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Promontory Investment Research
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Game Theory Applied to M&A

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Introduction

Mergers and Acquisitions are an aspect of almost every company. The main motive behind these transactions is to create efficiencies and expansion in businesses. This mainly comes in the form of value creation as a result of synergies, diversification, and acquisition of assets.

Due to the high impact these transitions can have on companies in terms of both business and their finances, companies take strategizing extremely seriously. In addition to the decision of what company to acquire and when, there is strategy to the approaching the actual transaction and pricing of the target company. We will model this negotiation strategy using principles and models from Game Theory.

In general, Game Theory has an economic application because it models strategic interactions between players that have a conflict of interest. In any industry, companies will have competitors and a set of strategies to choose from with the goal of gaining a competitive edge. Game Theory assists in laying out these strategies in an organized way. Specifically, aspects of M&A such as negotiation, where two companies engage in deciding on a certain value through a series of back and forth moves, can be modeled mathematically through Game Theory.

Game Theory

Game Theory is the mathematical study of negotiation, conflict, and cooperation between two or more entities. There are five main assumptions when using this model. First, that there are a finite number of players, second, all players are rational, third, each player has a definite course of action, fourth, there exists a conflict of interest between players, and finally, that the rules of play are known to all players. While these assumptions may seem obvious, they do provide limitations. In business, we know that players do not always make rational decisions. but rather decisions based on “feelings” or possibly filled with bias.

To account for varying situations, Game Theory has many types of games. For our purpose we will employ Non-Cooperative Games such as the Prisoners Dilemma with sequential moves and Zero Sum with imperfect information. All games can be modeled in two ways: Extensive Form and Normal Form. Extensive form is a Game Theory tree that takes into account time. On the other hand, Normal Form is in the form of a table that allows you to see which strategy results in the greatest payoffs if you know your opponent will choose a certain strategy. This form does not take into account time.

The Normal Form also allows you to find a Saddle Point. This point occurs when the payoff value for player 1 is highest the highest at the same point player 2’s payoff is the highest. This is the optimal outcome in which there is no incentive to deviate from the initial strategy.

From Normal Form, we can also look at Nash Equilibriums. This is a set of strategies that given knowledge of the other player’s strategy (or assumed strategy), we can decide the greatest payoff from our strategy set.

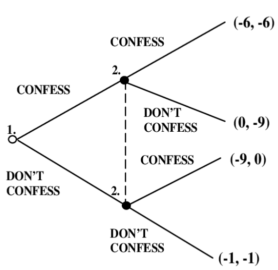

Exhibit 1: Extensive Form

		PRISONER 2	
		Confess	Lie
PRISONER 1	Confess	-8 , -8	0 , -10
	Lie	-10 , 0	-1 , -1

Exhibit 2: Normal Form

Thesis

Overall, Game Theory is an extremely applicable and informative model to use when analyzing a merger or acquisition; however, there are limitations we must take into account. Two major extensions we will discuss is that not all players are rational and not all strategies result in a payoff. However, these are only two of many aspects not considered in Game Theory. Thus, when using this strategy to model economic exchanges, it is important to understand the limitations of the model or incorporate them in. Thus, we argue that Game Theory can never completely model economic exchanges, but rather should be used as a tool to evaluate a set of options given specific assumptions.

Justification

PROS

Game theory has many applications within the world of finance. These include decisions for supply chains (i.e. whether to outsource depending on competition), when to exit or enter a market, asset pricing, and of course, mergers and acquisitions. Game theory has become especially important recently due to the relative volatility of the market. The recent global turndown has created an influx in demand, market prices, and some companies trying to steal market share. Game theory provides a decision-making structure that lays out variables and provides insight into competition allowing companies to make strategic decisions in a time of uncertainty.

CONS

While the benefits are vast, companies must understand two main assumptions made when engaging in game theory: that all players act rationally and that you assume to know every action the other company may take. Since these two assumptions are not always valid, companies relying too heavily on game theory may be blindsided.

Additionally, with many industries becoming highly intertwined with each other, there are more variables to account for. Thus, qualitative aspects that cannot be quantified will not be able to be modeled. Despite drawbacks, Game Theory is still a highly useful tool as we will show through our model.

How Will We Model It?

For this report, we will model a two player, zero-sum game with incomplete information, and adjust traditional game theory structure by incorporating prospect theory and the option of “no deal” into consideration.

The two players in this game are the Acquirer (buyer) and Target (seller). We will assign each two variable personality types, for the acquirer, “risk taking” and “risk averse” and for the target, “optimistic” vs “pessimistic.” These personality traits are relevant because they will serve as the basis for payoff multiples and decision probabilities. The personality traits will inform the probability that a certain decision is taken. For example, we will say a risk-taking buyer is 90% likely to reduce the bid compared to stabilizing it. We will define the steps of the game as increasing, reducing, or stabilizing the bid.

There are four personality combinations for the buyer and target. Each combination will dictate a payoff multiple based on the assumption that an optimistic seller will ask for more to sell the company compared to a pessimistic seller. Additionally, a risk-taking acquirer will be willing to pay more compared to a “risk averse” acquirer. Our base case 1, will be a “risk taking” acquirer and pessimistic target since this is often the trend in M&A deals. For case 2, a “risk taking” acquirer and optimistic target, the payoffs will increase by 100%. For case 3, a “risk averse” buyer and optimistic target, the payoffs will increase by 50%. For case 3, a pessimistic seller and “risk averse” buyer, the payoffs will decrease by 50%.

Since we will employ a zero-sum game since the acquirer’s gain is the target’s loss. At each step the bid will be +1 or -1 payoff for each participant. However, taking Prospect Theory into account, we will set positive payoffs to be +0.90 negative payoffs -1, and neutral payoffs such as “Stabilize Bid” +0. This is to account for irrationality since people are likely to view a certain outcome with less value if it is more likely to occur.

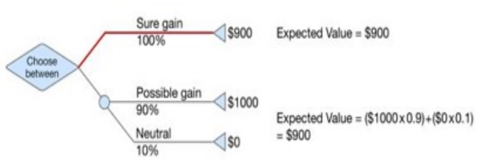

Exhibit 3: Prospect Theory Related to Decisions

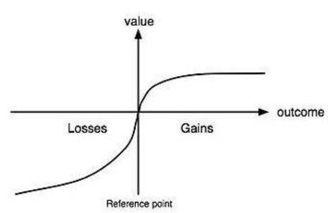

Exhibit 4: Prospect Theory Related to Value

We will also take into account “no deal” by defining a cutoff for the probability of the decisions made. For each strategy, there is an exact probability that it will occur. We define the cutoff for deals as being above 60%. Many studies have shown that over 70% of M&A deals fail. However, since we are modeling at the negotiation stage, deals are less likely to fail so we adjust our cutoff. By providing this cutoff there is only one feasible strategy for each set of personality traits.

First, we will evaluate the extensive form considering time and knowledge of the other players' decisions. We begin with the seller because we will assume their decision will be based on their circumstances rather than the personality of the buyer. Next, the buyer has the choice to be risk taking or risk adverse. Then, the buyer decides “stabilize bid” or “reduce bid.” In this case, a stable bid is to bid at a “reasonable price” while “reduce bid” would be to purposely underbid. Next, the target has the choice to “stabilize bid” or “reduce bid.” Finally, the buyer can again choose to “stabilize bid” or “reduce bid.” Within our game, the payoff represents utility for each company.

Now, we can transform the extensive form into the normal form. The normal form does not take into account time and instead assumes all decisions are taken without knowledge of the opponent’s actions.

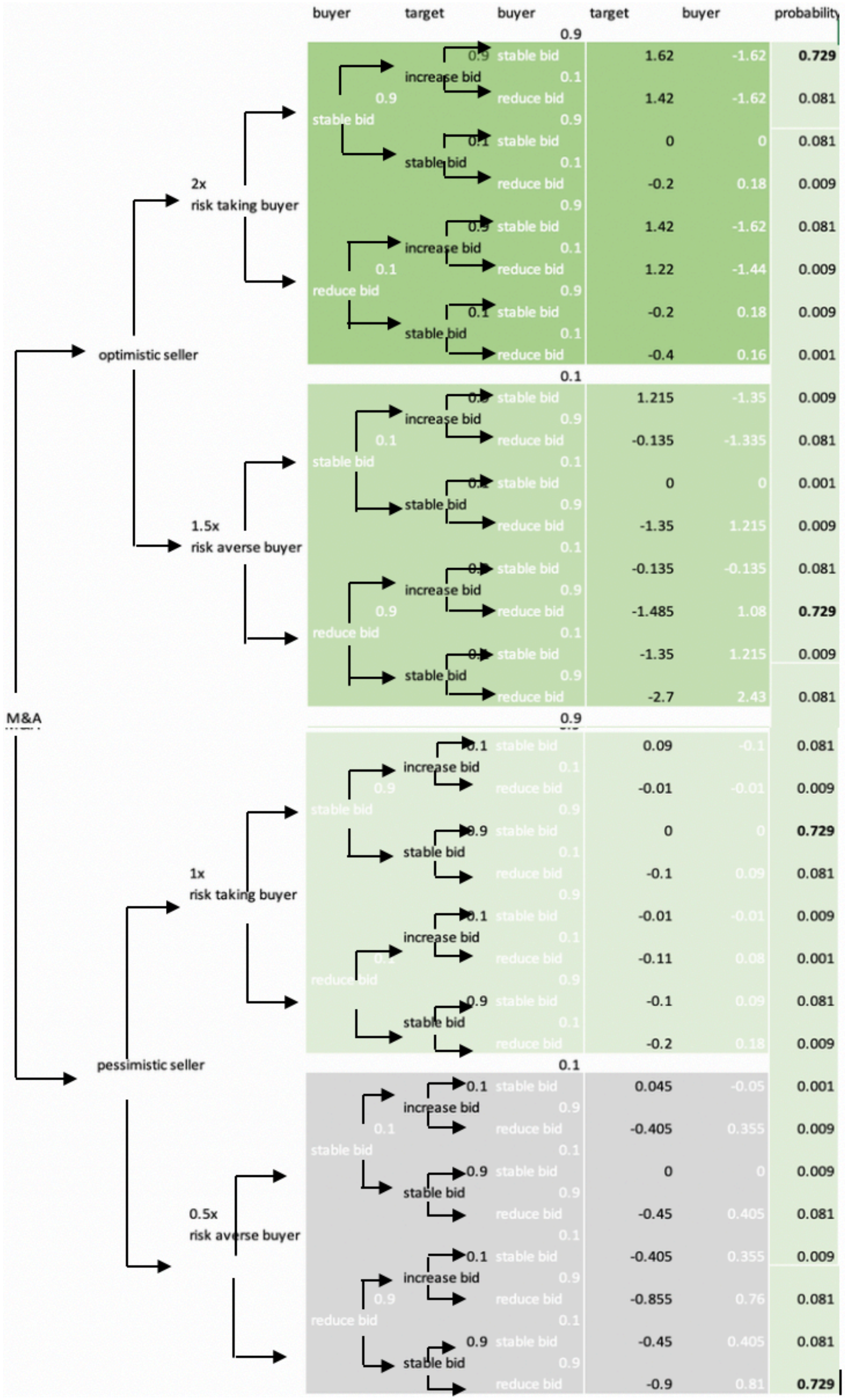

Exhibit 5: Extensive Form Model

target, buyer	OI		OS		PI		PS		max points
TSS	**1.62**	**-1.62**	0	0	0.09	-0.1	**0**	**0**	**Most Probable**
TSR	1.42	-1.62	-0.2	0.18	-0.01	-0.01	-0.1	0.09	T= risk taking
TRS	1.42	-1.62	-0.2	-1.62	-0.01	-0.01	-0.1	0.09	A= risk averse
TRR	1.22	-1.44	-0.4	0.16	-0.11	0.08	-0.2	0.18	O= optimistic
ASS	**1.215**	**-1.35**	0	0	0.045	-0.05	0	0	P= pessimistic
ASR	-0.135	-1.335	-1.35	1.215	-0.405	0.355	-0.45	0.405	S = stable bid
ARS	-0.135	-0.135	-1.35	1.215	-0.405	0.355	-0.45	0.405	R= reduce bid
ARR	-1.485	1.08	-2.7	2.43	-0.855	0.76	**-0.9**	**0.81**	I= increase bid

Exhibit 6: Normal Form Model

One interesting take away from the normal form is that there are no saddle points. Thus, for our game, there is no strategy that both players would be willing to follow without deviation to come to an agreement. Instead, the maximum outcome for the buyer will occur when the buyer is risk taking and reduces the bid on both of the terms and the target is optimistic and increases the bid. The maximum outcome for the target is to be optimistic and increase the bid while the buyer is risk taking and stabilizing the bid at both turns. On average, these strategies result in the highest payoffs for both parties in addition to their maximums.

