

# RANDOM WALK THEORY AND GBM

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# Random walk theory

- Unpredictable changing of prices
- 50% of price increasing and 50% of price decreasing
- Prices – efficient
- Knowledge of past – unprofitable





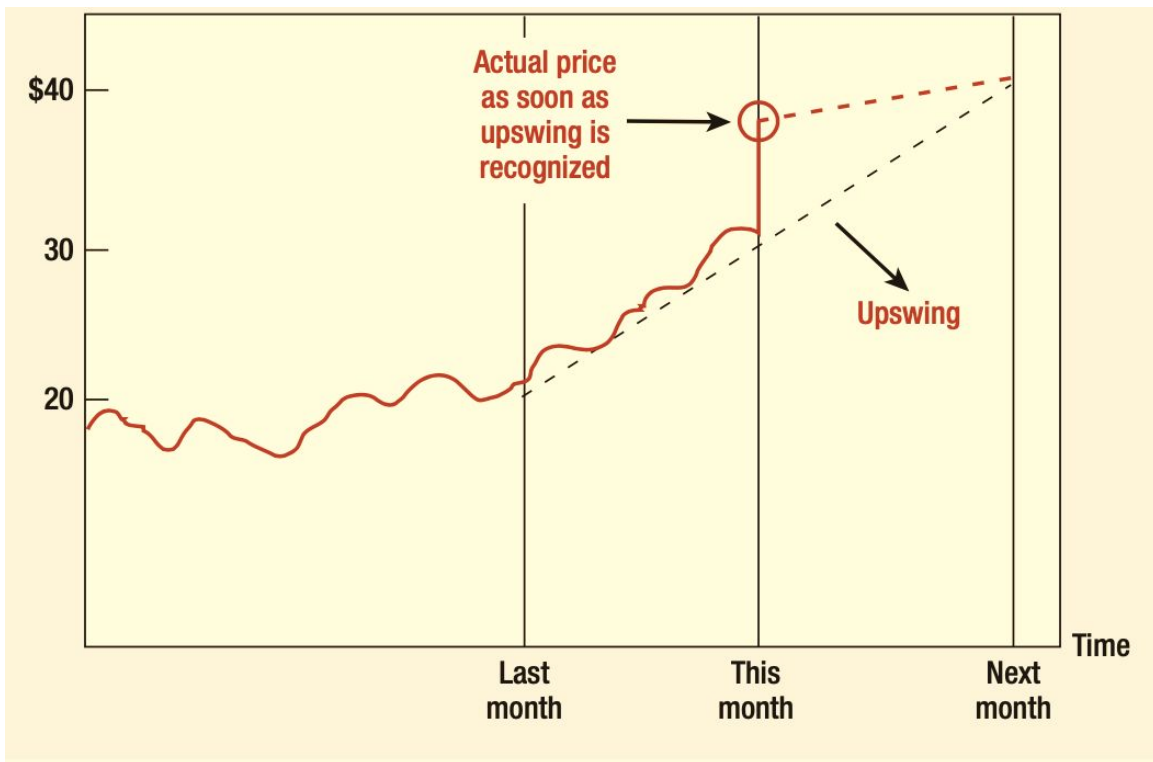
# **BUBBLE-**

uncontrollable and sharp growth  
of prices



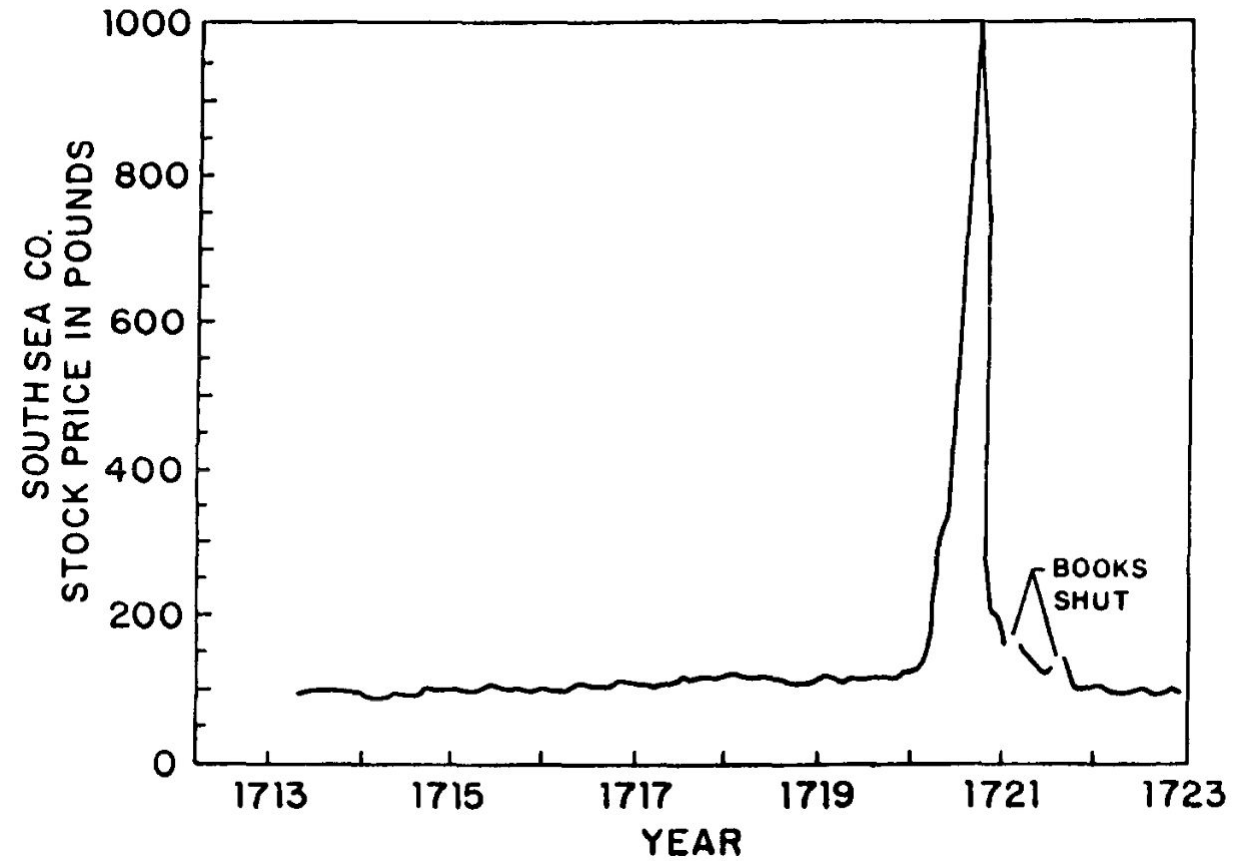
# Bubble is a deviation of Random Walk

## Random Walk



Brealay, 2014

## Bubble



S. Schachter, 1985



# Historical bubble



## Recent issues

Mini Cap (£m)	Stock	Price	Chg	Yld
326.4	EverAct Hops	959		
158.7	GallifordTrynne	1423	1.4	40.8
99.4	MJ Hudson	59		

## Inflation

RPI (1987=100)	326.4
RPIX (Target 2.5pc)	158.7
CPI (2015=100 target 2pc)	99.4
Halifax house price index	

## Money

Bank Rate	0.75pc
Overnight	0.65pc
7 day	0.70pc
1 month	0.65pc
3 months	0.70pc
6 months	0.74pc

