Ready for Another Century

This longstanding automobile manufacturer has a cash-generating legacy business that fuels investment in growth opportunities. Despite declines in vehicle sales volumes in each of the past five years, this company's best years are still ahead. Ford Motor Company (F: $17/share) is this week's Long Idea.

Learn more about the best fundamental research

Ford's stock presents quality risk/reward given the:

- extensive manufacturing and distribution networks
- growing share of the U.S. truck market
- strong free cash flow (FCF) generation
- position to leverage legacy vehicle models and iconic brand to reach new electric vehicle (EV) customers
- first-mover advantage in truck EVs
- stock price implies the company's profits will decline, permanently, by 30% from 2021 levels

Proven Capabilities Are Difficult to Replicate

Companies need a vast manufacturing network and the expertise to manage such a network to generate consistent profits in the highly competitive auto industry. Ford operates 48 manufacturing and assembly plants, making it the third largest light-vehicle manufacturer in the U.S, per Figure 1. The capital required to build and maintain such a large-scale operation is an extremely high hurdle for new entrants. Ford continues to add facilities and scale, including plans to spend $5.6 billion to build its Blue Oval City facility in Tennessee that will produce F-Series EVs and batteries.

Ford also has 9,955 distributors globally (aka dealerships), including ~3,100 (18% of all U.S. new car dealerships) dealers in the U.S. As the company continues to develop new EVs, dealerships provide Ford a large and proven distribution platform to bring new models quickly and efficiently to consumers. Dealerships also promote long-term sales growth through advertising in local markets, establishing trust with customers, and vehicle service centers conveniently located near customers.

Figure 1: Auto Manufacturers' Share of U.S. Light Vehicles Sold: 2021

Company	Ticker	Share of U.S. Market
General Motors	GM	15%
Toyota	TM	15%
Ford	**F**	**13%**
Stellantis	STLA	12%
Honda	HMC	10%
Hyundai / Kia	HYMTF	10%
Nissan	NSZNY	7%
Tesla	TSLA	2%
All Others		16%
Total		**100%**

Sources: New Constructs and Statista

Ford's Truck and SUV Business Is Already Profitable

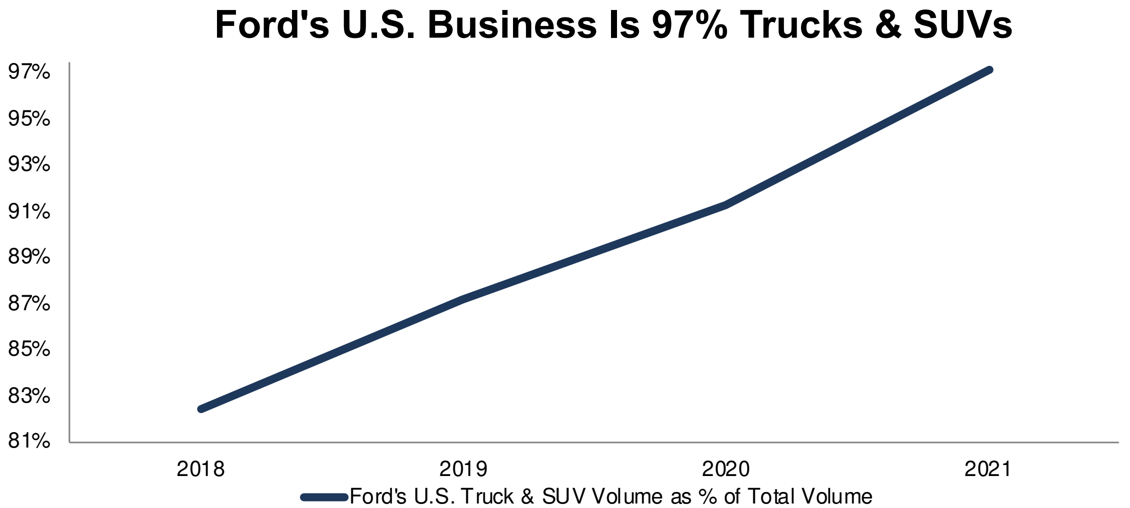
With its extensive manufacturing capabilities and dealership network already in place, Ford operates a profitable internal combustion engine (ICE) business within the U.S.

Ford's business in the U.S. is now almost exclusively truck and SUV sales. Per Figure 2, wholesale trucks and SUVs sold as a percent of total wholesale volume in the U.S. rose from 82% in 2018 to 97% in 2021. Ford's shifting sales have mirrored the broader shift to trucks and SUVs by American households: U.S. truck sales rose from 69% of total vehicle sales in 2018 to 78% in 2021. The growing consumer preference for SUV's reflects a trend toward vehicles becoming rolling entertainment centers built for comfort.

