credit. An entrepreneur anticipating a slump in demand will cut back on investment in stocks, productive capacity and production even if offered slightly cheaper credit.
2. A real interest rate of 10% will not pre-empt and/or dampen a boom in asset prices rising at a real rate of 20%, nor will a real interest rate of minus 10% pre-empt and/or dampen a slump in asset prices falling at a real rate of minus 20%.
3. A real interest rate of well over 350% p.a. would be required to pre-empt and/or dampen speculation in Owed-Wealth enumerated in a Currency whose Currency-conversion rate (conventionally called Currency-'exchange' rate) was expected to fall by 1% overnight.

Recent experience in Japan illustrates that, whatever the communal interest, and however low (or even negative) real interest rates are set, private citizens and entrepreneurs faced with the prospect of hard or uncertain times will simply refuse to spend any spare positive Owed-Wealth. Faced with the prospect of good times, private citizens and entrepreneurs will simply borrow to spend and/or to invest.

When manipulation of the real interest rate works at all (decreasingly frequently, and hopelessly inaccurately), it is only by 'smoke and mirrors spin-doctoring'. In the face of macro-economic instability, macro-economists, central bankers and politicians attempt to persuade economic agents that the boom/bust is about to reverse, in the hope that those economic agents will then act in such a way that their own actions reverse the boom/bust. As the fluency and transparency of financial processes has developed, 'smoke and mirrors spin-doctoring' has proved hopelessly inadequate as an instrument of macro-economic policy. Most macro-economists, central bankers and politicians now accept publicly that the base real interest rate is ineffective as a macro-economic tool in the short-to-medium term. Most would admit privately that the long-term is anyway too far away to manage with such a blunt tool.

The loss of 'sovereignty' over domestic base interest rates would in fact be no great loss. Realistic manipulation of interest rates is simply too feeble to counter the tidal pressures of business cycles directly. All such attempts are hostage to the marginal **propensity to**

**buy/employ** ‘against the grain’ of market sentiments.

Note here that although entrepreneurs typically complain vociferously about a high real interest rate in times of distress, their real concern is not with the high real interest rate per se. Their real concern is typically their presumption (justified with current processes) that:

1. A high real interest rate typically leads to an artificially-high valuation for the Currency and an adverse effect on international competitiveness.
2. A high real interest rate typically leads to inappropriate Owed-Wealth-repayments. To quote the extreme example discussed earlier, with inflation at 20% and a real interest rate of 5% (nominal interest rate of 26%), a borrower with a typical current 20 year mortgage would have to repay over 25% of the **value** of the mortgage in the first year!

Neither of these factors would apply if Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments were inflation-linked as proposed.

Recent experience in the UK illustrates a further major deficiency in the (attempted) use of the base real interest rate as an instrument of domestic macro-economic policy. The UK needed (unrealistically) high interest rates to dampen a boom in house prices, but (unrealistically) low (or negative) interest rates to dampen a slump in manufacturing industries. The UK could not do both! Indeed, if we wished to use interest rates as an instrument of macro-economic policy, states should not only resist the convergence and union of Currencies, they should seek to establish regional and/or city Currencies, and different interest rates for different types of Owed-Wealth! The result would be macro-economic anarchy.

Finally, there is the ‘fairness’ issue. When ‘the authorities’ attempt to use the base real interest rate as an instrument of domestic macro-economic policy, their intention is invariably to influence **new** borrowing. Unfortunately, there is no realistic way to manipulate the base real interest rate for **new** borrowing without **unilaterally** imposing the same base real interest rate on those who had already committed to borrow at an earlier base real interest rate.

Thus, manipulation of real interest rates should be abandoned as an instrument of global and domestic macro-economic policy. Macro-economic policy should be executed exclusively through **fiscal** instruments: taxation; benefits; communal current spending; and the timing of communal investment. Of these, the timing of communal investment can be directed accurately according to geographic need, is least disruptive to the continuity of communal services, and maintains a steady accumulation of national Wealth during hard times. Thus:

1. Taxation, benefits, and communal current spending (including ‘depreciation’ of communal investment) should be balanced on a rolling basis.
2. Macro-economic policy should be executed exclusively through the **timing** of communal investment.

#### 4.2.6 Summary

Note that these proposals are not just a wish list. They are the **macro-economically-null processes** in the face of inflation.

Thus, as illustrated in the table below, these proposals are offered not as macro-economic solutions to the macro-economic issues associated with inflation and exchange-rate instability. They are offered as administratively-active, **macro-economically-null** processes. The following table illustrates the issues raised here.

1. The current perspective considers variations in the value associated with units of measure to be macro-economic factors, considers the current processes to be null in both administrative and macro-economic terms (indeed, the current perspective does not even 'engage' with the difference), considers the proposed processes to be spuriously-active in both administrative and macro-economic terms (indeed, the current perspective does not even 'engage' with the difference), and considers the macro-economic issues associated with inflation and exchange-rate instability to be macro-economic problems requiring macro-economic solutions.
2. The proposed perspective considers variations in the value associated with units of measure to be purely-administrative factors, considers the current processes to be null in administrative terms but spuriously-active in macro-economic terms, considers the proposed processes to be active in administrative terms but null in macro-economic terms, and considers the problems associated with inflation and exchange-rate instability with the current processes to be self-inflicted wounds caused by the spuriously-active pre-occupation with the sanctity of numerical expression.

	<b>Current Paradigm</b>	<b>Proposed Paradigm</b>
<b>Units of Measure</b>	Economic Factors	Administrative Factors
<b>Current Processes</b>	Null	Null Administration Active Economics
<b>Proposed Processes</b>	Active	Active Administration Null Economics
<b>Economic Problems Associated with Inflation and Exchange Instability</b>	Economic Factors	Self-Inflicted Wounds Caused by <b><u>Spurious</u></b> Active Economics

With the proposals implemented, inflation and exchange-rate instability would cease to be macro-economic factors:

1. Differential inflation would have no effect on international trading competitiveness.
2. The ‘markets’ in ‘Currencies’, speculation against untenable Currency-conversion rates, and exchange-rate instability, would not arise.
3. Scheduled payments would be effected at the **value** intended.

These proposals might appear rather radical at first sight, but are actually no more than a normalisation of the de-facto conventional options. These de-facto conventional options have polarised into a variety of combinations of the two following options:

1. A number of fixed ‘exchange’ rate communities, each with a common nominal (and real) base interest rate (and/or ‘exchange’ controls).
2. Market forces between stand-alone Currencies and fixed ‘exchange’ rate communities, with nominal (and real) base interest rates heavily-constrained by the impact on ‘exchange’ rates.

However, even the most ardent advocates of the above options would agree that, **in the long run**:

1. Currency-conversion rates (conventionally called Currency-‘exchange’ rates) **must anyway** reflect the relative nominal cost of adding transportable value, and must therefore track relative inflation in the nominal cost of adding transportable value. Otherwise whole Currency areas would go bust.
2. Without exchange controls, nominal base interest rates **must anyway** complement anticipated changes in Currency-conversion rates, and must therefore reflect anticipated relative inflation. Otherwise, independent economic agents would try to build up a positive position in their Owed-Wealth administered in the Currency offering the best premium of nominal base interest rate over the anticipated rate of devaluation, and to build up a negative position in their Owed-Wealth administered in the Currency offering the worst (or negative) premium of nominal base interest rate over the anticipated rate of devaluation. This, of course, is a mathematical impossibility in the zero-sum network of Owed-Wealth - leading to self-fulfilling expectations and macro-economic anarchy. Such ‘speculation’ would force Currency-conversion rates away from a passive reflection of the relative nominal cost of adding transportable value, and whole Currency areas would go bust (as above).

Thus, **global** macro-economic stability requires **global** co-operation on the management of Currency-conversion rates. In the absence of exchange controls, this global co-operation **must** also encompass the management of the base interest rate for each Currency. Thus, the need for **global** macro-economic stability requires that **all** states must abandon the typical current use of the domestic base interest rate as an instrument of domestic macro-economic policy.

Global convergence and union of Currencies would then be driven or limited only by the balance of administrative convenience, pricing transparency, nationalism and political machismo; but all subject to a **fundamental** and **permanent** convergence of inflation rates.

Thus, this argument leads to the conclusion that **there should be no such thing as ‘monetary’ policy**. Macro-economic policy should be executed exclusively through **fiscal** policy: the balance of taxation; benefits; communal current spending; and the timing of communal investment. Of these, the timing of communal investment can be directed accurately according to geographic need, is least disruptive to the continuity of communal

services, and maintains a steady accumulation of national Wealth during hard times.

### 4.3 Deconstruction of Interest Rates

This Chapter is intended to provide a bottom-up analysis of the nature and administration of interest rates.

It should be read as a complementary Appendix to the previous Chapter.

#### 4.3.1 Currency-Related Nominal Base Rates and Debt-Specific Variations

The nominal interest rate on any given debt should be envisaged as a compound of two components:

1. For each Currency, there is a **Currency-related nominal base rate**. For example, for the GB Pound, the Currency-related nominal base rate is set by the Monetary Policy Committee. For the US Dollar, the Currency-related nominal base rate is set by the Federal Reserve Bank.
2. For each individual debt, there is a **debt-specific variation** from that Currency-related nominal base rate:
  - a. Each debt administered in the form of Non-Precious-Cash (i.e. the debt owed by the issuer of each item of Non-Precious-Cash to the bearer of that item of Non-Precious-Cash) attracts a nominal rate of 0%, which typically corresponds to a **negative** variation.
  - b. Each trading debt (i.e. each debt recorded in a payables account of a Buyer/Employer and in a receivables account of a Seller/Employee) typically attracts a nominal rate of 0%, which typically corresponds to a **negative** variation.
  - c. Each debt owed **by** the banking system (e.g. each current account in credit, and each deposit account) typically attract a nominal rate lower than the Currency-related nominal base rate (often 0%) which corresponds to a **negative** variation.
  - d. Each debt owed **to** the banking system (e.g. each current account in overdraft, and each mortgage, loan, and credit account) typically attracts a nominal rate higher than the Currency-related nominal base rate, which corresponds to a **positive** variation.

Thus, we will first explore the nature and administration of **Currency-related nominal base rates**, and then the nature and administration of **debt-specific variations**.

#### 4.3.2 Currency-Related Inflation-Compensation and Real Base Rates

Currency-related nominal base rates should themselves be envisaged as a compound of two components:

1. For each Currency, there is a **Currency-related inflation-compensation rate**, which is not defined or managed explicitly, but can be envisaged as equal to the Currency-related inflation rate.
2. For each Currency, there is a **Currency-related real base rate**, which is not defined or managed explicitly, but can be envisaged by subtracting the Currency-related inflation-compensation rate from the Currency-related nominal base rate. For examples, if inflation was 2%, the Currency-related inflation-compensation rate would be 2%, and:

- a. A Currency-related **nominal** base rate of 1% would reflect a Currency-related **real** base rate of **minus 1%**.
- b. A Currency-related **nominal** base rate of 2% would reflect a Currency-related **real** base rate of **0%**.
- c. A Currency-related **nominal** base rate of 3% would reflect a Currency-related **real** base rate of **plus 1%**.

#### 4.3.3 A Global Real Base Rate and Currency-Related Real Base Rate Variations

However, without exchange controls, the scope to vary any individual Currency-related **real** base rate out of line with the global average is strictly limited (otherwise debt capital would flow irresistibly into the Currency offering the best premium of Currency-related nominal base rate over the anticipated rate of devaluation). Thus, each Currency-related real base rate should itself be envisaged as a compound of two components:

1. There is in effect a **global real base rate**. Currently, this is not defined or managed explicitly, but can be envisaged as a weighted average of the de-facto Currency-related real base rates.
2. For each Currency, one can then envisage a **Currency-related real base rate variation** up or down when compared to the global real base rate.

#### 4.3.4 Deconstruction of Currency-Related Nominal Base Rates

The earlier deconstruction is illustrated in the table below, in which it is assumed that there are only two countries of equal size. Working from the given factor in column 1, and the explicitly-managed factor in column 2, one can ‘deconstruct’ what the ‘implicitly-managed’ factors in columns 3-5 must have been.

	1	2	3	4	5
Country	Currency-Related Inflation Rate	Currency-Related Nominal Base Rate	Currency-Related Real Base Rate	Global Real Base Rate	Currency-Related Real Base Rate Variation
UK	+10%	+16%	+6%	+4%	+2%
France	+20%	+22%	+2%	+4%	-2%

This deconstruction suggests that each Currency-related nominal base rate should be seen as a compound derivative of the following:

1. The Currency-related inflation rate.
2. A global real base rate.
3. A Currency-related real base rate variation.

Thus, to use UK position in the above illustration:

1. The Monetary Policy Committee should **not** say:
  - a. **We have decided in our wisdom to set the UK Currency-related nominal base rate to + 16%** (as if that rate could be set in isolation).
2. The Monetary Policy Committee **should** say:

- a. The UK inflation rate is + 10% (a measured ‘given’ for the UK).
- b. The global macro-economic community has collectively set the global real base rate to + 4% (effectively a given for the UK).
- c. **We have decided in our wisdom to set the UK Currency-related real base rate variation to + 2%.**
- d. **As a consequence of a., b. and c.,** the UK Currency-related nominal base rate is + 16%.

