

Dispatch #12 -2021

April 23rd, 2021

The leading story this week is the Bitcoin pricing model published by Fidelity's Jurrien Timmer. This study incorporates the exponential demand curve with the already well-understood exponential supply decline. He uses the mobile phone adoption curve to model how the Bitcoin price may evolve over the long term. As the past week's Bitcoin price weakness illustrates, the price over the short term can vary notably from any long-term prediction. The Dispatch looks at the following items:

- The current Bitcoin price decline
- The cycle is maturing
- \$14bn hedge fund – Brevan Howard - to invest in crypto currencies
- Venmo enables crypto investments/purchases
- Proctor & Gamble to raise prices
- More crypto acceptance: Time Magazine & Jackson, TN

Bitcoin School

Price theory from Fidelity's Jurrien Timmer

Jurrien Timmer is Fidelity's head of global macro research. He's NOT a Bitcoin junkie, but as he says, started researching the asset in detail six months ago! I am copying his tweets below as they best convey his views. This is the most robust pricing model I've seen thus far. If you are on twitter, the full thread is [here](#).

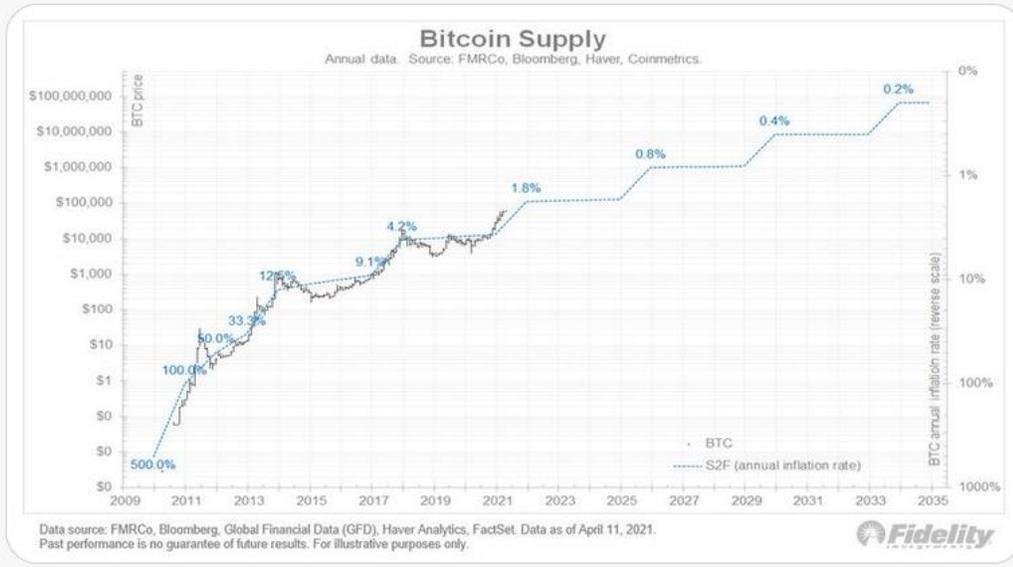
A few observations:

- This is a long-term projection. **Prices can deviate notably from model values both to the upside and downside, over shorter periods.**
- Mobile phone adoption → one phone = one person. In the case of a monetary asset like Bitcoin, one person could own any number of Bitcoin or a fraction of a Bitcoin.
- A single institution could hold 10s of thousands of Bitcoin.
- If Timmer's model is accurate, it may show the lower bound rather than the upper bound of price range as institutional adoption increases.



