

Video Gaming

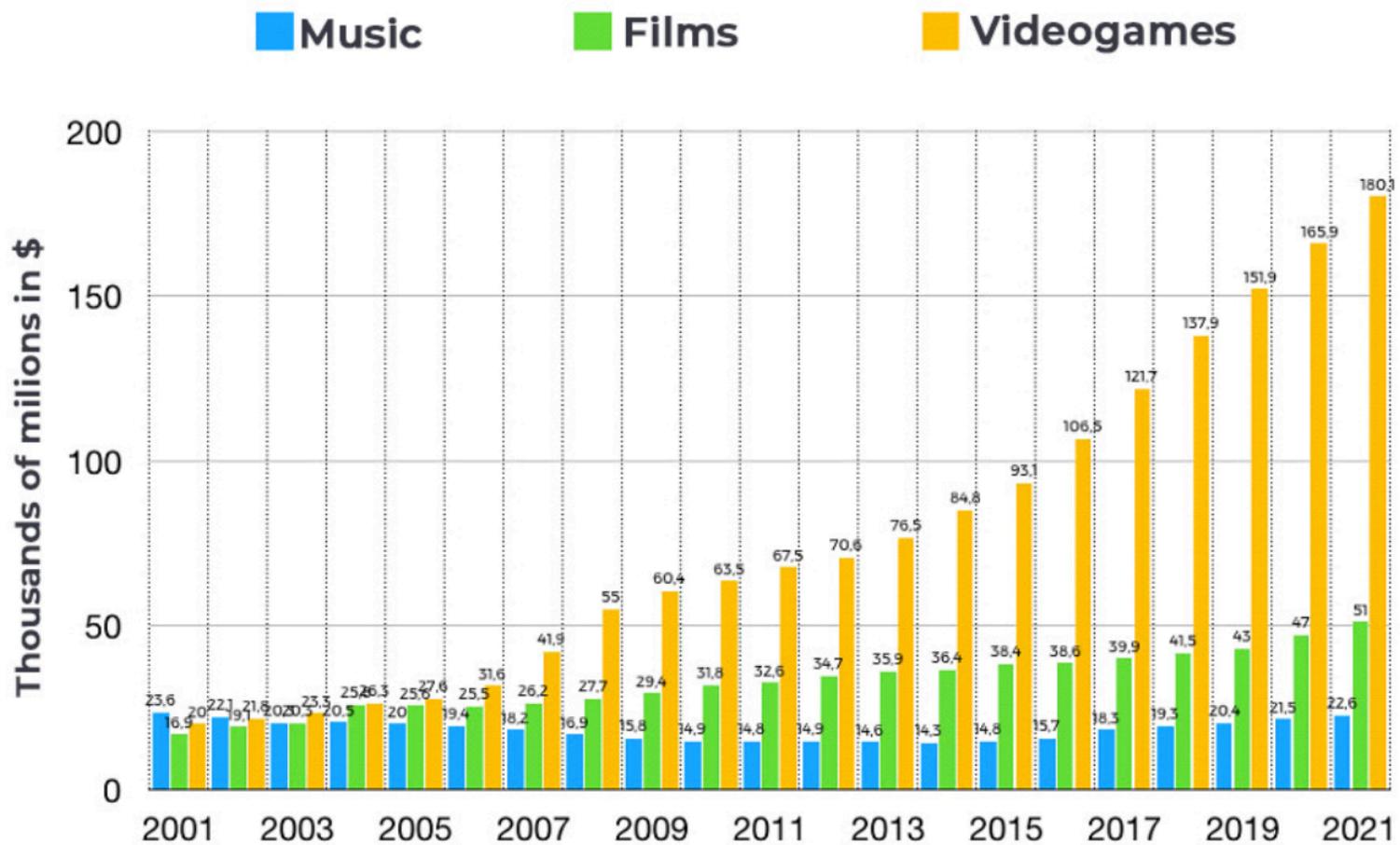
The rise of a multi-billion dollar industry

Brenda Bloch-Young, OLLI Investing Potpourri, February 15, 2022

Agenda

(Gaming is the “elephant” we don’t see)