## Major price changes FTSE 100 Week on week

Risers	Volume	Close	Change
■ NMC Health	2.73m	1557 1/2	+5.41pc
■ Centrica	16.17m	924	+8.30pc
■ Taylor Wimpey	11.17m	418 1/2	+7.46pc
■ Evraz	4.51m	2891	+6.84pc
■ Persimmon	1.15m	5055	+5.59pc
■ Aviva Group	0.83m	1003 1/2	+5.37pc
■ Unilever	1.98m	1234 1/2	+5.35pc
■ Group	0.86m	799 1/2	+5.35pc
■ Pearson	3.98m	358 1/2	+4.55pc
■ Royal Bk Scot	9.63m	224 1/2	+4.50pc
■ Mondi	1.64m	1604	+4.47pc
■ BT Group	7.99m	184 1/2	+4.29pc
■ WPP	3.90m	891 1/2	+4.15pc
■ Smurfit Kappa	0.52m	9066	+3.59pc
■ Whitbread	0.89m	2841	+3.33pc
■ Flutter Entmtnt	0.89m	175 1/2	+3.12pc
■ Johnson Matc	39.23m	58 1/2	+2.59pc
■ Barclays	185.06m	111 1/2	+2.59pc
■ Lloyds Bk Grp	0.62m	1800 1/2	+2.59pc
■ St James Place	14.60m	299 1/2	+2.59pc
■ Lloyds	2.76m	885	+2.59pc

## Carvetian Capital Management Limited

Admin: Stuart House, 14 John St, Peterborough PE1 5DP  
Dealing & Enquiries: 0345 850 0255

