BitVal (BETA) Notes

The idea of the valuation measure is to put a valuation anchor on Bitcoin. This anchor should make intuitive/theoretical sense. In stock markets we typically use the earnings of the firms underlying the stocks. But Bitcoin has no earnings as it models itself as a currency rather than as a stock.

When we try to value currencies we typically use comparisons with other currencies. We compare these currencies based on the underlying things that are bought and sold in them and their relative prices – this is known as the Purchasing Power Parity (PPP) approach. The things that are bought and sold are done so in a specific geographical location (the US, the UK, Japan etc).

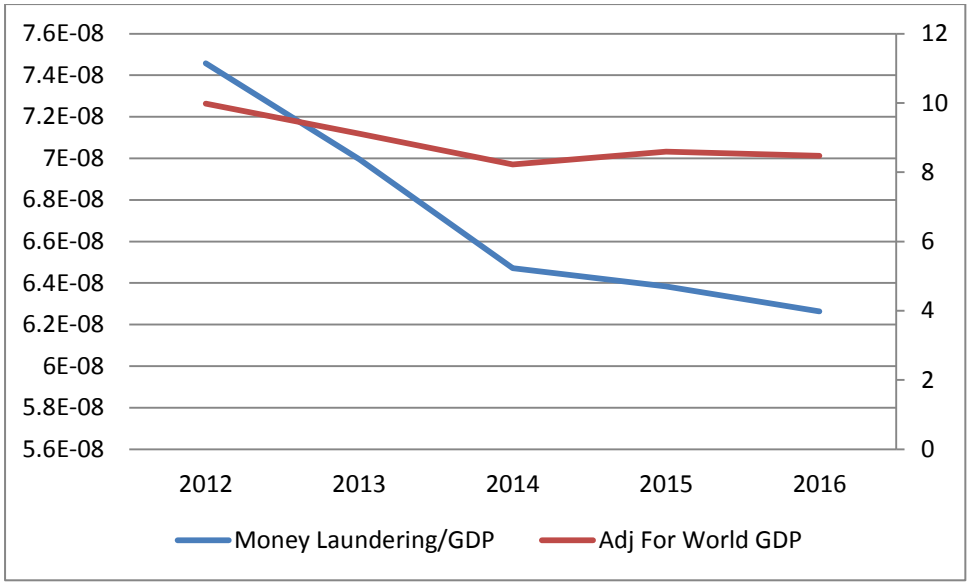
In the case of Bitcoin there is no specific geographic location where goods and services are sold. That said, we still know that Bitcoin is used for specific types of transactions. Bitcoin is used by people to undertake transactions in what we might call the "dark economy".

The dark economy is not a "place" in the geographic sense of the term. It exists across the world. Rather it is an economy that falls outside of legal jurisdictions. It seems reasonable to assume that this is Bitcoin's actual domain.