- Overview of the market and investment options
- Direct investments or Aggregators...?
- Sources are mainstream media such as the WSJ, NYT, Bloomberg, Fortune & Barron’s as well as industry websites
- Newsletters - Stratechery/ Ben Thompson & Not Boring/Packy McCormick
- Podcasts - Dithering, Colossus/ Business Breakdowns, Exponential View
- Twitter Spaces - live discussion forums



Sources

- <http://www.ifpi.org/downloads/CMR2017.pdf>
- <https://whatsthebigdata.com/2017/06/07/tipping-point-music-streaming-becomes-primary-form-of-recorded-music-sales/>
- <https://www.statista.com/topics/964/film/>
- <https://dwmw.wordpress.com/tag/film-industry/>
- https://www.mpa.org/wp-content/uploads/2017/03/MPAA-Theatrical-Market-Statistics-2016_Final.pdf
- <https://arstechnica.com/gaming/2008/06/gaming-expected-to-be-a-68-billion-business-by-2012/>
- <https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/>

Entertainment Revenue

2021

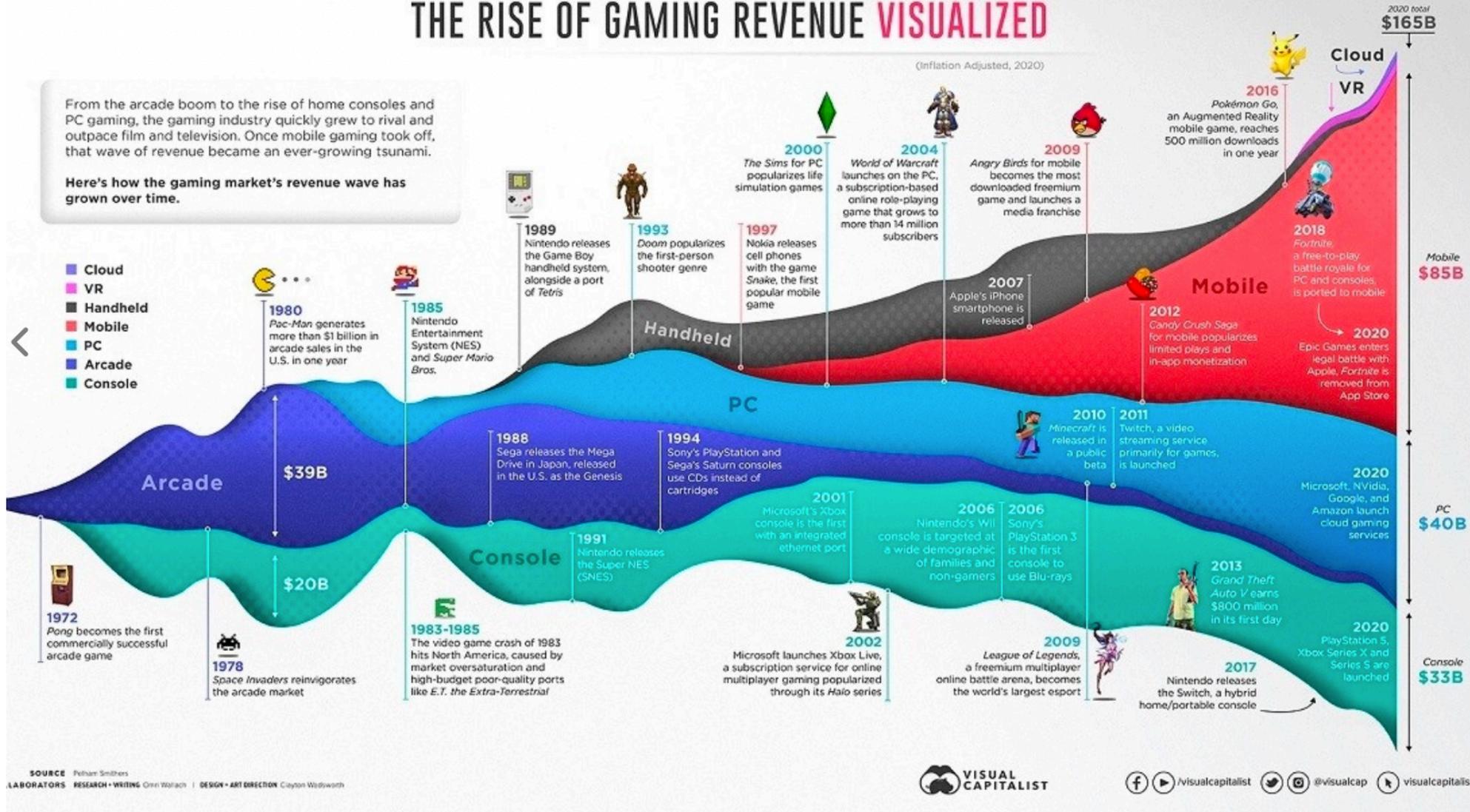
- Video games estimated at \$180B
- Film estimated at \$51B
- Music estimated at \$23B

