Facebook, Inc. Stock Analysis

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NASDAQ: FB

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Introduction

This paper will be an overview for Facebook (NASDAQ: FB) for an investor's investment consideration. We will be looking into the company's operational effectiveness, debt risk exposure, and value to determine the overall attractiveness of the stock using information that is available to anybody so an investor may do his/her own research to further their knowledge on said investment. I started keeping my eye on Facebook during the initial 8% pullback in the market when COVID-19 fears were first starting to seriously arise. I started buying the stock when it fell under $200 and continued to buy in small quantinies as the stock kept falling all the way up until March when it reached sub $140 per share. This of course, was just one of very many stocks that tanked during the huge decline, no stock was safe, and there were bargains left and right. Now however, the stock has recovered and has even reached all time highs, as it very much benefited from the pandemic and stay-at-home orders. Everyone is trying to find ways to keep themselves entertained and social media definitely is among the products and services that will benefit from this because of how much time people spend on these apps. Not to mention everyone is on social media and it's probably among the most important thing in most people's morning routines, as they check social media first thing in the morning.

Business Model:

Facebook, Inc. focuses on the development of products and services which enable users to communicate with anyone around the world through any device in which the apps or websites are available. Facebook's products include Facebook, Instagram, Messenger, WhatsApp, and Oculus, which allow users to interact, share ideas, photos, videos, and send private messages to friends, family, and the world at large. Every person now either uses any of these platforms, has used them before, has considered it, or at least knows about its existence. The beauty of Facebook's business model is that Facebook can leverage that and use it to create many other business opportunities within their platforms, such as ads, ecommerce, games, streaming, and much more.

Income Statement

Profitability:

Now that we've looked at what Facebook, Inc. is all about, let's start taking a look at their financial statements. This is what's ultimately going to help us figure out whether or not this company is a good investment or not. We're going to start off by looking at Facebook's income statement, more specifically, their profitability. A company's profitability is one of the best ways of determining their performance, not just in their industry, but as a company overall. Facebook is one of the best performing companies in the world. This definitely shows when you take a look at Facebook's profitability and overall performance. Facebook has a profitability ratio of 26%, bringing in over $70 billion in total revenue and over $18 billion in net income in 2019. This is well above

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Net Profit Margin

	2019	2018	2017
Revenue	$ 70,697	$ 55,838	$ 40,653
Costs and expenses:			
Cost of revenue	12,770	9,355	5,454
Research and development	13,600	10,273	7,754
Provision for income taxes	6,327	3,249	4,660
Net income	$ 18,485	$ 22,112	$ 15,934

Net Income / Revenue = Net Profit Margin

18,485 / 70,697 = 26%

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the benchmark of 10% and shows that Facebook's ability to turn revenue into profits is very high. Facebook also has very high gross profits, which is the amount of money left over after deducting Cost of Goods Sold (COGS) or, in the case of Facebook, Cost of Revenue. This shows the investor how good a company is at managing their expenses to ensure that they have as much money left tover as possible as pure profit. Facebook has a gross profit rate of 82%, beating the average gross profit rate of 40-50%. Good management of expense and good profitability will ensure that the company is always performing at peak efficiency and put the company in a good financial position if things took a turn in the economy or the industry. With their performance, Facebook is able to keep shareholders happy and keep the company in good shape

Gross vs Net Profit Margins

I wanted to compare Facebook's Gross and net profit margins a little bit because the results in each are very different. Gross profit margin is their gross profit, which is their total revenue minus cost of good sold (COGS), divided by total revenue. While net profit on the other hand, is their net income, which is total revenue minus all operating expenses, divided by their total revenue. This comes out to be 81.7% and 28.6%, respectively; the two numbers are very different in size in deed. Why is this though? Well, it seems like a lot of Facebook's profits when you subtract COGS, are going to operating expenses and income tax expense. Facebook's operating expenses have increased significantly since 2017 or even just 2018. Operating expenses in comparison from fiscal year 2019 to fiscal year 2018 is an increase of 57.4%! On page 54 of their 10-k, they specify that "Research and development expenses consist primarily of salaries and benefits, share-based compensation, and facilities-related costs for employees on our engineering and technical teams who are responsible for building new products as well as improving existing products." This large increase in operating expenses has definitely dug into their profits, but that core profit potential is still there and if Facebook can work on lowering those expenses, then we could see a pretty good increase in net income.

