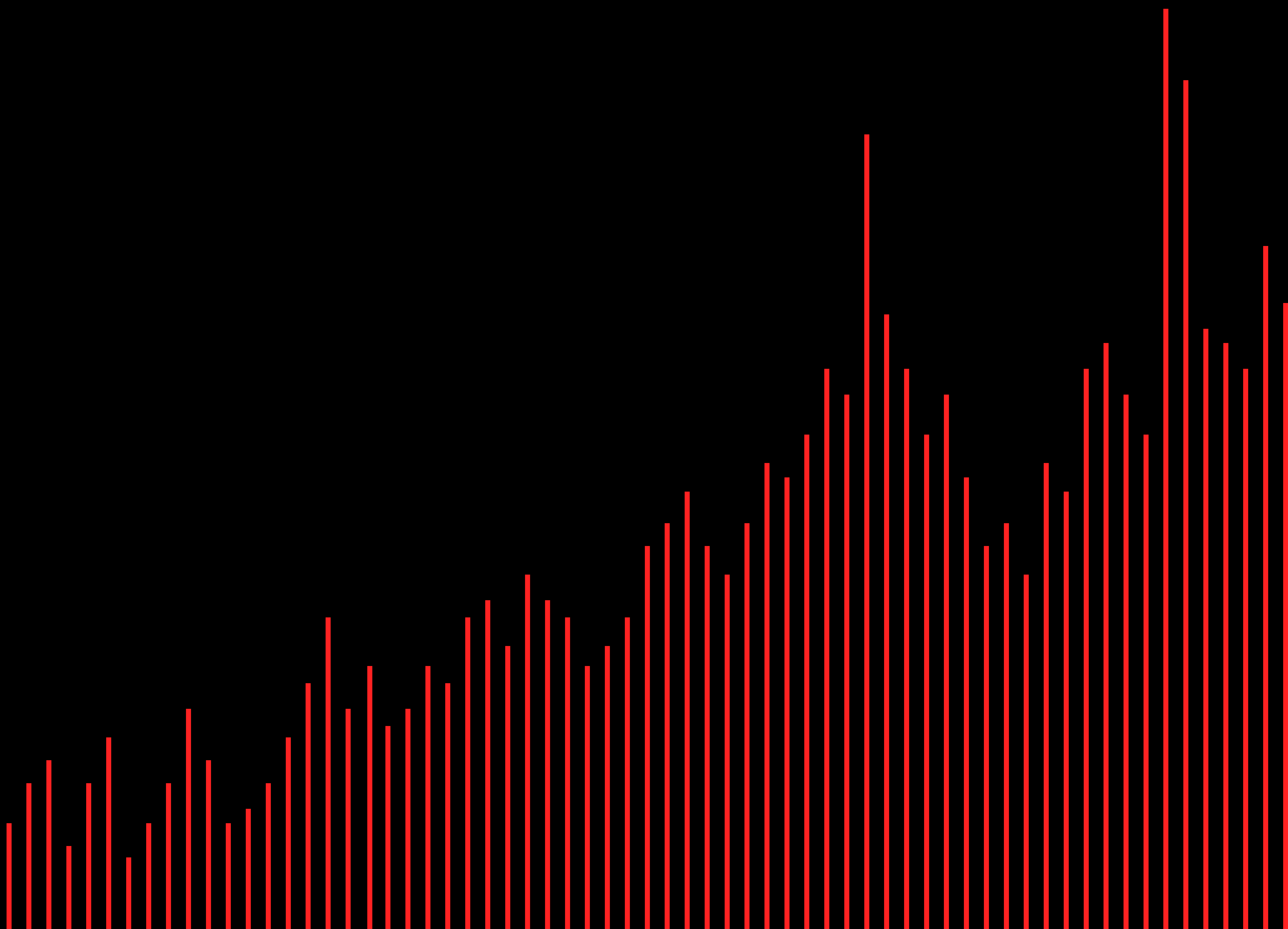


THE MARKET COMPASS

MONTHLY

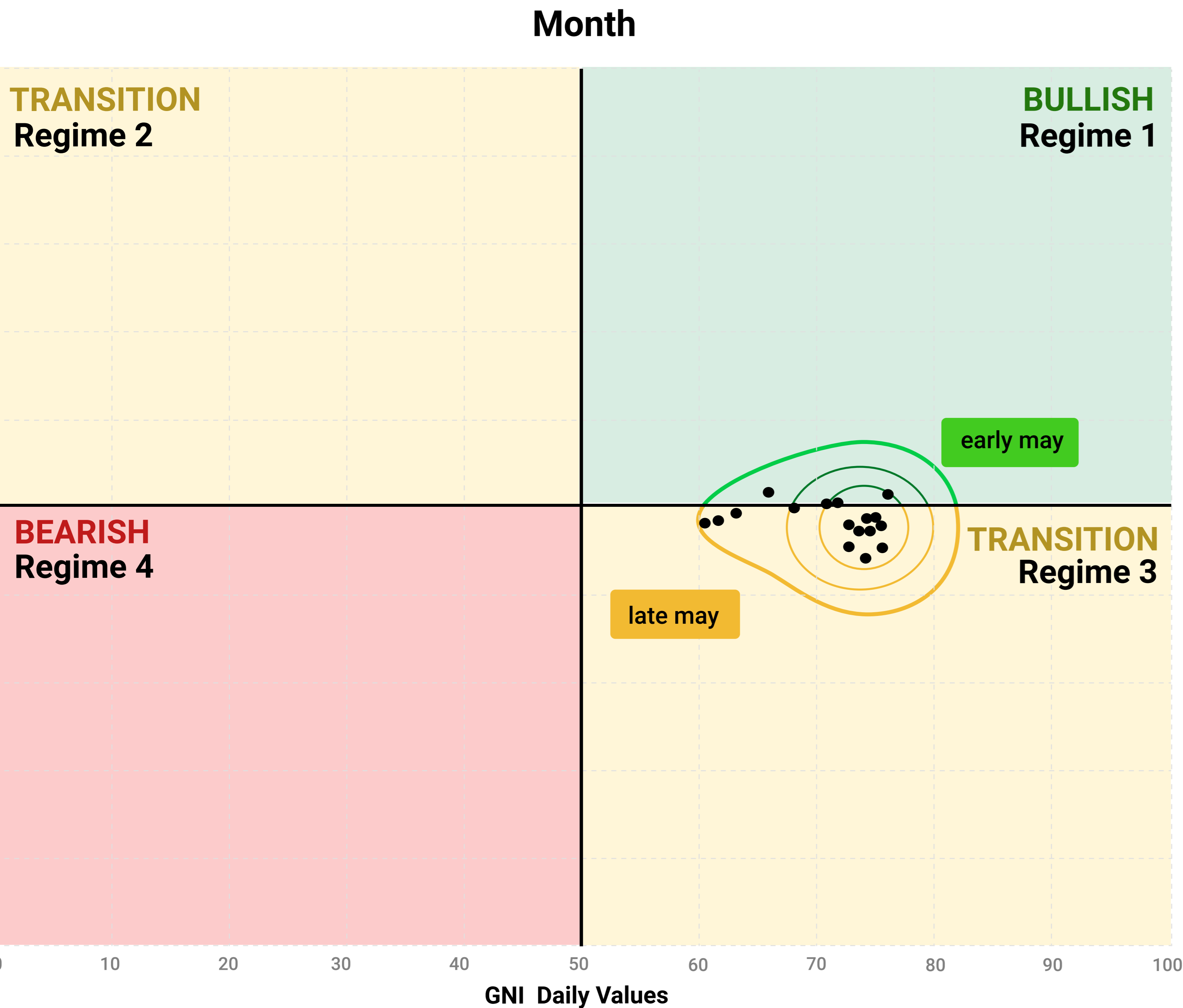
May 2020



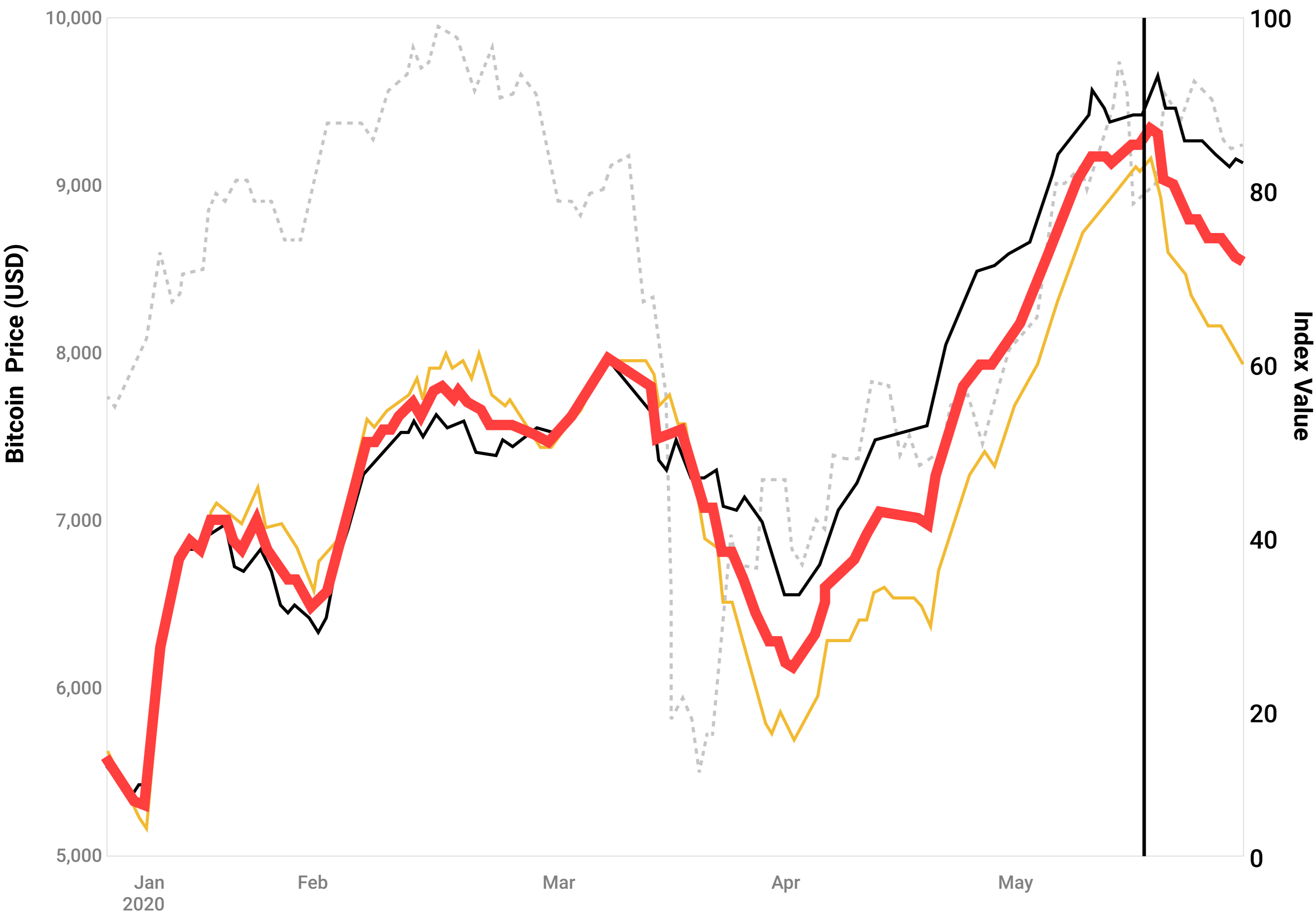
KEY TAKEAWAYS

Market Compass Monthly provides a thorough overview about the Bitcoin development during the previous month. We first provide an assessment of the ecosystem’s aggregate state by analysing the behaviour of *GNI* and its subcomponents, before combining this information with price trends and identifying the current regime. At the end, we provide a Deep Dive into the subconstituents of *GNI* and analyse their behaviour in May and especially their individual reactions towards specific events that occurred during the month of May.

The GN Compass



Network Health & Major Sub-Components



PART 1: THE MONTH IN NUMBERS

Glassnotes Monthly: May provides a thorough overview about the Bitcoin development during May. Firstly, The Month in Numbers summarises all relevant information about *GNI* and the GN Compass in one page. Secondly, *GNI* Recap assesses the aggregate state of the Bitcoin ecosystem by analysing *GNI*’s development and that of its subcomponents during May. Finally, information about Bitcoin fundamentals and price trends are combined in the *GN Compass* to identify the current regime, its development over time and its stability.

