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# Financial Analysis of Meta Platforms Inc

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## *Financial Analysis of Meta Platforms Inc.*

**ETM 535: ADVANCED ENGINEERING ECONOMICS**

**SPRING 2022**

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## ABSTRACT

Web3.0 is the latest generation of internet, which is about decentralization and democratization, built on blockchain technology, high computer power and high-speed network. Metaverse overlaps with Web3.0 in terms of decentralization and is built on the same base technologies but talks about virtual realities and brings immersive experiences.

This study explores how the web has evolved over the years and analyzes the current market trends of Web3.0. The purpose of the study is to examine the investments made by Meta Platforms Inc. which is one of the market leaders of the Internet industry and provide an in-depth financial analysis by evaluating its financial statements and different financial metrics. The study also includes estimating the value of the company based on the Discounted Cash Flow valuation method.

The valuation conducted in this study forecasts Meta Platforms Inc. to be a promising investment with high positive returns. The valuation may be utilized by analysts for further analysis in their research.

## Table of Contents

<b>ABSTRACT</b>	<b>2</b>
<b>INTRODUCTION</b>	<b>4</b>
<b>TECHNOLOGY OVERVIEW</b>	<b>6</b>
<b>DATA COLLECTION</b>	<b>10</b>
<b>FINANCIAL ANALYSIS</b>	<b>11</b>
Profitability Ratios	11
Liquidity Ratios	13
Solvency Ratios	15
Performance	18
<b>COMPANY VALUATION</b>	<b>21</b>
<b>RISK &amp; BENEFITS</b>	<b>24</b>
<b>CONCLUSION</b>	<b>26</b>
<b>FUTURE RESEARCH</b>	<b>27</b>
<b>REFERENCES</b>	<b>28</b>
<b>APPENDICES</b>	<b>30</b>

## INTRODUCTION

Web 3.0 is the latest generation of the Internet which is decentralized and democratizing to bring more personalized user experience. It is built on block chain technology, which addresses the decentralization of the internet in everything we do on the internet <sup>[1]</sup>.

### Evolution of Web3.0

The internet has evolved over years, and what can be done with use of it, is almost unrecognizable from its early days. The evolution of the web is categorized into three separate stages: Web 1.0, Web 2.0, and Web 3.0 <sup>[2]</sup>.

- **Web 1.0** was the first generation of the internet. It was built for consumption of static content, and the creators were typically who built web pages that contained information served up mainly in text or image format. Web 1.0 lasted approximately from 1991 to 2004.
- **Web 2.0** brings interaction with websites/web pages, what we are currently using is Web2. This web is also called social, Be it social media, blogging, podcasting, or social bookmarking.
- **Web 3.0** There are a few fundamental differences between web2 and web3, but decentralization is at its core. At core, Web 3.0 is a collection of technologies that brings decentralization, security, and privacy. It is a Semantic web, which promises an ecosystem, brings automation/intelligence through artificial intelligence and machine learning and freedom.

**Metaverse** overlaps with Web3 as it is built on the same fundamental principles, but it also brings in immersive experiences in everyday activities of human life from social interactions to gaming, through virtual reality.

**Meta Platforms Inc. (formerly known as Facebook Inc.)** is a technology/social media company that provides services/applications to connect humans, communities and help businesses to reach masses. They are early adopters/movers of metaverse technology, with heavy investment

from research & development to acquisition of technology to hardware needed to this technology.

This study investigates how businesses of this technology are growing in terms of user growth, potential market trends and financial investments. As part of this, we have reviewed and analyzed the financial health of Meta Platforms Inc. using financial ratio analysis for a 5-year period, 2017-2021. Based on this historical analysis, we have estimated the value of Meta Platforms Inc. using the Discounted Cash Flow method.

Our study estimates Meta Platforms to grow for next 5 years at an approximate rate of 20-22%. The forecasted intrinsic value is more than the current share price; hence the investment is estimated to be a sound investment with positive returns for investors. During the research, we have also identified some risks and benefits of the company.

Our valuation model can be used for further analysis by financial analyst, but it is limited with our assumptions and estimates of future growth. Also, as far as Meta Platforms Inc. is concerned, it has started reporting its financials for Reality Labs recently and it will be worthwhile to track their investments and revenues in future and observe its impact on the overall financial health of the company.

## TECHNOLOGY OVERVIEW

The new buzzword across different social platforms is Metaverse which is dominating the tech world with virtual reality, future of the internet and rebranding oldest to newest platforms which had been introduced during COVID-19 pandemic. Meta is the parent company of several subsidiaries which includes Facebook, Facebook watch, Facebook portal, messengers, Instagram, and WhatsApp. Based on current market caps it's world's highest grossing tech multinationals ranking among Fortune50 companies. Besides that, this global growth of Meta had started with acquisition of **giphy, customer, mapillary and oculus** that had made them a technology amalgam that acts as building blocks for a variety of digital platforms and services- with fully integrated digital environment which can allow users to interact with other users. However, other companies like Apple, Microsoft, Alphabet aka Google are also entering these markets to compete with Meta. In a nutshell, Metaverse could take at least 5 to 10 years before its features and products become mainstream which can transform the Internet with its futuristic vision, existence of humans in virtual communities.

### **How does this Meta work?**

Metaverse is a digital universe for users to live, play, watch, interact, entertain, and engage in every way imaginable. Users will be wearing AR and VR headsets to enter the Metaverse and shop, eat and play with their friends in an infinite digital universe. It will revolutionize everything from holding business meetings and conferences to attending concerts. For instance, we can visit any shopping place globally and order it without any travel concerns etc.

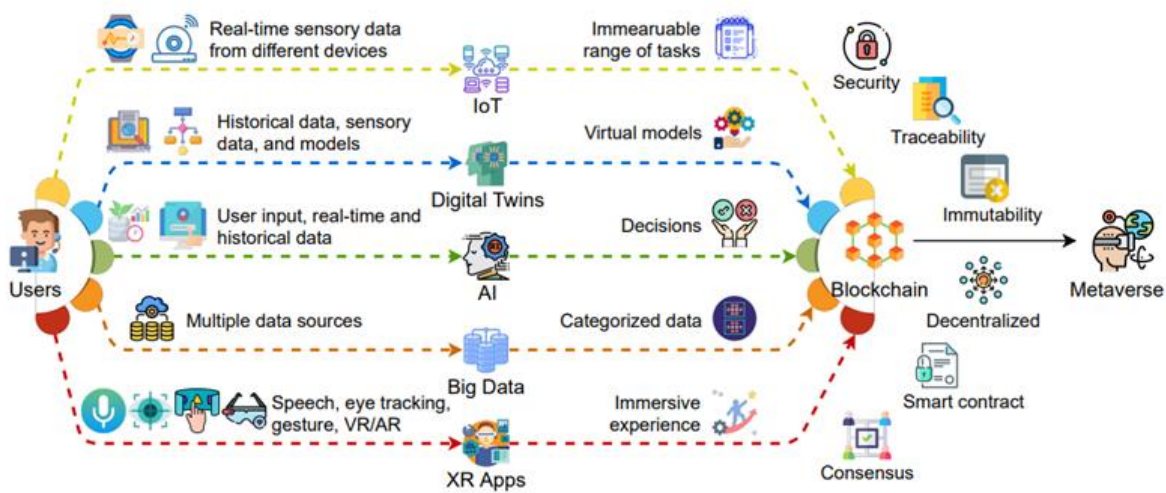


Figure 1 Metaverse enabling different technologies with use of blockchain<sup>[3]</sup>

**Financial Overview of Meta platforms:**

As of Q3 2021 Meta has been heavily invested in the gaming sector which is key for metaverse world establishment and there was substantial user growth with use of Metaverse. Below figures show the data:

