



DOES CORONA CRISIS IMPACT OUR FAIR VALUE FOR BITCOIN?

Crypto Research #10, April 2020

This Crypto Research report examines the impact of the Corona Crisis on our valuation of Bitcoin.

SwissRex Model and Components

As we showed in Crypto Research #8, the SwissRex Model uses below formula for the valuation of Bitcoin. The fair Bitcoin value brings supply of Bitcoin and demand for Bitcoin into equilibrium.

$$\text{Bitcoin Fair Value} = \frac{\text{Demand}}{\text{Supply}} = \frac{\text{Adoption Rate} \times \text{Broad Money}}{\text{Bitcoin Velocity} \times \text{Circulating Bitcoins}}$$

Demand

In the SwissRex Model, demand equals the adoption rate (in %) multiplied by broad money. Broad money corresponds to global transaction volume for goods, services and financial transfers.

In the Capped Stock to Flow Model, which is part of the SwissRex Model, broad money and Bitcoin velocity are kept constant.

$$\text{Market Cap} = \text{Bitcoin Fair Value} \times \text{Circulating Bitcoins} = \text{Constant} \times \text{Adoption Rate}$$

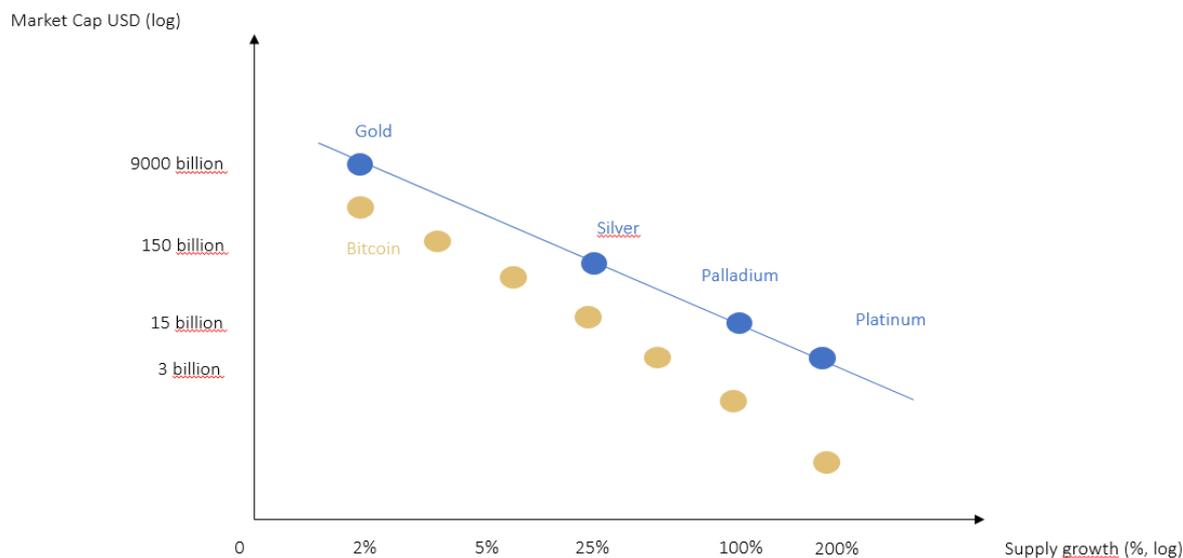
The adoption rate in turn solely depends on Bitcoin supply growth, which is programmed into the Bitcoin software protocol and therefore predefined.

$$\text{Market Cap} = \text{Constant} \times f(\text{Bitcoin supply growth})$$

This is the Capped Stock to Flow Model shown in Chart 1. An increase in broad money or a decrease in Bitcoin velocity shifts the yellow dotted curve up and vice versa. Network effects, which include trust, are measured implicitly. Bitcoin moves not yet along the blue line and therefore trades at a discount to precious metals. The discount narrows steadily over time, as network effects and trust are built.