Gross Profit Margin

	2019	2018	2017
Revenue	$ 70,697	$ 55,838	$ 40,653
Costs and expenses:			
Cost of revenue	12,770	9,355	5,454
Research and development	13,600	10,273	7,754
Marketing and sales	9,876	7,846	4,725

Revenue - Cost of revenue = Gross Profit

$\$70{,}697 - \$12{,}770 = \$57{,}927$

Gross Profit / Revenue = Gross Profit Margin

$\$57{,}927 / \$70{,}697 = 81.9\%$

Balance Sheet

Cash to Debt:

Switching over to the balance sheet, the first thing we're going to take a look at is the cash to debt ratio. Taking a look at Facebook's most recent annual report, their year ended December 31, 2020 10-k shows that Facebook, as of December 31, has cash and cash equivalents of $19 billion and marketable securities of $35.8 billion. On a balance sheet the most liquid assets, assets that can quickly be converted into cash, go at the top of the balance sheet and the least liquid assets, assets that can't be converted into cash very easily, go at the bottom. Marketable securities are short term assets that can be liquidated easily. While their current debt is sitting at a $277 million as of December 31, 2019 and no long term debt is reported on the balance sheet for their 10-k. This is a strong balance sheet, but let's take a deeper look into their cash and cash equivalents. Moving down to page 89, "Cash and Cash Equivalents and Marketable Securities" on their 10-k, you'll notice that liquid cash is actually only $4.7 billion, roughly 24.8% of their total cash and cash equivalents. That's a ratio of 17:1, just with their cash, notcounting cash equivalents or marketable securities.

4735000 ÷ 277000 =

17.09386281588448

So if you were to take just their cash alone, they'd be able to pay off all of this debt like it's nothing. This definitely gives me plenty of confidence that Facebook will be able to deal with any debts, sudden expenses, downturns in the economy such as this one, with the COVID-19 pandemic, and just about anything you throw at it.

Note 4. **Cash and Cash Equivalents and M**

The following table sets forth the cash and casl

	December 31	
	2019	
Cash and cash equivalents:		
Cash	4,735	$
Money market funds	12,787	
U.S. government securities	815	
U.S. government agency securities	444	
Certificate of deposits and time deposits	217	
Corporate debt securities	81	
Total cash and cash equivalents	19,079	
Marketable securities:		
U.S. government securities	18,679	
U.S. government agency securities	6,712	
Corporate debt securities	10,385	
Total marketable securities	35,776	
Total cash and cash equivalents and marketable securit	54,855	$

Efficiency:

Efficiency is an important factor in determining whether a company is worth investing in or not. The reason for this is because even though having good profitability and a lot of assets is great, you want to know what's being done with all of it and what that means for you as the investor. When it comes to efficiency, Facebook's is sitting at a decent 61%, well below the benchmark of 100%.

Asset turnover = Total Revenue / Average Total Assets

(133,376,000 =97,334,00) / 2 = 115,355,000

<u>Asset turnover:</u>

70,697,000 / 115,355,000 = 61.286%

Ideally 100% is where you'd like to see a company at if you're looking to invest in it. This level shows that the company is using their assets to their fullest potential, to put it simply. Taking a look at Facebook's

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assets, we can see exactly what's going on and what's causing this lower efficiency. Facebook has a lot of their assets in "Property, Plant, and Equipment," as well as in "Other Short Term Investments." A total of 34% of the company's assets are in PP&E and 28% are in short term investments that can easily be converted into cash. This is quite normal for Facebook however, because they always keep a sizable amount of cash on the balance sheet. If Facebook didn't use so much of their money for PP&E or kept so much in cash, their turnover would be 134% rather than 61%.