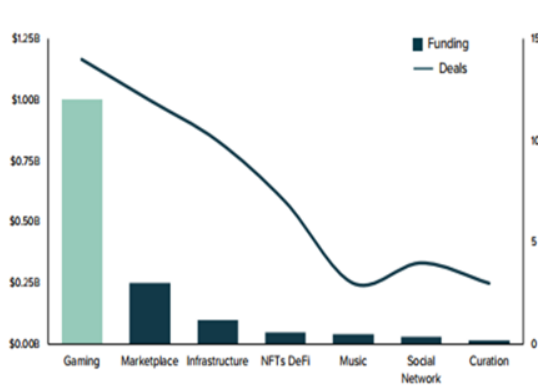


Figure 2: Capital Investments of Meta<sup>[4]</sup>

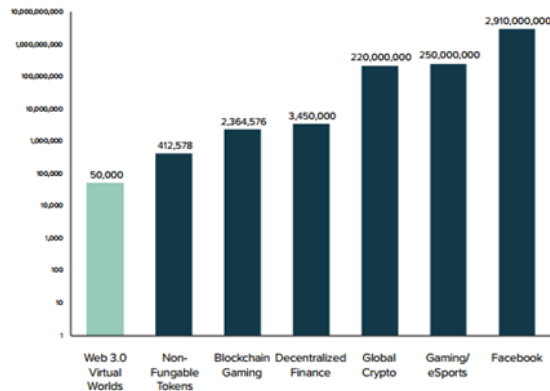


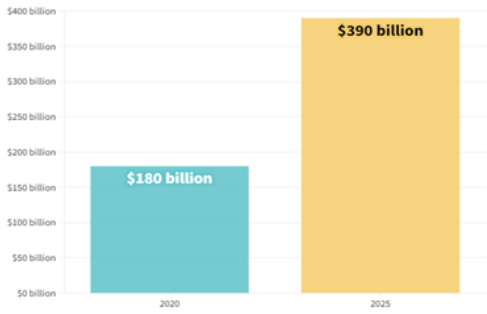
Figure 3: Growth of users at different w.r.t. Meta<sup>[4]</sup>

Meta is upgrading to web 3.0 user interface for better interaction b/w users, data privacy and storage. Current market trends of Web 3.0 increased profits 2-fold and expected to grow at an accelerated pace below figure 4 shows trend and figure 5 on virtual world revenue growth of all companies globally. These huge investments laid down the foundation of metaverse years, seeing the development and profit margin.



**Revenue from virtual worlds is expected to more than double over the next five years**

Video game monetisation methods are shifting to virtual goods



Source: Art Invest's 'Big Idea' Report date January 2021

Flourish chart

Figure 4: Virtual word revenue growth in next 5yrs [5]

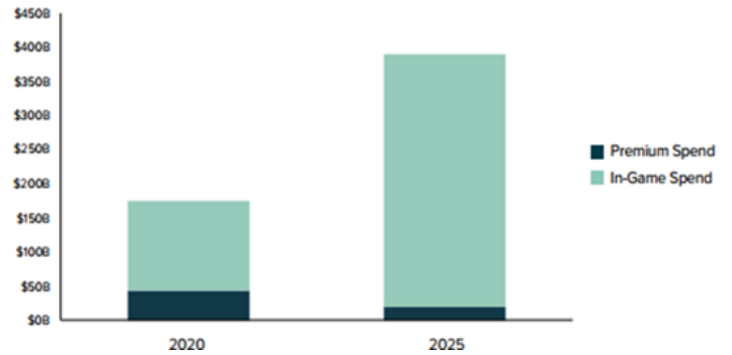


Figure 5: Global Virtual world revenue growth [4]

Heavy Research has been done on what are most key segments in metaverse platforms and growth in VR gaming sector platforms. Figure 6 shows potential markets in the metaverse.

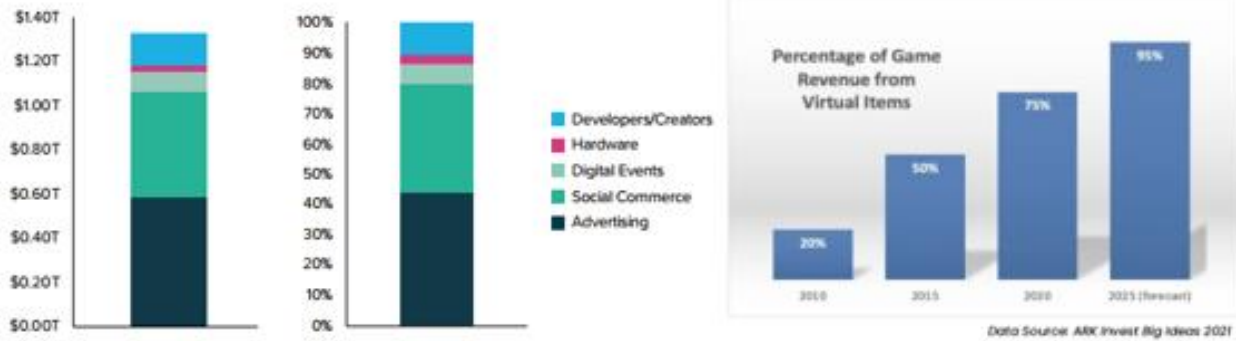


Figure 6: Potential Markets globally in Metaverse [4]

AR/VR devices trends are studied as well to understand potential growth in the next five years as that would be key Meta Platforms Inc. YOY Value and shipments had growth >5-10% and even studied what potential areas could need to improve compared to metaverse. Below Figure 7 shows growth of AR/VR and application adaptability.

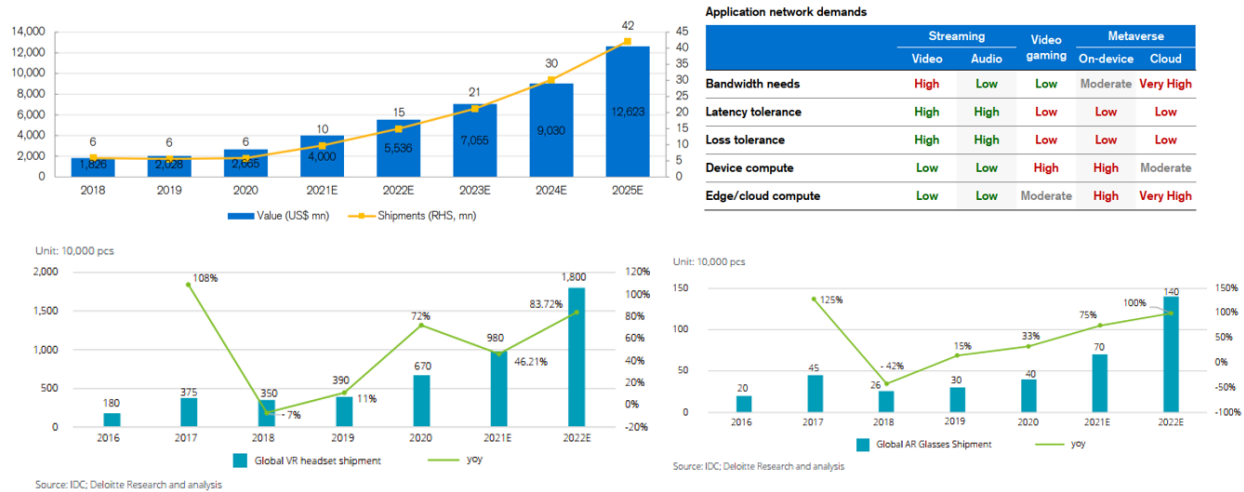


Figure 7: AR/VR headset market growth and Applications [6,7]

From past 3 years Meta has been reporting the Reality lab earnings which showed almost 8 million devices sold with a unit cost of \$300 and generated \$2.4 billion in revenue. Loss has been reduced from 2019 to 2021 -900% to -500% but showing steady improvement in revenue i.e., 501 million to 2.3 billion as of 2021 and meeting customers goals.