One can illustrate this ‘macro-economic’ build up of the Currency-related nominal base rate by re-sequencing the columns of the earlier table as follows. This time, working from the given factors in columns 1-2, and the explicitly-managed factor in column 3, one can calculate what the derived factor in column 4 must be.

	1	2	3	4
Country	Currency-Related Inflation Rate	Global Real Base Rate	Currency-Related Real Base Rate Variation	Currency-Related Nominal Base Rate
UK	+10%	+4%	+2%	+16%
France	+20%	+4%	-2%	+22%

#### 4.3.5 Macro-Economically-Null Processes for the ‘Implicitly-Managed’ Factors

It can be argued that the ‘implicitly-managed’ factors (i.e. the global **real** base rate and the Currency-related **real** base rate variations) should both be set to zero. Certainly, that must be seen as the ‘null’ or ‘default’ position in the debate. Economists, central bankers and politicians must ‘make the case’ for setting them at a rate other than the passive, macro-economically-null 0%. Certainly also, they have neither made that case, nor even acknowledged the need to make that case. Indeed, economists, central bankers and politicians have already conceded that manipulation of **real** base rates is ineffectual in the short-to-medium term, causes more problems than it solves (e.g. inappropriate and unstable ‘exchange’ rates), and is anyway less effective than alternative mechanisms of moderating macro-economic activity (e.g. adjusting the timing of communal investment). Thus, the global **real** base rate and the Currency-related **real** base rate variations should all be set to zero.

Thus, working from the ‘given’ factor in column 1, through the explicitly-managed factors in columns 2-3 managed at zero, we find that each Currency-related nominal base rate in column 4 should be set ‘passively’ to the Currency-related inflation rate.

	1	2	3	4
Country	Currency-Related Inflation Rate	Global Real Base Rate	Currency-Related Real Base Rate Variation	Currency-Related Nominal Base Rate
UK	+10%	+0%	+0%	+10%
France	+20%	+0%	+0%	+20%

This ‘null’ or ‘default’ policy on base interest rates is part of a wider ‘null’ or ‘default’ policy to also inflation-link Currency-conversion rates (conventionally called Currency-‘exchange’ rates) and scheduled payments. The effect of this wider policy would be that the zero-sum global network of inflation-linked debt would provide a passive **level-value** frame of reference for all ‘real’ macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping).

#### 4.3.6 Administration of Owed-Wealth ‘Evidenced by’ Non-Precious-Cash

Having established that Owed-Wealth should be inflation-linked ‘passively’ to **maintain its original value**, we can now consider the debt-specific variations from that **level-value** frame of reference for each debt administered in the form of Non-Precious-Cash (i.e. the debt owed by the issuer of each item of Non-Precious-Cash to the bearer of that item of Non-Precious-Cash).

Each such debt attracts a **nominal** interest rate of 0%, which typically corresponds to a negative variation from passive inflation-linking. For example, if we assume that the rate of inflation is 2%, then bearers of Non-Precious-Cash would be losing 2% of the value of their original ‘capital’ each year. In effect, the issuers would be borrowing from the bearers at a negative real interest rate equal to the rate of inflation. This is called seigniorage, and is unfair to the lender (i.e. the bearer of the Non-Precious-Cash).

However, it is **administratively inconvenient** to administer interest on Owed-Wealth administered in the form of Non-Precious-Cash (one could do it relatively simply with ‘Non-Precious-Cash’ Owed-Wealth administered through electronic purses, but that is a separate administrative proposition). Given that the rate of inflation is normally positive, there is normally a significant benefit to issuers of Non-Precious-Cash, and an identical aggregate cost to bearers. Thus, bearers will try to minimise their Non-Precious-Cash holdings, subject to administrative convenience. In practice of course, in all advanced economies, the proportion of Owed-Wealth administered in the form of Non-Precious-Cash held by citizens and businesses is negligible. However, until we have electronic purses, there will always be a need for some Non-Precious-Cash in circulation to underpin petty payment. Therefore, reluctantly, pending general adoption of electronic purses, **as a temporary exception condition**, we must concede the negative real interest rate on Owed-Wealth administered in the form of Non-Precious-Cash. The benefit to the issuer (seigniorage) is a classic example of ‘commons’. There can be little argument that the citizens of the state should be, and typically are, the sole beneficiaries of this seigniorage.

In a liberal democracy, the amount of cash held by each individual bearer, and therefore also in aggregate, is determined at the absolute discretion of those bearers. Each issuer must respond freely and fluently, but passively, to the demand to hold cash. Specifically:

1. Issuers should never presume to try to ‘push’ additional cash into circulation. Indeed, without legal and/or regulatory compulsion (typically to force banks to hold ‘excess’ cash reserves), neither the state nor an issuer is **able** to ‘push’ additional cash into circulation. For example, if the state tried to ‘spend cash into circulation’, the recipients would simply deposit the cash ‘in excess of their normal requirements’ straight back into the banking system (or would reduce their ‘normal’ withdrawals of cash from the banking system). The banking system would then deposit the cash ‘in excess of their normal reserve requirements’ straight back to the state/issuer (or would reduce their ‘normal’ withdrawals of cash from the state/issuer).
2. Issuers should never presume to try to ‘ration’ cash. That would only create liquidity crises and ‘runs’ on the banking system.

However, given that cash (and/or a guarantee by the relevant state bank) is perceived to be the ‘backstop’ for the liquidity of ‘on demand’ bank liabilities, and that retail and commercial banks typically provide the **administrative conduit** for the give and take of cash into and out of circulation, there is a very strong argument that each state bank should distribute ‘excess’ cash reserves to be held as ‘un-issued’ cash by retail and commercial banks on behalf of that state bank. Because that cash would be ‘un-issued’, retail and commercial banks would not lose ‘seigniorage’ interest on that cash, and would feel free to maintain substantial cash reserves.

Thus, in turn:

1. There would be less likelihood of liquidity crises and ‘runs’ on the banking system, because all banks would be able to ‘request’ the state bank to ‘issue’ virtually unlimited quantities of cash ‘on demand’ for depositors to withdraw. Effectively, the state bank would deposit that cash with the bank concerned (replacing the original depositors), and the original depositors would ‘deposit’ with the state bank (administered in the form of the now-issued cash).
2. There would be less need to courier cash around in bulk on a day-to-day basis.

Users of cash must expect to make a contribution to the issuer’s and the banks’ operational expenses and profits, but this should be done transparently and explicitly. Specifically, users of cash should expect to pay for the administration of withdrawals of cash from the banking system, and for the administration of deposits of cash into the banking system (and/or should ‘short-circuit’ the circulation of cash by taking cash-back from retail outlets).

#### 4.3.7 Administration of Owed-Wealth ‘Evidenced by’ Non-Cash ‘Money’

Having established that Owed-Wealth should be inflation-linked ‘passively’ to **maintain its original value**, we can now consider the debt-specific variations from that **level-value** frame of reference for each debt administered in the form of a bank account balance:

1. Owed-Wealth owed **by** the banking system (e.g. each current account in credit, and each deposit account) typically attracts a **negative** variation. Bank accounts with a positive balance typically attract a nominal rate lower than the Currency-related nominal base rate; often a nominal rate of zero.
2. Owed-Wealth owed **to** the banking system (e.g. each current account in overdraft, and each mortgage, loan, and credit account) typically attracts a **positive** variation. Bank accounts with a negative balance typically attract a nominal rate higher than the Currency-related nominal base rate.

These interest rate variations (interest-rate spreads) ‘slush-fund’ the banks’ operational expenses, lending risks and profits. Of course, account-holders must expect to make a contribution to the banks’ operational expenses, lending risks and profits. However, this

should be done transparently and explicitly. Banks should be obliged to cover their operational expenses, lending risks and profits through **specific and overt charges** for what they **did**, rather than by **covert** slush-funding of interest-rate differentials on the Owed-Wealth which they had '**enclosed**'.

Specifically, banks should levy 'up-front' high-visibility itemised charges; each agreed sufficiently far in advance to allow the customer to seek alternative arrangements. Such 'up-front' high-visibility itemised charges would cover the following:

1. The operational costs associated with routine setup **and eventual closure** of each account.
2. The operational costs associated with routine setup **and eventual discharge** of each loan or extension (such as due diligence, checking of credit history, and establishing and discharging a lien on an asset).
3. The potential cost of ultimate loss associated with each loan or extension. After all, **all** of this potential liability is incurred at the instant of extending the loan.
4. The operational costs associated with routine account-maintenance.
5. The operational costs associated with routine transaction-processing.
6. The operational costs associated with monitoring each loan or extension.

In addition:

1. All loans or extensions should include a schedule of realistic level-value or falling-value repayments from a realistic estimate of income through to discharge.
2. All spurious 'front-end sweeteners' (e.g. cash-backs, low-repayment periods and/or low-interest periods) to seduce the gullible into liabilities which later become unmanageable should be outlawed.
3. All spurious 'back-end charges' (e.g. tie-ins, and charges associated with delinquency) should be outlawed (an estimate of the potential costs associated with potential delinquency should have been incorporated into high-visibility itemised charges).

With such rules:

1. Slush-funded interest-rate spreads would be excluded altogether as a source of bank income.
2. Borrowers would be able to make a fully-informed and timely decision about each loan, extension or service.
3. Lenders would be more circumspect about the ability of borrowers to repay.
4. The Net-Owed-Wealth of individual economic agents would never spiral out of control.

#### **4.4 Moderating Inflation as a Purely-Administrative Factor**

Of course, there is great **administrative** utility in establishing **macro-economically-neutral** processes to moderate the level of inflation within each Currency area. This can and should be done in the form of administrative feedback on the nominal cost of adding transportable value:

1. A Payroll Index should be maintained within each Currency area; reflecting the **contractual** cost of adding transportable value (based on contractual wages plus employment costs; factored to reflect productivity).

2. Contractual wages should be divided by that Payroll Index at the instant of payment.

Contractual wages would continue to vary within each Currency area subject to market forces **within** that Currency area. However, the operation of the Payroll Index would stabilise the nominal cost of adding transportable value, and hence the International Currency Index and all factors linked to that International Currency Index.

Such a Payroll Index could be used passively; simply to moderate inflation. Indeed, there is reason to believe that the current leap-frogging and mutual back-scratching in wage negotiation would be moderated when confronted with such direct and visible feedback (one man's rise would very quickly result in an increased Payroll Index and a fall in the take-home pay of everyone else).

However, a Payroll Index could be used more constructively:

1. Payroll Indexes aligned to local geographic regions **within** a Currency area would allow a local community to accommodate geographic macro-economic disadvantage in the form of a relatively-low earned income for all, rather than relatively-high unemployment. Note that this does not of course preclude **social** re-distribution via taxation, benefits and grants.
2. Inflation in the nominal cost of adding transportable value could be managed at a low non-zero level (say 5% per annum); to optimise the balance between the macro-economic requirement for fluency in market processes (i.e. to avoid macro-economic 'sticktion') and the emotional desire for overall price stability.

## 4.5 Summary

All of the literature addressing the 'Currency' topic of this paper is based based on a paradigm which conflates the (money-)Wealth and Currency concepts (as defined in this paper). For example, the **Bancor** proposals associated with Keynes are described in Wikipedia as follows:

Bancor of is the name of the supranational Currency that **John Maynard Keynes** was conceptualising in the years 1940-42 and which the United Kingdom proposed to introduce after the Second World War. This newly created supranational Currency should then be used in international trade as a unit of account within a multilateral barter clearing system – the **International Clearing Union** – which would also have to be newly found. The **Bancor** was to be backed by barter and its value expressed in weight of gold. However, this British proposal of introducing a supranational Currency could not prevail against the interests of the United States, which then at the **Bretton Woods conference** established the U.S. dollars as world key Currency.

Since the **outbreak of the financial crisis in 2008** Keynes' proposal is winning in importance: In a speech delivered in March 2009 entitled *Reform the International Monetary System*, **Zhou Xiaochuan**, the governor of the **People's Bank of China** called Keynes' bancor approach "farsighted" and proposed the adoption of **IMF SDRs** as a global reserve Currency as a response to the **financial crisis of 2007–2010**. He argued that a national Currency was unsuitable as a global reserve Currency because of the **Triffin dilemma** - the difficulty faced by reserve Currency issuers in trying to simultaneously achieve their domestic monetary policy goals and meet other countries' demand for reserve Currency. Similar analysis can be found in the **Report of the United Nation's "Experts on reforms of the international monetary and financial system"** as well as in the **IMF's** study published on April 13, 2010.

