Changing Money: Communities, Longer Term Finance and You

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Good evening, Ladies and Gentlemen. I am honoured to have been invited to deliver this third and final guest Gresham Lecture in the "Beyond Crisis" series. This lecture is entitled "Changing Money: Communities, Longer Term Finance & You".

Cattle and Pens

[SLIDE: OMO VALLEY COMMUNITY SCHOOL]

When my partner, Janie, and I travel in the developing world, it has long been our habit to take a healthy supply of basic, ball-point pens with us to give as gifts to children as a small contribution towards their education and therefore development. We are old hands at this now - we learnt many years ago that simply handing pens to children at random is not an educational gift at all, but a gift akin to money. The ball-point pen is a valuable commodity which can be exchanged for other more instantly gratifying items, such as sweets. Or perhaps even cash.

In recent years, we have preferred to give the pens through schools, where we are more confident that the teachers will ensure that the children actually use the pens themselves for educational purposes. When we went to Ethiopia a few years ago, we 'struck gold' in a Karo village in the South Omo Valley. The Government had just built the village its first school, which was due to open later that year. But the Government had run out of money for this project before providing consumables for the school. The elders had been wondering how they would be able to equip the children for the start of school. Our arrival with a gift of 100 pens was most timely. The chief of the village hastily arranged a ceremony for the gift. Once we had ceremoniously handed over the pens, he embraced me, spat over my shoulder three times and (through our guide) explained that we were now honorary members of the village.

[SLIDE: HOW GREEN WAS MY OMO VALLEY]

While we were being given a guided tour, the chief ran off into the bush with the valuable pens to hide them for safe-keeping. Don't be alarmed by the guns in the photograph, by the way, they are old Great War Lee-Enfield 303s and similar - they probably don't work and/or would be more dangerous to the shooter than the target, but South Omo Valley tribesmen carry them around as an adornment and more or less treat them as currency in much the same way as many cultures use jewellery or gold for that purpose. At least, that's what the tribes-people told us!

[SLIDE: CATTLE CURRENCY IN TURMI]

At the end of our visit, on learning that we were heading to see the market in Turmi, one of our hosts (or should I say fellow villagers) asked us to give a lift to one young man who had kin in Turmi and wanted to visit them. Naturally we agreed and had a very interesting conversation with the young man, through our guide. Our passenger wanted to know more about us. He wondered how much cattle we owned. Our guide explained to him that we don't own cattle. So the passenger asked how many other types of livestock we owned. Our guide broke it to him, gently, that Ian and Janie owned no livestock at all. The passenger said that he felt sorry for us; he hadn't realised that we were poor people. Our guide tried to explain that we were not considered poor people in our own society; we simply come from a society where wealth is not measured in livestock. But the young man was convinced he was travelling with lowly folk whom he had embarrassed by asking awkward questions - so that particular conversation ended

[SLIDE: ALL BIRR ONE]

Pens, guns, livestock......in the South Omo Valley and many other parts of the world such items are to all intents and purposes money. Of course, tribes-people do use Ethiopian currency to some extent, but only have limited use for it. Had we not been honorary villagers, we might have been charged the Omo Valley going rate of one Birr per person photographed. Indeed, in the market town, Turmi, better-looking young folk were hopeful of two Birr for a photograph, while older people were happy to be rewarded just by seeing their image on the digital camera screen.

What is Money?

Money is strange stuff. Economist and monetary systems expert Bernard Lietaer says that:

'money is to people as water is to fish,' and 'it is such an intrinsic part of our environment that we hardly notice it. We rarely ask how it works, or reflect upon the way it shapes our lives.'

[SLIDE: OUTLINE]

Certainly people find it hard to define what money is. People also struggle to make choices and decisions relating to money, both individually and collectively.

I shall spend the first few minutes of this lecture trying to define money, setting out the basic economic meaning and history of money. I shall also explore briefly the psychology of money, so we can start to understand why we find it so difficult to make choices about using money. But the bulk of this lecture is about the way the use of money is changing, so I intend to spend more time looking at various money systems past and present. I'll discuss the ways those systems have evolved and in particular how I see money systems evolving in the future. By the end of the lecture, you might have changed your mind about what money is. I hope you will also take away some interesting thoughts about what money might become in the future and how that changing money might affect both you and future generations.

When I was a callow youth with very little money of my own to speak of, I was encouraged to recite the following rhyme about money - "Money is a matter of functions four, a medium, a measure, a standard, a store." These days, more commonly people are taught that money has three properties - money is a unit of account, a store of value and a medium of exchange. In fact, modern authors are coalescing around 'medium of exchange' as the only essential quality of money, with some forms of money working better than others as 'units of account' or 'stores of value'.

[SLIDE: 100 PENS : ONE FACE-PAINTING]

Perhaps we can shape our definition of what is monetary by thinking first about forms of exchange that are non-monetary, Gifts for example. Most historians now believe that ancient, non-monetary societies, tended to rely on gift economics, especially when transacting with each other in close-knit communities. Direct barter was sometimes used as a means of exchange, but only rarely and usually between strangers. Direct barter is a problematic means of exchange, as it requires a coincidence of wants. If you have plenty of food but no pot in which to cook the food, it is good fortune when you encounter someone with plenty of cooking pots but no food. Even then, you have to be able to agree a fair exchange. You, as the person with food, might feel that one potful of food is fair exchange for one cooking pot. The pot-maker might think that a cooking pot is worth several potfuls of food. So for barter to take place, you need both coincidence of wants and an ability to reach a bespoke agreement on an exchange rate for exchange to take place. In a gift economy, only implicit agreements are made. It cannot be described as 'exchange' in a direct sense. Cooking potmakers in the community ensure that everyone who needs a pot, has a pot. Food growers ensure that everyone who needs food, gets food.