## DATA COLLECTION

We explored financial statements reported by Meta Platforms Inc. from 2017-2021 and calculated data as per below Table.

Table 1: Meta Platforms Inc. Financials

META PLATFORMS INC - Data from Income sheet ( All amounts are in US\$ Millions)						
	Dec-21	Dec-20	Dec-19	Dec-18	Dec-17	
Total Liability (D)	581	523	473			
Total Assets (A)	165987	159316	133376	97334	84524	
Total Equity ( E )	124879	128290	101054	84127	74347	
Total Capital	125460	128813	101527	84127	74347	
Net income	39370	29146	18485	22112	15934	
Income tax expense	7914	4034	6327	3249	4660	
<b>EBT (Net Income + Income tax expense)</b>	<b>47284</b>	<b>33180</b>	<b>24812</b>	<b>25361</b>	<b>20594</b>	Cal. values
Interest Expense	15	14	20	9	6	
<b>EBIT (EBT+ Intrest expense)</b>	<b>47299</b>	<b>33194</b>	<b>24832</b>	<b>25370</b>	<b>20600</b>	Cal. values
Depereciation and amortization	7967	6862	5741	4315	3025	
<b>EBITDA (EBIT + Depreciation and amortization)</b>	<b>55266</b>	<b>40056</b>	<b>30573</b>	<b>29685</b>	<b>23625</b>	Cal. values
Enterprise value (Refer to L35 row)	599752	693202	542873	434618	519216	
Net non cash charges	17613	12324	10579	8689	6395	
Changes in assets and liabilities	700	2723	7250	1527	1887	
<b>Net cash provided by operation activties (Net income+ Net non cash charges + Changes in assets and liabilities)</b>	<b>57683</b>	<b>44193</b>	<b>36314</b>	<b>32328</b>	<b>24216</b>	Cal. values
Purchase of property and equipment	18567	15115	15102	13915	6733	
Principal payments on finance leases	677	604	552			
<b>Free cash flow to equity (Net cash - Purchase of property and equipment- principal payments)</b>	<b>38439</b>	<b>28474</b>	<b>20660</b>	<b>18413</b>	<b>17483</b>	Cal. values
<b>FCFE per share (No shares of common stock outstanding * FCFE)</b>	<b>14.12</b>	<b>8.09</b>	<b>7.25</b>	<b>5.38</b>	<b>6.02</b>	Cal. values
Share price	237.76	265	209.53	166.69	193.09	
Deferred income tax expense (benefit)	609	997	40	295	374	
Increase (decrease) in deferred revenue	225	101	117	49	6	
<b>Increase (decrease) in equity equivalents</b>	<b>834</b>	<b>1098</b>	<b>157</b>	<b>344</b>	<b>380</b>	Cal. values
Interest expense, operating lease liability	388	330	330			
<b>Adjusted interest expense</b>	<b>403</b>	<b>344</b>	<b>350</b>	<b>9</b>	<b>6</b>	Cal. values
Tax benefit of interest expense	85	72	74	2	2	
<b>Adjusted interest expense, after taxes</b>	<b>318</b>	<b>272</b>	<b>276</b>	<b>7</b>	<b>4</b>	Cal. values
Interest income	476	686	924	661	398	
<b>Investment income, before taxes</b>	<b>476</b>	<b>686</b>	<b>924</b>	<b>661</b>	<b>398</b>	Cal. values
Tax expense (benefit) of investment income	100	144	194	139	139	
<b>Investment income, after taxes</b>	<b>376</b>	<b>542</b>	<b>730</b>	<b>522</b>	<b>259</b>	Cal. values
Net operating profit after taxes (NOPAT) (Net income + non-operating income loss – non-operating income gain + interest expense + tax expense) x (1 – tax rate)	40147	27980	18109	21941	15311	
Total reported debt and leases	14454	11177	10797	14651	4644	
Equity equivalents	1133	1923	922	1090	1181	
Adjusted stockholders equity	124429	125440	100621	83797	73393	
Invested capital	92809	80951	65543	60125	41413	
Total Revenue	117929	85965	70697	55838	40653	
Increase or decrease deferred revenue	225	101	117	49	6	
<b>Adjusted Revenue</b>	<b>118154</b>	<b>86066</b>	<b>70814</b>	<b>55887</b>	<b>40659</b>	Cal. values

## FINANCIAL ANALYSIS

We analyzed the financial statements of Meta Platforms Inc. using the various financial ratios. The financial ratio analysis provided us valuable insights on company's liquidity, operational efficiency, and profitability. The analysis become more worthy when performed for a period and in reference to the industry average as well as competitors.

One of the great competitors of Meta in this industry is Alphabet and hence we have considered Alphabet's ratios for comparison in our study. In addition to this, we have also gathered data about the industry average to examine how Meta performed in the industry. All the comparisons are performed for a 5-year period, 2017 – 2021.

### Profitability Ratios

Profitability ratios are used to assess a business's ability to generate earnings relative to its revenue, operating costs, balance sheet assets, or shareholders' equity over time, using data from a specific point in time [9]. In simpler terms, they measure a company's ability to earn a profit. Higher the ratio value, more favorable are the results. The following ratios are considered for profitability:

- Return on Assets
- Return on Equity

#### **Return on Assets**

Profitability is assessed relative to costs and expenses and analyzed in comparison to assets to see how effective a company is deploying assets to generate sales and profits [9]. ROA is calculated as net income divided by total assets.

$$ROA = \text{Net Income} / \text{Total Assets}$$

The more assets accumulated by a company, the more sales and potential profits may be generated by the company. This is because economies of scale help lower costs and improve margins, returns may grow at a faster rate than assets, thereby increasing ROA.

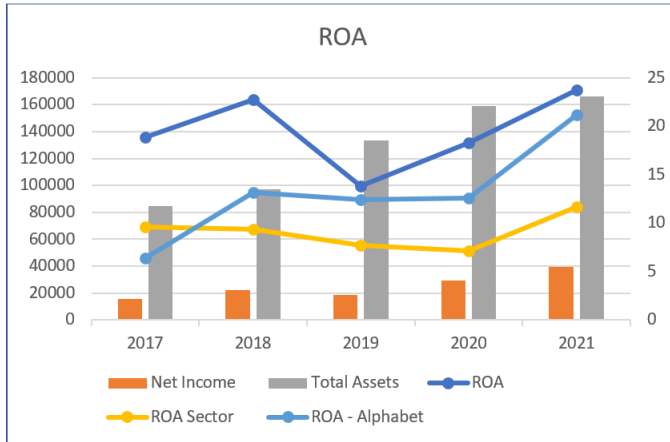


Figure 8: ROA

**Key Highlights:**

- Net income relative to total assets
- A significant dip from 2018 to 2019, however a steady increase observed from 2019 to 2021
- Meta and Alphabet both have performed better than their industry average
- Meta’s performance is better than Alphabet’s

**Return on Equity**

ROE is a key ratio used by shareholders as it measures a company's ability to earn a return on its equity investments [9]. ROE is calculated as net income divided by shareholders' equity. It may increase without additional equity investments. The ratio can increase if there is higher net income being generated from a larger asset base funded with debt.