Thus, all of that Bancor literature is based on a paradigm in which the concepts of 'money' (my definition) and Currencies (my definition) are conflated and confused, and in which all proposals are characterised as practical **economic** measures to solve or moderate **economic**

issues associated with international trade.

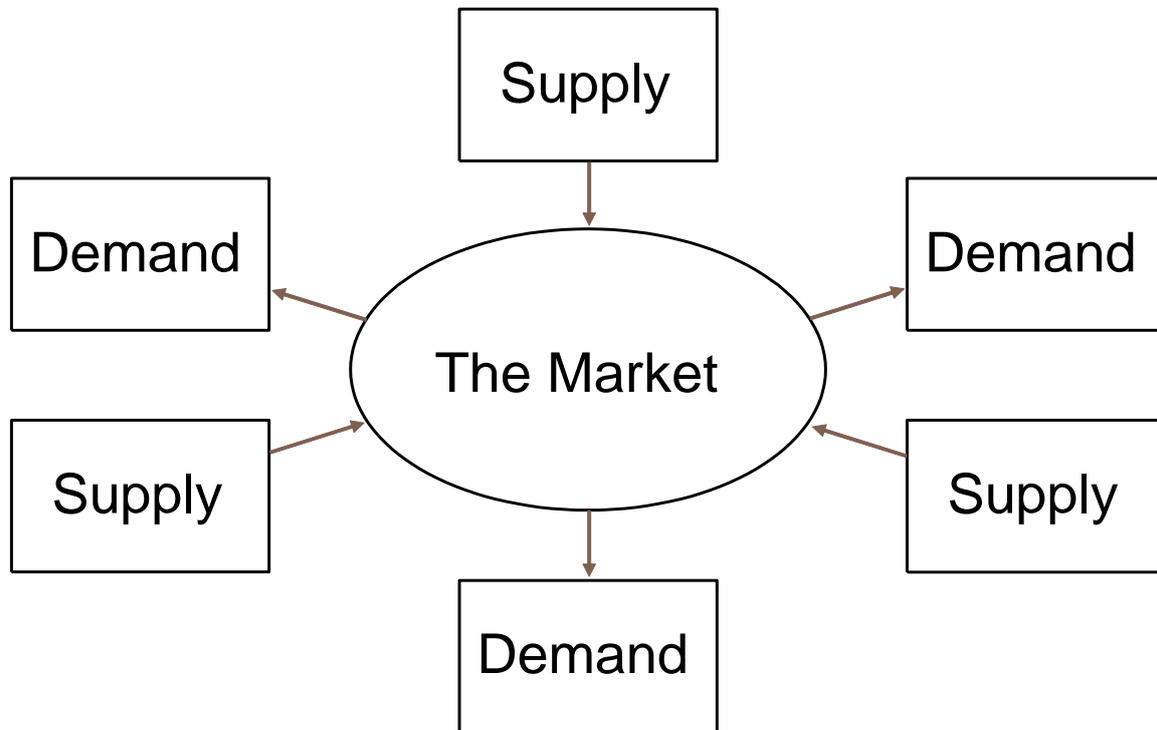
In contrast, this paper is based on a paradigm in which the concepts of ‘Wealth’ (my definition; ‘money’ and non-‘money’ without distinction) and Currencies (my definition) **must** be clearly distinguished, in which the **distinction** between ‘money’ Wealth (my definition) and non-‘money’ Wealth (my definition) **must** be clearly defined as a purely-administrative concept, and in which Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments **must** be inflation-linked **by default as a purely-administrative issue**; not to ‘solve or moderate a supposed **economic** problem’, but **simply because ‘that is the nature of the beast’**. This paper therefore argues that **all** of the macro-economic issues currently associated with inflation and exchange-rate instability (i.e. not just those associated with international trade) should be seen as self-inflicted wounds caused by wilfully-incoherent variations from that administrative default.

This Chapter has analysed from first principles the concept of ‘Currencies’ as units of measure of value. It has developed the argument that the value associated with each Currency is determined on a **macro-economically-incident** basis by millions of naive economic agents agreeing millions of prices each day. However, it has also developed the argument that inflation/deflation in the value associated with each Currency is (or **ought** to be) a **purely-administrative** factor. **By default**, Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments **ought** to be inflation-linked. This would establish the zero-sum network of Owed-Wealth as a **global, macro-economically-neutral, level-value** frame of reference for ‘real’ macro-economic activity (i.e. production, consumption, trade and employment, as opposed to finance and book-keeping). The macro-economic issues associated with inflation and exchange-rate instability should be seen as self-inflicted wounds caused by wilful variations from that default. Thus, macro-economists, central bankers and politicians should promote that default through global and state institutions from the IMF downwards, should abandon ‘monetary’ policy altogether, and should confine macro-economic policy exclusively to fiscal policy. The concept of Currencies is (**or ought to be**) a **purely-administrative concept**; of interest only to students of the history of routine commercial and financial administration, and completely-irrelevant to macro-economics.

## 5 Market Economics

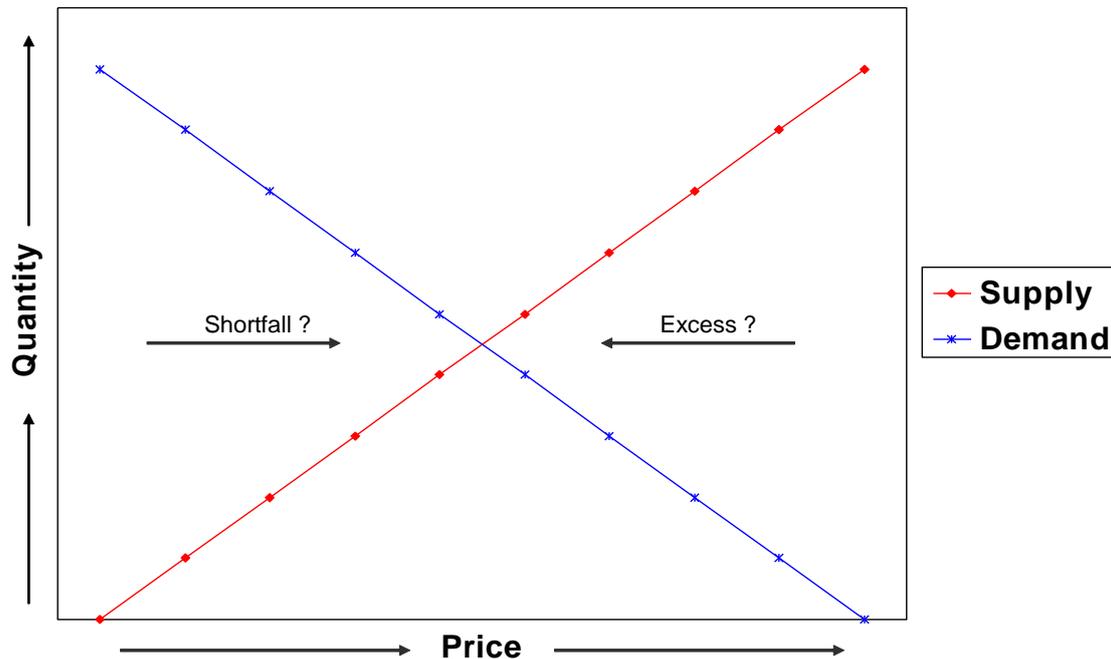
Conventional wisdom argues that ‘market forces’ comprise the ‘rational’ and ‘stabilising’ interplay between supply and demand, overlaid by ‘irrational’ animal spirits and exuberance.

This conventional perspective is typically illustrated with a diagram similar to the following.



Production/Consumption and Trade/Employment are deemed to be ‘just-in-time’. Buyers/Employers and Sellers/Employees are presumed to meet in the market, and an equilibrium ‘market clearing’ price is presumed to ‘emerge’.

This process is typically further illustrated with a diagram similar to the following.



The rationale is that:

1. If the de-facto market price is lower than the equilibrium level, there will be a shortfall, and at least one supplier-demander pair will 'break ranks' and trade at a higher price.
2. If the de-facto market price is higher than the equilibrium level, there will be an excess, and at least one supplier-demander pair will 'break ranks' and trade at a lower price.

Unfortunately, reality falls well short of this theory. This shortfall is put down to 'irrational' animal spirits and exuberance.

However, this paper argues that the conventional paradigm fails to take account of the following:

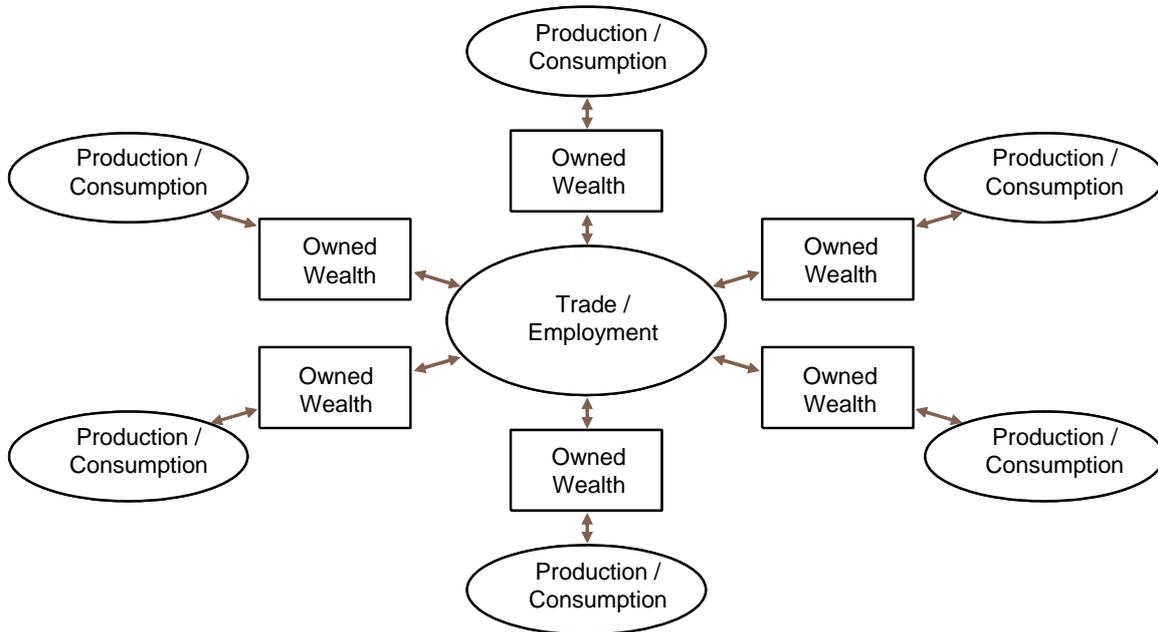
1. The conventional paradigm fails to take account of the inadequate flow of information in a complex supply-chain. In particular:
  - a. It is reasonable to assume that there exist equilibrium levels of supply-chain prices, but it is also reasonable to assume that no economic agent knows what they are (all economic agents are simply 'feeling their way').
  - b. It is reasonable to assume that there exist equilibrium levels of Production/Consumption, but it is also reasonable to assume that no economic agent knows what they are (all economic agents are simply 'feeling their way').
2. The conventional paradigm fails to take account of supply-chain investment/disinvestment in Owned-Wealth; investment/disinvestment intended to boost/run-down Production/Consumption capability and which has to be established 'up-front' and then depreciated over time (e.g. investment/disinvestment in premises, recruitment, training, production equipment, administrative equipment, research,

development, public relations, advertising, distribution capacity, sales capacity, input and work-in progress stocks required to support anticipated variations in ongoing Production/Consumption, and output stocks required to support anticipated variations in ongoing distribution and sales). For such supply-chain investment/disinvestment:

- a. It is reasonable to assume that there exist equilibrium levels of supply-chain investment, but it is also reasonable to assume that no economic agent knows what they are (all economic agents are simply ‘feeling their way’).
  - b. It is reasonable to assume that there exist ‘mark to market’ values of de-facto supply-chain investment, but it is also reasonable to assume that no economic agent knows what they are (all economic agents are simply ‘feeling their way’). Each economic agent must make a ‘best guess’ as to rolling de-facto depreciation in the value of its supply-chain investments. Some economic agents may well decide that they have over-invested in their supply-chain, and choose to write-off some or all of that investment and to continue production for supply at prices only marginally higher than the marginal cost of production. Some economic agents may well decide that they have over-invested in their supply-chain so much that they choose to close down production, and to supply from pre-existing output stocks at ‘fire-sale’ prices.
3. If an economic agent decides to increase its supply-chain investment, there is usually a substantial delay between each **decision to invest** and the **intended consequential increase in the level of Production/Consumption capacity**. This inevitably leads to supply-chain investment which turns out to be inappropriate with the benefit of hindsight.
  4. The conventional paradigm fails to take account of **speculative investment/disinvestment in Owned-Wealth**; (particularly through input stocks, work-in progress stocks, output stocks, futures and other derivatives associated with Owned-Wealth). For such speculative investment/disinvestment, economic agents have no frame of reference at all other than ‘what the market price would be tomorrow compared to what it is today’.
  5. The conventional paradigm fails to take account of **speculative investment/disinvestment in Owed-Wealth** (particularly through Securitised Owed-Wealth, Equity Owed-Wealth, futures and other derivatives associated with Owed-Wealth). Such speculative investment/disinvestment in Owed-Wealth is zero-sum, and economic agents have no frame of reference at all other than ‘what the market price would be tomorrow compared to what it is today’. Indeed, the global network of Owed-Wealth is itself zero-sum, and the whole conventional market paradigm associated with production, supply, quantity in circulation, demand and consumption simply does not apply. When that market paradigm **appears** to apply (e.g. for Securitised Owed-Wealth and derivatives), the ‘degree of freedom in the market’ applies not to the prices of the Owed-Wealth itself, but to the spurious degrees of freedom introduced by the financial-services industries in their own self-serving interests through spurious financial engineering.