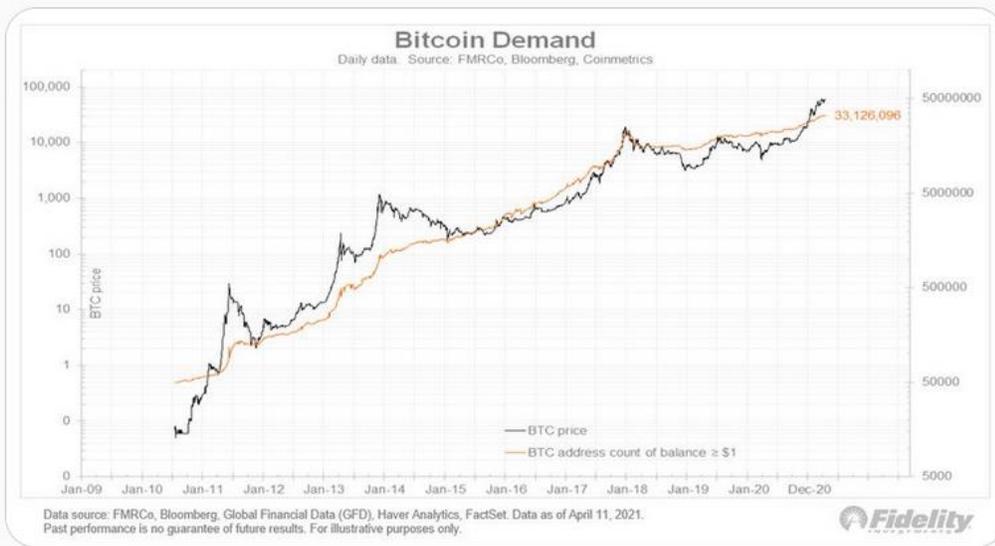
Jurrien Timmer @TimmerFidelity · Apr 13

The supply curve is best described by the stock-to-flow (S2F) model, originated by @100trillionUSD. The higher the S2F, the higher the valuation. From what I understand, the S2F model is basically a power regression between bitcoin's price and it's inflation rate. /3



Jurrien Timmer @TimmerFidelity · Apr 13

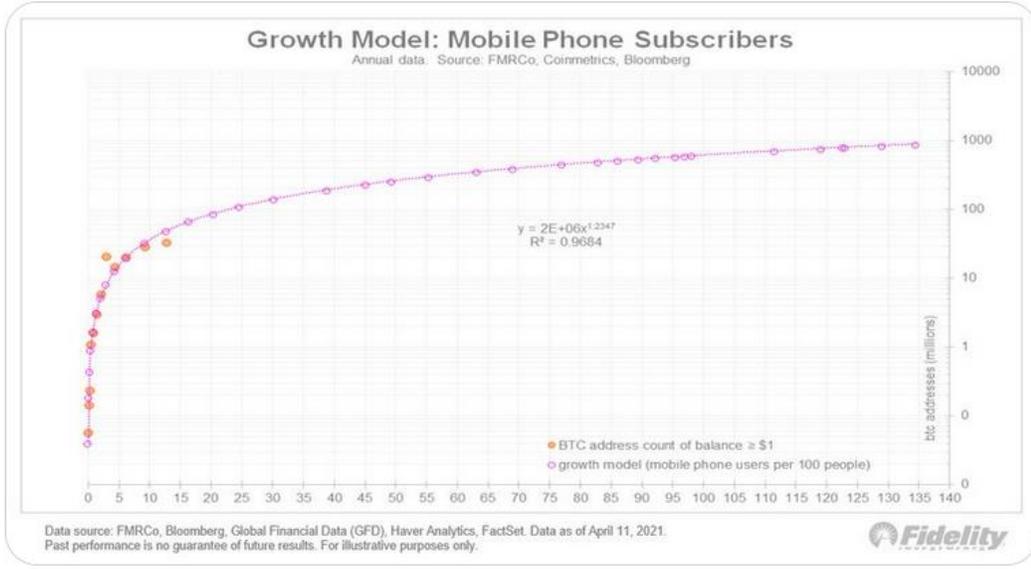
Supply scarcity is not enough though. Fortunately, the demand curve is equally compelling—and equally exponential. The chart below shows the price of bitcoin against the number of bitcoin addresses with a balance of at least \$1. /4