Another thing to point out is that the most probable strategies occur with an optimistic seller that increases the bid or a pessimistic seller that stabilizes the bid. Also, on average, the buyer always has a better payoff.

We can observe some Nash Equilibria by looking at the normal form. We see that the best choices for the buyer are to be risk averse and reduce the bid at both turns. If the target guesses the buyer will make these moves, it would be best for the target company to be pessimistic and decrease the bid on their turn. This is the Nash equilibria for the target in response to the seller making these moves. On the other hand, the target company has the greatest payoff in general when they are optimistic and increase the bid. If the buyer assumes the target company will do this, the buyer should be risk averse and reduce the bid at each turn.

Looking at the most probable outcomes (in bold) we can see that the payoffs are skewed towards the target.

Cases

We will apply our model to two cases: the acquisition of Tableau by Salesforce (2019) and the acquisition of Tiffany by LVMH (2019). We will compare the payoffs based on what happened compared to other potential outcomes.

Case 1: Salesforce and Tableau

August 1, 2019 Salesforce, a leading customer relationship management platform, completed their acquisition of Tableau, a leading analytics platform, in a $15.7 billion-dollar deal. This was a 50% premium of Tableu's stock price at the time. Since Tableau was a leading tech company at the time, we will assume that they were an "optimistic" buyer. Since the average premium for tech M&A is 31%-36% and Salesforce payed a 50% premium, they will be assigned a "risk taking" personality.

Based on their personalities and personality traits, we will assume since Salesforce will choose to stabilize the bid both turns. Additionally, Tableau chooses to raise the bid for their turn. This leads us to a payoff of -1.62 for Salesforce and +1.62 for Tableau with an 8% chance of occuring. This result is interesting when we take a look at our normal form.

Assuming that Salesforce knows that Tableau is an optimistic target and will likely raise the bid, the steps that we assume they took led to the least payoff for their set of strategies. The strategy leading to the highest payoff for Salesforce would have resulted from being a risk averse buyer that reduces the bid at each turn (resulting in +1.08 with a 1% chance of occurring). We can also see that this would be the least payoff for Tableau and thus the deal may not have gone through.

Assuming Tableau knows that Salesforce is a "risk taking" acquirer and will most likely stabilize the bid at both turns, the highest payoff would have resulted from our assumed outcome. It is interesting to note that this is also the maximum payoff the target can achieve given our model. This may reflect Tableau's extremely high value for Salesforce to acquire it for their minimum payoff and Tableau's maximum. From this we can see that while certain outcomes are more likely to occur, we have to take qualitative factors such as intrinsic value into account when modeling M&A.

Case 2: LVMH and Tiffany & Co.

On November 25, 2019 LVMH, the world's leading luxury products group, announced their acquisition of Tiffany & Co., a US luxury jewelry company, to close in 2020 for $16.2 billion. The Financial Times reported that LVMH initially offered $130 per share, a near 33% premium. Tiffany then raised the price to $135 per share, a 37% premium. Historically, LVMH paid a 60% premium when purchasing Bulgari. Since this premium is significantly lower and within the bounds for the M&A premium, we will assign LVMH a "risk-averse" aqcuirer. While Tiffany & Co. did increase the bid at their turn, a glance at their financials shows that Tiffany had lost nearly a third of its stock from 2018 to 2019 and revenue had decreased 3% during the first half of 2019. Thus, we will assign them as a pessimistic seller.

Based on the known events that transpired regarding negotiations, we will explore the payoff for LVMH reducing the bid and then stabilizing the bid and Tiffany & Co. raising the bid. This payoff comes out to -0.405 for Tiffany and +0.355 for LVMH with a 1% chance of occuring. However, based on their given personality, the most probable payoff from this transaction would have been -0.9 for Tiffany and +0.81for LVMH.

Based on our model, if LVMH assumed Tiffany is "pessimistic" likely to stabilize the bid, LVMH should have followed the strategy of our given personality traits (the likely probable outcome). Based on the actual events that transpired, (namely, Tiffany being pessimistic but increasing the bid), LVMH would have had the greatest payoff with the expected strategy given their "risk-averse" personality.

Assume Tiffany knows LVMH is "risk-averse" and will thus likely reduce the bid twice, then Tiffany would have the highest payoff by being pessimistic and increasing the bid resulting in a payoff of -0.855 (8% chance this would occur). Based on the actual actions of LVMH (reducing then stabilizing the bid), Tiffany should have been optimistic and increased the bid resulting in a payoff of -0.135 for both parties (8% chance this would occur).

LVMH

TIFFANY & CO.
NEW YORK SINCE 1837

Conclusion

As we have seen through our model and cases, M&A leads to many insights about decisions that lead to the greatest payoffs. By making extensions so the original model of game theory, we can create a more realistic model that taked into account more aspects of M&A. However, especially from the LVMH and Tiffany case, we see that not everything will adhere to the "most likely" outcome. Thus, while M&A is a great tool, we cannot rely on it fully, but instead use it to inform our decisions. As always, we must remember to take qualitative factors into account.

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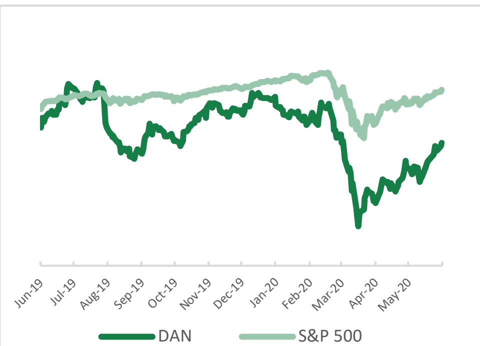
Dana Incorporated (NYSE: DAN)

Dana Incorporated | NYSE: DAN	
Negative Neutral **Positive**	
Share price, 05/20/20:	$9.66
Market capitalization:	$1,395mm
Shares outstanding:	144.4mm
52-week range:	$20.71/ $4.22
EPS (FY19):	$1.65
Beta	2.34
Average analyst opinion:	$16.40
Price target:	$14.25

Price Chart



Financial Highlights

(Dollars in millions)	**2017**	**2018E**	**2019**
Revenue	7209	8143	8620
% Growth	*24%*	*13%*	*6%*
EBITDA	787	905	940
% Growth	*29%*	*15.0%*	*4%*

Research Analyst

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Investment Overview

I recommend a **BUY** for Dana Incorporated. Qualitative analysis indicates that its legacy business lines are strong and importantly require little capital to continue pleasing customers and sustaining contracts. The company is not immune to the global drop in demand for automobiles caused by the COVID-19 crisis, but compared to its peers, its capital structure means that it's better positioned to survive the downturn while continuing to invest in the future. The company's expedient approach to working with OEMs to electrify their lineup means that it will continue to build trust with brands that it relies on for a constant stream of contracts. Although providing parts for electrified vehicles (EVs) represents a small portion of the company's current business, the company is nonetheless committed to innovating in this sector as EVs are clearly the future of the industry. The main risks the company faces are the uncertainty in demand in the coming years as well as the threat that more complex but efficient EV designs from the likes of Tesla, Nikola, and Volvo will leapfrog the "parts-bin" products it's currently working on with OEMs. However, the company's relatively long contract duration and commitment to innovation will help mitigate these risks. A DCF valuation shows an upside range between +69 and +194%, with a 5.88x EV/EBITDA exit multiple derived from the industry median. While the DCF should not be viewed as an absolute truth, Dana Inc.'s qualitative factors make it a BUY. Since the completion of this report, its stock price has risen significantly, so I recommend waiting for another dip in the share price before purchasing.

Company Overview

General Overview

Founded in 1904 and based in Maumee, OH, Dana Inc. is an industrial company that specializes in the production of powertrain components for trucks and off-highway vehicles. Dana contracts for an assortment of automotive OEMs, including well-known names such as GM, FCA, Daimler, and Toyota and less prominent brands such as, Baoli, Yuntong, and Zoomlion. Although the company established itself building universal joints and axles for internal combustion trucks, the company has now diversified its business segments to include light-vehicle drive systems, off-highway drive and motion systems, commercial vehicle drive systems, and power technologies. The main markets for the company are North America and Europe, but it plans to expand heavily into the Asia Pacific region, namely into China and India. To adapt to the changing landscape of increasingly electrified transport, the company has started to heavily invest in creating components for BEVs (battery electric vehicles) and hybrids. The growth of the electrified componentry business segments as well as expansion into the Asia-Pacific market will be the paramount drivers of growth in the coming years.

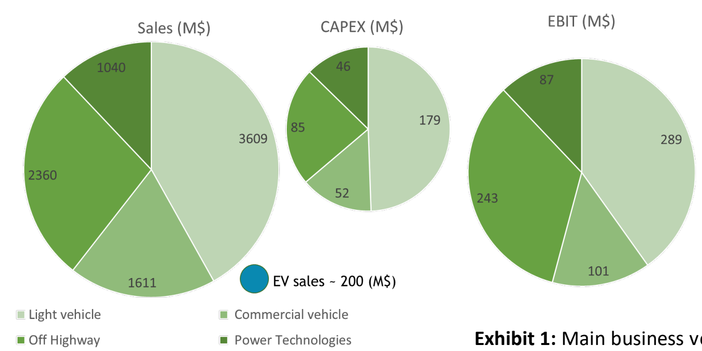


Exhibit 1: Main business vertical breakdown

Traditional Segments Overview

Dana's axel and transmission segment has enjoyed strong growth during the last 5 years driven by the increased demand for light trucks and SUVs in the North American market. The company has been able to capture an increasing market share (5% in 2015 to 8.7% in 2019) due its strategy of building a brand name that is synonymous for dependability and providing a diversified product range to cater to a variety of vehicles. Moreover, Dana Inc. has a backlog of orders stretching into 2022 and totaling over 700 million dollars, fifteen percent of which is for electrified vehicle applications. Due to the fact that Dana Inc. only produces parts and subassemblies that are then incorporated into vehicle designs by OEMs, the goal of these strategies is to maintain lasting relationships with buyers, so they

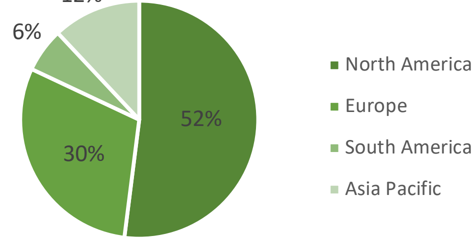


Exhibit 2: Revenue by region

will continue to incorporate Dana parts into their vehicles for years to come, enabling the company to continue to count on a dependable and reliable stream of orders.

Electrified Segment Overview

Dana Inc. has acquired a bevy of companies (it spent over one-billion dollars on EV acquisitions in 2019) that specialize in the production of components and software that can be used in BEV and hybrid vehicles. These acquisitions were meant to complement the company's in-house expansion into producing drive components for electrified vehicles through the e-Drive lineup. This expansion positions Dana Inc. favorably for the future of transportation, which most industry experts conclude will be primarily electrified. Moreover, some of these acquisitions are based in Asia, which allows Dana Inc. to work towards its dual goals of expanding into Asia as well as the electrification of its range through one acquisition. As it stands, there is a lot of overlap in product and technology between the companies that Dana Inc. has acquired meaning that resources may be squandered developing systems that serve a similar purpose. The key component for the company's success will be the successful integration of all these disparate products and technologies to form a homogenous lineup (or integrating them into its preexisting e-Drive lineup) that caters to the needs of the OEMs. While these acquisitions are exciting, as they point to the company's upcoming transformation from ICE vehicle focused to BEV focused, it is important to remember that for the foreseeable future, profits from more traditional business lines will continue to dominate the company's CFOs.