In particular, the potential for, and the consequences of, investment/disinvestment requires consideration of a more sophisticated paradigm before resorting to the concept of **irrational** animal spirits and exuberance.

This chapter argues that it is constructive to envisage each economic agent to have a de-facto ongoing investment in Owned-Wealth, and that a more appropriate paradigm is illustrated in the diagram below.



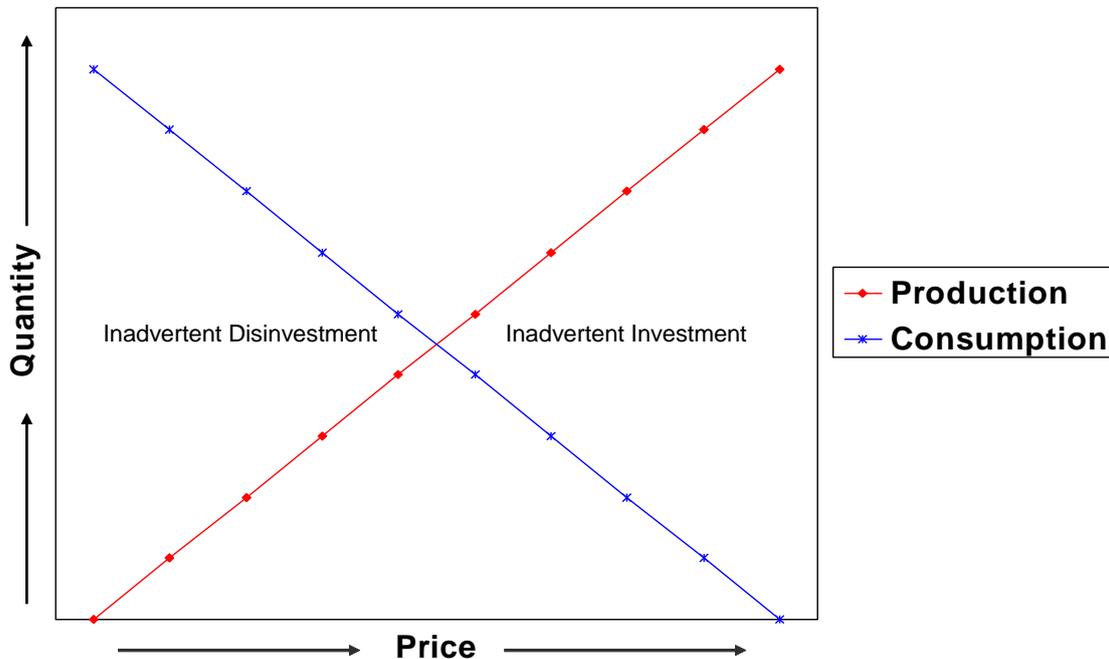
This chapter then argues that ‘market forces’ (with respect to Owned-Wealth) are actually a compound of three radically-distinct **perfectly-rational** influences:

1. In considering the merits of **supply-chain Production/Consumption** of Owned-Wealth, economic agents are **price-takers**. There is no feedback into market prices. If the de-facto market price is above/below the equilibrium level, net Production/Consumption will be positive/negative. The perfectly-rational but sub-optimal result is **inadvertent** supply-chain investment/disinvestment in Owned-Wealth.
2. In considering the merits of **deliberate supply-chain investment/disinvestment** in Owned-Wealth, economic agents become **price-makers** as they attempt to increase/decrease their de-facto investment to what they judge to be a revised equilibrium level. The perfectly-rational but sub-optimal result is **business-cycles** of investment/disinvestment in Owned-Wealth.
3. In considering the merits of **speculative investment/disinvestment** in Owned-Wealth, Equity Owed-Wealth, Securitised Owed-Wealth or derivatives, economic agents become **bubble-makers** as they attempt to increase/decrease their de-facto investment purely to take advantage of anticipated increases/decreases in market prices over time. The perfectly-rational but sub-optimal result is **de-stabilising self-fulfilling expectations**.
4. The interplay between the life-cycles (of citizens) and the business-cycles (of enterprises) is inherently unstable. The perfectly-rational but sub-optimal result is booms and busts. Booms and busts can be corrected **only** by ‘social’ initiatives to ‘swim against the market-sentiment tide’.

## 5.1 Supply-Chain Production/Consumption

In considering the merits of supply-chain Production/Consumption of Owned-Wealth, economic agents are price-takers. There is no feedback into market prices. If the market price is above/below the equilibrium level, net Production/Consumption will be positive/negative. The perfectly-rational but sub-optimal result is inadvertent supply-chain investment/disinvestment in Owned-Wealth.

The dynamics of price-taking Production/Consumption are illustrated in the following diagram:



The rationale is that:

1. If the de-facto market price is lower than the marginal cost of production (i.e. to the left in the diagram), production will be lower than consumption, and there will be an inadvertent disinvestment in Owned-Wealth in the supply-chain.
2. If the de-facto market price is higher than the marginal cost of production (i.e. to the right in the diagram), production will exceed consumption, and there will be an inadvertent investment in Owned-Wealth in the supply-chain.

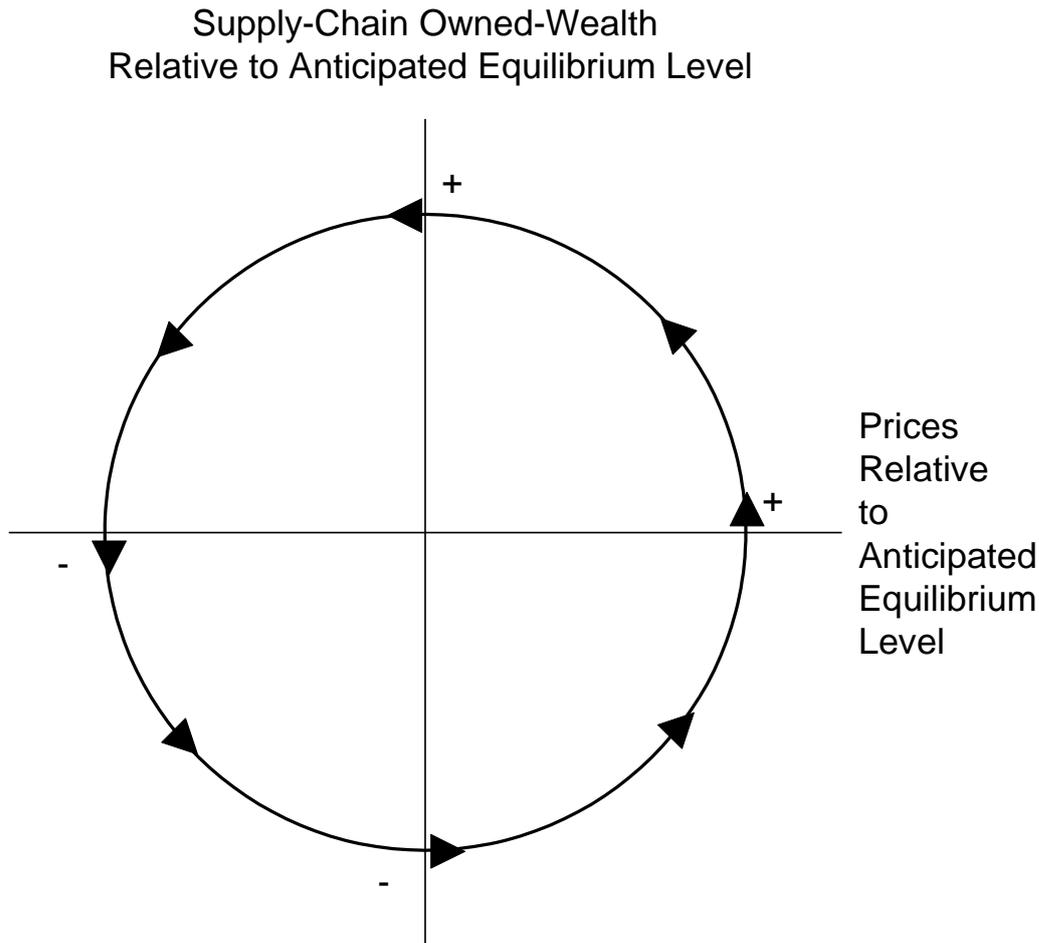
Thus, given that no-one knows what are the equilibrium levels of Production/Consumption, prices and investment in Owned-Wealth, there is a natural tendency for under-investment and over-investment in Owned-Wealth to emerge.

A classic example of this process is the investment overhang in the car industry in the economic downturn of 2008/9. Production (at marginal cost) remained much higher than sales until manufacturers eventually ran out of space to park the consequences of the inadvertent over-investment in production capacity and output stocks, and indeed in their ability to fund that over-investment.

## 5.2 Supply-Chain Investment/Disinvestment

In considering the merits of **deliberate** supply-chain investment/disinvestment in Owned-Wealth, economic agents become **price-makers** as they attempt to increase/decrease their de-facto investment to what they judge to be the (revised) equilibrium level. The perfectly-rational but sub-optimal result is **business-cycles** of investment/disinvestment in Owned-Wealth.

The dynamics of **deliberate** supply-chain investment/disinvestment in Owned-Wealth are illustrated in the following diagram:



The rationale is that:

1. If the de-facto market price is lower than the equilibrium level (i.e. to the left in the diagram), production will be lower than demand, and there will be an **inadvertent** reduction in investment in Owned-Wealth in the supply-chain (i.e. a move towards the bottom in the diagram).
2. If the de-facto investment in the supply-chain is lower than the equilibrium level (i.e. to the bottom in the diagram), some economic agents will increase prices (i.e. a move towards the right in the diagram).
3. If the de-facto market price is higher than the equilibrium price (i.e. to the right in the diagram), production will be higher than demand, and there will be an **inadvertent** increase in investment in Owned-Wealth in the supply-chain (i.e. a move towards the

top in the diagram).

4. If the de-facto investment in the supply-chain is higher than the equilibrium investment (i.e. to the top in the diagram), some economic agents will decrease prices (i.e. a move towards the left in the diagram).