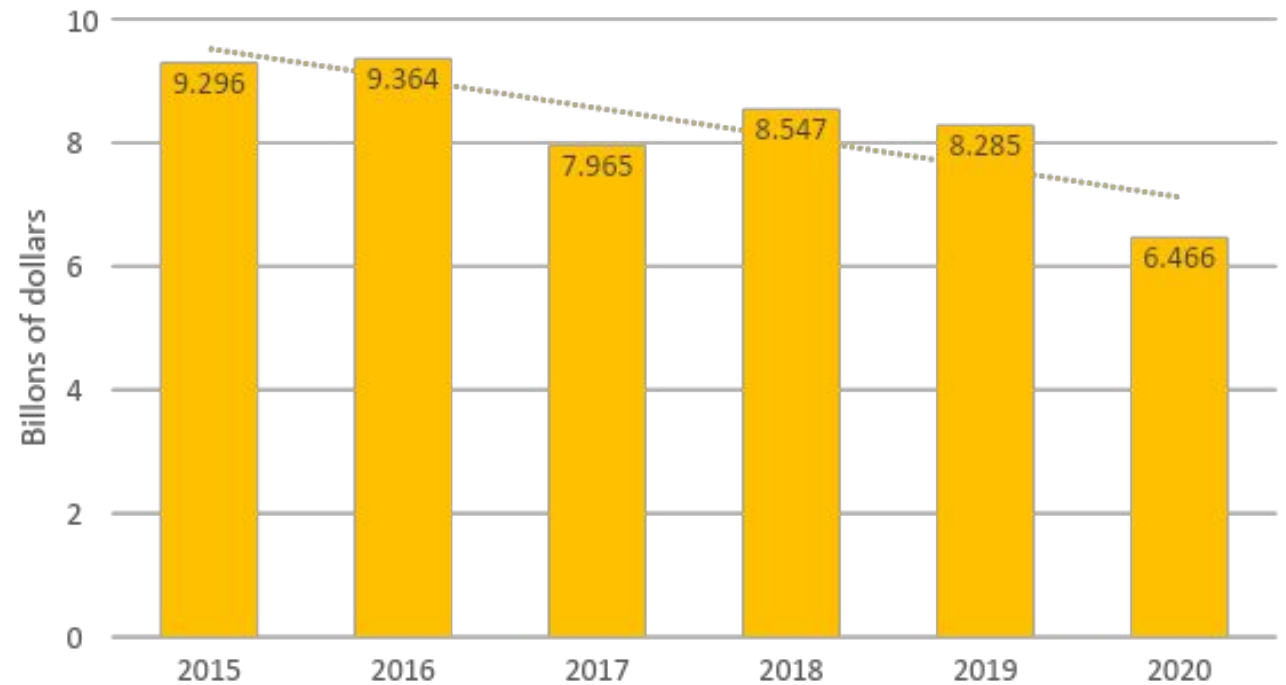
## Consistent Unit Management

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# GameStop

an American video game,  
consumer electronics, and gaming  
merchandise retailer

