

Dillan's Villains

Dillan Wendel, Ellie Ambs, Nestor Ayala, Evan Martinez, Nicholas Orange, and Santiago Quinonez

Company Overview

Ticker Symbol- FB

Current Price- \$281.15

Headquarters- Menlo Park, California

Revenue- \$70.7 Billion USD

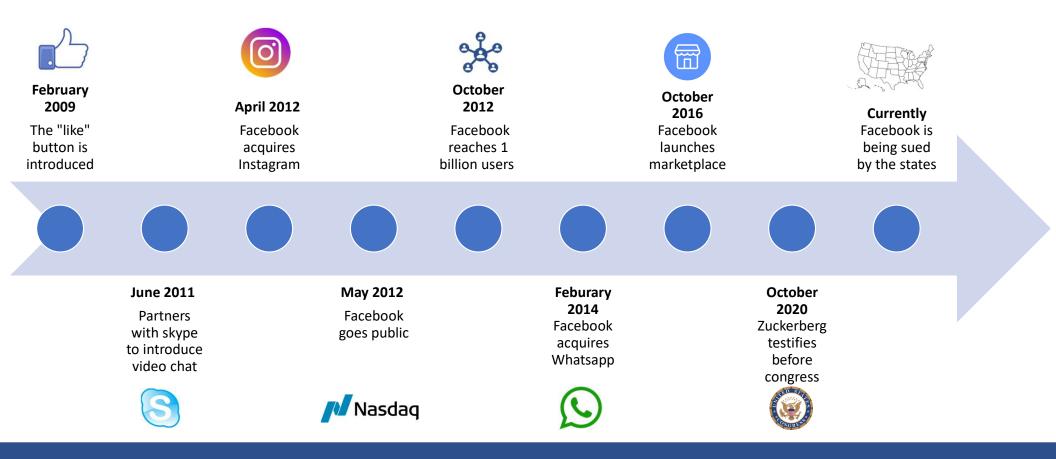
Market Cap- \$783.05 Billion USD



Company History

[thefacebook] January 2004 Mark Zuckerberg creates "The Facebook"		December 2004 Facebook reaches 1 million users		July 2006 Mark Zuckerberg rejects a \$1.1 billion bid from Yahoo to sell the company		Cotober 2008 Facebook announces headquarters in Dublin, Ireland	
	February 2004 The Facebook is launched to college students		December 2005 Facebook introduces tagging		January 2007 Facebook goes mobile		

Company History



Recent News



Recent News

Since March 2020

• Products launched to help small business in the wake of COVID-19

July 2020

Ad Boycott

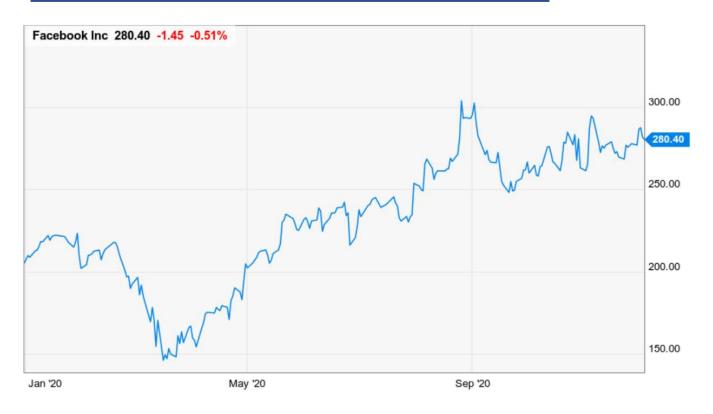
10-27-2020

Instagram Shops

10-28-2020 & 11-17-2020

Testified Congress

Stock Performance



Ticker: FB

Current: Trading -8% off 52 week high

IPO Price: \$38

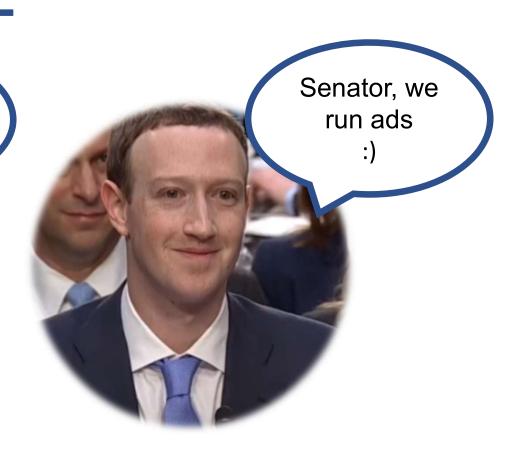
CAGR SINCE IPO: 28%

Business Model



What do they do?

How do you sustain a business model where users don't pay for your service



facebook.

What do they do?

	Fa	cebook Inc.	Tencent Inc.	Other					
Facebook	f				2,498m				
YouTube	D			2,000m					
WhatsApp	0			2,000m					
Messenger	\bigcirc		1,300m						
WeChat	%		1,165m						
Instagram	Ø		1,000m						
TikTok	1	80	00m						
QQ	8	731	lm						
Qzone		517m							
Sina Weibo	6	516m							
Reddit	6	430m							
Kuaishou	6	400m							
Snapchat	<mark>8</mark>	398m							
Twitter	y	386m							
Pinterest	0	366m							
* April 2020 or latest available									

Source: Company data via DataReportal Global Digital Statshot





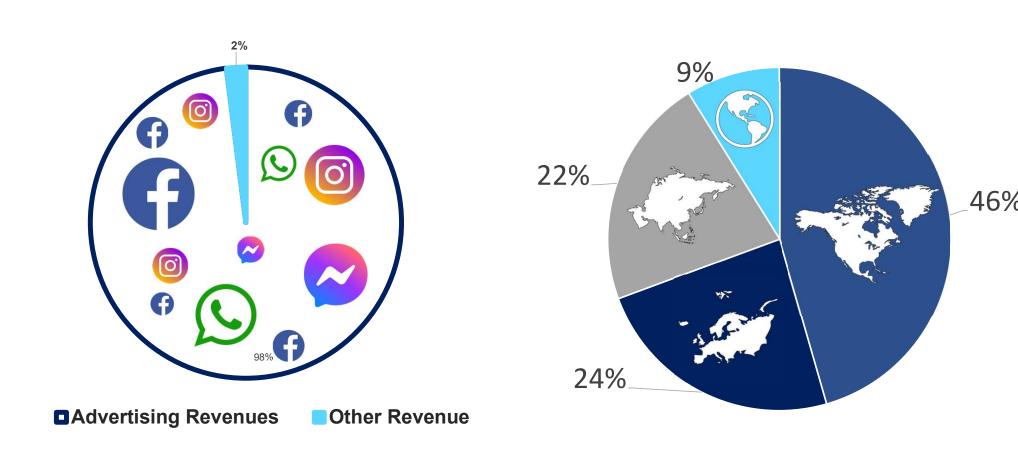
That's really it.

Targeted ads across their platforms drive Facebook's profitability.

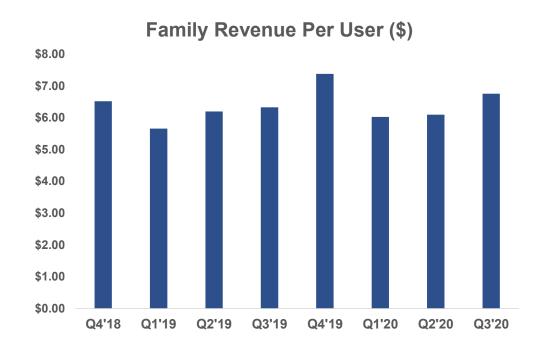
Increases in daily or monthly active users on any of their platforms provides value to advertisers

Facebook has technically 5 revenue streams, but advertising makes up the grand majority

Revenues by Segment



Revenues By Geographic User



Average Revenue Per User Worldwide \$6.76

2.6 Billion Monthly Active Users

34% of the world population

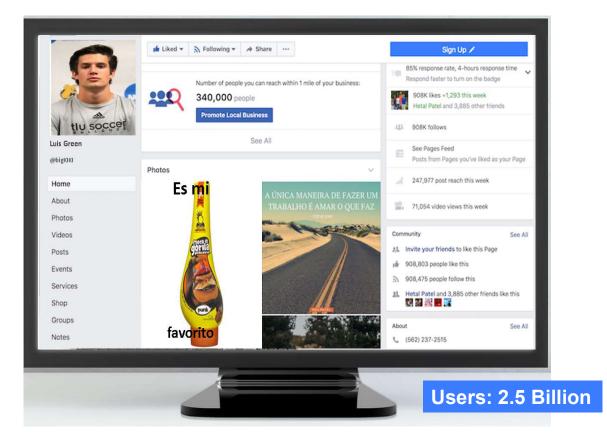
Ad Spaces





Facebook

facebook.



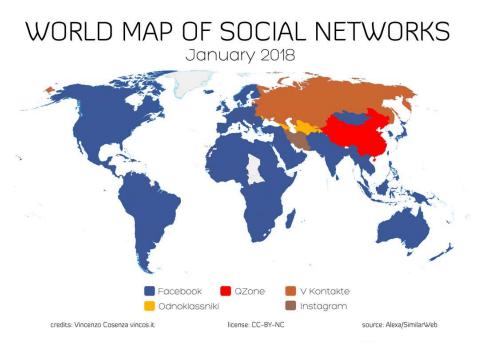
The largest advertising arm, social network, and namesake of the company

Facebook connects people around the world and allows them to communicate and share media

Includes a marketplace, direct messaging, groups, and an alert and news feed

Individuals and organizations use Facebook to communicate with an audience or customers

Facebook







Facebook has rolled out features that have become synonymous with social media

Worldwide, Facebook has the largest reach across the world, despite being banned in China

After the US and Canada, India, Brazil, and Mexico represent the largest portion of users



Facebook



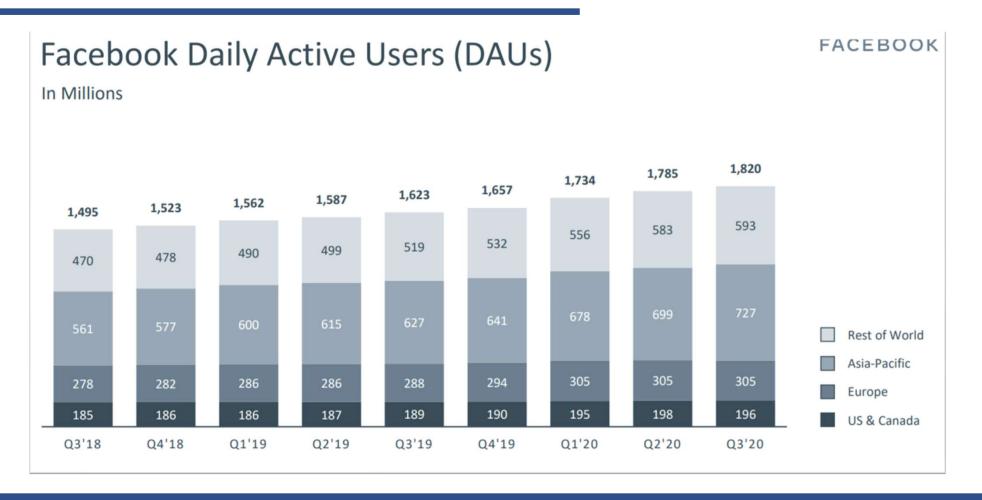
Facebook is constantly rolling out features to increase usage

New marketplace and small business tolls were rolled out this quarter

New functionality with WhatsApp allows small businesses set up a commercial presence across all platforms

Revenues By DAU

facebook.



Revenues By Geography

Revenue by Facebook User Geography

FACEBOOK

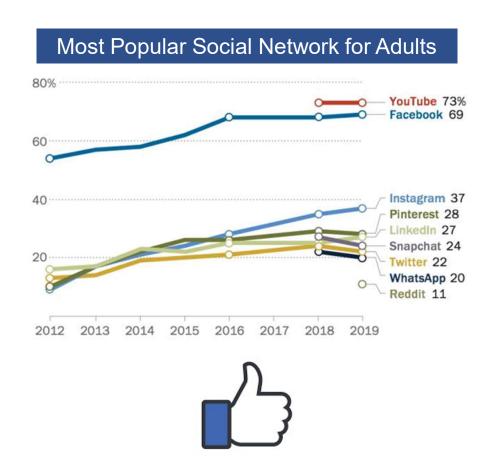
In Millions



In Millions



Facebook



Social media is the 4th largest advertising avenue for brand discovery

Over 10 million advertisers use Facebook

Average age of users: 24-64

Column ads and news feed ads are the main avenues for advertising

Targeted Ads

Almost any action on Facebook sites and apps can generate user data for targeted content and ads.

Targeted ads have been elevated Facebook sales and improved customer returns on investment

This has led to consumer privacy issues

facebook.





