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Financial Analysis and Future Outlook of Ford Motor Company

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Abstract: Ford Motor Company is an American multinational automaker founded in 1903. It is one of the largest automobile manufacturers in the world. This research delves into the financial condition of Ford Motor Company, an automotive industry leader, to provide a comprehensive analysis of its financial performance and prospects. Against the backdrop of an evolving automotive landscape and increasing consumer demand for sustainable and technologically advanced vehicles, this study is timely and relevant. The primary objective of this paper is to scrutinize Ford's financial health and prospects in-depth. The research combines quantitative data analysis of Ford's financial statements, historical performance, and market trends with a qualitative assessment of its strategic positioning and competitive environment. The findings indicate that while Ford faces certain financial challenges, it possesses the potential for growth and innovation. Recommendations include leveraging 5G technology to enhance product quality and cautiously exploring opportunities in the electric vehicle sector.

Keywords: Ford Motor Company, Financial analysis, DCF analysis, Automotive industry, Sustainable vehicles

1. Introduction

Ford Motor Company is an American multinational automaker founded in 1903. It is one of the largest automobile manufacturers in the world. Over the decades, Ford has expanded its operations globally and has become a significant player in the international automotive market. The research motivation is to comprehensively evaluate Ford's recent financial performance and to make possible projections for the future based on these evaluations. The study is designed to analyze several important financial metrics as well as discounted cash flow, and insight into Ford's ability to grow sustainably. This study serves as a valuable resource for stakeholders, investors, and Ford itself, offering insights to support decision-making and strategies aimed at achieving sustainable and prosperous future growth.

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2. Financial Analysis

2.1. Changes of Ford's Sales and Profit in the Past Five Years

Table 1: Salse and net profit of Ford from 2018-2022 [1]

	2018	2019	2020	2021	2022
Sales (in millions)	160338	155900	127144	136341	158057
Profit (in millions)	3677	47	-1279	17937	-1981

As shown in Table 1, there are fluctuations in sales over the years. Sales peaked in 2018, then declined in 2019 and 2020, followed by an increase in 2021 and 2022. Profits also showed variability. 2018 and 2021 had higher profits, while 2019 had lower profits. 2020 and 2022 marked losses.

In 2020, sales of Ford reached the lowest among 2018-2022, making a negative profit due to the Covid-19 pandemic. The negative net income in 2022 was due to Realized and unrealized losses on cash equivalents, marketable securities, and other investments.

2.2. Changes in Financial Leverage, Return on Equity, and Share Price of Ford in the Past Five Years

Table 2: Several financial metrics of Ford from 2018-2022 [1]

	2018	2019	2020	2021	2022
Net Income	3677	47	-1279	17937	-1981
Total Assets	256540	258537	267261	257035	255884
Shareholders' Equity	35966	33230	30811	48622	43167
Financial Leverage	7.13	7.78	8.67	5.29	5.93
Return on Equity	10%	14%	-4%	37%	-5%
Share Price	7.81	9.36	8.79	20.77	11.63

Financial Leverage measures debt reliance. It is calculated by Total Assets/Shareholders' Equity. It can be observed from Table 2 that Ford's financial leverage increased from 2018 to 2020, indicating higher reliance on debt during this period. However, in 2021, there was a substantial decrease in financial leverage, followed by a slight increase in 2022. The decrease in 2021 suggests a reduction in the use of debt to finance operations. Despite the decrease in financial leverage after 2020, Ford still had a high reliance on debt compared to peer companies. For example, Stellantis N.V. and General Motors Company had financial leverages of 2.57 and 3.67 in the year 2022.

Return on equity measures a company's efficiency in generating profit from shareholders' equity. It is calculated through (Net Income / Shareholders' Equity) * 100%. It increased from 2018 to 2019, indicating improved profitability in 2019. However, in 2020, Return on Equity(ROE) turned negative, suggesting a loss for that year. In 2021, there was a remarkable increase, signifying high profitability, but in 2022, ROE returned to negative territory.

Ford faced significant challenges, evident in negative ROE due to the negative net income as well as high financial leverage. These indicators suggest that the company was experiencing operating issues.