Section 1: The Month in Numbers

Section 2: GNI Recap

Section 3: GN Compass

PART 2: SUBINDEX DEEPDIVE

To get a better understanding of how *GNI* operates and what subtleties it can pick up on, *GNI* Deep Dive is delving into its constituent sub-indices to see what they can reveal about the foundation of the Bitcoin ecosystem, always with the global view in mind. Each section analyses one sub-index and their respective components and extracts what their developments during May tells us about the direction Bitcoin is going. This issue focuses on the market's reaction to the halving of Bitcoin block rewards.

Section 1: Network Health

Section 2: Liquidity

Section 3: Sentiment

PART 1: THE MONTH IN NUMBERS

GNI Region Breakdown

	Last Day May	First Day May	Avg May	Avg April	Year to Date	April Region
GNI Index	53	74	66	57	35	Strong
				15.8%	88.6%	
Network Health	61	83	77	58	25	Strong
				32.8%	208.0%	
Network Growth	58	91	78	68	26	Strong
				14.7%	200.0%	
Network Activity	64	76	75	49	24	Neutral
				53.0%	212.57%	
Liquidity	41	57	52	53	40	Neutral
				-1.9%	30.0%	
Trading	49	64	61	72	45	Strong
				-15.3%	35.6%	
Transactions	39	55	50	47	38	Neutral
				6.4%	31.6%	
Sentiment	62	86	70	63	48	Strong
				11.1%	45.8%	
Investor Sentiment	67	90	76	57	36	Strong
				33.3%	111.1%	
Saving Behavior	40	71	48	90	100	Strong
				-46.7%	-52.0%	