Recent Business Overview

When considering short term organic growth, Dana Inc. is expected to face a headwind of 150 million dollars due to the expected 30% decline in demand for class eight vehicles (semi-trucks) for the North American market. Although this number does not seem promising, due to the company's significant backlog of orders, some of it will be offset. However, another negative circumstance that affected Dana's business was the strengthening of the US dollar, which reduced sales by 177 million dollars and decreased EBITDA by 22 million dollars in 2019. This decrease in the buying power of foreign currencies was almost offset by increasing the prices of certain models for the US market, which led to a 20 million dollar increase in revenue from price increases.

Industry Overview

The automotive parts manufacturing industry industry has high and steady barriers to entry. To effectively compete in the industry, a company needs expensive and specialized manufacturing equipment and institutional know-how, both of which have high capital requirements. However, within the US, the industry is facing some key headwinds, such as increasing wages that minimize profits and slowing car sales due to the novel COVID-19 pandemic. When put in the context of the industry's already paltry profit margin of ~6.7%, these headwinds could turn out to be disastrous for companies that are highly levered. Moreover, unlike the downstream automotive industry, the part manufacturing industry typically receives little assistance from the US government; an example of this low degree of government assistance is in the low 2.5 percent tariff imposed on axles and transaxles entering the US.

Despite low assistance, the industry is relatively exposed to government regulation in the key areas of safety and fuel economy. The NHTSA (National Highway Transit Safety Administration) standards will become more important to companies that are switching to manufacturing parts for BEVs in the coming years, as standards are decided upon for how to best protect occupants of vehicles from thermal runaway of their battery packs in the event of a collision. In addition, the CAFE (Corporate Average Fuel Economy) standards that mandate that company's average fuel economy equal or exceed 54.5 mpg for cars and light trucks will continue to drive the downstream manufacturers to demand parts to increase the efficiency of their cars and trucks. To meet these challenges, companies in the industry may have to increase their capital intensity from around 0.23 ($0.23 spent on for every $1 on labor), which may not be possible due to increasing wages. One possible solution to this quandary is moving manufacturing overseas, where lower wages allow more global parts manufacturing companies to enjoy a higher capital intensity of 0.53. Unsurprisingly, the key driver of growth for the automotive parts industry is consumer spending, and for freight transport vehicles, a market that Dana Inc. specializes in, the key driver of growth will be increased global and domestic trade. Forecasts for global per capita income growth over the next five years were at roughly 2.6% annually, but the COVID-19 pandemic may halt this trend at least temporarily.

Investment Thesis

Undervalued current business lines

Although most of the focus on Dana Inc. is on tackling the long-term switch from internal combustion-based technologies to electrified powertrains, this growing electrified segment only accounts for 3% of the company's sales. When the company's other more established business lines are evaluated, it becomes self-evident that the market has undervalued the company. The net-asset and current-year free-cash-flow valuations of the company show downsides of only 15 and 2 percent, respectively. The fact that the industrials sector is a bellwether for significant global downturns is a possible explanation for the market's pricing of DAN stock. Another explanation could be the institutional sell off of Dana stock after the company suspended its dividend (some portfolios require stocks with dividends) makes sense on paper, but looks implausible when one considers that DAN stock increased in value after the dividend suspension was announced counter to the movement of the S&P 500. Moreover, the company's traditional business lines are diversified enough (there are distinct segments ranging from light vehicles, commercial vehicles, off highway vehicles, and power technologies) to ensure that change in a single demand factor will not completely decimate the company's income. To that end, the off highway and power technologies divisions have fared much better than their peers during the first quarter of 2020, seeming to indicate that the company will still have some strong business lines to carry it through the COVID-19 crisis.

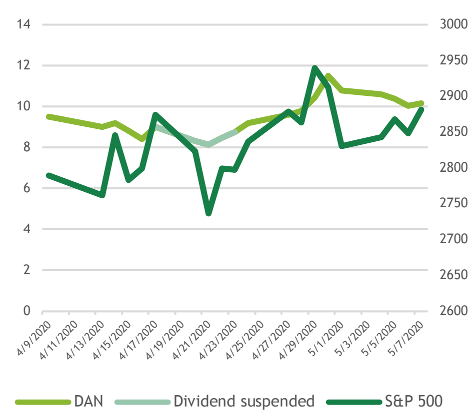


Exhibit 3: Results of Dana suspending its dividend

Finally, the best part about the company's legacy sectors is that they require little in the way of CAPEX (see decreasing CAPEX increasing EBITDA for light vehicles) to still stay competitive. Due to the inherently regressive nature of truck design (axels today are very similar to designs from the 1970s), the company does not need to spend much money developing improved models; instead it can focus on reliability (something that it has already achieved a high degree of competency in) and continued OEM trust and loyalty. Of course, the company is still innovating in this area though; it most recently patented a novel design for a quick disconnect axel that will allow ICE vehicles to coast more efficiently by fully disconnecting their powertrain.

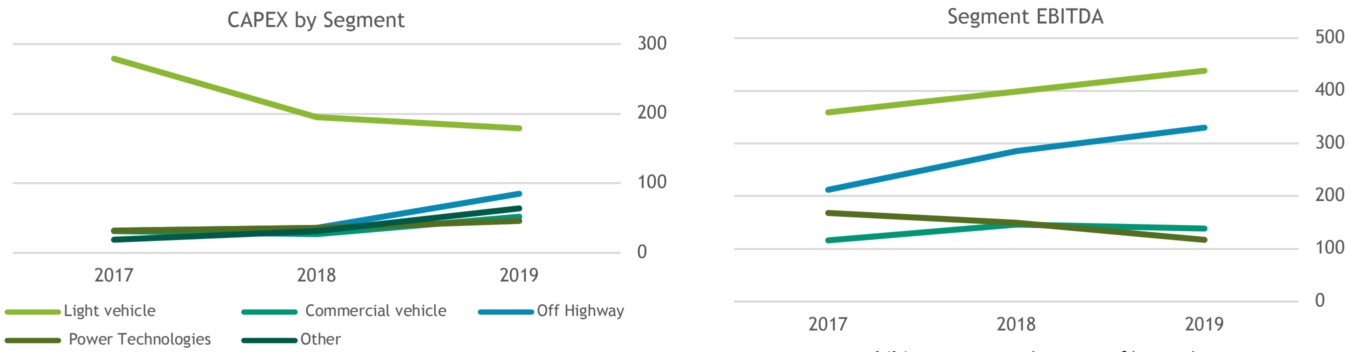


Exhibit 4: CAPEX and EBITDA of legacy business segments

Capital structure will allow the company to survive and keep innovating during COVID

Despite Dana Inc.'s debt-to-equity ratio of 140%, which is higher than most of its peers, the company does not face a significant threat of insolvency due to the company's capital structure. Firstly, the company will not have to face any significant debt maturities before 2024, which means that (at least according to current models of the pandemic) the company will not have to pay off debts during the global economic slowdown induced by COVID-19. Moreover, the company's net-debt-to-EBITDA ratio of 2.3 (5.4 if the EBITDA for Q1 of 2020 is extrapolated out over the entire year) and interest coverage ratio of 4.35 signify that it will be able to pay off the interest owed on its debt even during the crisis.

Although COVID-19 has led to mass idling of car and truck manufacturing, Dana Inc. plans to double down on its commitment to producing BEVs. The industry slowdown caused by COVID-19 may paradoxically help Dana Inc. switch from the mature industry of axle and transaxle manufacturing to the more growth ready industry of making components for electric vehicles since the company seems set on diverting money and resources away from more legacy business to support their verticals with more growth potential. The company has reaffirmed its commitment to not divert resources and cash away from what will become its key business segment in the long term, with the Chairman and CEO, James Kamsickas saying that the company is "going full speed ahead on electrification" on April 30, 2020. Surprisingly, considering the economic conditions, the company recently won a 200-million-dollar contract from the PACCAR Inc to electrify medium trucks for the subsidiary brands Kenworth and Peterbilt.

Concurrently the company is engaging in a holistic approach to reducing its costs in areas that are not directly related to capital reinvestment. One clear example of this is the 20% reduction in compensation for all salaried associates and the board of directors, with the CEO taking a 60% cut in cash compensation. Moreover, the company is working to cut discretionary spending and intends to flex the conversion costs for its global manufacturing facilities, with the hopes of better aligning the company's cost structure with the mobility market's reduced production volume. The final aspect of the company's holistic cost cutting strategy is the temporary suspension of dividend payouts for its common stock. In summary, despite the reduction in demand due to the COVID-19 outbreak, Dana Inc. continues to reinvest capital into the business segment that presents it with the most growth opportunity, which should ensure that it will exit the period of slow sales better equipped to cater to the needs of the OEMs in the rapidly electrifying transportation industry.

Mitigating the threat of increasing wages

The National Labor Relations Board NLRB recently overturned its previous 2011 ruling against Dana Inc. on the amount of time employees must petition for an election after becoming officially recognized as a union by their company. In 2011 the NLRB instituted a new policy, meant to improve the rights of employees, wherein an election could be barred for up to four years. In Late April 2020, that ruling was overturned, and the policy will revert back to the previous policy proposed by Dana Inc., where employees only have 45 days. The policy will go into effect in July 31, 2020, and although it objectively weakens the position of Dana Inc.'s workers, it also might help the company better survive the stricken economic situation imposed by COVID-19, due to it possibly leading to a reduction in the company's cost of labor.

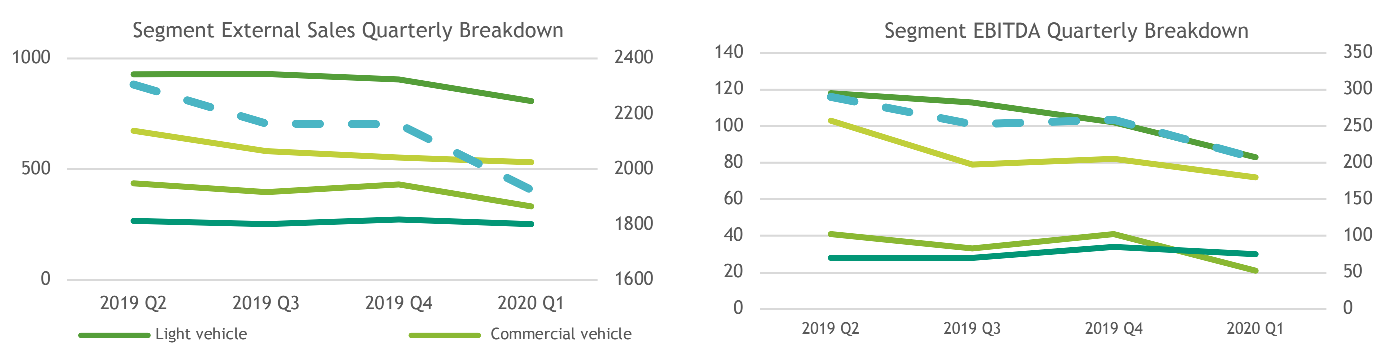


Exhibit 4: Sales vs EBITDA by segment shows which segment variable costs are being reduced the quickest

Expedient approach to electrification

Although the sale of componentry for electrified vehicles accounts for a fractional portion (~2%) of Dana Inc.'s revenue in the present, this business segment is the one that presents the longest run growth potential. Moreover, as a company that specializes in axels, electrification is actually a great opportunity for the company to start adding more value to customers with the products it provides. In most electric vehicles, the electric motor(s) is/are in line with the axle, instead of in the front or rear of the vehicle. This means that in the future, when Dana provides customers with axles for electrified vehicles, they will not only be providing them with an axle but also the vehicles motor, meaning that the company will be adding more value to the end vehicle than before, which will potentially, give them outsized influence over OEMs.

The company's approach to electrification, while not unique to it, is both cost and time effective for it and the OEMs, meaning that in the short term at least it will continue to net the company loyal recurring customers. Dana Inc.'s approach to electrification entails working with various OEMs to retrofit preexisting commercial vehicle designs with their electric motors, inverters, and battery management systems. This approach is very time and cost effective, since less money must be spent retooling manufacturing lines and paying engineers to create a new design from scratch. An example of a recent success that resulted from this approach is Dana Inc. receiving recognition from OEM PACCAR, the owner of the Kenworth and Peterbilt medium and heavy-duty truck brands, for the second year in a row for top performing product integration. This is after the two companies worked together on the Medium-duty Electric Truck, which adhered to the design strategy of electrifying existing designs. Since for Dana Inc., OEM loyalty the subsystems that it provides is paramount, this award is evidence that their strategy is working.