In the short term, Ford's transition away from sedans meant selling fewer vehicles and losing some market share in the U.S. However, that transition paid off in the form of higher margins as the company's net operating profit after tax (NOPAT) margin rose from 2.5% in 2018 to 3.7% in 2021. Rising margins drove Ford's return on invested capital (ROIC) from 4.8% to 5.4% over the same time.

In addition to driving improved NOPAT margins, Ford's focus on its truck business has also driven market share gains for its largest U.S. segment. Ford's share of the U.S. truck market rose from 21% in 2018 to 25% in 2021, and the company's F-Series truck has been the top-selling truck in America for 45 consecutive years. Ford's success in the truck market positions it to further capitalize on the large demand for trucks and SUVs.

Figure 2: Ford's U.S. Truck & SUV Volume as Percent of Total Wholesale Volume: 2018 – 2021



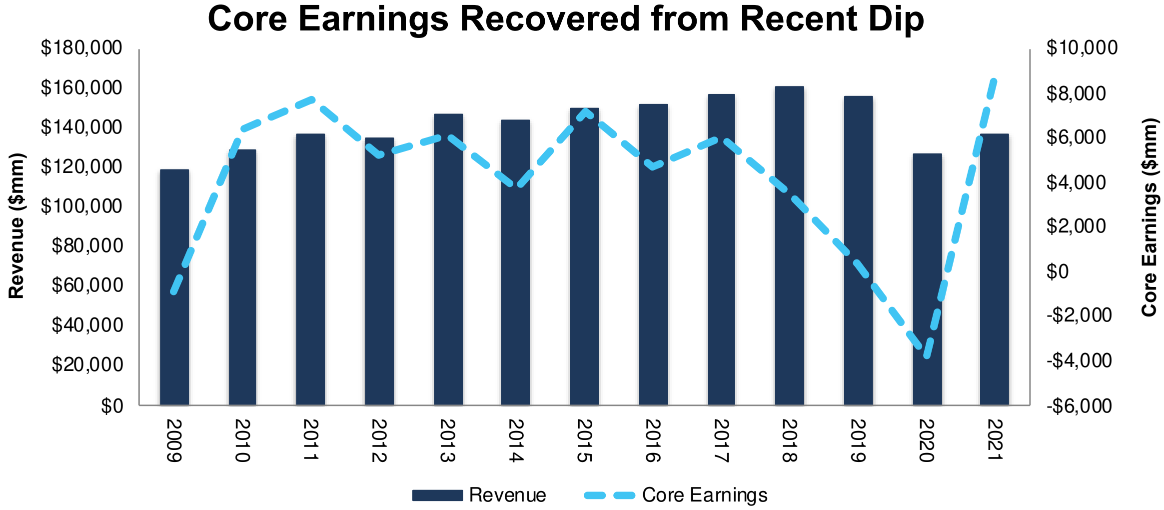
Sources: New Constructs, LLC and company filings

Core Earnings Recovered in 2021

With its NOPAT margins and ROIC on the rise, it comes as no surprise that Ford's Core Earnings soared in 2021. Per Figure 3, Ford's Core Earnings rose from -$3.9 billion in 2020 to $8.9 billion in 2021, an all-time high for the company.

It's also important to note that Core Earnings provide a more reliable measure of a company's profits than GAAP earnings, and Ford's Core Earnings are much lower than the company's $17.9 billion of GAAP earnings in 2021. Our Core Earnings remove all unusual items, such as Ford's $9.2 billion gain on investments primarily driven by the $9 billion windfall from the Rivian IPO, to calculate the company's true profitability.