THE RISE OF GAMING REVENUE VISUALIZED

(Inflation Adjusted, 2020)

From the arcade boom to the rise of home consoles and PC gaming, the gaming industry quickly grew to rival and outpace film and television. Once mobile gaming took off, that wave of revenue became an ever-growing tsunami.

Here's how the gaming market's revenue wave has grown over time.



SOURCE: Pelham Smithers
LABORATORS: RESEARCH • WRITING: Owen Wortham | DESIGN • ART DIRECTION: Clayton Westworth



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How the gaming market revenue has grown over time

1972-2020 - previous slide color key

- Arcade (bright blue)
- Console (green/ aqua)
- PC (lighter blue)
- Handheld (grey)
- Mobile (red)
- Virtual Reality (fuchsia)
- Cloud (light purple)

Multiple Revenue Streams

(Many companies we know and invest in now)

- Hardware including specialized computer chips
- Software might be an actual game or a platform used to build
- Accessories like headsets or mice / handsets
- Virtual Items (often in game purchases)
- Subscription service
- Marketplaces for games

Basic data on gamers

2021

- There are more than 2.5 billion video gamers around the world
- The average gamer is 34 years old
- 70% of gamers are age 18 or older
- 60% of Americans play video games daily
- 45% of US gamers are women
- **70% of parents believe video games have a positive influence on their children's lives**

Gaming as college degree

Would you believe?

- In 2014, there were 390 course offerings for video game design at US colleges and universities
- There are dedicated websites for careers specifically for this industry with school rankings.
- Average salary in 2021 was \$67k with the range from \$41k-\$103k
- Majors are in specific programming and video design/ animation
- Gaming applications and logic being used in other industries

“My son wants to make video games his career. I’m trying not to hate this.”

Washington Post October 11, 2021

- Perspective columnist, Petula Dvorak, shared her concerns
- Her high schooler mapped out a college search road trip for the best schools for game design and esports.

From the article: “A dean said, ‘it’s a \$175 billion industry,’ and the parents perked up and there was more than one teen with widening eyes mouthing, ‘Seeeeee.’”

“Others (college admissions) talked about the gamification of society and how game designers are using gaming concepts in business training, education, government and health care.”

Shopify

Tobias Lutke

- Born in Germany, relocated to Ottawa (photo from Barron's July 2021)
- Became a computer programmer in the 10th grade
- New employees are “gifted” the video game Factorio by Tobi to help them understand the logistics challenges and spur creativity



The Factorio Mindset

From The Diff by Byrne Hobert

In Factorio, players gather resources and craft items, and then automate this process.

“Over time, playing the game reveals the metagame: early factories end up poorly laid-out, with redundancies, complex hacky ways of moving products around, and dead ends from which it's impossible to scale.”

“Factorio aficionados look up from their screen and see processes that could never need manual intervention again.”



Top 8 Video Game Companies in the World

Gaming revenue

- Sony - \$25B, based in Japan, Playstation, announced acquisition of Bungie
- Tencent - \$14B, based in China, most popular game is Honor of Kings
- Nintendo - \$12B, based in Japan
- Microsoft - \$12B, Xbox
- Activision Blizzard - \$8B, Microsoft acquisition for \$67B, big game is Call of Duty
- Electronic Arts - \$5b, most popular game is FIFA 21
- Epic Games - \$4B, famous for Fortnite, lawsuit against Apple for 30% fee
- Take-Two Interactive - \$3B, acquiring Zynga for \$12B, most popular game is NBA 2K21

Companies you may own with Gaming Revenue

(We may not appreciate the added value)

