An Overall Analysis of General Motors Company

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Abstract. General Motors company is considered as automobile tycoon in the United States and even the word for several years. However, in recent years, due to the swift and violent development of the new energy resources vehicle industry, the instability expansion of COVID-19, the environment GM Co. is confronting has been increasingly complex. This paper uses the SWOT analysis, financial analysis, efficiency analysis, fundamental analysis and estimated valuation analysis of the most recent year to analyze the profitability of the company and the riskiness of its investment. These analyses paint a pretty strong picture for GM at its undervalued current price as well as its recent operating conditions. Ford is used as a marker to compare how General Motors is doing in the market.

Keywords: SWOT analysis, Financial analysis, Efficiency analysis, Earnings per Share (EPS); Price to Earnings (PE) ratio; PE over the growth rate (PEG).

1. Introduction

General Motors Company is a multinational automotive manufacturing company in the growing automotive industry, recovering from the COVID-19 pandemic. It generates revenue from developing, manufacturing, and marketing vehicles in multiple brands internationally. There is a current trend of shift in production from carbon-based vehicles to electric vehicles (EVs). Another source of revenue is from the GM Financial Company Segment, which provides automotive financing services and auto loans to GM customers. This part includes the SWOT Analysis to identify General Motor's strengths and advantages, while pointing out any areas of improvement. In the following part, ratios such as gross profit margin, operating profit margin, net profit margin and return on asset (ROE) are measured to reveal how well the company is running under a such complex macro environment. For companies that sells inventory with high market value, GM for instance, it is indispensable analysis it efficiency ratios like inventory turnover period, receivable collection period, payable payment period and working capital cycle to the development trend of the company which contribute to analyzing its future operating trend. Is General Motors overvalued or undervalued? The last part of the paper focuses on analyzing the parameters about GM's stock price, earnings, and growth rate, gives a brief description and analysis of GM's investment and valuation on the basis of GM's financial report, stock price and other relevant market data [1].

2. Business Analyses

This section outlines the strengths, weaknesses, opportunities and threats of General Motors Company using the SWOT analysis.

2.1 SWOT Analysis

2.1.1 Strengths

GM's strengths include its joint ventures and partnerships in China. GM's largest global market is China, therefore, the joint venture with Chinese automotive companies allows it to become successful in foreign markets. GM has stood a strong brand position in the automotive industry by being one of the biggest automotive companies in the US, holding a big part of the market share. GM has a strong global presence and brand portfolio, selling its products to 6 continents and over 30 countries under 10 different brands, giving it an advantage over competing brands. GM produces safe and economic-friendly vehicles, as it is advocating for environmental protection.

2.1.2 Weaknesses

GM's weaknesses include its reliance on pickup trucks and SUVs for most of its profits, so the change in demand for these types of vehicles will heavily impact GM's car sales. GM also has a lack of diversification in its products. A decline in the auto industry will be damaging to GM. GM is reliant on the US market for generating a majority of its revenue, however, GM's market share in the US is higher compared to its competitors.

2.1.3 Opportunities

GM's opportunities revolve around the growing demand for electric vehicles and autonomous vehicles. With the increasing awareness of environmental pollution, there is an increase in preference for electric vehicles. GM is working towards a safe driverless car, currently testing the safety of its new products, and the increase in demand for these types of vehicles will bring GM a new source of revenue. GM has potential growth in emerging automotive markets in developing countries in Africa and Asia.

2.1.4 Threats

Threats to GM include the increasingly intense competition among multiple companies for lower-priced similar quality products, such as Ford. There is an auto market slowdown due to the over-saturated market. Even though there is an increase in sales, this growth is projected to slow down, or even decline in the following years [2]. Increased regulations and laws in the US will cause GM to spend more money fulfilling these restrictions. Because of the global recession from the pandemic, GM's sales have dropped globally since 2020, although it is starting to recover.

3. Financial Analyses

In this section, GM's financial analysis is chiefly use for the research of the stability, solvency, liquidity and profitability and suitability of the company, which mainly through evaluating businesses, projects, budgets, and other finance-related transactions. This paper mainly based on three groups of data to do financial analysis, including profitability ratios, efficiency ratios and investment ratios. The required data are all based on data from general motors' financial reports collected on the website of the United States Securities and Exchange Commission.

3.1 Profitability Ratio Analysis

The profitability of a company is directly determined by the operating ability, which is mainly indicates by the following ratios that is mentioned next [3].