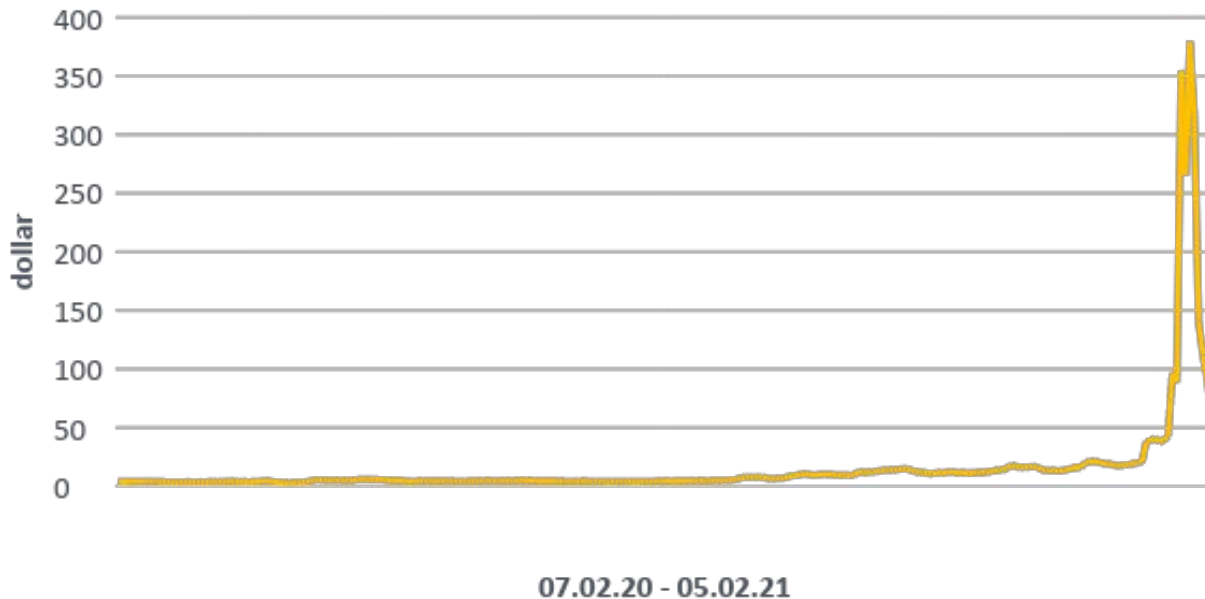
Annual revenue



Posts of famous people also affected the growth



Stock's price



# Beginning of the situation

“

GAMESTOP IS A STEAL. TRADING UP 20% ON THE DAY AND IT WILL BE AT 10\$ BY MONTH END. But your calls and the stocks far OTM it doesn't really matter. This is the a tendies printer. THE THRUSTERS ARE LOADING

”

# CONSEQUENCE

## S



**Lost up of funds**  
in a few hours, or  
were lottery  
winners



The **losses of  
hedge funds**  
amounted to  
\$70 billion



The **middle  
class lost  
money**, when  
the hedge fund  
lost it



Robinhood  
**suspends  
trading** and was  
forced to raise at  
least \$1 billion



Claims of  
infringement of the  
rights and  
accusations of  
corruption



# CURRENT BUBBLE



## Recent issues

Min Cap (£m)	Stock	Price	Chg	Yld
326.4	EverAct Hlps	159	1.4	40.2
158.7	GallifordTryhps	142.5	1.4	40.2
99.4	MJ Hudson	50		

## Money

Bank Rate	0.75pc
Overnight	0.65pc
7 day	0.70pc
1 month	0.65pc
3 months	0.70pc
6 months	0.74pc

Inflation  
RPI (1987=100)  
RPIX (Target 2.5pc)  
CPI (2015=100 target 2pc)  
Halifax house price index

## Major price changes FTSE 100 Week on week

Risers	Volume	Close	Change
■ NMC Health	2.73m	1557.5	15.41pc
■ Centrica	16.17m	924	8.30pc
■ Taylor Wimpey	4.51m	4184	7.46pc
■ Evraz	1.15m	2891	6.84pc
■ Persimmon	0.83m	5055	6.59pc
■ Aviva Group	1.98m	10034	6.57pc
■ Unilever	0.86m	12344	6.56pc
■ Group	2.53m	7994	6.56pc
■ Pearson	6.81m	5081	6.24pc
■ Smith (DS)	3.98m	3581	4.55pc
■ Royal Bk Scot	9.63m	2244	4.50pc
■ Mondi	1.64m	1604	4.41pc
■ Prudential	7.99m	14164	4.29pc
■ BT Group	17.98m	1844	4.20pc
■ TUI AG	1.75m	8914	4.15pc
■ WPP	3.90m	10194	3.82pc
■ Smurfit Kappa	0.52m	4481	3.61pc
■ Whitbread	0.89m	2718	3.59pc
■ Flutter Entmtnt	0.89m	9066	3.58pc
■ Johnson Matc	39.23m	2841	3.33pc
■ Barclays	185.06m	1754	3.10pc
■ Lloyds Bk Grp	2.57m	584	3.10pc
■ St James Place	0.62m	11104	2.59pc
■ Lloyds	14.60m	18004	2.25pc
■ Group	2.76m	2994	2.25pc
■ Group	885	557	1.78pc
■ Group	2104	1.64pc	

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## Janus Henderson

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**An American PUBLIC COMPANY** with the  
revenue of \$486 million (2019)