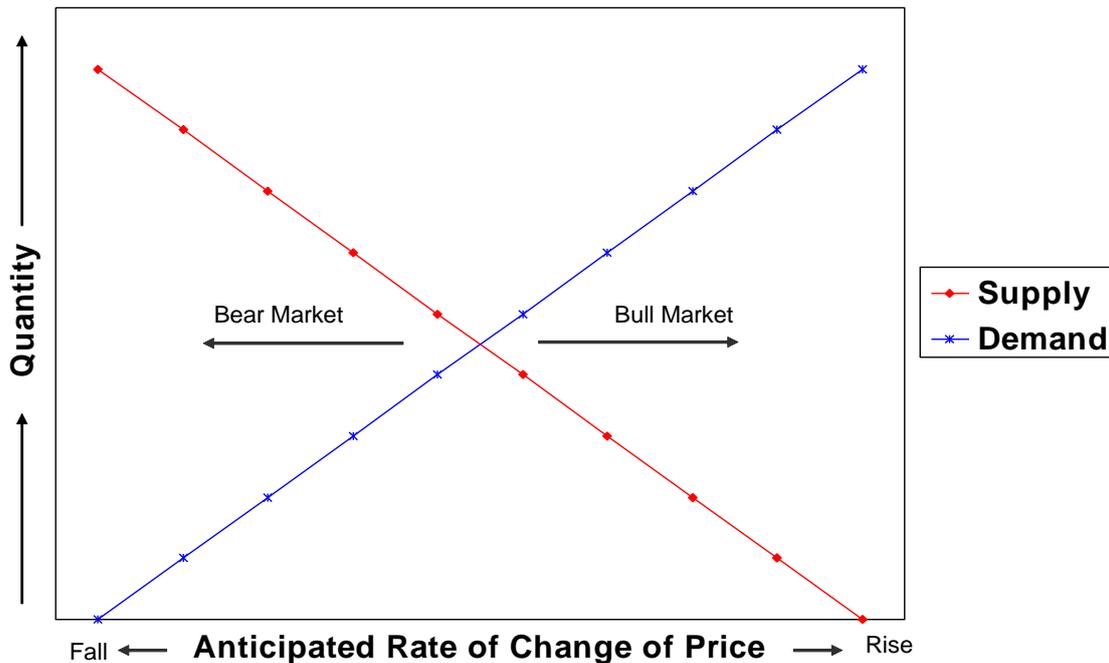
Thus, given that no-one knows what are the equilibrium levels of Production/Consumption, prices, and investment in Owned-Wealth, and given that one enterprise's employees are the next enterprise's customers, there is a natural tendency for business-cycles to emerge with a cadence aligned to 'typical', 'average' or 'median' investment cycles (it cannot be an exact science). Note that, in a market economy, the business-cycles of enterprises self-correct as they 'rotate' within their investment cycles.

A classic example of this process is the investment overhang in the car industry in the economic downturn of 2008/9. Production (at marginal cost) remained much higher than sales until manufacturers eventually ran out of space to park the consequences of the **inadvertent** over-investment in production capacity and output stocks, and indeed in their ability to fund that over-investment. Eventually, they had to close down production, and supply at below-equilibrium prices from stocks until the stocks were reduced.

### 5.3 Speculative Investment/Disinvestment

In considering the merits of **speculative investment/disinvestment** in Owned-Wealth, Equity Owed-Wealth or Securitised Owed-Wealth, economic agents become **bubble-makers** as they attempt to increase/decrease their de-facto investment purely to take advantage of anticipated increases/decreases in market prices over time. The perfectly-rational but sub-optimal result is **de-stabilising self-fulfilling expectations**.

The dynamics of price-making speculative investment/disinvestment in Owned-Wealth are illustrated in the following diagram:



The rationale is that:

1. If market sentiment suggests that market prices are going to fall, all speculators will try to sell (short) before the prices fall, thereby causing the prices to fall.
2. If market sentiment suggests that market prices are going to rise, all speculators will try to buy before the prices rise, thereby causing the prices to rise.

Thus, there is a natural tendency for self-fulfilling expectations to cause booms and busts.

Note that, unlike the business-cycles of enterprises discussed earlier (which self-correct as they 'rotate' within their investment cycles), there is no 'market' process by which a boom or bust would self-correct in a cyclic or damped way. Indeed, 'corrections' tend to be unpredictable and traumatic, subject only to indeterminate swings in self-fulfilling market sentiment. The 'market' characteristic which causes such booms and busts is perfectly-rational profit-seeking.

## 5.4 Life-Cycles (of Citizens) vs Business-Cycles (of Enterprises)

Of course, economic activity takes place in two distinct contexts:

1. Entrepreneurs have to try to second-guess the short-term future demands of their customers, in order to plan their short-term future Trade/Employment inputs and Production/Consumption. Thus, there is a 'market' process whereby business-cycles of enterprises self-correct as they 'rotate' within their investment cycles (as described earlier).
2. However, the ultimate 'book-ends' of supply-chains are citizens. They are the ultimate producer/suppliers (as employees and entrepreneurs), and the ultimate demander/consumers (as retail consumers). They have no specific need to match their short-term demand/consumption (as retail consumers) to their short-term production/supply (as employees and entrepreneurs). Indeed, quite the opposite is true. Some citizens (of working age and inclination) aim to accumulate Net-Wealth by spending less than their income on a short-term basis, and/or borrow to pay for consumption and/or investment in homes. Others (of retirement age and inclination) are resigned to dissipate Net-Wealth by spending more than their (non-existent) income. Thus, the 'life-cycles' of citizens stretch over periods so long that the whole concept of short term self-correction becomes meaningless.

In order to reconcile the interaction between these two co-existing and inter-relating contexts, imagine a capitalist production scenario lasting six years:

1. In year 1, £100 of wages produces £100 of production goods and £0 of consumer goods. Thus, there is an **£100 excess** of 'buying/employing power' (the £100 of wages) when compared to the £0 of consumer goods available. In effect, the citizens/employees are forced to 'save' their £100 wages by investing in the £100 of production goods (via the banks and the enterprise). The citizens have a net cashflow of plus £100, and the enterprises have a net cashflow of minus £100.
2. In each of years 2-6, £100 of wages plus £20 of production goods (depreciation) produces £120 of consumer goods. Thus, there is an **£20 shortfall** of '**new** buying/employing power' (the £100 of wages paid that year) when compared to the £120 of consumer goods available. In effect, the workers are forced to 'un-save' £20 of their first-year wages in order to purchase the £120 of consumer goods available. The citizens have a net cashflow of minus £20 (£100 wages minus £120 spending), and the enterprises have a net cashflow of plus £20 (£120 sales minus £100 wages).

Thus, during the course of the six years:

1. The workers earn £600 in total.
2. The workers save/lend £100 in year 1, and un-save/un-lend £20 in each of years 2-6 (net zero).
3. The enterprise borrows/invests £100 in year 1, and un-borrows/un-invests £20 in each of years 2-6 (net zero - corresponding to the value of the now-depreciated production goods).
4. The enterprise makes £600-worth of consumer goods in total.
5. The enterprise sells £600-worth consumer goods in total.
6. The workers purchase £600 consumer goods in total.

At all times, there is a cumulative **excess** of 'buying/employing power' (i.e. the cumulative wages) when compared to the total value of consumer goods produced. That excess

corresponds to the current depreciated value of production goods, which rises to £100 during the investment phase (as per year 1 above), and which reduces to zero during the production phase (as per years 2-6 above).

In practice, of course, there is no reason to believe that citizens would actually use their available 'spending power' to purchase consumer goods as described above. In each year they may well **try** to spend more (resulting in inflation) or less (leaving enterprises with unsold consumer goods, and possibly deflation).

In practice, of course, the overall economy comprises a multitude of such capitalist propositions at every given time, some in their investment phase (as per year 1 above), and some in their production phase (as per years 2-6 above). Thus, the **net** impact on the overall economy at any given time depends on the **net** balance of investment/production at that time. Nevertheless, at every given time, there will be a **de-facto** cumulative net value of borrowing/investment by enterprises, which corresponds to the current depreciated value of production goods. This de-facto net value was determined by enterprises when they made/withheld historic borrowing/investment decisions.

Fortunately, citizens/workers/investors/savers have their own life cycles. They tend to save whilst working, and un-save in old age (by cashing pensions, dissipating savings, and buying annuities). Again, in practice, the overall economy comprises a multitude of such citizens at every given time, some in their saving phase, and some in their un-saving phase. Nevertheless, at every given time, there will be a **de-facto** cumulative net value of saving/lending by citizens. This de-facto net value was determined by citizens when they made/withheld historic employment and retail purchase decisions.

Of course, the **de-facto** net value of saving/lending (by citizens) is **mathematically equal and opposite** to the **de-facto** net value of borrowing/investing by enterprises (banks, bond markets and stock markets simply intermediate the lending/borrowing; in the form of a zero-sum network of Owed-Wealth).

However, that does **not** mean that the **propensity** of citizens to save/lend is equal and opposite to the **propensity** of enterprises to borrow/invest at any given time. In fact, quite the opposite is true:

1. If a **boom** is anticipated, **all** economic agents (i.e. citizens **and** enterprises) simultaneously try to spend **more** than they would otherwise do (and thereby try to move negatively in their net Owed-Wealth positions compared to what they would otherwise do). Given that Owed-Wealth is a zero-sum game, this can only end in tears (in a self-fulfilling boom).
2. If a **bust** is anticipated, **all** economic agents (i.e. citizens **and** enterprises) simultaneously try to spend **less** than they would otherwise do (and thereby try to move net-positively in their net Owed-Wealth positions compared to what they would otherwise do). Given that Owed-Wealth is a zero-sum game, this can only end in tears (in a self-fulfilling bust).

Thus, the interplay between the life-cycles (of citizens) and the business-cycles (of enterprises) is inherently unstable. The perfectly-rational but sub-optimal result is booms and busts. Booms and busts can be corrected **only** by 'social' initiatives to 'swim against the market-sentiment tide'.

## 5.5 Owned-Wealth Derivatives

To be composed.

## 5.6 Owed-Wealth Derivatives

To be composed.

## 5.7 Summary

The conclusion of this Chapter is that the context for market forces is the interplay between the life-cycles (of citizens) and the business-cycles (of enterprises):

1. Citizens (attempt to) accumulate **positive** Owed-Wealth (within positive Net-Wealth) Net-Wealth during mid-life, in order to be able to draw down from that accumulated positive Net-Wealth in old age.
2. Enterprises take on **negative** Owed-Wealth (within positive Net-Wealth) to fund investment, in anticipation of sufficient positive cash-flow to pay down that negative Owed-Wealth and leave a profit.

For an economy to work effectively, the aggregate of these two cycles must be made to balance at every point in time. In conventional wisdom, they will balance ‘naturally’, based on the ‘**rational**’ interplay between supply and demand (partially overlaid by ‘**irrational**’ animal spirits and exuberance). However, this paper argues that ‘market forces’ are actually a compound of three radically-distinct **perfectly-rational** influences:

1. In considering **supply-chain Production/Consumption** of Owned-Wealth, economic agents are **price-takers**. There is no feedback into market prices. If the de-facto market price is above/below the equilibrium level, net Production/Consumption will be positive/negative. The perfectly-rational but sub-optimal result is **inadvertent supply-chain investment/disinvestment** in Owned-Wealth.
2. In considering **deliberate supply-chain investment/disinvestment** in Owned-Wealth, economic agents become **price-makers** as they attempt to increase/decrease their de-facto investment to what they judge to be a revised equilibrium level. The perfectly-rational but sub-optimal result is **business-cycles** of investment/disinvestment in Owned-Wealth.
3. In considering **speculative investment/disinvestment** in Owned-Wealth, Equity Owed-Wealth, Securitised Owed-Wealth or derivatives, economic agents become **bubble-makers** as they attempt to increase/decrease their de-facto investment purely to take advantage of anticipated increases/decreases in market prices over time. The perfectly-rational but sub-optimal result is **de-stabilising self-fulfilling expectations**, resulting in booms and busts. Booms and busts can be corrected **only** by ‘social’ initiatives to ‘swim against the market-sentiment tide’.

The conclusion is that the theoretical optimising influence of ‘market forces’ is based on the interplay between the first two of these radically-distinct influences. As such, the theoretical optimising influence of ‘market forces’ is applicable **solely** to **Owned-Wealth**, and results not in ‘stable equilibrium’, but in business cycles **around** ‘stable equilibrium’. However, even for Owned-Wealth, the theoretical optimising influence of ‘market forces’ is overlaid by long-run booms and busts created by the last of these radically-distinct influences, and the perfectly-rational but sub-optimal result is **de-stabilising self-fulfilling expectations which** can be corrected **only** by ‘social’ initiatives to ‘swim against the market-sentiment tide’.

For **Owed-Wealth**, there is no such thing as Production/Consumption or a supply-chain. Owed-Wealth is (or ought to be) a simple zero-sum book-keeping exercise. Thus, the market prices of Equity and Securitised Owed-Wealth (as well as ‘speculative’ Owned-Wealth, such as land and raw materials) are dominated by the last of these radically-distinct influences. Self-fulfilling expectations lead to ‘bubbles’, which are exacerbated by excessive leverage, selling short, sale and re-purchase agreements, derivatives and other financial engineering. In the interest of economic stability, the central banking system (including the global and state banks and regulators from the IMF downwards) should moderate conservatively the level of such financial engineering on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). In doing so, they should follow the precautionary principle (i.e. financial innovation should be ‘prohibited unless specifically approved’, as opposed to ‘permitted unless specifically prohibited’).