Figure 3: Ford's Revenue & Core Earnings Since 2009

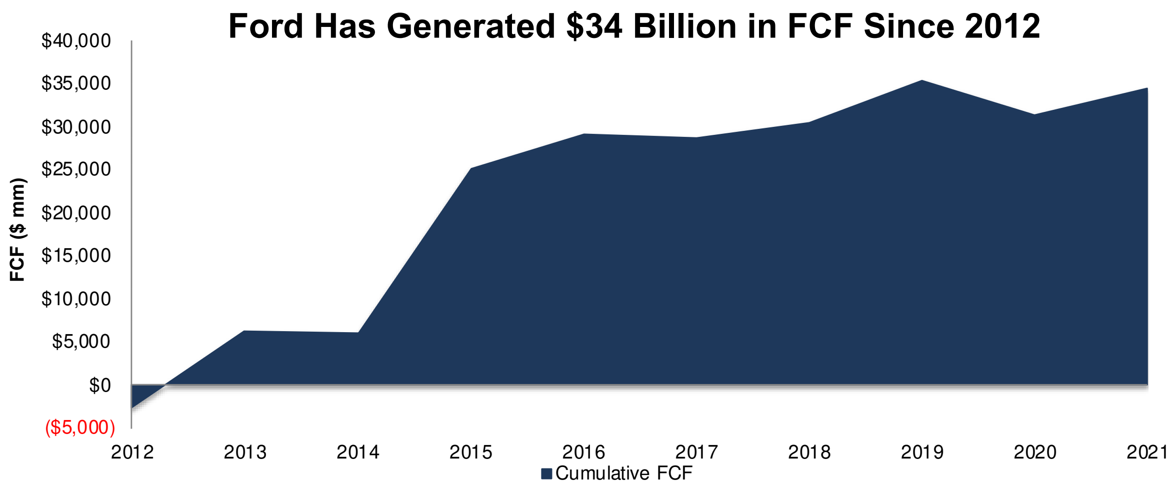


Sources: New Constructs, LLC and company filings

Strong Free Cash Flow Is a Big Competitive Advantage

Not only are Ford's manufacturing and distribution networks difficult to replicate, but the company's strong free cash (FCF) flow also provides a distinct competitive advantage in an increasingly capital-intensive industry. Car companies need lots of cash to fund vehicle production, distribution and sales. Companies, especially the numerous new entrants focused on EVs, that do not generate and FCF must sell debt or equity to compete. Per Figure 4, over the past 10 years, Ford generated $34.4 billion in FCF, or 53% of its market cap.

Figure 4: Ford's Cumulative Free Cash Flow: 2012 – 2021



Sources: New Constructs, LLC and company filings

Per Figure 5, Ford is one of only three peers with a positive 3-year average FCF. While other companies are burning cash, Ford is bringing EVs to market while generating significant FCF from its ICE business. Ford's 3-year average FCF yield[1] of 2% is second only to Nissan (NSANY).

[1] 3-year average FCF yield = 3-year average FCF / current enterprise value

Figure 5: Ford's FCF Yield Vs. Peers: TTM

Company	Ticker	Enterprise Value	3-Year Average FCF	3-Year Avg FCF Yield
Nissan Motor Co Ltd	NSANY	$35,386.64	$2,602.46	7%
Ford Motor Company	**F**	**$65,398.96**	**$1,319.16**	**2%**
Honda Motor Co., Ltd.	HMC	$106,096.45	$2,113.91	2%
Tesla Inc	TSLA	$849,227.94	-$97.81	0%
General Motors Co	GM	$76,145.46	-$1,434.38	-2%
Tata Motors Ltd	TTM	$32,332.71	-$1,268.64	-4%
Rivian Automotive Inc	RIVN	$36,700.17	-$2,482.03	-7%
Stellantis N.V.	STLA	$50,600.68	-$3,570.17	-7%
Nio Inc.	NIO	$26,482.17	-$3,465.34	-13%
Peer Group Total*		**$1,278,371**	**-$6,283**	**-<1%**

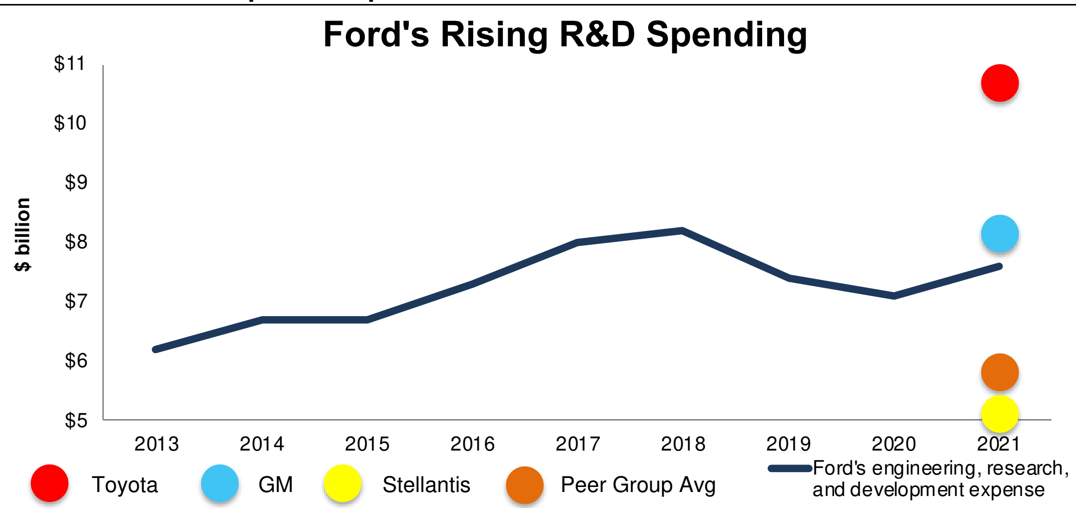
Sources: New Constructs, LLC and company filings
*Toyota is a peer, but not included in this analysis, because we cannot accurately calculate its enterprise value, FCF, or FCF yield due to poor disclosure in its 6-Ks after 3/31/21.