Recalculation of Asset Turnover Ratio

(133,376,000 - 44,783,000 - 35,776,000) =

70,697,000 / 52,817,000 = 134%

But Facebook is a company that brings in 12 figures of revenue per year with a profitability ratio of 26%. What this means is that they don't have the need to finance anything as they can purchase just about any building outright in cash. Hence why they have zero long term debt and only $277 million in short term debt, making it one of the best balance sheets you'll find in the stock market in my opinion. Facebook's fundamental business is clearly very strong, so it brings up the question as to why they don't put more money to work in different areas? Facebook generates billions of dollars per quarter from advertising, so there is very little need for them to dump money into trying to increase product sales. All of this revenue will generally be coming from their main Facebook platform and Instagram. The majority of their improvements to the products and services can just be programmed by the employees and Facebook doesn't have to spend additional billions on machinery for manufacturing or anything of that sort. It is most probable that Facebook is just simply making way more money than they know what to do with. Overall, Facebook could definitely make some improvements to their efficiency as it's not its strongest aspect of the business by any means but this is something that can change as the company expands and better, more efficient ways of managing their assets are implemented. Their lower efficiency might even be a good sign as they are a giant in their market and don't really need to spend a lot of money to expand their business in order to keep up the pace with the competition. Not bad news at all for a possible investor.

Productivity:

In the previous sections, we covered Facebook Inc.'s profitability and efficiency by calculating the company's profitability ratio and asset turnover ratio. In this paragraph, we'll use both of these to find the company's overall productivity, or return on assets. This allows us to gauge how efficiently the whole operational process is getting done. This is found by simply multiplying the profitability ratio by the asset turnover ratio as so, 26.146% x 61.286%.

Return on Assets (ROA)

26.146% x 61.286% = 16%

You can do the calculation in decimails and convert it into a percentage after if you'd like.

This gives us a return on assets of 16%, which outperforms the benchmark of 7.5%. As we said previously, Facebook's asset turnover ratio of 61% isn't that great at all but is offset by their very high 26% profitability ratio. As we mentioned before, most of their money comes from advertising on their Facebook platform and the very high number of users of both Facebook and Instagram, which are both at over 1-2 billion monthly active users (MAU), not to mention the MAU of the other apps as well. This means that Facebook generally has more money lying around than they know what to do with; that money is usually spent on PP&E and other investments, resulting in a very low asset turnover ratio. Although, for Facebook this isn't a bad thing because they always have money on the sidet to grow the company by either purchasing new investments, such as new platforms and apps that may be trending to eliminate competition, research and development for new products, or to get them through rough times.

Leverage:

Next up, we will discuss leverage. This will help us assess how much risk a company is taking on and how well they're able to pay off their borrowed funds. Companies will typically borrow money from a lender when they want to avoid using equity to fund their spending. Facebook's leverage is standing at a 124%, below the benchmark of 200-250%.

Asset to Equity
Avg. Total Assets / Avg. Total Equity = A/E Ratio
Since we already have avg. total assets, we'll just calculate avg. total equity.
(101,054,000 + 84,127,000) / 2 = 92,590,500

A/E
115,355,000 / 92,590,500 = 1.24
1.24 x 100 = 124%

This means that their assets are being funded for the most part by equity rather than borrowing money from lenders. When you take this and put it up against their productivity of 16%, you'll get an ROE of 18% that is slightly higher than the benchmark of 15%.

Return on Equity (ROE)
Profitability x Efficiency
26% x 61% = 15.86 = 15.9%

ROE
16% x 124% = 17.98 = 18%

Since Facebook is bringing in large net income numbers and has such a low interest expense, the company's interest coverage ratio (ICR) comes out to be a whopping 1,241.6, which is above and beyond the minimum acceptable interest coverage ratio level of 3.0.

Interest Coverage Ratio (ICR)
Go back to the income statement and find earnings before interest and taxes (EBIT)
18,485,000 + 20,000 + 6, 327,000 = 24,832,000
ICR
24,832,000 / 20,000 = 1,241.6

A 3.0 interest coverage ratio would indicate that a company's earnings are three times larger than their interest expense. This would show that a company is able to afford the payments for their borrowing with their current earnings. So this means that Facebook's earnings are over 1,000 times larger than their interest expense, leaving plenty of profit for the shareholders. Facebook seems to be handling their debt very responsibly, using it only when necessary and using equity to fund the purchase of their assets. This puts Facebook in a very favorable position both in good market conditions and in downturns in the market, since they wouldn't be at risk of defaulting on payments because they took on more debt than they could afford.