The GN Compass



GNI MONTHLY OVERVIEW

GNI Change Year to Date

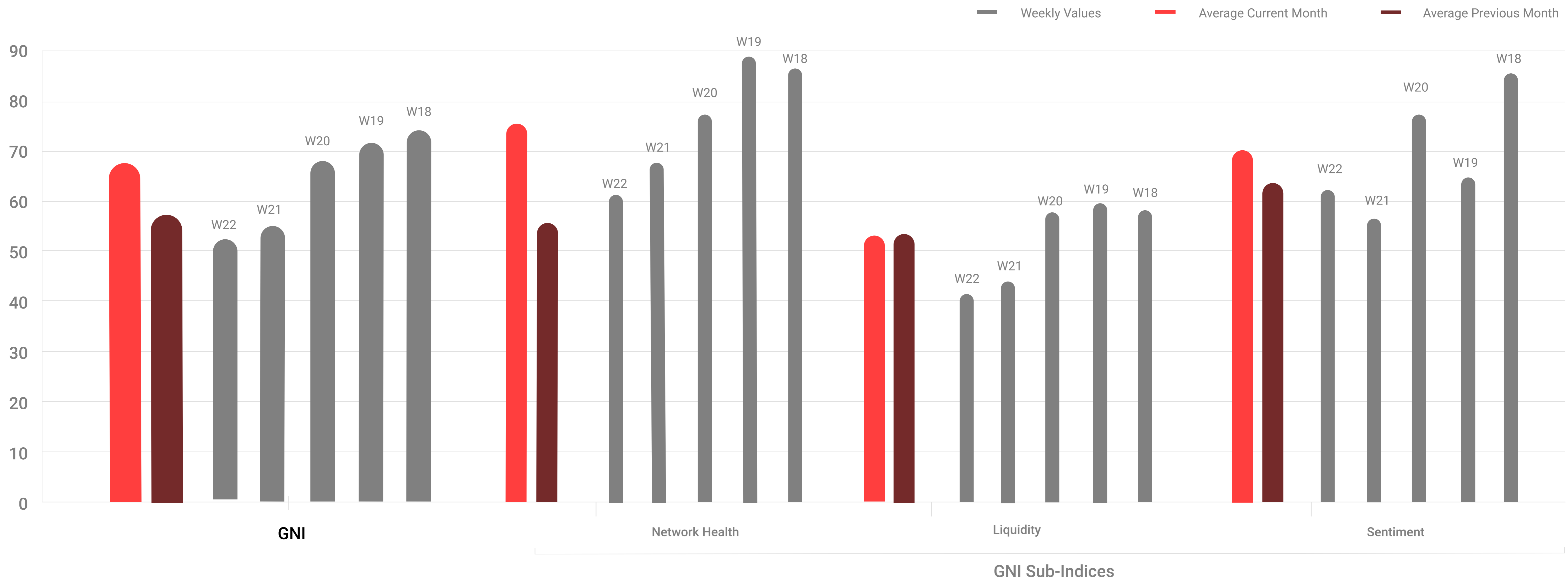


In mining its 630,000th block on May 11th, Bitcoin’s third halving was triggered, reducing block rewards from 12.5 to 6.25 BTC. This mechanism guarantees bitcoin’s scarcity by limiting its supply issuance and thus its inflation. While the accompanying supply shock is expected to exert a strong upwards pressure on medium/long-term price development, short-term reactions are an entirely different story.

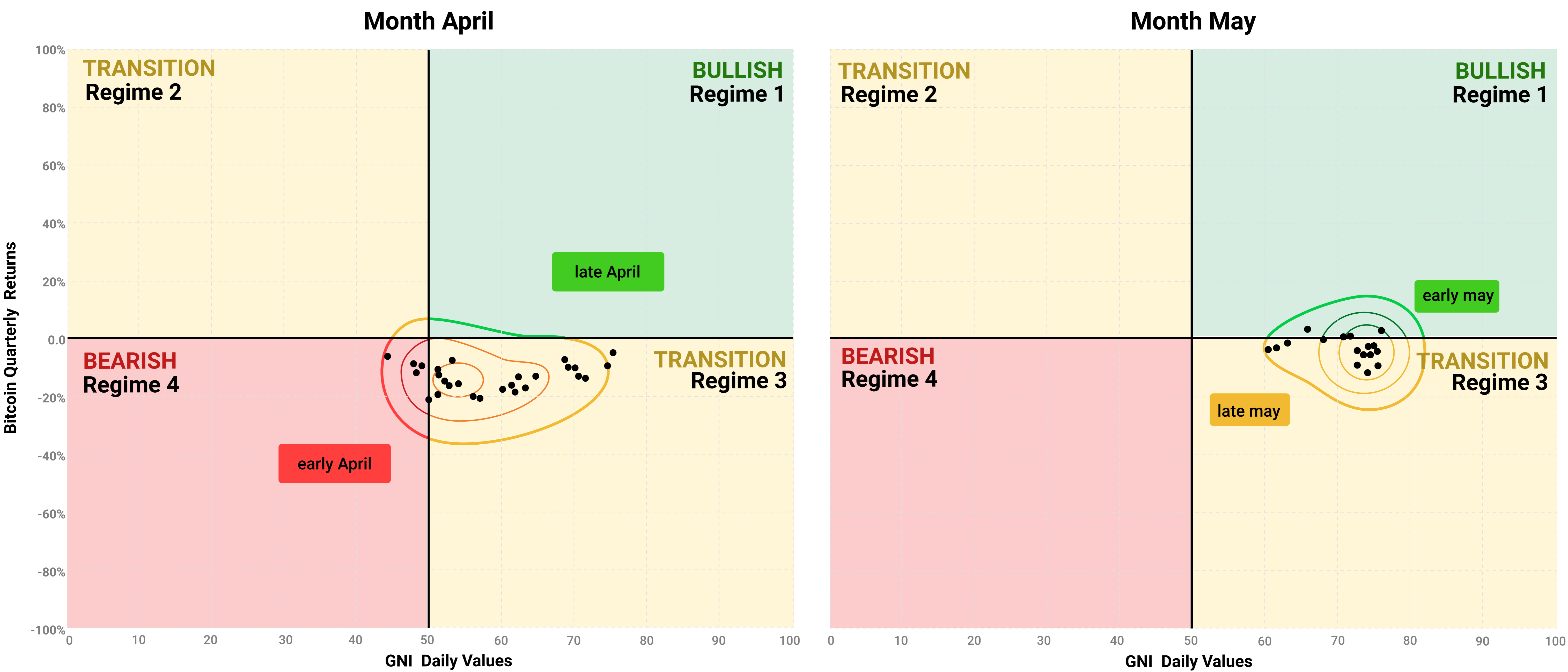
In anticipation of the imminent halving, bitcoin prices kept steadily increasing, culminating in prices beyond the \$10,000 barrier in early May. Just before the halving, however, May 10th saw a significant price correction: BTC briefly traded at \$8,100 again; an intra-hour drop of 18%. After the halving, prices rallied again, hovering just below the \$10,000 threshold. *GNI* started May on a similar trajectory, continuing its upward trend and reaching an annual high of 76pts. The halving, however, instigated a trend change, putting *GNI* in decline for the rest of May, closing it near the 56pt mark. Despite showing signs of weakness, *GNI* stayed mostly within the strong region, closing just below the threshold.

The same behavior can be observed throughout all subindices. *Network Health* and *Liquidity* were again the main sources of *GNI*’s gains throughout early May, topping out on May 12th with 90pts and 62pts respectively, before simultaneously starting to decline. *Sentiment*, being more sensitive to price drops, followed a more volatile route, starting at the 90pts mark, dropping to as low as 46pts in late May and closing it at 61pts.