Though Ford has operated for 118 years, the company is quickly adapting to a changing industry. Ford's strong cash-generating operation allows the company to reinvest capital into new strategies to meet EV demand.

Per Figure 6, Ford's engineering R&D expense rose from $6.2 billion in 2013 to $7.6 billion in 2021. Ford's engineering R&D expense in 2021 is nearly equal to General Motors' (GM), 1.5x Stellantis' (STLA), and 1.3x its peer group[2] average.

In addition to Ford's on-going cash-generating ICE business, the company has $29.6 billion in excess cash it can use to invest in further research and development or EV expansion.

Figure 6: Research & Development Expense: Ford Vs. Peers



Sources: New Constructs, LLC and company filings

Incumbents, Such As Ford, Are the Real EV Winners

We have long argued that incumbent car makers are best positioned to win the EV market over the long run, not Tesla (TSLA) or startups like Rivian (RIVN). We made General Motors a Long Idea in March 2018, and we remain bullish, as detailed in our January 2022 report here. While General Motors and Ford are competitors, they both are positioned to profit over the long run from their legacy ICE businesses while taking advantage of the growing EV market.

[2] Peers include Volkswagen (VW), Toyota (TM), General Motors, Honda (HMC), Stellantis, Nissan (NSANY), Tesla, Rivian, Nio (NIO), and Tata Motors (TTM).

Volkswagen's and Stellantis' dominance in Europe over newcomer Tesla indicate that incumbents are capable of delivering competitive EV options to the market at scale. Volkswagen is the largest EV producer in Europe and sold 549,000 EVs on the continent in 2021. Stellantis sold 324,000 EVs in Europe in 2021, or nearly twice Tesla's 170,000 units sold. As the U.S. market matures, General Motors' and Ford's manufacturing capabilities position both companies to quickly grow their EV businesses and take market share as other incumbents have.

Ford is already rapidly ramping up its EV business. The company's EV sales rose 167% YoY in January 2022 and accounted for 11% of total sales. Sales of Ford's Mustang Mach-E totaled 2,370 units in January 2022, and were second only to Tesla's Model Y in the full electric SUV segment. Additionally, Ford has over 200,000 reservations of its F-150 Lightning, which is expected to start delivery in spring of this year.

Ford's Superior Execution and Brand Will Drive Market Share Gains and Profits

Ford's focus on trucks, coupled with its commitment to growing its EV business, position the company as the first mover in the truck EV market. Ford's ability to execute product launches with its iconic brand and popular models help the company bring a superior offering to the EV truck market.

According to a Cox Automotive survey, electric truck consumers preferred the Ford F-150 Lightning's design to Hummer (GM), Rivian (RIVN), and Tesla trucks. The same survey revealed that Ford's brand also has value in the EV market, with 75% of electric truck consumers indicating they would likely consider the Ford F-150 Lightning.

Most importantly, Ford's EV business is profitable. Ford is already delivering Mustang Mach Es to customers and the company confirms that the program is profitable. The company also expects that its F-150 lightning to immediately be profitable as well.

Additionally, EVs create an opportunity for the company to attract new customers. Ford's CEO stated that 70% of its Ford F-150 Lightning customers were both new to Ford and the truck segment. Ford is scooping up new, eager EV truck buyers as Tesla looks on from the sidelines and newcomers like Rivian experience significant production challenges. 11% of the F-150 Lighting pre-orders are from current Tesla owners.