Management Team

Alright, moving away from the finances of the company, we're going to take a look at the people behind the business, the one's responsible for running it, managing it, and making sure it doesn't crash and burn. That is of course, the company's management team.

Cheif Executive Officer (CEO)

We're going to start with the man of the hour, the man we've all heard about, Mark Elliot Zuckerberg, the CEO of Facebook, Inc. Obviously, the CEO is the one in charge of the company, the head honcho. He's the one expected to make the right calls, at the right times, and ensures everything is running smoothly and according to plan. Mark Zuckerberg, as we all know, founded Facebook, Inc. on Febuary of 2004 when he was a sophomore at Harvard University. According to business insider, he was 19 year old when he launched the website. Definitely very impressive! He's been CEO of the company every since, and the vast majority of the big moves Facebook has made, have been under his watch. Mark has definitely proven himself as a CEO that really cares for the company and its future. There's been a lot of instances in Facebook's life that could have really hurt the company perminantly, but Mark has found a way every time, to take the company down a better path. He's been able to stay current on trends that have helped keep Facebook not only afloat, but ahead. He's also chosen to get into new technologies that could potentially expand Facebook's future, and possibilities. One of Zuckerberg's best moves at Facebook, aside from starting the website in the first place, in my opinion, is the acquisition of Instagram. Instagram was started in October 2010 by Kevin Sysrom and Mike Krieger, and just like Facebook, it was an instant hit, attaining one million users within 2-3 months of its laucn. Zuckerberg must have defintiely seen huge potential in Instagram because Facebook acquired the company for $1 billion. Now, that definitely must have seemed like a very premium cost for a relatively young app, with a small team behind it. But analysts now value Instagram alone at over $100 billion, making that $1 billion acquisition cost look like a bargain. Instagram is now a huge contributer to Facebook's performance and their bottom line. If Facebook hadn't acquired Instagram, they would have some serious competition to deal with, not only with Instagram, but with Snapchat too, which Facebook did try to acquire, but got rejected. Snapchat however, still has not broken even, and is trading at a little over $1 above its IPO price. This leads me into the next really good decision from Mark, although a little contriversial at the time, which was to just blatantly copy Snapchat's stories feature. Yes, this may have been a shameless copy and paste of the idea, but it worked out in Facebook's favor in a massive way. Making it one of Instagram's most popular features, along with its inclusion of filters to go along with it. Facebook has also made some other acquisitions that were important, such as the acquisition of WhatsApp for $19 billion, which has also contributed in a big way to Facebook's revenues. But I would still consider Instagram as being Facebook's most important acquisition. Mark Zuckerberg's decision to purchase this meme packed app, has benefited Facebook greatly, showing Mark's desire to ensure Facebook stays ahead of the game. Not to mention, Mark Zuckerberg is a bit of a meme himself. That's a plus I suppose, being a meme can help your reputation, especially these days.

Cheif Financial Officer (CFO)

A company's cheif financial officer also plays a very important role in the company because who would want to invest in a company that's making poor financial decisions? This position at Facebook, Inc. belongs to Dave Wehner, who's been CFO since 2014. Before his position as CFO, he was vice president of Corporate Finance and Business Planning at Facebook, as stated on Facebook's investor relations page. He also served as CFO of Zynga for two years from 2010-2012 before he became CFO of FB. Since Dave is in charge of the financials of the company, I'm sure he's to thank for the large cash loads Facebook has (even if it lowers their efficiency). In Facebook's most recent earnings call, which can also be found on their investor relations page, COO Sheryl Sandberg, who we'll talk about shortly, said that Facebook's strong balance sheet paid off this quarter. This is great, because it shows it was worth it, again, even if it lowered efficiency, to have higher amounts of cash and cash equivalents and low debt levels by using stockholder's equity to fund their purchases as well. This allowed them to have more than enough cash on hand to continue investing in the business as they see fit. This is all possible with strong financials and it's due to Facebook's CFO and the rest of the management team.