Even in the modern world most families operate an informal gift economy, within the nuclear household, at least. In the South Omo Valley, where Janie and I became honorary tribesfolk of a Karo community with 100 timely ballpoints, Janie was treated to a face-painting. This was intended as a gift and received as such - in fact it would have been rude for us to have offered money in those circumstances, however delighted we were with the resulting glamorous look.

In any case, I think we can conclude that neither gift economics nor direct barter qualify as money. Neither can really be described as 'media of exchange', and neither qualifies as a unit of account or a store of value.

[SLIDE: 240 PENNIES : ONE POUND]

Early civilisations soon moved towards the use of commodities for exchange. At least 5,000 years ago, Mesopotamian people were trading using barley, silver, copper and latterly bronze. Written records of legally enforceable monetary debts go back at least 4,000 years to ancient Babylon. Early money was commodity based; the Mesopotamian Shekel was a specific weight of barley. Early coins were basically units of weight; i.e. the weight and the value were necessarily equivalent. Coins soon became popular as money, they are more durable and transportable than commodities such as salt, shells and barley. Until comparatively recently, most money values have been based on weight - the dual meaning of the word for Britain's currency, the Pound, is no coincidence - one pound weight of silver used to denominate one pound in monetary value. That valuation dates back to King Offa of Mercia in the 8th century, who issued a pure silver penny, 240 of which would weigh one pound. If you ever wondered why, in pre decimal currency days, there were 240 old pennies to the pound, now you know why. The study of these money, currency and other payment media is known as numismatics, by the way. I did at one time consider becoming a professional numismatist, but I was reliably informed that there is no money in it.

The medium is the message.

[SLIDE: I'D LIKE MINE DONE MEDIUM, PLEASE]

Having focussed our definition of money on the 'medium of exchange' element, it is now a good time to introduce the idea that money is, in effect, a medium of communication. My good friend and colleague, Professor Mainelli, covered this idea in some detail in his November 2008 lecture It's a mad, bad, wonderful world: A celebration of commercial diversity. I commend that lecture to you....but still humbly suggest that you stick with today's lecture for now.

The economist Harold Innis suggested that the shape and durability of a society is affected by the media that people choose. He divided media into two types, 'space-binding' and 'time-binding', for example space-binding papyrus of the Greek literature and time-binding stone of the Egyptians monuments.

Money as media was further developed by Innis' student Marshall McLuhan, the man who coined the phrase 'the medium is the message'. McLuhan makes the following remarks about money:

'money - like writing - speeds up exchange and tightens the bonds of interdependence in any community. It gives great spatial extension and control to political organization, just as writing does or the calendar. It is action at a distance, both in space and in time.'

I think this analysis helps to cement my preferred definition of money. Money is a medium of exchange across space and time.   In its capacity as a unit of account it enables people to transact across space. In its capacity as a store of value it helps people to transact across time. Time is Money.

[SLIDE: FOR A RAINY DAY?]

Unfortunately, we humans are not good at making intertemporal choices and decisions. 'Intertemporal' means something that occurs across time, or across different periods of time.   Many of the more important personal decisions people make are long-term, such as pursuing more education, purchasing a home or saving for retirement. Yet individuals, organisations and governments tend to struggle to make sound, long-term choices, usually favouring and justifying short-term gains over longer-term planning.

One of the reasons people tend to find money a difficult subject to understand is because of money's inherent intertemporal nature.   As Eric Lonergan points out in his thought-provoking book Money:

'...money itself is an intertemporal contract, because it is a store of value. It does not expire. We assume it will be accepted as a means of payment in the future.'

In other words, whenever we spend money on anything we are making an intertemporal decision - do I spend this money now or do I defer that spending, "...for an alternative purchase...", "...to save for a rainy day...", "...for the rest of my life...".

Individuals' intertemporal choices can also be considered in terms of self-control. The additional value you place on 'wanting something now' rather than deferring gratification is to some extent determined by your patience, or your self-control of your impatience. In 1981, Thaler and Shefrin wrote a seminal paper on intertemporal choice and self-control, examining the internal conflict individuals often face in their simultaneous capacity as 'both a far-sighted planner and a myopic doer.' People tend to use techniques to try and reconcile this conflict, self-deploying alignment of incentives and/or the imposition of rules to encourage intertemporal self-control. For example, many people who are trying to save more money or pay off debts tend to set themselves targets and psychologically reward themselves by meeting those targets. Others impose rules upon themselves by, for example, setting up automatic transfers for a set amount of money each month to a savings account or to a debt repayment account.

Some intertemporal choices seem so remote to most people that they struggle to impose their own rules on themselves. A well-studied example is workers' contributions to pensions and savings plans. Most workers, when interviewed, confess that they do not save enough towards their retirement. Indeed, about half will state that they will save more next year (their farsighted planning selves talking) but do not do so (their myopic doing selves not acting). Many state run schemes have a default contribution rate of zero percent and zero is precisely the level of contribution most workers make to such schemes. An element of paternalism, such as automatic enrolment and/or automatic increases to the default contribution rate over time, can help boost take-up rates enormously. Participants can (but normally don't) opt out of schemes or adjust contributions to suit their own circumstances. Default settings tend to be sticky.