- Microsoft
- Apple
- Alphabet
- Amazon
- Nvidia

Microsoft

2021 Total Revenue = \$168B for the fiscal year ending September 30th

Xbox's **\$16.28 billion** performance in 2021 is an all-time best for the company within a calendar year. This number topples 2020, which was the previous all-time high. Total gaming revenue was up 17% year-over-year. Jan 25, 2022

- Content & Services revenue up 8.8% YoY
- Hardware revenue up 63.3% YoY

Acquisition announcement of Activision Blizzard is seen as a transition to more mobile and cloud gaming as well as a subscription service for games. The deal announced at \$67B is all cash. Analysis feel Microsoft can handle easily or issue low cost debt. Goal appears to be building gaming as a service and expanding cloud offerings.

As FTC scrutiny is expected, Microsoft does not plan to limit access to games solely on the Xbox.

Apple

2021 Revenue = \$365B

Apple earns more from gaming than Sony, Nintendo, Microsoft, Activision combined.

Gaming apps represent 70% of the revenue from the App Store (note App Store revenue is 30% of Apple's total revenue)

Apple earns a 30% fee **for payments users make to these apps for subscribing to their services when they use the company's in-app payment systems.** So far, the firm has forced all developers to use its payment systems, forcing them to share a chunk of their revenue. Sep 3, 2021

Alphabet

2021 Revenue = \$257B

- Revenue from the Google Play store was \$85B with approximately 40% of this from games
- Google Stadia is “a cloud gaming service developed and operated by Google. It is capable of streaming video games to players at up to 4K resolution at 60 frames per second with support for high-dynamic-range via the company's numerous data centers.” Recent reports suggest that this is being “deprioritized.”

* Business of Apps: “Even with less than 15 percent market share, iOS has led the way in revenue generation for app developers. This is partly due to iPhone being more popular in regions with high income, such as Japan and the United States, which also tend to spend more on apps. Google Play’s largest markets are India, South-east Asia and South America, which typically generate less revenue per user. Apple also operates in China, while the Google Play store is banned.”

Amazon

2021 Revenue = \$469B

“Amazon already has a strong foothold in the gaming world through Twitch, the gaming-focused streaming platform it acquired in 2014 for \$970 million. Twitch made around \$2.3 billion in revenue in 2020. Amazon is spending around **\$500 million annually** on its gaming division.” Fortune

Luna is Amazon’s streaming service for gaming.

Amazon has never had a huge hit game and significant revenue in this sector has been disappointing, but they keep trying.

Nvidia

2021 Revenue = \$17B, reports earnings Wednesday

Sales of Graphic Processor Units (GPU) accounted for 80% of total revenues.

Nvidia GeForce Now is a **cloud gaming service whereby you play games hosted on remote servers** and stream over the internet to one of the supported devices - much like Google Stadia, Cloud Gaming with Xbox Game Pass, Shadow or PlayStation Now.

Yahoo Finance: "Nvidia's GeForce NOW membership currently stands at more than 12 million gamers. **If every single member opted for the RTX 3080 membership**, which costs \$200 per year, that would be **\$2.4 billion** in annual revenue.

Gaming ETFs

ETF.com

- Great performance through 2020, yet all declined significantly in 2021 as growth stocks fell from favor
- ESPO is the largest with \$530M AUM (includes esports)
- HERO is second with \$377M AUM
- Gaming is considered to be in the Consumer Discretionary sector
- Next slide displays the stunning performance through June 2020

Performance, Video Game ETFs vs. SPY

Ticker	Fund	1-Month Return	3-Month Return	YTD Return
ESPO	VanEck Vectors Video Gaming and eSports ETF	13.75%	23.90%	24.36%
HERO	Global X Video Games & Esports ETF	14.71%	21.76%	24.57%
GAMR	Wedbush ETFMG Video Game Tech ETF	11.59%	19.17%	17.25%
NERD	Roundhill BITKRAFT Esports & Digital Entertainment ETF	11.10%	20.70%	12.33%
SPY	SPDR S&P 500 ETF Trust	4.76%	3.35%	-4.87%

