



# DeFi Risk report

## May 2023 Outlook

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For more information visit <https://riskfi.network> or email us at [report@riskfi.network](mailto:report@riskfi.network)

# What to expect from this report?

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## FOREWORD

**RiskFi** offers institutional grade resources on cryptocurrency landscape from a risk perspective. Our risk assessment begins by analyzing macroeconomic conditions in United States. These conditions have a significant impact on the value of cryptocurrencies.

We track macro events impacting equity and bond markets, and their correlations with Bitcoin. We also scrutinize the broader cryptocurrency ecosystem's influence on Bitcoin fluctuations.

We then establish the correlation (beta) between Bitcoin and other cryptocurrencies (alt coins). We do this by examining their interrelationships and determining their mutual influence.

## KEY TAKEAWAYS FROM THIS REPORT

As investors look for new ways to understand and predict where digital currencies are headed, it's important to use easy-to-understand yet quantifiable risk models. With this in mind, we introduce a new model called the **RiskFi Five-Factor Style Model** in Section 2. This model is tailored to cater to the distinct characteristics of cryptocurrencies.

Next, in Section 3, we'll learn more about the main factors that have a big impact on cryptocurrency markets using simpler, **mono-factor** models.

# 1

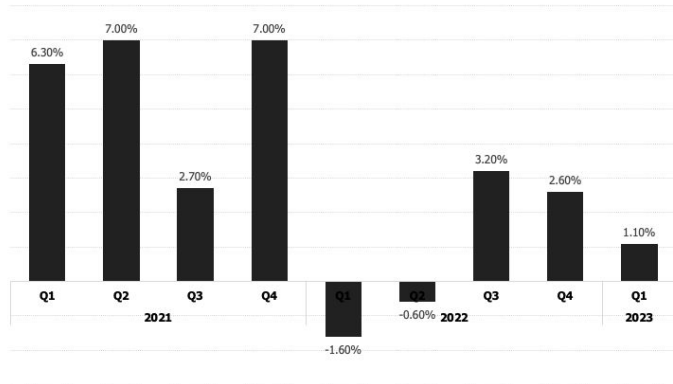
# Macro Analysis

- US Gross Domestic Product
- M2 Money Supply
- Consumer Spending
- Bitcoin's Correlation With Bond Markets & Equity Markets

## Gross Domestic Product

The real GDP growth ending Q1-23 stood at USD **\$26.46 trillion** as opposed to \$26.13 trillion the previous quarter.

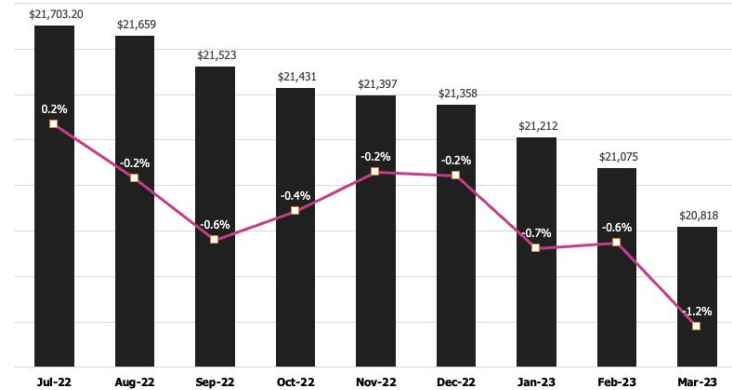
This accounts to QoQ **growth of 1.1%**, as opposed to 2.6% the previous quarter. The past three quarters have shown a consistent decrease in the trend of QoQ GDP growth.



Percent change from preceding period in real gross domestic product  
**US bureau of economic analysis**

## M2 Money supply

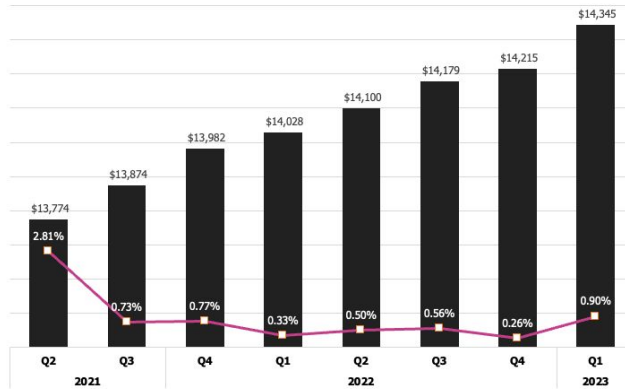
The Federal Reserve continues to uphold a reduced money supply policy with the aim of mitigating inflationary forces. In March, the money supply ended at a **1.2% decline** compared to the previous month. As a result, access to funds remains both expensive and constrained, posing persistent hurdles for investors, businesses, and consumers alike.



