



CRYPTOCRACKERS

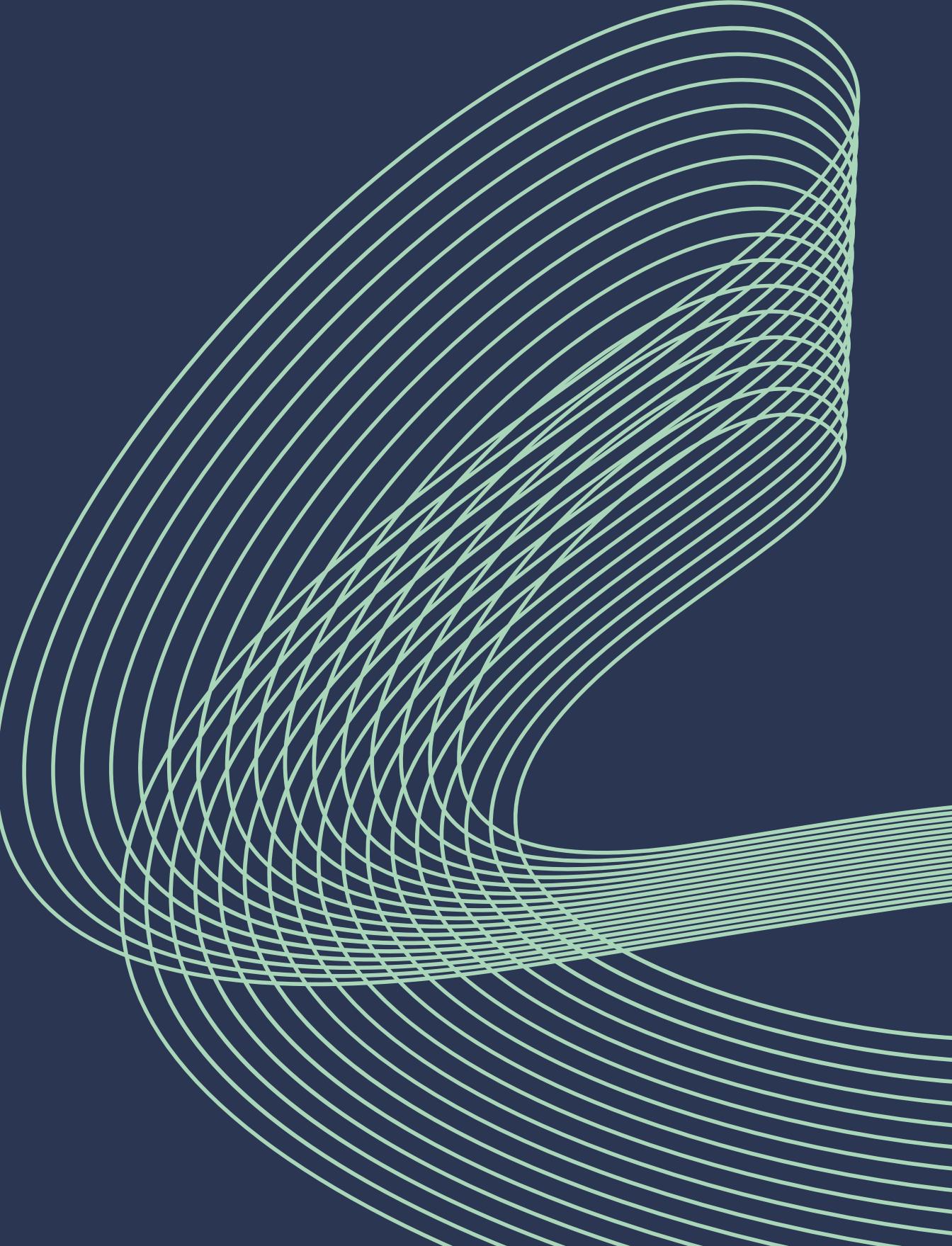
APRIL 2024

BITCOIN FLUCTUATION ANALYSIS

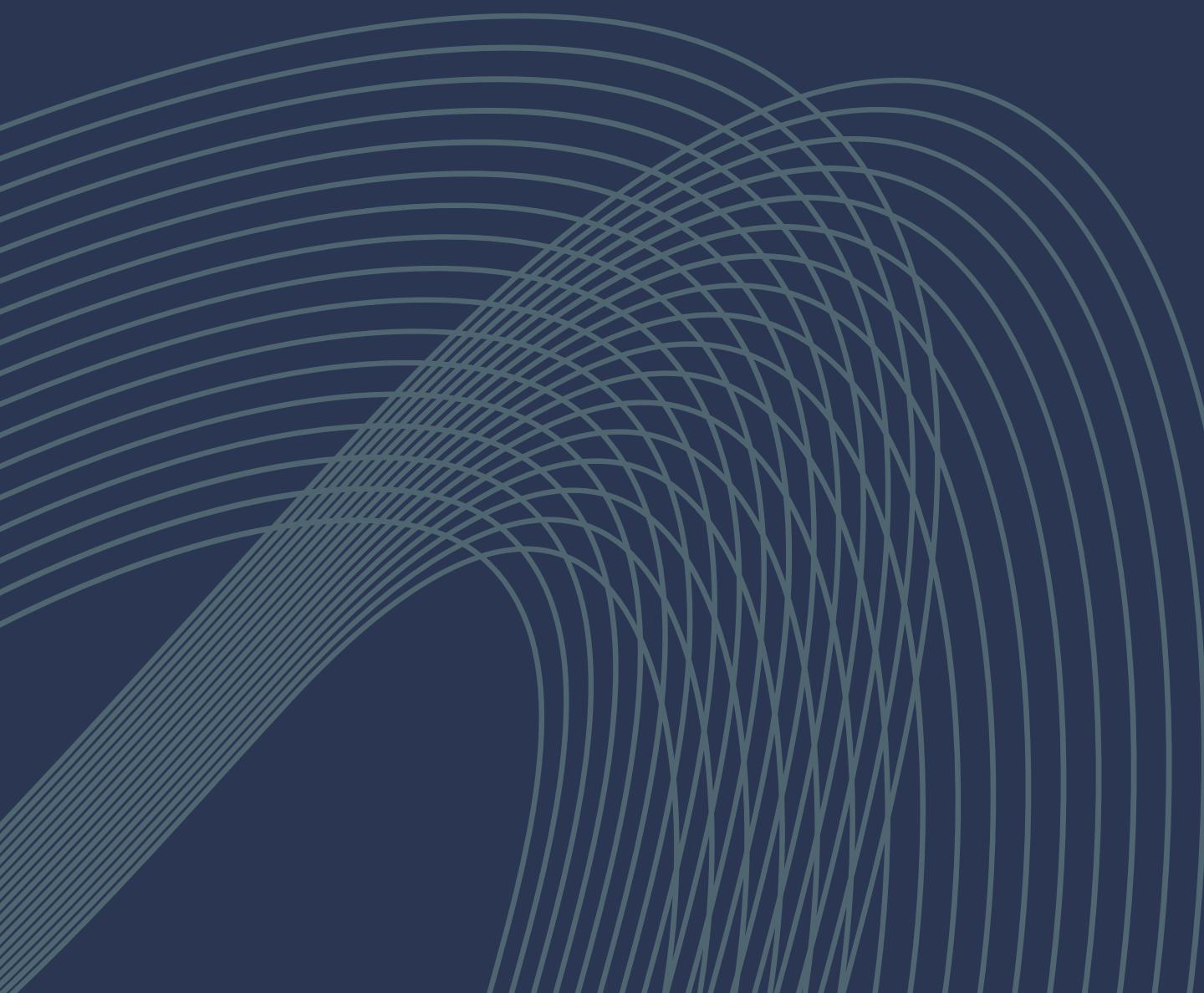
A 11 YEARS STUDY

PRESENTED TO
IRONHACK INVESTORS

PRESENTED BY
ANTÓNIO, ELIEL E ISABEL



AGENDA



Objectives

3

Hypothesis

4

Data Sources

7

Data Analysis Methods

8

News Data

9

Insights

10

Future Content

11

Contact Information

12



OBJECTIVES

- Understand how the fluctuation varies across time
- Backup investment decisions with data analysis
- Use WebScraping and API to access reliable data



