Understanding bitcoin price performance

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Key Takeaways

- The first step to valuing bitcoin is understanding what drives its price performance. For this, we have started building a robust Bitcoin Model.
- Currently we see two key explanatory variables for bitcoin price: receiving addresses (+) and VIX index (-).
- Over the coming months, we will continue working on this model and publishing progress updates summarising our key findings.
- The ultimate objective is to have a robust enough model that would help us judge whether bitcoin is priced correctly and how its price may change.

Most investors struggle to value bitcoin as it does not have any cashflows. Few other assets – for example, gold and oil – do not have any cashflows, and investors value them by applying different valuation models.

Currently, there is no consensus on bitcoin valuation.

In our opinion, the first step to valuing bitcoin is understanding what drives its price performance. For this, we have started building a robust Bitcoin Model that we hope will help us all gain the necessary insights over time.

First iteration of the Bitcoin Model

To begin with, we have modelled bitcoin in a multivariate fashion as many different factors affect its price. After an extensive amount of effort, we have been able to identify two key explanatory variables for bitcoin price (direction in parenthesis):

- **Receiving Addresses (+)**
- **VIX Index (-)**

That is, it is positive for bitcoin price if a number of unique addresses that receive funds increases and/or if VIX index reduces. For readers' understanding, number of receiving addresses measures bitcoin as a network, and VIX index is a good proxy for market sentiment (that is, market fear/panic).

When calibrating the model, we considered 30 different independent variables:

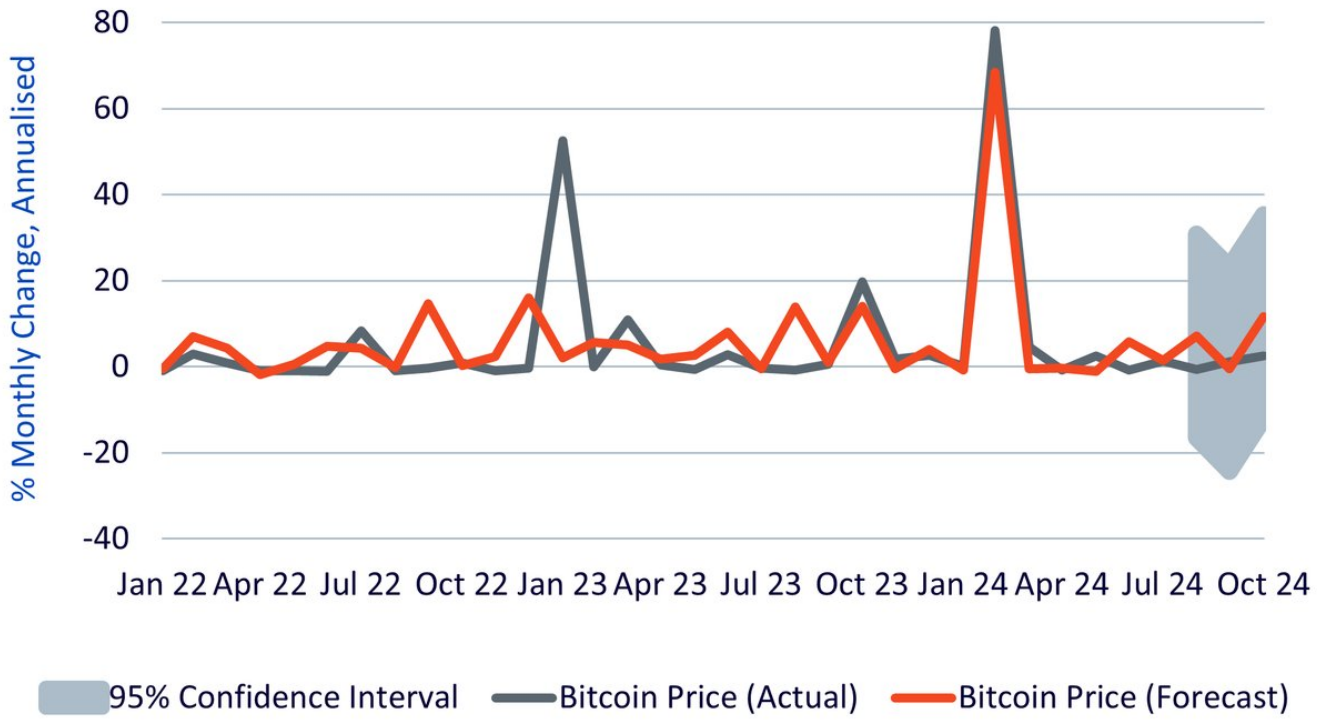
- 24 of them were bitcoin specific
- 6 of them were macro focused

We took this approach because we wanted the model to consider both bitcoin and macro factors as it would be naïve to pretend that macro does not have any impact on bitcoin price. Most of those 30 different independent variables had to be dismissed due to high correlations between them.