**FED Money supply, the M2 series**

## Consumer spending

In the first quarter of 2023, consumer spending has showcased a positive performance, with a total expenditure of USD **\$14.34 trillion**. Despite the ongoing challenge of heightened inflation, consumer spending continues to grow. We saw a **0.9% growth** compared to the preceding quarter.



Real Personal Consumption Expenditures by Major Type of Product, Chained Dollars  
US Bureau of Economic Analysis

## Bitcoin's correlation with Equity Markets and Bond markets

Since 2021, Bitcoin has displayed a **strong correlation** with the S&P 500 index. But, over the past two months, this association has diminished, while an emerging correlation with **US Treasury yields** has come to light. This phenomenon was observed during the third week of April. This can be attributed to the ascent in Bitcoin's value since the onset of the year, surpassing the benchmark index.

Nevertheless, for **RiskFi's mono-factor risk evaluation**, we will continue to use the S&P 500 as the reference index from which we derive the risks associated with Bitcoin and other cryptocurrencies.

# 2

## RiskFi factor model

- RiskFi Five-Factor Style Analysis
- Introducing **RFX** - RiskFi Benchmark Index
- Bitcoin Risk Outlook For May
- Risk Outlook For Alt Coins

# RiskFi

## Five-Factor Style Model

RiskFi incorporates advanced models, grounded in conventional finance principles, to provide institutional-grade risk management solutions tailored for the crypto domain.

RiskFi is building a **five-factor style** model derived from the [Fama-French factor analysis](#).

Applying factor model onto cryptocurrencies allows us to decompose risks into different factors. This will help identify specific sources of market risks, and mitigate risks based on different strategies. The simplicity of factor models allows to assess risks, based on different scenarios. This includes both historical and dynamic (hypothetical) scenarios.

This model empowers investors to address the unique challenges in crypto by focusing on five key market risk factors:

1. **Liquidity**
2. **Volatility**
3. **Momentum**
4. **Size**
5. **Market Return**

1

### Volatility

Volatility is the measure of price fluctuations of an asset over a specific time period. Bitcoin has been famously volatile since its inception, witnessing substantial price surges and declines. This volatility presents a dual-edged sword for investors, offering both potential opportunities and inherent risks.

2

### Liquidity

Liquidity refers to the ease with which an asset can be bought or sold in the market without significantly affecting its price. In the case of Bitcoin, liquidity is influenced by factors such as trading volume, market depth, and the presence of market makers.

3

### Size (Market Capitalization)

Size, as a factor, refers to the market capitalization of a particular asset. For Bitcoin, this translates to the total value of all coins in circulation. Generally, assets with smaller market cap tend to yield higher returns, given their potential for expansion and growth.

4

### Momentum

Momentum is a factor that captures the tendency of an asset's price to continue moving in the same direction. Bitcoin's momentum can be a powerful force driving price movements.

5

### Beta (market return)

The Beta factor represents the overall performance of the market. In the case of Bitcoin, market return is shaped by an array of factors, including macroeconomic events, shifts in regulatory frameworks, and the performance of other cryptocurrencies. In our assessment of beta risk we use custom developed **RiskFi Index (RFX)** as benchmark cryptocurrency (see next slide).

# RFX

The RiskFi Benchmark Index - RFX, is an open\* index designed to capture the comprehensive market returns and volatility prevalent in the crypto landscape.

The index serves as a gauge, mirroring the market's movements and underlying patterns.

By monitoring the market cap of the top twenty cryptocurrencies since 2018, the index offers a dependable and nuanced depiction of the market's performance, enabling a deeper understanding of crypto markets momentum.

\* RiskFi is committed to developing RFX transparently and openly. If you are interested in learning or wish to contribute join our community. Send us an email at [report@riskfi.network](mailto:report@riskfi.network) to get on the list.