GNI & Subindex Values



GN Compass Contour Plots



This chart depicts each day of the month as a dot on the GN Compass and adds a contour plot indicating the estimated density of these dots. The smaller the area, the lower the deviation within the month and vice versa. A stable regime thus results in a focused plot, while a volatile month with significant changes in GNI and/or Bitcoin price yields a wider area.

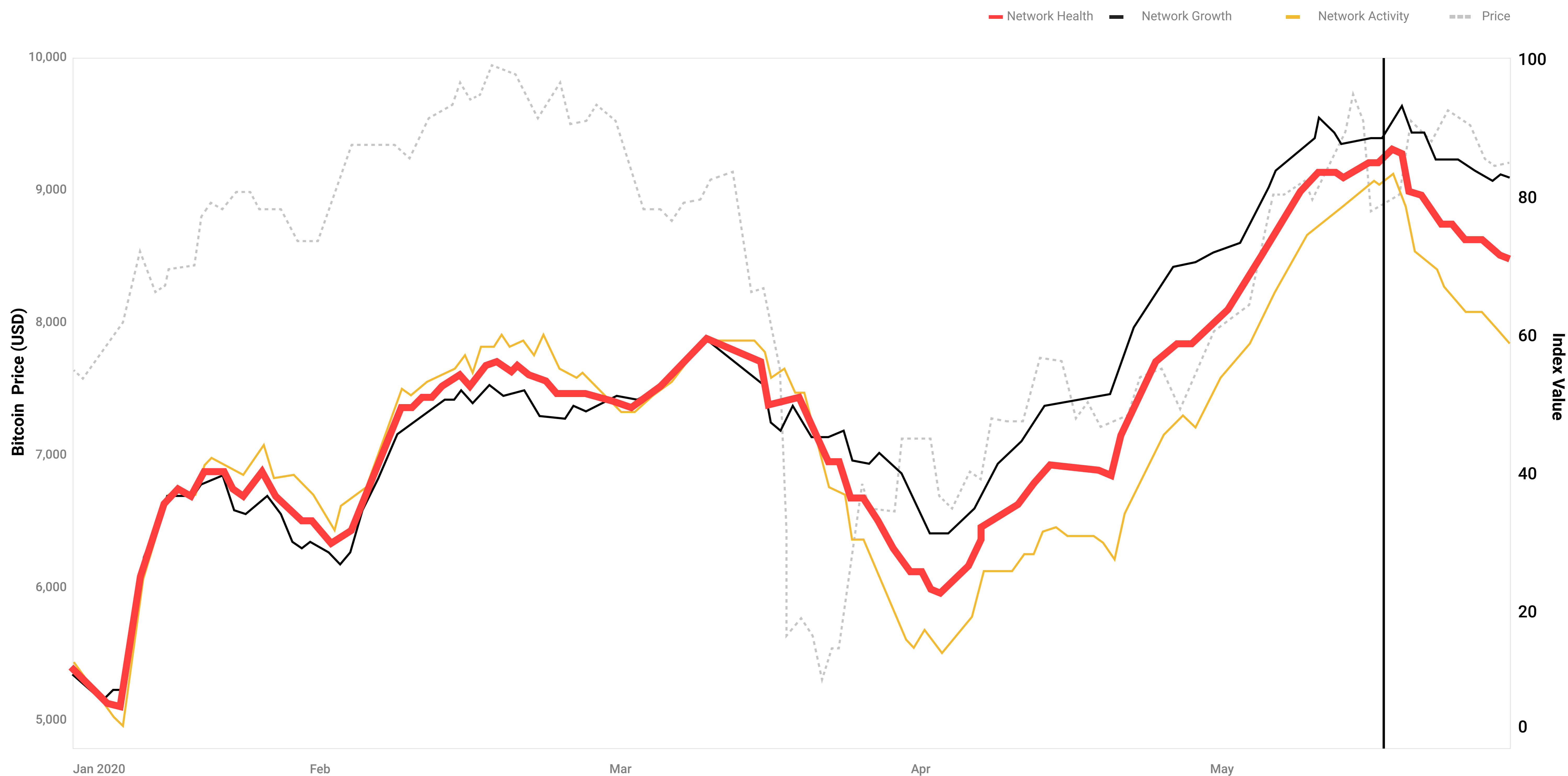
The GN Compass stayed just on the edge between bullish Regime 1 and the transitional Regime 3 during May, not quite committing to either of them. During early May, on-chain fundamentals kept solidifying in the strong area, signaling a good on-chain environment and thereby pushing the GN Compass further away from the bearish Regime 2. Prices continued to rally accordingly and steadily increased for nearly two months straight. The quarterly price trend, however, only sporadically reached into positive territory as bitcoin was unable to consistently breach the \$10,000 barrier, blocking the GN Compass from entering bullish territory. After the halving, bitcoin prices slightly outperformed the quarterly reference point, but with declining on-chain fundamentals.

PART 2:

SUBINDEX DEEPDIVE: MAY REVIEW

NETWORK HEALTH

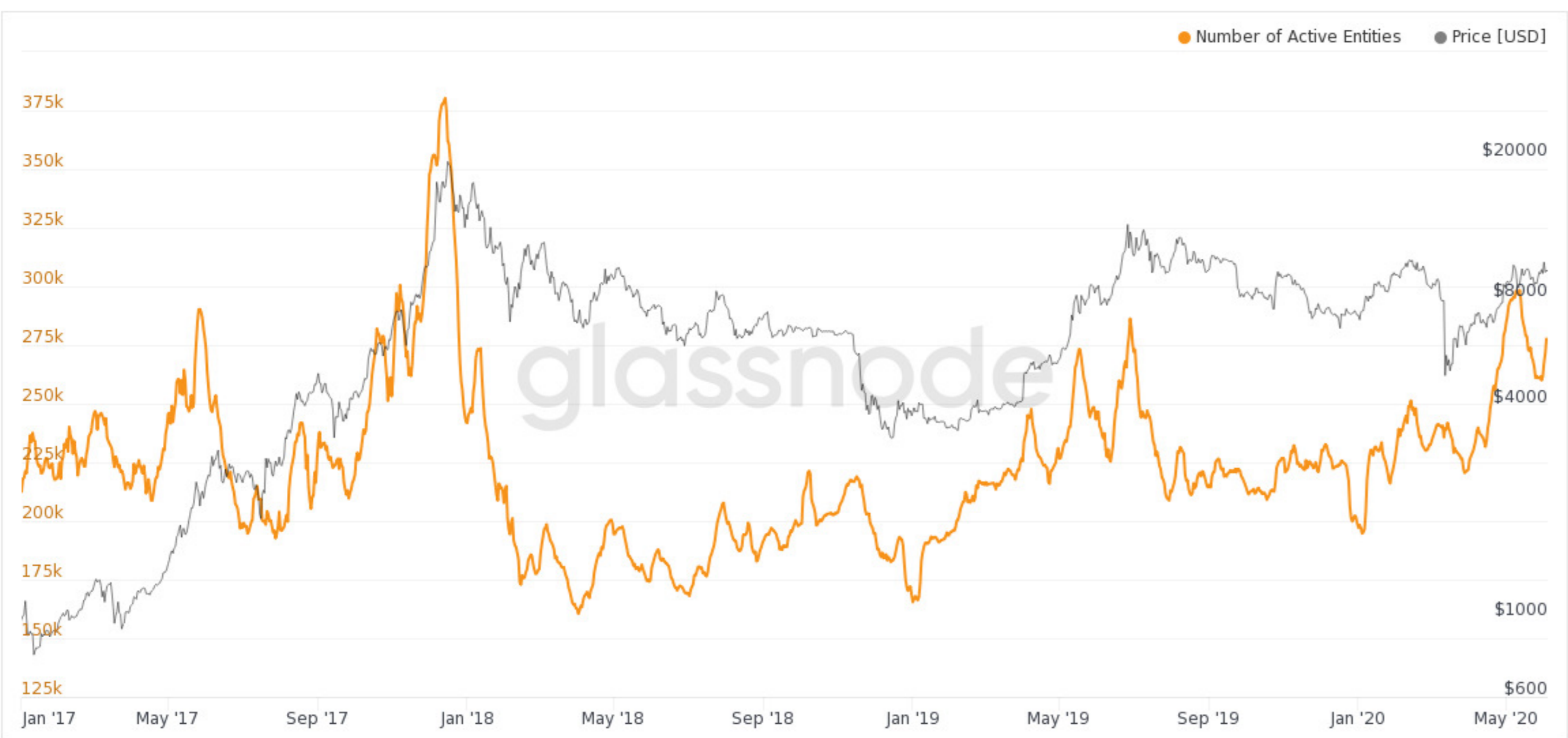
Network Health & Major Sub-Components



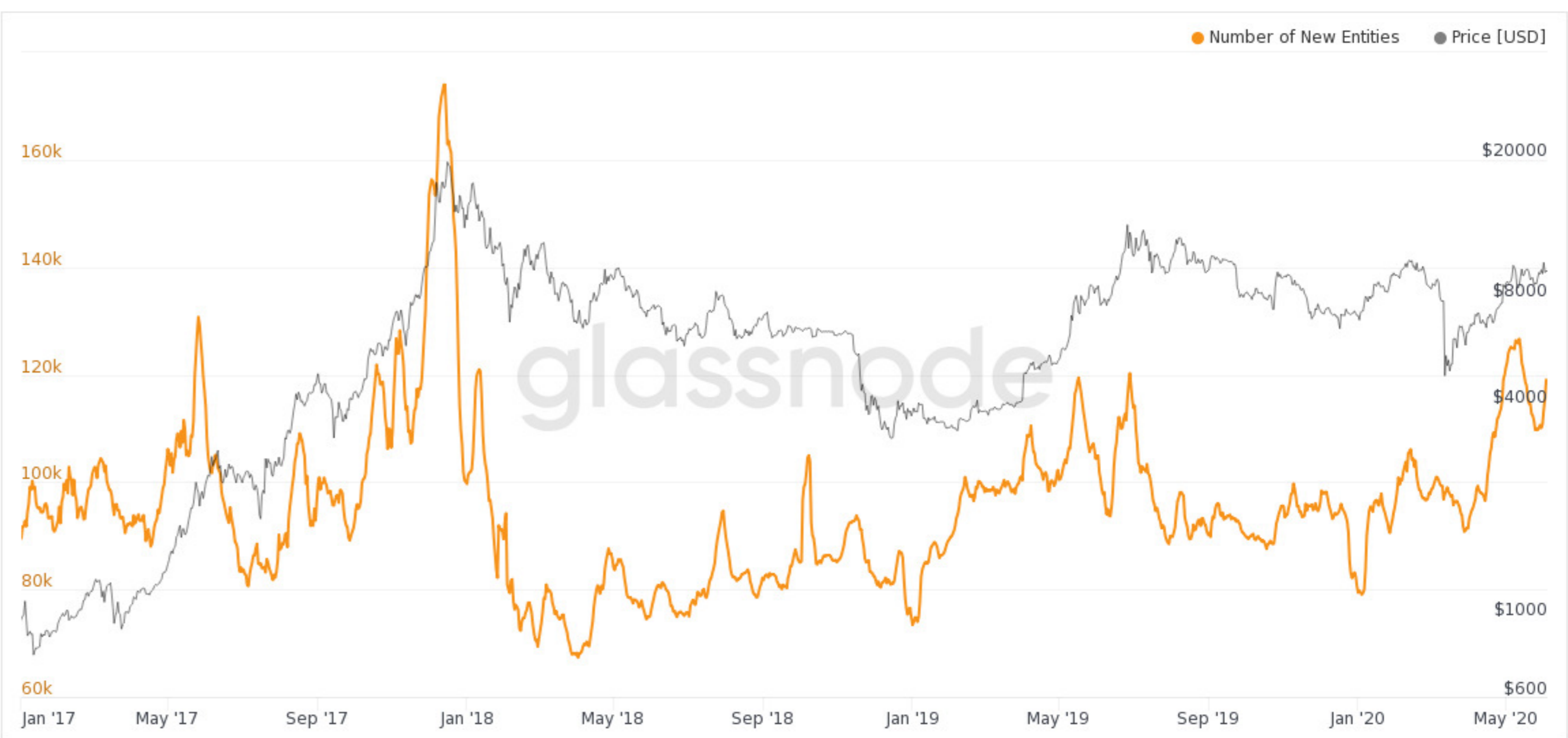
Network Health kept increasing in anticipation of the Bitcoin halving and seamlessly continued the upward trend it has been on since the end of March, reaching annual highs on a daily basis. Gaining 7pts during May, *Network Health* registered 90pts at its peak on May 12th, values not seen since the all-time high in 2017. This trajectory is supported by both of its subindices, especially the stellar performing *Network Growth*, which is still profiting from the increasing influx of new entities into bitcoin caused by the crashing financial markets in mid March and the press attention in anticipation of May halving.

Bitcoin participation of different entities was near all time highs in early May, only surpassed by the heyday of 2017. On a daily basis, more than 120,000 and up to 140,000 entities entered the network, with 280,000 to 300,000 being active on any given day.

Bitcoin: Active Entities (7d Moving Average)



Bitcoin: New Entities (7d Moving Average)



After the halving, however, *Network Health* started to plummet across both subindices, losing 29pts before the end of March. A decrease in new entities caused Network Growth to fall by 36pts, while less active entities reduced *Network Activity* by 26pts.

It seems natural to attribute the uptrend in *Network Health* (especially in *Network Growth*) between the end of March and mid May to two factors:

- a) heightened interest in bitcoin as a hedge against inflation, caused by the massive quantitative easing in reaction to the economic shutdown.
- b) heightened interest in bitcoin due to the anticipation of the halving itself, as a significant event in bitcoin’s history, which further increases scarcity and decreases inbuilt inflation, exemplifying Satoshi’s stated goal for bitcoin to act as an alternative to fiat money controlled by government and banks.