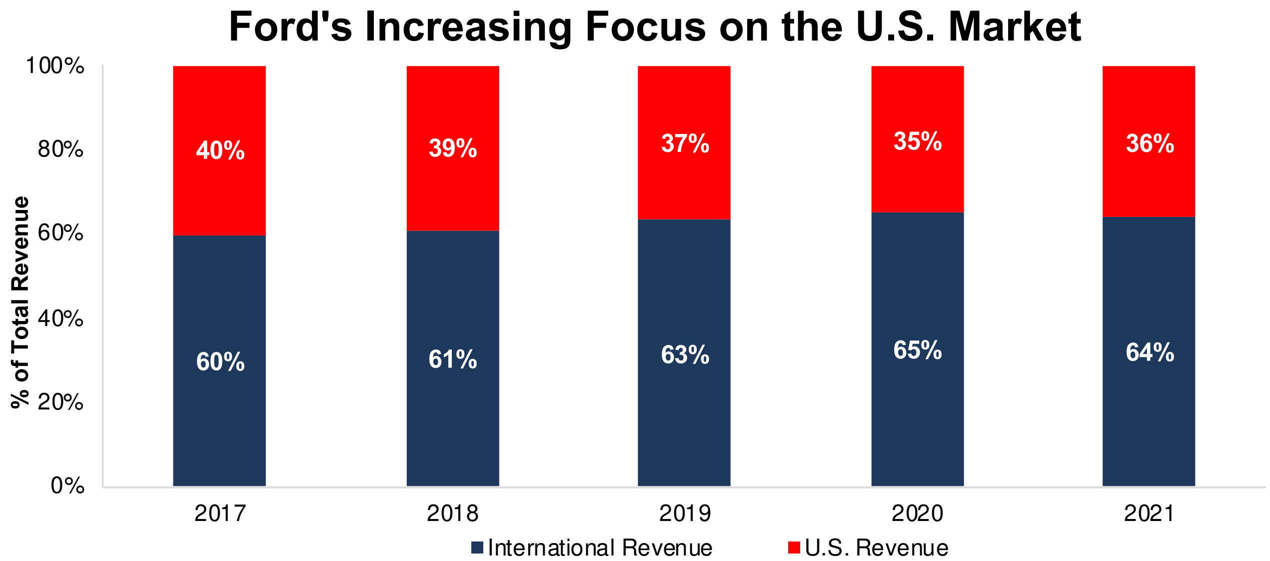
Increased Focus on the U.S. Market Reduces Geopolitical Risk

Ford has exited some international markets to focus more on its U.S. business in recent years. The increased focus on the U.S. reduces the company's exposure to geopolitical risks. Figure 7 shows the U.S. accounted for 64% of Ford's total revenue in 2021, up from 60% in 2017.

While Ford has little exposure to Russia (less than 1% of its 2021 wholesale sales) the company is very exposed to China. The longer Ford invests in China, the greater its risk to the country becomes. China accounted for 16% of Ford's total wholesale vehicle sales in 2021, up from just 10% in 2019. The company's China segment isn't profitable (Ford reported -$327 EBIT from China in 2021), but the country represents a long-term growth opportunity for Ford.

Ford's ability to navigate trade tensions will be a key determinant of its long-term potential for success in China. If tensions with China were to escalate to the point of forcing Ford to exit the country within the next few years, Ford would likely receive a boost in profitability but a reduction in revenues.

Figure 7: Ford's U.S. and International Revenue as Percent of Total: 2017 – 2021



Sources: New Constructs, LLC and company filings

Chip Shortage Is Temporary

Trade tensions affecting the availability of *components* is much more of a risk for Ford than tensions directly affecting vehicle sale. Ford's global wholesale sales fell 6% year-over-year in 2021. However, the chip shortage affects the entire industry which saw ~7.7 million vehicles of lost production in 2021. The shortage will continue to impact Ford as it expects 1Q22 U.S. volumes to be down ~10% YoY. However, the company is more optimistic about the chip situation improving throughout rest of the year. Management expects to ship 10% to 15% more vehicles in 2022 than it did in 2021.

Over the long haul, Ford is addressing its chip shortage by rethinking its supply chain. The company's partnership with GlobalFoundries (GFS) will provide a U.S.-based source for low-tech chips as Ford works toward becoming less dependent upon Taiwan Semiconductor Manufacturing Company (TSMC).

Rational Markets Lower Risk of Capital as a Weapon

Tesla's market cap of ~$1 trillion is 1.3x the combined market cap of Ford and its peer group[3]. Though Tesla is a cash-burning machine, it has the capital to withstand years of unprofitable growth. The meteoric rise of high-flying EV IPOs such as Rivian (RIVN), Lucid (LCID), and Lordstown Motors (RIDE) also underscores the large appetite investors have for EV startups. Access to cheap capital reduces the scale advantages of incumbents.

Nevertheless, even if Tesla can achieve profitability over the long-haul, it will likely only win a small share of the global vehicle market (see details here). Tesla benefited from a first-mover advantage, which provided status, brand recognition, a technological lead in EV, and easy access to capital. Other startups will not enjoy those same advantages. Meanwhile, recent market share losses suggest that Tesla will not fully capitalize on its first-mover advantages.