Competitor analog for electrification: Meritor Inc

A great analogue for Dana Inc. in terms of size and electrification strategy is Meritor, Inc. This company is also based in the American Midwest, and it also contracts for PACCAR through exclusive contracts. The company is pursuing a similar strategy of electrifying vehicles through working with OEMs to retrofit current models with electrified powertrains. The company is very comparable to Dana in terms of its other business verticals, that comprise axles and transaxles. The company is far more leveraged than Dana Inc., with a debt-to-equity ratio of 334%, but the vast majority of that debt matures in 2024; moreover, the company has a quick ratio of 1 and an EBITDA to net debt ratio of 2.3 (just like Dana Inc.), so short term solvency should not be a problem for it.

Investment Risks

Threat of electric vehicle leapfrogging from competition

Although expedient, the methodology Dana Inc. has chosen to electrify its lineup, partnering with companies that traditionally produce ICE vehicles and retrofitting those systems with electrified componentry, is flawed because there are inherent design considerations that have to be made for both system architectures that are in conflict. An example to illustrate this is the PACCAR Medium-duty Electric Truck program that Dana Inc. embarked on with industry main-stays Peterbilt and Kenworth. The design for this truck is directly derived from legacy models that relied on internal combustion engines, but instead the truck is powered by an electric powertrain sourced entirely from Dana Inc. or one of its subsidiaries. Although the use of a legacy layout like with has the clear advantage of cost savings, doing so significantly compromises the design of the vehicle. For example, ICE vehicles have to expel vast quantities of heat from their thermally-inefficient engines, which requires large radiators to be placed on the front of the vehicle where they can be exposed to the most airflow, while BEVs do not have to expel as much heat, and can therefore have smoother more aerodynamic facias. The result of retrofitting a design meant to be ICE powered for electric drive is that the flat radiator centric front remains but serves no purpose other than to increase the vehicle drag coefficient, reducing efficiency and range. This design deficiency is clearly apparent in the PACCAR Medium-duty Electric Truck as well as across nearly every vehicle of Dana Inc.'s electrified range. In the short term, the designs will present customers savings due to their cheaper development costs, but in the long term more refined architectures from companies like Tesla and Volvo that were designed from the ground up to be electrified will surpass them due to cost savings from efficiency.

Unpredictable variable costs

For a company like Dana Inc., that relies on rapport with various OEMs to sustain a constant supply of short-term contracts, misjudging the demand for its various product ranges could be disastrous. On one end of the spectrum, if the company over-estimates the demand for its products or does not wind down its production facilities fast enough, it will be saddled with high variable costs that will not be offset by actual sales. However, on the other end of the spectrum, if the company over-estimates the negative effects of COVID-19 on the automotive markets and over-aggressively winds down production, then it could risk damaging its reputation with OEMs by not being able to deliver enough of certain parts on time. For this risk, Dana's largest mitigant is its contracts, which are twice if its closest competitor, Meritor (180 days vs. 60-90 days). These longer-term contracts give the company a less myopic view of future product demand, while providing it with precious revenue, while it adjusts to the new business environment. These longer contract durations may be the reason the company's sales decreased less in Q1 of 2020 when compared to Meritor (11% vs 25% decrease).

Valuation

Assumptions

Revenue: Massive decline in revenue due to the combined hit of COVID-19 and demand for cars and trucks already on a downswing. However, this industrial market is cyclical, so after the crises ends the demand will return, which should cause revenues to rise again, although to be conservative, this rise is modeled in a way that the revenue is not significantly higher than historical revenues.

EBIT: Despite actions to reduce costs (payroll, dividends, etc.), the company's EBIT will decrease sharply in 2020 due to the negative demand shock induced by COVID-19. The decrease in EBITDA between Q4 2019 and Q1 2020 was used as an analogue for the decrease in EBIT for the year of 2020. After that, the EBIT growth (or in this case lack thereof) will flatten and gradually increase to roughly half of pre-2020 levels (this is meant to be conservative).

CAPEX: CAPEX is expected to fall in 2020, though not as much as EBIT or revenue, as the company tries to reduce expenditures to keep in line with the changing business climate. In the years that follow, however, the company's CAPEX will rise as it redirects cash to aid in the integration of newly acquired companies. D&A is projected to decrease slightly in 2020 due to the concomitantly decreasing CAPEX. In the following years, it will increase slightly to stay in line with CAPEX.

Historicals						
Year	2015	2016	2017	2018	2019	LTM 2020
Revenue	$6,060.0	$5,826.0	$7,209.0	$8,143.0	$8,620.0	$8,383.0
EBIT	$444.0	$430.0	$554.0	$635.0	$601.0	$540.0
CAPEX	$(260.0)	$(322.0)	$(393.0)	$(325.0)	$(426.0)	$(391.0)
D&A	$174.0	$182.0	$233.0	$ 270.0	$339.0	$351.0
Delta NWC		$(180.0)	$224.0	$61.0	$160.0	$125.0

Pro Forma Finiancials					
Year	2020	2021	2022	2023	2024
Revenue	$7,460.87	$7,311.65	$7,384.77	$7,606.31	$7,986.63
EBIT	$429.30	$364.91	$328.41	$341.55	$368.88
CAPEX	$(351.90)	$(369.50)	$(406.44)	$(467.41)	$(537.52)
D&A	$343.98	$354.30	$386.19	$440.25	$506.29
Delta NWC	$(165.30)	$310.50	$112.90	$(47.10)	$(42.10)

BASE CASE Assumptions					
Year	2020	2021	2022	2023	2024
Revenue Growth	-11.0%	-2.0%	1.0%	3.0%	5.0%
EBIT Growth	-20.5%	-15.0%	-10.0%	4.0%	8.0%
CAPEX Growth	-10.0%	5.0%	10.0%	15.0%	15.0%
D&A Growth	-2.0%	3.0%	9.0%	14.0%	15.0%

BULL CASE Assumptions					
Year	2020	2021	2022	2023	2024
Revenue Growth	-10.0%	-2%	1%	2%	3%
EBIT Growth	-15.0%	-10.0%	-5%	5%	9%
CAPEX Growth	-14%	0%	10%	15%	15%
D&A Growth	-4%	2%	7%	11%	14%

BEAR CASE Assumptions					
Year	2020	2021	2022	2023	2024
Revenue Growth	-14.0%	-5%	0%	2%	4%
EBIT Growth	-25.0%	-20.0%	-15%	0%	5%
CAPEX Growth	-11%	-3%	0%	5%	10%
D&A Growth	-5%	-4%	0%	4%	8%

Free Cash Flows	2020	2021	2022	2023	2024
FCF	$505.11	$39.21	$195.26	$361.49	$379.74
Discounted FCF	$476.02	$34.82	$163.42	$285.13	$282.28
Sum FCF	$1,241.67		$1,241.67		

WACC	
Share Price	$9.66
Shares Outstanding	144.48mm
Market Cap	$1,395.69
Debt	3362
% Equity	29%
% Debt	71%
Cost of Equity**	12%
Cost of Debt	4%
Implied WACC	6.11%
Add. Debt (April 2020)	500

Implied Terminal Values			EM: 5.8
GG TV	$7,503.20	EM TV	$5,149.51
Discounted GGTV	$5,577.38	Discounted EMTV	$3,827.81

Implied Fair Value		
Enterprise Value	$6,819.06	$5,069.48
Implied Equity Value	$4,108.06	$2,358.48
Implied Share Price	**$28.43**	**$16.32**
Implied Upside	+194%	+69%

***Cost Of Equity Supp.*	
Beta	*2.02*
Risk Free Rate	*0.6%*
Rate of Mkt Premium	*5.2%*
Market Risk Premium	*5.827%*
Implied Cost Of Equity	*12.38%*
**Beta Supp.*	
Beta (Unlevered)	*0.69*
Beta Levered	*2.02*
(eff.) Tax Rate	*19%*

Terminal Growth Rate	WACC							
	5.81%	*5.91%*	*6.01%*	*6.11%*	*6.21%*	*6.31%*		6.41%
0.0%	148.6%	140.7%	133.1%	125.8%	118.7%	111.8%		105.1%
0.5%	183.7%	174.5%	165.6%	157.1%	148.8%	140.8%		133.1%
1.0%	226.2%	215.2%	204.7%	194.5%	184.7%	175.4%		166.3%
1.5%	278.6%	265.2%	252.3%	240.1%	228.3%	217.1%		206.3%
2.0%	344.7%	327.9%	311.9%	296.7%	282.2%	268.4%		255.3%

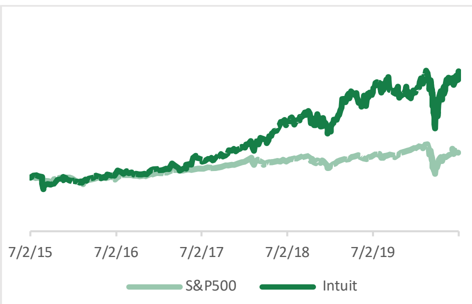
Company	DANA (NYSE: DAN)	NASDAQ: LKQ	NYSE: WBC	NYSE: APTV	NYSE: MTOR	NYSE : BWA	NYSE: AXL	NYSE: ALV	NYSE : TEN
Debt/Equity	**140.6**	101.5	64.6%	119%	334%				
Quick Ratio	**0.9**	0.8	1.9	0.8	1				
Egan-Jones Senior Most Recent Debt Rating Unsecured Foreign	**B**	BB+	A-	B-					
Egan-Jones Senior Most Recent Debt Rating Unsecured Domestic	**B-**	B+	A-	B-					
PE	**6.1**	15.0	11.7	29.5					
Net Debt to EBITDA (extrapolated from Q1 EBITDA)	**5.4**	3.7	3.0	3.8					
Net Debt to EBITDA (CapIQ)	**2.3**	2.8	0.7	2.1	2.3				
Interest Coverage Ratio	**4.3**								
EV/EBITDA	**4.3**	9.3	19.1	10.5	5.7	5.2	4.4	6.1	5.3
MEDIAN EV/EBITDA	**5.9**								
Typical Contract Time-Horizon	**180**	NA	NA	NA	60-90				

Spring 2020, Issue 6
Promontory Investment Research
http://www.promontoryir.com

Intuit Inc.

Intuit Inc. | NASDAQ: INTU	
Negative Neutral	**Positive**
Share price, 06/05/2020:	$288.11
Market capitalization:	$75.2 bn
Diluted Shares outstanding:	264m
52-week range:	$305.61-194.72
EPS (FY '19):	$5.89
Beta (5yr)	1.11
Average analyst opinion:	$303.0
Price target:	$302.46-365.50

Price Chart



Financial Highlights

(Dollars in millions)	2019	2020	2021
Revenue	$6,784	7,259	9,219
% Growth		*7%*	*27%*
EBITDA	$2,083	2,105	2,581
% Payout	*30.7%*	*29%*	*28%*
Leverage Ratio	.198	.195	1.53
EPS	$5.89	$5.90	$7.11

Research Analyst

Ben Sarasin| BTSarasin@uchicago.edu

Investment Overview

I am recommending a **BUY** rating for Intuit. I believe that Intuit has significant potential for growth and long-term value creation due to its past performance, competitive advantages, and approach to the future. In its small-business segment, Intuit is poised to continue growing revenues at a strong pace due to its switching costs and strategic expansions. On its consumer side, Intuit is implementing a plan to reorient the value chain of consumer finance, carving out a lucrative and sustainable space for itself as a market intermediary. Lastly, Intuit's high ambition is backed by a stable core offering in its TurboTax service, which has demonstrated consistent growth and faces a significant opportunity to take the market lead.

Company and Industry Overview

Company History

Founded in 1983, Intuit is a financial software company based in Mountain View, CA. Co-Founders Scott Cook and Tom Proulx kicked off their business with personal finance program Quicken, which provided a software platform for financial planning. In 1993 Intuit went public and aimed to diversify their business by moving into tax preparation software. Since this time, Intuit has greatly developed as a company, offering tax preparation, business accounting, and consumer finance products, and selling their original Quicken product. Today, they have sold off Quicken, continued to expand and improve their business lines, and have recently pursued a transformative acquisition of competitor Credit Karma.

