## Chapter Two: People-Produced Money

If an economic system is to move towards sustainability, and to maintain it once it has been achieved, it needs to establish what is the scarce resource whose use it seeks to minimise. Then systems and technologies can be adjusted to bring the least-use solution about. Unfortunately, the present economic system regards money as the scarce resource when, as we have seen, it can be created at will by a few account entries. The idea that money is the scarce resource is a relic from the days when money consisted of gold and silver coins. At that time, the world was essentially on an energy standard because the amount of gold produced in a year was determined by the cost of the energy it took to extract it. If energy (perhaps in the form of slave labour rather than fossil fuel) was cheap and abundant, gold mining would prove profitable, and a lot of gold would go into circulation enabling the economy to expand. If the increased level of activity then drove energy prices up, the flow of gold would decline, slowing the rate at which the economy grew.

Gold was often a people-produced form of money, rather than a governmental or commercially generated one. Theoretically, it was possible for anyone to pan for it in a stream or sort through a bed of gravel containing nuggets, thus converting their time and energy plus some bought-in supplies, into something exchangeable for goods and services all over the world. Gold rushes were all about the conversion of human energy into money. They were, and are (as the thousands of ordinary people mining in the Amazon basin show), a democratic form of money creation. Obviously if supplies of food, clothing and shelter were precarious, people would never devote their energies to finding something that they could neither eat, nor live in, and which would not keep them warm. In other words, gold supplies swelled whenever a culture was producing a surplus. Once there was more gold about, the use of the precious metal as money made more trading possible and thus catalysed the conversion of whatever surpluses arose in future years into buildings, clothes and other needs.

There are plenty of historical accounts of this type of conversion. Before transport systems improved and money became widely available, rural people in many parts of the world had a potential surplus in the form of spare time. They could have easily increased their agricultural, construction or craft output, but didn't do so as there wasn't a market for the extra produce. Instead, they used some of their surplus by helping their neighbours through mutual-aid systems that they used like banks, confident that they would be repaid. "The giver, by giving, guaranteed that he would be the receiver in the future" Hugh Brodie writes in his study of Irish rural life.[14] He continues: "In that way, the giving of surplus to friends and neighbours is not very far from the giving of surplus to the cashier in a bank. The quality of integrated society, like the legal rules of banking, guaranteed that the gift would not be forgotten and a future claim ignored." But when money became available and the surplus could be converted to it, people saved actual cash for a rainy day rather than storing up favours with their neighbours.

## Creating currencies from unused resources

Rather than converting a surplus into gold to use as money, the inhabitants of a group of islands in the Pacific Ocean converted theirs into carved stones to use as currency. According to Glyn Davies' mammoth study, *The History of Money* :[15]

The peculiar stone currency of Yap, a cluster of ten small islands in the Caroline group of the central Pacific, was still used as money as recently as the mid-1960s. The stones known as 'fei' were quarried from Palau, some 260 miles away, or even the more distant Guam, and were shaped into discs varying from saucer sized to veritable millstones, the larger specimens having holes in the centre through which poles could be pushed to help transport them. Despite centuries of at first sporadic, and later more permanent, trade contacts with the Portuguese, Spanish, German, British, Japanese and Americans, the stone currency retained and even increased its value, particularly as a store of wealth.

Davies adds that shell necklaces, individual pearl shells, mats and ginger supplemented the stone currency but quotes from a book published in 1952 when fei were still in use, to the effect that the stones were "the be-all and end-all of the Yap islander. They are not only money, they are badges of rank and prestige, and they also have religious and ceremonial significance."[16]

It is often said that gold makes a good currency because of its 'intrinsic value' but this is nonsense. Gold is no more or less intrinsically valuable than hundreds of other commodities. True, it is an attractive metal that doesn't tarnish, but satisfactory substitutes can be found for most of its uses. Fundamentally, it has no greater intrinsic value than did the Yap islanders' stones or any of the other many things that people have used as a base for their money systems. These have included salt, silk, dried fish, feathers, stones, cowrie shells, beads, cigarettes, cognac and whisky, and livestock. - The word "pecuniary" comes from "pecunia," the Latin for "cow" and "fee" is a corruption of the German word "Vieh," meaning cattle. In 1715, the government of North Carolina declared seventeen commodities, including maize and wheat, to be legal tender.

