Paul Cockshott's Blog

Comments on economics and politics

POLITICAL ECONOMY, SOCIALISM

Bitcoin is not what socialism needs.

Date: November 23, 2017Author: Paul Cockshott 6 Comments
Jan Philipp Dapprich, Paul Cockshot

In a recent paper Huckle and White (2016) argue that, while Bitcoin is often associated with right-wing libertarian political philosophy, the underlying technology – Blockchain – has properties that also make it applicable in a socialist economic framework. They cite Marx' concept of labour credits and argue that credits created by Blockchain may take on the role of representing labour time. In the Critique of the Gotha Programme (Marx 1999), Marx discusses the idea of a communist society awarding labour credits to workers in correspondence with the labour time contributed by them. One hour of labour would yield a labour voucher representing one hour of work, minus taxes. Taxes are to be used for public expenditure, such as investment, education or the consumption needs of those unable to work. A one hour labour voucher can in turn be used to buy a consumption good that takes one hour to produce.

Huckle and White's suggestion is that Bitcoins, created by blockchain cryptography could be used as digital labour vouchers. The price of consumption goods in Bitcoins, would be determined by their energy content, i.e. how much energy is needed to produce them:

"According to life-cycle analysis conducted by Aguirre et al. [92], an electric vehicle (EV) uses, over its lifetime (manufacturing, transportation, use, and disposal), 506,988 MJ, or 140.83 MWh [92]. Given that it requires 5.14 MWh to create a single BTC, the price of the *Nissan Leaf* EV is given by: 140.83 MWh/5.14 MWh per BTC _ 27.4 BTC" (Huckle and White 2016, p. 10)

It may well be argued that energy content should in some sense be reflected in pricing, but given that pricing purely based on energy does not take into account labour inputs at all, this would clearly not constitute a realisation of Marx's labour voucher system as the authors suggest. Even if one accepts energy pricing of consumption goods, it is not clear how Huckle and White imagine workers compensation to be determined. In the case of Marx's labour vouchers, they are directly linked to both the labour content of consumption goods and the labour contributed by the workers. The same can't be said for Bitcoin. While it might be possible to calculate a bitcoin equivalent of products through the relative energy contents, the same is not possible for contributed labour. This means that Huckle and Whites' proposal provides no answer to the essential question how long a worker will have to work to be able to afford the *Nissan Leaf* EV in their example.

But there is a more fundamental problem with their proposal. Marx' labour vouchers don't themselves require labour to produce. Or at least not as much as the labour they are meant to represent. They are simply tokens given out to confirm that a worker has contributed a certain amount of labour time. The vouchers don't actually have to take the same amount of labour time to produce. In fact if they did, this would be a significant waste of labour which would not go towards producing objects that have direct use value. Labour vouchers are better compared to a theatre ticket. A theatre ticket represents the right to be able to see a performance. For this to be the case it is not necessary that the ticket itself takes any significant amount of effort or resources to produce at all. All that has to be ensured is that it can't easily be forged, in order to prevent fraud.

Bitcoins in Huckle and White's proposal on the other hand must actually take as much energy to produce as the products which can be acquired by them, energy which can't be used to produce goods which actually satisfy some need. While labour vouchers can be compared to a theatre ticket, Bitcoins should be compared to a gold currency. Gold gets it exchange value, because it is difficult to come by or in terms of the Marxist Labour Theory of Value: it takes a significant socially necessary labour time to produce. This is what makes it a carrier of value and enables one to exchange it for other objects of value. The same can be said for Bitcoin, which takes a significant amount of energy (which in turn takes significant amount of labour from plant workers, coal miners etc.) to produce. The value of Bitcoins is ensured by the fact that they require an ever increasing amount of energy to produce. It is not a coincidence that the machines that produce bitcoins are referred to as

Bitcoin *mines*.