[SLIDE: WEIRD CHOICES ABOUT MONEY]

There has been extensive psychological research into intertemporal choices, but most of that research has been conducted upon, with all due respect to most people in the audience and myself, 'the weirdest people on earth'. Henrich, Heine and Norenzayan point out, in their study of that name, that most:

'broad claims about human psychology, cognition, and behavior in the world's top journals [are] based on samples drawn entirely from highly educated segments of Western societies... members of Western, educated, industrialized, rich, and democratic societies...are among the least representative populations one could find for generalizing about humans.'

So are these intertemporal choice and self-control problems merely maladies for rich, Western, educated folk? I think not.

[SLIDE: INTERTEMPORAL POVERTY TRAPS]

In recent years, Sendhil Mullainathan and others have been researching fruit, vegetable and flower vendors in Chennai, India. Most vendors pay extremely high interest rates to money lenders just to be able to trade - this interest can often equate to about half their income. Such circumstances are often described as poverty traps. Yet those Chennai vendors typically buy a couple of cups of tea during the trading day, despite the fact that they could become debt free in about a month, thus doubling their take-home income, simply by abstaining from one of those cups of tea each day for that single month. A minority of the Chennai vendors have the self control to escape this particular poverty trap, but the majority persevere within it. The photograph is flower vendors in Kolkata, not Chennai, by the way, just in case you think your WEIRD lecturer doesn't know the difference between Indian cities.

Mullainathan argues that scarcity (of which poverty is one example) causes a unique pattern of psychological responses to intertemporal choices, essentially non-optimal choices or bad allocation decisions. Most people make similarly poor decisions in respect to allocating their scarce time. You'll recognise the failing in yourself if you have ever looked at your diary and wondered, 'why on earth, given that I am so busy these days, did I ever agree to - attend that lecture/give that lecture/do voluntary work that day?'. Those facing money poverty, like the Chennai vendors, tend to find themselves in an especially difficult decision-making environment, because the small temptations to which most humans can easily succumb, such as a cup of tea or a tasty snack during the trading day, have such a pronounced affect on those vendors' economic position. Further, extreme scarcity is maintained or even exacerbated all too easily in environments where a small deficit of self-control makes all the difference. Blame the System.

[SLIDE: PRIMING GROWTH]

Thinking about poverty, such as that of small-scale traders in places like Chennai, gets me thinking, especially when the poor people involved are caught in poverty traps and usurious levels of interest seem to be involved. Many WEIRD people like me baulk at the idea of such inequality and unfairness in society. Yet we naturally expect some return, or rate of interest, if we deposit some of our money in the bank. That's only reasonable. So at what level does a rate of interest, or return on money, cease to be 'reasonable' and become, instead, usurious? Bernard Lietaer, in The Future of Money points out that:

"we believe that interest on money is somehow intrinsic to the process, forgetting that for most of history that was definitely not the case. In fact, all three 'religions of the Book' (Judaism, Christianity and Islam) emphatically outlawed usury, defined as any interest on money. Only Islamic religious leaders still remind anyone of this rule today."

Lietaer helpfully points us towards three main consequences arising from the way interest underpins the money system:

- Encouragement of systematic competition between participants in the system - by which Lietaer means unhealthy levels of competition at the expense of co-operation;
- Concentrating wealth by transferring wealth from the 'have-not' majority to the increasingly rich minority of 'haves';
- A requirement for endless economic growth to sustain the system.

I do not subscribe unequivocally to Lietaer's views on this matter - of course excessive competition, inequalities and growth are bad things, but reasonable levels of all of those things can surely be a force for good, not for ill. Still, Lietaer makes pretty strong charges against the money system and I do believe that it is unhelpful for our society to presuppose that there should be a risk-free return on money. A risk-free return on money can only come as a result of wealth transfer from 'have-nots' to 'haves' or from perpetual growth.

[SLIDE: GROW YOUR OWN]

(one dollar bill reminder)

Thomas H Greco Jr, in The End of Money makes similar points and develops the point about economic growth further. He tells the famous old fable about the Chinese Emperor who is given a beautiful chess board by one of his mandarins. When asked what he would like as a reciprocal gift, the mandarin merely asks the Emperor to give him rice for sixty-four days: one grain of rice to be placed on the first square on the first day, then two grains on the second square on the second day, four grains on the third square on the third day, doubling each day for the sixty-four days. Naturally the Emperor agrees, unaware of the power of numbers. Merely by day 32, the ration is nearly 4.3 billion grains of rice, about 100,000 kilos worth. By day 64, the ration would be far greater than the quantity of rice in the whole world. That's exponential growth for you.

Now perhaps you think that doubling the ration each day is a silly example. But even more recognisable examples of exponential growth generate big numbers. As Greco points out, you simply need to take a single dollar, like this one, and place it in a savings account for fifty years:

'What do you have' Assuming an interest rate of 6% per year, you have $18.42. Amazing isn't it, how money can grow? Even more amazing if the interest rate had been 10%, you would have $117.39. How can this be? Well, that's the magic of compound interest. By leaving the interest earnings in your account, you earn more interest on your interest?

Einstein supposedly said that compound interest was 'the greatest mathematical discovery of all time'. Of course that implies that 'compound debt' might just be the worst mathematical discovery of all time. Further, the linkage between compound interest and economic growth is intriguing. In The Future of Money, Lietaer says:

'the rate of interest fixes the average level of growth that is needed to remain in the same place. This need for perpetual growth is a fact of life that we tend to take for granted in modern societies and that we usually do not associate with either interest or even our money system.'

Greco, in The End of Money, goes further.