HYPOTHESIS

1

**Some weekdays, more
than others, mark the
weekly peak and low
occurrences**

2

Same happens for
months of the year

3

News can influence
bitcoin fluctuation,
viceversa



DATA SOURCES

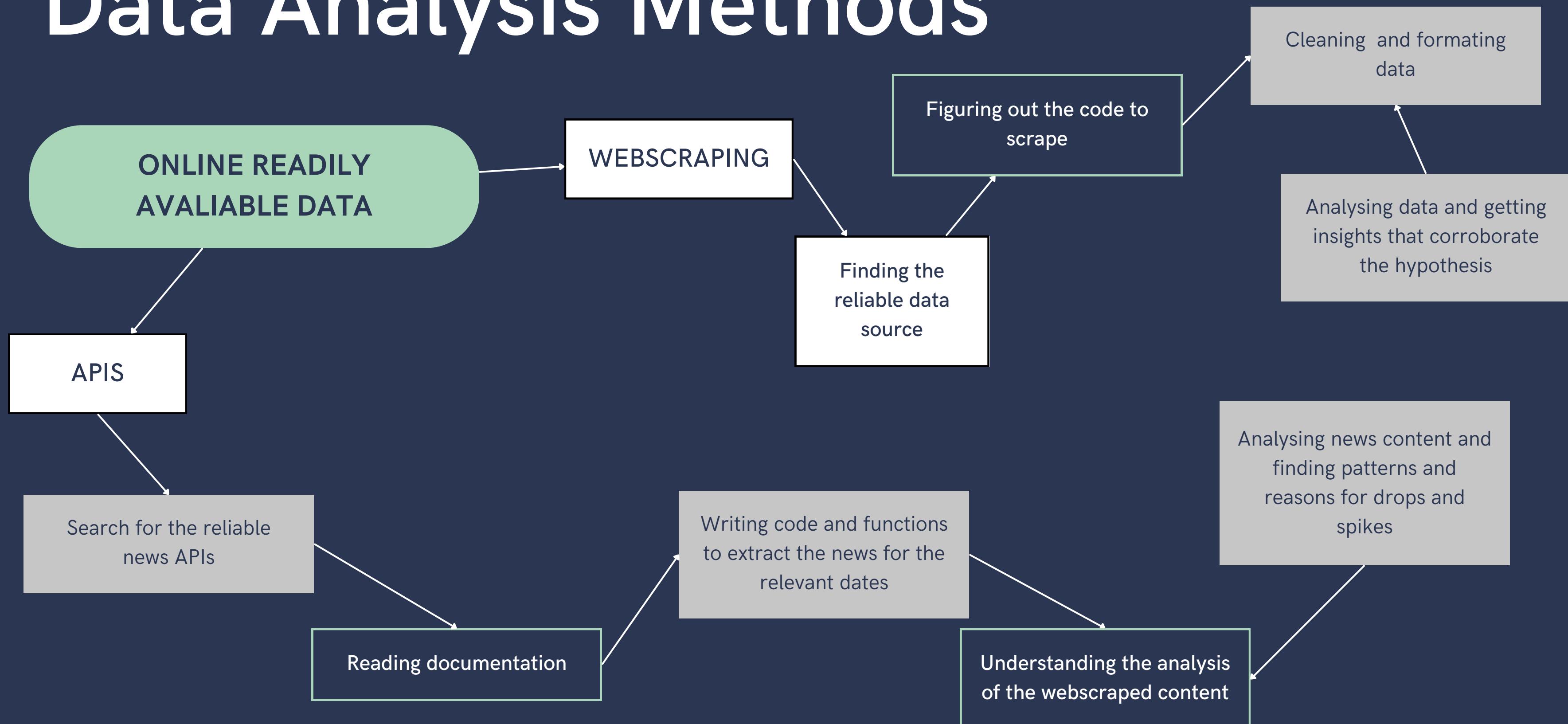
WEBSRAPING

We used FINANCE.YAHOO.COM to get data - we were searching for a specific block of information named "candle" - and through this website we were able to find data from 2014 until the present date.

API

After trying NEWS API and failing because it only retrieve 1 month old news, we tried to use Google News, but we soon reached the limit of the free plan. We had success using NEWS API by [MatcherLabs](#).

Data Analysis Methods



INSIGHTS

HIGHS AND LOWS IN BITCOINS

date	open	high	low	close	movement	percent
2020-03-12	7913.62	7929.12	4860.35	4970.79	Depreciated	-59.20