The gross profit margin refers to the proportion of gross profit in sales revenue, or the proportion of sales revenue that can cover expenses and form profits after deducting costs. From the chat below, the data have experienced a constantly increasing trend the past five years, which shows the company have growing ability to control the cost of goods sold and raising profitability, efficient management adapted to the macro environment can be one of the reasons.

The operating profit a comprehensive index reflecting the price and cost level of an company which is calculated after comparing the operating profit with the operating income, but before paying interest or tax as well as fully depict the operating effectiveness of the company. After comparing the data below, one conclusion can be drawn that: the proportion of operating profit from operation of gm is basically the same as the whole industry, which indicates business earnings are generated by the amount of goods sold by the company are stable and the company is relatively profitable. A slight increase can be seen in the past four years which represents gm have stronger ability to control management costs and marketing expense [4].

Net profit margin is calculated as net profit divided by revenue, on special occasions, do not consider the taxation and interest, for example, the net profit can be used interchangeably with operating profit. Although in general, a net profit margin in excess of 10% is considered excellent, however, after comparing with the average net profit margin of the industry 4.38% for the recent five years, the data of gm can be good.

Return on equity(ROE) which is also classed as an investment ratio, is calculated with net income divided by the fund of shareholders, which concentrates on the return available to the ordinary shareholders. The figure exhibits a increasing fluctuation for the recent three years, which indicates the gm company have higher price of products and services, lower costs, therefore, a better net profit. After comparison, the data of year 2018 can be a little bit higher, the cause can be found in the 10-K, which shows a higher number of net income than the other years. That should definitely be a advantageous thing.

Table 1. General Motors Co., profitability analysis

	2021	2020	2019	2018	2017
Gross profit margin	21%	20%	19%	18%	20%
Net profit margin	8%	5%	5%	5%	-3%
Return on equity(ROE)	17.7%	14.9%	15.4%	21.4%	(9.2)%

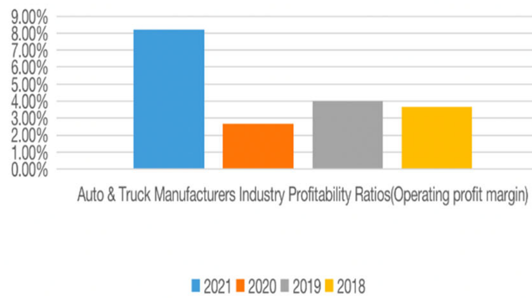

Fig. 1&2. General Motors Co., Operating profit margin &The whole industry, Operating profit margin

3.2 Efficiency Ratio Analysis

Efficiency ratios is considered as a rapid, simple and intuitive evaluation index, which is used to determine how effectively the company is to take advantage of its possession, such as capital and assets, to generate revenue [5]. In other words, that is how well the company manage its assets, cash flow and inventory, to name a few. For company owners and stakeholders, the higher the efficiency of the company, the more benefits they will gain.

As 12 turns or holding 30 days of inventory is the gold standard in the auto industry, the data of gm can be a little bit higher, which may indicate slightly higher risk of obsolescence. However, under a background of COVID-19 pandemic, a slightly higher data may help reduce the risk of inventory shortage.

The receivable collection period indicates how long the firms' customer take on average to pay their bills. While comparing with the data of Ford Co. of the same period, GM Co. demonstrates a lower number which indicates payments is received more quickly so the GM Co. may have more current cash in their hands to pay its debts or so.

The payable payment period is calculated as accounts payable divided by cost of goods sold and then multiply by a time period, 365days for example, which is generally used to measure the time taken by the company to repay the upstream suppliers. It is generally believed that the longer the repayment period, the company can supplement the working capital with the occupied supplier loans, therefore, company with higher payable payment period is considered to have a strong market position and a high competitive position as well as a better reputation when comparing with other companies in the same industry [6]. It is obvious that during the past five years, the data of gm in this term has maintained a relatively good level which may also suggest that the company can gain interest revenue by ingeniously using the amount of time between receivables and payables.

Inventory turnover period is considered as an indicator to reflect the time period from the acquisition of inventory to inventory sales. As it can be seen in the chart, the data experiences a dropping trend from the year 2017 to 2020 which means the inventory is realized faster, however, the data increased between 2020 to 2021, which illustrates that the inventory management of gm is unstable and can be improved [7].