Cheif Operating Officer (COO)

Moving on to the Chief Operating Officer, Sheryl Sandberg. She's the one in charge of Facebook's business operations and has been with Facebook for 10 years. According to business insider, "Sandberg has grown to be one of the most recognizable faces in Silicon Valley." She's been with Facebook since it was a small start-up. What does this tell you about her? She knows the company well. When you've been with the company for a decade and since it was just a small little company, you're going to know way more about the business than just about anyone else, aside from Zuckerberg. It's a really good thing to see someone who's stuck with the company just about as long as the founder and CEO of the company himself. She's also been the founder of her own companies, which just furthers her qualification because she's not just an employee, she's an entreprenuer too, not to mention that she's donated multi-millions to charity. She seems to have a very good vision for the company and its trajectory, and seems to also be very optimistic about it. She has been very good at explaining Facebook's efforts to fix some of the messes that they have created due to how fast they were growing and still are. She seems to have very good ideas that will benefit the company's future and her focus on the issues she's trying to tackle is quite remarkable. Prior to Facebook, Sheryl was also vice president Global Online sales and Operations at Google.

Cheif Technology Officer (CTO)

Alright, so coming up on the last two key members of management here, we're going to move on to the Cheif Technology Officer of the company, Mr. Mike Schroepfer. Schroepfer, according to his Linkedin profile, has been with Facebook for nearly 12 years. At the company, he's in charge of all things technology, and leads the development of technology startegies, from AI, to VR. His primary job is to use Facebook's technology and come up with strategies that will allow Facebook to grow, connect more people together, and create a much stronger company overall. Another member of management that has been there since its very early stages, showsing that for all of these years, he's been able to continue providing value to the company. How can we know he's doing a good job? Well, let's take another look at Facebook's investor relations page, and look over the sentence I just summarized. "Mike Schroepfer is chief technology officer at Facebook. In that role, he leads the development of the technology strategies and teams that will enable Facebook to connect billions of people around the world and make significant breakthroughs in fields like artificial intelligence and virtual reality." Let's focus on the words "connect billions." Mr. Schroepfer has been with the company for over a decade, and there's been a lot, and I mean a lot of growth that has happened for Facebook in the past 11- 12 years. What's exactly the thing that Facebook has done? Connect billions of people together, that's what. Facebook now has 2 billion plus users per month, so Mike must have done one hell of a job. Obviously, the credit for all of this growth can't be attributed to only one member of management, that would be ridiculous, and there would be no need for multiple members in that case. But on an individual level, every person on this management team has done a lot for the company in all of these years. It's also worth noting that before Facebook, Mike was vice president of engineering at Mozilla Corporation, the company behind Mozilla Firefox, only one of the most wide used browsers of all time.

Cheif Revenue Officer (CRO)

Mr. David Fischer, is Facebook's Cheif Revenue Officer and is in charge of their advertising business. This is very important as the majority of Facebook's revenue does come from advertising, so it's a key component of the company's performance. He joined the company in 2010, and prior to that, he was he was the Vice President of Online Sales and Operations at Google. His summary on Facebook's investor relations page says the following about his career at Google. "helped build Google's online advertising network into the largest in theworld." Now this is very exciting! He was in charge of advertising at Google and built it into the largest network in the world. Now he's also in charge of advertising at Facebook, whicih gives me a lot of confidence that he will be able to continue building it into a much stronger force. Facebook's advertising business already generates billions per quarter as I mentioned earlier in the paper, so just imagine what the growth will be 5-10 years from now. It's very reassuring when the man who built Google's advertising network into the largest in the world, is now at Facebbook. Hopefully he's able to do the same here, maybe close to the same, maybe better, who knows. But overall it's really good to see that the members of management, for the most part, have been with the company for years and years, which gives you some piece of mind because they understand the business very well, they can identify when something's not right, and act accordingly.