$$ROE = \text{Net Income} / \text{Shareholder's Equity}$$

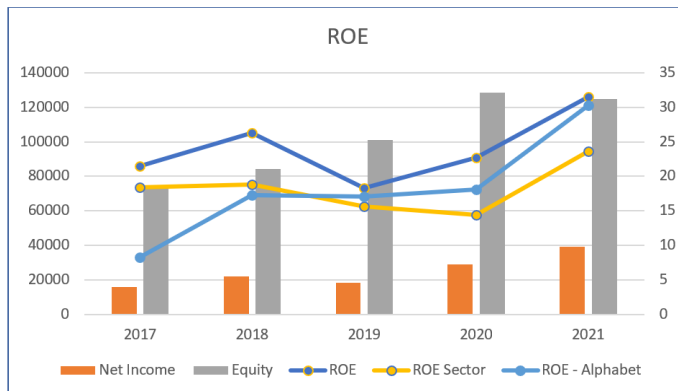


Figure 9: ROE

**Key Highlights:**

- Net income relative to shareholder equity
- A dip from 2018 to 2020, however a steady increase observed in the last year of 2021
- Meta and Alphabet both have performed better than their industry average
- Meta’s performance is better than Alphabet’s

## Liquidity Ratios

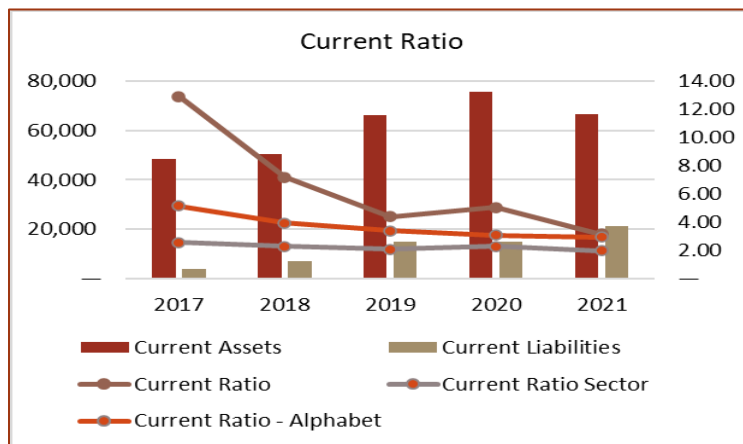
Liquidity ratios are an important class of financial metrics used to determine a debtor's ability to pay off current debt obligations without raising external capital [10]. These are used to measure a company's ability to pay its debt obligations. The following ratios are used to assess Meta's liquidity:

- Current Ratio
- Quick Ratio
- Cash Ratio

### Current Ratio

The current ratio measures a company's ability to pay off its current liabilities (payable within one year) with its total current assets such as cash, accounts receivable, and inventories [10]. The higher ratio signifies better liquidity position of the company. It is calculated as current assets divided by current liabilities.

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$$



#### Key Highlights

- Current assets to current liabilities
- A significant dip from 2017 to 2019, however a steady increase observed from 2019 to 2021
- Ratio between 1.5 and 3 generally considered healthy
- Meta and Alphabet both have performed better than their industry average
- Meta's performance is better than Alphabet's

Figure 10: Current Ratio

## Quick Ratio

The quick ratio, also known as acid-test ratio, measures a company's ability to meet its short-term obligations with its most liquid assets [10]. It does not include inventories in its current assets.

$$\text{Quick Ratio} = (\text{Current Assets} - \text{Inventory} - \text{Current Expenses}) / \text{Current Liabilities}$$

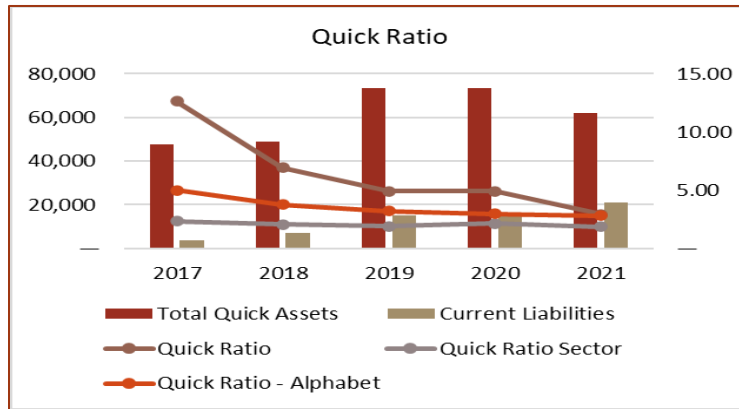


Figure 11: Quick Ratio

### Key Highlights

- Quick assets to current liabilities
- Ability to pay short term obligations
- A significant dip from 2017 to 2019, however a further slight decrease observed from 2019 to 2021
- Meta and Alphabet both have performed better than their industry average
- Meta's performance is better than Alphabet's

## Cash Ratio

The cash ratio is used to measure a company's liquidity. It is specifically calculated as the ratio of a company's total cash and cash equivalents to its current liabilities. The metric evaluates company's ability to repay its short-term debt with cash or near-cash resources [10]. This information is helpful to creditors in deciding how much money can they loan to the company.

$$\text{Cash Ratio} = \text{Cash} + \text{Cash Equivalents} / \text{Current Liabilities}$$

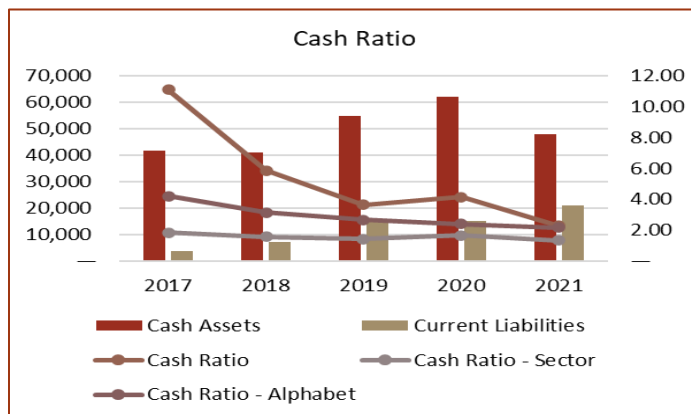


Figure 12: Cash Ratio

### Key Highlights

- Cash assets to current liabilities
- A significant dip from 2017 to 2019, however a further slight increase observed from 2019 to 202 but again a dip in following year
- Meta and Alphabet both have performed better than their industry average
- Meta's performance is better than Alphabet's

## Solvency Ratios

Exploratory study on Meta platforms debts ratio to see whether it can meet all long-term obligations with current inflation period in 2022. To determine these things, we estimated following ratios from income statement for past five years and compared against Alphabet as well industry ratio.

- Debt to equity
- Assets
- Capital ratio
- Financial Leverage
- Interest Coverage
- EBT vs EBIT vs EBITDA

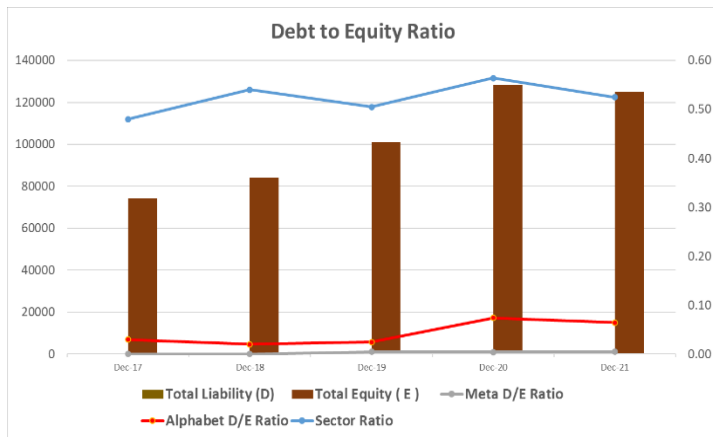


Figure 13: Debt to Equity Ratio

### Key Highlights

This is computed based on Total liabilities over total equity (stakeholder's). Ratio is almost to zero for Meta platforms in comparison to Alphabet and sector ratio which depicts company well stable in handling long term debts even planned for long term investments. 2022 Q1 reported "0" debt to equity ratio.