The working capital cycle refers to the time period the company has taken to turn the net current assets and current liabilities into cash. A high figure means a company are required to borrow or maintain a balance of cash in a bank account that earns little or no interest, on the contrary, the company with a negative figure like gm for the recent five years, can gain an effectively free source of finance, which means the company have additional ability to finance its insurance, telecoms and credit card activities. It is worth paying attention that there would be costs to lower the period of receivable collection and inventory turnover as well as raising Payable payment period [8].

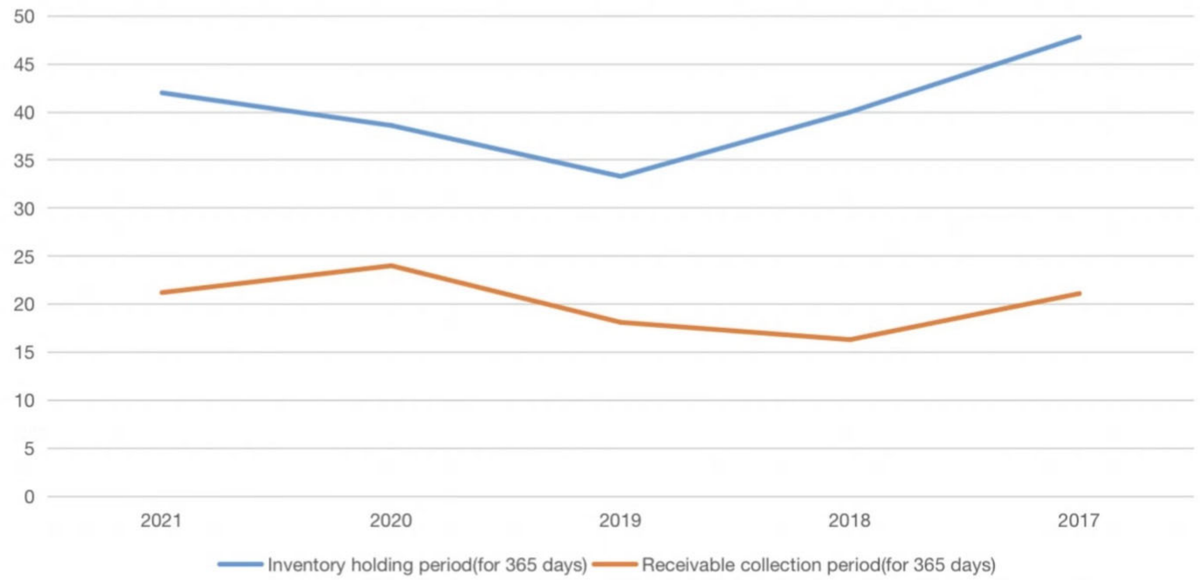

Fig. 3 General Motors Co., Efficiency Analysis (in days)

Table 2. General Motors Co., Efficiency analysis

	2021	2020	2019	2018	2017
Payable payment period(for 365 days)	74	74.5	69.3	67.4	74.6
Inventory turnover period(for 365 days)	42.1	38.6	33.4	40.1	48
Working capital cycle(for 365 days)	-10.7	-11.9	-17.8	-11	-5.5

3.3 EPS Analysis

EPS, the earnings per share, is the net profit or the net loss of the company that common shareholders can enjoy for each share they hold. Because different companies have different sizes and market capitalization, EPS usually is used to judge the profitability of these companies.

The following section summarizes insights on GM's EPS data and trend, then compare GM's EPS with Ford's.

3.3.1 GM's EPS

GM's EPS from 2016 to 2021 can be seen below (Source: General Motors Annual Report).

Table 3. EPS of GM 2016-2021

Items	2021	2020	2019	2018	2017	2016
GM EPS Diluted	\$ 6.70	\$ 4.33	\$ 4.57	\$ 5.53	\$ (2.60)	\$ 6.00

In Table 3, in 2021, General Motors diluted EPS reach to \$6.7, EPS-diluted- adjusted was \$7.07 (Source: General Motors Annual Report), hit a new record.