After trying daily, weekly, and monthly data, we decided to go with monthly. Of course, this type of approach overlooks changes that happen during the month as only month-end points are considered.

Figure 1 shows bitcoin price forecasts when calibrating our model using data from January 2022 to July 2024. It is clear that the two variables – receiving addresses and VIX index – allow our model to track the actual bitcoin price relatively well.

Figure 1: Bitcoin Price Model in 'out of sample' test

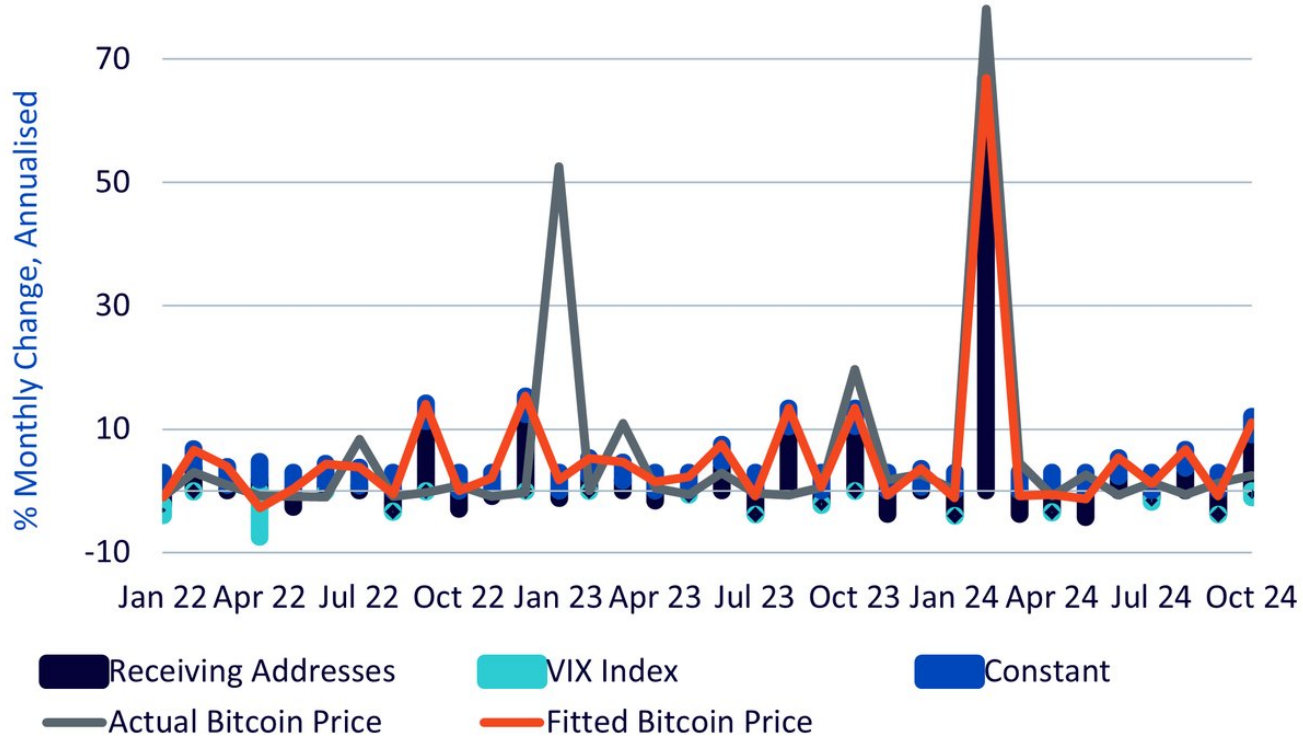


Source: WisdomTree, GlassNode, Bloomberg. 31 October 2024. Model calibration January 2022 to July 2024. 'Out of sample' period August 2024 - October 2024. **Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.**

Bitcoin price attribution

When we talk to investors, most of them ask us to explain the performance of bitcoin. That is, they want to understand the reasons behind bitcoin price movements.

Figure 2: Bitcoin price attribution



Source: WisdomTree, GlassNode, Bloomberg. 31 October 2024. Model calibration January 2022 to October 2024. **Historical performance is not an indication of future performance and any investments may go down in value.**

As shown in Figure 2, over the past few years bitcoin price increased as the number of receiving addresses grew. This is no surprise as an increase in the number of receiving addresses indicates interest from new investors and/or increased activity from existing bitcoin holders. This tends to happen when the market has a positive outlook for bitcoin price.

Figure 2 also shows that VIX index spikes had a noticeably dampening effect on bitcoin price. This is also no surprise. Bitcoin is a risk asset and risk asset prices tend to go down when the VIX index goes up.

Next steps

Over the coming months, we will continue working on this model. As we do, we will publish progress updates summarising our key findings. The ultimate objective is to have a robust enough model that would help us judge whether bitcoin is priced correctly and how its price may change.

For those interested, we would be more than happy to discuss the current version of our Bitcoin Model in detail.

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