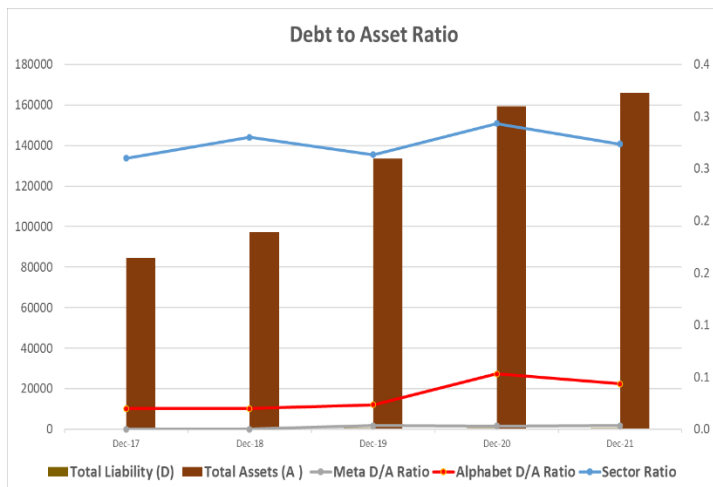


Figure 14: Debt to Asset Ratio

### Key Highlights

This is computed based on Total liabilities over total assets. Similar behavior is seen compared to debt-to-equity ratio and outperforming both Alphabet and sector ratio. 2022 Q1 reported "0" debt to equity ratio. This signifies Meta is using their assets full-fledged compared to Alphabet and sectors.



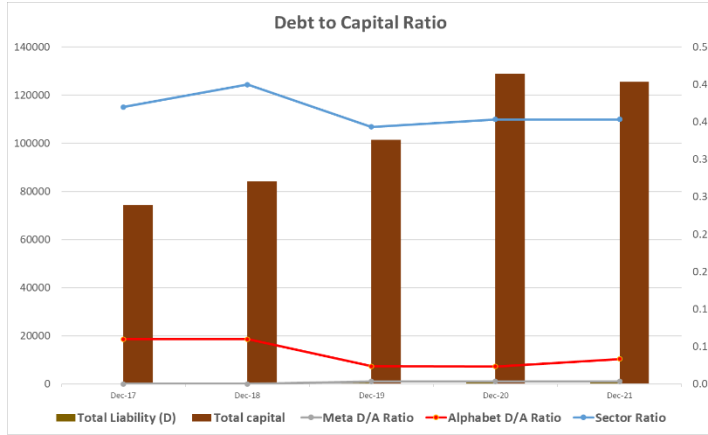


Figure 15: Debt to Capital Ratio

**Key Highlights**

This is computed based on Total liabilities over total capital. Similar behavior is seen compared to debt-to-equity ratio and outperforming both Alphabet and sector ratio. 2022 Q1 reported "0" debt to capital ratio. This signifies Meta's capital structure and financial solvency and degree of leverage performing good.

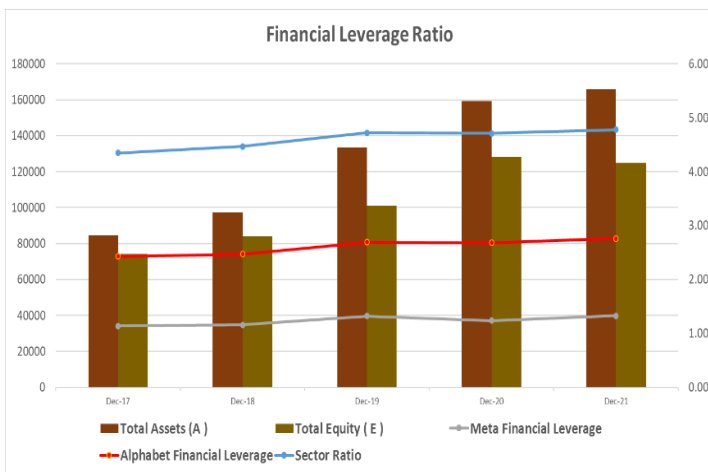


Figure 16: Financial Leverage Ratio

**Key Highlights**

This ratio measures company's mix of operating expenses and to estimate how changes in output income will impact operating incomes. Meta Platforms Inc. financial leverage ratio decreased from 2019 to 2020 but then increased from 2020 to 2021 exceeding 2019 level, 2022 Q1 exceeded as well. ("Meta Platforms Inc. (NASDAQ: FB) | Analysis of Solvency Ratios") Lower leverage ratio is recommended to easily secure loan.

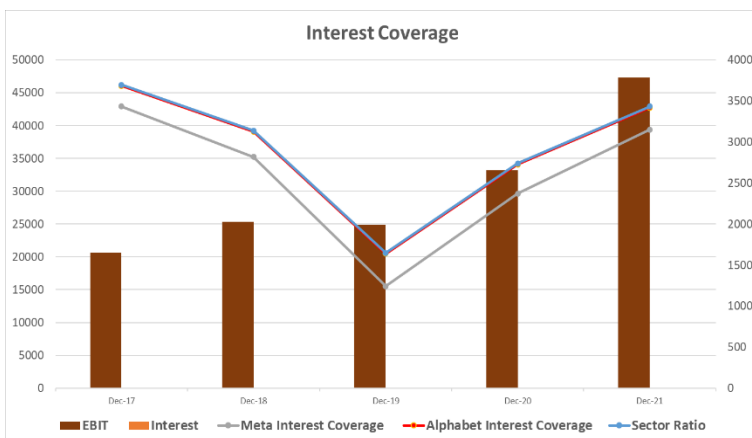


Figure 17: Interest Coverage Ratio

**Key Highlights**

Ratio of EBIT over interest expense of the company. Higher the coverage ratio better for the company here to handle on debts. Meta showed better improvement from 2019 to 2021 (holding good on 2022) and will exceed w.r.t Alphabet and sector ratio.

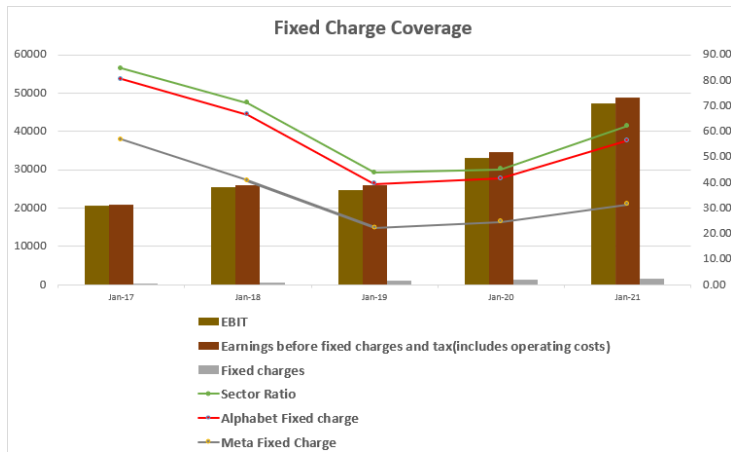


Figure 18: Fixed Charge Coverage Ratio

**Key Highlights**

This ratio computed EBIT over Fixed charges which includes interest and operating costs of company. Ratio signifies whether company can cover it fixed charges (debts, interest, operating costs). Meta is showing steady increase trend from 2019 to 2021 and competing with Alphabet and sector ratio and match with 2017 trends. High FCCR is better for company.