## RiskFi Benchmark Index





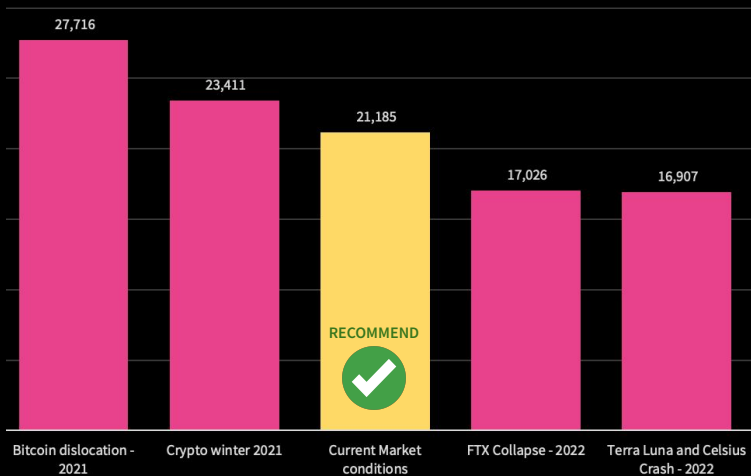
# Risk outlook for Bitcoin price

Bitcoin Price  
(as of 30-Apr-2023)

**\$29,646**

Potential downside risk of  
Bitcoin for May 2023

**\$21,185**



We assess the impact of Bitcoin price based on **Style Factors** for May; based on the following **scenarios analysis**.

- Current market conditions (Last six months)
- Bitcoin dislocation (Price dislocation of bitcoin in Q1 2021)
- Crypto winter (Price volatility of Crypto currencies in Q4 2021)
- FTX Collapse of November 2022
- Terra luna and Celsius crash for Q2 2022

Each Scenario is further decomposed into *Beta, Size, Momentum, Liquidity and Volatility* factor risks. RiskFi assesses a potential downside risk in Bitcoin dislocating to USD \$21,185 in May.

Factors	Current market conditions	Bitcoin dislocation - 2021	Crypto winter - 2021	FTX Collapse - 2022	Terra Luna and Celsius Crash - 2022
A. Total risk	(8,511)	(1,980)	(6,285)	(12,670)	(12,789)
Beta	(8,373)	(10,154)	(5,579)	(8,946)	(7,225)
Size	147	110	208	13	(30)
Momentum	428	96	(289)	(454)	290
Liquidity	(298)	6,890	(123)	(2,425)	(3,728)
Volatility	(415)	1,077	(501)	(858)	(2,096)
B. Current Price	29,696	29,696	29,696	29,696	29,696
Price after risk (A+B)	21,185	27,716	23,411	17,026	16,907

# Cryptocurrency market risk

The table exhibits the price risk associated with prominent cryptocurrencies, as determined by **style factors** calculated through RiskFi's analysis.

The assessment is for the month of May 2023.

Crypto	Price 30-APR-23	Risk decomposition & Price decrease from current level	Current Market conditions	Bitcoin of burst- 2021	Crypto winter - 2021	FTX Collapse - 2022	Terra Luna and Celsius Crash - 2022
<b>Bitcoin</b>	\$29,696	<b>Price decrease</b>	<b>21,185</b>	<b>27,716</b>	<b>23,411</b>	<b>17,026</b>	<b>16,907</b>
		<b>Total Risk</b>	<b>-8,511</b>	<b>-1,980</b>	<b>-6,285</b>	<b>-12,670</b>	<b>-12,789</b>
		Beta	-8,373	-10,154	-5,579	-8,946	-7,225
		Size	147	110	208	13	-30
		Momentum	428	96	-289	-454	290
		Liquidity	-298	6,890	-123	-2,425	-3,728
		Volatility	-415	1,077	-501	-858	-2,096
<b>Maker DAO</b>	\$702	<b>Price decrease</b>	<b>435</b>	<b>368</b>	<b>499</b>	<b>-90</b>	<b>260</b>
		<b>Total Risk</b>	<b>-267</b>	<b>-334</b>	<b>-203</b>	<b>-792</b>	<b>-442</b>
		Beta	-228	-472	-160	-248	-176
		Size	-27	55	-26	-55	-12
		Momentum	-7	-54	-13	10	49
		Liquidity	0	115	2	-353	-168
		Volatility	-6	23	-6	-146	-135
<b>Aave</b>	\$72	<b>Price decrease</b>	<b>43</b>	<b>30</b>	<b>47</b>	<b>10</b>	<b>26</b>
		<b>Total Risk</b>	<b>-29</b>	<b>-42</b>	<b>-25</b>	<b>-62</b>	<b>-46</b>
		Beta	-28	-40	-21	-34	-34
		Size	0	-2	-3	-1	-4
		Momentum	0	3	1	-4	-1
		Liquidity	0	-3	-1	-17	-2
		Volatility	-1	0	-2	-6	-5
<b>Ethereum</b>	\$1,827	<b>Price decrease</b>	<b>428</b>	<b>1,381</b>	<b>1,270</b>	<b>994</b>	<b>813</b>
		<b>Total Risk</b>	<b>-1399</b>	<b>-446</b>	<b>-557</b>	<b>-833</b>	<b>-1014</b>
		Beta	-952	-478	-631	-753	-543
		Size	54	22	4	5	1
		Momentum	-33	20	78	64	12
		Liquidity	-211	6	4	-124	-273
		Volatility	-258	-16	-11	-26	-212