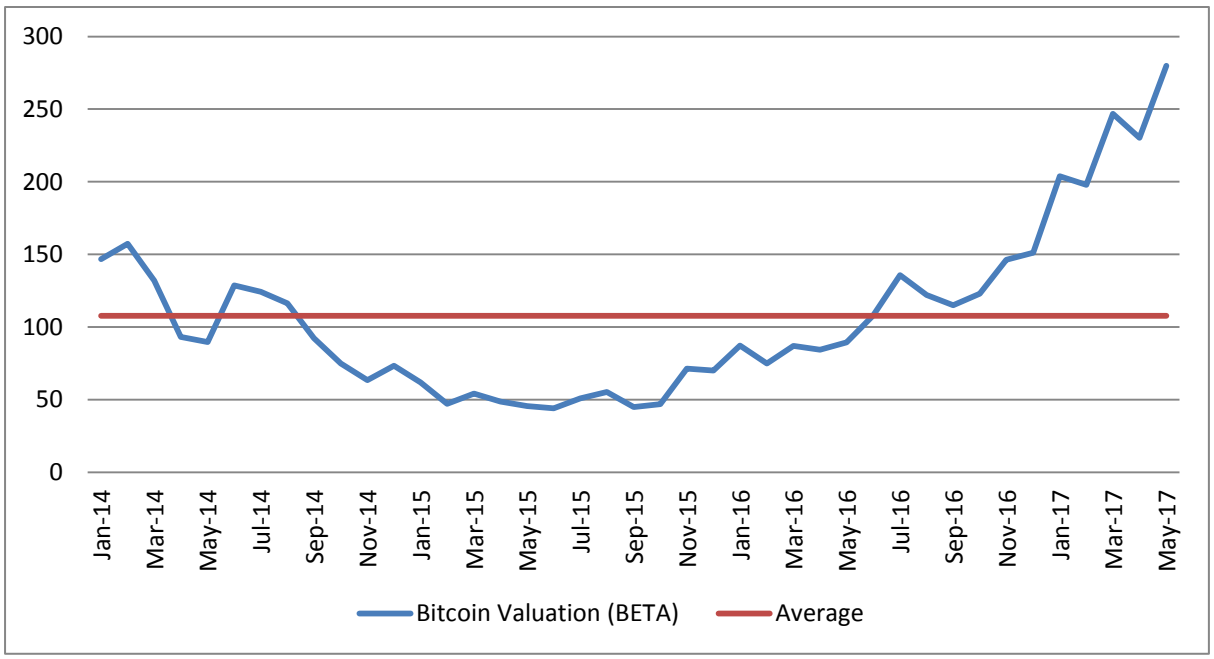
The demand for Bitcoin is driven by the demand for transactions in the dark economy. Therefore a valuation measure should try to estimate these transactions and then use them as an anchor in order to determine Bitcoin's equilibrium price.

Our BitVal (BETA) metric tries to estimate the amount of money laundering taking place at any given moment in time to provide a valuation anchor for Bitcoin. Since such money laundering obviously falls outside of the regulatory apparatus there are no good statistics on it. What we have done instead is we have taken the rankings assigned to various countries by the International Center For Asset Recovery (ICAR) and we have weighted these rankings by each countries nominal USD-denominated GDP – taken from the World Bank.

This gives us an overall measure of money laundering that is represented by the blue line in the chart below. We then adjust this for the size of word GDP – the idea here is to try to work out how much money laundering is taking place relative to world GDP. This measure is represented by the red line below.



We then divide the Bitcoin price by this money laundering index adjusted for world GDP to obtain our BitVal (BETA) measure. We do not really trust the data prior to January 2014. This is because Bitcoin was valued very low – at only around $5-100 a Bitcoin – while the value of the asset then rose astronomically. We have therefore excluded the period 2012-14 in the above chart and in the equilibrium/average around which we should expect Bitcoin to fluctuate[1].



We calculate the equilibrium value as a simple average of this period – which comes out around 69. As we can see, as of today Bitcoin is hitting around 164 on our valuation metric, indicating that it is

[1] The assumption here is that the prices that Bitcoin climbed to after 2014 are reasonable. Given that we are dealing with less than a decade of time series data we have no idea whether this is a correct assumption. It may well be that Bitcoin has been in a bubble between 2014 and today and that it will eventually fall back down to its pre-2014 prices. We have no view on this and the statistics cannot really tell us what we should think.

overvalued by over 238%. Our BitVal (BETA) metric certainly seems to be measuring a major valuation bubble that started in the last two quarters of 2016.

Improving BitVal (BETA)

We have designed BitVal to be an open source research program. Collecting the relevant data and organising it in order to create a valuation metric take time and effort. BitVal (BETA) was created in my spare time with no commercial gain in mind. For this reason I am releasing the spreadsheet in which BitVal (BETA) is built. It is my hope that others will try to improve on the metric.

People interested in doing so should be trying to improve on my attempt to estimate the size of illegal, dark economy transactions. There are many ways this could be done. For example, the United Nations Office on Drugs and Crime collect good statistics on global drug usage and drug prices. A measure of drug usage could be fused with the current measure of global money laundering to better anchor the BitVal metric.

Open source contributors can come up with other ways to measure the size of dark economy transactions. Please don't be greedy and share your statistics and models in an open source forum.