'Those who recognize the impossibility of perpetual exponential growth and who understand how compound interest is built into the global system of money and banking expect that there will be periodic 'bubbles' and 'busts', each of increasing amplitude until the system shakes itself apart.'

'Credit Where Credit Is Due' or 'Take a Punto on Fiat Money'

[SLIDE: 240 SILVER PENNIES: ONE POUND]

I temporarily abandoned our brief romp through the history of money at a point where 240 shiny silver pennies weighed a pound and thus the word 'pound' could literally really mean 'a pound in weight of silver' and 'a pound in value' at the same time. That early form of money is known as commodity money - the commodity is the money. The next stage in the development of money was representative money, where a coin, token or even a certificate might be exchanged, but that representative money would be backed by a fixed amount of the commodity. So an early pound note, for example, would be issued only by the holder of exactly one pound of silver to back the note. In his Treatise on Money, John Maynard Keynes described this form of representative money as 'managed representative money', to distinguish it from 'fiat money'.

[SLIDE: TAKE A PUNTO ON FIAT MONEY]

Fiat money is a different kettle of fish altogether. It can be defined as money that does not derive its value from the backing of a commodity. The money acquires its value through government fiat, or decree. Indeed, not the sort of fiat illustrated. By declaring its fiat currency to be legal tender, a government is granting itself the right to create money within its jurisdiction and similarly making it illegal to refuse to accept the fiat currency for the settlement of public and private debts within the jurisdiction of that Government.

Commercial bank money is part and parcel of the fiat system of money and in some ways preceded government fiat money. Greco quotes liberally from a book originally written in 1909 by Hartley Withers, 'fly fishing'oops I mean 'The Meaning of Money'. The following rather sums up the story:

'some ingenious goldsmith conceived the epoch-making notion of giving notes not only to those who had deposited metal but also to those who came to borrow it and so founded modern banking.'

Let me explain why this is epoch-making. But before I do that let me ask you all a question. How many people in this lecture theatre were brought up to believe that banks basically take deposits of money from people who want to save and then lend that deposited money out to people who want to borrow? And how many people here today still believe that to be the case? Hmmm, a pretty savvy audience tonight.

[SLIDE: FRACTIONAL RESERVE BANKING]

OK, I'll spend a few minutes on this subject to inform some of you and remind the rest of you the mechanism through which commercial banks create money. When a bank makes a loan, it does not match that loan directly with a deposit; it simply writes the loan as an accounting entry. Regulators require banks to retain a fraction of their deposits in reserve, but in essence, whenever a bank writes a loan, the bank is creating most of the money represented by that loan. This process is known as fractional reserve banking. It isn't just governments that can roll metaphorical printing presses and create money; banks do so all the time when making loans. That is why, when economists talk about a country's broad money supply, they are talking about a multiple of the base money created by the central bank. It is the multiple combination of commercial bank money and government fiat money that comprises the bulk of the modern 'money system'.

Bernard Lietaer describes the emergence of this system thus: 'As the nation states became the powers-that-be, a deal was struck between the governments and the banking system. The banking system obtained the right to create money as 'legal tender' in exchange for a commitment always to provide whatever funds the government needed'. 'If you understand this 'money alchemy' you have understood the most arcane secret of our money system.'

Greco explains his concerns about the system clearly:

'by understanding the fundamental nature of modern money as credit, it becomes possible to liberate and perfect it, and to avoid throwing out the more evolved credit money 'baby' with the 'bath water' of perverse centralisation of power...the manipulation of the supply of credit money by the banking interests operating under the aegis of central governments.'

Of course, when the financial going gets tough, the periodic bubbles and bursts that are, it seems, inevitable with such a financial system, this unholy alliance between banks and governments allows the money creators to inflate away unwanted debt. You might have come across the term open market operations, which describes the process central banks use to try and control the money supply, interest rates and or inflation by purchasing real assets such as government bonds, gold or currencies on the open market.

[SLIDE: SPOT THE DIFFERENCE]

A fashionable phrase arising from the developed world's response to the latest financial system 'bubble burst' is quantitative easing - indeed the USA recently started a second round of quantitative easing (known waggishly as QE2). QE is simply a form of open market operations in which the central bank electronically creates, from nothing, the money with which it purchases the assets. People often refer to this as 'printing money' but these days the money will almost certainly not be printed, it is simply added to the electronic books of the central bank. But that newly created money then enters the banking system when those open market purchases are made, thus adding to banks reserves and thus enabling the banks to lend a great deal of money, potentially far more then the value of the QE injection, by using fractional reserve banking, as I described earlier.

Eventually, some money might need to be printed to support the extra 'book' money, but it is far more helpful to think of QE money as electronic money created by central banks from nothing. So how much does a dose of QE actually add to the money system. It depends on how much lending and therefore additional fractional reserve money results from the central bank injection - i.e. no-one knows. You have to try it and find out. But one thing you very rarely hear about is a dose quantitative Imodium or quantitative constipation if matters get out of hand. And by 'out of hand' in this context I mean asset bubbles and especially inflation. It's hard to find a subject upon which the grand economists John Maynard Keynes and Milton Friedman agree, but their objection to government induced inflation as a back door way of taxing the masses is one such subject.

[SLIDE: SOON ADDS UP TO REAL MONEY?]

Another real worry with inflation, of course, is that it has a tendency to run out of control. There are many horror story examples, not least Weimar Germany in the 1920s and Zimbabwe in recent years, both illustrated on the slide with 500 Million and 50 Billion notes (respectively) which I am proud, though not wealthy, to possess.