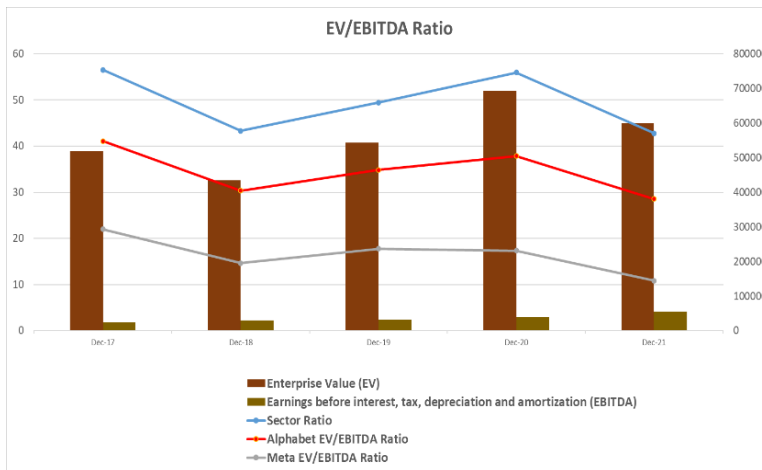


Figure 19: EV/EBITDA Ratio

**Key Highlights**

This ratio measures overall company financial performance and total value determination. Rule of thumb EV/EBITDA less than 10 is healthy company. Meta is compared to over years ratio is decreasing trend and surpassed Alphabet and sector ratio.

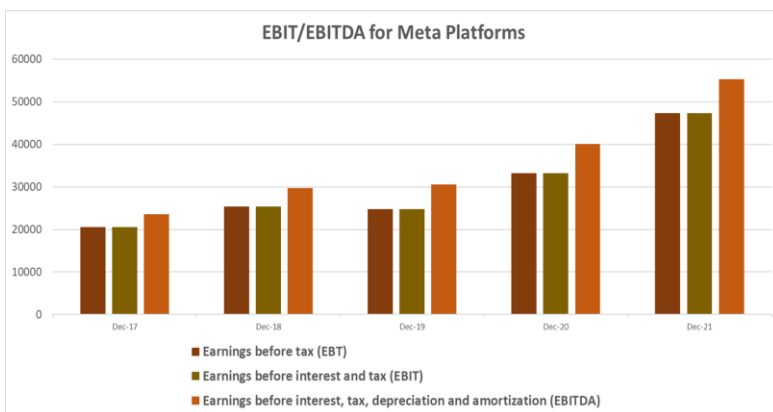


Figure 20: EBIT/EBITDA Ratio

**Key Highlights**

Increasing trend of EBT, EBIT, EBITDA shows company is performing better and well balanced on their financials. There is significant increase in these compared from 2019 to 2021.

## Performance

Furthermore, analysis is performed in detailed to understand the performance, efficiency ratios and segment profit margin and free cash flow to equity to know company performance in metaverse area.

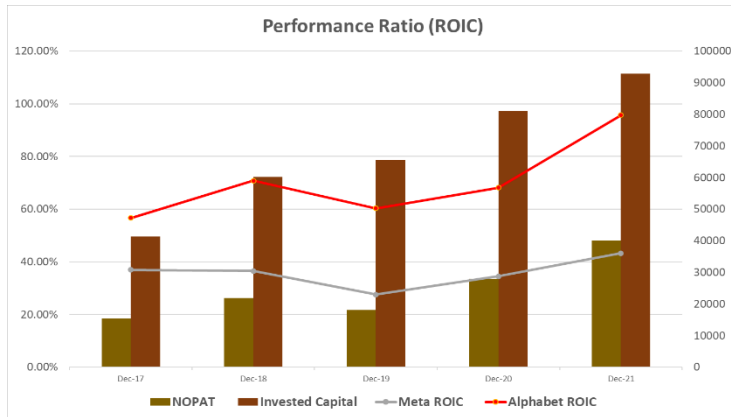


Figure 21: ROIC Ratio

### Key Highlights

Higher ROIC is better for the company. ROIC improved from 2019 to 2020 and from 2020 to 2021.

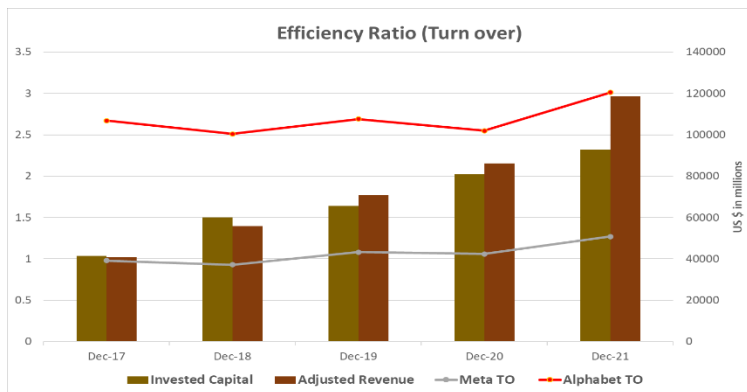


Figure 22: Turnover Ratio

### Key Highlights

Higher the turnover ratio, the more efficient a company's ability to generate revenue from its assets. Meta Platforms Inc. TO deteriorated from 2019 to 2020 but then improved from 2020 to 2021 exceeding 2019 level.

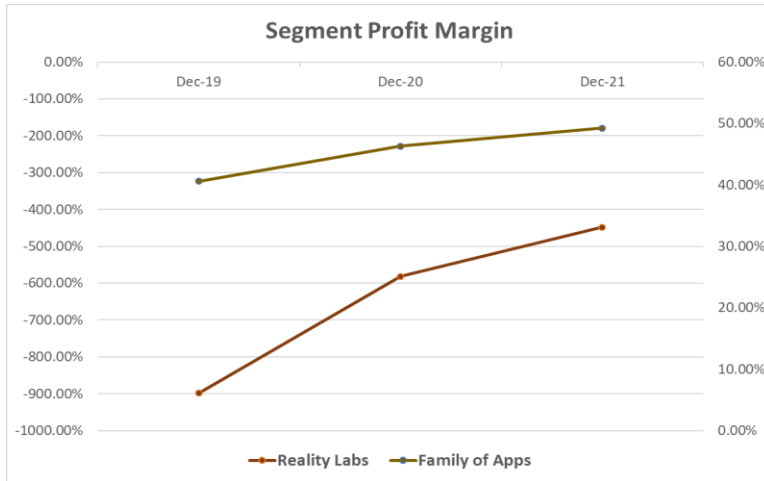


Figure 23: Segment Profit Ratio

**Key Highlights**

Recently, Meta started reporting in earnings- reality labs and family of Apps which more in metaverse/web 3.0 investments. From 2019 to 2021 profit margin ratio has improved a lot.

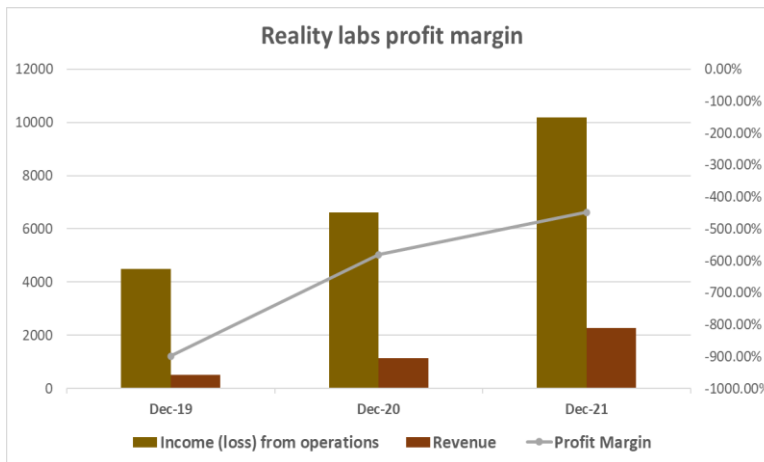


Figure 24: Profit Margin of Reality Labs

**Key Highlights**

Reality Labs (RL) segment profit margin ratio improved from 2019 to 2020 and from 2020 to 2021

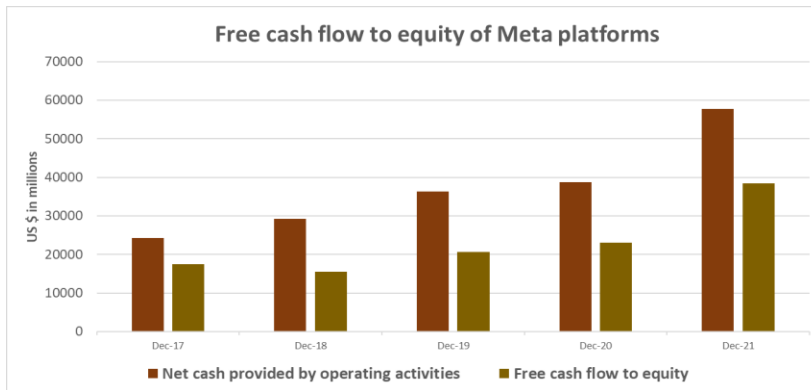


Figure 25: Free cash flow to equity

**Key Highlights**

YOY Meta platforms Inc has tremendous growth in free cash flow reflects towards stable company and planned with huge investments.