Not only does Huckle and White's proposal rest on a misunderstanding of the labour voucher proposal, it would also constitute a of waste of resources and labour and would unnecessarily contribute to carbon dioxide emissions, since fossil fuels continue to be one of the main sources of energy which would have to be used in the production of Bitcoins. Huckle and White are aware of this, as they themselves put forward a conservative estimate of 3.38TWh for the current annual energy consumption of Bitcoin mining (Huckle and White 2016).

The whole motivation of Bitcoin and similar systems is to create a digital substitute for gold, The aim is to break away, as the advocates see it, from a state monopoly of the issue of currency and a dependence on the international clearing bank system of payment. The idea that Bitcoin will replace the Dollar or Euro is based on a fundamental misconception of why state monies circulate (Knapp 1924, Wray 1998). State currencies circulate because they are the unit that must be used to pay taxes. So long as this continues their circulation will be primary and Bitcoin and its like will be remain at the level of speculative hedges, much as gold still is. In comparison with the existing clearing bank system it is horrendously energy inefficient. Malmo (2015) says that in 2015 it took 5000 times as much electricity to process a bitcoin transaction as a visa payment. So as a technology to be used in day to day payments for cups of coffee or bags of rice it is non viable. The great energy cost is a necessary consequence of decentralisation. The validation of the block chain has to be made computationally hard to prevent cheating, and that computational difficulty translates in energy use.

For people interested in money laundering, tax avoidance and illegal drug deals Bitcoin has its attractions, but as a model for payment in a socialist system, the infrastructure provided by existing chip and pin cards and card readers is more promising. The essential difference between Marx's proposed labour accounts and bank notes is that the labour accounts do not circulate. They are credited to people for work done and *cancelled* out when a worker purchases something from public shops. If you read Bellamy's utopian socialist book Looking Backward (Bellamy 2003) you can find an account of how this was seen as working using 19th century technology. Bellamy imagined a Socialist America in 2000. People had social *credit cards*, like the punched cards that had recently been invented by Hollerith for data processing. At the start of each month you got a new card with your credits marked on it. You went to public stores to buy stuff and the till physically punched the credits out from your card as it read them. The goods were then dispatched to your house by pneumatic tubes. D

The very idea of the credit card actually derives from this utopian socialist literature. But unlike the capitalist credit cards of the actual year 2000 in the USA, there would be no way to carry out private trading with Bellamy's system. Your credits are non transferable since, the moment you use them they become useless little paper chads in the refuse shoot of the till. No private black market activity is possible without some form of circulating money.

A socialist economy in 2030 would not have to revert to paper credit cards. All that is necessary, once the banks, the means of production and distribution are publicly owned is to alter the software that the banks use. Instead of Euros or Pounds being transfered from your account to Tesco's account the software would simply cancel your labour credit. The shop, being publicly run would not be a business running for profit, so it would not need to be credited with money. The shop would not buy in goods from a wholesaler because the warehouses and factories that the goods came from would also be publicly run. In consequence there would be no transfer of ownership between factory, warehouse and supermarket, and thus no need for a chain of payments.

Statistics would still have to be collected to see how many hours of labour people were spending on cornflakes or wheat biscuits etc, to make sure that the public factories allocated corresponding amounts of resources to making these products. The same records, in conjunction with stock control would be used to detect pilfering. But there would be no money, and no need for the elaborate protection against mutual cheating that Bitcoin uses. Bitcoin, far from being a model for a cooperative economy actually epitomises a dog eat dog capitalism where nobody cooperates and nobody trusts anyone else. ackward: 2000-1887. Broadview Press.

Huckle, S. and White, M. (2016). 'Socialism and the Blockchain'. *Future Internet* 2016, 8, 49.

Knapp, G. F. (1924). The state theory of money. History of Economic Thought Books.

Malmo, C. (2015). *Bitcoin is unsustainable*: https://motherboard.vice.com/en_us/article/ae3p7e/bitcoin-is-unsustainable

Marx, K. (1999). *Critique of the Gotha Programme*. marxists.org: https://www.marxists.org/archive/marx/works/1875/gotha/

Wray, L. R. (1998). Understanding modern money (Vol. 11). Cheltenham: Edward Elgar.