Chart 1 : Capped Stock to Flow Model



Source: SwissRex, PlanB

Supply

The number of circulating Bitcoins is limited to 21 million. But, even after the last Bitcoin has been mined, the *effective* supply, which equals circulating Bitcoins multiplied by Bitcoin velocity, is still elastic. If each Bitcoin changes hands twice as fast a year, the effective supply doubles and vice versa.

Impact of Corona Crisis on Variables

We now examine the individual components of the SwissRex model to determine whether the Corona Crisis has an impact on Bitcoin`s fair value. Only if macroeconomic variables such as broad money or Bitcoin velocity are taken into account, events such an event can be simulated.

1.) Adoption Rate and Circulating Bitcoins:

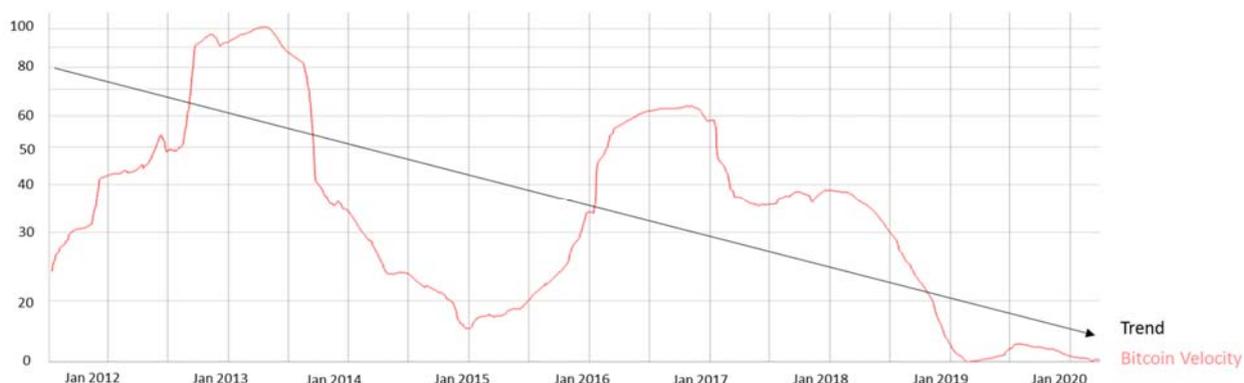
Bitcoin supply growth and circulating Bitcoins are programmed into the Bitcoin software protocol. Therefore, the Corona Crisis has no impact on these variables.

2.) Bitcoin Velocity:

As Chart 2 shows, the velocity is trending down in the long-term, which signifies that more and more investors buy and hold Bitcoin as store of value. As the current value is below the trend line, we have predicted a stable velocity of 11 for the next years.



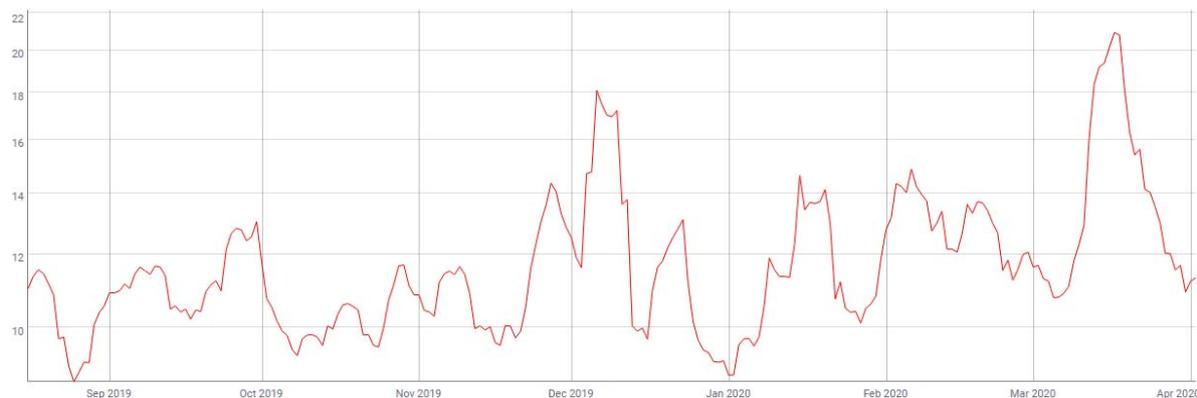
Chart 2: Bitcoin Velocity, 365 day moving average and trend



Source: Coinmetrics, SwissRex

Chart 3 shows, that during the crash of March 12, margin calls and investors in panic led to high transaction volume, which caused Bitcoin velocity to spike from 11 to 21. This has been immediately reversed in the following days. Hence, we see no need to adjust our prediction for Bitcoin velocity.