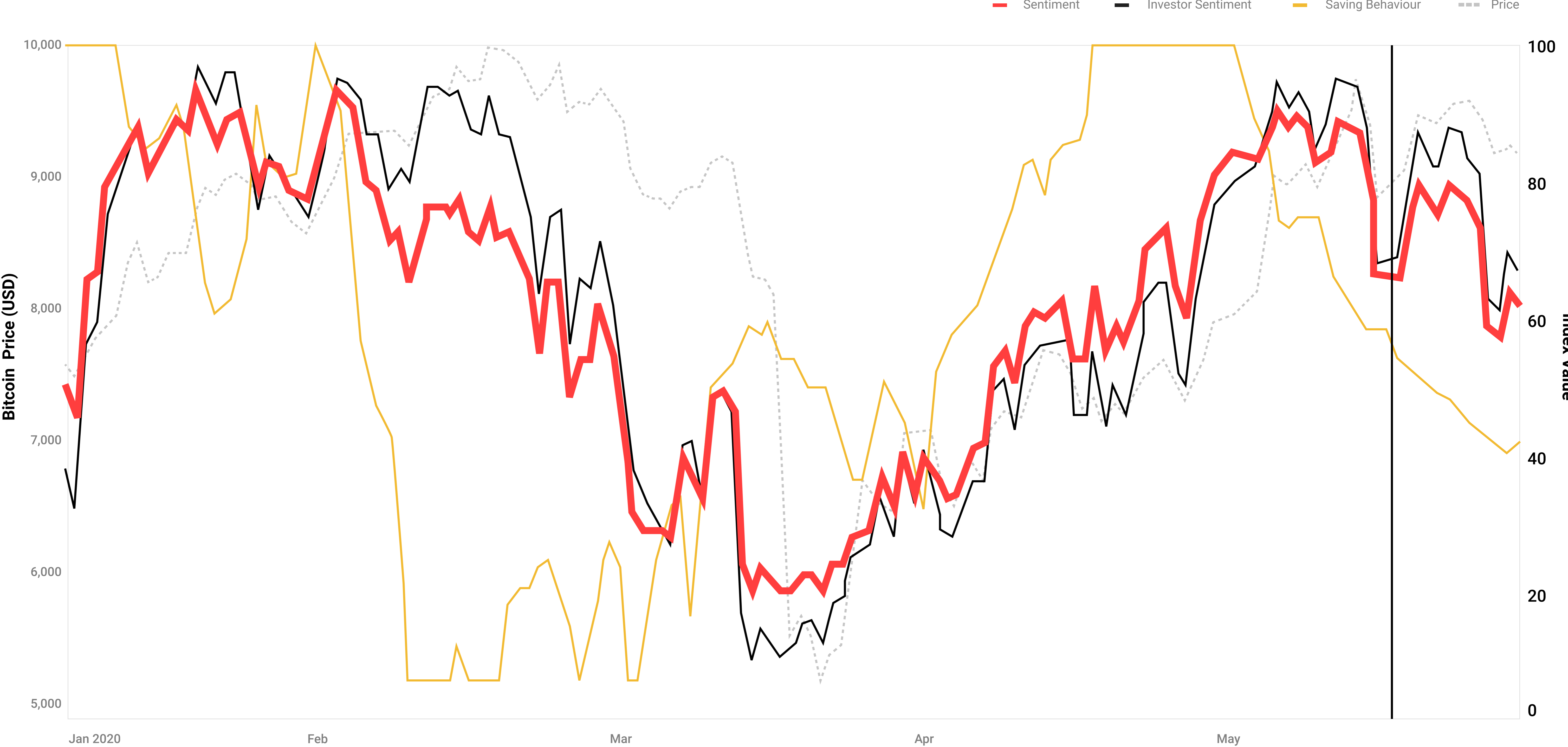
Unsurprisingly, after the buzz of halving died down, fundamentals experienced something of a cool-down, as investors are digesting one of the more significant events in bitcoins's history.

Bitcoin: Transaction Rate (7d Moving Average)



SENTIMENT

Sentiment & Major Sub-Components



Sentiment started May in a comfortable position at nearly 90pts, profiting from the ongoing recovery process of both price and on-chain fundamentals. Yet by its very nature, it is sensitive to price fluctuations, so the sell-off shortly before the halving caused it to drop by 25pts within 4 days, some of which was quickly regained after prices rallied again. Nevertheless, *Sentiment* eventually suffered the same fate as *Network Health* and *Liquidity* and fell in the aftermath of the halving, losing 30% compared to early May.

Classical *Sentiment* measures tell a similar story. *Account-Based SOPR* held what April’s development promised and established itself firmly above parity, meaning traders are on average trading in profit again. The same holds true for *MVRV* and its derivatives, which profited from the recovering markets, indicating that profits can be realised again. Both naturally peaked with prices in early May, but while subsequently declining they consistently stayed in a solid territory.

Bitcoin: Account-based SOPR (7d Moving Average)



Bitcoin: Account-based MVRV (7d Moving Average)



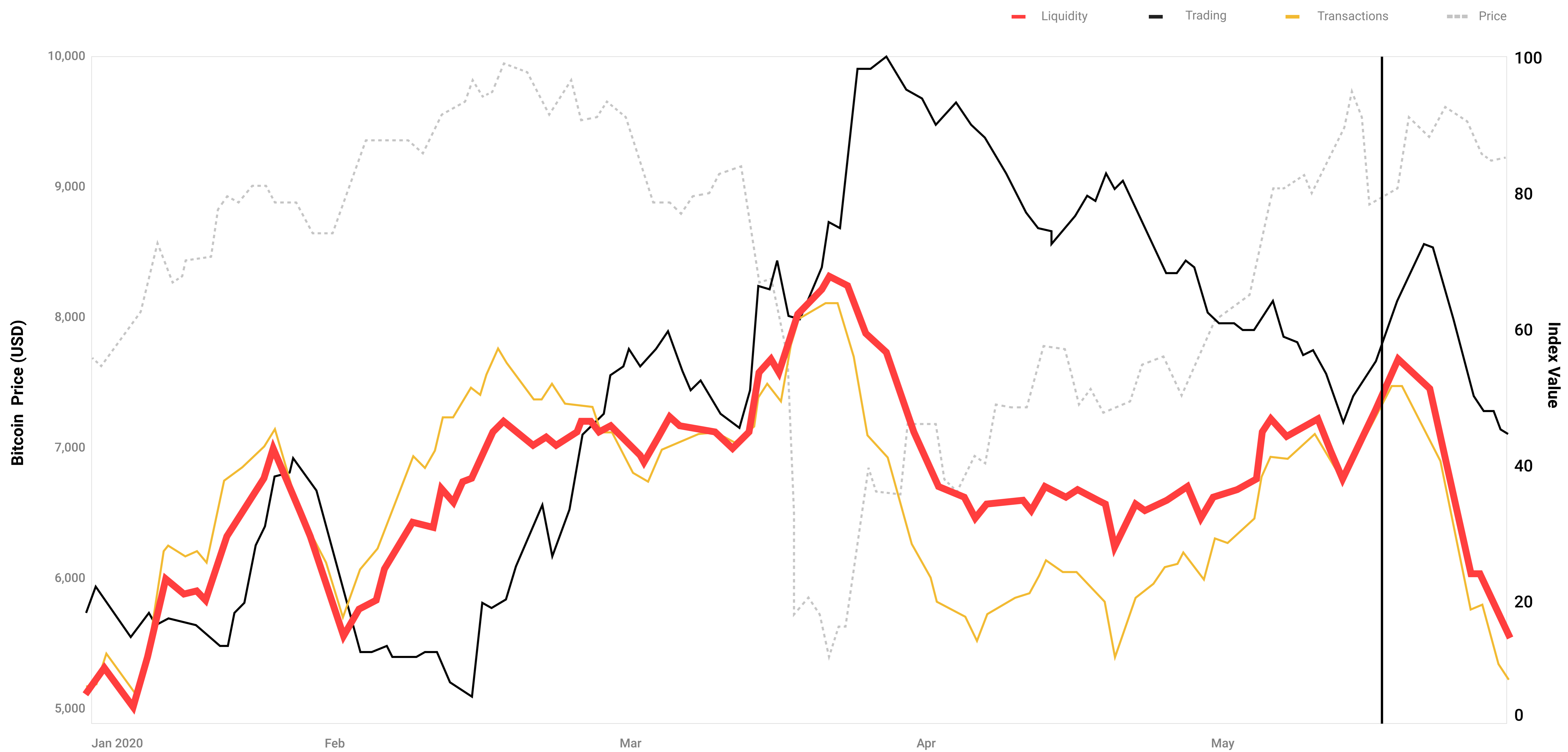
Although not included in the current iteration of *GNI*, one has to be curious about how miners reacted to the halving. *Hash rate* mostly recovered in the aftermath of the mid March sell-off and went up to as much as 135 exahashes per second the day before the halving, falling only 2 exahashes short of its all-time high on March 1st (values are daily averages). After the last blocks with rewards of 12.5 Bitcoins were mined, many less efficient mining rigs became unprofitable, meaning their running expenses outweigh the profits gained from selling the now updated reward of 6.25 Bitcoins per block. As a result, many miners turned off their rigs, causing a decrease in overall hash rate. For the moment, this amounts to roughly 25% in the immediate aftermath of the halving, which is incidentally the same reduction the price drop in March caused.