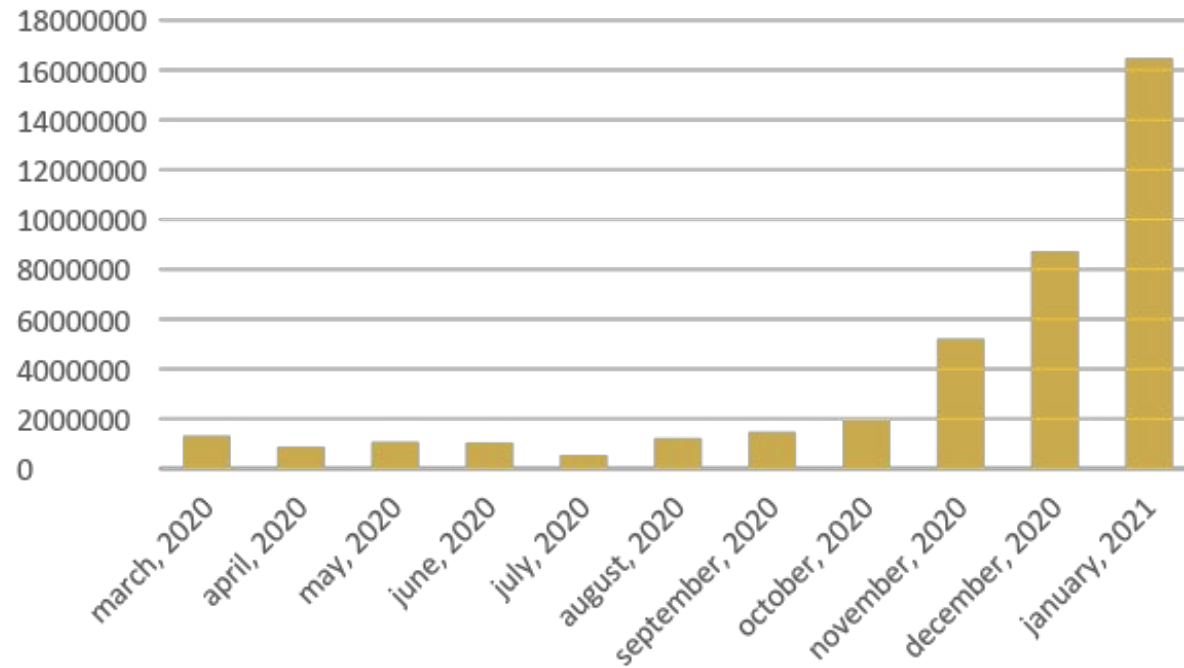


**INDUSTRY:** Business intelligence and  
mobile software

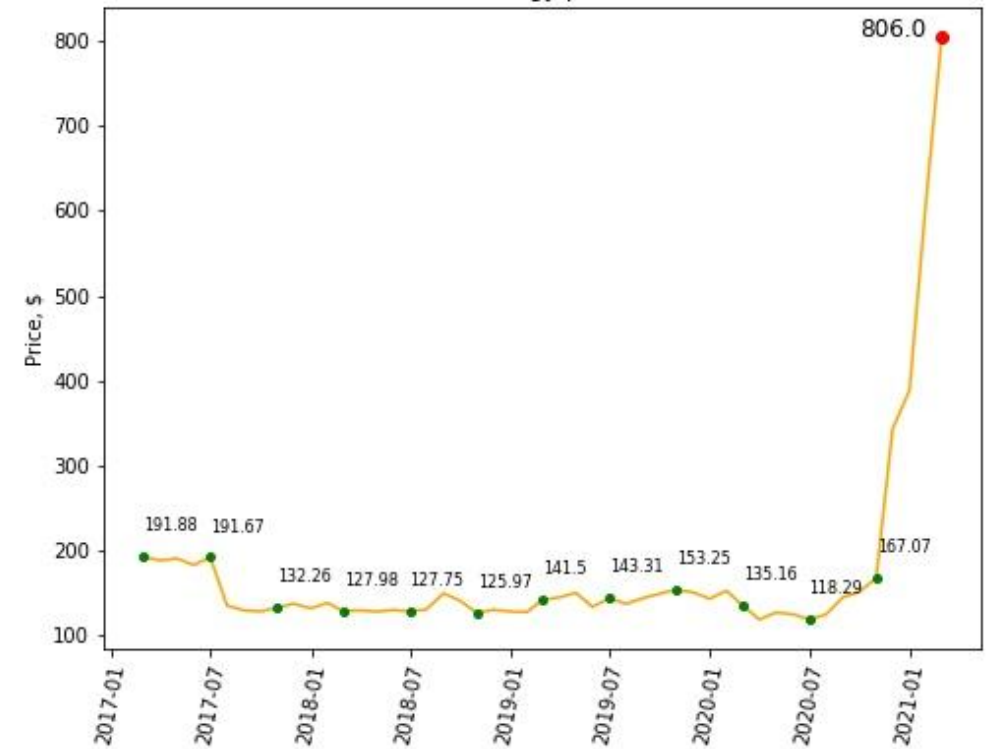
The company **experienced a burst of bubble in  
March 2000**