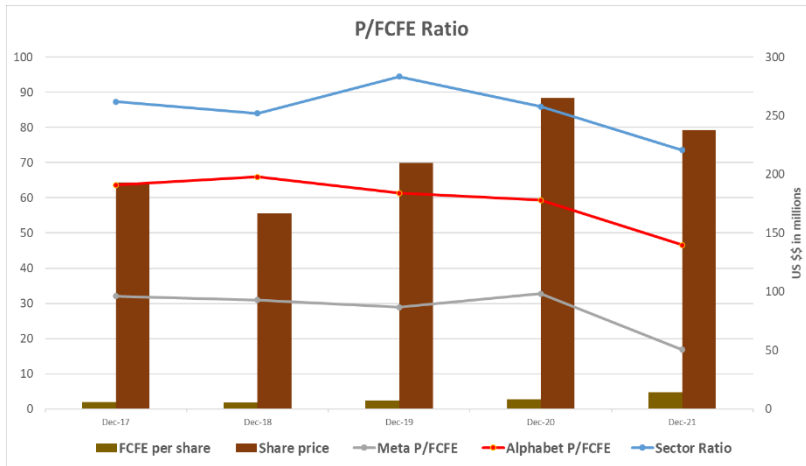


Figure 26: P/FCFE Ratio

**Key Highlights**

YOY Meta platforms Inc has tremendous growth in free cash flow reflects towards stable company and planned with huge investments. Higher the value P/FCFE company is valued, and its stock price is high. Due to current inflation and covid 19 there was significant drop in Meta platforms and Alphabet, sector as well.

## COMPANY VALUATION

After an in-depth analysis of the past financial performance of Meta Platforms Inc., we have estimated the future value of the company. The model used for valuation is Discounted Cash Flow which estimates the value of the company based on its future cash flows. The present value of the future cash flows is determined based on the discount rate. In our study, we have used Weighted Average Cost of Capital (WACC) as the discount rate. WACC represents a firm's average cost of capital from all sources, including common stock, preferred stock, bonds, and other forms of debt [11]. In other words, through DCF valuation we are estimating the money an investor would receive from investing in Meta Platforms Inc. adjusted for the time value of money.

There are following assumptions made in doing the DCF valuation:

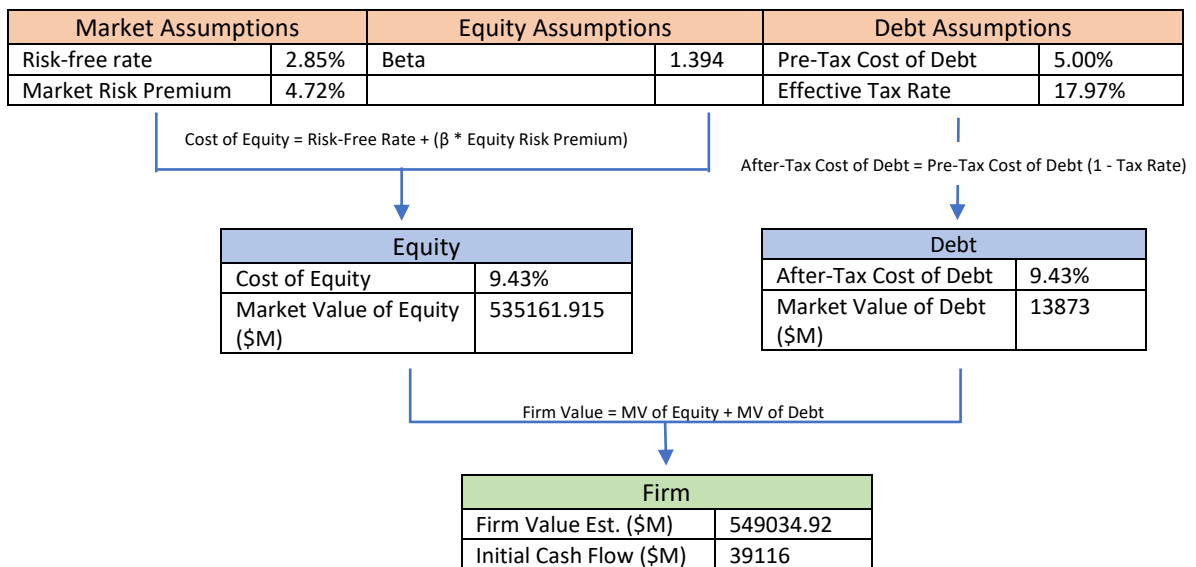


Figure 28: Assumptions for DCF Valuation

### Step 1: Forecast the future cash flows

- We estimated a short-term and a long-term growth rate to forecast the future cash flows.
- The short-term growth rate is based on the Geometric Mean of growth rates reported for previous years. We also adjusted this growth rate with an assumed inflation rate of 3.5%.
- The long-term growth rate is estimated as 2.0% for calculating the terminal value of the company at the end of 5-year period.

Table 2: Short-term and long-term growth rates

Estimating future growth based on Geometric Mean			
Year	\$M	% Change	After adjusting inflation of 3.5%
2017	17,483		
2018	15,359	-12.15%	
2019	21,212	38.11%	
2020	23,632	11.41%	
2021	39,116	65.52%	
2022	49,679	<b>22.30%</b>	<b>18.80%</b>
2023		<b>32.85%</b>	<b>29.35%</b>
2024		<b>31.57%</b>	<b>28.07%</b>
2025		<b>37.15%</b>	<b>33.65%</b>
2026		<b>30.85%</b>	<b>27.35%</b>

<b>Long Term (Terminal) Growth Rate</b>	<b>2.00%</b>
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**Step 2: Determine the discount rate**

The WACC is considered as the discount rate in our DCF model. Using the below formula and plugging in the all the required values from our assumptions given above, we calculated WACC as **9.30%**.

$$WACC = \left( \frac{E}{V} \times Re \right) + \left( \frac{D}{V} \times Rd \times (1 - Tc) \right)$$

where:

*E* = Market value of the firm's equity

*D* = Market value of the firm's debt

*V* = *E* + *D*

*Re* = Cost of equity

*Rd* = Cost of debt

*Tc* = Corporate tax rate

**Step 3: Discount the forecasted cash flow to present day**

The forecasted cashflow were discounted using Present Value formula at a rate of 9.30% (WACC).

$$Present\ value_{t=0} = \frac{Cash\ flow_{t=1}}{(1 + r)^{t=1}}$$

We calculated the Present Value of each year's forecasted cash flow using the PV function of MS Excel.

- The intrinsic value of Meta Platforms Inc. is estimated to be \$569.79.

- The intrinsic value is greater than the current market price per share and hence Meta Platforms Inc. is forecasted to have positive returns for investors.