Of course, **for Owned-Wealth and Equity Owed-Wealth**, speculative investment/disinvestment is **inevitable** if we are to gain the benefits of shared ownership of highly-capitalised entrepreneurial economic activity. However, in the interest of economic stability, the central banking system (including the global and state banks and regulators from the IMF downwards) should moderate conservatively the level of financial engineering on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). In doing so, they should follow the precautionary principle (i.e. financial innovation should be ‘prohibited unless specifically approved’, as opposed to ‘permitted unless specifically prohibited’). In particular:

1. Buying futures of inputs, and selling futures of outputs, should be discouraged. All Production/Consumption and Trade/Employment should be based on ‘spot’ pricing of inputs and outputs. Futures markets introduce a spurious degree of freedom into the supply-chain, are unduly prone to speculative price movements caused by ‘innocent’ and spurious imbalances in the timing of the ‘propensity to hedge’, as well as by bubble-making speculative investment.
2. Excessive leverage, selling short, sale and re-purchase agreements, derivatives and other financial engineering should all be discouraged.

However, for **Non-Equity Owed-Wealth**, speculative investment/disinvestment is **not** inevitable. Speculative investment/disinvestment **does** apply to **Securitized** Owed-Wealth, but **not** to **Nominal** Owed-Wealth. Securitisation of Owed-Wealth which could otherwise be administered as Nominal Owed-Wealth creates a spurious degree of freedom in the ongoing ‘market’ value of that Securitized Owed-Wealth, and that spurious degree of freedom leaves the ongoing ‘market’ value of that Securitized Owed-Wealth hyper-sensitive to changes not only in the credit rating of the debtor, but also to base interest rates, ‘market sentiment’ and self-fulfilling expectations. Of course:

1. Advocates of securitisation of Owed-Wealth argue that securitisation improves the liquidity of the financial system. However, there is abundant evidence that securitisation ‘improves liquidity’ only until liquidity is in short supply, and then actually exacerbates liquidity problems. Specifically:
  - a. The market in most ‘liquid’ asserts is inherently liquid most of the time (say 98% of the time), and the price is relatively stable. In that situation, there is no liquidity ‘problem’, and no requirement for a liquidity ‘solution’. Indeed, in that situation, the primary characteristic of the investment banking, private equity and hedge fund business model is to ignore such assets.
  - b. In exceptional circumstances (say 1% of the time), there is panic selling in a

falling buyer's market. Now there is a liquidity 'problem', and a requirement for an economic agent able and willing to **buy** aggressively (into stock) 'against the grain of market sentiment'. However, in such a situation (or indeed, in **anticipation** of such a situation based on 'insider-intelligence'), the primary characteristic of the investment banking, private equity and hedge fund business model is quite the opposite. They try to **anticipate** potential panic selling; to move **ahead** of the market; to **sell** aggressively (by means of derivatives if possible in order to obfuscate their intentions, and in order to gain leverage) **before the anticipated price fall**; thereby precipitating the tidal sentiments from which they intend to profit.

- c. In exceptional circumstances (say 1% of the time), there is panic buying in a rising seller's market. Now there is a liquidity 'problem', and a requirement for an economic agent able and willing to **sell** aggressively (from previously acquired stock) 'against the grain of market sentiment'. However, in such a situation (or indeed, in **anticipation** of such a situation based on 'insider-intelligence'), the primary characteristic of the investment banking, private equity and hedge fund business model is quite the opposite. They try to **anticipate** potential panic buying; to move **ahead** of the market; to **buy** aggressively (by means of derivatives if possible in order to obfuscate their intentions, and in order to gain leverage) **before the anticipated price rise**; thereby precipitating the tidal sentiments from which they intend to profit.
2. Advocates of securitisation of Owed-Wealth also argue that securitisation and portfolio investment improves the risk-dispersal of the financial system. However, there is abundant evidence that that 'risk-dispersal' actually disperses risk well beyond the ability of investors to understand those risks. The market in **Equity Owed-Wealth** is well-aware of the risky nature of the anticipated profits which underpin the value of Equity Owed-Wealth, and of the consequential requirement for 'due diligence' in assessing that value when Equity Owed-Wealth is launched, and on a rolling basis. However, the market in **Securitised Owed-Wealth** has been based on the presumption that 'real' risk is 'covered' by Equity Owed-Wealth, so 'due diligence' has been delegated to credit-raters of dubious probity (see the next Chapter). Also, securitisation and portfolio investment cannot moderate a systemic loss of confidence in Securitised Owed-Wealth (as in the 2008 'credit crunch').
  3. Advocates of securitisation of Owed-Wealth argue that their innovations reduce the cost of credit, and thereby improve the dynamism of entrepreneurial activity. However, banking is (**or ought to be**) 90% due diligence, and 10% routine book-keeping. It is easy to 'cut' 90% of the costs by abandoning due diligence (and 'enclosing' a major part of the 'savings'). This is not cost-saving. It is cost-obfuscation, cost-deferral and cost-offloading. The true costs appear later (to society at large) when the financial regime collapses, and savers, investors and tax-payers have to pick up the pieces.
  4. Advocates of securitisation of Owed-Wealth argue that securitisation of Owed-Wealth against owner-occupied property offers the chance of home ownership to sections of society which would otherwise not have such an opportunity. However, there is abundant evidence that such securitisation offers such chances only by flouting the need for due diligence, and by under-pricing risk. The inevitable result in negative equity and bankruptcy for such borrowers. Again, the true costs appear later (to society at large) when the financial regime collapses, and savers, investors and tax-payers have to pick up the pieces.

Thus, given that all such 'financial engineering' is a zero-sum game, it is far from obvious

that such ‘financial engineering’ offers worthwhile benefits to ‘the wealth of nations’. Many would argue that most such ‘financial engineering’ is a form of obfuscation which allows highly-paid ‘financial engineers’ and ‘financial salesmen’ to ‘enclose’ a disproportionate share of the ‘wealth of nations’; which allows highly-paid ‘financial engineers’ to devise ever-more-complex ‘toxic’ financial products; which allows ‘financial salesmen’ to shift such ‘toxic’ financial products on to less well paid investors, financial advisers, fund managers and investment managers; which allows ‘financial salesmen’ to encourage investors, financial advisers, fund managers and investment managers to ‘churn’ such ‘toxic’ financial products in order to ‘hedge’ the risks created by those very ‘toxic’ financial products; and which allows all such ‘toxic’ processes to bypass effective supervision by even less well paid and toothless regulators.

Thus, in turn, one has to consider the possibility that securitisation of Owed-Wealth is ‘a spurious accident of **administrative** history’; dating from the days before computer-based current-accounting, and now promoted and extended by the financial services professionals in their own self-serving interests. One has to consider the possibility that all Non-Equity Owed-Wealth should be managed in the form of simple inflation-linked current-accounting of **Nominal** Owed-Wealth (i.e. as opposed to **Securitized** Owed-Wealth).

Specifically:

1. All currently-securitised ‘state’ borrowing (e.g. US Treasuries and GB Gilts) should be ‘de-securitised’ into simple inflation-linked current-accounting. Specifically:
  - a. States which currently borrow through Securitized Owed-Wealth should instead maintain negative balances in current accounts with the IMF. The IMF would of course have to have the power and resources to monitor the national debt of states on a day-to-day basis, and to force timely remedial action when that day-to-day monitoring identified potential stress.
  - b. Those who currently lend through state Securitized Owed-Wealth should instead maintain positive balances in current accounts with non-state banks, which would ‘on-lend’ to state banks, which would on-lend to the IMF.
2. All currently-securitised ‘sub-state’ borrowing (e.g. corporate bonds and securitized home mortgages) should be ‘de-securitised’ into simple inflation-linked current-accounting. Specifically:
  - a. Enterprises and individuals who currently borrow through Securitized Owed-Wealth (e.g. through corporate bonds and through home mortgages) should instead maintain negative balances in current accounts with a single non-state bank or small syndicate of banks in a position to assess the status of a potential debtor when a loan is applied for, to monitor the status of the debtor on a day-to-day basis, and to take timely remedial action when that day-to-day monitoring identified potential stress.
  - b. Those who currently lend through state Securitized Owed-Wealth should instead maintain positive balances in current accounts with non-state banks, which would ‘on-lend’ to state banks, which would on-lend to the IMF.

This would eliminate the spurious degree of freedom (and the additional administrative costs) introduced into the administration of Non-Equity Owed-Wealth by securitisation.

We will return to this discussion later in this paper; towards the end of Chapter 7 - Regulation, Solvency and Liquidity of Financial Institutions.

## 6 Regulation, Solvency and Liquidity of Financial Institutions

### 6.1 Solvency and Liquidity

Solvency and liquidity are very different issues:

1. A macro-economic agent (including a state, a cash-issuer, a central bank, a commercial bank, a non-bank enterprise or a person) is '**solvent**' if a conservative estimate of the value of its assets is greater than its non-equity liabilities.
2. A macro-economic agent (including a state, a cash-issuer, a central bank, a commercial bank, a non-bank enterprise or a person) is '**liquid**' if it is in a position to 'settle' all of its Non-Equity Owed-Wealth liabilities 'on time'.

These very different issues are very different for banks when compared to other macro-economic agents:

1. With regard to **solvency**:
  - a. For **each macro-economic agent other than a bank**:
    - i. Owed-Wealth assets are (or **ought** to be) limited to bank deposits, and receivables owed by known and 'credit-rated' trading partners in line with closely-tracked rolling trading patterns.
    - ii. It would be unusual to have a debt-to-equity ratio higher than 1 (i.e. it would be unusual if the Equity Owed-Wealth liabilities were less than 50% of the Owed-Wealth liabilities).

Thus, a non-bank's solvency is (or **ought** to be) relatively insensitive to changes in the value of their assets. The assets ought to be known, stable, and manageable, and asset values could fall by 50% before wiping out the equity, leading to insolvency. Thus, in turn, the issue of solvency tends to focus on the long-term viability of ongoing production and trade.

- b. For each bank:
      - i. Although Owed-Wealth assets are often secured against the debtor's assets, the modern trend towards securitisation has led to a serious degradation in the ability to track and rate risk.
      - ii. It would be unusual to have a debt-to-equity ratio lower than 10 (i.e. it would be unusual if the Equity Owed-Wealth liabilities were more than 10% of the Owed-Wealth liabilities).

Thus, a bank's solvency is invariably extremely sensitive to changes in the value of their assets. Unfortunately, the 'mark to market' value of a bank's Owed-Wealth assets are extremely sensitive to 'market sentiment', and a fall in asset values of only 10% could easily wipe out the equity, leading to insolvency. Thus, in turn, the issue of solvency tends to focus on the valuation of assets.

2. With regard to **liquidity**:
  - a. For **each macro-economic agent other than a bank**, Owed-Wealth liabilities are (or **ought** to be) incidental consequences of (temporary) imbalances in trade and employment. Arrangements for settlement of each Owed-Wealth liability are determined at the time the liability is incurred. Thus, settlement 'on time' is a manageable concept for each such Owed-Wealth liability.

- b. For **each bank**, fluent intermediation of Owed-Wealth is a primary purpose of existence, and Owed-Wealth liabilities are dominated by deposit and current account balances. ‘Settlement’ of such Owed-Wealth liabilities (such as deposit and current account balances) is primarily determined at the sole discretion of the creditor. Thus, settlement ‘on time’ is an indeterminate concept for each such Owed-Wealth liability, and liquidity is hostage to mass claims for ‘on-demand’ settlement based on tidal sentiments. At the most trivial level, liquidity has conventionally been interpreted as each branch of each bank being in a position to ‘settle’ a ‘realistic proportion’ of its Owed-Wealth liabilities with Precious or Non-Precious-Cash. In current practice of course, there is no such thing as a ‘realistic proportion’ of a particular bank’s Owed-Wealth liabilities. If ‘market sentiment’ became aware (or simply feared) that a particular bank was verging on a solvency or liquidity crisis, **all** creditors would demand **immediate** settlement of **all** of their Owed-Wealth assets (i.e. ‘get my Owed-Wealth assets out before the crisis materialises’). Realistically, no bank can demand immediate settlement of its Owed-Wealth assets, so ‘panic’ demands of a bank’s creditors can precipitate a self-fulfilling liquidity crisis for that bank, increase the potential of a solvency crisis for that bank (as it is forced to ‘sell’ its Owed-Wealth assets in a ‘fire sale’ as a ‘distressed’ seller and/or to replace its Owed-Wealth liabilities as a ‘distressed’ borrower), and increase the potential of a liquidity (and solvency) crisis for the whole global network of Owed-Wealth (as in the 2008 ‘credit crunch’).