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3. Data-Based Future Predictions

3.1. Negative Forecast Based on DCF Analysis

Table 3: DCF Analysis based on past 5 years [2]

Assumptions		
Assume we are creating the DCF as of January 1, 2023		
Tax Rate	0.138	
Weighted Average Cost of Capital	0.075	
Growth Rates		
Cash Flows	-0.012	This reflects growth of cash flows over the past five years
Terminal Growth Rate	0.021	This reflects 2022 US GDP growth

Unlevered Free Cash Flow (UFCF)							
Calculate Free Cash Flow	2022	2023	2024	2025	2026	2027	After 2027
Sales	158,057	156,160	154,286	152,435	150,606	148,798	
EBIT	6,276	6,201	6,126	6,053	5,980	5,908	
(–) Taxes	864	854	843	833	823	813	
Net Operating Profit After Taxes	5,412	5,347	5,283	5,219	5,157	5,095	
(+) Depreciation	6,493	6,415	6,338	6,262	6,187	6,113	
(–) Capital expenditures	-6,866	-6,784	-6,702	-6,622	-6,542	-6,464	
(–) Change in working capital	3,228	3,189	3,151	3,113	3,076	3,039	
Unlevered free cash flow	8,267	8,168	8,070	7,973	7,877	7,783	7,946
						Terminal Value	147,151
Present Value (FCF)	8,267	7,598	6,983	6,418	5,899	5,421	102,500

Total PV Future FCF (2023-2027)	32,319	(in millions)
Total PV Future Cash Flows	134,818	(in millions)
(–) Debt*	106200	(in millions)
Value of Equity	28,618,177,921	
Shares Outstanding	4,014,000,000	
DCF Price Per Share	7.13	
Market Price Per Share (12/31/2022)	11.63	

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Discounted cash flow (DCF) analysis serves as a fundamental tool for valuing assets, comparing investment opportunities, and determining whether an asset is overvalued or undervalued in the market. We calculate the value of a levered firm using the free cash flow method (FCF) which makes use of the weighted average cost of capital (WACC). The WACC = rw is defined as the discount rate that results in the value of the levered firm if applied to the firm's free cash flow as if the firm were not levered (i.e., the free cash flow that ignores the tax deductibility of interest). That is, it is the discount rate that adjusts for the tax effect [3]. According to Table 3, the forecasting of future cash flows of Ford is based on its average cash flow growth rate in the past 5 years. When it reaches terminal stage in 5 years, which is a commonly used time span when calculating DCF, the rate of cash flow growth is the same as GDP growth rate of the country.

In 2022, Ford reported a negative net income, indicating a struggling performance in the market. The company faced financial difficulties or incurred losses during that period. This is a concerning sign for investors. Additionally, the company's slow sales growth over the past several years has contributed to conservative forecasts for its future. Ford also carries a high net debt, which means a significant portion of its resources are tied up in debt repayment, potentially limiting its ability to invest in growth initiatives or distribute profits to shareholders. The DCF price per share is $7.13, a little lower than its current market price. This means that based on the information applied, the stock price of Ford Motor Company is overvalued. The market is overly optimistic about the outlook for Ford's future cash flows and earnings potential. In fact, the current poor financial condition of Ford cannot support it to generate as much profit as expected.

3.2. Positive Forecast Based on DCF Analysis

Table 4: DCF Analysis based on past 10 years [2]

Assumptions		
Assume we are creating the DCF as of January 1, 2023		
Tax Rate	0.138	
Weighted Average Cost of Capital	0.075	
Growth Rates		
Cash Flows	0.040	This reflects growth of cash flows over the past twelve years
Terminal Growth Rate	0.021	This reflects 2022 US GDP growth

Unlevered Free Cash Flow (UFCF)							
Calculate Free Cash Flow	2022	2023	2024	2025	2026	2027	After 2027
Sales	158,057	164,332	170,856	177,639	184,691	192,023	
EBIT	6,276	6,525	6,784	7,054	7,334	7,625	
(–) Taxes	864	898	934	971	1,010	1,050	
Net Operating Profit After Taxes	5,412	5,627	5,850	6,082	6,324	6,575	
(+) Depreciation	6,493	6,751	7,019	7,297	7,587	7,888	
(–) Capital expenditures	-6,866	-7,139	-7,422	-7,717	-8,023	-8,341	

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Table 4: (continued).