2015-01-14	223.89	223.89	171.51	178.10	Depreciated	-25.71
2017-09-14	3875.37	3920.60	3153.86	3154.95	Depreciated	-22.83
2015-08-18	257.93	257.99	211.08	211.08	Depreciated	-22.20
2018-01-16	13836.10	13843.10	10194.90	11490.50	Depreciated	-20.41
2018-02-05	8270.54	8364.84	6756.68	6955.27	Depreciated	-18.91
2022-06-13	26737.58	26795.59	22141.26	22487.39	Depreciated	-18.90
2015-01-13	267.39	268.28	219.91	225.86	Depreciated	-18.39
2016-01-15	430.26	430.26	364.33	364.33	Depreciated	-18.10
2022-11-09	18543.76	18590.46	15682.69	15880.78	Depreciated	-16.77
2017-01-11	908.11	919.45	762.77	777.76	Depreciated	-16.76
2019-06-27	13017.13	13311.14	10491.85	11182.81	Depreciated	-16.40
2021-05-19	42944.98	43546.12	30681.50	37002.44	Depreciated	-16.06

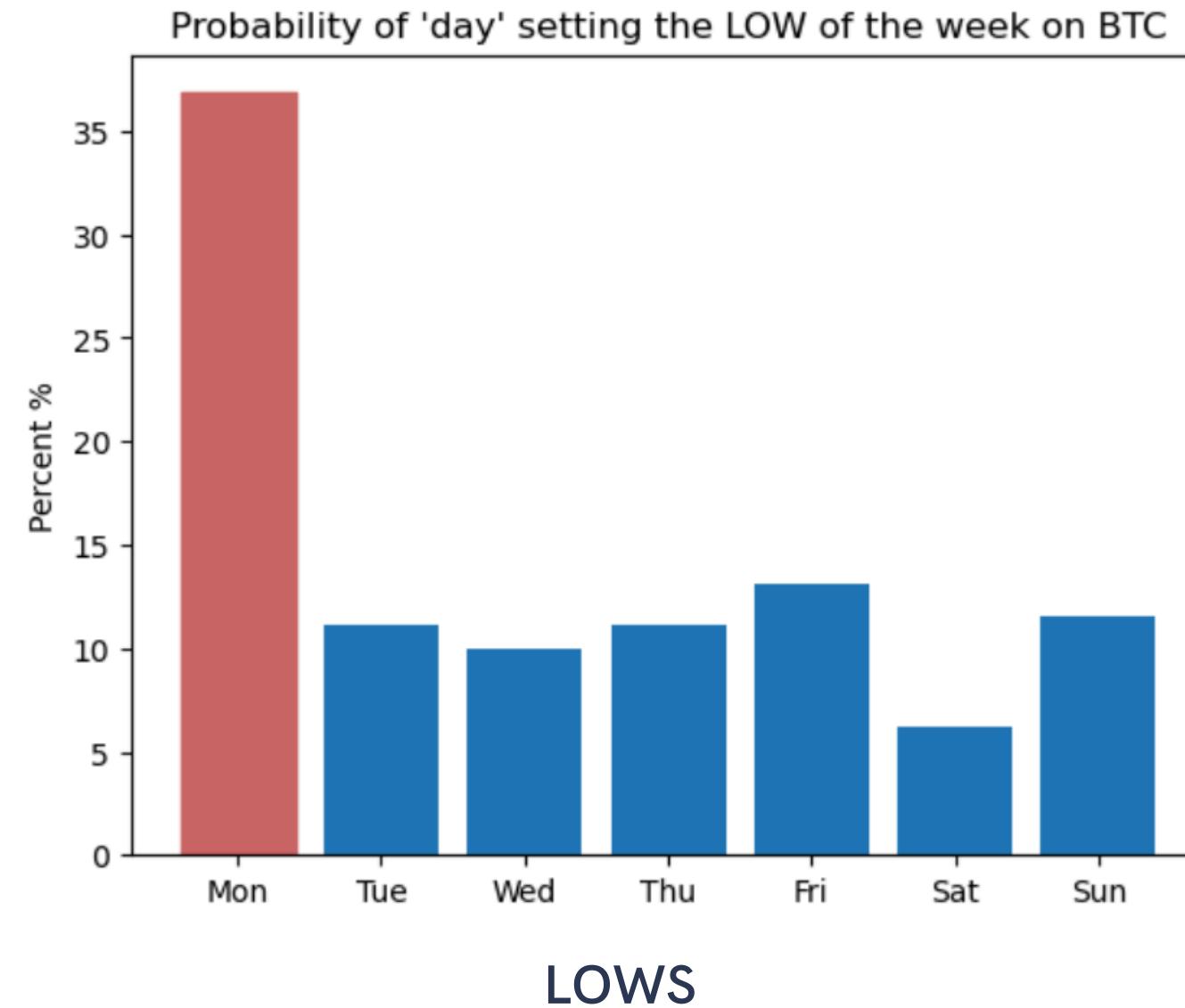
58 occurrences in price drops lower then 10%