General Counsel

The last member of mangement we're going to look at, is actually the newest member of Facebook's management team. That's general counsel of Facebook, Jennifer Newstead, who's been with the company only since 2019. Although she is newer to the company, she holds a very important posistion at the company. On the investor relations page, it states that she oversees all legal matters, including corporate governannce and securities compliance, regulatory oversight, litigation, intellectual property and commercial matters. Definitely quite the list of duties. Facebook has been no stranger to contriversy and legal issues, so it's important that they have someone on the management team to make sure Facebook either eliminates or limits the amount of legal issues they could have in the future. Jennifer, was appointed after Colin Stretch announced that he would be leaving Facebook after nine years. Sheryl Sandberg has the following things to say about Jennifer's inclusion into Facebook's management, "Jennifer is a seasoned leader whose global perspective and experience will help us fulfill our mission." She also had the following to say, "We are also truly grateful to Colin for his dedicated leadership and wise counsel over the past nine years. He has played a crucial role in some of our most important projects and has created a strong foundation for Jennifer to build upon." Colin left a very "strong foundation" for Jennifer to come in and continue reinforcing, to make Facebook the strongest company it can be and minimizing the amount of legal risk it is exposed to.

Valuation

At the time being, Facebook's valuation seems a bit high to me. Facebook currently has a p/e ratio of 31 times earnings and a p/b ratio of 6.09. Furthermore, I calculated the intrinsic value on FB's stock price at roughly $281.5. The price as of writing this analysis is nearly at $230 per share, which shows that the stock is somewhere around near fair value. I personally like to see the stock below my cost basis before I start buying more shares of it again. For those of you who don't know, you can calculate your cost basis by calculating your average price per share for all of your shares. If you bought all of your shares at the same time, for the same stock price then your cost basis is whatever that price was. But if you purchased shares at different times, at different prices, then you're cost basis is the average price for all of your shares combined. For example, if I bought 2 shares of FB at $200 per share, then two weeks later, the stock price falls to $180 per share, I can find my cost basis with the following calculation:

Price per share number of shares

(200 x 2) + (180 x 2) = 400 + 360 = 760 / 4 = $190

(So your cost basis is $190 per share because that's the average price of all of your shares combined. Simple.)

For the people who haven't started a position in FB yet, what's a good price for you to buy at? I personally like to wait until the stock is undervalued before starting a position on any stock I'm investing in. For Facebook, an undervalued price would probably be somewhere between the $190 - $160 ish per share range or less. But Facebook is a really good company so even starting a position at near fair value isn't that bad honestly. Consider this quote from the goat himself, "It's far better to buy a wonderful company at a fair price than a fair company at a wonderful price." - Warren Buffett.

So, with that said, again, it's not a terrible idea to start a position even at near fair value. At least in my opinion. However, always make sure you have cash on the side in case we get a nice pull back in the price to buy in. I always like keeping cash on the side incase prices drop, so I can swoop in on some more shares on my favorite stocks, which Facebook is one of them.

Conclusion

We've established that Facebook, Inc. is a very profitable company that has a profitability ratio of 26% but has a considerably weaker efficiency of 61% due to the majority of their assets being in PP&E and other short term investments. FB's strong profitability of 26% and their lagging efficiency of 61% are combined to achieve a productivity of 16% which easily surpasses the 7.5% target. The business seems to be strong on almost all fronts which reflects on the numbers we've found. This is only strengthened by their leverage of 124%, meaning that the company doesn't rely much on borrowing money which reduces the level of risk they're exposed to. Their interest coverage ratio of 1.241.6 shows that Facebook will have 0 issues with being able to pay for the debt they have taken out. All of these numbers are very high for the most part and completely engulf the benchmarks and typical numbers you'll see on most companies, creating a 26% x 61% x 124% = 18%, just slightly higher than the normal ROE of 15%. Facebook has a core business model that is very strong, very profitable, and is being run very well. This in my opinion is a very good company with a lot of potential for future growth on all fronts. At the time of writing this analysis, Facebook has a p/e ratio of 31, well above the 18-22 range. This indicates that the stock is near its fair value range. This could be due to a lot of people buying the stock over the past couple of months due to its good performance during this current pandemic. Since everyone is staying at home, many are spending more time on social media to entertain themselves, which has boosted the number of users and in turn boosting the company's performance. As I've said before this is a really good company that has very strong potential for growth in the future. Although currently the stock is not cheap by any means, based on Facebook's ROE of 18% among the other findings in this analysis, Facebook seems to be a solid investment that could generate a lot of money for its shareholders long term.

Resources

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