Instagram



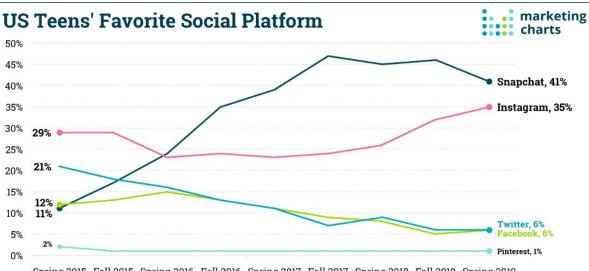
Photo sharing and messaging app purchased by Facebook for \$1 Billion in 2012

Also allows users to post 'Reel's, or brief video updates

User base is generally young, 16-24

Recently rolled out a marketplace

Instagram



Spring 2015 Fall 2015 Spring 2016 Fall 2016 Spring 2017 Fall 2017 Spring 2018 Fall 2018 Spring 2019

Represents an estimated 30% of the company's total advertising revenue

Ads are displayed among user generated posts for seamless target advertising

Instagram is steadily overtaking other trendy apps, such as snapchat

Instagram has become a hub for 'influencers'

WhatsApp



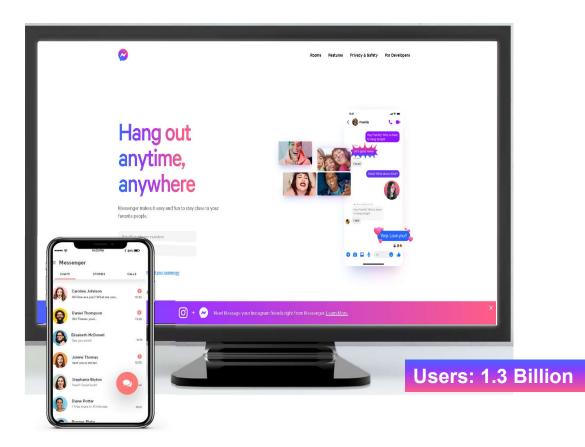
Simple, reliable, private messaging service used throughout the world

Value of the app is its Cross-platform' usability

Mimics the functionality of regular text, call, and video calling, except it is instant, and uses the internet

Service is free, even for international calls

Messenger



Originally developed as Facebook chat in 2008

Features include money transfer, chat bots, location sharing and thirdparty app integration

COVID-19 accelerated traffic by 50%, online calls grew 1000%

Not effectively monetized

Other Revenue

Hardware sales of the Oculus product line also includes revenue earned through payment processing

Technology is still expensive, and developing

Not a significant portion of their total revenue, but may be a significant growth avenue for the future

Think of this segment like Google's other bets



facebook.

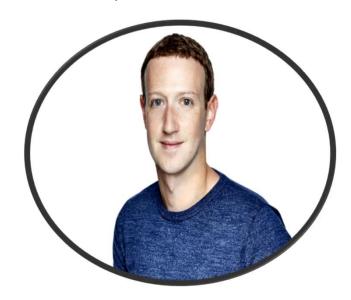
Management

Management

Created Facebook and implemented the social networking tools that made it so successful

His vision for improving the user experience is the reason that Facebook now has over 2.7 billion monthly active users

His long-term mindset allowed Facebook to transition from a small start up network for students into a social media empire **Mark Zuckerberg** Founder, President and CEO



Management

Joined Facebook in 2008 after being the Vice President of Online Global Sales at Google

Helped Facebook transform Facebook's advertising platform using her knowledge of running the Google's ad program since 2001

Transformed Facebook from a profitless network to the second biggest digital advertiser in the world

Sheryl Sandberg Chief Operating Officer



Acquisitions



Acquisitions



Acquired for \$15 million in cash and \$32.5 million in stock.

Allowed Facebook to introduce the Like button and the News Feed.

Founders and developers of Gmail and Google Maps agreed to join the company as part of the deal



Instagram (2012)

Acquired for \$1 billion in an all-cash deal

Instagram was a photo-sharing app which had 30 million users and \$0 in revenue in 2012

Instagram now has over 1 billion users and \$20 billion in total revenue

78.6% of their users are between the ages of 18 and 44.

Acquisitions





Acquired for \$19 billion in cash

Acquired for \$2 billion in cash

Helped fuel Facebook growth in developing markets (400 million users in India and 150 million in Brazil)

Had 500 million users in 2014 and now has over 2 billion users in 180 countries

Growth opportunity for virtual reality gaming and social networking

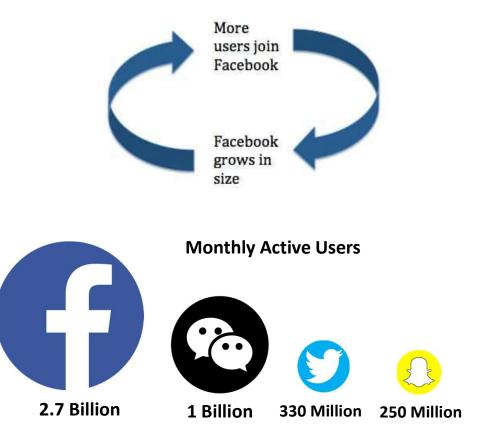
Potentially used in the future for virtual shopping experiences

Economic Moat

Network Effect – Social Media

The more users a Facebook has, the more attractive it becomes for other people to join as well, as the usefulness of the network goes up with the number of users

This creates a winner take-all effect where the social network with the most popularity gains users at a much faster rate than its competitors



Network Effect – Social Media

Social media gives users the platform to project their personal reputation and identity to a large audience.

This causes a "bandwagon effect" where people join the network because they do not want to miss out on the valuable networking tools that Facebook provides

This ensures that Facebook users are not only audience members, but content creators as well

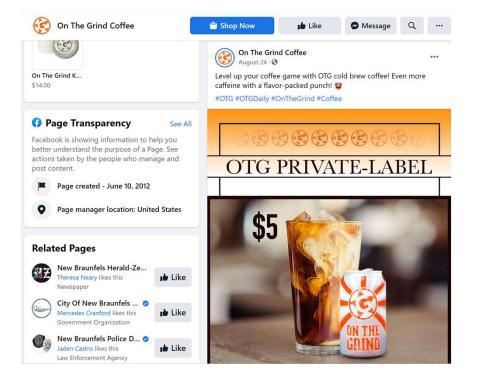


Network Effect – Commerce

Facebook's platforms with have become the most efficient ways for businesses to communicate with their target audience

Over 200 million small and medium sized businesses use Facebook's free tools every single day to conduct their operations

This includes follower reviews, menus, questionnaires, business analytics, reservations, time schedules, and many other tools



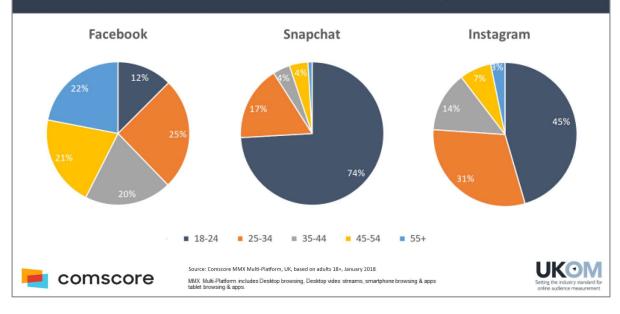
Network Effect – Multiple Platforms

Each Facebook Social Media Platform serves a different purpose and targets a different demographic group, therefore they each have their own network effect

Facebook targets an older demographic, while Instagram targets a younger one

These platforms are used for entertainment and commerce

Facebook & Snapchat: Total Minutes by Age (%)

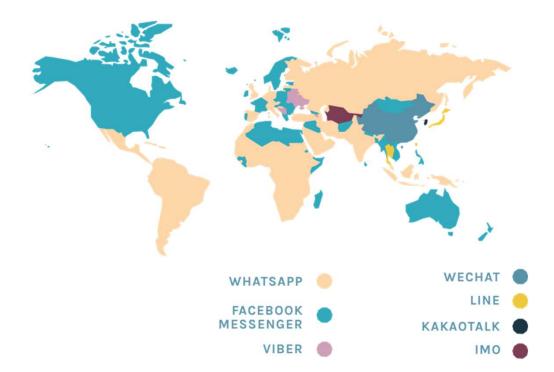


Network Effect – Multiple Platforms

Messenger and Whatsapp are used for direct messaging.

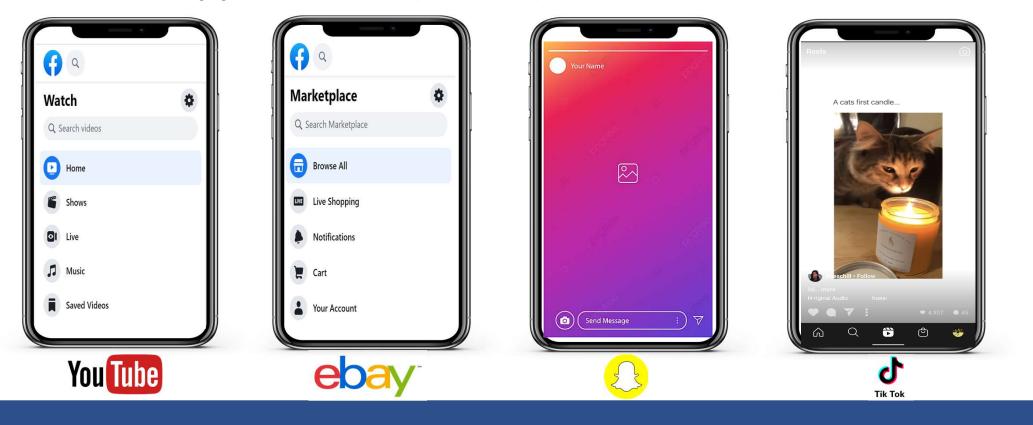
These apps reduce the friction of communication by giving users a common platform.

They contribute to user growth of Facebook and Instagram through platform integration



Intangible Asset – Product Development

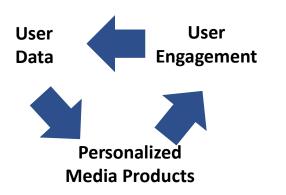
Facebook has been able to replicate the products of competing networks to increase user engagement and decrease power of competitors



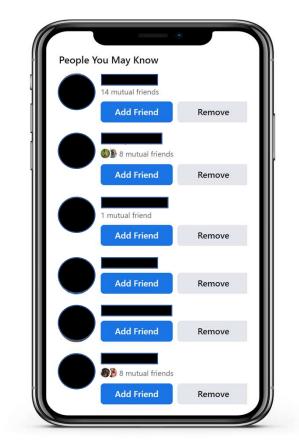
Intangible Asset – Data

Facebook harvests data from its users to create personalized content based on their activity

This increases user engagement and helps Facebook create relevant targeted ads







Switching Costs – Losing Connections

The network effect creates a switching cost since are provided value from the services provided by Facebook

If a user leaves, they will lose access to data, contacts, and unique connections that they can only have through this platform



Scale and Defensibility

These competitive advantages have allowed Facebook to become the biggest social media empire in the world.

	Google	facebook	amazon	
Market Share				
% of Ecommerce Sales			37.7%	
% of Digital Ad Spending	37.2%	22.1%	8.8%	
% of Social Ad Spending		83.3%		
% of Mobile Ad Spending	33.0%	30.8%	5.2%	

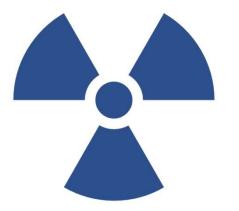
3.5 Billion Monthly Active Users



9 million paid advertisers

Source: eMarketer estimates (2019)

Risk Factors

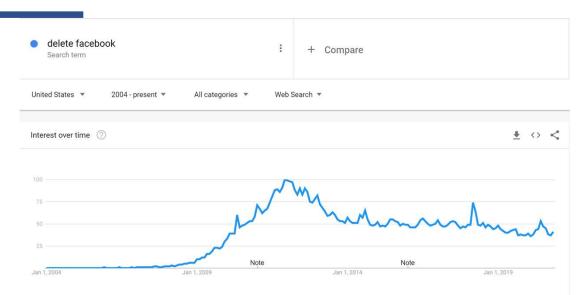


Competitive Risks

Health of the Platform - Consumers leave Facebook for personal issues, social reasons, or disinterest.

Domestic and International Competition – Snapchat & Twitter in the U.S. and WeChat in China.

Dependence On Advertising - 98% of their revenue comes from ads where they compete with big players



Psychological Risks

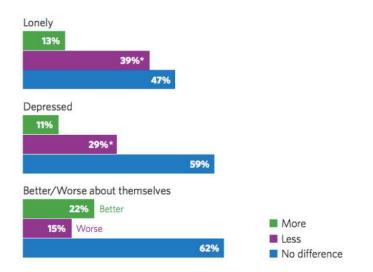
Remember the Social Dilemma

#Addiction

#Depression#Anxiety#Loneliness#Jealousy

FIGURE D. Self-Reported Social Media Effects, 2018

Among low-SEWB 13- to 17-year-old social media users, percent who say using social media makes them feel:



*Statistically significant compared to answers of "more" at the level of *p* < .05. Note: "SEWB" stands for "social-emotional well-being."