date	open	high	low	close	movement	percent
2017-12-07	14266.10	17899.70	14057.30	17899.70	Apreciated	20.30
2017-07-20	2269.89	2900.70	2269.89	2817.60	Apreciated	19.44
2017-12-06	11923.40	14369.10	11923.40	14291.50	Apreciated	16.57
2021-02-08	38886.83	46203.93	38076.32	46196.46	Apreciated	15.82
2015-01-15	176.90	229.07	176.90	209.84	Apreciated	15.70
2020-03-19	5245.42	6329.74	5236.97	6191.19	Apreciated	15.28
2019-04-02	4156.92	4905.95	4155.32	4879.88	Apreciated	14.82
2019-10-25	7490.70	8691.54	7479.98	8660.70	Apreciated	13.51
2017-07-17	1932.62	2230.49	1932.62	2228.41	Apreciated	13.27
2014-11-12	367.98	429.72	367.98	423.56	Apreciated	13.12
2017-09-15	3166.30	3733.45	2946.62	3637.52	Apreciated	12.95
2017-12-26	14036.60	16461.20	14028.90	16099.80	Apreciated	12.82
2022-02-28	37706.00	43760.46	37518.21	43193.23	Apreciated	12.70

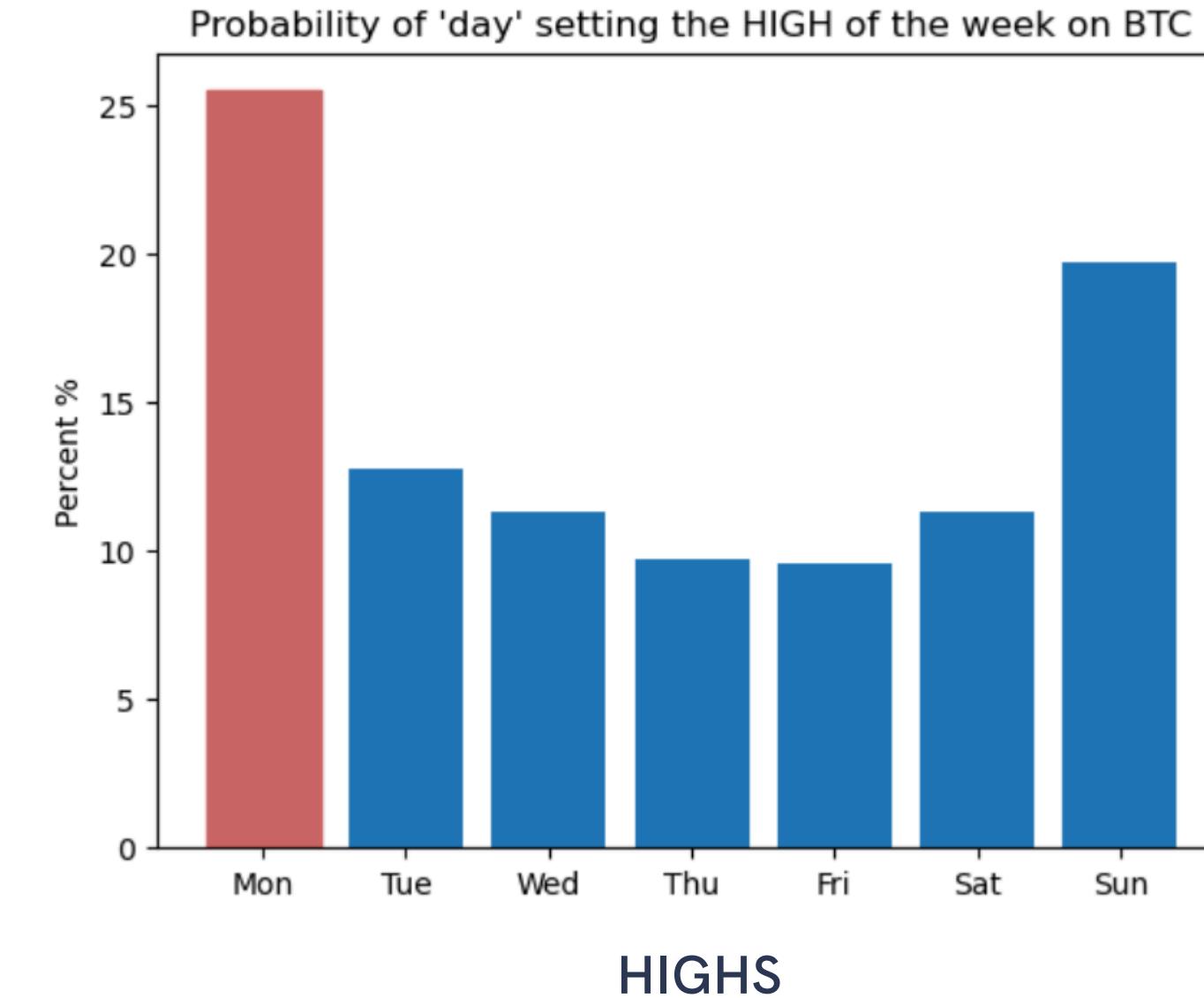
29 occurrences in price spikes higher then 10%