Recent Acquisitions

In 2018, Intuit acquired web-based employee time and schedule-tracking application T-Sheets for $340 million. This acquisition served as an augmentation and expansion of their small business services, specifically in their payroll management products. In 2019, Intuit acquired Origami Logic, an advanced data integration and analytics platform which allows Intuit to better personalize their services and improve company AI.

Business Lines

Intuit classifies their business across three reportable segments: small business and self-employed, consumer, and strategic partner. Intuit's small business segment was its largest in FY2019, drawing revenue of $3.5 billion, making up 52% of total revenue. In its small business and self-employed business line, Intuit's main product is its QuickBooks Online, which is a software product that allows users to manage accounting and financial tasks of their operation. QuickBooks allows users to track income and expenses, create and send invoices, manage and pay their bills, and create financial reports. Alongside Quickbooks, Intuit offers live bookkeeping service Quickbooks Live, and offers integrated payroll, payment processing, and lending solutions

The consumer segment was Intuit's second largest segment with revenue of $2.8 billion, 41% of total revenue, and strategic partner the smallest with revenue of $476 million, 7% of total revenue. In its consumer segment, Intuit's main product is TurboTax, which allows electronic preparation filing of federal and state income tax, as well as live bookkeeping from experts with TurboTax Live. Intuit also offers consumer finance products through both TurboTax and its Mint platforms.

Though Intuit maintains distinct segments, the general business model remains the same across the company. Intuit develops much of their software internally, while also acquiring and licensing software products from third party producers. In its marketing, sales, and distribution, Intuit takes a multi-channel approach to maximize their outreach. In marketing its products, Intuit pursues digital advertising, mobile advertising through app stores, and various forms of offline advertising. Intuit allows sales and distribution of its product through various online partners, its own website, mobile app stores, and retail locations. Intuit's core online services are operated out of public cloud providers, while a few sources are operated from geographically diverse datacenters. Intuit's physical products are mainly manufactured and agreement with Arvato Digital Services.

Revenue Drivers

Within Intuit's small business and self-employed segment, revenue is mainly driven by subscriptions to QuickBooks Online, retention of QuickBooks Online subscribers, and upselling customers to additional QuickBooks products. Additionally, revenue is driven by market growth, which is dependent on willingness to abandon traditional accounting for software. On the consumer side of its business, Intuit's revenues from its tax services are subject to the growth of taxes filed with the IRS, percentage of taxes filed with Do-it-Yourself software, Turbotax's market share of the Do-it-Yourself space, and average revenue per return. As Inuit pivots to becoming a more comprehensive consumer finance platform, average revenue per user will be a key driver, dependent on higher platform engagement and an ability to cross sell.

Industry Overview

Overall, Intuit faces a unique competitive landscape, as it has distinct segments with differing levels of competition within those segments. However, Intuit largely faces fragmented markets and faces high competition in all its segments. These market characteristics have much to do with the relatively low barriers to entry, as developing software applications for consumer finance and small business takes relatively small amounts of capital and expertise. However, innovation and product release cycles are rapid in Intuit's industries, and retaining long-term relevance requires high expenditures on research and development. Additionally, high competition requires significant sales and marketing expenditure to stand out from competitors. Therefore, scale advantages play a factor in holding market share as smaller companies may have difficulty in affording large R&D and marketing expenses that are crucial for success. Nevertheless, a high degree of competition and a tendency for online competitors to offer discounted services to grow their customer base results in competitive pricing in Intuit's markets.

In Intuit's small business segment, it faces a slew of competitors. In its accounting software products, it dominates the US market with 74% of market share and faces competition from a host of companies including Xero, FreshBooks, and Zoho Books. Analysts estimate that the accounting software market will grow between 8 and 12% CAGR in the coming few years. As Intuit begins to offer accounting software options for the mid-market it will compete in a highly fragmented environment against Enterprise Resource Planning (ERP) services from companies including Oracle's NetSuite, SAP BusinessOne, Sage Intacct, and Microsoft Dynamics. Enterprise resource planning software is generally more extensive than Inuit's current product and entails high switching costs. For payroll systems, Intuit competes with companies including ADP, Gusto, PAychex; for payment systems, Intuit competes against companies including First Data Corporation, Elavon, PayPal, and Square. Market share is fairly fragmented in these industries, and Intuit does not control nearly as much ground as they do in their primary small business offering. In all these markets, high switching costs are prevalent by nature of the products, and successful companies are able to manage these switching costs effectively. Additionally, in the accounting software product space, an ability to sweep more users into the market is a key for success, as the market size is somewhat limited by the existence of brick and mortar accountants and traditional bookkeeping software like Excel.

On the consumer side of their business, Intuit again competes in relatively fragmented markets. In online tax filing, Intuit outpaces its rivals with around 65% of market share. However, the overall tax preparation market is much more divided, with competition from online preparation sources, established brick and mortar companies, and local tax accountants. Intuit trails H&R Block in the total market with 28% of US filings. Other competitiors include Jackson Hewitt, Liberty Tax Services, Tax Act and Tax Slayer. The consumer finance side of Intuit's market, in which their credit score offering, financial planning, and role as an aggregator of financial services are included is an incredibly diverse and fragmented market. In consumer finance offerings Intuit competes against other software products including Nerd Wallet, Check, and Robinhood, traditional financial institutions, and financial advisors. For tax preparation, successful companies are able to make products which are simple and user-friendly while remaining thorough and accurate due to strict legal standards, and potential savings from saavy filing. So, companies with established brands may enjoy sustained success as compared to more obscure companies. Successful companies competing in the consumer finance market are able to effectively cross sell products. This is because competition is high, prices are relatively low, and many financial products are irregularly and infrequently used. An ability to effectively cross-sell is doubly advantageous in this space as it increases customers' reliance on and familiarity with the suite of products, creating switching costs that are especially important in an industry with such intense competition. Additionally, like in the small business segment, companies competing in the consumer finance software space will be especially successful by finding ways to draw in consumers from competing brick and mortar alternatives.

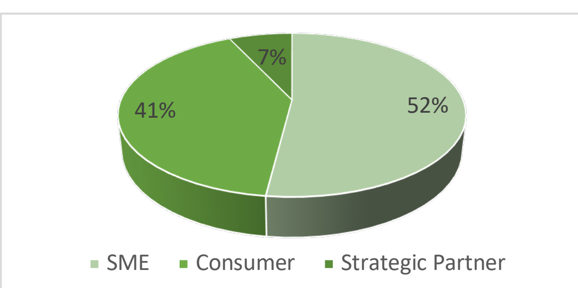


Exhibit 1: Intuit Revenue Distribution

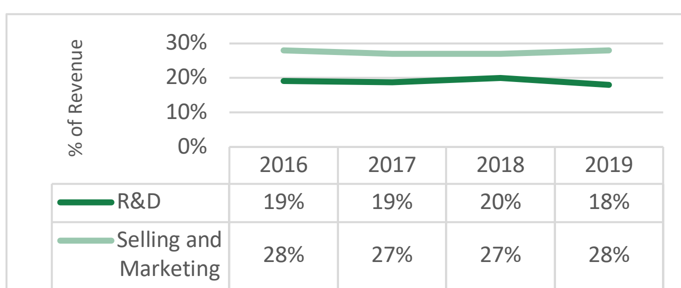


Exhibit 2: Intuit Expenses as a Percentage of Revenue

Investment Thesis

Small Business: Switching Costs and New Market Opportunities

Driven by the expansion of cloud-based QuickBooks Online, which enjoyed revenue growth of 41% in FY 2019 and continues to post strong growth even in a period of weakness for small businesses, Intuit's small business segment has been the company's fastest growing segment and the largest in revenue, drawing $3.533 billion last year. While the inertia of this segment is certainly promising, Intuit's long-term value can be traced to its switching costs and its unique management of them, as well as their promising expansion strategies.

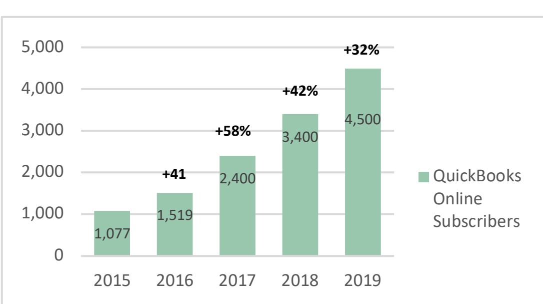
Intuit enjoys strong switching costs just by the nature of their small business products, as accounting software, along with payroll and payment solutions software, act as the veritable plumbing of small businesses, as they are used frequently and are central to business operations. Because of the frequent and automatic usage of Inuit products, habit forms a considerable headwind to switching products. Additionally, it is very costly for customers to switch to a competing product, both in terms of moving their vast amounts of data to another product and in learning an entirely new system. Though Inuit's small business competitors also largely benefit from switching costs, Intuit's management of these advantages distinguishes them from the rest of the field. Instead of passively relying on switching costs to retain high market share and profit, Intuit has keenly augmented and utilized their switching costs to drive segment growth. In terms of augmentation, Inuit is constantly broadening the QuickBooks ecosystem by adding integrations. Currently, QuickBooks software integrates with over 400 external software products, leading most of its competitors. By broadening the range of integratable products, Intuit is allowing customers to increase dependency on the QuickBooks ecosystem, further bolstering switching costs. Additionally, Intuit is taking advantage of the stickiness of their platform by offering their own supplementary services in the QuickBooks ecosystem and allowing a chance to boost revenue per user. Compared to competitors like Xero and Freshbooks, who have opted to keep their offerings confined, relying mainly on integrations to meet additional needs, Intuit has recently added a lending platform in QuickBooks Capital, a payroll solution, and scheduling service with their 2018 acquisition of T-Sheets.

Intuit's second small business strength comes in their initiative to expand their market. Inuit holds a very large amount of its market already, and so may be perceived as limited by the growth of the market itself and undervalued because of this. However, Inuit has shown initiative to continue high growth by thinking outside the market. Through QuickBooks Live, Intuit is pushing to expand the small business accounting market by sourcing accounting experts to partner with small business owners, offering virtual collaboration, real time-tracking, and flexible communication. Since the growth of the accounting software space has been limited by business owners who prefer the security of brick and mortar accountants assisting with books, this feature is incredibly important in expanding Inuit's room for growth. Furthermore, though some competitors offer similar services, the ubiquity of QuickBooks means that accountants are much more familiar with the QuickBooks technology than similar services, and so QuickBooks has a much larger pool of expertise to draw from. Thus, Intuit stands to have outsized success as they roll out QB Live, and as virtual assisted accounting grows in popularity.

Intuit's most exciting opportunity comes in its endeavor to disrupt the mid-market through its QuickBooks Online Advanced product. The mid-market is mainly served by more extensive and advanced Enterprise Resource Planning (ERP) systems. While the high-switching costs of these systems certainly raise significant barriers to entry, several factors allow Intuit a chance to infiltrate the market. Namely, Intuit's QBO Advanced is offered at a steep discount to ERP systems, and so stands a serious chance at picking off lower-end users. Additionally, the mid-market is highly fragmented, and has not been fully penetrated by cloud-based accounting. Further, Intuit's large host of integrations allows the same kind of centralized internal control that ERPs do, essentially eliminating the operational advantage of ERPs. Though the opportunity for disruption of the mid-market is obviously ripe, Intuit's specific strategy is crucial to their success. Intuit is not over-extending itself, but rather expanding on the margins of their local competitive advantages, utilizing their current resources to slowly grab up market share. In QBO Advanced, Intuit is merely adding features that users can pay extra for. This slow movement minimizes uncertainty of success and lessens chance of retaliatory response from mid-market competitors. Even if Intuit's long-run infiltration of the mid-market fails in the long run, QBO Advanced certainly allows them to decrease churn rate as they retain more customers who would have previously upgraded to other systems as they grew.