Table 3: DCF Valuation Model

Valuation Model						
Cal. Year	Year	Gr. Rate	FCF (\$M)	Term. Val.	Total	PV
2021	0	18.00%	39,116		39,116	
2022	1	18.80%	46,157		46,157	42,231.45
2023	2	29.35%	54,835		54,835	45,905.03
2024	3	28.07%	70,929		70,929	54,327.67
2025	4	33.65%	90,835		90,835	63,657.81
2026	5	27.35%	121,401		121,401	77,843.24
2027	6	2.00%	154,608	2,161,738	2,316,345	1,358,940.40
					<b>Firm Value</b>	1,642,905.61
					<b>Debt Value</b>	13,873.00
					<b>Equity Value</b>	1,629,032.61
					<b>Shares Outstanding (mil)</b>	2,859.00
					<b>Intrinsic Value/Share</b>	569.79
					<b>Market Price/Share</b>	191.63



## RISK & BENEFITS

Meta Inc. is heavily investing in this new technology and performing well on financial metrics, but we cannot conclude without understanding Risks and benefits associated with it.

### **Company's present and future risks**

- There was a significant dip in performance during 2019, which also brought to light some of the high-profile lawsuits and litigations.
- As the company has the world's biggest social media business, it has side effects on people's lives. This keeps raising controversies on data privacy, misuse of data, politics and brings attention from regulatory bodies across the world and risks of different regulations. Which has a direct impact on its business and future growth.
- With the rise of awareness, privacy regulation in some forms from government to other companies, it threatens User engagement on its platforms. Which is visible in the company's active user growth and direct on sales growth and revenue.
- To avoid further regulations and improve User's trust, the company is spending immensely on security, research, and development to censor dangerous content e.g., to settle a class-action lawsuit concerning its biometric data collection, it paid \$500 million to plaintiffs.
- Some of the investments such as Meta's cryptocurrency project called Libra failed and was finally closed. This incurred huge losses for the company.
- There are other external factors as well, depending on which company is building the metaverse e.g., better computer power, high speed data network, better hardware for virtual realities. If one does meet its promise, it has a bigger risk.

### **Company has following benefits as well:**

- Most important benefit of early mover advantage.
- Free cash flow growth is ~23%/year for the past 5 years, specifically after 2020 there is improvement in its financial performance.
- Its investment in the gaming sector is paying well, gaining significant market share.

- Profit margin at 33.4%, Operating margin at 40% and 31.5% return on equity indicate the company is in a better financial position.
- Through its large array of social media platforms, it will be easy to introduce modern technologies and bring people's engagement. This will flourish its advertising business and revenue.

## CONCLUSION

**Web3** is poised to recapture the 1990s promise of a decentralized internet, free from gatekeepers and trillions of dollars platforms. But it is full of contradictions, glitchy technology, regulatory uncertainty, and competing economic interests. It is in its early adoption phase but promises vast potential and boom-bust cycles ahead. **Web3** overlaps with the **Metaverse** which is a new technology based on virtual realities and fosters new ways for people to socialize and work. Meta's move is a reminder that the Web2 giants are not sitting still. In the end, Web3 is unlikely to displace them.

**Meta Platforms (FB)** posted a first-quarter loss of **\$2.96 billion** in its recently created Facebook Reality Labs (**FRL**) division, which comprises its augmented and virtual reality operations. For 2021, Facebook reported a loss of \$10.2 billion on revenue of \$2.3 billion for FRL. Currently due to investment/expenses on FRL, losses are huge, but revenue shows an increasing trend.

As per latest statement from Meta CEO, "We're laying the groundwork for what I expect will be very existing 2030." []

Through this in-depth research of Meta Platforms Inc. armed with our financial analysis and valuation, we estimate the company to grow at a significant rate of ~ 20%. Meta Platforms Inc. serves as a promising investment with good positive returns for the investors.

## FUTURE RESEARCH

In future we plan to expand our studies on below areas:

- Explore and understand how Web3 and Metaverse as technology evolves and monitor the future trends for application of it. Gather information around which sectors these applications will be used and its financial aspects.
- Track **Reality Labs (FRL)** division's investments and revenues/losses from company's earnings announcement and financial reports. Through these numbers analyze what impact its producing on Meta's financial health.
- Perform a Cost Benefit Analysis of Reality Labs division to get insights of its performance and future direction.
- Monitor the growth rate specifically for DCF to see if it matches with our estimates or how much it deviates from our analysis. Examine if the company's value grows as per our valuation analysis.

## REFERENCES

1. Devanshish Gupta, Sunil K Singh, 2022; 'Evolution of the Web3.0: History and the future', Insights2Techinfo
2. Preethi Kasireddy, 2021; 'What do Web2.0 and Web 3.0 mean? Which one is better?' <https://www.preethikasireddy.com/post/what-do-web-2-0-and-web-3-0-mean-which-one-is-better>
3. Gadekallu, T. R., Huynh-The, T., Wang, W., Yenduri, G., Ranaweera, P., Pham, Q. V., ... & Liyanage, M. (2022). Blockchain for the Metaverse: A Review. arXiv preprint arXiv:2203.09738.
4. Grayscale Research November 2021 the Metaverse. [https://grayscale.com/wp-content/uploads/2021/11/Grayscale Metaverse Report Nov2021.pdf](https://grayscale.com/wp-content/uploads/2021/11/Grayscale-Metaverse-Report-Nov2021.pdf).
5. "Facebook, Microsoft and Others Look towards the \$1 Trillion Dollar 'Metaverse' Opportunity - but That Contradicts the Base Philosophy behind Web 3.0." Business Insider, 28 Nov. 2021, <https://www.businessinsider.in/investment/news/facebook-microsoft-and-others-look-towards-the-1-trillion-dollar-metaverse-opportunity-but-that-contradicts-the-base-philosophy-behind-web-3-0/articleshow/87959802.cms>.
6. Metaverse report-future is here: Global XR Industry Insight: Deloitte China: TMT industry. Deloitte China. (2022, March 22). Retrieved June 3, 2022, from <https://www2.deloitte.com/cn/en/pages/technology-media-and-telecommunications/articles/metaverse-whitepaper.html>
7. Global TMT Sector: Metaverse: A guide to the next-gen internet. (n.d.). Retrieved June 4, 2022, from <https://www.credit-suisse.com/media/assets/corporate/docs/about-us/media/media-release/2022/03/metaverse-14032022.pdf>
8. Veronica Barassi, Emiliano Trere, 2012; 'Does Web 3.0 come after Web 2.0? Deconstructing theoretical assumptions through practice', Sage Journals

9. Adam Hayes, 2021; 'Profitability Ratios', Guide to Financial Ratios - Investopedia  
<https://www.investopedia.com/terms/p/profitabilityratios.asp#:~:text=Profitability%20ratios%20are%20a%20class,a%20specific%20point%20in%20time>
10. Adam Hayes, 2021; 'Liquidity Ratios', Guide to Financial Ratios – Investopedia  
<https://www.investopedia.com/terms/l/liquidityratios.asp#:~:text=Key%20Takeaways-,Liquidity%20ratios%20are%20an%20important%20class%20of%20financial%20metrics%20used,ratio%2C%20and%20days%20sales%20outstanding>
11. Marshall Hargrave, 2022; Weighted Average Cost of Capital, Investopedia  
<https://www.investopedia.com/terms/w/wacc.asp>

## APPENDICES

### Appendix A: Meta Platforms Inc. Income Statement 2021



10-k report  
20211231.pdf

### Appendix B: Meta Platforms Inc. Income Statement 2020



10-k report  
20201231.pdf

### Appendix C: Meta Platforms Inc. Income Statement 2019



10-k report  
20191231.pdf

### Appendix D: Meta Platforms Inc. Income Statement 2018



10-k report  
20181231.pdf

### Appendix E: Meta Platforms Inc. Income Statement 2017



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20171231.pdf

### Appendix F: Financial Calculations



Meta Platforms Inc.  
Calculations.xlsx