Data Privacy Risks

Facebook is continually at risk for data breaches that expose personal data and private information.

Up to 87 million Facebook accounts' data were used to psychologically profile voters in the Cambridge Analytica Scandal of 2016

Facebook has faced lawsuits over the misuse of personal data like the Federal Trade Commission's \$5 billion fee for mishandling data with third-party applications

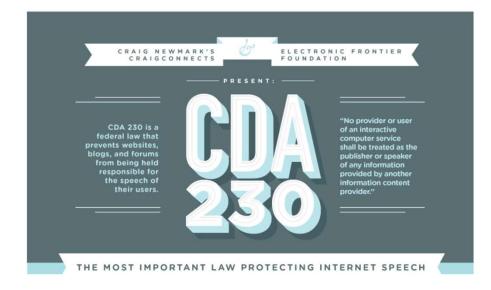




Because of their enormous userbase, Facebook has attracted scrutiny for the hate speech and widespread misinformation that takes place on their platform.

Section 230 protects them from being held responsible, but some argue that it should be abolished

Facebook has become a political tool for users, which could be dangerous if people use it for the wrong reasons



Government Intervention

People argue that Facebook is becoming a "utility" and therefore needs to be regulated as such.

The amount of data that they collect, and their share of total digital advertisement market has attracted antitrust regulation.

Governments have already intervened in places like Europe which require Facebook to protect and store data within certain regions that can't be transferred out



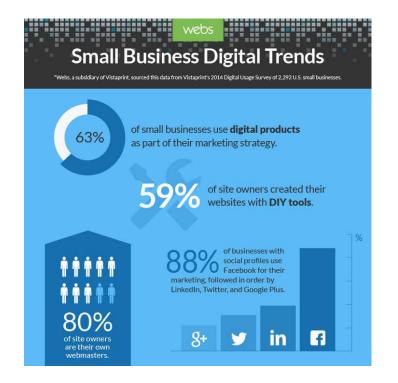
Growth Opportunities



Small Business Growth

Small companies create 1.5 mill jobs annually and account for 64% of new jobs created in the U.S.

Millennials and Gen Zers are 188% more likely to have the aim of creating a side business, compared to Baby Boomers or traditionalists



Growth of E-Commerce

Facebook is pushing people to use the Facebook platforms to conduct their business transactions like Whatsapp Business and Facebook Pay

Facebook Marketplace currently has 900 million users and with the rollout of Facebook and Instagram Shops, more and more transactions are occurring on their platforms

Estimated that if Facebook represents 2% of global e-commerce by 2023 it will gain \$9 billion in net income from shops

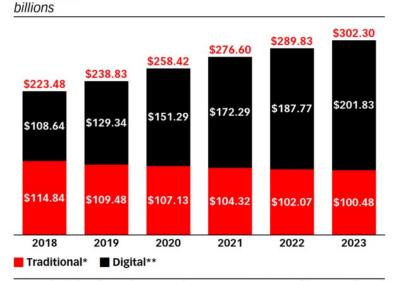


Growth Of Digital Advertising

Facebook dominates digital advertising, having nearly 23% of the market share

This market is constantly growing as ad dollars shift from traditional advertising to digital advertising

Digital advertising provides superior returns on investment which attracts firms with both small and large advertising budgets



Total Media Ad Spending in the US, Traditional vs. Digital,

Note: *includes directories, magazines, newspapers, out-of-home, radio and TV; **includes advertising that appears on desktop and laptop computers as well as mobile phones, tablets and other internet-connected devices, and includes all the various formats of advertising on those platforms; includes SMS, MMS and P2P messaging-based advertising Source: eMarketer, February 2019

T10045

2018-2023

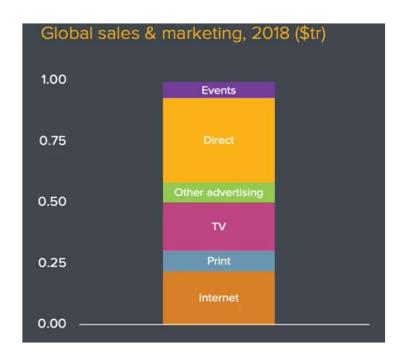
www.eMarketer.com

Growth Of Digital Advertising

Facebook has less than 10% of the total global sales & advertising market

There is a still a long runway for growth as traditional advertising converts to digital all over the world.

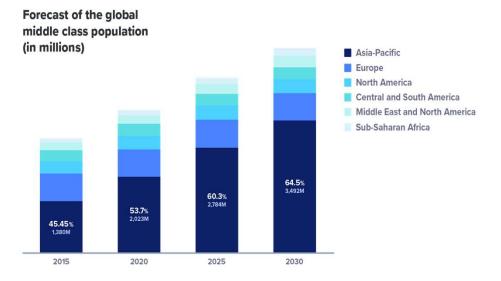
"e-commerce share of U.S. retail sales was steadily increasing by an average of 1percentage point a year for the past four years and increased by 4% points during Q2"



Growth in Global Disposable Income

Facebook is spread around the entire world, but it generates more revenue from places with higher disposable income

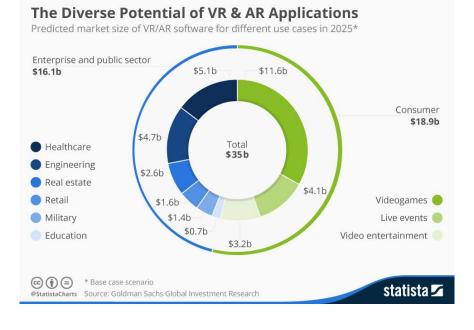
As less developed countries continue to grow and digital advertising becomes more relevant there, Facebook's average revenue per user will increase



Virtual and Augmented Reality

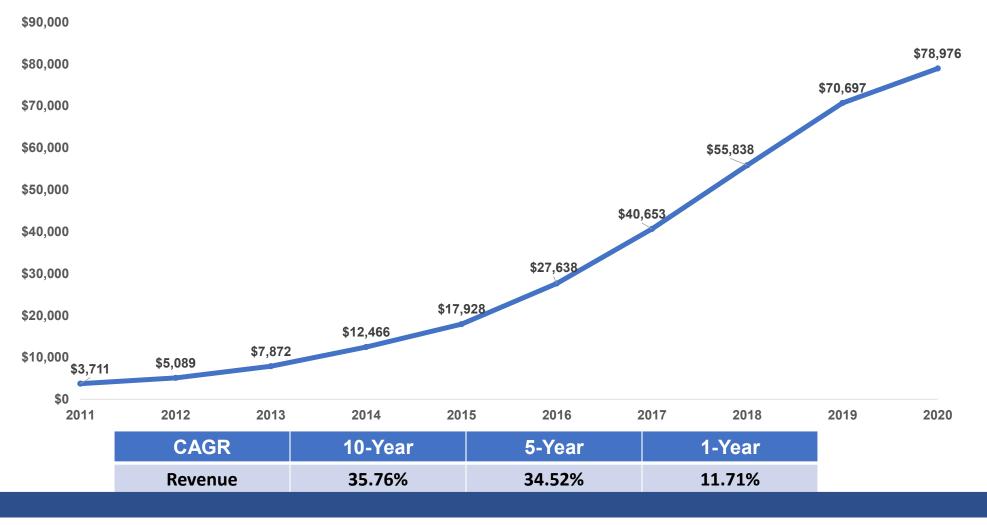
Virtual Reality has the potential to create whole new network effects for gaming, commerce, communication, and social networking

This could allow Facebook to have a whole new opportunity to be the main provider of exclusive hardware for Augmented and Virtual Reality.