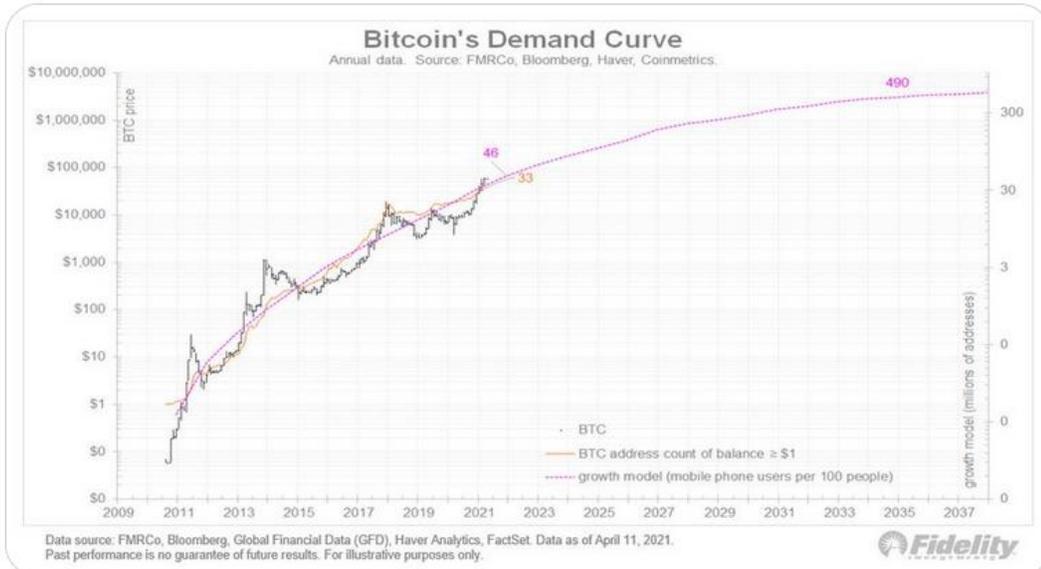
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Below is one example, using mobile phone subscriptions per 100 people in the US. The scatter plot regresses mobile phone subscriptions vs bitcoin addresses. I then added a power regression trendline to project potential future values for bitcoin demand. /7



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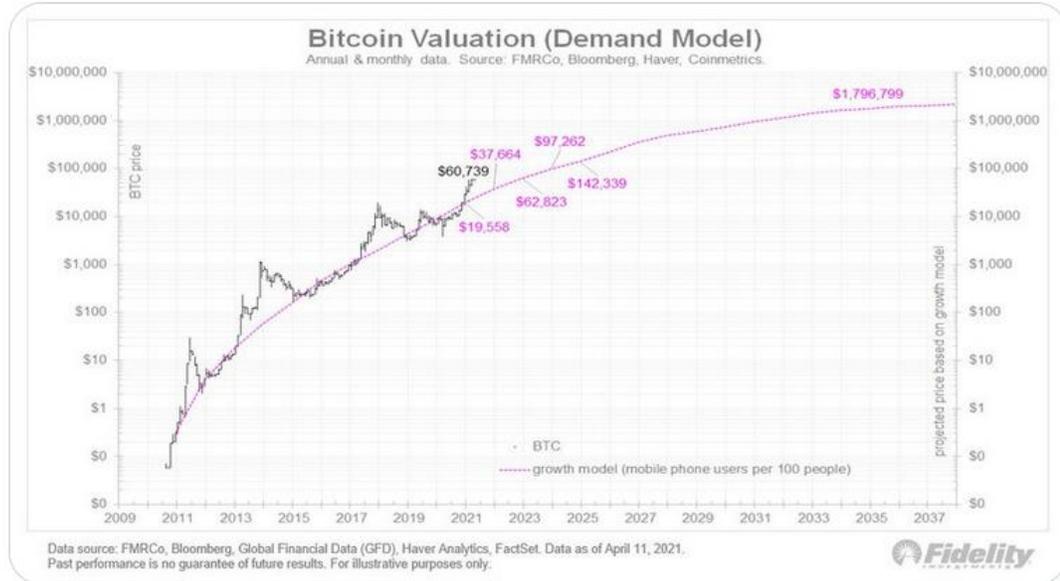
This chart shows the existing and projected demand curve against price. /8