In ancient Egypt, grain was the monetary unit. The farmers would deposit their crops in government-run warehouses in return for receipts showing the amount, quality and date. These stores suited the farmers because they protected the grain against theft, fire and flood and also saved them the cost of providing their own storage facilities (or selling their crop immediately after harvest when prices were low). The stores also enabled them to pay their rent and to buy goods simply by writing what was effectively a cheque, to transfer grain from their account in the store to that of someone else. People using another grain store in another part of the country could be paid with these cheques. The various stores would balance out their claims against each other just as banks do today. This meant that the grain would only be moved if there was a net flow of cheques from one area to another and if it was actually needed there for consumption. In other words, the weight of corn was merely a basis for accounting and the corn itself was not a standard barter good.

Tobacco stores in the New England states operated in much the same manner and enabled the crop to serve as legal tender in Virginia and Maryland for almost two hundred years. As Galbraith points out [17] this was longer than the gold standard managed to survive. An important feature of both grain and tobacco as currencies was that whoever made a deposit was not only

charged for keeping it in the warehouse but knew that it would deteriorate there. Consequently people used the commodity themselves, or spent the receipts, as soon as reasonably possible. As a result, money was not hoarded but circulated well.

**Shell money performed well**

The earliest account of the use of wampum (the shells of a clam, Venus Mercenaria) as money in North America dates from 1535. Both native Americans and the European settlers used the shells and they were made legal tender for payments of up to a shilling in Massachusetts in 1637. This limit was raised to £2 in 1643, a substantial sum at the time as it was equivalent to three week's wages for a skilled man. Although wampum ceased to be legal tender in the New England states in 1661, the last factory drilling the shells and putting them on strings for use as money closed as late as 1860.

In the early days, several coastal tribes such as the Narragansetts specialised in making up the strings and exchanging them for goods with settlers and inland tribes who wished to have the convenience of a means of exchange.

*"Then it's agreed. Until the dollar firms up, we let the clamshell float."*

Drawing by F. Fisher, © 1971 *The New Yorker Magazine, Inc.*

The essential feature of all these commodity currencies is that they were open to anyone with time and access to land or seashore to produce. This didn't mean, however, that they could be produced without cost and that the money supply was therefore unlimited. If that had been the case, the monetary unit would have had no value. The currencies worked because people would only spend their time making tokens to serve as money if that was the best way of satisfying their needs. In other words, whenever they could get their needs (food, clothing, shelter) more easily by growing them or collecting them themselves instead of growing tobacco, or collecting wampum shells to trade, they would obviously do so. As a result, money was only produced and spent into circulation when its exchange rate with real goods was favourable, a feature that generally guaranteed that it would maintain its value. There were exceptions to this, of course. The value of gold in terms of the goods it would buy fell in Europe when the Spanish conquistadors brought in plundered supplies from South America. Similarly, the exchange rate of wampum against commodities such as

beaver pelts dropped sharply when the European settlers began using steel drills to bore the stringing holes. This was because they could produce them much faster (and therefore with a reduced opportunity cost), than the Indians using stone-tipped tools.

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**Box 3: Businesses organise their own currency to overcome money drought**

One way that businesses can continue to make profits in periods in which the supply of national currency is inadequate is to allow each other credit. As discussed in Chapter One, the credit-control measures that most firms use to protect themselves whenever trading becomes difficult actually make matters worse. While it would obviously be a mistake for firms to have no credit control at all, what businesses need when national currency becomes scarce is a properly regulated system of mutual credit so that they can use much less normal money when they trade amongst themselves. The Swiss Wirtschaftsring (Economic Circle) co-operative (WIR) is such a system. It was launched in 1934 by a group of businesspeople to overcome the currency shortages of the time and has since grown into a massive organisation. In 1993, its 60,000 account holders turned over 2,521 million Swiss francs (£1,200 million).

The founders' idea was simply that traders who knew and trusted each other would extend credit for purchases within their group, cutting down their need to borrow from banks. According to report on the system in 1971: "they thought they could transact business among themselves with a system of chits similar to IOUs that would cover at least part of the price of any transaction, the balance being settled in the conventional way. (However) it was soon found that in order to bring about wider acceptance of these chits, and also to comply with existing banking laws and avoid financial losses, collateral was essential."