Of course, we live in a different era from Weimar Germany and WEIRD nations are very different from Mugabe's Zimbabwe of recent years, but who honestly does not feel a twinge of worry when hearing about QE2 that it might just trigger an inflationary rollercoaster that we simply cannot stop?

[SLIDE: DEPRECIATING ASSET]

And even if we put to one side the dystopian hyperinflation examples, most of us in this lecture hall have lived through at least one, if not several periods of substantial inflation in the last 40 years or so that eroded the nest-eggs of those who chose to save, while significantly reducing the debt burden for those who borrowed; not least governments.

In the Future of Money, Lietaer estimates the decline in purchasing power of several major currencies between 1971 and 1996. I have brought that chart up to date and also calculated the results for the most recent 25 year period using Consumer Price Index (CPI) figures. It isn't a very happy story wherever you come from. Even the best performing countries, such as Switzerland, Germany and Japan, have lost nearly two-thirds of their value in less than 40 years. The pound has lost about 90% of its value - on the whole you need £100 today to buy a basket of goods that would have cost you £50 in 1985 and £10 in 1971. Compared with other world currencies, the pound's performance is middling. Declining purchasing power is a particularly miserable story if you are from the southern European and ruinous if you are from the Latin American countries quoted.

LETS Get Serious.

[SLIDE: TIME IS MONEY]

So, are there alternatives or at least complementary approaches to money that can improve our financial system or possibly even replace it? I'd like to start this exploration of alternatives at the smaller-scale end of commerce, the local community. One reasonably popular local approach is a 'time bank' where people can swap hours of each other's time. The Rushey Green Time Bank operating out of a medical practice in Catford is one of the better-known examples in the UK. Professor Mainelli described Rushey Green succinctly in his 2008 Lecture Local or Global - Network Economics and the New Economy, another lecture which I commend to you.

Rushey Green is based on the Time Bank model developed by Dr Edgar Cahn, initially piloted in the USA in the 1980s. Cahn's journey and its transition across to the UK, is well documented in David Boyle's book Funny Money, which comes with the enticing tag line, 'Only our limited idea of money is keeping us poor'. That book also contains several good case studies of time-based local currency systems in the USA, including Ithaca Hours, which Bernard Lietaer also uses as a case study in The Future of Money.

The Time Bank movement tends to distinguish time banks from Local Exchange Trading Systems (LETS), but I think it is more accurate to describe time banks as a particular type of LETS. LETS can be defined as 'locally initiated, democratically organised, not-for-profit community enterprises which provides a community information service and record transactions of members exchanging goods and services by using the currency of locally created LETS Credits'. LETS are, themselves, one form of local currency, of which there have been many examples in the last 100 years or so. One of the best documented examples is the WIR, a local currency for small and medium-sized enterprises established in 1930s Switzerland in the aftermath of the monetary squeeze resulting from great depression. Almost indistinguishable from an entity now known as a LETS, the WIR currency is still thriving today.

[SLIDE: MEDIUM OF EXCHANGE?]

There is something inherently attractive about these ideas. Directly valuing people's time has an intuitive fairness about it, although different schemes will have different views on whether every hour is treated as being of equal value - does an hour of babysitting exchange fairly for an hour of legal or medical help, for example? Time Banks tend to value every hour as equal, whereas other forms of LETS have various ways of computing what currency, including various uses of time, is worth. Locally initiated and democratically organised sounds like a wonderful 'power to the people' motif and rings an appealing note with those of us who grew up reading and embracing E F Schumacher's Small is Beautiful ideas - indeed the Schumacher Society and its partner organisation the New Economics Foundation are excellent sources of information on local and community money, including time banks. Yet, word from the front line of LETS is that organising a currency, even a simple, local time bank one, can be very hard work. Many volunteer-based schemes disappear as rapidly as or even faster than they appeared. Very few LETS make a transition from community organisation to influencing significant chunks of local business. A waggish adage comparing conventional money with LETS money is that the former is hard to earn but easy to spend, whereas the latter is easy to earn but hard to spend.

[SLIDE: DO YOU GET THE MESSAGE?]

Today, there are about 100 active Time Bank schemes in the UK, which, together with nascent ones and other forms of LETS comprise a community of about 300 local organisations. Penetration in the USA is similar, proportionally, with about 200 Time Bank schemes and 'a few hundred' LETS. Even accepting the idea that these local schemes are meant to complement, not replace conventional money, levels of penetration are very low at the moment. Time banks have a dispensation from the Internal Revenue Service and HM Revenue and Customs effectively allowing the currency to operate outside the tax system. I don't think the IRS or HMRC are quaking in their boots about lost revenue through this source just yet.

Still, in hard times, local 'currencies' have had a strong tendency to spring up and help keep some sort of commercial show on the road. The extent to which such hardship currency really is money can be hard to gauge. During the Spanish Civil War, for example, Republicans produced local money, in the form of coupons for various purposes. The extent to which some of these schemes can be described as money can be questioned, especially as the coupons often doubled as publicity posters.

[SLIDE: REAL MONEY?]

Of course, in adversity all sorts of strange things can and do happen. Some Spanish Civil War collectives minted coins rather than coupon/posters. In Austria in the 1930s the Wörgl experiment took off like a storm in the small town of that name, with the local government issuing local scrips carrying a negative interest rate of 1% per month against the town's debts - the Wörgl scrip money circulated remarkably quickly in those circumstances and helped the town's economy immensely, until falling foul of regional interests and the Austrian central bank. David Birch, in The Digital Money Reader 2010 points out that the seven week bank strike in Ireland in the 1970s did not bring the country to its knees; local people took IOUs from each other and an informal or decentralised system of accepting cheques became an effective shadow currency until order was restored after the strike.