Embracing the future: Utilizing big data to increase monetization and switching costs

Before the outbreak of COVID-19, analysts were achatter with Inuit's acquisition of Credit Karma for a whopping $7.1 billion. While this seemingly large premium and the historical shortcomings of acquisitions may be unpalatable to the conservative investor, the benefits that can flow from this acquisition are immense and provide a convincing case for the long-term value of Inuit.



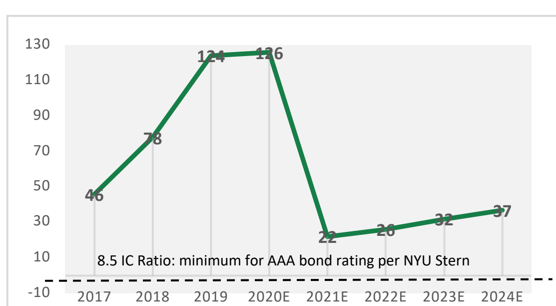


Exhibit 3: QBO Subscribers Growth **Exhibit 4:** Intuit Interest Coverage Ratio

This acquisition is part of Intuit's larger Big Data plan. With the acquisition of Credit Karma, which collects consumer data through their credit score calculations and financial product marketplace, Intuit continues their ambitions to collect massive stores of consumer data, as Intuit adds over 100 million users and around 2,600 data points per user. In addition, Intuit has also made moves to beef up their data analytics and prediction capabilities so that they can better utilize consumer data respond to customer needs. An example of this pursuit is Intuit's 2018 acquisition of Origami Logic, which provides extensive data analytics and management tools. Lastly, Intuit is putting their data resource and capabilities to work by developing an integrated ecosystem of consumer finance products and remodeling itself as a highly individualized consumer finance assistant. Specifically, Inuit will use its new edge in data to build on its already existing Turbo and Mint products as well as Credit Karma's services, through which it will connect people with financial institutions offering various loans, savings accounts, and credit cards perfectly tailored to the individual consumer.With this, Intuit is reorienting the value chain of consumer finance and positioning itself as an aggregating middleman.

This transformation will elevate Intuit along two fronts: increasing monetization and building competitive advantages. With regards to monetization, Intuit will be able to utilize their vast stores of consumer data to better match consumers with financial products boosting demand from consumers and banks and increasing their transactions and fees on the front-end of their business. Additionally, as Intuit fills the role of personal financial assistant it will be able to utilize data to better cross-sell its products, and it will be able to more effectively target and sell advertisements on Credit Karma's on platform, boosting back-end revenue. In terms of competitive advantages, Intuit is consolidating control of a crucial resource--consumers' data--giving them a significant supply-side competitive advantage. There are sizable barriers for other companies to obtain this resource of behavioral data to such a large degree, and Intuit benefits from being an early mover in this space, as their machine learning and prediction capabilities will improve over time and with large scale. This stratagem also introduces a moat in the form of two-sided network effects, as the growth of platform users should induce more financial institutions to partner with Intuit, and more financial institutions offer a broader range of products, attracting more users and fostering a virtuous cycle. This advantage stands to allow flywheel growth and to insulate Intuit from challengers. Lastly, Intuit's stratagem will allow it to develop significant switching costs. Through the personalization of Intuit's Turbo and Credit Karma's own service, along with a driving of higher engagement per user, users will become more reliant on Intuit's products and less likely to switch to a new service, allowing Intuit to hold its user base and market share.

Though, Intuit is not the first to venture on this path--commercial banks already utilize big data, drawing from their own internal data and purchasing data from large credit bureaus in order to individualize their services and efficiently peddle financial products. While this presence may inhibit Intuit's ability to capture users to a degree, Intuit's proposition has some advantages that will allow it to shine as a third-party financial marketplace. First, Intuit's marketplace allows interaction with more than one financial institution; this allows comparison of products between banks that facilitates better tailored and more cost-efficient solutions. Additionally, this style of marketplace allows Intuit customers to access a broader variety of financial products than commercial banks. The second advantage is a bit more abstract--while banks own user data, Intuit allows users to own their own data. With banks, data profiles are owned exclusively, and are utilized to effectively market to consumers while limiting the usefulness of the data in external opportunities. Though Intuit also technically owns consumer data, data is really utilized to enrich the consumer, and is shared between partnering financial institutions at the customer's request to deliver optimal results. In this way, Intuit is affording greater customer control of their own data, empowering the consumer and unlocking optimal results. Intuit's consumer-centric approach also stand to gain support as pro-privacy sentiment continues its upward trend.

Reliable Revenues from Tax, and Capabilities to Expand

Everyone knows the tired quip about the certainty of death and taxes. Though cliché it may be, Intuit's TurboTax benefits from this truth. Though TurboTax may not be producing explosive growth, it is essential to the long-term value of Intuit as it provides stable and consistent revenues that serve as a solid base for the company and allow it to endeavor on more risky gambits. Additionally, Intuit benefits from advantages and is undertaking strategies that will allow great opportunities for it to expand their foothold in the tax accounting space in coming years.

The stability of TurboTax is evident in both the nature of the industry and Intuit's specific circumstances. Obviously, taxes will be filed every year, and individual tax filings should increase mainly based on the growth of the independent adult population in the US. Therefore, the revenues in the tax accounting industry are theoretically recession-proof, though Inuit may see some decline in revenue as individuals choose to downgrade to a cheaper tax filing option. Additionally, Intuit benefits from extra stability due to their membership in the Free File Alliance, a partnership of tax industry leaders and the IRS that allows promotion and support of participating companies. Though there are nine other participating companies in the FFA, this arrangement at least gives Intuit an elevated status in the field and extra security in drawing consumer demand.

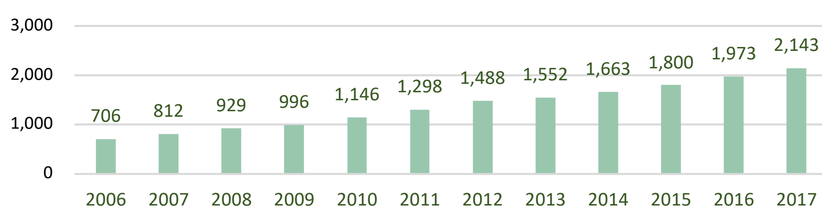


Exhibit 5: Intuit Annual Tax Revenue (in $ millions) Before Reporting Change

This source of stable revenues is especially important as other parts of Intuit's business take hits from Covid-19. In fact, as Covid-19 continues to affect the country, we can logically expect to see an increase in online tax filings, and Intuit may even see larger growth in this area despite the poorer broad economy. In the larger picture, the effects of Covid-19 and the societal transformations it has and will engender may hasten the current broad movement to DIY online tax services from brick and mortar alternatives. Also, because filers' information will be saved in the TurboTax software, users will be more likely to reuse the software in coming years as initial friction is removed. With a well-established brand and a lead in the online tax landscape, Intuit has much to gain from this likely shift. In fact, this shift may even be enough to propel Intuit past H&R Block, which draws most of its revenue from its physical locations, in tax accounting market share, giving Inuit the top position in the market.

The outlook for Intuit is even sunnier when considering their recent moves to improve their services and position themselves for leadership. For one, Inuit is continuing to build up its assisted tax add-on, TurboTax Live, which saw a tripling of users in FY2019 by improving accessibility to experts and modes of communication through implementing live chats and numerous points of access to experts. These changes are important in that they serve to further speed up migration of former brick and mortar users to Inuit, as they assuage concerns of having taxes done properly and in a way that maximizes benefits. Additionally, Intuit is also building on its position by utilizing its masses of data and prediction models to employ AI to assist in tax returns, simplifying the arduous process and making it more thorough, increasing ease-of-use. Though not unique in this approach, Intuit's will have an edge as its data capabiltiies will allow it to build more efficient and more customized tax filings.

Risks

COVID-19

The effects of Covid-19 present great risk for Intuit, both in terms of the general economic recession and the outsized impact on small businesses, which are central to the success of Intuit's QuickBooks and broader small business segment. Since Quickbooks and associated products serve primarily small businesses, cuts in spending by potential and current customers, failure of current customers, and stagnant small business entrances may have considerable impact on Intuit's top-line.

Mitigation: Though small businesses are suffering, QuickBooks is central to company operations and should be a last resort for cost-cutting. Additionally, small business recovery should be catalyzed by government action, as recent action through the PPP has shored up hundreds of billions of dollars for small business relief, and the government has shown commitment to extending more funding as needed. Lastly, Intuit should fair much better in this crisis than rivals due to diversified revenue streams and an exceptionally strong balance sheet. At the end of Q3, Intuit held over $3.3 billion in cash with a current ratio of 1.79, posted a D/E ratio of .64, and recorded a tremendous interest coverage ratio of 706.5.

Merger Falls Through

My assumptions about revenue growth are highly driven by expected synergies resulting from Intuit's pending acquisition of Credit Karma. The acquisition has been subject to antitrust concerns due to combined size and market share of the two parties and possible implications for consumer privacy since the deal was announced. Though neither party has discussed troubles with the acquisdition ahead, a lack of financing to complete the acquisition and the altered business landscape resulting from the recent economic fallout adds to uncertainty around the expected marriage.

Mitigation: As discussed, Intuit has a solid balance sheet that will allow it to surmount financing difficulties. Intuit maintains a AAA bond rating and outstanding leverage ratios and is projected to retain excellent ratios even after the acquisition is complete. Additionally, while both companies have been negatively impacted by COVID-19, the impact is not substantial relative to companies in other industries.

Increased Government Regulation

Recently, in the wake of controversy involving Intuit and other FFA members shepherding filers away from free services, the stability of Inuit tax revenue has been thrown into doubt as the threat of greater government regulation of the tax industry grows. Growing public and congressional debate indicates that greater regulation of the tax filing industry, or even introduction of a free IRS filing system, may be on the horizon.

Mitigation: The threat of these events is mitigated mainly by aggressive lobbying efforts on the part of the tax industry. Intuit spent millions of dollars on lobbying in 2019 and employed over 40 lobbyists. Also, Intuit has successfully fended off threats of greater regulation of the tax industry since the 1990s. If history teaches us anything, Intuit's efforts are likely to continue to keep it safe from IRS encroachment for the time being.

Valuation

Discounted Cash Flows Valuation

Historicals					
Year	2015	2016	2017	2018	2019
Revenue	4,192.0	4,694.0	5,196.0	6,025.0	6,784.0
EBIT Margin	20.5%	25.6%	26.8%	26.0%	27.7%
CapEx %of Rev	3.4%	8.9%	2.0%	0.6%	1.1%
D&A % of Rev	4.8%	4.6%	4.3%	4.0%	3.0%
NWC	(881.0)	(1,275.0)	(1,008.0)	(735.0)	(438.0)
Change in NWC	(54.0)	(394.0)	267.0	273.0	297.0
NWC Change % of Revenue	-1.3%	-8.4%	5.1%	4.5%	4.4%
Effective Tax Rate	42.0%	33.0%	29.0%	15.0%	17.0%

WACC	
Share Price	$288.11
Diluted Shares Outstanding	274.2
Market Capitalization	78,999.8
Debt	3,961.0
% of Debt	4.8%
% of Equity	95.2%
Cost of Equity	7.6%
Cost of Debt	2.9%
Implied WAAC	7.4%

Cost of Equity	
Beta	1.11
Risk-Free Rate	0.92%
Market Rate	5.1%
Market Risk Prem	6.0%
Implied CoE	7.6%

Base Case

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Projections										
Revenue	7,258.9	9,218.8	10,878.2	12,509.9	14,136.2	15,973.9	18,050.5	20,036.0	22,240.0	24,686.4
EBIT	1,959.9	2,489.1	3,045.9	3,627.9	4,240.8	4,951.9	5,776.2	6,411.5	7,116.8	7,899.6
CapEx	72.6	92.2	108.8	125.1	141.4	159.7	180.5	200.4	222.4	246.9
D&A	217.8	184.4	108.8	125.1	141.4	159.7	180.5	200.4	222.4	246.9
NWC Change	435.5	368.8	217.6	250.2	282.7	319.5	361.0	400.7	444.8	493.7
Assumptions										
Revenue Growth	7%	27%	18%	15%	13%	13%	13%	11%	11%	11%
EBIT Margin	27%	27%	28%	29%	30%	31%	32%	32%	32%	32%
CapEx %of Rev	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
D&A % of Rev	3%	2%	1%	1%	1%	1%	1%	1%	1%	1%
NWC Change % of Rev	6%	4%	2%	2%	2%	2%	2%	2%	2%	2%