This insistence on collateral might partially explain why WIR has survived and similar systems established at the same time in other countries have disappeared without trace. However, an official history of WIR [18] produced for its 50th anniversary suggests that WIR is the sole survivor because the other systems did not realise the significance of what they were doing and closed down after the financial crisis was past. But opposition from vested interests played a part in some cases too. The founders visited circles in Norway and Denmark before starting WIR and when they returned to Denmark for a second visit, they found that the government had closed the circle there after pressure from the banks.

Essentially, WIR is an independent currency system for small and medium-sized businesses. A company wishing to join contacts a WIR office and sets up a meeting at which the firm's credit requirements and the collateral it is able to offer are discussed. As first mortgages in Switzerland do not usually exceed 60% of the purchase price of a property, the collateral most frequently offered is a second mortgage on a house or business premises (in recent years, over 80% of WIR's loans have been secured this way). A loan application is then sent to the WIR credit approval committee that checks the security and obtains a report on the applicant from a credit-checking agency. If the report and the security are in order, the new participant is given a WIR chequebook, a plastic charge card and a large catalogue listing other participants with whom the loan can be spent.

Although the sums in WIR accounts are denominated in Swiss francs they cannot be turned into normal currency, paid into ordinary banks or given to non-members. Even when someone wishes to leave the organisation, they cannot exchange the system,s units (Wir) for national currency. As a result, the purchasing power created when the credit committee authorises a loan remains entirely within the 'ring', generating increased business for all participants. Secured loans of this type are cheap. In 1994, Wir mortgages carried a service charge of 1.75% and relatively long repayment terms could be negotiated; the charge for ordinary current-account loans was 2.5%.

In order to maintain the Wir's value, the credit committee restricts the total value of the loans to one-third of the system's annual turnover. All repayments are made in Wir (earned by selling goods and services to other members). Only service charges have to be paid in Swiss francs, since the co-op itself cannot function without some national currency. Its other charges, the cost of the WIR magazine and catalogue and a levy of 0.6% of the value of each cheque lodged to a participant's account, are all in Wir.

Almost every conceivable product and service was listed in WIR's summer 1994 catalogue, including 167 lawyers, 16 undertakers, 1,853 architects and 18 chimney sweeps. Not all suppliers take 100% payment in Wir, but with several sources listed for most products and services, it is generally possible to find at least one who will (especially at slack times of year or during sales). Prices and payment terms for Wir transactions are just the same as they would be for cash. And since the beginning of 1995, it has been possible to make combined payments of cash and Wir using a single plastic charge card.

The percentage of the Swiss franc price of the goods and services that participants will supply for Wir is discussed with each member when they join. The service charges mentioned so far only apply to 'official' members who have agreed to guarantee to accept at least 30% of the payment in the system's unit. Members unable to give such an undertaking are called 'unofficial' and pay higher charges. Income earned in Wir is, of course, taxable, and has to be paid in Swiss francs.

Overall, the Wir avoids the two main defects of national currencies: it should never be in short supply, and because no interest is charged for its use it does not create the growth compulsion. In addition, it does not have to be earned or borrowed from outsiders before it can be used. Its main drawback seems to be due to the way the WIR is run, rather than any design defect in the currency. The WIR is often regarded as a way of financing the working capital requirements of businesses, rather than purely of facilitating trade between them. As a result, too many long-term loans are issued and some members earn so many units that they become reluctant to take any more. The availability of mortgages has obviously compounded this problem.

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## A non- commodity currency

Although the value of their units is not based on any commodity, Local Exchange and Trading Systems (LETS) are a modern equivalent of wampum and the other types of popularly-produced money because they enable people to create spending units for themselves. They are generally set up by a group of people living in the same area who have time on their hands and too little national currency to meet their requirements. The first system was set up in the early 1980s in British Columbia by Michael Linton as a response to the unemployment caused when a local air base closed down.

Between 1-2,000 communities throughout the world have LETS systems and many variants on the original model have been developed. The common feature of every LETS, however, is that members trade with each other using a monetary unit of their own devising (often called odd names like Hags, Bats, Bobbins and Reeks) and that records are kept of all transactions. This makes it possible to spot members who are taking more value out of the system than they are putting in.