# The trading volume of shares from march 2020 till January 2021

## Trading volume of MicroStrategy, \$



## MicroStrategy price chart



# Profitability Analysis

	2016	2017	2018	2019	2020
ROE Tot Equity, %	18,05	10,74	3,42	6,62	-1,42
ROA Tot Assets, %	12,76	7,31	2,17	3,88	-0,63
Income Aft Tax Margin, %	17,75	12,34	3,90	7,06	-1,57
Revenue/ Tor Assets	0,72	0,59	0,56	0,55	0,40
Long Term Debt/Equit, %	0,00	0,00	0,00	0,00	87,94
Total Debt/Equit, %	0,00	0,00	0,00	0,00	87,94

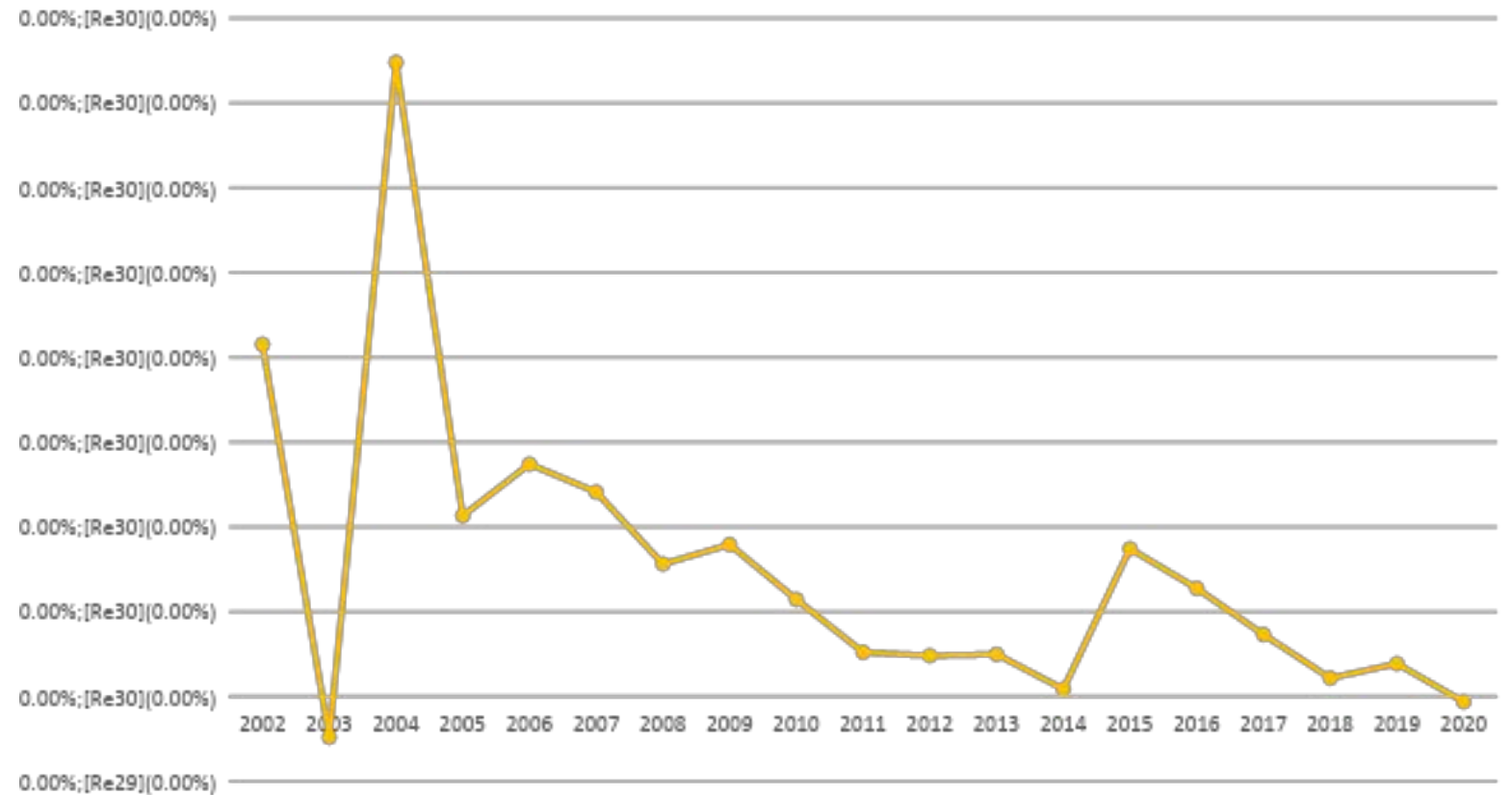
- ▶ There are some initial coefficients which show the dynamic of the company's development, they provide the knowledge helping us to understand how fair is the estimation of MicroStrategy.
- ▶ All of indexes in 2020 are worse than in previous periods from 2016 to 2019.