HYPOTHESES 1

SOME WEEKDAYS MARK THE WEEKLY PEAK AND LOW



Historically mondays have had the highest percentage of setting the weekly low



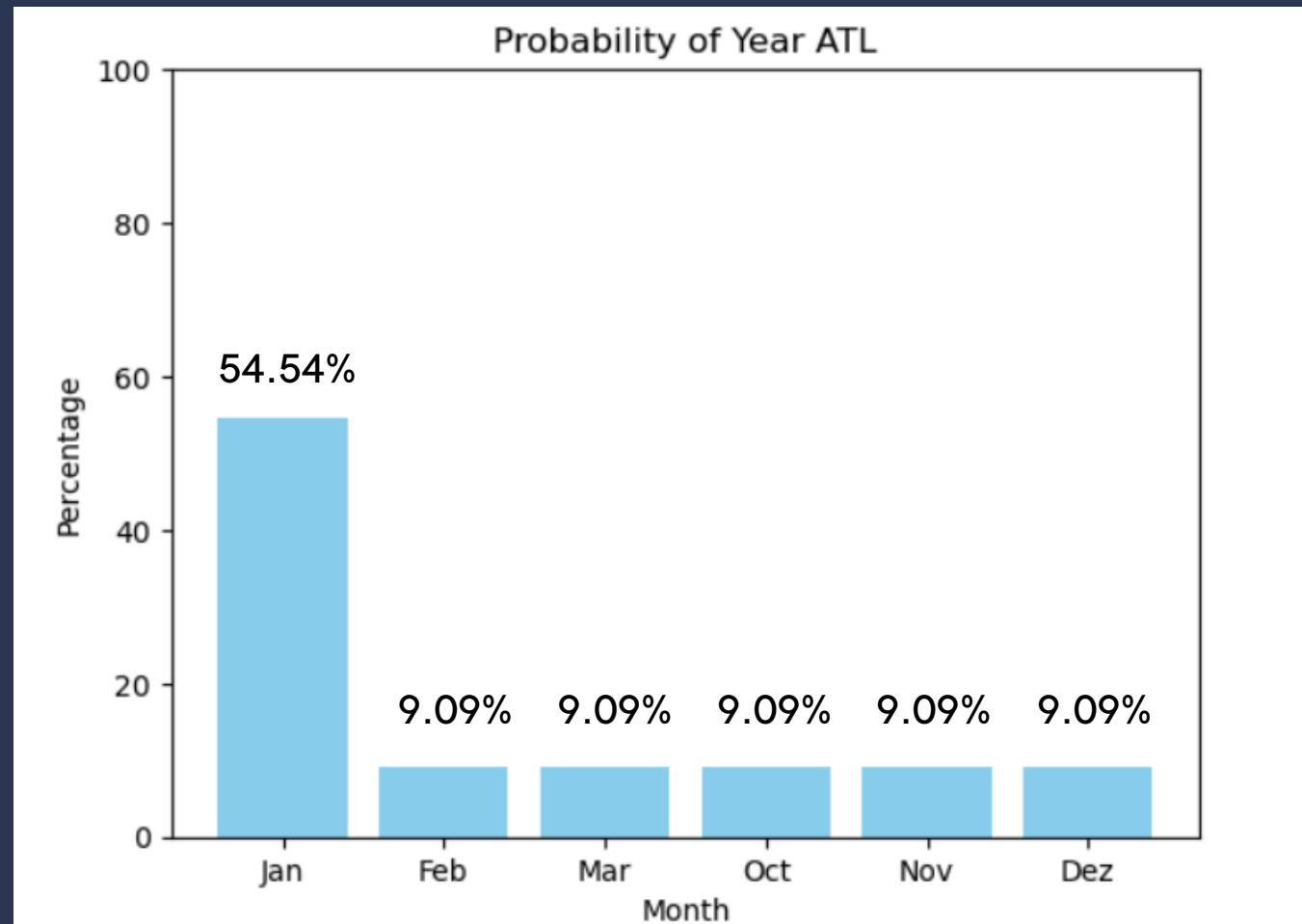
Mondays, followed by Sundays, typically mark the weekly peak occurrence