Bitcoin: Hash Rate (7d Moving Average)



LIQUIDITY

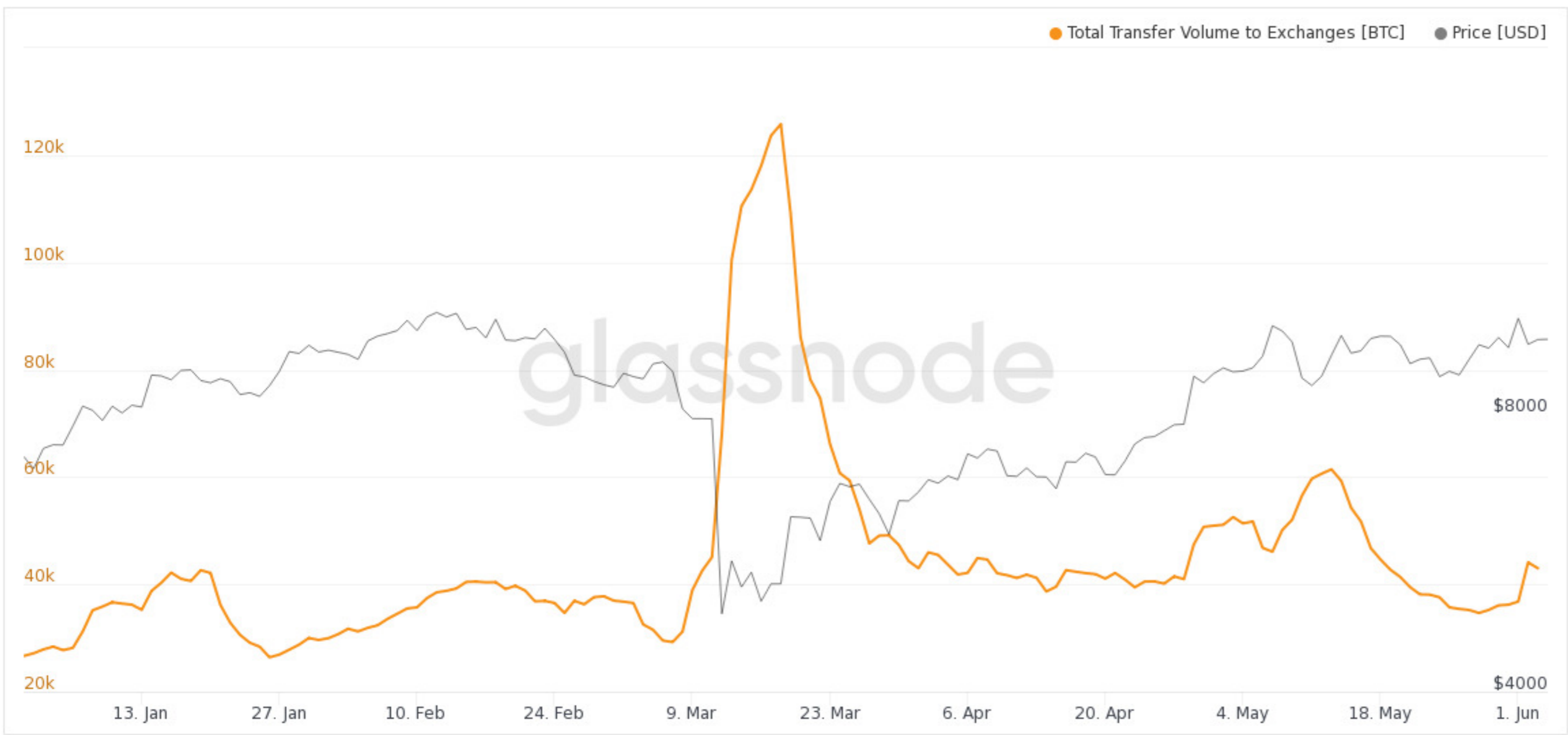
Liquidity & Major Sub-Components



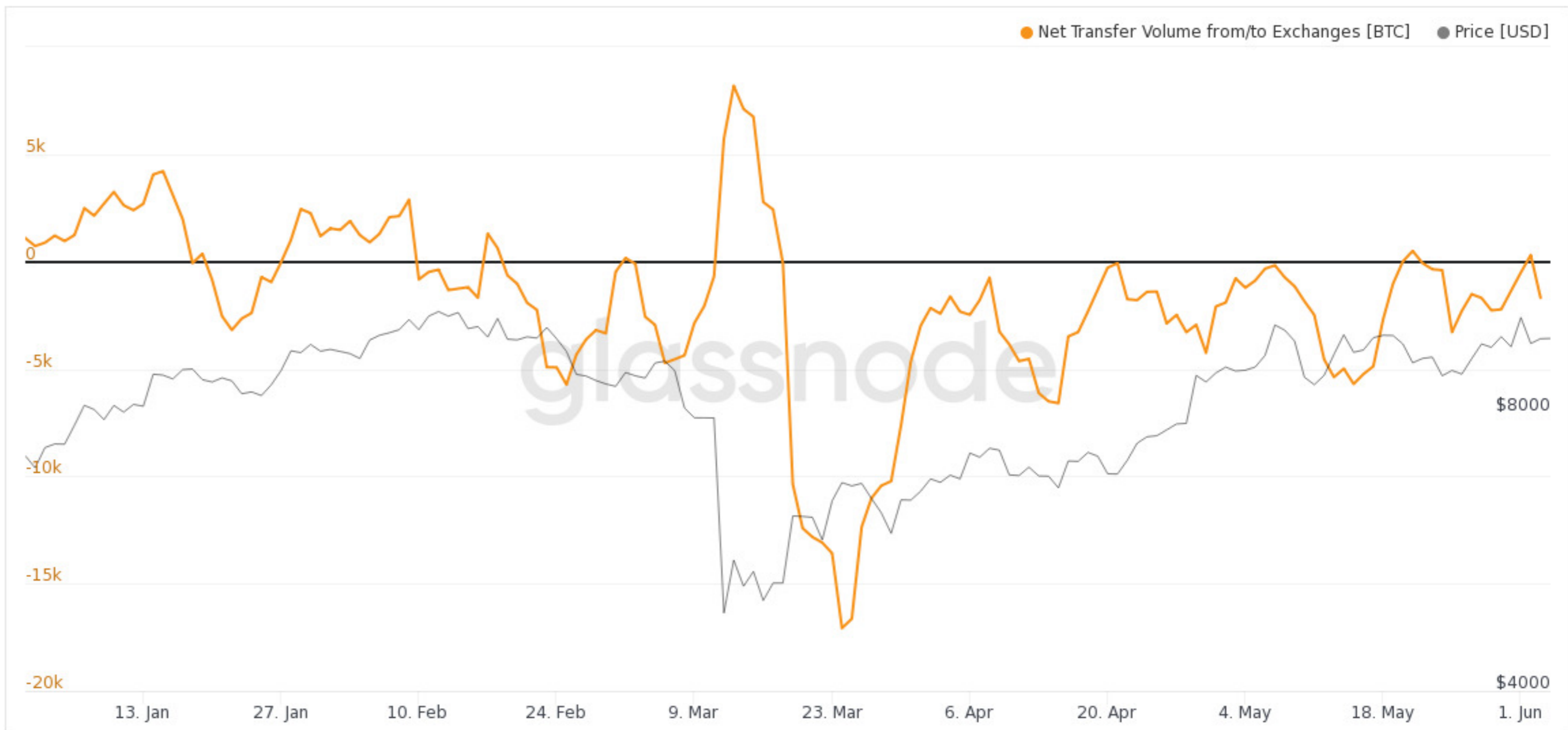
Liquidity in May experienced a somewhat bumpy ride. Squeezed in between the reconvergence of a subsiding *Trading Liquidity* steadily falling from its all-time high in March and a resurging *Transaction Liquidity* regaining some of its momentum, it started the month off in the mid 50s. Increased on-chain activity near the halving caused a short-lived spike in both Trading and Transactions, pushing Liquidity above 60pts, before it followed the same route as Network Health and plummeted after the halving, closing May on 41pts, losing more than 33% in only two weeks.

The increase in *Trading Liquidity* around the halving can be traced back to an increase in exchange inflow, meaning more people sending their bitcoin to exchanges in order to sell them, or at least preparing to. On the other hand, overall exchange net flow is still negative, indicating that these coins get sold quickly and then reenter the network. This could be a sign for hodling preparations: As traders expect long-term bullish price behaviour, they withdraw their bitcoin from exchanges to safely store them and hodl away.