## Return on assets (ROA), Microstrategy

Return on assets shows us the efficiency of the company, how it uses its assets and how fast the company recoup the investments.

As for the 2020 the operation income was negative so the ROA was negative too.



# Daily Chart of P/E (Capitalization of the Company/Earnings)

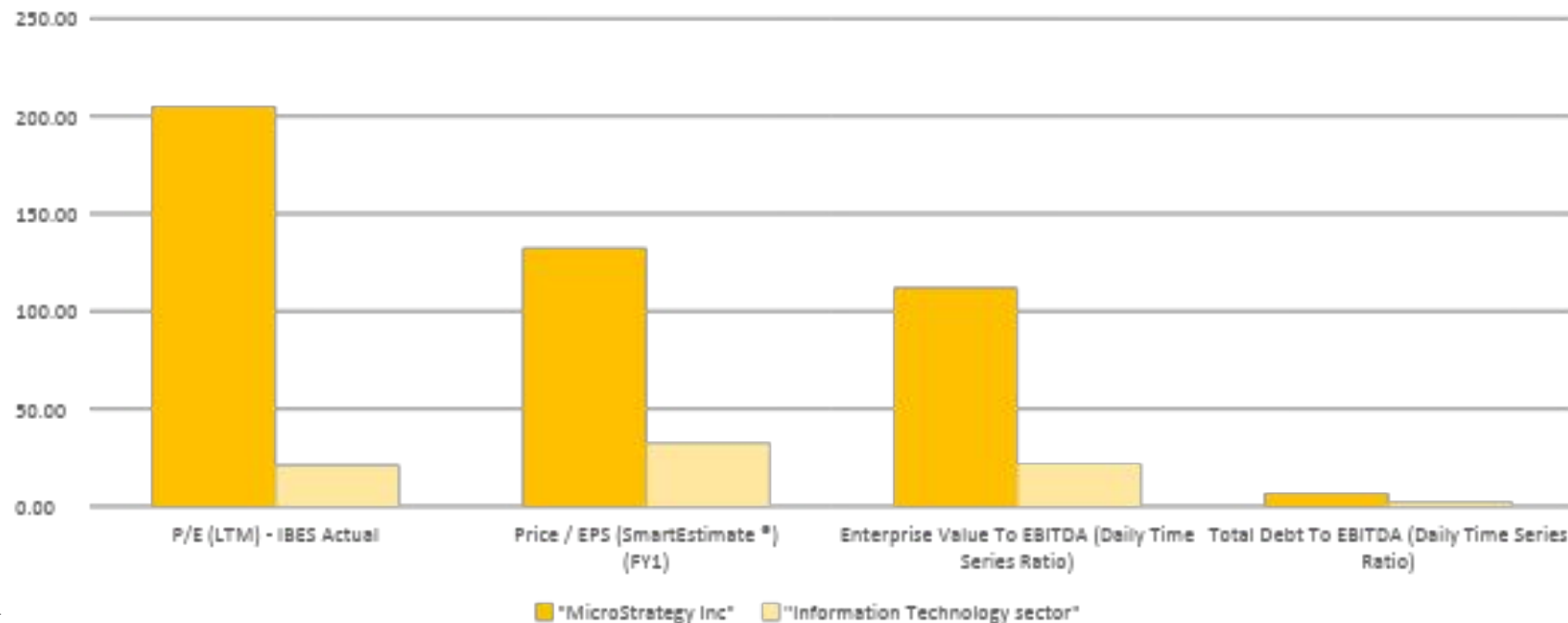
**EBITDA** – an income before taxes, paying interest, amortization and depreciation.