Local currencies like Rushey Green Time Bank and Ithaca Hours are trying to link up; there is a UN programme, UNILETS; there is a shareware system, Ripple. But in the absence of widespread and profound adversity, I find it hard to imagine community money being the main or even a major part of our money system in the WEIRD world for the foreseeable future.

Bottoms Up.

[SLIDE: 'I'M ON THE BOAT']

However, there are large-scale initiatives for micro level money (by which I mean individuals, households and very small-scale businesses) which could change the way much of the world transacts. The M-PESA, which originated in Kenya, is one of the better documented examples. It was originally intended as a microfinance product transacted through the mobile phone, but soon people latched on to the potential of having electronic money transferable to and from their mobile phone. It is now in effect the main small-scale banking service in Kenya, with millions of customers. It claims to have recently overtaken Western Union in terms of value of money transferred each day; over 150 million Euros.

There are intriguing spin-offs from such micro-money-infrastructure, such as the Kilimo Salama microinsurance scheme, which enables Kenyan crop farmers to use their mobile telephone as both a money and communications device, enabling the insurance company to keep costs to a minimum and efficiencies high.

M-PESA is expanding into other parts of the developing world at a rapid rate, but it is not the only mobile phone-based money system around; others include Gcash http://www.gcash.com/ (mostly in the Philippines at present) and Celpay http://www.celpay.com/ (several other African countries).

Innis and McLuhan were closer to the mark than they suspected when they described money as a form of communications medium, now that the communications device and money medium are becoming so entwined. Some experts believe that the benefits from this low-tech money infrastructure is being reflected in impressive growth and potential for much further growth. Fritz Schumacher of Small is Beautiful fame would have loved this sort of intermediate technology had he lived to see it.

[SLIDE: AT THIS RATE]

However, it isn't just intermediate technologies that enable us to imagine brave new money. The internet is a global technology that enables communication, including monetary communication, in ways that people could hardly dream of even 30 or 40 years ago.

A wave of virtual currencies have emerged through on-line activities. Daniel Roth, in Wired Magazine, covered this aspect expertly earlier this year. As he puts it: 'Moving money, once a function managed only by the biggest companies in the world, is now a feature available to any code jockey'.

I think this form of empowerment could be truly transformational. That is perhaps the reason why governments (in particular tax authorities) are giving a great deal of thought to the potential impact of these virtual, global currencies on nation states? abilities to tax and regulate effectively. Roth goes on to show a vast number of virtual currencies expressed as rates to the dollar, although he takes pains to point out that the values are approximate, not necessarily pegged to the US dollar and many cannot be exchanged for cash at all. I present just a small sample of these exchange rates to you on the slide. I've never seen Star Wars, but it is still refreshing to learn that I am a Star Wars Galaxies millionaire.

Peering In.

[SLIDE: PLEASE SIR, I NEED A P2P]

The peer to peer movement (or P2P to coin the phrase) regards peer to peer infrastructure as an ideal mechanism for 'changing money', or as the P2P Foundation puts it: 'aspects of monetary reform that aim to make the monetary system into a participatory resource that more broadly benefits larger sectors of the world population'.

I commend the money category on their website to you if these aspects of changing money particularly interest you. Unsurprisingly, you will find many references to Bernard Lietaer and Thomas Greco on that site, but plenty more besides.

Lietaer, in The Future of Money, takes a very balanced position on where this might all be going. The information age, he says:

- should encourage:

- The spreading of benefits rather than the concentration of wealth (information can be more readily shared than petroleum, gold or even water);

- The maximisation of choice rather than the suppression of diversity (the informed are harder to regiment than the uninformed).

Paradoxically, the dynamics of information economics could also create an unprecedented concentration of power in the hands of a very few Information Age billionaires

However, to persevere with the community benefits emerging from P2P exchange initiatives, I quote from Professor Mainelli's lecture on Network Economics:

'new exchanges are creating new communities. For example, Kiva (www.kiva.org) is a social exchange that helps people lend to small entrepreneurs in the developing world in order to help them escape poverty.....Intriguingly, in the developed world too there are several analogous exchanges for people who want to lend directly to other people, e.g. the UK's Zopa (www.zopa.com - a P2P/peer-to-peer social money lending service) or the USA's Prosper (www.prosper.com - an online auction site for borrowers and lenders).'

In my opinion, it is the empowering characteristic that makes these initiatives so exciting and potentially powerful. And while I wouldn't expect to see 'monetary networking' take off at quite the rate we have seen social networking explode onto the scene in the last decade, I won't be at all surprised to see the global monetary system transformed, possibly through a relatively minor variant of applications and gadgets that are already out there, in much the same way that Apple has transformed the world of music through the iPod and iTunes - very clever but simple variations of technologies that were already there.

Reciprocated

[SLIDE: WHERE's THE MIDAS TOUCH?]

Possibly the twist that will really transform the world's monetary system will come through the reciprocal trade movement; the modern form of barter. Reciprocal trade today is potentially a massively multiplayer form of barter. The current scale of world reciprocal trade is hard to determine; Bernard Lietaer quotes IRTA (the International Reciprocal Trade Association http://www.irta.com/) estimating $650 billion in 1997, but today IRTA doesn't boast trade volumes but it claims that over 400,000 companies use reciprocal trade, about 600 companies act as reciprocal trade exchanges, and IRTA also claims that some $12 billion in lost and wasted capacity was utilised last year as a result of reciprocal trade.