Revenue

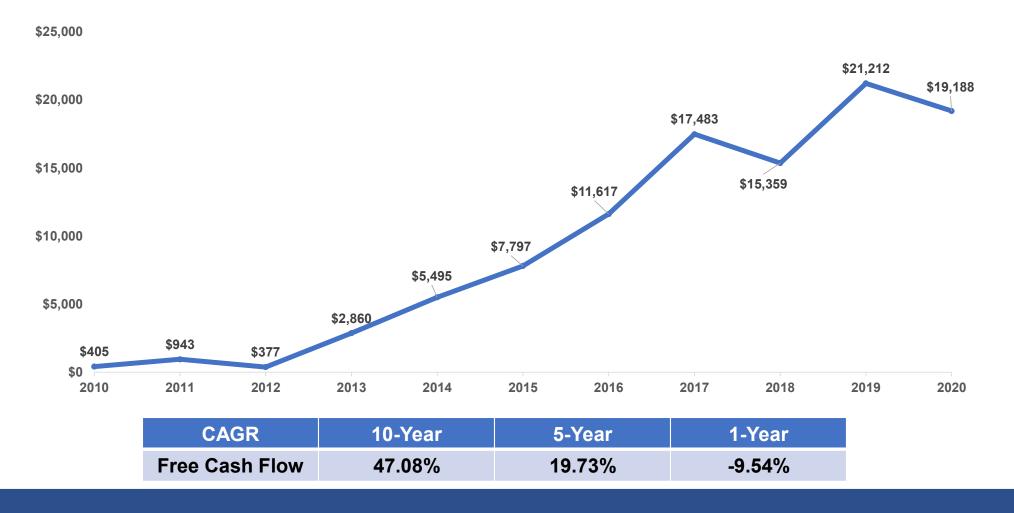


Net Income

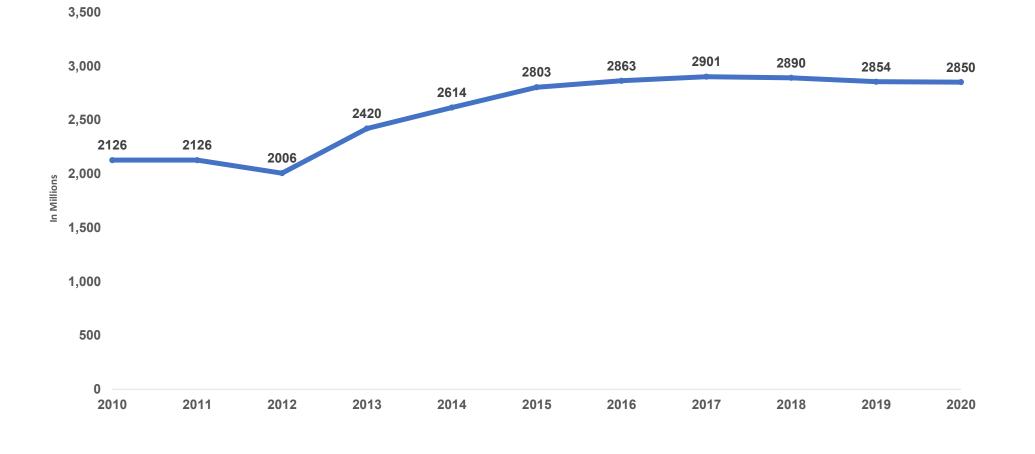


Net Income 45.21% 46.95% 36.73%

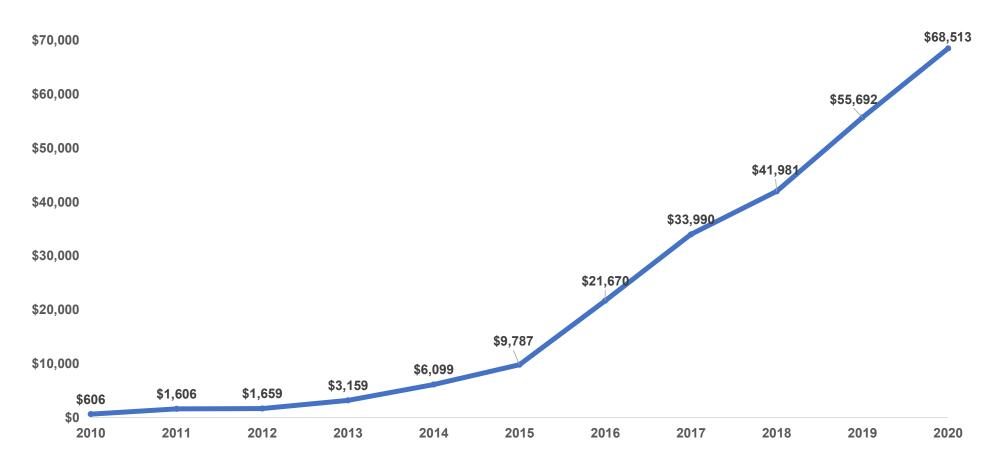
Free Cash Flow



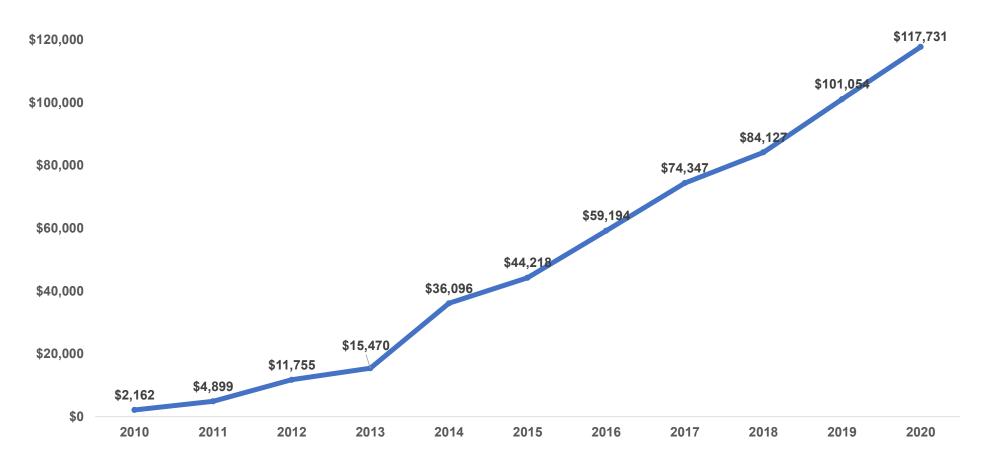
Shares Outstanding



Retained Earnings

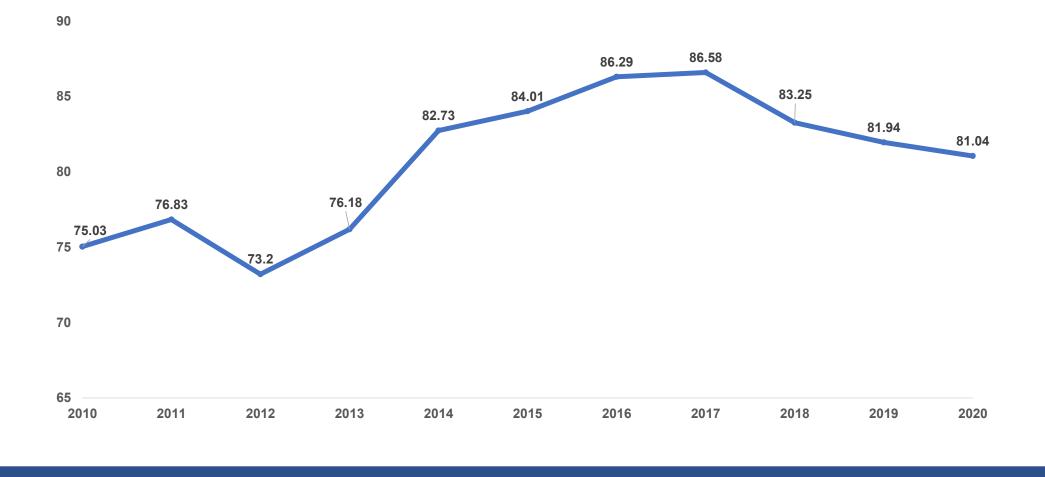


Shareholder's Equity



facebook.

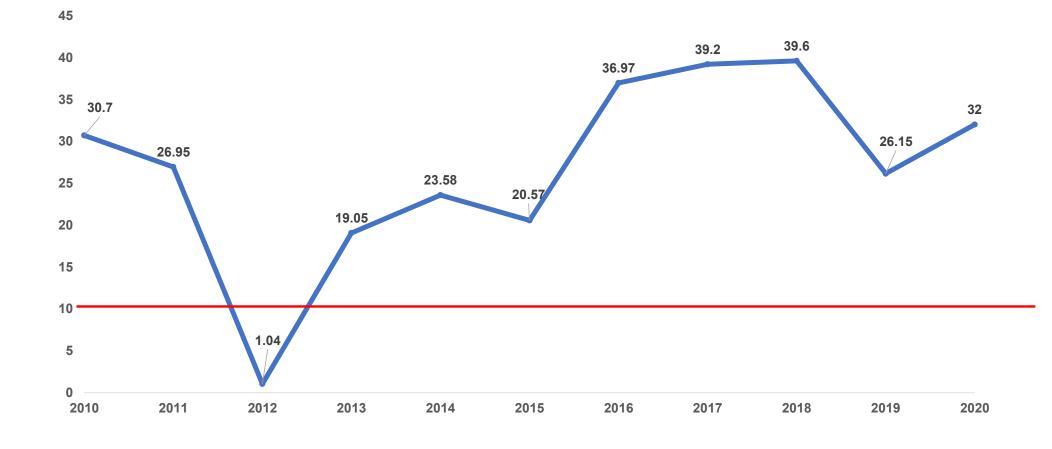
Gross Profit Margin



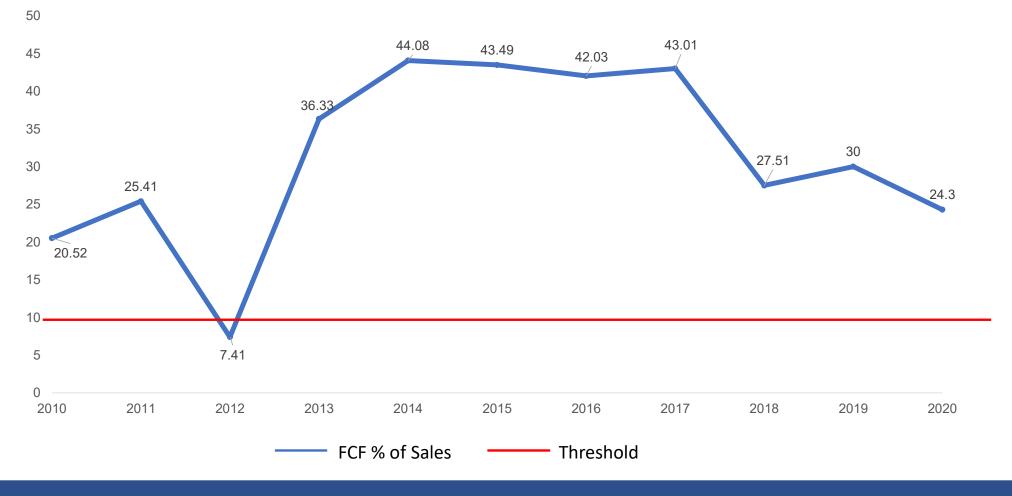
Operating Margin



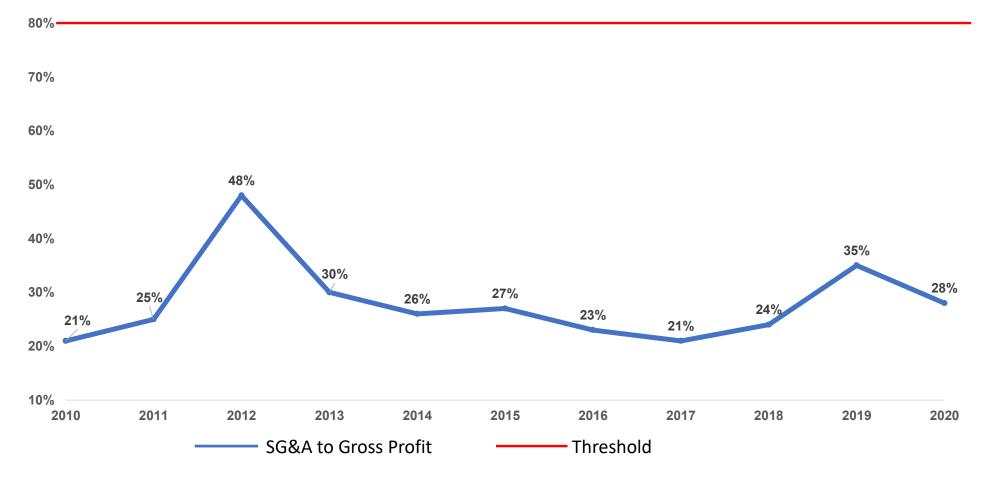
Net Profit Margin



FCF Margin

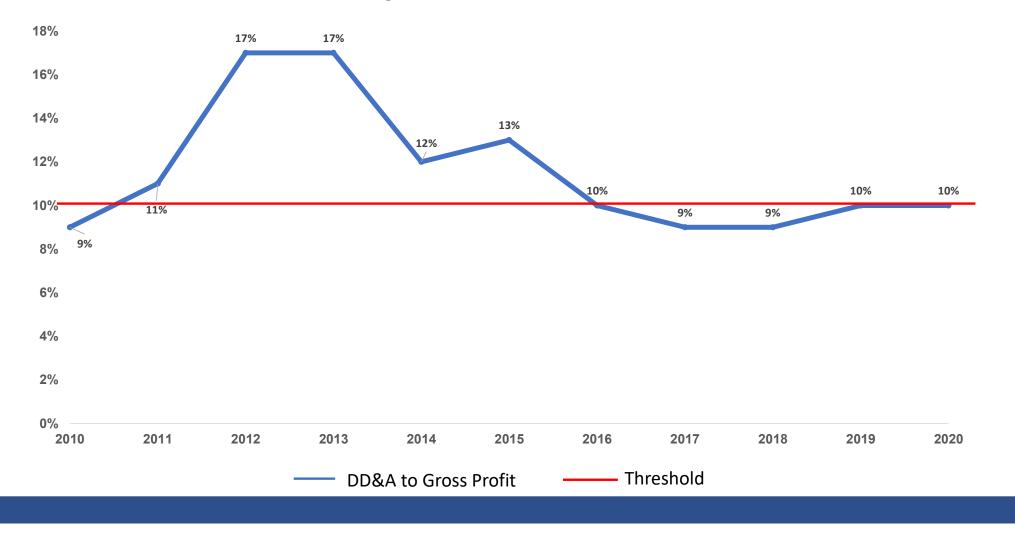


SG&A. Expenses to Gross Profit





DD&A Expenses to Gross Profit



Obligation Ratio

LT Debt	0
ST Debt	0
Leases*7	7595
Pension SF	
Preferred	
Stock	0
Cash Assets	-55620
	(Projected 2020)
Net Income	22800
Obligation	
Ratio	<mark>-2.10636</mark>

DuPont Analysis



DuPont Historical

	Net Profit Margin	Total Asset Turnover	Financial Leverage Multiplier	Return on Equity
2010	30.7%	0.66	1.38	17.21%
2011	27.0%	0.59	1.29	18.92%
2012	1.0%	0.34	1.28	0.38%
2013	19.1%	0.44	1.16	10.95%
2014	23.6%	0.31	1.11	11.34%
2015	20.6%	0.36	1.12	9.14%
2016	37.0%	0.43	1.10	19.70%
2017	39.2%	0.48	1.14	23.84%
2018	39.6%	0.57	1.16	27.90%
2019	26.2%	0.53	1.32	19.96%
TTM	32.0%	0.54	1.24	23.91%

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DuPont Competition

	f	G	a	
Net Profit Margin	26.20%	21.22%	4.13%	42.37%
Total Asset Turnover	0.53	0.59	1.25	0.27
Financial Leverage Multiplier	1.32	1.37	3.63	1.46

DuPont Competition

	f	G	a	
Net Profit Margin	26.20%	21.22%	4.13%	42.37%
Total Asset Turnover	0.53	0.59	1.25	0.27
Financial Leverage Multiplier	1.32	1.37	3.63	1.46