## 6.2 Owed-Wealth – A New Paradigm

However, at the macro-economic level, given that the whole global network of Owed-Wealth is a zero-sum book-keeping exercise, the liquidity of that global network of Owed-Wealth is a little like playing musical chairs in a large gothic mansion with many rooms and corridors, but in which the aggregate number of participants and the aggregate number of chairs are precisely equal. When the music stops, each participant scrambles to secure a chair. In most rooms and corridors, there will be a mismatch between the number of participants and the number of chairs. In some rooms, there will be a surplus of participants, and a perception of a ‘chair crisis’. In others, there will be a surplus of chairs, and a perception of a ‘participant crisis’. However, in aggregate, the numbers are precisely equal, so a ‘God-like book-keeper in the sky’ should be able to offer a ‘risk-free’ guarantee to provide each participant with a chair. Similarly, a global central bank should be able to offer a ‘risk-free’ guarantee to intermediate all Non-Equity Owed-Wealth.

Indeed, it is perhaps constructive to consider a new paradigm based on the following concepts whereby the central banking system acts as borrower/lender of **first/default** recourse for banks and states:

1. There would be a single global central bank (e.g. the IMF).
2. Every Owed-Wealth asset of an ‘ultimate’ non-bank economic agent lent to (i.e. deposited with) an ‘ultimate’ commercial bank should be considered to be ‘on-lent’ by that ‘ultimate’ commercial bank, through a state central bank, to the single global central bank, should be considered to be **Owed-Wealth liabilities** of that single global central bank, and should be secured against the **Owed-Wealth assets** of that single global central bank (see below).
3. Every Owed-Wealth liability of an ‘ultimate’ non-bank economic agent borrowed from an ‘ultimate’ commercial bank should be considered to be ‘on-borrowed’ by that ‘ultimate’ commercial bank, through a state central bank, to the single global central bank, should be considered to be **Owed-Wealth assets** of that single global

supervising bank, and should be secured against the following in sequence:

- a. The equity of the ‘ultimate’ borrower.
- b. The equity of the ‘ultimate’ bank supervising and underwriting the solvency of the ‘ultimate’ borrower.
- c. The equity of the ‘ultimate’ state central bank supervising and underwriting the solvency of the ‘ultimate’ bank.
- d. The equity of the ‘ultimate’ state supervising and underwriting the solvency of the ‘ultimate’ state central bank.
- e. The equity of the single global central bank supervising and underwriting the solvency of the ‘ultimate’ state.
- f. The equity of the states supervising and underwriting the solvency of the single global central bank.

This arrangement would eliminate (the need for) peer-level inter-bank Owed-Wealth, and would eliminate bank liquidity as a macro-economic factor.

However, the ‘risk-free’ concept depends on the ability to presume that the majority of banks are **solvent** when they (have to) resort to such a **liquidity** guarantee in the face of ‘panic’ demands by their creditors. Maintaining a credible presumption of solvency is a fundamental problem. In the real world, even if banks kept books in which assets were ‘marked conservatively to market’ on a rolling basis, there is no way in which creditors of banks (equity holders, bond holders and depositors) could possibly monitor on a rolling basis the solvency and liquidity of a bank. In practice, the position is far worse, because banks are allowed to conceal their solvency and liquidity by placing a subjective valuation on their ‘reserves’, and by using ever more complex and obscure ‘financial engineering’.

Thus, the global and state regulators and banks would have to appoint auditors and credit-raters to ‘mark assets conservatively to market’ on a rolling basis, and to monitor the solvency of the banks under their jurisdiction **on behalf of all creditors** (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). Specifically:

1. All states would unilaterally appoint state regulators (typically the state central bank) to regulate and monitor the solvency and liquidity of the banks under their jurisdiction (and indeed, the state itself).
2. States collectively would unilaterally appoint global regulators (i.e. the IMF) to regulate and monitor the solvency, liquidity and effectiveness of the state central banks (and indeed, the states themselves).

### 6.3 The Current Processes for the Regulation of Bank Owed-Wealth

The global and state regulators and banks have traditionally adopted a very light, and rather ineffectual, regime for the regulation of bank Owed-Wealth:

1. Highly paid ‘financial engineers’ have been given free rein to devise ever-more-complex derivatives and innovations, and to shift such ‘financial products’ on to less well paid investors, financial advisers, fund managers and investment managers; supervised by even less well paid and toothless regulators:
  - a. The ‘financial engineers’ and ‘financial salesmen’ argue that their innovations improve the liquidity of the financial system. However, there is abundant evidence that such innovations ‘improve liquidity’ only until liquidity is in short supply, and then actually exacerbate liquidity problems. Specifically:
    - i. The market in most ‘liquid’ assets is inherently liquid most of the time (say 98% of the time), and the price is relatively stable. In that situation, there is no liquidity ‘problem’, and no requirement for a liquidity ‘solution’. Indeed, in that situation, the primary characteristic of the investment banking, private equity and hedge fund business model is to ignore such assets.
    - ii. In exceptional circumstances (say 1% of the time), there is panic selling in a falling buyer’s market. Now there is a liquidity ‘problem’, and a requirement for an economic agent able and willing to **buy** aggressively (into stock) ‘against the grain of market sentiment’. However, in such a situation (or indeed, in **anticipation** of such a situation based on ‘insider-intelligence’), the primary characteristic of the investment banking, private equity and hedge fund business model is quite the opposite. They try to **anticipate** potential panic selling; to move **ahead** of the market; to **sell** aggressively (by means of derivatives if possible in order to obfuscate their intentions, and in order to gain leverage) **before the anticipated price fall**; thereby precipitating the tidal sentiments from which they intend to profit.
    - iii. In exceptional circumstances (say 1% of the time), there is panic buying in a rising seller’s market. Now there is a liquidity ‘problem’, and a requirement for an economic agent able and willing to **sell** aggressively (from previously acquired stock) ‘against the grain of market sentiment’. However, in such a situation (or indeed, in **anticipation** of such a situation based on ‘insider-intelligence’), the primary characteristic of the investment banking, private equity and hedge fund business model is quite the opposite. They try to **anticipate** potential panic buying; to move **ahead** of the market; to **buy** aggressively (by means of derivatives if possible in order to obfuscate their intentions, and in order to gain leverage) **before the anticipated price rise**; thereby precipitating the tidal sentiments from which they intend to profit.

Thus, claims that such financial innovations ‘improve liquidity’ are self-serving deceptions.

- b. The ‘financial engineers’ and ‘financial salesmen’ also argue that their innovations improve the risk-dispersal of the financial system (through securitisation). However, there is abundant evidence that that ‘risk-dispersal’ actually disperses risk well beyond the ability of investors, financial advisers, fund managers and investment managers to understand those risks. Also,

dispersal cannot moderate a **systemic** loss of confidence (as in the 2008 ‘credit crunch’).

- c. The ‘financial engineers’ and ‘financial salesmen’ also argue that their innovations reduce the cost of credit, and thereby improve the dynamism of entrepreneurial activity. However, banking is (**or ought to be**) 90% due diligence, and 10% routine book-keeping. It is easy to ‘cut’ 90% of the costs by abandoning due diligence (and ‘enclosing’ a major part of the ‘savings’). This is not cost-saving. It is cost-obfuscation, cost-deferral and cost-offloading. The true costs appear later (to society at large) when the financial regime collapses, and savers, investors and tax-payers have to pick up the pieces.
- d. The ‘financial engineers’ and ‘financial salesmen’ also argue that their innovations offer the chance of home ownership to sections of society which would otherwise not have such an opportunity. However, there is abundant evidence that profligate lending to such (potential) borrowers for such purposes actually creates a ‘bubble’ market in the very properties to which such (potential) borrowers might aspire (i.e. it creates a market in which the relationship between an average home and the average wage is much higher than the long-term or ‘natural’ ratio of perhaps 3 or 4 to one), which actually lifts prices even further out of reach of such buyers. Again, such profligate lending offers such chances only by flouting the need for due diligence, and by under-pricing risk. The inevitable result is negative equity and bankruptcy for such borrowers. Again, the true costs appear later (to society at large) when the financial regime collapses, and savers, investors and tax-payers have to pick up the pieces.

Thus, given that all such ‘financial engineering’ is a zero-sum game, it is far from obvious that such ‘financial engineering’ offers worthwhile benefits to ‘the wealth of nations’. Many would argue that most such ‘financial engineering’ is a form of obfuscation which allows highly-paid ‘financial engineers’ and ‘financial salesmen’ to ‘enclose’ a disproportionate share of the ‘wealth of nations’; which allows highly-paid ‘financial engineers’ to devise ever-more-complex ‘toxic’ financial products; which allows ‘financial salesmen’ to shift such ‘toxic’ financial products on to less well paid financial advisers, fund managers and investment managers; which allows ‘financial salesmen’ to encourage investors, financial advisers, fund managers and investment managers to ‘churn’ such ‘toxic’ financial products in order to ‘hedge’ the risks created by those very ‘toxic’ financial products; and which allows all such ‘toxic’ processes to bypass effective supervision by even less well paid and toothless regulators.

2. Credit-raters (such as Standard and Poor, Moody, Fitch, etc.) rate the quality of assets. Unfortunately, such credit raters are currently commercial organisations, which receive their income (and make their profits) from the organisations which are trying to ‘launch’ and ‘sell’ those Owed-Wealth assets. They therefore have an inbuilt incentive to over-rate the quality of those Owed-Wealth assets, and therefore suffer from an overwhelming conflict of interest.
3. Valuations and audit accounts are prepared in accordance with International Financial Reporting Standards. These standards are set by the International Accounting Standards Board, a private company based in London; largely owned and funded by the Big Four accountancy firms and the financial services industry who act as very well paid auditors and consultants. Auditors and consultants are selected and paid by wealthy individuals and the management of enterprises (rather

than by the creditors of those wealthy individuals and enterprises). The International Accounting Standards Board therefore has an inbuilt incentive to set the audit standards to suit wealthy individuals and the management of enterprises (rather than by the creditors of those wealthy individuals and enterprises), and therefore suffers from an overwhelming conflict of interest in setting those standards.

4. Valuations and audit accounts are prepared by very well paid accountants; selected and paid by wealthy individuals and the management of enterprises (rather than by the creditors of those wealthy individuals and enterprises) for whom they also act as very well paid consultants. Those accountants therefore have an inbuilt incentive to suit the wealthy individuals and the management of enterprises (rather than the creditors of those wealthy individuals and enterprises), and therefore suffer from an overwhelming conflict of interest in preparing those valuations and audit accounts.
5. Valuations based on ‘mark to market’ principles are pro-cyclical, in that:
  - a. The boosted valuations in a boom offer security for further borrowing to support further demand; thereby further stimulating the boom.
  - b. The depressed valuations in a bust undermine the security of existing borrowing; leading to panic selling; thereby further stimulating the bust.

Given the above, it should be obvious that investment banks, private equity funds and hedge funds have been given free rein to borrow heavily to make highly-leveraged investments in financial innovations, and to then disperse the risk beyond scrutiny through securitisation; on both of which financial innovations they ‘enclose’ a disproportionate share of the (apparent) profits in (supposed) good times, but on both of which ‘someone else’ is left to discover they own the ‘toxic waste’ when the (supposed) good times end.

In practice, as seen in the 2008 ‘credit crunch’, the central banking system (including the global and state banks and regulators from the IMF downwards) **already** in effect acts as **implicit** guarantor for every Non-Equity Owed-Wealth liability of every financial institution and state. It seems reasonable therefore that that role should be made **explicit**. The central banking system should act as borrower/lender of **first/default** recourse for banks and states (as suggested earlier).

## 6.4 The Proposed Processes for the Regulation of Bank Owed-Wealth

As just discussed, in order to eliminate liquidity of the banking system as a macro-economic issue, the central banking system (with a single global supervising bank) should act as borrower/lender of **first/default** recourse for banks and states.

In order to moderate the risk implicit in such an arrangement, the central banking system should require a transparently-conservative valuation of every asset offered as security for an Owed-Wealth bank asset. Indeed, in order to remove the perverse incentives and conflicts of interest in the current valuation and auditing standards and processes, the central banking system should itself commission all of those valuation and auditing standards and processes conservatively on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests). In considering the potential impact of leverage and financial engineering, they should follow the precautionary principle (i.e. financial innovation should be ‘prohibited unless specifically approved’, as opposed to ‘permitted unless specifically prohibited’). Indeed, regulators could/should insist that securitisation of Non-Equity Owed-Wealth should be outlawed. All Non-Equity Owed-Wealth should be managed in the form of simple inflation-linked current-accounting of **Nominal** Owed-Wealth (i.e. as opposed to **Securitized** Owed-Wealth). This would eliminate the spurious degree of freedom inherent in the ‘free market’ valuation of

securitised versions of such owed-Wealth.