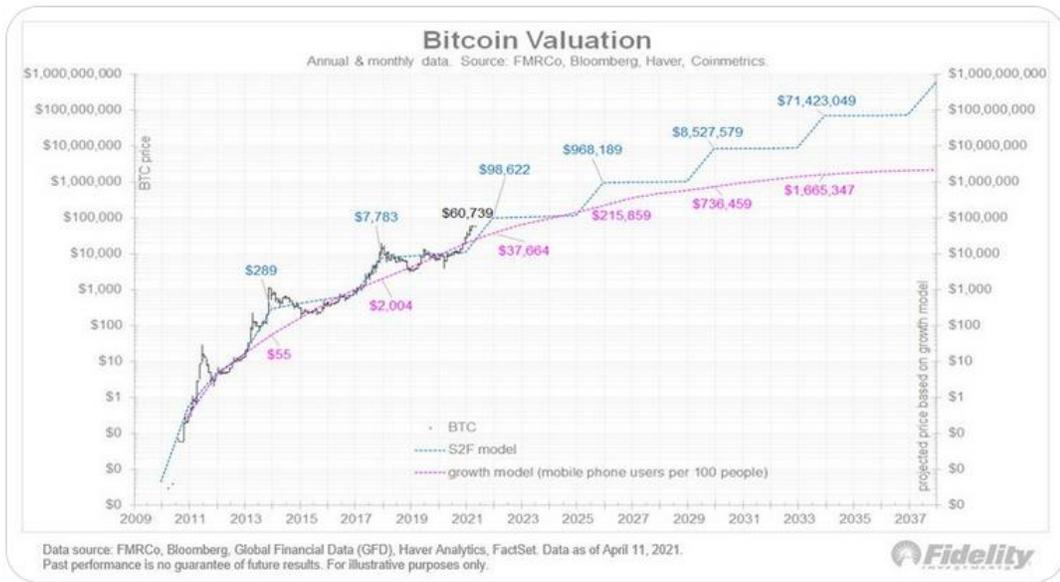
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From there we can convert this demand curve into a price projection, by applying a power regression to the series. /9



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Now let's compare this to the stock-to-flow model. Below I added in the S2F model, which is the aforementioned inflation rate regressed against price. /10





Jurrien Timmer ✓ @TimmerFidelity · Apr 13 ⋮

I don't know which model (if any) will do the best job in suggesting bitcoin's historic journey, but for me the main takeaway is that it is helpful to look at both supply and demand curves. /13