# 3

## Mono factor analysis

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RiskFi's mono-factor analysis relies in computing systematic risk (beta) for cryptocurrencies. Our observations indicate that the month of April exhibited reduced volatility in comparison to prior months. Cryptocurrencies have demonstrated lower beta against broader markets, leading to a decline in risk levels. Nevertheless, we persist in adopting stressed market risk levels as a benchmark for risk management, in order to safeguard against unexpected events within the ecosystem.

- **Ethereum Risk Outlook**
- **Solana Risk Outlook**
- **Matic Risk Outlook**
- **Maker DAO Risk Outlook**

# Ethereum risk outlook

As of the close of day on April 30, 2023, the price of Ethereum stands at \$1,906. With **Bitcoin serving as our foundational layer for all other cryptocurrencies**, we calculate the sensitivity of Ethereum in relation to Bitcoin's fluctuations. A beta value of 1.06 signifies that Ethereum's responsiveness to changes in Bitcoin's value exceeds that of the overall market.

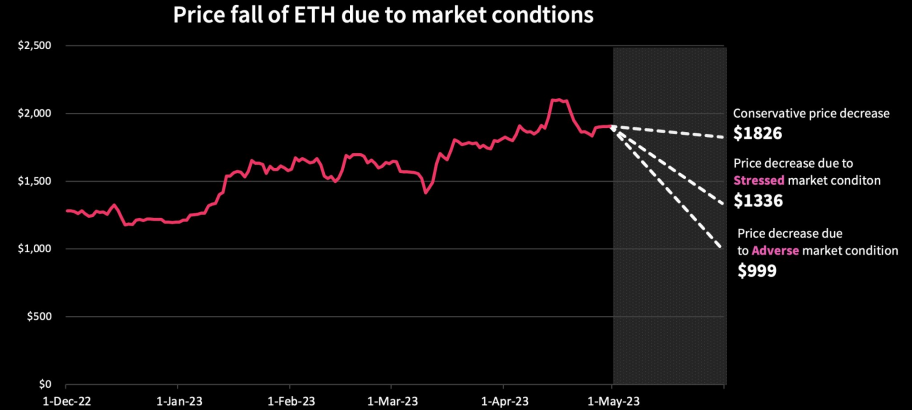
- For a **least** shock of -2% , the price would be \$1,710.
- For a **stressed** shock of -9%, the price would be \$1,233.
- For **adverse** shock of -10%, the price would decrease to \$864.