Bitcoin: Exchange Inflow (Total) (7d Moving Average)

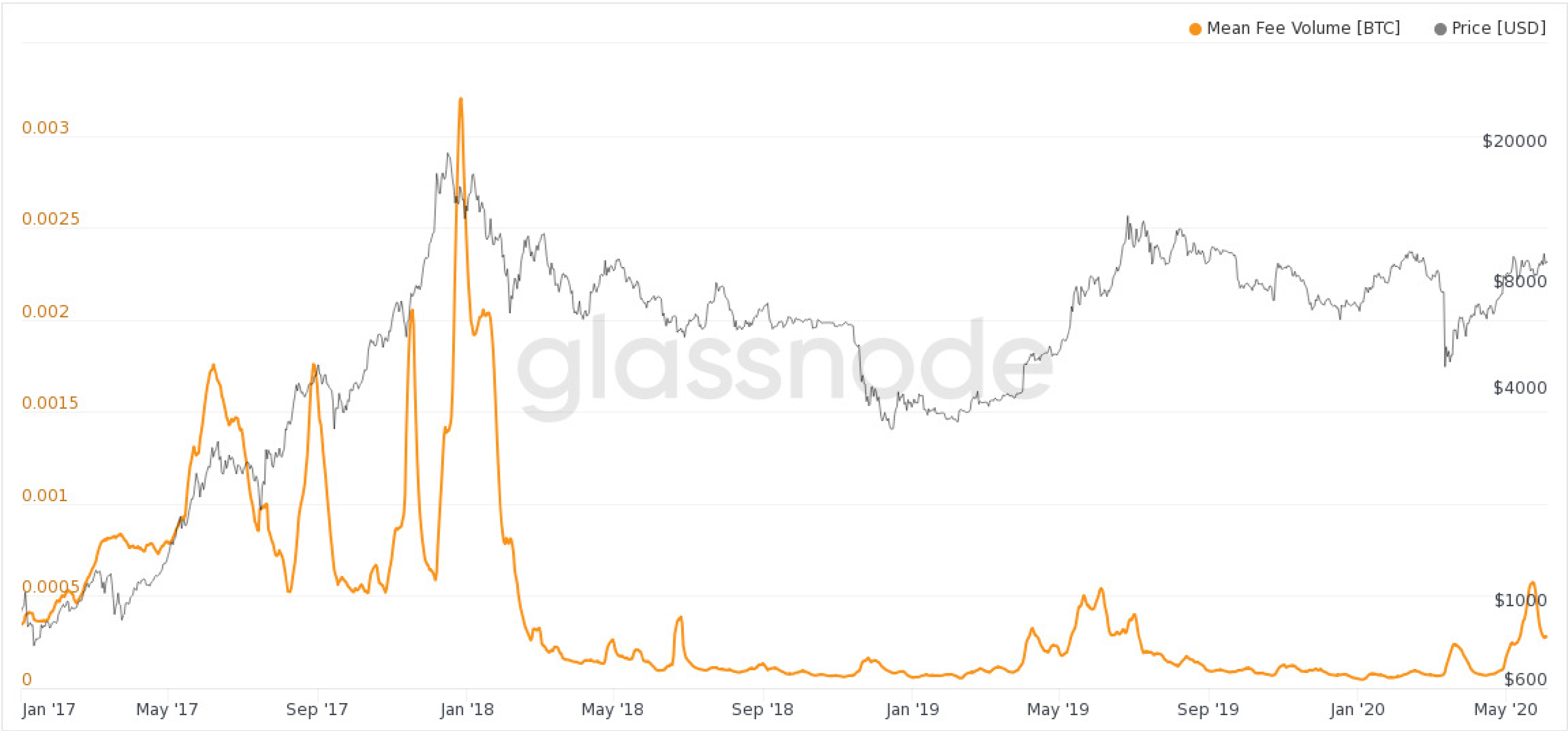


Bitcoin: Exchange Net Flow (7d Moving Average)



Metrics concerning *Transaction Liquidity* are mostly returning to baseline levels previously held this year, albeit in a strong downwards trend, so it might be a little too early to evaluate this development beyond as a general reaction to the halving. It is, however, notable that fees increased by more than 800% throughout May, significantly increasing the price for transactions; transactions conducted on May 23rd cost on average \$5.29 compared to \$0.62 only one month prior. Usually this indicates that time is of essence and transactions are becoming more urgent. Spikes in fees are thus predominantly observed in reaction to volatile price behaviour, either during bull markets (2017 and 04/2019–07/2019) or during sell-offs (12/2017–01/2018 and recently March 12th). This fee increase may also indicate that miners are priotitizing high-fee transactions in order to recoup the lowered revenue caused by the halving.

Bitcoin: Fee (Mean) (7d Moving Average)



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