

Future of Money





The Global Challenge

Money has four basic functions, each of which can be implemented in a different way and so each of which are available for different types of change. To me it is reasonable to consider these four functions and look at the global challenges to each of them individually and from there ask about the future.

Money as a unit of account is a hot topic as the US dollar is being questioned as the denomination of the world's reserve currency. Robert Zoellick, President of the World Bank, recently said that the US must "brace itself" for the USD to be replaced in that role and, for other reasons, the UN Conference on Trade and Development has also called for the USD to be replaced with a new 'global currency' and not only as a unit of account. The question is with what? Should we adopt the Special Drawing Right that is used by the IMF or, if stability is a driver, should we not go back to gold as the price of oil in gold is much more stable than the price of oil in dollars.

Money as an acceptable means of exchange is already undergoing change. Money is useless as a medium unless it is acceptable to both parties in a transaction. In many countries cash is falling as a proportion of transactions. In a decade will cash still be there? Why? Might we eliminate money through 'turbo barter'? Is cash replacement realistic and under what circumstances? Why now? Which technologies have come together to make this a point in time when the possibility of a change from cash to an alternative means of exchange is not only credible but also increasingly probable?

Money as a store of value is also open to question. How will people in the future have access to good

stores of value and how will choice impact fiscal policies? Will we have transactions between non-monetary stores of value? In some African countries, people already trade their means of exchange (the local currency) for a better store of value - mobile phone minutes. Why not open savings accounts in gold, or oil, or food? There are many reasons for thinking, as Edward de Bono once suggested, that an 'IBM Dollar' be a better store of value than a USD.

Money as a mechanism for deferred payment is seen as a prerequisite for society to function. It must support contracts between parties that include provision for future payment. So will people and organisations choose different payment mechanisms? Are there enough reserve currencies to make choice a reality? Will we collapse back to bullion, or grain? If I agree to pay you \$1 million in a decade, can you continue to use conventional assumptions to value that offer?

From my perspective, as a technologist, it is the means of exchange that is most immediately subject to the pressure of rapid technological change, particularly since we are at one of those inflexion points that come along from time to time. The mobile phone is about to become the most important means of exchange on a global basis and the first technology with the potential to replace notes and coins as the means of exchange for the 'average' person.

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Options and Possibilities

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Over the next decade, the technology timeline is one of the most predictable components of the Future Agenda for money. As William Gibson commented in 1999, "the future is already here, it's just unevenly distributed." All of the technologies that will make a difference to any organisation's business model in 2020 already exist. The right way to get ahead of the curve is not to try and imagine amazing new technologies from scratch but to simply look at how technologies are moving from the lab into the world and consider their impact in a reasonable structured way.

New technologies that will be moving into the mainstream of money, payments and banking over the next ten years include; connection technologies such as speech recognition, near field communication, 4G mobile networks and powered tags; disconnection technologies such as smart cards, voice authentication, face recognition and identity cards; and processing technologies such as the semantic web, contextual computing, autonomous agents, printed batteries and virtual worlds. Of these, I see that it will be the disconnection technologies that will shape the emerging value network. Therefore small improvements in these technologies will have a major impact on money.

Unlike the technological view, the social and economic pressures on money are much harder to determine. If the average person in the street thinks that their government is printing money round the clock so that it will inevitably lose value, then they would naturally want to hold gold or some other asset they think might hold its value against inflation. This does not mean using real gold as a means of exchange but as a store of value. I could envisage, for example, having a gold account. I would still draw cash out of the ATM - but only enough to support transactions. Gold would be the store of value and, as a consequence reduce the demand for currency as a store of value. Is digital gold the future? Will the Islamic market be a driver for electronic gold? A non-interest bearing 100% gold-backed electronic currency would be attractive to many in times of economic uncertainty. While the return to the gold

standard may be impractical or even undesirable, the idea of a new technology monetising the store of value that is gold is a different proposition. For the ordinary person to be able to decide to hold Euros, gold or mobile phone minutes simply by choosing a different menu on their phone does provide practical choice. However, given free choice, would people opt for dollars over precious metal?

Perhaps people would prefer to use more regional, local or even personal currencies. The next generation of money may be more about so called 'alternative currency' rather than a return to the money of the past. Local currencies have been attracting a lot of attention and there is history in this space ranging from Local Exchange Trading Systems, frequently derided as 'babysitting tokens', to Time Banks and so on. In London another such currency has just been launched - the BrixtonPound. If regional, local or personal currencies are to disrupt the financial system they need to include an alternative means of saving and lending, not merely spending. A combination of P2P (peer-to-peer) currency and P2P lending could very well deliver the key elements of new kind of money. One factor nudging me towards this is the demonstrable collapse in the trust of traditional banks: Many members of the public, whether through financial calculation or outrage, are now prepared to give alternatives a try. In the UK, one such alternative of note is Zopa, the peer to peer lending exchange.