(–) Change in working capital	3,228	3,356	3,489	3,628	3,772	3,922	
Unlevered free cash flow	8,267	8,595	8,936	9,291	9,660	10,044	10,254
						Terminal Value	189,898
Present Value (FCF)	8,267	7,996	7,733	7,479	7,233	6,996	132,275

Total PV Future FCF (2023-2027)	37,437	(in millions)
Total PV Future Cash Flows	169,712	(in millions)
(–) Debt*	106200	(in millions)
Value of Equity	63,511,986,380	
Shares Outstanding	4,014,000,000	
DCF Price Per Share	15.82	
Market Price Per Share (12/31/2022)	11.63	

There is a noteworthy aspect to consider in Table 3. The growth rate is -1.2% based on growth of cash flow over the past five years, negative and lower than the GDP growth rate of the US for 2022. Normally this won't happen especially in the terminal stage. The underlying cause of this concern stems from Ford's lackluster performance in recent years. Over the past 10 years, Ford's performance has been a mix of ups and downs, displaying an unstable trend. Ford had periods of poor performance as well as times when they performed well. It does not always display a struggling performance. Consequently, relying on a growth rate of only five years to predict the future value of the company is inaccurate. When extending the reference period to the past 10 years, the average cash flow growth rate over this period stands at 3.97% as shown in Table 4. Applying this number, the revised estimate is $15.82 per share. This suggests that the market's current valuation of Ford is lower than its potential intrinsic value. Based on the information above, there are reasons to believe that Ford has the ability to sustain a normal growth rate in the future. The reason for undervaluing Ford is obvious: its poor performance at present. This situation could attract long-term investors who see buying Ford stock at the current price levels as an attractive opportunity. Undervaluation may also appeal to value investors who seek to purchase undervalued assets and expect the stock price to rise in the future for profit. However, undervaluation doesn't necessarily mean that the stock price will immediately increase, for there are other factors that influence stock prices. Investors should be cautious based on Ford's subsequent performance and the strategies it adopts to improve the situation.

4. Suggestions for Future Development

4.1. Introduction of 5G Technology

5G technology has great potential in the automobile manufacturing industry. For example, the tactile Internet features proposed by 5G, such as co-support of very large area coverage with concurrent

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ultrahigh bandwidth and ultra-low latency communication within the IoEV (Internet of Electric Vehicles) to Everything data communication paradigm, will bring new mobility services [4]. Ford can take advantage of 5G's extremely high data speeds and low latency to lead innovation in several key areas: Advanced vehicle connectivity: By seamlessly linking 5G technology into vehicles, Ford can dramatically enhance autonomous driving capabilities. This provides conditions for improving traffic safety. Smart manufacturing facilities: For real-time communication and data sharing between machinery and systems, Ford can also adopt 5G. This is expected to increase production line efficiency, reduce production costs and speed up the manufacturing process. Next-generation in-car entertainment and information systems: 5G connectivity provides Ford vehicles with lightning-fast Internet access, providing passengers with a rich entertainment and information experience. High-definition video streaming, seamless Internet music, and easy cloud data storage will all become a reality. The introduction of this technology will greatly improve Ford's product performance and is expected to make it more popular in the market [5].

4.2. Appropriate Transformation

In the automotive industry, electric vehicles are gradually dominating the market. The comparative statistics between BEV (Battery Electric Vehicle) and its counterparts indicate that driving a BEV to emit around 90-110gCO2 eq/km less than an equivalent conventional vehicle [6]. Such considerable environmental protection will make electric vehicles increasingly popular. As Lawrence Ulrich (2020) mentioned, General Motors(GM), one of the three largest automakers in the US, began to produce Ultrium cells that power electric vehicles(EV) to transform itself into a rival to Tesla, which is known for its electric vehicles and innovative battery technology [7]. The strategic shift demonstrates GM's insight as an industry leader. Faced with such intensive competition, Ford, as a direct competitor of GM, also needs to get involved in the electric vehicle industry. Adopting electric vehicle technology will not only allow Ford to maintain its leadership position in the industry, but also allow the company to actively contribute to environmental protection. It is consistent with global efforts to combat climate change and in the meantime, meets the preferences of an accumulating number of eco-conscious consumers. The road to electrification may be challenging, but it's key to Ford's continued success in an ever-changing automotive landscape.

5. Conclusion

In conclusion, this study provided a comprehensive analysis of Ford's financial performance and its potential future direction. By examining key financial metrics and conducting a DCF analysis, it can be concluded that Ford currently is in poor financial health, yet it has the potential to revive and grow steadily. The findings also suggest that Ford can enhance its position by applying emerging technologies like 5G and strategically transitioning into the electric vehicle market. While this research offers valuable insights, it can be improved by conducting more professional data analysis and taking more financial metrics into account. Future investigations should further explore specific aspects of Ford's financial strategy, providing more plausible recommendations for sustained growth and competitiveness.

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