In a LETS system, members create spending power by going into debt, just as with WIR (see Box 3). When a system starts up, all the participants have a zero balance in their accounts. The first trade between members means that the balance in the account of the member who made the first payment becomes negative, while the account run by the member who supplied goods or services in exchange for that payment becomes positive by the same amount. The member with the positive balance can then spend these units with other members, while the member with a negative balance will have to supply goods or services to someone else in the system to return their account to zero, or to get into the positive zone.

In most cases, payments between members of a LETS system are made using cheques that are then sent to the system's book-keeper who credits and debits accounts. In some systems, however, payment information is simply telephoned to the book-keeper or their answering machine. In a few systems, fixed-value tokens (i.e. scrip) circulate between members to cut out the book-keeping that would be entailed by a lot of small cheque transactions. Just as happens with national currency, members get these tokens from their system's bank and their accounts are debited with the amount involved. If members earn tokens they don't want, they can lodge them to their accounts for credit. The use of scrip is very common among LETS systems in Argentina.

Perhaps the best system for keeping LETS accounts evolved in Germany in 1997. In exchange for their annual membership fee, members receive a record book. When they go to work for another member, or sell them something, the other member writes the details and the amount of the transaction in their book, and signs it while they write in the other member's. This means that the balance of each member's account is constantly up dated. The record books are exchanged for new ones at the end of each year and they are checked by the managing committee to ensure that no fraud has occurred.

**LETS systems' major weakness**

Besides eliminating centralised account keeping, the German-style record books have the potential to ameliorate a major weakness in most LETS systems. Linton's original philosophy was that it should be left to each member to decide how much indebtedness they could take on. If other members, knowing the state of the member's account, then sanctioned the decision to take on more dent by selling him or her more of their goods and services, that was all right.

This has not worked well, however. Indeed, a major factor in the collapse of Linton's pioneering system after a few year's trading was the high level of indebtedness of Linton's personal account. Nevertheless, many systems have continued to adopt this approach. True, some do impose credit limits but none seems to have found a satisfactory way of ensuring that members do not stay permanently in deficit. As a result, members whose accounts are in credit frequently find their units are difficult to spend because indebted members see little reason, apart from mild group pressure, to go out of their way to earn them. The members in credit consequently become disenchanted with the system and leave. With the German-type record books, however, it would be a simple matter to prohibit members from selling to people whose account-books showed them to be overdrawn beyond an agreed figure. Requiring overdrawn members to get back into credit within a certain time would still be a problem though.

Because of their reliance on these lax informal controls, very few LETS systems have been able to recruit and retain more than 200 active members. This has meant that their economic effects have been small but they nevertheless play a very valuable social network-building role for people on the social and economic fringes of their communities. Bigger, more economically effective systems would require legally enforceable agreements backed by collateral, similar to those adopted by WIR.

By allowing people to trade using monetary units they have generated themselves, LETS systems meet the need that wampum strings, or wheat deposit certificates, met in earlier times. But there are important differences. For example, wampum shells allowed their holders to trade beyond their communities, while LETS systems are used to enable people to trade within them. In addition, LETS systems, like the WIR, have no need to establish the value of their unit by requiring people to do a certain amount of work to produce them. They normally use the value of their national currency unit as their measuring stick, although some systems have experimented with units based on time (for instance, Time Dollars, a community currency system in which people provide each other with care in which everyone's hourly rate is the same ). ). This saves the effort that has to be wasted on producing, (in the case of gold, Yap stones and wampum), commodities that would be unnecessary but for their monetary use. The downside, however, is the fact that indebtedness levels need to be policed, as we have just discussed.

So let's answer our eight questions about popularly produced currencies:

***Question 1) Who creates the money?*** - With the commodity-based currencies, anyone with time and access to resources. With LETS and WIR, it is the members.

***Question 2) Why do they create money?*** - To facilitate their own trading.

***Question 3) How do they create money?*** - With the commodity-based currencies, by producing tokens which embody a fixed amount of labour and resources. With LETS and WIR, by granting each other the right to borrow up to a certain amount. No interest is charged on these borrowings. Only a service charge to cover the costs of running the system is paid.