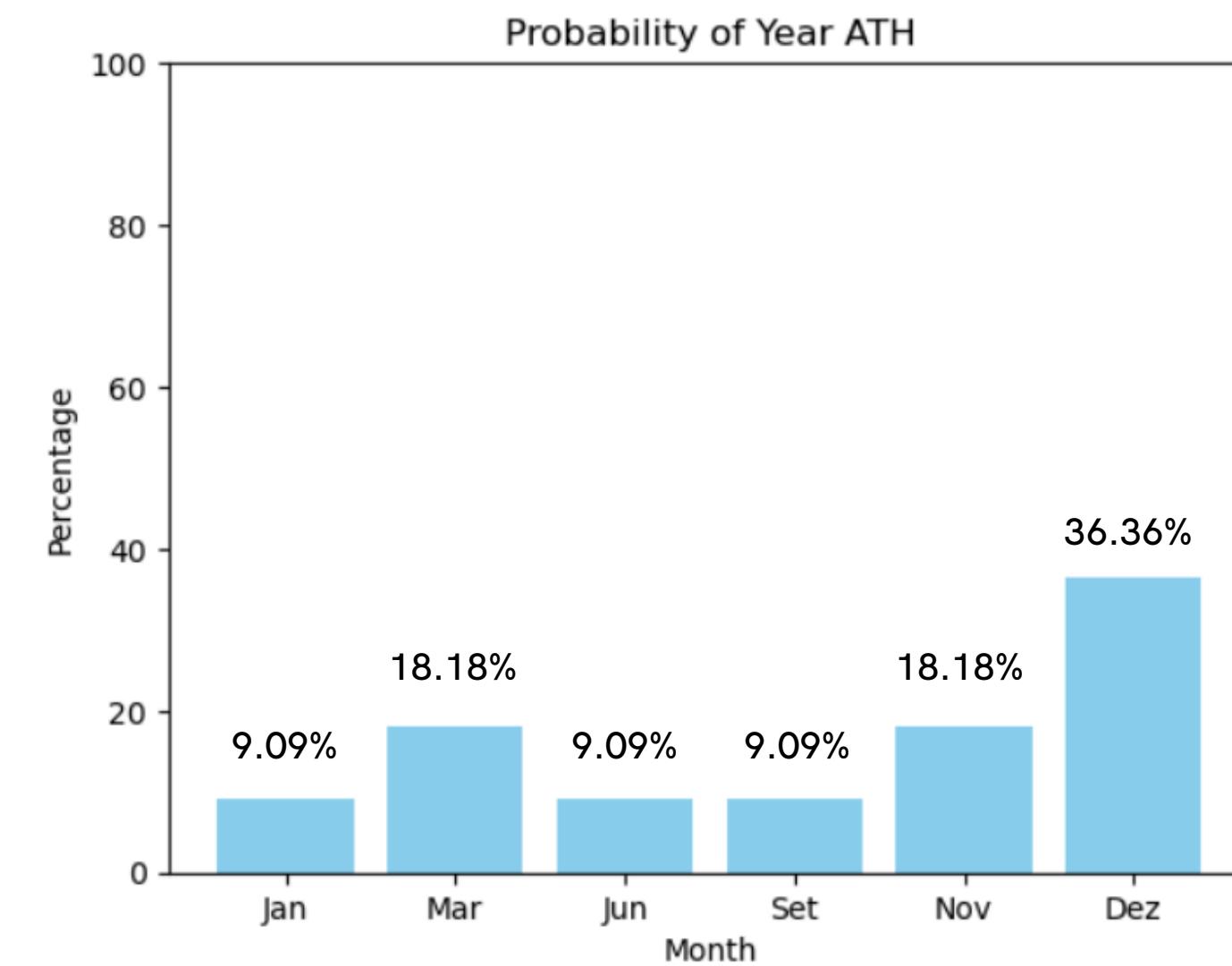
HYPOTHESES

2

Some months mark the monthly peak and low.