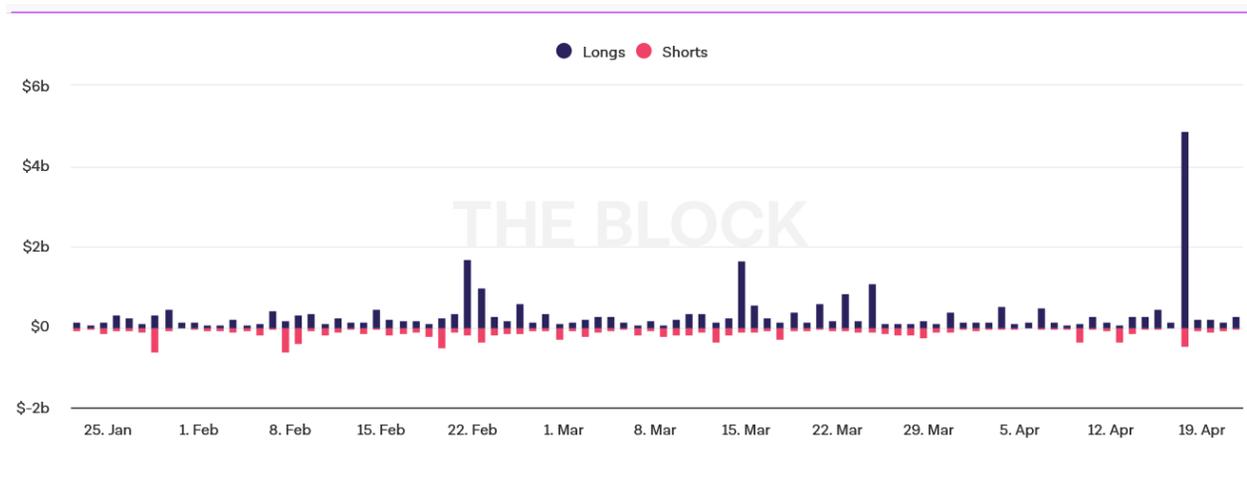
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The biggest issue with this model is that it uses blockchain wallets as “users”. This does not capture users that own Bitcoin via PayPal, Venmo, Robinhood or those that holds coins on an exchange wallet. The *University of Cambridge Centre for Alternative Finance’s 2020 [global crypto study](#)* puts the **number of true users at 101m** (on page 12), which is likely a summer 2020 estimate. Jurrien's model, in contrast, assumes 33m users, which is the number of wallets visible on the bitcoin blockchain.

Regardless, this analysis resonates closely as both the **exponential demand increase (even if just on-chain addresses) and exponential supply decrease are brought together**. Other models, such as the Stock-to-flow model that gets many Bitcoiners excited, only look at the supply dynamics without considering demand.

The current Bitcoin selloff

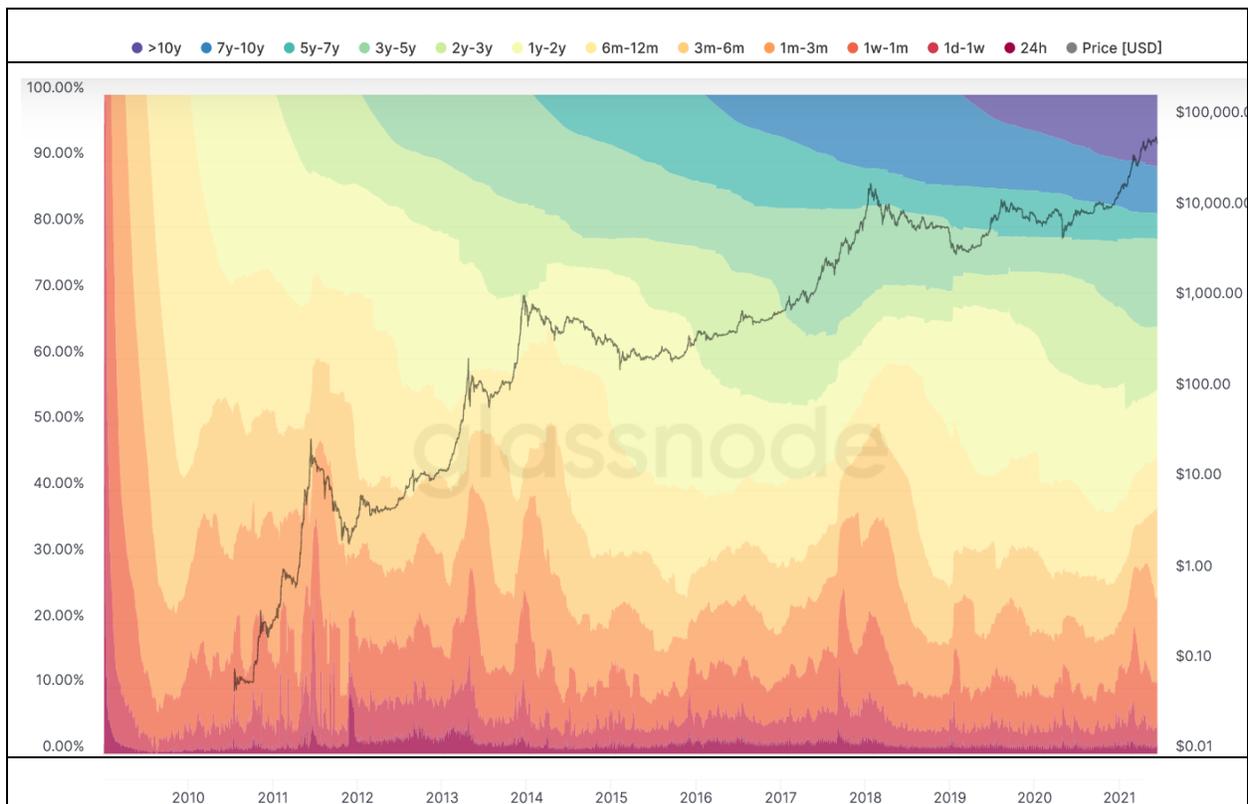
The sharp selloff started last weekend and has been attributed to several items or a combination of these items. Whatever the exact reason, we had a **historic futures long position liquidation this week** as the liquidation chart below from [The Block](#) illustrates. This has unwound most of the excess positioning that took place ahead of the Coinbase IPO.