FCF Sum	36,104.1
Discounted FCF Sum	22,828.9

EV/EBITDA	20
Terminal Growth Rate	2.5%
Diluted Shares Outstanding	274.2
Net Debt	2,663

GG Multiple	127,747.3	Exit Multiple	162,930.1
Discounted GG Multiple	62,767.6	Discounted Exit Multiple	80,054.4
Enterprise Value	85,596.5	Enterprise Value	102,883.4
Equity Value	82,933.5	Equity Value	100,220.4
Implied Share Price	**$302.46**	**Implied Share Price**	**$365.50**
Implied Upside	+5.0%	Implied Upside	+26.9%

Bull Case

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
					Projections					
Revenue	7,462.4	9,925.0	12,108.5	14,288.0	16,431.2	18,567.3	20,981.0	23,708.6	26,316.5	29,211.3
EBIT	2,014.8	2,878.2	3,632.5	4,429.3	5,258.0	6,127.2	7,133.5	8,060.9	8,947.6	9,931.8
CapEx	74.6	99.2	121.1	142.9	164.3	185.7	209.8	237.1	263.2	292.1
D&A	223.9	297.7	242.2	142.9	164.3	185.7	209.8	237.1	263.2	292.1
NWC Change	447.7	397.0	242.2	142.9	164.3	185.7	209.8	237.1	263.2	292.1
					Assumptions					
Revenue Growth	10%	33%	22%	18%	15%	13%	13%	13%	11%	11%
EBIT Margin	27%	29%	30%	31%	32%	33%	34%	34%	34%	34%
CapEx %of Rev	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
D&A % of Rev	3%	3%	2%	1%	1%	1%	1%	1%	1%	1%
NWC Change % of Rev	6%	4%	2%	1%	1%	1%	1%	1%	1%	1%

FCF Sum	46,370.5
Discounted FCF Sum	29,133.9

EV/EBITDA	20
Terminal Growth Rate	2.5%
Diluted Shares Outstanding	274.2
Net Debt	2,663

GG Multiple	167,534.8	Exit Multiple	204,479.2
Discounted GG Multiple	82,316.9	Discounted Exit Multiple	100,469.2
Enterprise Value	111,450.8	Enterprise Value	129,603.1
Equity Value	108,787.8	Equity Value	126,940.1
Implied Share Price	**$396.75**	**Implied Share Price**	**$472.66**
Implied Upside	+37.7%	Implied Upside	+64.1%

Bear Case

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
					Projections					
Revenue	7,123.2	8,690.3	9,993.8	11,093.2	12,313.4	13,421.6	14,629.6	15,946.2	17,381.4	18,945.7
EBIT	1,852.0	2,172.6	2,498.5	2,773.3	3,078.4	3,355.4	3,657.4	3,986.6	4,345.4	4,736.4
CapEx	71.2	86.9	99.9	110.9	123.1	134.2	146.3	159.5	173.8	189.5
D&A	213.7	260.7	199.9	110.9	123.1	134.2	146.3	159.5	173.8	189.5
NWC Change	284.9	347.6	399.8	443.7	492.5	536.9	585.2	637.8	695.3	757.8
					Assumptions					
Revenue Growth	5%	22%	15%	11%	11%	9%	9%	9%	9%	9%
EBIT Margin	26%	25%	25%	25%	25%	25%	25%	25%	25%	25%
CapEx %of Rev	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
D&A % of Rev	3%	3%	2%	1%	1%	1%	1%	1%	1%	1%
NWC Change % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%

FCF Sum	22,173.0
Discounted FCF Sum	14,555.7

-

EV/EBITDA	15
Terminal Growth Rate	1.5%
Diluted Shares Outstanding	274.2
Net Debt	2,663

GG Multiple	54,921.8	Exit Multiple	73,888.3
Discounted GG Multiple	26,985.4	Discounted Exit Multiple	36,304.4
Enterprise Value	41,541.1	Enterprise Value	50,860.2
Equity Value	38,878.1	Equity Value	48,197.2
Implied Share Price	**$141.79**	**Implied Share Price**	**$175.77**
Implied Upside	-50.8%	Implied Upside	-39.0%

Comparables Model

Company		Share Price	Shares Out.	Market Cap.	EV/Revenue	EV/EBITDA	P/E	P/B
Autodesk	$	233.71	219.2	51,230.0	26.2	129.6	231.4	10.8
Salesforce		173.88	901.0	156,670.0	9.2	64.4	1,159.2	2.8
Workday		178.67	235.0	41,990.0	20.0	(190.3)	(0.4)	6.2
Adobe		392.90	481.8	189,300.0	17.1	47.6	65.5	9.1
ADP		160.13	429.8	68,820.0	4.9	20.0	30.6	1.6
ServiceNow		390.46	190.7	74,460.0	21.4	251.9	116.2	12.4
Intuit		**288.11**	**261.0**	**75,196.7**	**11.1**	**36.2**	**48.9**	**12.0**
Mean	$	259.69	388.4	93,952.4	15.7	51.3	235.9	7.8
Median		233.71	261.0	74,460.0	17.1	47.6	65.5	9.1

Transaction Comparables Model

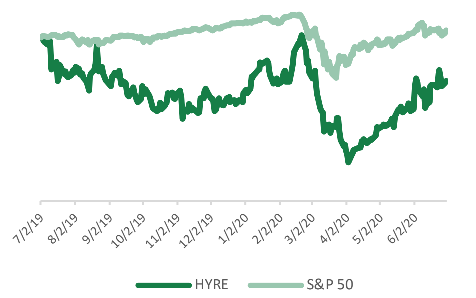
Company		Pre-Acquisition Valuation		Acquisition		Control Premium	% premium		Pre-Acquisiton Sales	Pre-Acquisiton EV/Sales	TV/Sales
Red Ventures-BankRate	$	1,064	$	1,400	$	336	31.50%	$	434	2.45	3.22
Visa-Plaid		2,650		5,300		2,650	100.0%		150	17.67	35.33
PayPal-iZettle		1,100		2,200		1,100	100%		98.09	11.21	22.43
Morgan Stanley-E*Trade		9,182		13,000		3,818	41.58%		2,886	2.40	4.50
Intuit–Credit Karma		**3,500**		**7,100**		**3,600**	**102.9%**		**1,000**	**3.50**	**7.10**
Mean	$	3,499	$	5,800	$	2,301	75.2%	$	914	7.45	14.52
Median		2,650		5,300		2,650	100.0%		434	3.50	7.10

Spring 2020, Issue 6
Promontory Investment Research
http://www.promontoryir.com

HyreCar Inc.

HyreCar Inc. | NASDAQ: HYRE	
Negative / Neutral / **Positive**	
Share price, 06/05/20:	$2.72
Market capitalization:	$47.737M
Shares outstanding:	17.55M
52-week range:	$0.88 / $4.95
EPS (FY19):	($0.89)
Beta	1.23
Average analyst opinion:	$5.94
Price target:	$3.27

Price Chart



Financial Highlights

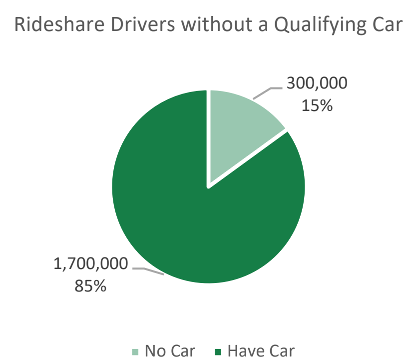
(Dollars in millions)	2018	2019	2020E
Revenue	9.78	15.85	21.71
% Growth	*203.73%*	*62.07%*	*37.00%*
EBIT	(9.16)	(12.69)	(10.86)
% Margin	*(93.7%)*	*(80.1%)*	*(50.0%)*
EBITDA	(7.64)	(12.62)	(10.79)
FCFF	(1.50)	(11.07)	(9.89)

Research Analyst

David Si | davidsi@uchicago.edu

Investment Overview

HyreCar is a platform used by gig economy workers to rent cars on a short-term basis from private owners and dealers in order to drive for Uber/Lyft, Doordash/Grubhub, and other services that require a qualifying car. HyreCar is propelled by the *high growth industries* of ride-sharing, delivery services, and car-sharing. It has a *first mover advantage* in the peer-to-peer car rental industry, allowing it to establish substantial *price moats*, have the leverage to be *platform agnostic* (i.e. a renter can work for any gig job), and benefit the most from a *2-sided network effect*. This strong position is reflected in HyreCar's *rapid financial growth*.



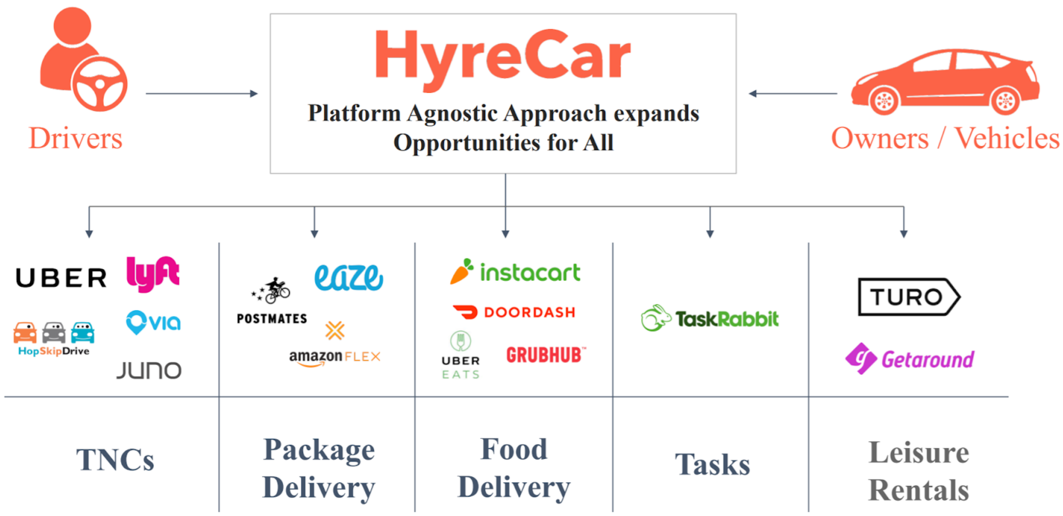
Company & Industry Overview

Company History

HyreCar filed for an IPO on June 7, 2018, offering 2.1 million shares at $5 on June 27. Afterward, in 2019 HyreCar made numerous strategic partnerships, car dealership initiatives, and another equity raise. On July 10, HyreCar partnered with HopSkipDrive, a rideshare service for families and children in Denver, to integrate the renting of large-capacity vehicles to work for HopSkipDrive. On July 17, HyreCar partnered with DriveItAway, a dealership-focused shared mobility platform, to enable auto retailers to access the HyreCar platform and generate additional revenue from idle vehicles. On August 7, HyreCar partnered with the National Independent Automobile Dealers Association to increase service to the 17,000 dealership members wanting to offer up idle cars to the HyreCar platform. On September 19, HyreCar partnered with PassTime, a provider of GPS telematics products designed for vehicles, to advance vehicle asset tracking and management technologies for car dealers and fleet owners that rent out cars on HyreCar. On October 3, HyreCar established a joint venture with Dave Haley and Peter Foley, the CEOs of American Business Insurance Services and LILCHA Holdings respectively, to expand insurance captives specific to carsharing in the ridesharing space. On October 17, HyreCar partnered with TIKD, a liability management solutions provider to the shared mobility industry, to cover the payment of tickets on behalf of HyreCar vehicle owners. On October 23, HyreCar partnered with Shift Technology, a company with an AI-driven fraud detection solution to optimize insurance claims processes, to reduce fraudulent insurance claims filed on the HyreCar platform. On November 7, HyreCar successfully expanded to all 50 US states. On November 13, HyreCar partnered with Stork Driver PA and Reedman-Toll Auto Group, car dealerships and related auto service providers, to expand the supply of car rentals available from dealerships. On December 11, HyreCar partnered with Sansone Jr's 66 Automall to offer free credit repairs for new rideshare drivers in NJ and PA.