IRTA provides a trading platform and acts as a clearinghouse for its currency, known as Universal Currency (UC), which has been around since 1997. It is unclear how much trade goes through IRTA's trading platform and how much its currency is used, but about 100 of the exchanges are members of IRTA. Most of the exchanges seem to be relatively small affairs, although Thomas Greco detects some consolidation, with, he says: 'firms like IMS http://www.imsbarter.com/ , ITEX http://www.itex.com/ and Bartercard http://uk.bartercard.com/ [are] buying up a number of small local exchanges and thereby creating larger, more geographically dispersed transaction networks.'

A new commercial initiative, Recipco http://www.recipco.com/ , could be a potential major player in this arena. Recipco comprises an on-line exchange, a currency it calls the Universal Trading Unit or UTU and a clearinghouse responsible for issuing and backing this trading currency. What makes Recipco interesting is that it is trying to back the UTU with available barter trade and the balance sheets of the larger global companies.

There are intriguing and very different not-for-profit angles to both IRTA and Recipco. IRTA is itself a not-for-profit organisation, in effect an international trade association, but it seems to be focussed on oiling the wheels of business. Recipco is a for-profit initiative itself, but it orients its value proposition towards co-ordinating the capacity of commercial organisations, governments and NGOs.

I feel that these ideas are still work in progress - the technology is there to enable the ideas, the aspirations are there to harness global resources more efficiently and effectively, which must be good for business and good causes alike. Thomas Greco says: 'I firmly believe that the most important value proposition that trade exchanges can offer to their members is the cashless clearing of their transactions'. Perhaps that is all it needs, but my gut feel is that it needs a twist or two that hasn't come through yet. The IRTA model has been around for over a decade now without yet fulfilling its potential. Recipco claims to have a better model and aspires to the sort of unitary scale and functionality that could really change the monetary world. But as yet I cannot put my finger on the 'killer appness' that could make such initiatives really sing.

Losing Interest in Global Currency

[SLIDE: GLOBAL CURRENCY - BARKHOR/BANCOR]

Perhaps the answer lies in complementary currencies underpinning such systems. Such currencies are by necessity global and by their nature are (or at least should be) backed by the real commerce taking place on the exchange. By nature they should, if designed sensibly, avoid the worst excesses of fiat and fractional reserve banking money.

The idea of a global currency is not new. John Maynard Keynes proposed a commodity-backed international currency named the Bancor at the Bretton Woods negotiations after World War Two. Actually the US delegation also took an international currency idea to Bretton Woods, named the Unitas, but as no-one could agree which bright idea for an international currency to use, they went for the system of gold-backed US dollars which prevailed until Nixon withdrew it 1971. There has been some renewed interest in the Bancor since the financial crisis a couple of years ago, including a recent IMF strategy based on 'The New Bancor', but other ideas have emerged. In The Digital Money Reader 2010, Dave Birch reports on one similar idea, a United Nations-backed currency, strongly advocated by the Khazakstan government, which Dave waggishly nicknames the Borat.

For many years Bernard Lietaer has proposed a complementary currency, a Global Reference Currency, which he names the Terra. It is defined as a standard basket of commodities and services, ideally reflecting their importance in global trade. It could be inflation-proof by definition, if its value is determined by the volume of global trade. It would be convertible into existing national currencies and would also be convertible into its basket of commodities on demand, although there might be a small penalty or fee for conversion.

[SLIDE: PURCHASING POWER IN MEXICO]

One interesting principle in the Terra is the principle of demurrage, or negative interest. Lietaer estimates that it would cost about 3% to 4% to administer and that would in effect be its demurrage level.

These ideas aren't entirely new, nor does Lietaer make claims for their originality. Silvio Gesell proposed an idea, Freiwirtschaft, as early as 1916 which had some of the Terra's characteristics, although not the global element. Indeed the LETS-like WIR which emerged in 1930's Switzerland used Gesell's ideas successfully. In 1933 an idea named L'Europa' was proposed in Le Fédériste in response to the financial crisis of that era. The Wörgl scrip money I mentioned earlier used demurrage.

Indeed, for much of history money was commodity-based and the idea of a paying a carrying charge rather than receiving interest was simply part of the deal. Also, if you think about the table I presented earlier showing the spectacularly uncertain erosion of the purchasing power of money over time, a certain and universally understood demurrage charge would make more sense in many ways than the current monetary system. Where I part company with Bernard Lietaer is on the quantum of demurrage. I believe that it should be possible to establish a solid and stable commodity-based system which required only a fraction of 1% to maintain. The purity of Lietaer's commodity-backedness is possibly his proposal's undoing.

There are other global currency initiatives about. The World Currency Unit, the Wocu, is an algorithmic construct designed by the WDX Institute http://www.wdxinstitute.org/wdx/ based on the 20 largest national economies measured by GDP, revalued twice-yearly, based on IMF reported GDP. It can be used to price commodities - bunker fuel is priced in Wocu. The idea is to help investors and businesses to mitigate the uncertainty arising from exchange rate volatility. In a world where, as Bernard Lietaer tells us, '98% of all foreign exchange transactions are speculative and only 2% relate to the real economy', currency volatility is a real problem for real commerce.

Indeed only last month, Overlay Asset Management launched a currency index it claims to be a 'virtual world reserve currency' based on hedging 15 major currencies. Could this part of the answer, or is this yet another derivative product designed to reduce risk that simply adds to the froth of our fractured world monetary system?

Eternal Coinage: Money is Information, Information is Money

[SLIDE: HOW DO YOU FUND A FOREST?]