LOWS



HIGHS

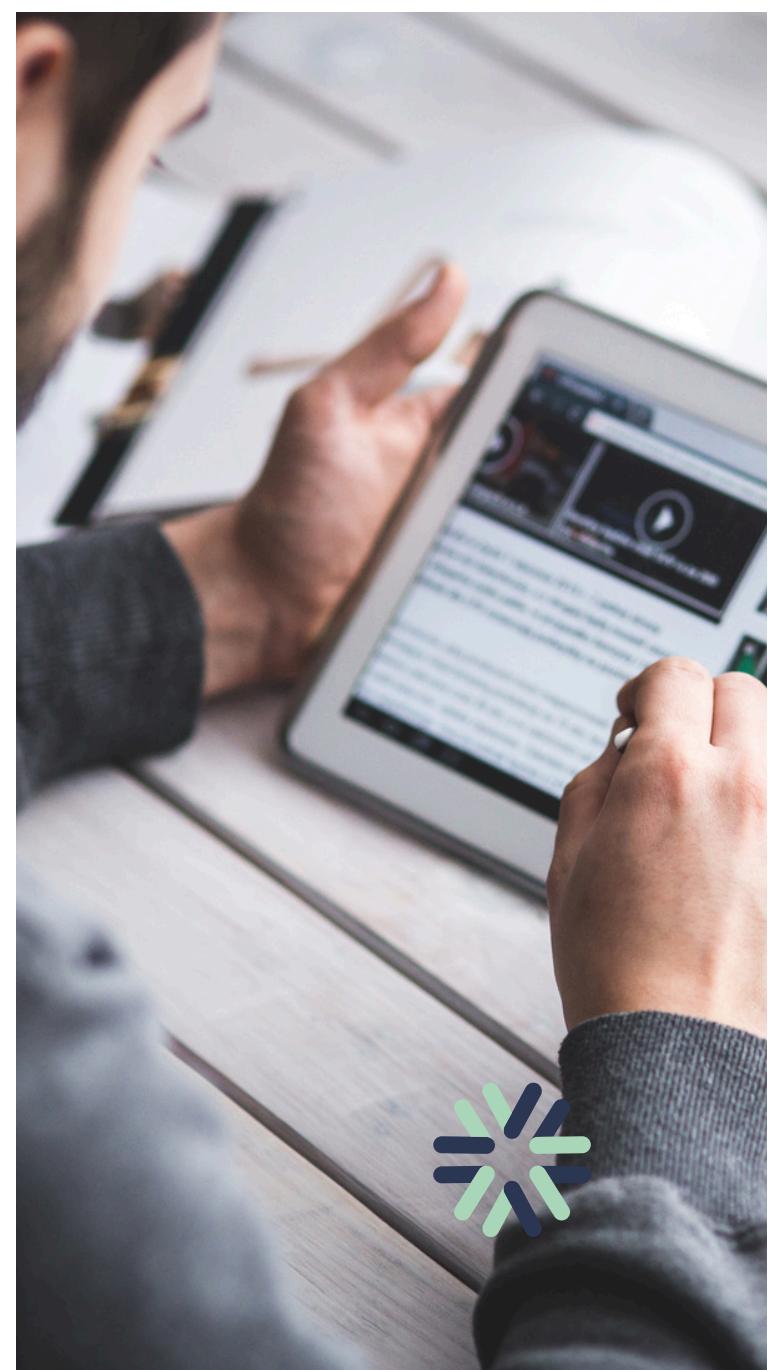
HYPOTHESYS

3

News can influence bitcoin fluctuation and viceversa.

This is useful when we try to predict future market behaviors, influencing investment decisions.

Powered by NEWS API , we collected the news published on relevant days, where we noticed the highest peaks and lows on bitcoin prices.





LATEST HIGH

28/02/2022

Bitcoin presented a climb of 12.70%

Historically we know that any value appreciation above 10% is very rare and significative.

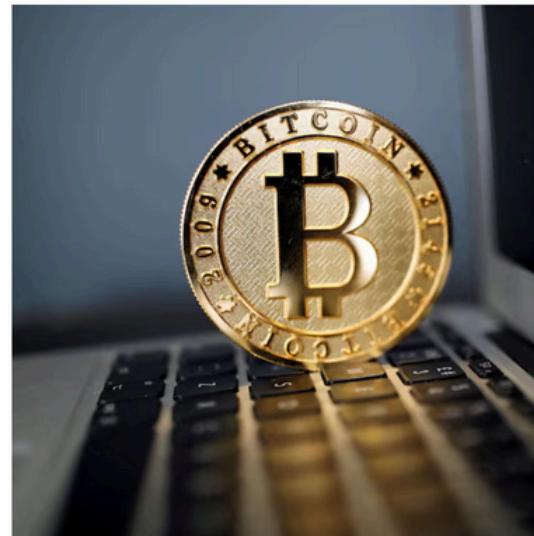
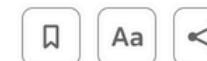
What could have influenced this?

China

Ukraine raises \$13 million in crypto after crowdfunding appeal

By Tom Wilson

February 28, 2022 2:06 PM GMT · Updated 2 years ago



TECH

Ukraine government raises over \$10 million in cryptocurrency donations

PUBLISHED SUN, FEB 27 2022 10:19 AM EST

 **Ryan Browne**
@RYAN_BROWNE_SHARE    **KEY POINTS**

- Ukraine's government has raised more than \$10 million in cryptocurrency donations, according to blockchain analytics firm Elliptic.
- Total crypto donations to the Ukrainian government and military now stand at \$16.7 million, Elliptic said.
- The development shows how Ukraine is turning to crypto as Russia's military offensive in the country.

**Bloomberg**

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Bitcoin, Ether Slide as Ukraine Conflict Spurs Risk-Asset Flight

- Ether plunges as much as 9.4%, briefly falling below \$2,600
- Crypto market declines point to lower open for equities

By Joanna Ossinger

27 de fevereiro de 2022 at 08:10 GMT

Updated on 27 de fevereiro de 2022 at 21:57 GMT

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HIGHEST HIGH

07/12/2017 - surged by 20.30%

This date marks the influx of retail investors into cryptocurrency markets. Media coverage has played a significant role in demystifying Bitcoin, leading to increased interest from "mom-and-pop" investors. Their involvement drove market growth, fueled by speculation, which aligns with the strategies of larger investors seeking to capitalize on market movements.