Accordingly, with the decline in the stock price of several high-flyers EV companies, markets are beginning to behave more rationally. New entrants may attract capital from investors in the near-term, but, over the long term, much of that capital will rotate back to profitable operations like Ford's.

The EV Market Could Face a Supply Glut

More than a few commentators have mistaken the delay of incumbents to the EV market as an inability to compete with Tesla. However, incumbents operate a business of scaled production which means they only enter a new market when it becomes large enough to sustain large-scale production and, therefore, be profitable.

[3] Peers include Volkswagen (VW), Toyota (TM), General Motors, Honda (HMC), Stellantis, Nissan (NSANY), Tesla (TSLA), Rivian (RIVN), Nio (NIO), and Tata Motors (TTM).

Though the staggering pace of EV sales has garnered attention – global EV sales doubled in 2021 – EVs still represent just 9% of global vehicle sales.

Incumbents are now entering the EV market in full force. Ford aims for EVs to account for at least 40% of total vehicle sales by 2030. While the large orders and wait times for Ford's current EV models indicate significant demand for its EVs, ambitious production targets from incumbents and new entrants could result in an oversupply of EVs.

While Ford is prepared to transition to EVs over the long term, it has its highly profitable ICE business and large cash position to navigate an oversupplied EV market.

Soaring Material Costs and Inflation Could Hurt the Top and Bottom Lines

Rising material costs will force auto manufacturers to accept thinner margins, raise prices, or both. However, Ford's strong profitability and cash position give the company the option to delay price increases and take market share from less profitable competitors (i.e. EV startups) that need to pass costs on to customers.

No matter how it responds, Ford is likely to see slower growth from its top and bottom lines due to the sudden jump in materials costs. The following is a list from the International Energy Agency (IEA) of the YoY change in material costs in the global auto industry in 2021:

- steel: +70%
- aluminum: +100%
- copper: +33%
- lithium carbonate: +150%
- graphite: +15%
- nickel: +25% (price of nickel has doubled year to date in 2022)

While the costs of raw materials are soaring, the effect of the increase has a more limited impact on the overall cost of a car as raw materials only make up about 10% of the total cost to build a vehicle. Furthermore, over the long term, Platts Analytics expects the cost of batteries and EVs to decline with an influx of investment in raw materials capacity, increased battery efficiencies, and the anticipated shift away from the usage of cobalt.

Perhaps, even more threatening than rising costs to the company's operations, is the impact of inflation on the overall economy. Should inflation remain elevated, even as the Fed raises interest rates, GDP growth could slow or even decline, which would likely send discretionary goods, such as automobiles, into a downcycle. However, as we'll show below, the fear of an economic downturn is more than already priced in, given that the stock has fallen by 34% since January 14, 2022.

F Has 56% Upside If Consensus Is Correct

Ford's price-to-economic book value (PEBV) ratio of 0.7 means the stock is priced for profits to fall, permanently, by 30% from 2021 levels. Such an assumption seems overly pessimistic, given that Ford's management believes margins will continue their upward trajectory in 2022 as it guides for adjusted earnings before interest and taxes (EBIT) margins to improve to 8%, up from 7% in 2021.

Below we use our reverse discounted cash flow (DCF) model to analyze three future cash flow scenarios and highlight the upside potential in Ford's current stock price.

DCF Scenario 1: to Justify the Current Stock Price of $17/share.

If we assume Ford's:

- NOPAT margin falls to 3% (ten-year average vs. 4% in 2021) in 2022 through 2031 and
- revenue falls by 2% (vs. 2022 – 2023 consensus estimate CAGR of +13%) compounded annually from 2022 – 2031, then

the stock is worth $17/share today – equal to the current stock price. In this scenario, Ford earns $3.6 billion in NOPAT in 2031, or 30% below 2021 and 33% below its average pre-pandemic NOPAT from 2010 – 2019.

DCF Scenario 2: Shares Are Worth $25+.

If we assume Ford:

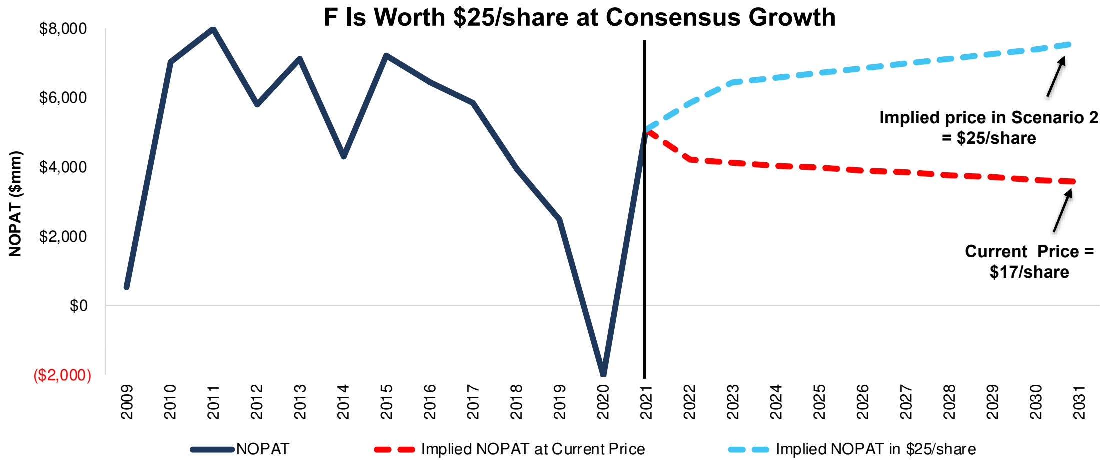
- maintains 2021 NOPAT margins of 4% from 2022 through 2031, and

- revenue grows at consensus estimates of 16% in 2022 and 10% in 2023, and
- revenue grows at a 2% CAGR from 2024 – 2031 (below its pre-pandemic revenue CAGR of 3% from 2009 – 2019)

the stock is worth $25/share today – a 47% upside to the current price. In this scenario, Ford's NOPAT grows just 4% compounded annually for the next decade. For reference, Ford grew NOPAT at a 17% CAGR from 2009 – 2019. In this scenario, Ford's NOPAT in 2031 is 5% below 2011. Should Ford's NOPAT grow beyond 2011 levels, then the stock has even more upside.

Figure 8 compares Ford's historical NOPAT to its implied NOPAT in each of the above DCF scenarios.

Figure 8: Ford's Historical and Implied NOPAT: DCF Valuation Scenarios



Sources: New Constructs, LLC and company filings

Sustainable Competitive Advantages Will Drive Shareholder Value Creation

We think the moat around Ford's business will enable it to continue generating higher NOPAT than the current market valuation implies. Factors contributing to Ford's moat include:

- strong leadership in the U.S. vehicle market
- manufacturing expertise
- extensive dealership network
- ability to offer EV versions of popular ICE models
- strong free cash flow-generating ICE business that sustains growing R&D and investment in EVs

What Noise Traders Miss With Ford

These days, fewer investors focus on finding quality capital allocators with shareholder friendly corporate governance. Instead, due to the proliferation of noise traders, the focus is on short-term technical trading trends while more reliable fundamental research is overlooked. Here's a quick summary of what noise traders miss:

- incumbents in the U.S. can replicate Volkswagen's success in Europe
- instant popularity of Mustang Mach-E and Ford F-150 Lightning
- Ford's EV business expands the company's TAM
- valuation implies 47% upside if the company grows at consensus estimates

Earnings Beat or Positive Industry News Could Send Shares Higher

According to Zacks, Ford has beat earnings estimates in nine of the past 12 quarters. Doing so again could send shares higher.

A large contributing factor to the selloff in the stock this year has been supply chain issues. Should supply of semiconductors rebound sooner than anticipated, shares could see a boost from the positive development.

Should Ford's EV sales accelerate beyond expectations, investors may more quickly realize the company has a large future beyond ICE vehicles and send its stock price higher.

Dividends Provide 2.3% Yield

After suspending dividend payments during the pandemic, Ford reinstated its dividend in 4Q21. Since 2017, Ford has paid $8.9 billion (13% of current market cap) in cumulative dividends. The firm's current dividend, when annualized, provides a 2.3% yield.

Before the pandemic, Ford also returned capital to shareholders through share repurchases. However, the company hasn't repurchased any shares since suspending its repurchase program in 2020. From 2017 to 2019, the firm repurchased $532 million (<1% of current market cap) worth of stock. If the company resumes repurchases, shareholders will realize even more yield than the current dividend provides.

Executive Compensation Plan Properly Incentivizes Management

No matter the macro environment, investors should look for companies with executive compensation plans that directly align executives' interests with shareholders' interests. Quality corporate governance holds executives accountable to shareholders by incentivizing them to allocate capital prudently.

Ford compensates executives with salaries, cash bonuses, and long-term equity awards. Ford's performance unit grants are tied in part to a three-year annual return on invested capital (ROIC) target. By tying executive compensation to ROIC, Ford ensures that executives' interests are aligned with those of shareholders. There is a strong correlation between improving ROIC and increasing shareholder value.

Ford's focus on ROIC is driving results. The company's 2021 ROIC of 5.4% was its highest since 2017.