DuPont Competition

	f	G	a	
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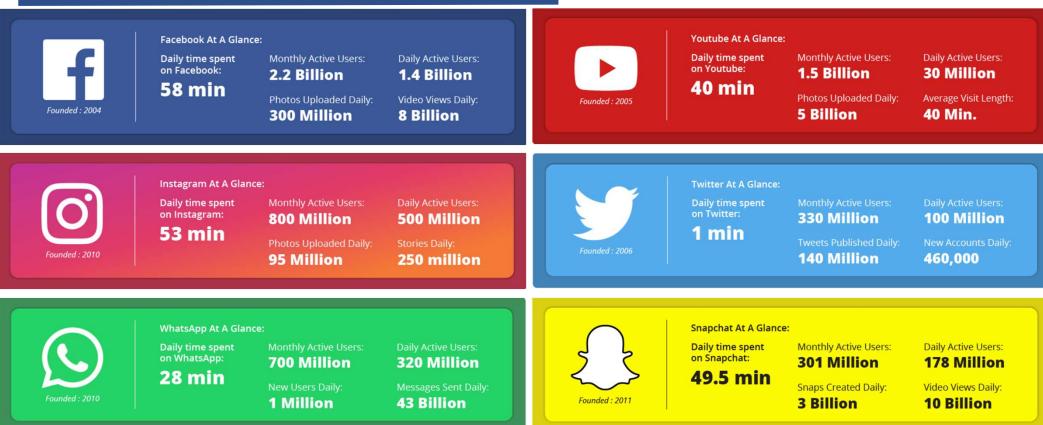
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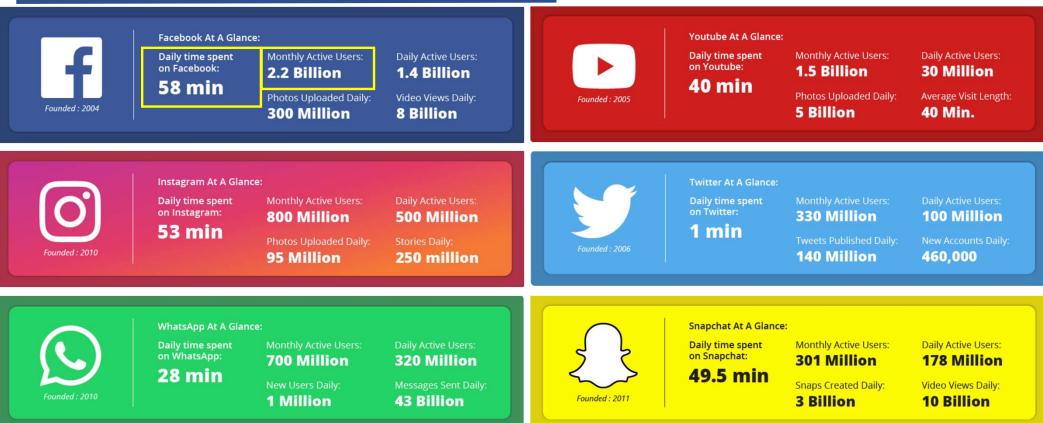
Industry Breakdown

	f	G	a	
Market Cap	\$803B	\$1.23T	\$1.6T	\$38B
Revenue	\$79B	\$171B	\$348B	\$3.4B
P/E	33	35	93	17
P/S	10	8	5	11
P/B	7	6	19	5
EV/EBIT	26	28	73	41
ROC	64%	46%	20%	32%
ROE	24%	18%	26%	-15%
ROE Adj to BV	3.4%	3.0	1%	-3%
Op Margin	36%	20%	6%	-2%
Net Margin	32%	21%	5%	-36%