SOCIALISM

Published by Paul Cockshott

Political Economist and Computer Scientist View all posts by Paul Cockshott

6 thoughts on "Bitcoin is not what socialism needs."

Add Comment

1. Pingback: Labour Voucher to Bitcoin – Bitcoin is not Socialist – Crypto Hearsay
2. **Zircon man says:**
   December 9, 2017 at 9:15 am
   There are some comrades that have begun creating a new kind of blockchain engineered specifically for socialist economies. This means there is no proof of work and most of the economy can be organised directly through the blockchain: https://github.com/ggwilde/stachanov/blob/master/design/papers/pdfs/original-proposal.pdf

   Reply
3. **Muhammad Ali says:**
   December 23, 2017 at 10:40 am
   as long as i know, bitcoins really does not support money laundering. Because if you ask me these cryptocurrencies also provide proof of purchasing.

   Reply
4. **Yuri says:**
   January 14, 2018 at 2:42 pm
   Very good paper in terms of social analysis but it misses the technical innovation that is currently at the cusp of introducing itself into the economy. Regarding the hours of labour it is true. Value of products cannot be determined through hours worked alone as it misses out on opportunities for innovation and improved productivity which is necessary for a thriving socialist society.

   First and foremost, blockchain is a technology of Internet. That is, it is a way of allowing communication that requires security to flow over unsecured channels. It's basically like sending cash or a passport in the mail. You wouldn't because it could get stolen. But with blockchain you can and you don't have to hire high cost messengers to do that. So that's the basics.

   But the next incredibly important thing about blockchain is that it is decentralized. One of the current methods of government of capitalist societies today is through monetary policy. That policy comes from above and usually it is determined by high standing bankers with zero input from the people. It is all done at the bureaucratic level.

   Perhaps you have to remember how you define a socialist society. If you stick by Lenin's phrase "all power to the soviets" and what it meant at the time, it really implied that governance should be done by the working class for the working class. Blockchain is a tool of governance and all kinds of decisions can be taken via the means of blockchain. In other words if the financial system is governed by the people so is the economy and it can prevent such centralizations and failures that occurred as a result of the over-bureacratization of the soviet union.

   Deciding whether blockchain is good for socialism is the same as deciding if railroads or electricity is good for socialism. If you don't understand the technology you will be doomed. Remember Trotsky's ambitious plans to build a massive electric station around 1927. The Stalinist wing first completely rejected those plans, but seeing how important electricity was to industrialization they later picked them up and saw a massive explosion in industrialization. Well with blockchain, what could happen is firstly through decentralized governance such decisions could not be taken unilaterally without the support of the people if the blockchain is implemented and developed to fulfill such interactions between citizens. Furthermore, what would essentially happen to any society is that if it does not embrace blockchain it will miss out on the opportunities for innovation and growth that this technology will allow further implementation of automatization and flow of information. As you can see in Capitalist economies, capital simply cannot resist a quick buck and exploitation of the opportunities for growth. So capital is jumping on the bandwagon by whatever means it can and will continue to do so, seeking opportunities to invest where it can in order to find new profit through development.

I recommend checking out some explanations of what Bitcoin is and how it works and perhaps looking into several of the top 20-30 projects for summaries to see what kinds of use-cases they offer to be able to consider what could be done using blockchain.

Reply

1. **Paul Cockshott says:**
   January 15, 2018 at 10:07 pm
   Blockchain and bit coin are entirely capitalist, and represent the most conservative form of capitalist monetary policy, being an attempt to create a new form of money modelled on the gold standard. As such, were it ever to become established as money, it would play into the hands of the banker/creditor interest against the mass of the population who are debtors. If debts came to be denominated in an appreciating unit of account like bitcoin, debtors in general would be ruined.
   I see no evidence that any productive technology is dependent on the blockchain. Can you cite any technique that actually produces use values that depends on it?

   Reply

5. Pingback: Bitcoin is not what socialism needs. – Paul Cockshott's Blog – 1848: The Ends of History