**LTM** - a period of latest twelve months of some marks.

**IBES** – institutional brokers' estimate system



## Essential multipliers

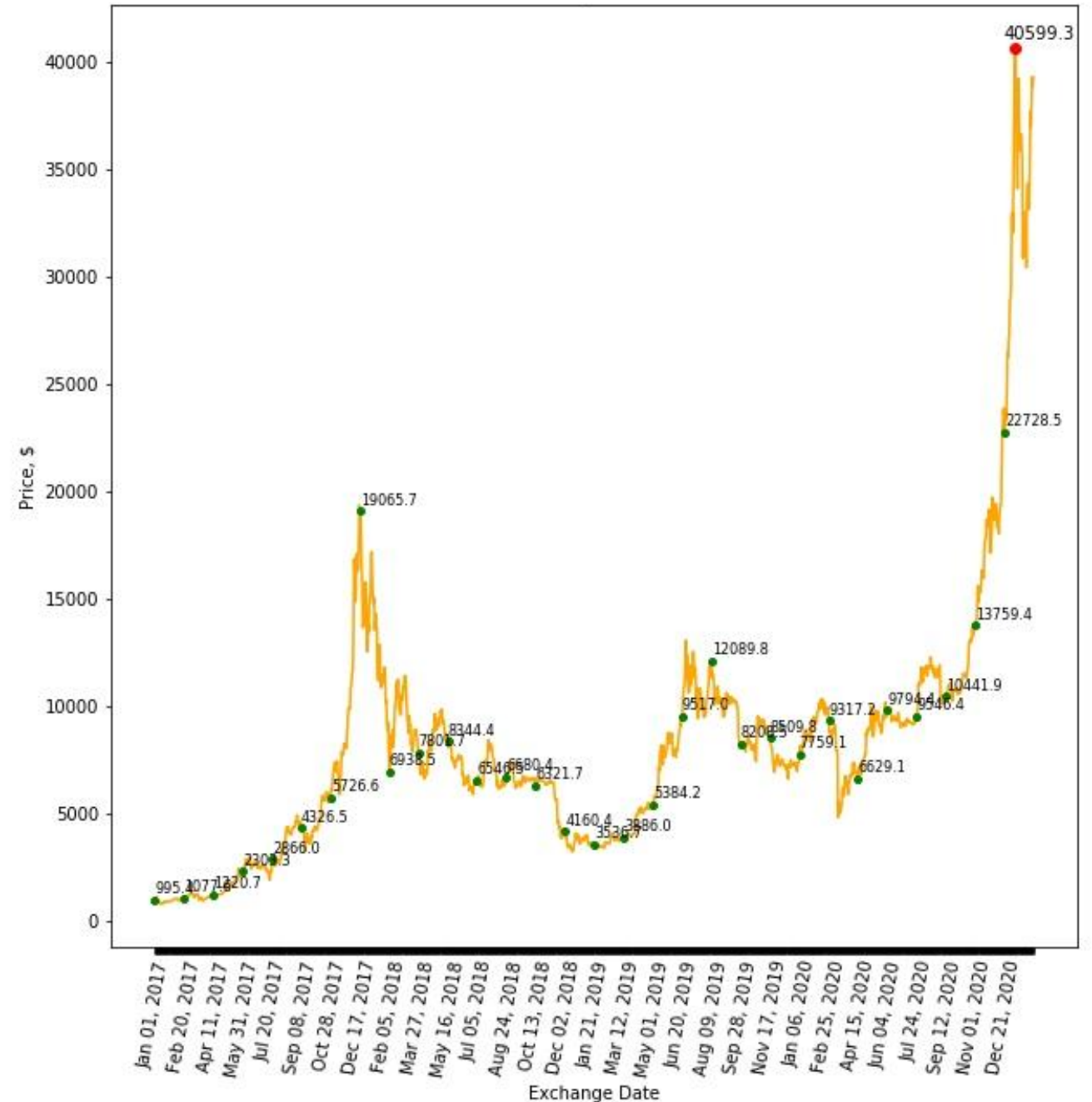


**the interest to the short swaps  
become more popular with the  
price of equity rises.**

**For the 5<sup>th</sup> of February there were  
about 20% of opened short  
positions to the free-float.**



## Bitcoin Price Chart



MicroStrategy spent over 1 billion \$ on this investment and the average price of the cryptocurrency in their portfolio is 21,925 \$ per coin.

The bitcoin price chart is needed in analysis because almost all the free cash flow was spent in order to buy Bitcoin.



# Investors' action

- ▶ The **investors demonstrate a high interest** to MicroStrategy shares as managers decided to invest free cash flow in Bitcoin. That was the only news which provoked frequent growth of shares' price.
- ▶ This asset has approximately **equal price hesitation** so here we can suggest about correlation existence between assets.
- ▶ Currently, the company earned from this investment about \$1 billion but the price achieved 6x growth from the beginning of the attachment.

# Sources

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Thank you for your attention

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### Money

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Nationwide Base Mortgage Rate	
US Fed Funds	
US Long Bonds Yld	
European base rate	

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