Source: ETF.com; data as of June 2, 2020

Highly Speculative

Unity and Roblox became public companies in the last 2 years

- Both stocks have had significant declines since their IPOs
- Neither is new - both operating for 15-17 years
- Unity is considered the premier software platform to build games, rated a Buy by several analysts
- Roblox is a platform for gamers and developers with streaming and a 3D experience, again rated a Buy by several analysts, reports earnings after the close on Wednesday
- Potential watchlist candidates

Unity

111.35 -1.40 (-1.24%) **109.50** -1.85 (-1.66%)

At close: February 11 04:00PM EST

After hours: Feb 11, 07:59PM EST

[Summary](#) [Company Outlook](#) [Chart](#) [Conversations](#) [Statistics](#) [Historical Data](#) [Profile](#) [Financials](#) [Analysis](#) [Options](#)

Previous Close	112.75	Market Cap	32.58B
Open	112.80	Beta (5Y Monthly)	N/A
Bid	111.10 x 800	PE Ratio (TTM)	N/A
Ask	111.35 x 1400	EPS (TTM)	-1.89
Day's Range	109.02 - 117.72	Earnings Date	May 09, 2022 - May 13, 2022
52 Week Range	76.00 - 210.00	Forward Dividend & Yield	N/A (N/A)
Volume	4,489,184	Ex-Dividend Date	N/A
Avg. Volume	5,204,680	1y Target Est	159.25

Fair Value ? Y+

XX.XX

Overvalued



[View details](#)

Related Research ? Y+

Daily - Vickers Top Buyers & Sellers for 08/31/2021
The Vickers Top Buyers ...
5 months ago • Argus Research

[View more](#)

1D 5D 1M 6M YTD 1Y 5Y Max [Full screen](#)



Trade prices are not sourced from all markets

Chart Events ? Y+

Bullish pattern detected

Head and Shoulders Bottom

[View all chart patterns](#)

Performance Outlook

Short Term 2W - 6W	Mid Term 6W - 9M	Long Term 9M+
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Roblox

66.81 -3.11 (-4.45%) **66.33** -0.48 (-0.72%)

At close: February 11 04:01PM EST

After hours: Feb 11, 07:59PM EST

[Summary](#) [Company Outlook](#) [Chart](#) [Conversations](#) [Statistics](#) [Historical Data](#) [Profile](#) [Financials](#) [Analysis](#) [Options](#)

Previous Close	69.92	Market Cap	38.672B
Open	68.97	Beta (5Y Monthly)	N/A
Bid	66.70 x 900	PE Ratio (TTM)	N/A
Ask	66.80 x 1000	EPS (TTM)	-1.00
Day's Range	65.75 - 72.21	Earnings Date	Feb 15, 2022
52 Week Range	53.63 - 141.60	Forward Dividend & Yield	N/A (N/A)
Volume	21,607,145	Ex-Dividend Date	N/A
Avg. Volume	22,735,154	1y Target Est	108.00

Fair Value ? Y+

XX.XX

Overvalued



[View details](#)

Related Research ? Y+

Analyst Report: Roblox Corporation Roblox operates an online...
last month • Morningstar

[View more](#)

1D 5D 1M 6M YTD **1Y** 5Y Max [Full screen](#)



Mar 8, 21

Aug 30, 21

Trade prices are not sourced from all markets

Chart Events ? Y+

Bullish pattern detected

Williams %R

[View all chart patterns](#)

Performance Outlook

Short Term 2W - 6W	Mid Term 6W - 9M	Long Term 9M+
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Pending legislation

Congress feels the App Stores are too big

- Open App Markets Act - The Senate Judiciary Committee passed its second tech competition bill of the year Thursday, this time targeting Apple and Google's mobile app stores and their restrictions on developers.
- There is a House version as well with bipartisan support. Both seem to be targeting guilt-by-bigness.
- Ben Thompson: "Aggregators control demand in markets without customer lock-in by delivering a superior customer experience; suppliers can go direct-to-consumer, but often favor the Aggregator because it monetizes better and has better customer acquisition channels."

Summary

What did I learn..?

- Video gaming is a huge business
- Content providers are consolidating
- There is growing market for mobile, streaming, and cloud to scale
- Aggregators are cashing in on the revenue streams
- Gaming is a vehicle for creative problem solving
- This sector has grown far beyond the kids playing Nintendo in the basement

Questions?