Specifically:

1. All currently-securitised ‘state’ borrowing (e.g. US Treasuries and GB Gilts) should be ‘de-securitised’ into simple inflation-linked current-accounting. Specifically:
  - a. States which currently borrow through Securitised Owed-Wealth should instead maintain negative balances in current accounts with the IMF. The IMF would of course have to have the power and resources to monitor the national debt of states on a day-to-day basis, and to force timely remedial action when that day-to-day monitoring identified potential stress.
  - b. Those who currently lend through state Securitised Owed-Wealth should instead maintain positive balances in current accounts with non-state banks, which would ‘on-lend’ to state banks, which would on-lend to the IMF.
2. All currently-securitised ‘sub-state’ borrowing (e.g. corporate bonds and securitised home mortgages) should be ‘de-securitised’ into simple inflation-linked current-accounting. Specifically:
  - a. Enterprises and individuals who currently borrow through Securitised Owed-Wealth (e.g. through corporate bonds and through home mortgages) should instead maintain negative balances in current accounts with a single non-state bank or small syndicate of banks in a position to assess the status of a potential debtor when a loan is applied for, to monitor the status of the debtor on a day-to-day basis, and to take timely remedial action when that day-to-day monitoring identified potential stress.
  - b. Those who currently lend through state Securitised Owed-Wealth should instead maintain positive balances in current accounts with non-state banks, which would ‘on-lend’ to state banks, which would on-lend to the IMF.
3. The market in the Equity Owed-Wealth liabilities of each enterprise should be based on a single computer-based real-time ‘share-register’ for each such enterprise; on which current holdings would be maintained in real-time, and on which offers to sell and offers to buy would be recorded and matched automatically in real-time. Each such enterprise would itself maintain an appropriate offer to sell and an appropriate offer to buy with an appropriate ‘damping spread’. Specifically:
  - a. Large-scale offers to sell and offers to buy would be recorded and administered directly by ‘ultimate’ sellers and ‘ultimate’ buyers (thereby pre-empting opportunities for insider-dealers to ‘front-run’). Exchange institutions, order ‘flashing’, ‘immediate or cancel’ orders, and ‘shorting’ should be outlawed as spurious to the true purpose of the ‘market’.
  - b. Small-scale offers to sell and offers to buy would be recorded and administered by agents (not brokers), who would record them on the relevant single computer-based ‘share-register’ on behalf of the ‘ultimate’ sellers and ‘ultimate’ buyers. Such agents would not be allowed to also post proprietary offers to sell and offers to buy (i.e. they would not be allowed to act as brokers), and would have to administer their income in the form of transparently-invoiced charges subject to sales taxes like all other economic activities (i.e. as opposed to taking their income in the form of spreads in prices).
4. Fund managers would not be allowed to also post proprietary offers to sell and offers to buy, would have to administer their income in the form of transparently-invoiced charges (which should be subject to sales taxes like all other such charges), and

would have to justify any currently-covert ‘churning’ of assets (which typically provides such fund managers with a large part of their income).

5. All credit-default swaps should be outlawed. Any creditor feeling the need to hedge the risk of default on a risky Owed-Wealth asset should not be holding that risky Owed-Wealth asset in the first place. Owning a risky Owed-Wealth asset and then hedging the risk of default is like backing both horses in a two horse race. The investor/punter is guaranteed to lose out to the banker/bookmaker.
6. All ‘Currency-futures’, ‘interest-rate-futures’ and ‘interest-rate-swaps’ should be outlawed. Currency-conversion rates (conventionally called Currency-‘exchange’ rates), Owed-Wealth (or base interest rates), and scheduled payments should be inflation-linked (thereby eliminating the spurious degrees of freedom inherent in the ‘free market’ processes for such factors).
7. For a given bank and debtor:
  - a. The bank should not accept **Owed-Wealth** assets as security for Owed-Wealth **liabilities** of that debtor to that bank. That would be spurious financial obfuscation. Non-bank economic agents should not have Owed-Wealth **assets and Owed-Wealth liabilities**.
  - b. The valuation of each **Owed-Wealth** asset offered by that debtor as security for Owed-Wealth **liabilities** of that debtor to that bank should be based on ‘damped mark to conservative market’ principles; based on a conservative proportion of the lowest market value in (say) the most recent three years. This would dampen bubbles.
  - c. The valuation of each **Owed-Wealth** asset of that bank used as security for on-borrowing from the central banking system as lender of **first** resort – see earlier) should be based on the value actually passed to the debtor (i.e. net of the charges levied instead of interest – see earlier). For example, if a creditor borrowed 80, but was actually debited 100 (i.e. 80 plus 20 in charges) then the Owed-Wealth asset should be valued at 80% of the ongoing (declining) nominal balance for the life of the loan. The remaining 20% of the nominal balance would have to be covered by the **Equity** Owed-Wealth liabilities of the bank. This would ensure that the equity (of the bank) kept in reserve against the risk of default of each Owed-Wealth asset reflected the bank’s own assessment of that risk.
8. All exceptional remuneration for financial services executives should be deferred and held in reserve for risk to ‘flush through the system’. Such reserves should revert to the administrator in the event of insolvency.
9. All dividends for financial services shareholders should be deferred and held in reserve for risk to ‘flush through the system’. Such reserves should revert to the administrator in the event of insolvency.

If the central banking system itself commissioned all of the valuation and auditing standards and processes conservatively on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests), bank solvency and liquidity could be addressed more fundamentally:

1. As long as a given bank was solvent on that very conservative basis, the central banking system should act as borrower/lender of **first/default** recourse for banks and states.
2. If a given bank became insolvent on that very conservative basis, the central banking system should assume full ownership and control as insolvency administrator, with

an undiminished responsibility for the non-equity liabilities of that financial institution. All deferred remuneration for the executives held in reserve (i.e. for risk to ‘flush through the system’) should be returned to the insolvency administrator. All deferred dividends for the shareholders held in reserve (i.e. for risk to ‘flush through the system’) should be returned to the insolvency administrator. As required, the central banking system could re-finance that financial institution and (re-)privatise it when market conditions were appropriate.

Either way, the borrower/lender of **first/default** recourse facility for banks and states would eliminate (the need for) inter-bank Owed-Wealth and ‘access-restricted retail time-deposits’, would eliminate liquidity as a macro-economic factor, and would moderate the exposure to systemic risk.

Of course, many would argue that state and global banks and regulators should not be ‘bailing out’ bank’s creditors in this way, and exposing those state and global banks and regulators to the moral hazards of ‘speculative’ lending to banks (i.e. lending to banks at the highest interest regardless of risk). This argument is based on the principle of ‘let the lender beware’. However, as described earlier, there is no way in which lenders to banks could possibly monitor on a rolling basis the solvency and liquidity of banks, and there is no way they can all achieve **immediate** settlement of their Owed-Wealth assets if and when problems became public knowledge. Thus, the regulators and central banks (with all their rolling access to information, and rolling powers to audit and regulate) **must** audit and regulate bank-solvency conservatively on behalf of ‘ultimate’ creditors **as if** they **were themselves** the ‘ultimate’ creditors, and must then underwrite the Owed-Wealth assets of those actual ‘ultimate’ creditors.

Thus, regulation of financial institutions should be based purely on transparently-conservative valuation and auditing processes commissioned by the regulators on behalf of creditors (rather than allowing politicians, bankers, corporate executives, and financial professionals free reign in their own self-serving interests), a transparently-conservative view of solvency, and a borrower/lender of **first/default** recourse facility for banks and states. Thus, in turn, macro-economists, central bankers and politicians should abandon all concepts and aggregates associated with the expressions ‘money’, ‘liquidity’, and ‘reserves’.

## 6.5 Effective Regulation of Consumer Debt

The focus of debt management should be shifted from **moderation of the symptoms** to **prevention of the problem**. An **FS (Financial Statement)** should be seen not as a foundation for damage-limitation and administration in extremis, but as a fundamental element of due-diligence by (potential) lenders. Each citizen wishing to secure a potential borrowing facility should be obliged to maintain a realistic estimate of projected income, projected expenses, current assets and current liabilities in a single definitive FS in a state-sponsored database, with access restricted to that citizen. This would be functionally-similar to the process used by the Land Registry to provide a definitive record of claims secured on real-estate. More specifically:

1. The single definitive FS would maintain the following data:
  - a. Projected income would exclude all allowances and benefits for incapacity.
  - b. Projected expenses would be based on the Income Support ‘applicable amount’ (i.e. excluding all allowances and benefits for incapacity, and without spurious estimates of ‘actual’ expenditure).
  - c. The concept of projected **surplus-income** (to service debts) would be simplified to projected income (as above) minus projected-expenses (as above).
  - d. For each loan (e.g. mortgage, personal loan or hire purchase) or rolling borrowing facility (e.g. overdraft or credit account), the FS would record date of commitment, initial value, and scheduled repayment cashflow. Each rolling borrowing facility would be recorded as-if fully-borrowed with minimum repayments. Each secured debt would be linked to the asset on which it was secured (see next bullet).
  - e. For each asset, the FS would record date of valuation, and the qualification of the valuer. In due course, valuations would be ‘marked to market automatically’. Each secured debt would be linked to the asset on which it was secured (see previous bullet).
2. Whilst processing an application for a new loan or rolling borrowing facility, or an extension to an existing loan or rolling borrowing facility, the potential lender would be obliged to exercise due-diligence by helping the potential borrower to maintain his FS online as follows:
  - a. The potential lender would be obliged to help the potential borrower to create/update the potential borrower’s FS to reflect the potential borrower’s status **prior to** the potential facility. It should be a criminal act for a potential borrower to wilfully miss-represent these factors in order to secure a potential borrowing facility. They would then print two copies of that pre-FS for lender and borrower to retain a copy signed by the other.
  - b. The potential lender would be obliged to help the potential borrower to create/update the potential borrower’s FS to reflect the potential borrower’s status **following** the potential facility. The lender would be responsible for exercising due-diligence with respect to the borrower’s ability to repay. The central data-base would not accept an over-extended FS. They would then print two copies of that post-FS for lender and borrower to retain a copy signed by the other.
3. If a citizen became unable to service outstanding borrowing facilities (for whatever reason), that citizen and/or any creditor of an un-serviced facility would be able to

invoke a state-sponsored ‘bankruptcy-light’ facility. Any surplus income (as defined earlier) would be allocated **in full** to the registered repayments of the **earliest-registered** loans or rolling borrowing facilities in turn (i.e. **not** pro-rata). The borrower would be obliged to comply with this allocation. If there was a shortfall, the creditors of any remaining registered facilities (and any un-registered facilities) would be obliged to accept token payments of £1.00/m. The creditors would be obliged to accept this allocation without harassment, additional charges or additional interest.

In addition, the arrangements to allow lenders to cover operational costs, risk-of-loss and profit should be re-engineered to be ‘up-front’ and transparent as follows:

1. The interest rate on each rolling balance should be set to a ‘base’ rate which should be set by the state to the rate of inflation. Thus, in effect, each rolling limit and balance would be inflation-linked to maintain its value over time (i.e. a level-value playing field between lender and borrower).
2. All charges to cover operational costs, risk-of-loss and profit (on top of inflation-linked ‘capital’ as above) should be incorporated into a high-visibility front-end charge associated with each loan, each rolling borrowing facility and each draw-down from a rolling borrowing facility. After all, **all of the risk of default is incurred at the instant each such facility is committed by the lender**. The high-visibility front-end charge associated with each such facility should be presented as the most prominent ‘highlight’ in the borrower’s record of that facility. All spurious ‘front-end sweeteners’ (e.g. low-charge periods), and ‘back-end charges’ (e.g. tie-ins, charges for early termination, and charges associated with delinquency) should be outlawed. If a lender wished to reduce a rolling borrowing facility unilaterally, it would have to give (say) three months notice before commencing withdrawal of the facility, and would have to then do so gradually, at the rate of the agreed minimum repayments.

These measures would deliver the following benefits:

1. They would deter borrowers from borrowing beyond their means (because all charges would be fully-levied ‘up-front’).
2. They would lower operational costs and risk-of-loss for the lender (because all pre-existing commitments of the potential borrower would be fully-disclosed without effort).
3. They would lower costs for credit-worthy borrowers (because the operational costs and risk-of-loss for the lender would be lower).
4. They would deter lenders from lending beyond the means of their debtors (because they would know that they would not be able to levy any charges beyond those fully-levied ‘up-front’). In particular, they would give ‘first-claim’ rights on borrower’s assets to earlier (responsible) lenders before later (irresponsible) lenders. Thus, earlier (responsible) lenders would be able to offer lower charges than later (irresponsible) lenders, thus re-enforcing the deterrence to irresponsible cumulative lending and borrowing.
5. They would prevent debt from spiralling out of control.
6. They would pre-empt the need for most of the ‘debt management’ industry. The state-sponsored ‘bankruptcy-light’ facility would provide an automatic ‘safety net’ or ‘holding status’ for any citizen who became unable to service outstanding borrowing facilities (for whatever reason).

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