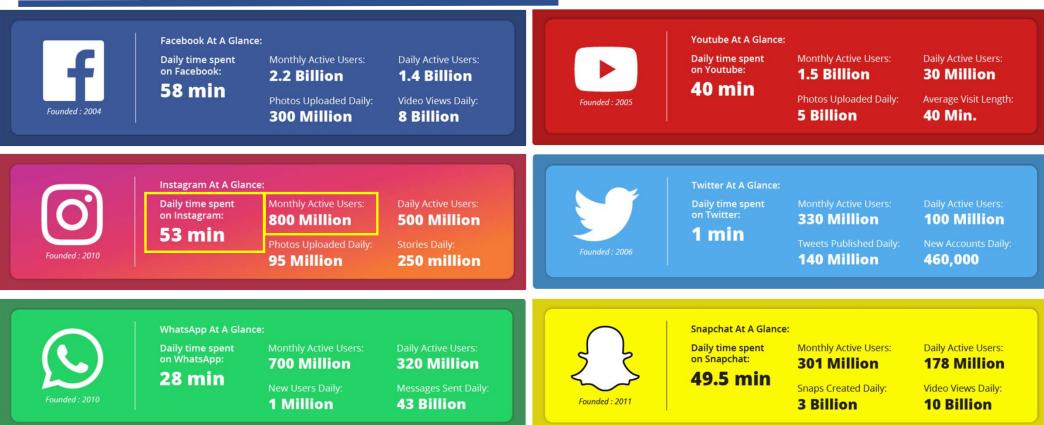




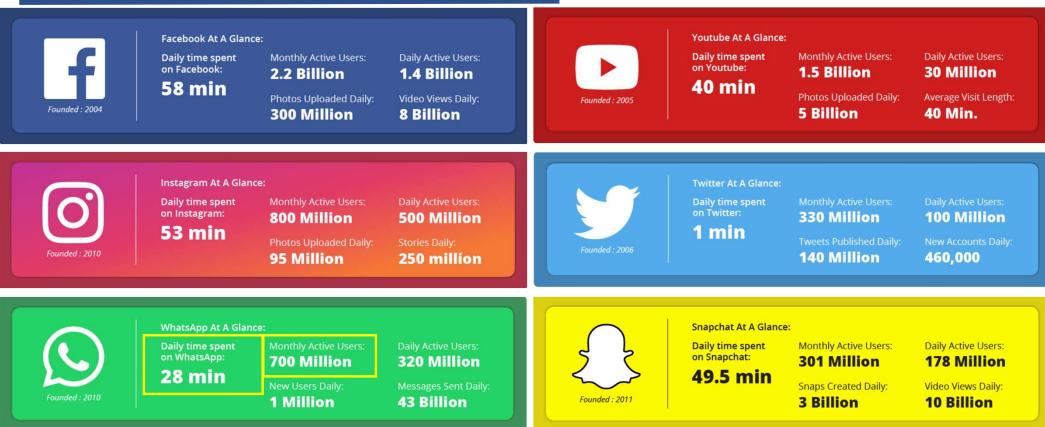


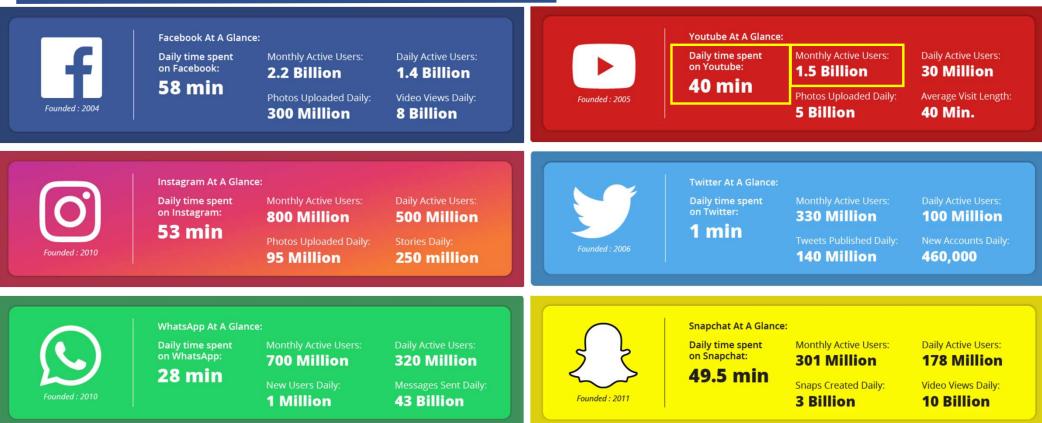




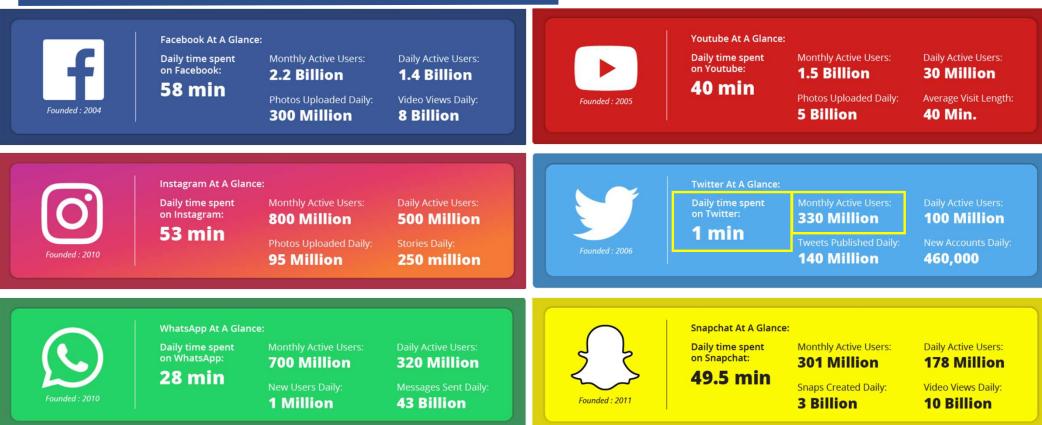




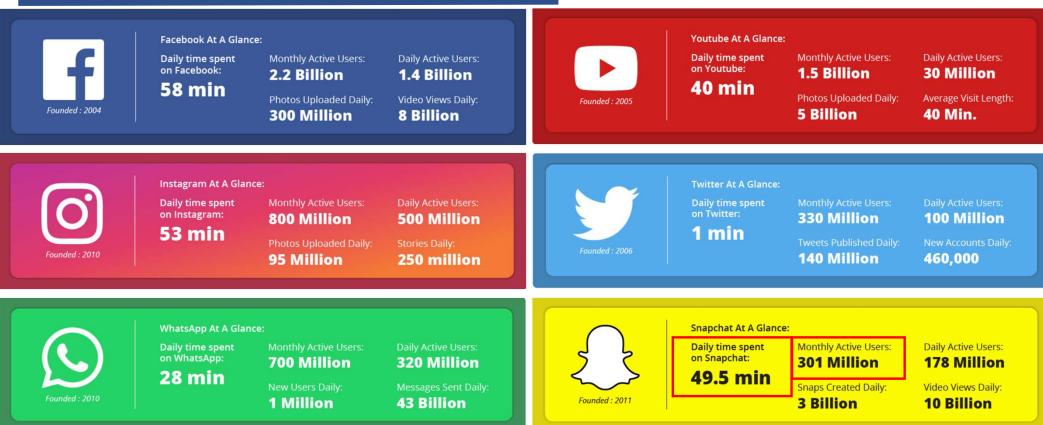








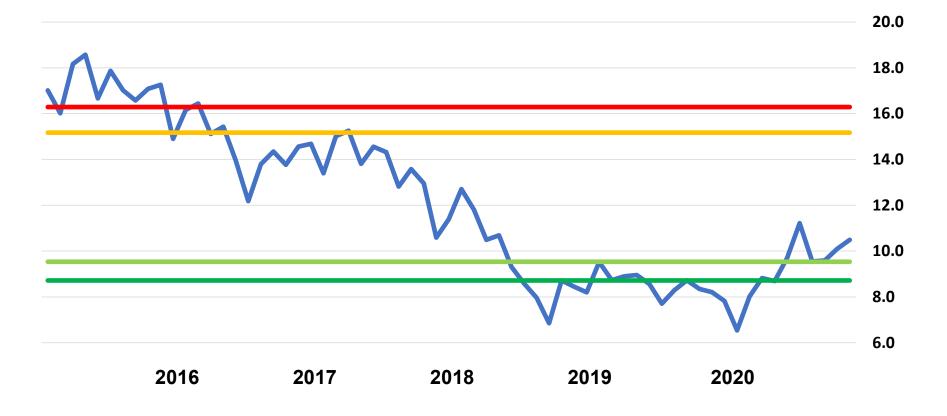




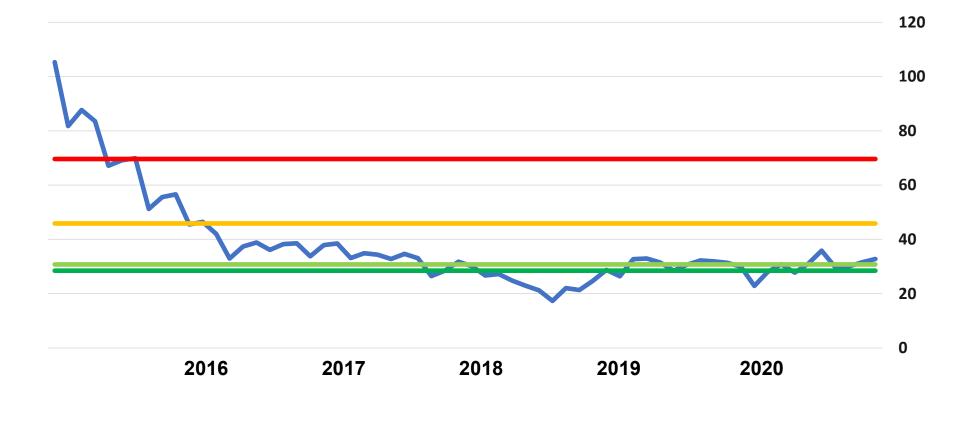
Value Bands



Price to Sales

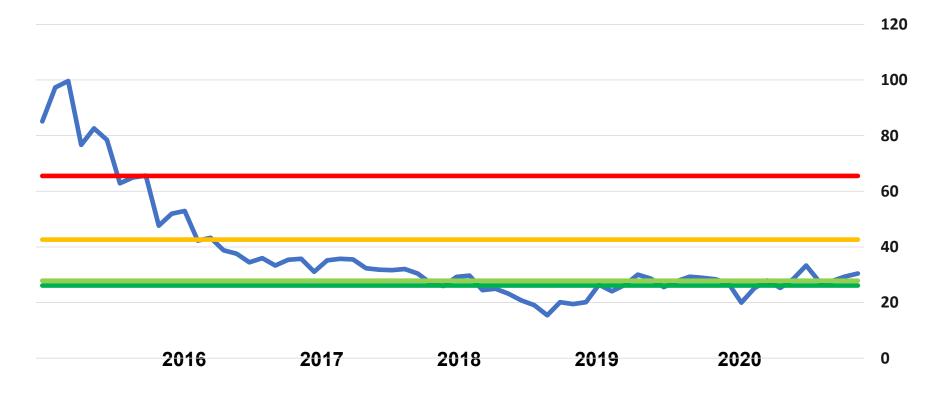


Price to Earnings

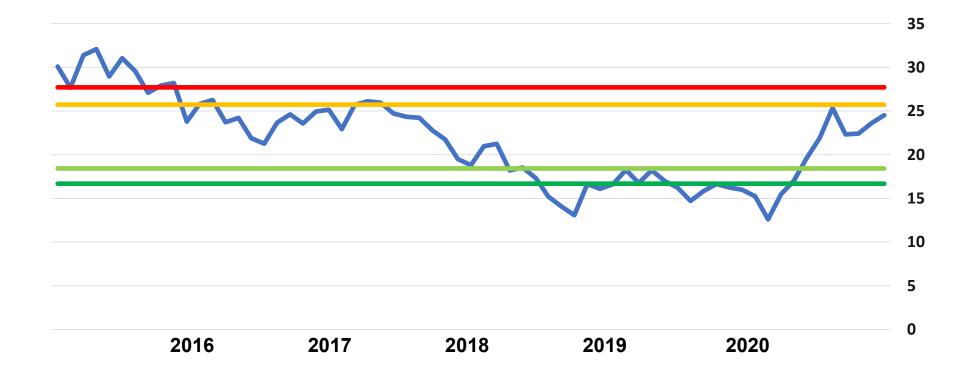




Price to Earnings Less Cash



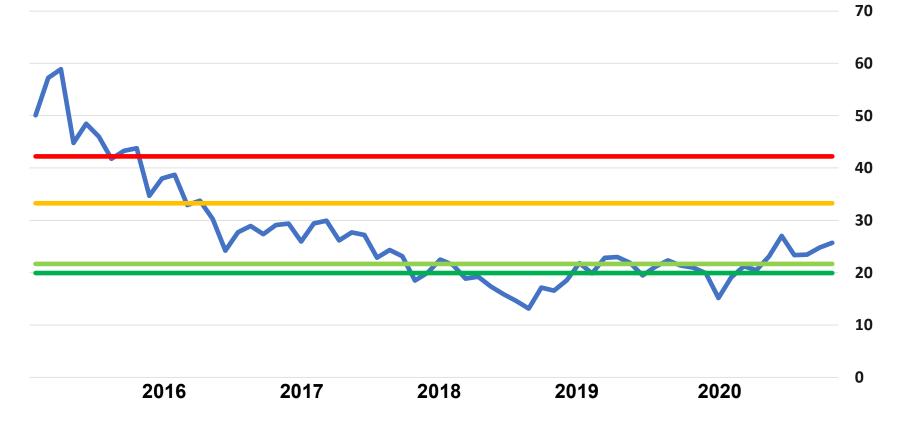
Price to Cash Flow



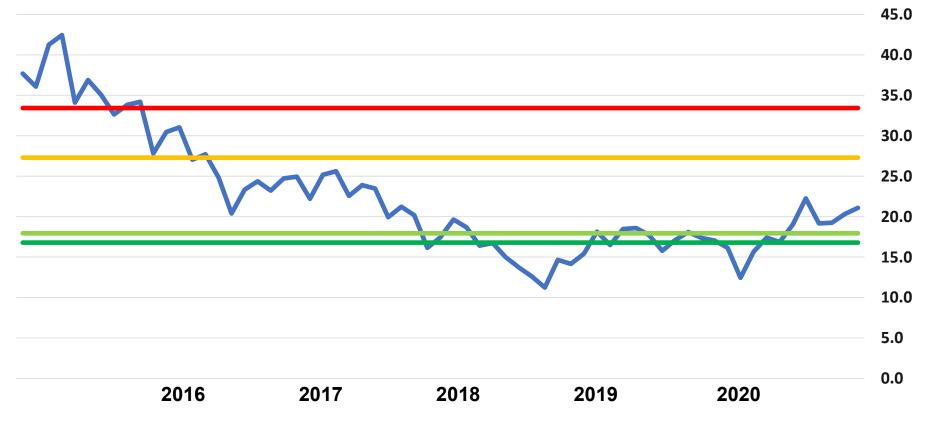
EV to Revenue



EV to EBIT

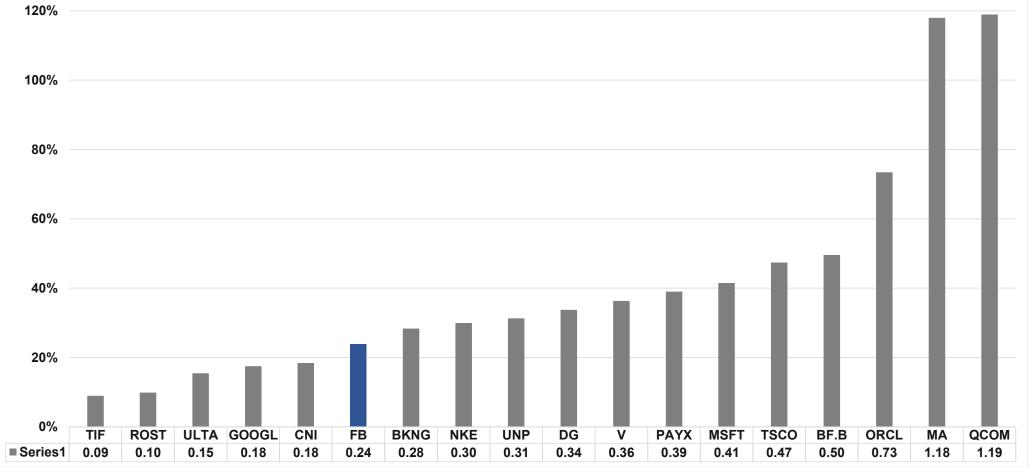


EV to EBITDA

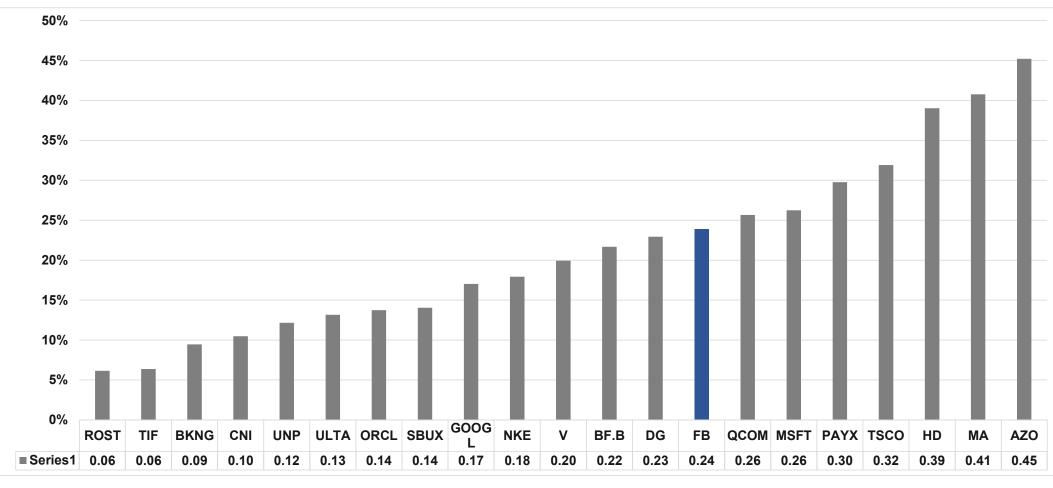


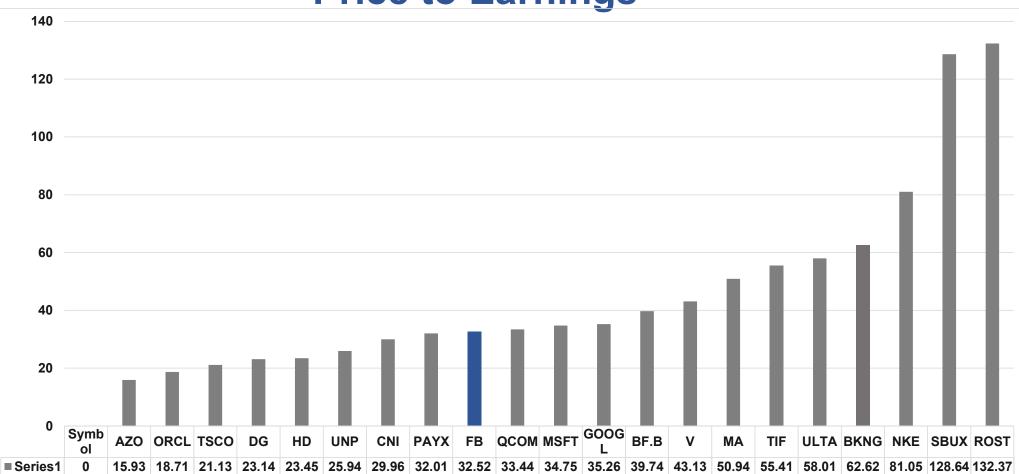


Return on Equity



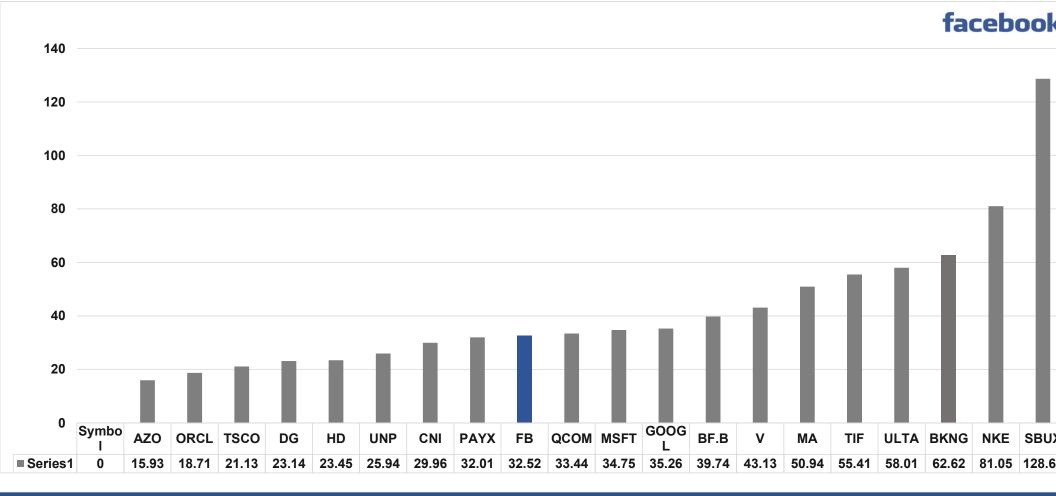
Return on Invested Capital



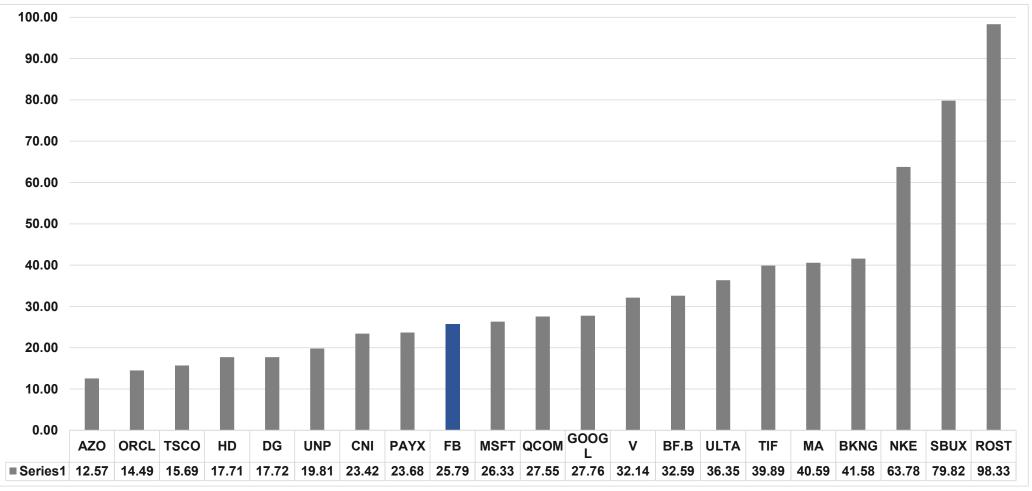


Price to Earnings

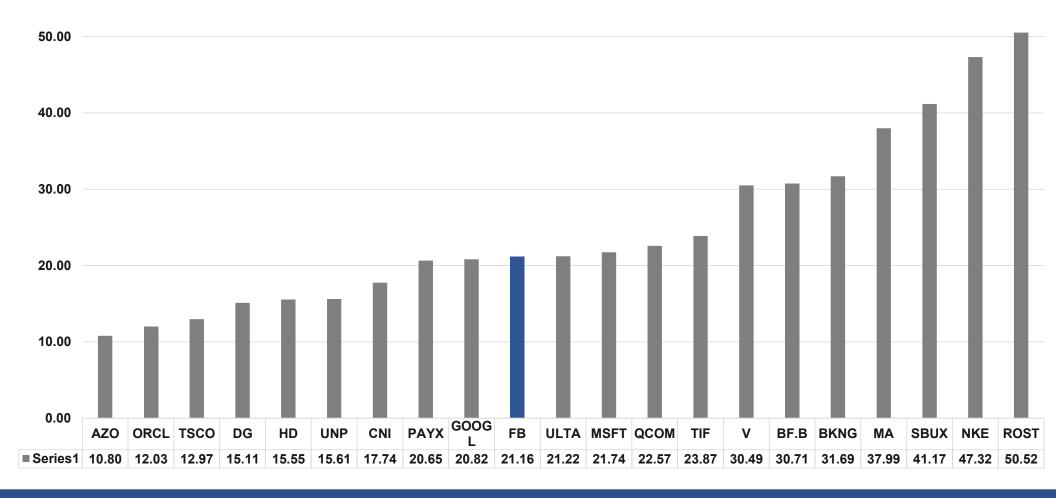
Price to Free Cash Flow



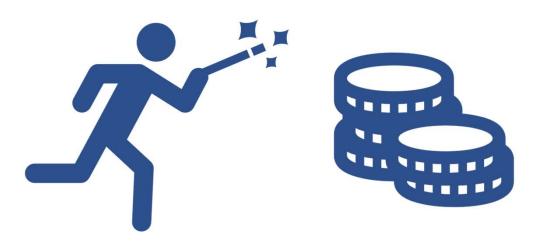
EV to EBIT



EV to EBITDA



5 Year Magic DCF



		5 ye	ar EPS p	rojection	Ì	[Pric	e to meet 5 year IRR of 15%	
			-	-				P/E	Projected Price		
		Current	2021	2022	2023	2024	2025	20.0x	\$312.11	\$	156
Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234
	5yr growth	estimate	13%	13%	13%	13%	13%	40.0x	\$624.22	\$	312
		Current	2021	2022	2023	2024	2025	20.0x	\$340.72	\$	170
Base	EPS	\$8.47	9.74	11.20	12.88	14.82	17.04	30.0x	\$511.09	\$	256
	5yr growth	estimate	15%	15%	15%	15%	15%	40.0x	\$681.45	\$	341
		Current	2021	2022	2023	2024	2025	20.0x	\$387.55	\$	194
Bull	EPS	8.47	9.99	11.79	13.92	`16.42	19.38	30.0x	\$581.32	\$	291
	5yr growth	estimate	18%	18%	18%	18%	18%	40.0x	\$754.09	\$	388

		5 ye	ear EPS p	rojection	1				Price	e to meet 5 year IRR of 15%	
			_	-				P/E	Projected Price		
		Current	2021	2022	2023	2024	2025	20.0x	\$312.11	\$	156
Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234
	5yr growt	n estimate	13%	13%	13%	13%	13%	40.0x	\$624.22	\$	312
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		5 ve	oar FPS n	rojection			[Pric	ce to meet 5 year IRR of 15%
		J yc		lojeetion				P/E	Projected Price		
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Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234
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	EPS	\$8.47	9.74	11.20	12.88	14.82	17.04	30.0x	\$511.09	\$	256
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		5 ye	ear EPS p	rojection	1						Price to meet 5 year IRR of 15%	
		-	•	-				P/E	Projected Price			
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Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234	
	5yr growth	estimate	13%	13%	13%	13%	13%	40.0x	\$624.22	\$	312	
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		-										
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		Current	2021	2022	2023	2024	2025	20.0x	\$340.72	\$	170
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			·					P/E	Projected Price		