Coin  
**ETH**

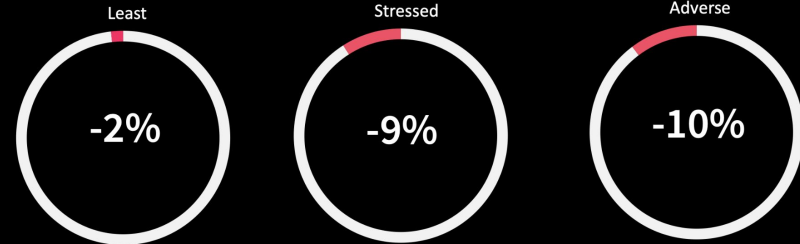
Closing price  
**\$1,906**

Market Cap  
**\$222** Billion

Beta with Bitcoin  
**0.41**



## Shocks



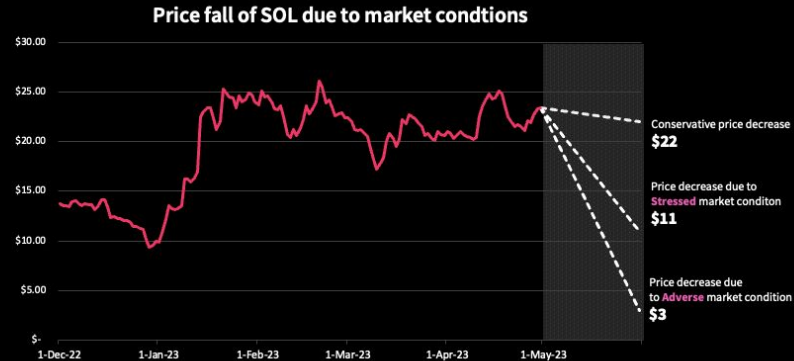
# Solana risk outlook

Coin  
**SOL**

Closing price  
**\$23**

Market Cap  
**\$8.6** Billion

Beta with Bitcoin  
**0.82**



## Shocks



## CURRENT MACRO SCENARIO - LAST SIX MONTHS

As of the close of day on April 30, 2023, the price of Solana stands at \$23. The sensitivity of Solana to shifts in Bitcoin's value is denoted by a beta value of 0.82. This suggests that Solana exhibits a notable volatility factor in relation to Bitcoin price movements.

- For a **least** shock of -4%, the price would be \$22.
- For a **stressed** shock of -18%, the price would be \$11.
- For **adverse** shock of -21%, the price would be \$3.

# Matic risk outlook

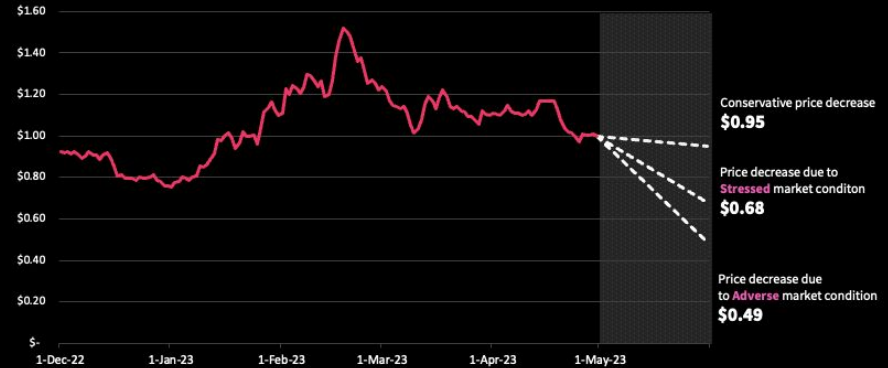
## CURRENT MACRO SCENARIO - LAST SIX MONTHS

As of the close of day on April 30, 2023, the price of Matic stands at \$1.0. The sensitivity of Matic to variations in Bitcoin's value is characterized by a beta value of 0.44, signifying that Matic exhibits a comparatively mild volatility in response to Bitcoin price fluctuations when contrasted with the previous month.

- For a **least** shock of -2%, the price would be \$0.95.
- For a **stressed** shock of -10%, the price would be \$0.68.
- For **adverse** shock of -11%, the price would be \$0.49

Coin **MATIC** Closing price **\$1.00** Market Cap **\$374 Billion** Beta with Bitcoin **0.44**

### Price fall of MAT due to market conditions



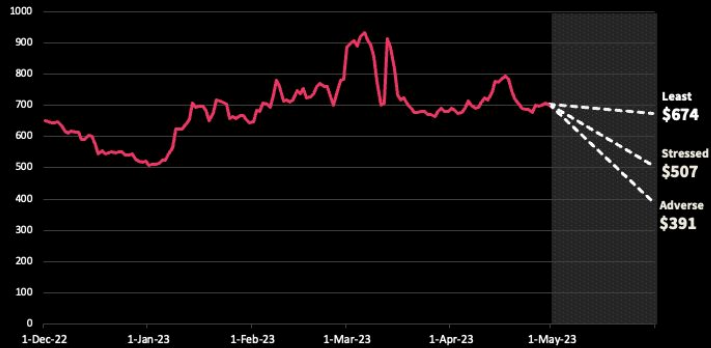
### Shocks



# MakerDAO risk outlook

Coin **MKR** Closing price **\$702** Market Cap **\$699** Million Beta with Bitcoin **0.37**

Price fall of MKR due to market conditions



## Shocks



## CURRENT MACRO SCENARIO - LAST SIX MONTHS

As of the close of day on April 30, 2023, the price of Maker DAO stands at \$702. The sensitivity of MKR to changes in Bitcoin is represented by a beta value of 0.37 signifying that Maker exhibits a comparatively mild volatility in response to Bitcoin price fluctuations.

- For a **least** shock of -2%, the price would be \$674.
- For a **stressed** shock of -8%, the price would be \$507.
- For **adverse** shock of -9%, the price would be \$391.

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- For more information visit <https://riskfi.network/>