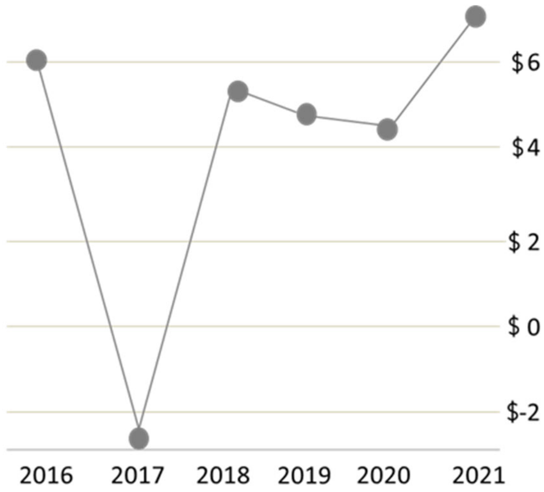

Fig. 4 EPS Trend of GM 2016-2021

In the above Fig. 4, GM's EPS from 2016 to 2022, the trend has great volatility.

From 2016 to 2017, it has a downward trend. After rebounding to a high level in 2018, due to the influence of COVID-19 pandemic, it has shown a downward trend through 2019 to 2020, and has formed a steady growth in the past two years (2020-2021), indicating that the company's profitability has improved in the past two years and has begun to move toward a trend of steady growth.

Supply chain shortages due to coronavirus to continue in 2020-2021. The coronavirus pandemic also sparked a shortage of semiconductor chips in many industries, including the automotive sector. In 2021, GM's total vehicle sales numbers decreased, but total net sales and revenue increased, GM's revenue increased by 3.7% to \$127 billion, this mainly thanks to the increased sales of the most profitable full-size SUVs and full-size pickup trucks in the United States, as a result, GM's margins exceed those of most companies in the automotive industry.

GM will continue to improve the availability of supply chain shortage (including semiconductor chip etc.). GM expect that annual EPS in 2022 will be higher than that in 2021.

3.3.2 Comparison between GM's EPS and Ford's EPS

Ford Motor Company is another American automotive manufacturer.

Ford Motor Company's EPS can be viewed below (Source: Ford Motor Company Annual Report).

Table 4. EPS of Ford 2016-2021

Items	2021	2020	2019	2018	2017	2016
Ford EPS Diluted	\$ 4.45	\$ (0.32)	\$ 0.01	\$ 0.92	\$ 1.93	\$ 1.15

In Table 4, the EPS data of Ford Motor company from 2016 to 2022, there is a similar fluctuation trend to that of GM.

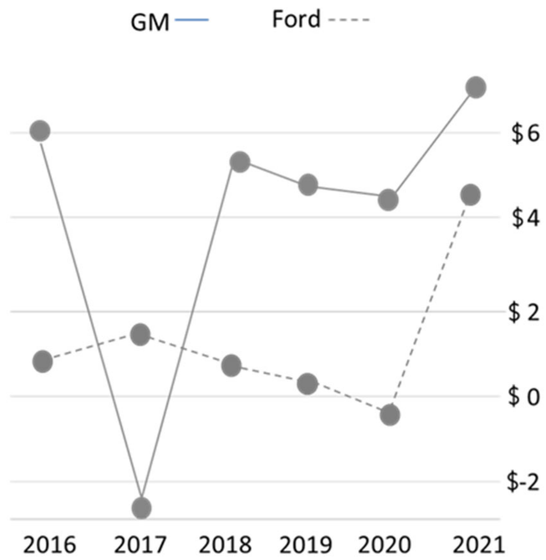

Fig. 5 EPS Trend of GM and Ford 2016-2021

In Fig. 5, compared with the EPS data of GM over the years, except for 2017, Ford's EPS is lower than that of GM, and GM holds a better value. Therefore, for shareholders, GM can bring more profits to shareholders.

Is GM the better pick? Obviously, whether a company is more suitable for investment, a single comparison of the EPS of different companies cannot fully express the future value of a company. Therefore, it is necessary to introduce stock price and price- earnings ratio indicators for investment judgment analysis.

3.4 PE Ratio Analysis

Price to Earnings (PE) ratio refers to the ratio of stock price divided by earnings per share (EPS). In theory, a company with a higher EPS should have a better value performance in the stock market and a higher share price. However, the market performance often deviates from reality. The value of some companies has not been discovered, and there are still opportunities in the investment market. Therefore, the price-earnings ratio is introduced to judge the investment value. That is, when the EPS is the same, the lower the price-earnings ratio, the higher the space for the company's value to be undiscovered, and the greater the investment value.

The following section summarizes insights on GM’s PE data and its’ trend, then compare GM’s PE with Ford’s.

3.4.1 GM’s PE Ratio

GM’s PE ratio from 2016 to 2021 can be viewed (Data by YCharts and edited by Author).