***Question 4) When do they create money?*** With the commodity-based currencies, whenever it is more advantageous to produce more currency than to produce other goods and services. With LETS, whenever a member wishes to trade and other members, or the committee, allows them to create the units to do so. With WIR, whenever the management thinks that the demand for loans can be satisfied without putting too much extra spending power into the system. If the latter happens then members with positive balances in their accounts will be reluctant to accept more Wir as they cannot find attractive ways of spending it.

***Question 5) What gives the money its value?*** With gold, Yap stones and wampum, purely their acceptability to others. Their exchange value for other commodities or labour is not guaranteed. Wheat, tobacco and other consumable commodity-based currencies are backed by the amount of the commodity the receipt represents. Their exchange value for the purchase of other

commodities will fluctuate quite widely from year to year, according to relative growing and harvest conditions. With LETS and WIR, the value of a unit is determined by the readiness of other members of the system to provide their goods and services in exchange for it at its nominal value in the national currency. The range of goods and services available in exchange is also a consideration.

***Question 6) Where is the money created?*** Within the group of people or the territory using it. It does not have to be earned or borrowed from outside first.

***Question 7) How well does the money work?***

**A. As a means of exchange?** Gold does not work well as a means of exchange unless it is turned into coins, something that is discussed in the next chapter. Moreover, the supply of coins has often been inadequate for the amount of trade desired, forcing people to barter, or use a range of gold-substitutes. Yap stones seem to have played the role of large denomination notes, only useful for major purchases, which is why mats, ginger and shells were required as small change. Wampum strings were designed to make counting easy and obviously performed well since they survived in use in competition with other currencies for hundreds of years. The Egyptian grain and the New England tobacco receipts also worked well and sophisticated money transfer systems developed for them. It would, however, be a mistake to establish commodity-based currencies in economies that were not dominated by the production of that commodity and that were consequently not prepared to allow all price relationships to vary according to its level of production. LETS units perform poorly as a means of exchange because of the lack of pressure on those in debt to earn them. Their use is also restricted to a small group. Wir are better than LETS but still work significantly less well than the Swiss franc, as they are only acceptable among a particular group. As a result, users frequently want to exchange their Wir for Swiss francs and, breaking their system's rules, sell them at a discount to do so.

**B. As a unit of account?** Only the Wir scores highly here. It functions as well as the Swiss franc since, unless a firm wishes, there is no need for it to distinguish between the two in its books. LETS units are never worth as much as the national currency they shadow, and the gap between the two is variable (depending on a system's membership and its attitude at the time). The gluts and shortages caused by differing harvests, gold rushes and technological change mean that the value of the commodity-based currencies in terms of other goods and services is too erratic to provide a good accounting base.

**C. As a store of value?** Gold proved an excellent store of value between 1658 and 1798, fluctuating by no more than a third during this time. The discovery of the cyanide method of extracting it from crushed rock in 1887, coupled with major finds between 1847-97 increased production enormously. This damaged it as a store of value. The world's gold stock is estimated to have doubled between 1890-1914 allowing prices in Britain to rise by 25% during this period, and in the US by 40%. Doubtless if powered equipment had been used it would have lowered the value of Yap stones too, and as we have already seen, steel drill bits devalued wampum. All

commodity-based currencies have the defect that their value will fall if the commodity on which they are based becomes cheaper to produce. The Exeter Constant[19] was an experiment currency used in New Hampshire, in the US, for a year in 1972-3 whose value in dollar terms was based on the current market price of specific amounts of thirty commodities. It would have lost almost 20% of its purchasing power in terms of other things between 1990-99 because of the rate at which commodity prices have fallen. LETS units are a hopeless store of value, since one cannot predict if the system will still be in operation in a few years. Like LETS, the Wir is also money that should be spent quickly, although it holds its value reasonably well from year to year. The drawback with it as a form of saving is that, as no interest is paid on accounts in credit, people with a lot of Wir usually want to convert them to Swiss francs to take advantage of the much wider range of investment opportunities in that currency.

***Question 8) Is popularly produced money compatible with sustainability?*** Yes, in all cases, because the availability of these monies only increases when the systems in which they operate have underused resources, particularly those of human labour. In other words, these monies tend to keep the level of economic activity in step with its technological and resource base. And, because these monies are spent into circulation, the constant payment of interest on almost all the money stock entailed by the present system is avoided. This means that the economic systems they would produce would not depend on continual expansion in order to avoid a collapse.