		Current	2021	2022	2023	2024	2025	20.0x	\$312.11	\$	156
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		-									
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		<i></i> ,	.a	. ojeenoi				P/E	Projected Price		
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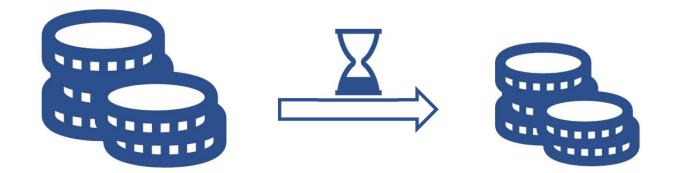
		5 ye	ear EPS p	rojection)		[Pric	e to meet 5 year IRR of 15%
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		-									
		Current	2021	2022	2023	2024	2025	20.0x	\$312.11	\$	156
Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234
	5yr growt	h estimate	13%	13%	13%	13%	13%	40.0x	\$624.22	\$	312
		Current	2021	2022	2023	2024	2025	20.0x	\$340.72	\$	170
Base	EPS	\$8.47	9.74	11.20	12.88	14.82	17.04	30.0x	\$511.09	\$	256
	5yr growt	h estimate	15%	15%	15%	15%	15%	40.0x	\$681.45	\$	341
		Current	2021	2022	2023	2024	2025	20.0x	\$387.55	\$	194
Bull	EPS	8.47	9.99	11.79	13.92	`16.42	19.38	30.0x	\$581.32	\$	291
	5yr growt	h estimate	18%	18%	18%	18%	18%	40.0x	\$754.09	\$	388

		5 ye	ear EPS p	rojectior	1		[Price to meet 5 year IRR of 15%	
		-	•	-				P/E	Projected Price		
		Current	2021	2022	2023	2024	2025	20.0x	\$312.11	\$	156
Bear	EPS	8.47	9.57	10.81	12.22	13.80	15.61	30.0x	\$468.16	\$	234
	5yr growt	h estimate	13%	13%	13%	13%	13%	40.0x	\$624.22	\$	312
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Bull	EPS	8.47	9.99	11.79	13.92	`16.42	19.38	30.0x	\$581.32	\$	291
	5yr growt	h estimate	18%	18%	18%	18%	18%	40.0x	\$754.09	\$	388

Discounted Cash Flow



DCF BEAR CASE

Earnings Per Share	\$8.47
Growth Rate in 10 Years	13%
Terminal Growth Rate	6%
Years of Terminal Growth Rate	10
Discount Rate	9%
Fair Value	\$227.73
Margin Of Safety	-23.76%

DCF Base Case

Earnings Per Share	\$8.47
Growth Rate in 10 Years	15
Terminal Growth Rate	6
Years of Terminal Growth Rate	10
Discount Rate	9
Fair Value	259.06
Margin Of Safety	-8.81%

DCF Bull Case

Earnings Per Share	8.47
Growth Rate in 10 Years	18
Terminal Growth Rate	6
Years of Terminal Growth Rate	10
Discount Rate	9
Fair Value	314.99
Margin Of Safety	10.52%

Recommendation



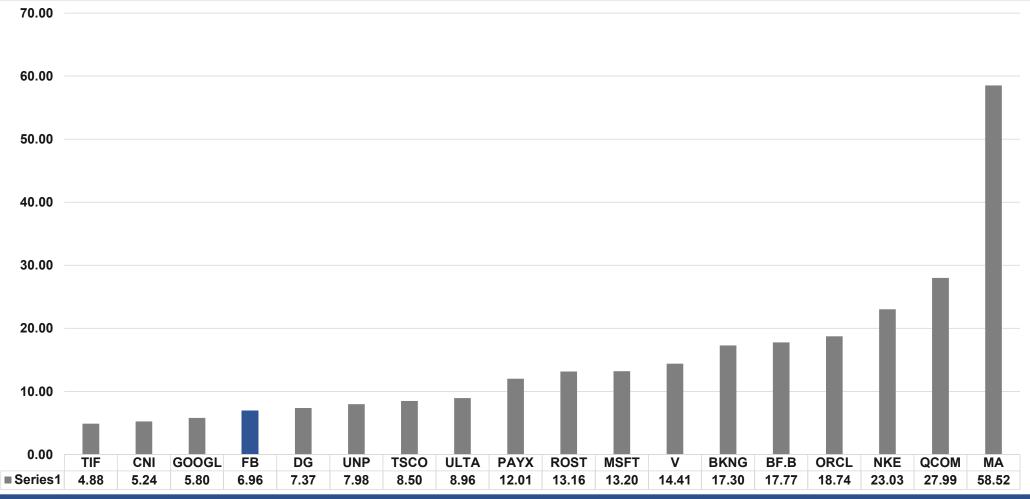
Recommendation

Limit Order @ \$280 3%-5% of the portfolio



Appendix IIIIII

Price to Book



Useful Resources

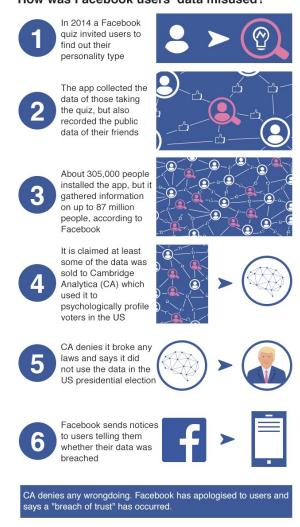
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Useful Resources

Facebook's Response to Conserns over Consumer Data

https://www.vox.com/recode/2020/8/26/21402457/apple-facebook-advertising-tracking-ios14 https://about.fb.com/news/2019/08/off-facebook-activity/ https://about.fb.com/news/2020/02/big-tech-needs-more-regulation/

How was Facebook users' data misused?



Facebook Ramps Up Efforts Against Hate Speech

Pieces of content removed/flagged by Facebook for containing hate speech

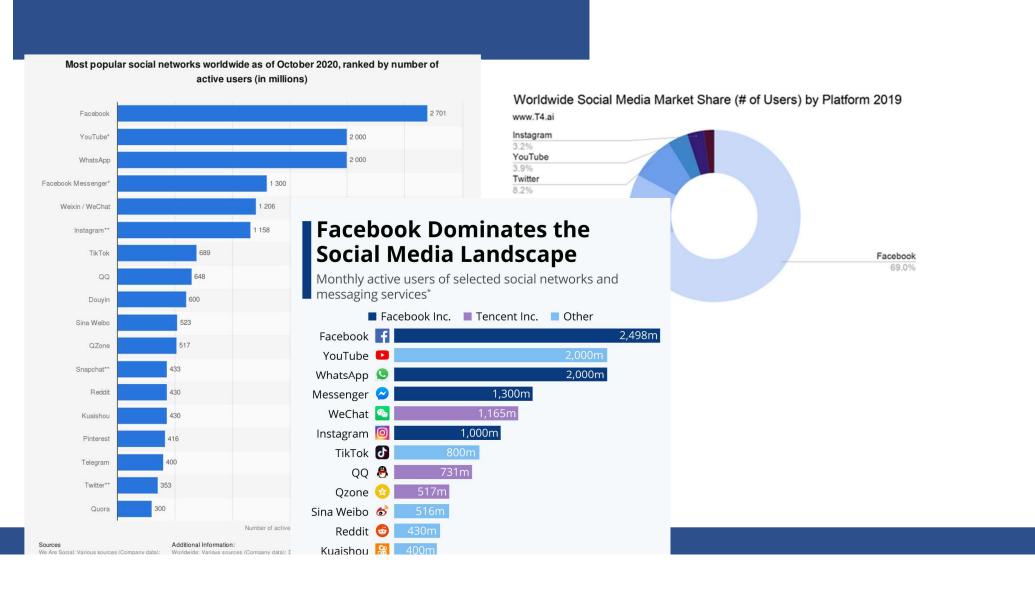


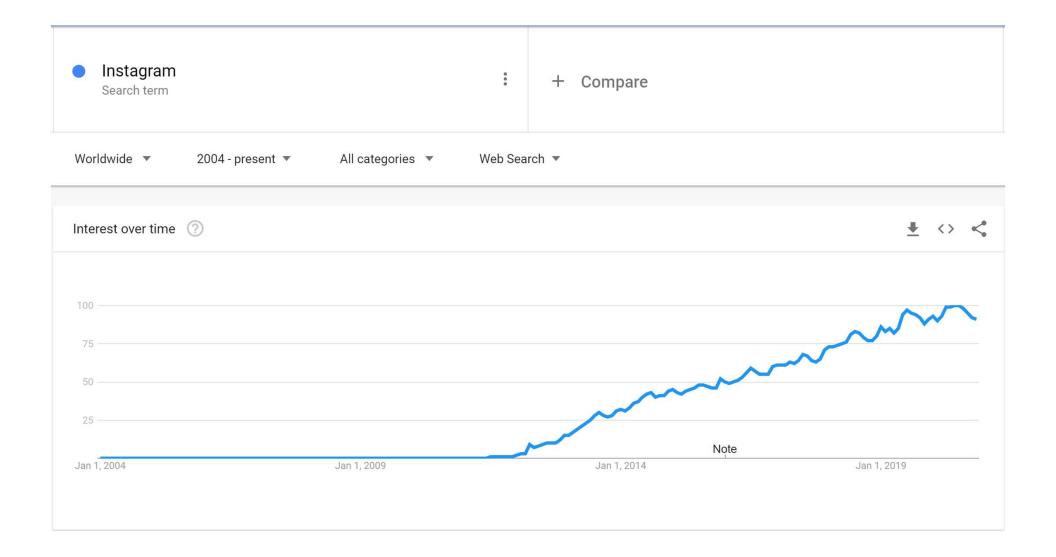
* Percentage of violating content found and flagged before users reported it (mostly through AI) Source: Facebook