Chart 3 : Bitcoin Velocity, 7 day moving average



Source: Coinmetrics, SwissRex

Sensitivity analysis: a permanent spike in Bitcoin velocity from 11 to 21 would reduce the fair value for Bitcoin from US 25`000 to USD 12`700.

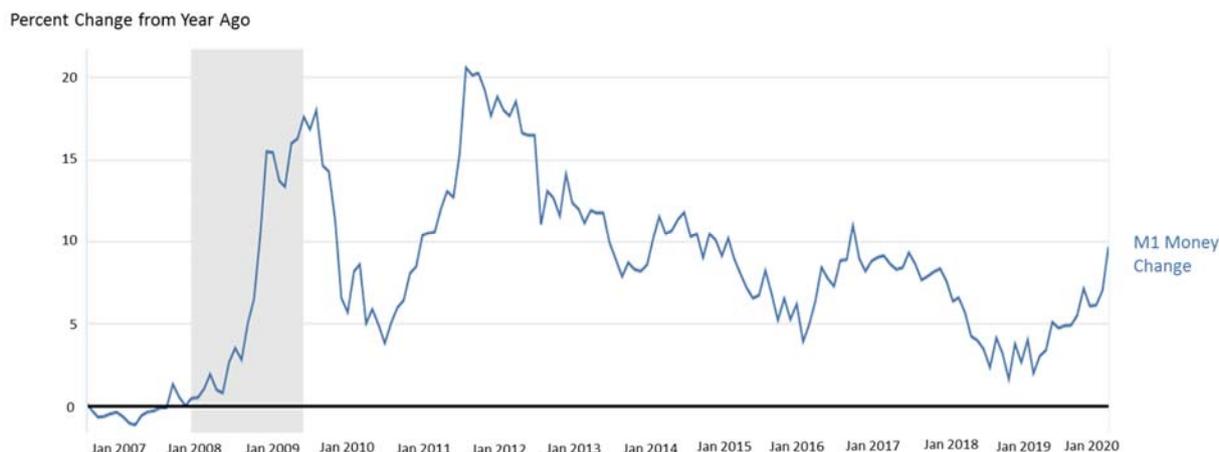
3.) Broad Money:

As broad money equals global transaction volume, this variable could be impacted most by the Corona Crisis. Before this event, we already expected broad money to grow by 10% a year, which was higher than the growth rate of around 7% at the time. As central banks reacted very fast to the Corona Crisis by printing



money, annualized broad money growth has already arrived at 10% and we feel comfortable with our prediction.

Chart 4 : Broad Money



Source: Federal Reserve

Sensitivity analysis: broad money growth of 8% instead of 10% would reduce the fair value for Bitcoin from USD 25`000 to USD 22`500.

Summary

The Corona Crisis doesn't change our fair value for Bitcoin of around USD 25`000 at the end of 2020. The SwissRex Model uses four input variables: broad money, adoption rate, circulating Bitcoins and Bitcoin velocity. The adoption rate and circulating Bitcoins are predefined by the Bitcoins software protocol and therefore not impacted by external events such as the Corona Crisis. With regards to broad money and Bitcoin velocity, our predictions remain the same.

USD 25'000 would correspond to more than a tripling of today`s Bitcoin price. This seems high, but would just match the rally of Bitcoin between January to June 2019. We now see a lot of triggers for the valuation gap to close soon: Bitcoin Halving in May, negative real and nominal interest rates and potential bail-outs of banks as well as bail-ins of depositors. These triggers started the rallies of the last cycles.



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