Proposed Way Forward

If we are to choose a path forward, let us make it a shared goal to make a substantial reduction in the amount of cash in circulation: Willem Buiter (Professor of European Political Economy at the London School of Economics and Political Science and former chief economist of the EBRD) is not the first economist to think about getting rid of cash. But he may be one of the first to think about getting rid of cash in a technological era that actually makes it entirely feasible. It wasn't feasible when Hayek was thinking about it in the 1970s, or when European banks were thinking about it in the 1990s, but it is entirely feasible in the 2010s. Why? Well, there are some key technological developments that make Willem's vision more than science fiction: in fact, some might say, make it more likely than not. These developments mean that we can overcome the main barriers to cashlessness - POS (Point of Sale) density and anonymity - in ways that can deliver more functionality than Willem might expect.

To make something "cash like" then you have to be able to use it pretty much everywhere (you need a high POS density) and you need to be able to make small transactions in private, without being tracked, traced and monitored. There are two ways in which the technological developments of the last two decades have addressed these key objections and have put us in a position to be able to take Willem's ideas and implement them.

The first is the mobile phone. We are already seeing the launch of mobile phones that can replace payment cards (there are 40 million of them in Japan already) and provide prepaid "e-money" accounts (M-PESA in Kenya, provided by mobile operators Vodafone and Safaricom, has over six million users already). But the strategic impact of mobile phones in the payment space is yet to come. Yes, mobile phones can be payment cards and that's great. But mobile phones can also be payment terminals. Or to put it another way, you can use a chip and PIN card to pay, but you can use a mobile phone to both pay and get paid. Since I live in a country where, essentially, everyone has a mobile phone this means that it is absolutely feasible to eliminate cash altogether. In this coming world, if I want to pay you a pound, I will do it by text message or mobile Internet and you will know immediately that you have the cash.

The second objection is that losing the anonymity of cash would change the relationship between citizen and state (and bank) in an undesirable way. I used to think that this was true, but now I'm not so sure. Thinking about anonymity again, my experience back in the old days was that, for different reasons, neither the consumers, nor the banks, nor the retailers, nor anyone else actually valued anonymity at all. So, if you put it in a tick-box, some people will tick it, but that's because they haven't really thought about it. Once they had thought about it, their interest in anonymity plummeted.

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Impacts and Implications

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So, my central prediction for the decade is that the mobile phone will be used to transact non-fiat currencies. Not much of a prediction perhaps because it is already happening. But the impact will be truly transformational and will, I would argue, primarily benefit the poor.

If the central problem is the cost of transactions for poor people, and the central solution is to use mobile phones to make transactions (including non-fiat currency transactions) then the key compromise is straightforward to set out: We must encourage easy-entry competition for low-value, inter-personal transactions and allow not only mobile operators but other newcomers to deliver a service.

Why not take the €500 note as an example? Any prepaid instrument with a maximum daily transfer of €500 should be regarded as cash and regulated globally much as the FSA regulates Electronic Money Issuers (ELMIs) in the U.K. - but with higher limits on both balances and annual transfers. In Europe, there will be an additional chapter in the Payment Services Directive (PSD) to create a framework for electronic money institutions (alongside the frameworks for credit institutions and payment institutions). So perhaps this could form the basis of reciprocal international agreement. In other words, anyone should be able to buy a pre-paid card with €500 loaded on to it and then do what they like with it; use it on eBay or in Marks & Spencer; send it to a grandson at University or back to the old country as a remittance.

Think about it - the immediate benefit to the poor (who lose some 20% of their annual remittances to charges

or fraud) would surely outweigh any marginal convenience offered to drug dealers. And if an international terrorist were to go round Post Offices buying a pre-paid card in each one and then sending €100,000 worth of cards to their uncle up the Khyber Pass, not only would it engender significant effort but it would also cost them a lot more than sending €500 notes (which the Royal Mail might well lose anyway).

More realistic limits for the Know Your Customer (KYC) and Anti Money Laundering (AML) protocols and increasing competition in the provision of mobile payment services would bring (literally) hundreds of millions of people into the financial system. This would deliver a significant net welfare increase and make a huge difference to the daily lives of some of the poorest people.

So, if we are to try and choose a path forward, let us make it a shared goal to make a substantial reduction in the amount of cash in circulation by adopting regulatory compromise to open up the space for solutions and encouraging new thinking, particularly around mobile phones, to deliver those solutions. In fact, we might make the goal the substantial eradication of cash, as previously suggested. Controversial? Perhaps, but possible, plausible and potentially probable!



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