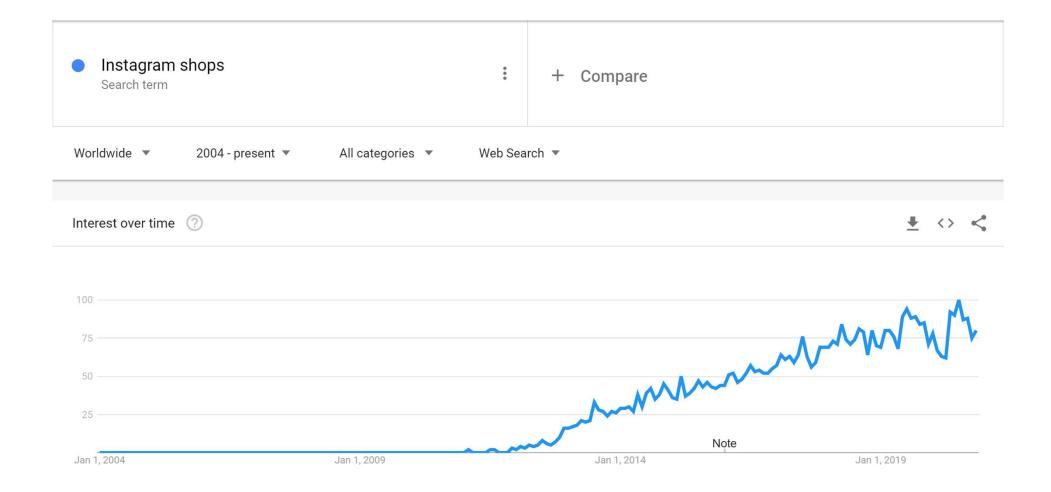


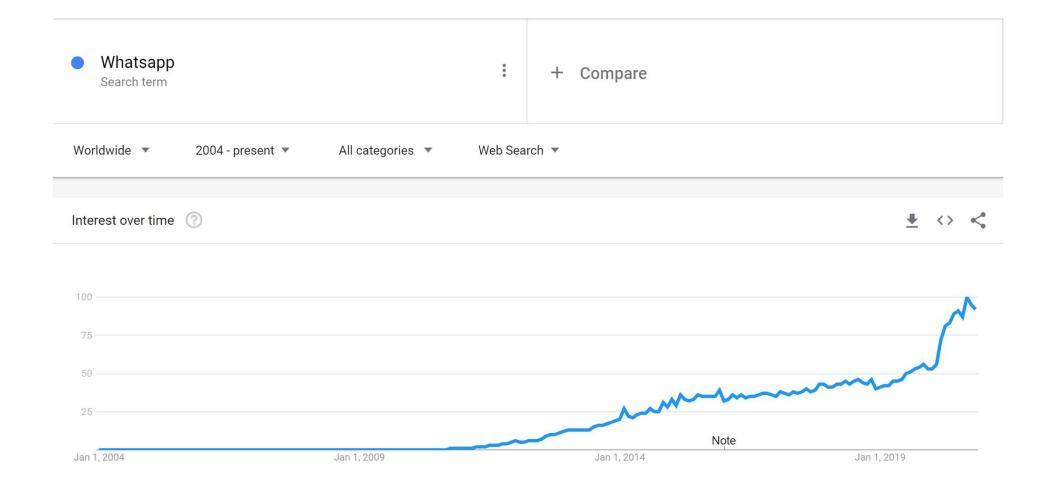


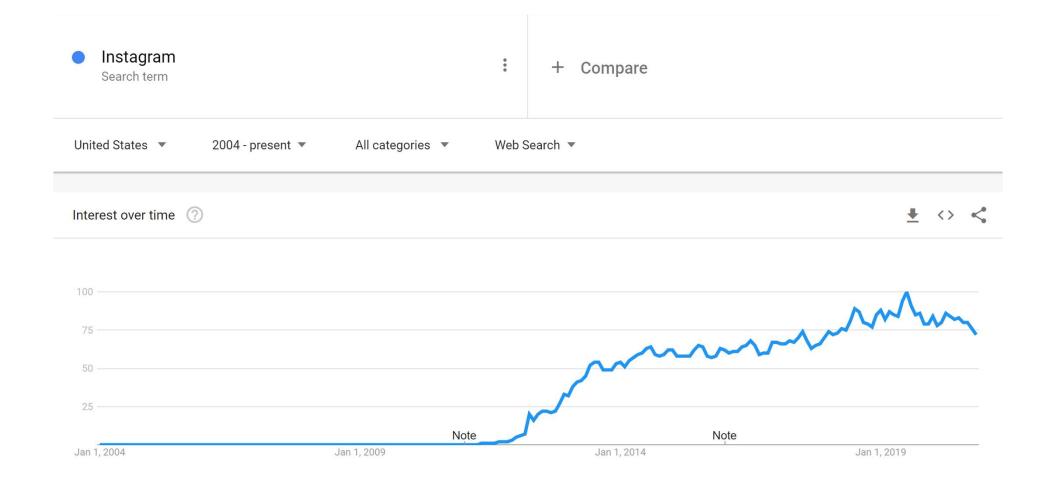
*MAU and Revenue from 2019	FB	GOOG	TWTR
ARPU (Average Revenue Per User)	\$28	\$162	\$67
MAU (Monthly Active Users)	1 Billion	2.5 Billion	50.7 Million



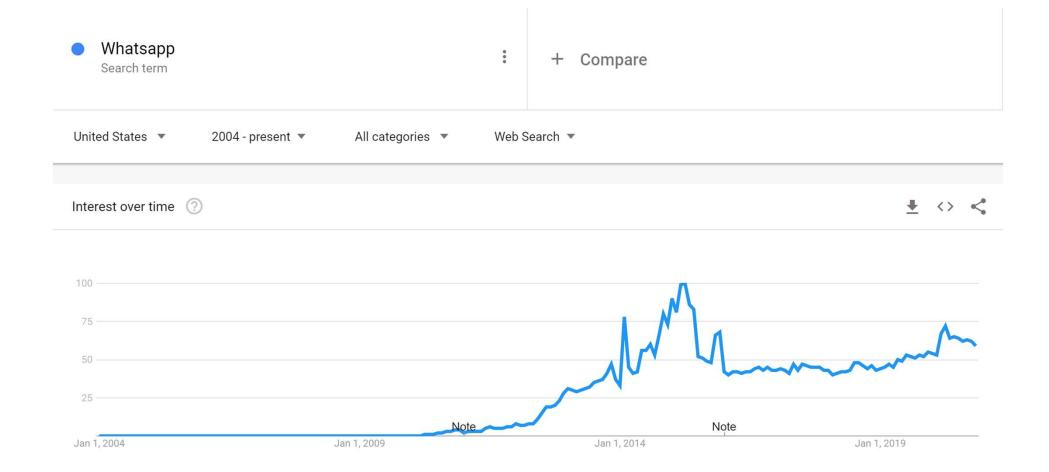




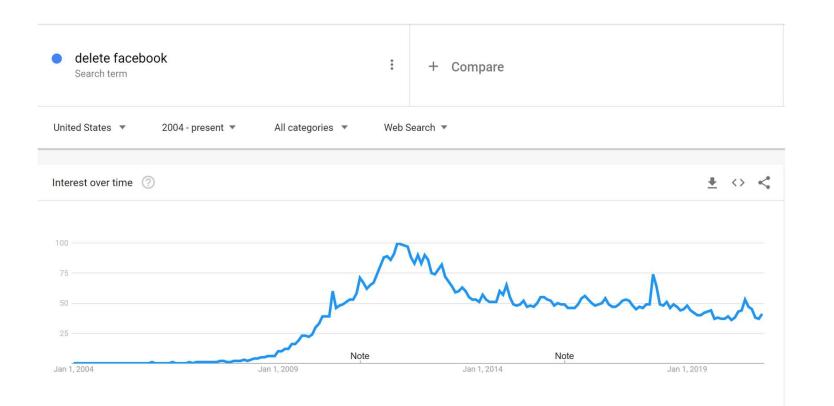




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50			
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Jan 1, 2004	Jan 1, 2009	Jan 1, 2014	Jan 1, 2019

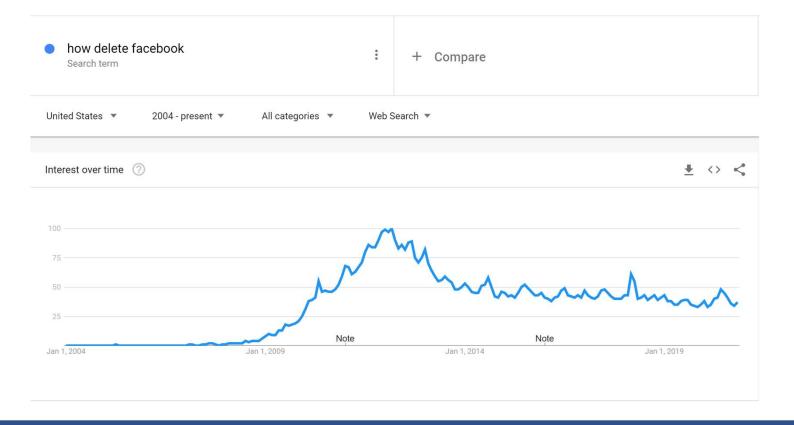


Decline in Backlash Against Facebook





Decline in Backlash Against Facebook



Increase In Platform Popularity

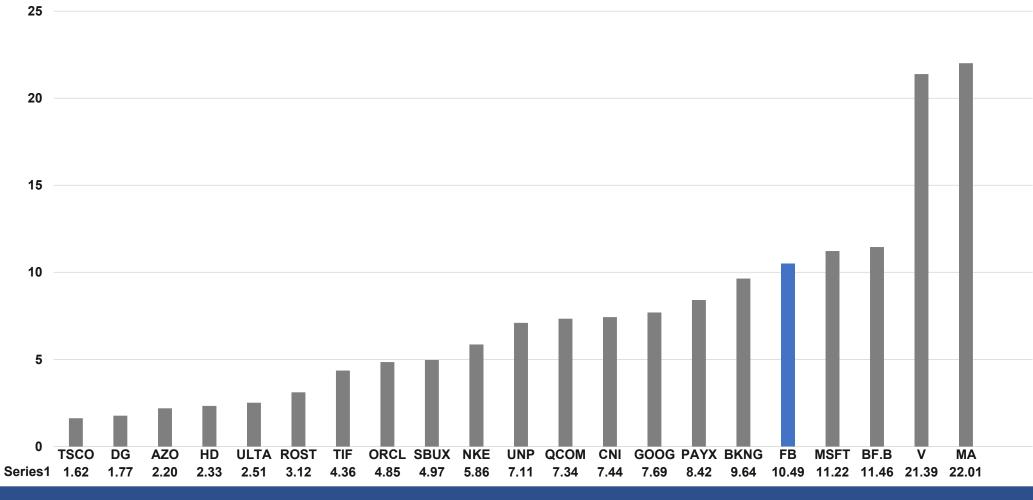
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Increase In Platform Popularity

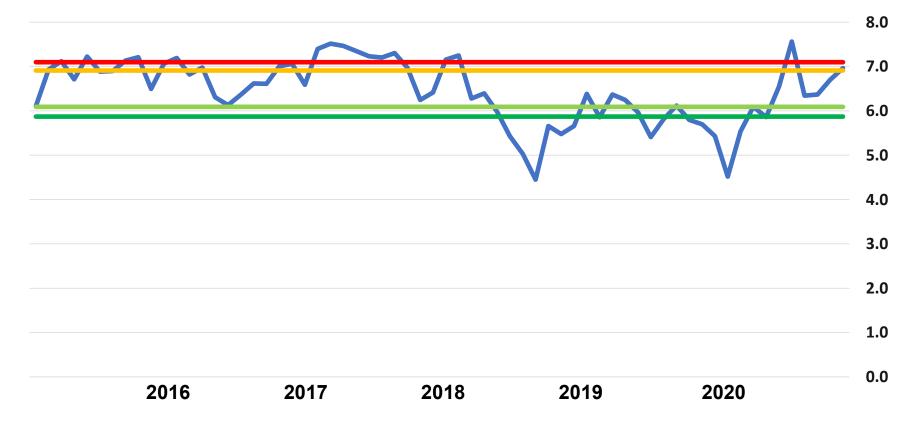
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Price to Sales



Price to Book



Price to Free Cash Flow