If you'd like more details, this [Glassnode article](#) looks at the price drop in more details. This [blog post](#) has a similar conclusion and uses some Glassnode data. In addition, [Dispatch #10](#) addressed how sharp pullbacks are a normal part of bull markets. An updated chart of that displayed in Dispatch #10, which includes the current pullback, is available at [ecoinometrics](#).

But, this cycle is maturing

It is worth noting that there are signs we are well into a price cycle and that there is some "irrational exuberance". The rise of many of the Alt coins like Dogecoin, which has neither scarcity like Bitcoin nor utility like Ether, is one example. The **Dogecoin price was up 329% (was +700% a few days ago!)** month-to-date on Friday the 23rd. In addition, the Bitcoin HODL wave chart also shows a rise in the percentage of recently moved (purchased) coins, as you can see from the rising red/orange shaded areas. It's not at a worrying level, but has risen.



Source: [Unchained Capital](#)

Brevan Howard (\$14bn hedge fund) to invest in crypto currencies

Brevan, which is a household name in the world of institutional money management, investing in digital assets is another sign of the asset class maturing. They will invest up to 1.5% of their

\$5.6bn main fund and launch a new fund to invest in digital assets. This [Business Insider](#) article has more details.

Venmo allow crypto purchases

Venmo users can buy as little as \$1 of Bitcoin, Ethereum, Litecoin and Bitcoin Cash as of this week. **This brings Venmo's 70m US-based users to digital assets**, but this announcement shouldn't be a surprise because parent PayPal is already offering crypto access. While this should continue to expand the network effect of crypto ownership, Venmo users won't have access to the bitcoin network and will need to use Venmo to transfer value. More detail in this [CNN article](#).

Proctor & Gamble to raise prices

P&G is following Kimberly-Clarke with a plan to raise prices later this year. In a relatively consolidated retail industry, it's unlikely that these price hikes will be reversed soon. This is a datapoint to keep in mind as the inflation vs. deflation debate rages. This [WSJ article](#) digs further into the announcement.

Crypto Acceptance corner!

- **Time Magazine is accepting payment in crypto currencies.** They are partnering with Crypto.com to enable these payments. More details on this company [release](#).
- **Mayor of Jackson, TN announces plan to allow Bitcoin use** within the city and possibly paying employees in Bitcoin. TheStreet.com [covers the story](#).

The mayor's tweet pushes an equality angle to the adoption.



As always, please reach out if you'd like to discuss any of the points in the Dispatch.

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