In any case, none of these ideas really seem to address the long term store of value issue. My colleagues at Z/Yen Group, together with a committed group of thinkers and much co-operation and help from Gresham College, have formed the Long Finance initiative to ask questions such as 'when would we know our financial system is working?' 'how might a 20-year-old responsibly enter into a financial structure for his or her retirement?', or 'why can't investors safely fund 75 to 100 year forestry projects.'

As part of Long Finance, Dr Malcolm Cooper has written a fascinating booklet, In Search Of The Eternal Coin: A Long Finance View Of History, exploring different views of eternal value over the ages. The Eternal Coin is a Long Finance thought experiment that speculates on whether a coin (or some form of money) that never loses value could exist. A simple answer might be land, the means by which most wealth had been passed down for most of human history. It is no accident that the longest living commercial entities in Britain - the City of London, Oxford & Cambridge Colleges and the Church of England have held most of their wealth in land.

Yet the two big themes of our times are globalisation and sustainability. An Eternal Coin makes you think differently about both. Globalisation makes you think about equitable dealings across the world. Is this a fair trade with a developing country? Globalisation makes you think about externalities such as pollution.

Are you paying the right price? Sustainability makes you think about resources over time. Is this purchase of fish, timber or metal fair for future generations? Sustainability may also help you think about fairness to you and your great grand-children. Is your pension a fair inter-generational arrangement?

The Eternal Coin thought experiment has produced proposals for coins based on traded currencies, commodities, land, time to depletion of major resources, genetic materials and intellectual property, the argument being that people will always buy stories and perhaps we could build a coin centred around shares in books, films plots or songs. Money is both space-binding and time-binding for most societies. The information age has certainly changed the space-binding media aspects of our world, probably for ever. Perhaps information with long-term or permanent value will also thus change the time-binding media; specifically forming part of our Eternal Coin, or money as a store of value, for future generations. As the journalist Simon Carr remarked,

'Money turns out to be whatever we agree it to be. It is a collective work of the imagination.'

Thus the argument goes around in a beguiling circle; defining money as a form of communication, or information at the start of the lecture. By the end of the lecture, I'm concluding that information might, in part, be the ultimate long-term form of money.

Conclusions

[SLIDE: LOADSAMONEY]

So where does this all lead us? I'd like to leave you with a couple of concluding thoughts on 'changing money'.

Firstly, I think nation states will need to think hard about their roles in the future, both as issuers of money and their related role of tax collectors. Taxation models will need to adapt a great deal to accommodate our new local and global world of commerce. Money is only part of that changing world, but it is an important part of it and money is, today at least, the medium through which most of us are taxed. That needn't necessarily be the case. We could, for example, pay some of our taxes in time money rather than conventional money. Currently, nation state taxation systems seem to me outmoded and a hindrance to progress.

Secondly, society needs to address the trust deficit; the public's trust in banks and governments stewardship of our money system has been severely dented in the past few years. I believe this diminished trust to be highly dangerous for the global money system, which depends almost entirely on trust in order to be sustainable.

The remarkable 1000 point Dow Jones plunge on 6 May this year, seemingly caused by one duff trade which triggered a downward spiral of computer-generated algorithmic trading, is a cautionary tale. It was soon spotted as an anomaly, but it reminds us that technology can be part of the problem as well as part of the solution. Should such an erroneous spiral occur during a period of financial panic, then financial markets and the money system with them could quite possibly grind to the sort of halt we nearly experienced in autumn 2008, when the financial system came so close to breaking down irrevocably.

I don't know anyone who is really confident that the system has been fixed post 2008. Only last month Mervyn King, the Governor of our central bank, the Bank of England, said: "Of all the many ways of organising banking, the worst is the one we have today", and, "[W]hat we cannot countenance is a continuation of the system in which bank executives trade and take risks on their own account, and yet those who finance them are protected from loss by the implicit taxpayer guarantees."

Let's take the Governor's world for it - the financial system isn't fixed and it's hard to work out what it would take to convince us that it is fixed and to rebuild our trust.

[SLIDE: THE ALLURE OF MONEY]

One final observation on how money affects our psyche. Eric Lonergan, in Money concludes: 'The final property of money - its allure - is equally revealing of human frailty. It cannot be irrational to be attracted to money; after all, it grants us power, freedom and security, But money also plays on less appealing propensities towards greed, envy and self-importance.'

I agree with that statement and also with Lonergan's other conclusion, that money would serve us better if we thought about it less. In the current financial climate, we tend to give money more attention than maybe we should. But the last word before announcements, questions and refreshments should go to Aldous Huxley, who said: "the instinct of acquisitiveness has more perverts, I believe, than the instinct of sex. At any rate, people seem to me odder about money than about even their amours."

Now that thought might make a good conversation ice-breaker at the short drinks reception after this lecture, which is at the London Wall Bar and Kitchen, just outside the Museum.

Announcements and questions

[SLIDE: THANK YOU AND QUESTIONS]

Before questions, just a few announcements. I'd like to plug a couple of additional Gresham events on related topics. On 30th November, at Barnards Inn Hall, Con Keating will introduce his Long Finance Paper - 'Don't Stop Thinking About Tomorrow: The Future of Pensions'. That evening, 30th November, also at Barnards Inn Hall, 'A New Economic Model for Europe: Building sustainable growth' by Dr Chris Gibson-Smith. Also, one for your 2011 diaries, Professor Michael Mainelli will further develop some of the themes from this lecture on 7th February 2011 here at the Museum of London - ?Long Finance: Transactions across time'.

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