Insider Trading and Short Interest Trends

Over the past 12 months, insiders have bought 1.3 million shares and sold 2.2 million shares for a net effect of ~871 thousand shares sold. These sales represent less than 1% of shares outstanding.

There are currently 78.3 million shares sold short, which equates to 2% of shares outstanding and just under one day to cover. Short interest decreased 16% from the prior month. The lack of short interest indicates not many are willing to bet against Ford's cash-generating business.

Critical Details Found in Financial Filings by Our Robo-Analyst Technology

Fact: we provide more reliable fundamental data and earnings models – unrivaled in the world.
Proof: Core Earnings: New Data & Evidence, forthcoming in The Journal of Financial Economics.

Below are specifics on the adjustments we make based on Robo-Analyst findings in Ford's 10-K:

Income Statement: we made $21.5 billion of adjustments, with a net effect of removing $12.9 billion in non-operating income (9% of revenue). Clients can see all adjustments made to Ford's income statement on the GAAP Reconciliation tab on the Ratings page on our website.

Balance Sheet: we made $83.3 billion of adjustments to calculate invested capital with a net decrease of $5.6 billion. One of the largest adjustments was $25.8 billion in asset write-downs. This adjustment represented 27% of reported net assets. Clients can see all adjustments made to Ford's balance sheet on the GAAP Reconciliation tab on the Ratings page on our website.

Valuation: we made $61.7 billion of adjustments to shareholder value for a net effect of decreasing shareholder value by $2.4 billion. One of the most notable adjustments to shareholder value was $29.6 billion in excess cash. This adjustment represents <1% of Ford market cap. Clients can see all adjustments to Ford's valuation on the GAAP Reconciliation tab on the Ratings page on our website.

Attractive Fund That Holds F

The following fund receives our Attractive rating and allocates significantly to F:

1. Invesco S&P 500 Enhanced Value ETF (SPVU) – 2.3% allocation

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Disclosure: David Trainer, Kyle Guske II, and Matt Shuler receive no compensation to write about any specific stock, style, or theme.

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Many firms claim their research is superior, but none of them can prove it with independent studies from highly-respected institutions as we can. Three different papers from both the public and private sectors show:

1. Legacy fundamental datasets suffer from significant inaccuracies, omissions and biases.
2. Only our "novel database" enables investors to overcome these flaws and apply reliable fundamental data in their research.
3. Our proprietary measures of Core Earnings and Earnings Distortion materially improve stock picking and forecasting of profits.

Best Fundamental Data in the World

Forthcoming in The Journal of Financial Economics, a top peer-reviewed journal, Core Earnings: New Data & Evidence proves our Robo-Analyst technology overcomes material shortcomings in legacy firms' data collection processes to provide superior fundamental data, earnings models, and research. More details.

Key quotes from the paper:

- "[New Constructs'] *Total Adjustments* differs significantly from the items identified and excluded from Compustat's adjusted earnings measures. For example… 50% to 70% of the variation in *Total Adjustments* is not explained by *S&P Global's (SPGI) Adjustments* individually." – pp. 14, 1st para.
- "A final source of differences [between New Constructs' and S&P Global's data] is due to data collection oversights…we identified cases where Compustat did not collect information relating to firms' income that is useful in assessing core earnings." – pp. 16, 2nd para.

Superior Models

A top accounting firm features the superiority of our ROIC, NOPAT and Invested Capital research to Capital IQ & Bloomberg's in Getting ROIC Right. See the Appendix for direct comparison details.

Key quotes from the paper:

- "…an accurate calculation of ROIC requires more diligence than often occurs in some of the common, off-the-shelf ROIC calculations. Only by scouring the footnotes and the MD&A [as New Constructs does] can investors get an accurate calculation of ROIC." – pp. 8, 5th para.
- "The majority of the difference…comes from New Constructs' machine learning approach, which leverages technology to calculate ROIC by applying accounting adjustments that may be buried deeply in the footnotes across thousands of companies." – pp. 4, 2nd para.

Superior Stock Ratings

Robo-Analysts' stock ratings outperform those from human analysts as shown in this paper from Indiana's Kelley School of Business. Bloomberg features the paper here.

Key quotes from the paper:

- "the portfolios formed following the buy recommendations of Robo-Analysts earn abnormal returns that are statistically and economically significant." – pp. 6, 3rd para.
- "Our results ultimately suggest that Robo-Analysts are a valuable, alternative information intermediary to traditional sell-side analysts." – pp. 20, 3rd para.

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We believe every investor deserves to know the whole truth about the profitability and valuation of any company they consider for investment. More details on our cutting-edge technology and how we use it are here.

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