Table 5. PE ratio of GM 2016-2021

Ratios	2021	2020	2019	2018	2017	2016
GM PE	8.751	9.617	8.009	6.049	At Loss	5.895

As can be seen from the above Table 5 (At Loss means net profit is negative result in that index has no practical significance), except for 2017, GM's PE Ratio did not fluctuate much from 2016 to 2021, meanwhile showed a downward trend from 2020 to 2021. GM has a Price to Earnings (PE) ratio of 8.751 in 2021. The S&P 500 Index historical average PE ratio is around 15, which shows that GM shares still have a lot of profit room for investors.

3.4.2 Comparison between GM's PE Ratio and Ford's

List Ford's PE ratio from 2016 to 2021 (Data by YCharts and edited by Author).

Table 6. PE ratio of Ford 2016-2021

Ratios	2021	2020	2019	2018	2017	2016
Ford PE	4.667	At loss	930.00	8.315	10.86	6.592

It can be seen from the above Table 6 (At Loss means net profit is negative result in that index has no practical significance) that Ford's PE ratio was higher than GM from 2016 to 2019, and the corresponding EPS data of GM is higher than Ford's in these years, that being said, GM stock has a better profitability and higher value-added space than Ford's. In 2021, GM's PE ratio was higher than Ford's, but it still lower than the market average value and the median of historical PE ratio, this indicate, in the other hand, that the investors are optimistic about the growth prospects of the company and are expecting the company's a high growth rates in the future.

3.4.3 Comparison between GM's PE Ratio and Automotive Industry's

Whether the GM's stock price is overvalued or undervalued, also depends on comparing it with the industry average and the market average, PE ratio of industry, sector and S&P 500 are listed here for comparison (Data by YCharts on August 29 2022) [1].

Table 7. PE Ratio Comparison with Industry & Sector & S&P 500

Ratios	GM PE TTM (Trailing twelve month)	Sector: Consumer Cyclical	Industry: Auto Manufacturers	Market: S&P 500 (^SPX)
PE Ratio	7.458	17.69	11.47	19.76

As of August 29, 2022, from the above Table 7, General Motors Company had a TTM PE ratio of 7.458, compared to consumer cyclical sector of 17.69, Auto Manufacturers industry of 11.47 and S&P 500 index of 19.76, shows that the current value of General Motors shares still leaves a fairly significant profit margin for investors.

3.5 PEG Ratio Analysis

PEG is a technical analysis index often used in stock analysis, also known as the ratio of the PE ratio to the earning growth rate.

Generally , when PEG ratio < 1, it is considered to be undervalued [9].

PEG ratio is only suitable for growth companies that can grow steadily, and most cyclical companies are not suitable for using PEG for valuation.

So here, the consensus estimated valuation is be used to conduct a trend analysis of the GM's PEG ratio (Data by Zack on August 30 2022).

Table 8. Estimated PEG Ratio

Company	Prior Year EPS (Non-GAAP)	Exp EPS Growth (3-5yr)	Forward PE	PEG Ratio
GM	7.07	9.85%	5.77	0.59
Ford	1.59	9. 10%	7.37	0.81

In Table 8, regardless of whether it is GM or Ford, the valuation of PEG ratio is less than 1, indicating that both companies have relatively good growth models, and they are both undervalued. GM has more pretty valuation then Ford.

4. Conclusion

In a nutshell, although the GM Co. has confronted more and more complex environment for the recent few years, it still has preferably development potential, it can be seen through the profitably ratios and efficiency ratios that the company presents a better condition when comparing with Ford and the average level of the whole industry as well in the most of the indicators. What is more, through the General Motors' fundamental analysis of the past few years and the estimated valuation analysis, all together above investment and valuation metrics paint a pretty strong picture for GM at its undervalued current price. The EPS, PE ratio and PEG ratio for GM are better than the average of the market. Some important points that can be concluded and seen below: General Motors had a strong 2021, net profit, adjusted-EBIT, profit margin and earnings per share have all reached record highs; General Motors's stock is very inexpensive and undervalued based on the fundamental and valuation analysis; General Motors is attractive growth prospect, GM could be even better the next few years. Of cause all these good prospects also depend on the future inflation levels, along with complex international and economic factors [10]. Therefore, on the one hand, the paper has significance because it evaluates the literature on the analysis of GM as well as providing investors useful implications, however, on the other hand, plenty of further studies should be conducted to investigate the more detailed cause of the develop trend of the GM company.

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