What if someone gave you bitcoin for your wedding?

Kai Ryssdal and Shaheen Ainpour | Dec 6, 2017



Forbes

A Short History Of Bitcoin And Crypto Currency Everyone Should Read

Bernard Marr Contributor

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Dec 6, 2017, 12:28am EST

This article is more than 6 years old.

Bitcoin hit news headlines this week as the price of one unit of the cryptocurrency passed \$11,500 for the first time.

Although it's often referred to as new, Bitcoin has existed since 2009 and the technology it is built on has roots going back even further. In fact if you had invested just \$1,000 in Bitcoin the year it was first publicly available, you would now be richer to the tune [of £36.7 million](#).



Markets Tech Media Success Video

WHO'S BUYING IT?

For much of this year, it's mom-and-pop investors who have been buying in.

Many are in Japan and South Korea, where recent regulation changes have made it easier to trade bitcoin, according to experts.

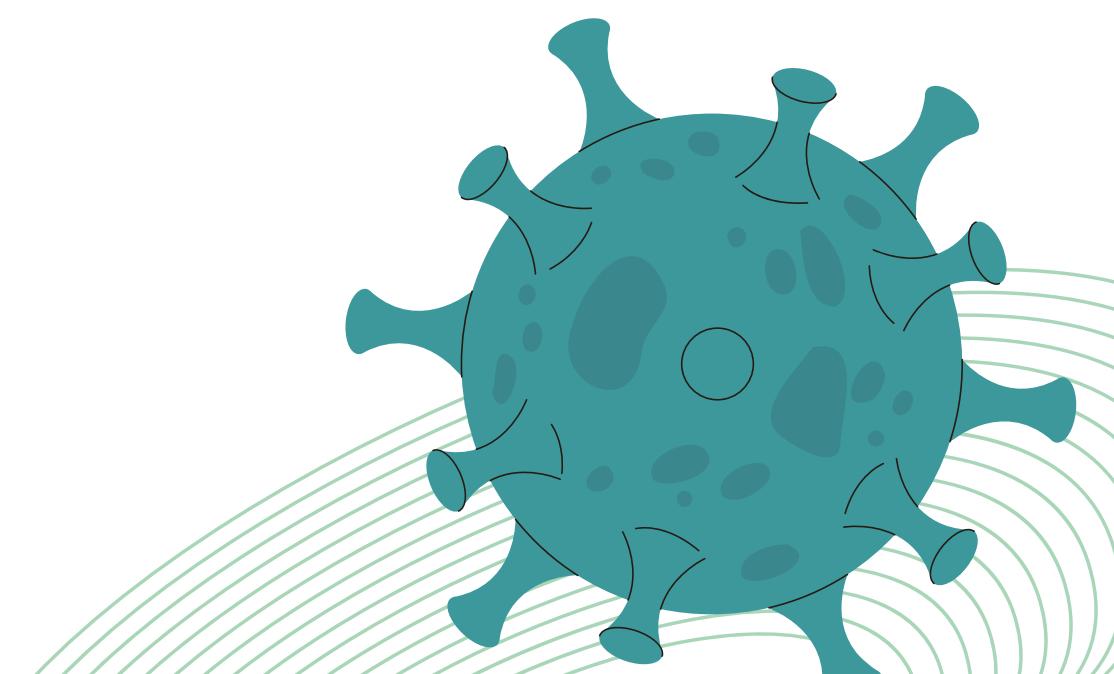
But the biggest gains from the virtual currency's massive rally are likely to be concentrated among a relatively small number of investors.



LOWEST LOW

12/03/2020 drop of 59.20%

The world was living a major health crisis, and off course it influenced the bitcoin market BIG TIME. The second highest low in the past 11 years was of 25.71%, which happened in 2015.





CoinDesk

Down 26%: Bitcoin Sees Worst Sell-Off in 7 Years as Coronavirus Spurs Flight to Safety

Bitcoin suffered its biggest drop in seven years, as fears over the spreading coronavirus triggered a new wave of selling in everything from stocks and junk bonds to cryptocurrencies.

By Bradley Keoun Mar 12, 2020 at 4:05 p.m. GMT Updated Sep 14, 2021 at 9:18 a.m.



Bitcoin is also having a very, very bad day

Romain Dillet @romaindillet 12:34 PM GMT • March 12, 2020

[Comment](#)



Image Credits: Chesnot / Getty Images (Image has been modified)

Bitcoin is going through a remarkably bad day. It turns out all assets are having a rough month — including cryptocurrencies. A couple of hours ago, the [average price of BTC](#) dropped by 15% in just 20 minutes.

On [CoinGecko](#), 1 BTC was worth around \$7,250 across different exchanges at

FORBES > FORBES DIGITAL ASSETS

EDITORS' PICK

Bitcoin Lost Roughly 50% Of Its Value In A Day

Charles Lloyd Bovaird II Senior Contributor I am a financial writer and editor who focuses on investments.

[Follow](#)

Mar 12, 2020, 11:42pm EDT

This article is more than 4 years old.





FUTURE CONTENT

Predictive statistics and machine learning models that can anticipate the crypto market fluctuations and backup investment decisions.





THANK YOU!

FOR INQUIRIES, CONTACT US.

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