HyreCar's business activity in 2019 focused more on financials. On April 9, HyreCar renewed an auto insurance partnership with Y-Risk, a brand of The Hartford, to continue to provide a unique, industry-leading liability insurance program. The new partnership lowered costs, secured increased capacity, and created two new service tiers to better meet customer needs. On July 11, HyreCar recruited a new sales team composed of industry professionals with senior positions at Kelly Blue Book, Edmunds, AutoNation, DealerTrack, CDK Global, LotLinx, AutoAlert and Cox Automotive. All new sales executives aim to increase dealer and OEM initiatives. On July 19, HyreCar offered 3.5 million shares at $3.

Not much notable news emerged in 2020. On February 10, HyreCar partnered with Clutch Technologies, a subscription and mobility services software for automobiles, to improve software solutions for dealers, OEMs, and vehicle providers to bring large fleets onto the HyreCar platform. The recent 10-K reported net rental days increased from ~384,835 in 2018 to ~621,201 in 2019. Finally, HyreCar anticipated the sharp drop in ridesharing and pivot to delivery well in advance by rebranding our app and web portals, creating new sales talk scripts, retooling messaging, retraining support staff, affirming assurance coverages and focusing marketing spend on delivery services.

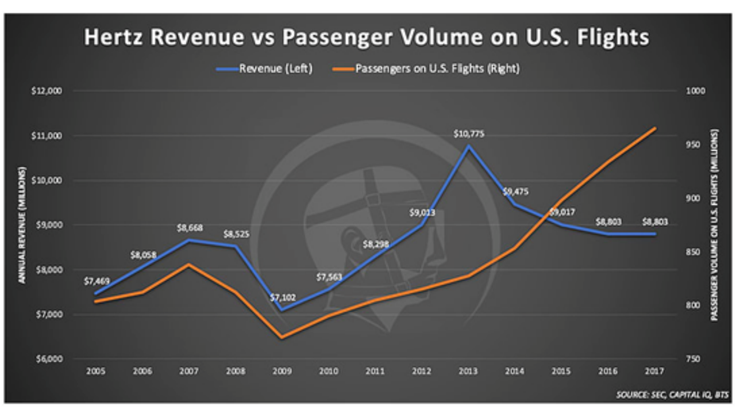


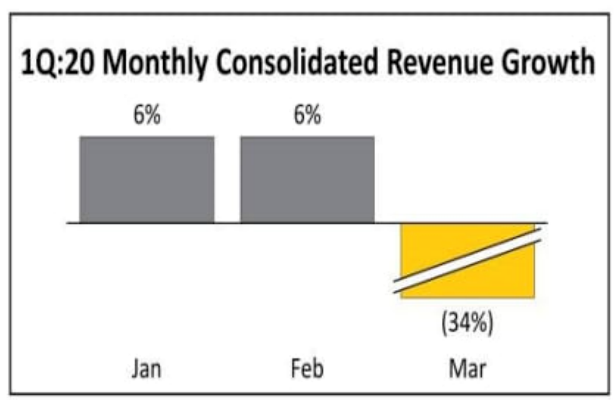
Business Lines

HyreCar (NASDAQ: HYRE) is a proprietary peer to peer car-sharing marketplace founded in 2014 that connects owners to drivers. HyreCar crowd-sources and does not own nor manage vehicles. Currently, commercial vehicles account for more than ¾ of the rental days on the platform. The HyreCar platform securely runs all rental transactions (including, but not limited to, background checks, rentals, deposits and insurance costs). Drivers quickly enter and exit the marketplace by renting cars on a pay-as-you-go basis, allowing HyreCar to react quickly to fluctuating transportation supply and demand. HyreCar has a commercial automobile insurance policy that covers both owners and drivers for the period of time that a driver operates an owner's vehicle. HyreCar insurance covers both the driver and owner. Its industry-leading insurance policy fills the gaps left by personal and ride-sharing policies, as it covers the period in which the Drivers are operating HyreCar vehicles with the Uber or Lyft platform turned OFF. During the periods when Drivers are operating ON the Uber or Lyft platform, the HyreCar insurance subordinates to state-mandated insurance provided by Uber and Lyft.

Breaking News: Hertz Bankruptcy

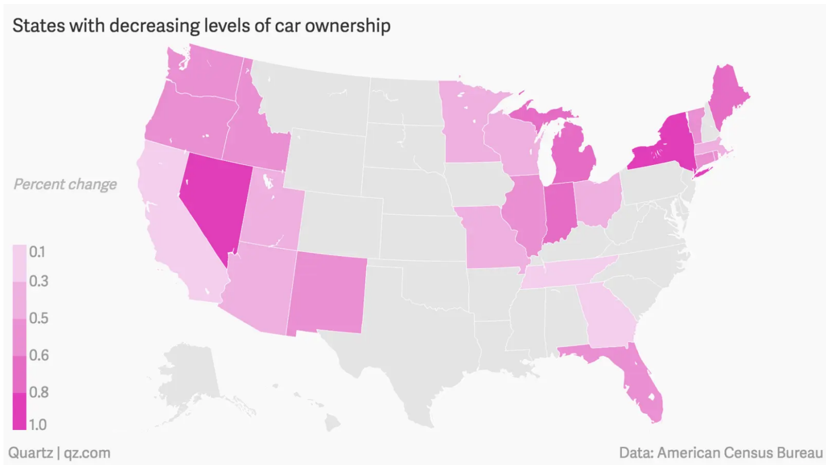
On May 23, 2020, car rental company and HyreCar direct competitor Hertz filed for chapter 11 bankruptcy in the District of Delaware. With actual assets around $26 billion, Hertz's bankruptcy is, as of June 5, 2020, the 26th largest chapter 11 filing ever. Hertz appeared financially stable with 10 consecutive quarters of YoY Revenue growth and 9 consecutive quarters of YoY adjusted corporate EBITDA growth up until the 4th quarter of 2019, however, a combination of high reliance on airline passenger volume and a heavily levered capital structure led to the downfall of Hertz. Despite eliminating non-essential spending, deferring almost all investments, accelerating dispositions of risk vehicles, canceling 2020 rental fleet orders, furloughing 20,000 employees and eventually firing 10,000, and drawing down $1 billion from its credit revolver, Hertz became a fallen angel as its credit rating was downgraded to a C. Missing over $400 million in payments, liquidation seems inevitable for Hertz. As Hertz is busy putting out its internal fires, HyreCar has a prime opportunity to soak up rental industry market share and build new supplier relationships.





Industry Overview

HyreCar capitalizes primarily on two growing markets: ridesharing (Uber & Lyft) and car-sharing, also known as Mobility as a Service (MaaS) (Turo & ZipCar). The ridesharing industry is composed of transportation network companies (TNCs) like Uber and Lyft. Uber reported it had 3.9 million drivers, Lyft 1.9 million, in North America at the end of 2018. Uber estimated that 10-15% of its drivers do not own a qualifying car, representing the potential market available to HyreCar. Revenue for the US ridesharing industry is currently ~$67B annually with an expected CAGR of 2%. HyreCar's stock price is fairly closely correlated to the fluctuations of Lyft and Uber, and this may be an obstacle as HyreCar is growing much faster. The car-sharing industry is an industry growing even faster than the ridesharing industry. In 2019 the market size was ~$2.5B which is expected to have a 16.4% CAGR until 2025. In 2017, around 10 million people used MaaS, and this is expected to increase to 36M in 2025. Driving this trend is declining rates of personal vehicle ownership.



Finally, HyreCar also benefits from growth in the food, package and grocery delivery services industry. This includes companies like Uber Eats, Postmates, Grubhub and Instacart which contract individual drivers, albeit with less stringent minimum vehicle standards. Expected revenues for all food delivery companies are $123B in 2020, increasing to $164B by 2024. Gig economy drivers diversify their sources of income, and 61% of HyreCar drivers actively work for both rideshare and delivery service companies. Food delivery has become an essential part of consumer routines due to shelter-in-place and work from home policies.

Competitive Landscape

HyreCar directly competes with companies that offer vehicle solutions for ride-sharing rentals. This excludes, in almost all cases, companies like ZipCar or Turo which do not allow drivers to work for ridesharing or delivery services and direct leases from dealerships due to their typical 3-year term. Primary competitors include FlexDrive, and to a lesser extent Avis and Hertz. Getaround could also be considered a minor competitor, as car-sharing for ridesharing services is not its primary business, and owners can only drive for Uber in 10 cities. HyreCar's direct competitor Fair, backed by SoftBank, recently exited the marketplace after experiencing poor operations and investor fatigue. As mentioned above, Hertz also recently filed for chapter 11 bankruptcy. All 3 competitors have a 7-day minimum rental and minimum 25 age requirement compared to HyreCar's 1-day minimum and minimum 21 age requirements. FlexDrive, which was bought by Lyft, limits drivers to Lyft only, Hertz limits drivers to Uber and Lyft, and Avis limits drivers to Uber only. Only HyreCar drivers can work for Lyft, Uber, Uber Eats, DoorDash, Postmates, etc. All-in costs for HyreCar are lower than all other competitors.

HyreCar's competitive advantages include:

- Fungibility: HyreCar drivers aren't limited to a rideshare company and can also deliver.
- Asset Light: HyreCar does not have to own or manage vehicles and can react quickly to market supply and demand fluctuations.
- Payment Flexibility: there is only a one day minimum, drivers only have to be 21 (25 for Hertz and FlexDrive), and drivers are matched to cars in the closest neighborhoods.
- Assurance: HyreCar can provide a steady stream of passive income from long term drivers due to their first mover advantage and larger platform, and the company's end to end insurance policy is unique compared to competitors.

The advantage of HyreCar's end to end insurance is seen in the rise and fall of Fair, a direct competitor to HyreCar. Due to HyreCar's first mover advantage in creating a car-sharing platform, Fair secured their supply of used cars by purchasing from local dealers, making their business more capital intensive than HyreCar, who does not own any cars. In December 2018, Fair secured $385 million in funding and strategic support from SoftBank, achieving an effective valuation of $1.2 billion. Fair experienced an "unexpected increase" in insurance premiums, making their lease terms expensive and uncompetitive compared to fixed insurance secured by HyreCar. With their business slowing, Fair sought another capital raise of $500 million, preferably from SoftBank due to sunk costs, but only received tens of millions. Soon after, the founder and CEO stepped down and 40% of Fair's workforce was laid off. SoftBank appointed an interim CEO, and Fair stopped transactions on its platform for 3 months until January 2020 to restructure business lines and improve their margins. However, this was not enough, as in February of 2020 Fair ended its Fair Go partnership program with Uber drivers, its only means to siphon market share from HyreCar. Fair has now exited the marketplace.

	HyreCar	Hertz	FLEXDRIVE	fair
Available Markets	All 50 states + DC	16 Cities	Bought by Lyft	Exited Markets
Rental Length & Age Requirement	Minimum 1 day rental, 21ysr+	Minimum 7-day rental, 25yrs+	Minimum 7 day rental, 25yrs+	Minimum 7 day rental, 21yrs+
Service Limitation	No Limits	Lyft & Uber	Lyft Only	Rental Only no rideshare
Deposit	$0	$200	$250	$185
Average Weekly Rates	Owners set pricing ~$200 per week	$240 / Week + $0.10 - $0.30 per mile (depends on geo location), taxes, fees	** $209/week – disqualified from Express Pay and driving bonuses	$185 / Week + $0.20 per mile, taxes, fees
All-in Cost *	**$311**	$376	$390	$413

* Includes insurance, weekly cost assumes 1,000 miles driven per week, $0.10 per mile ($0.20 for fair) plus 15% taxes and fees applied to advertised competition pricing

** Assumes $150 per week in driver bonuses (conservative given Uber/Lyft drivers are seeing $500 starting bonuses)

The competitive landscape begs the question of why Enterprise or other large car rental companies can't develop a rental platform that directly competes with HyreCar. Given their pre-existing supply and infrastructure, it would seem natural for a large rental company to have the advantage. However, this is not the case, as the flexible rental terms for gig economy drivers would cut into traditional rental business, i.e. travelers need a rental car for a stretch of time (typically a week) and it would hurt business to let a college student or part-time worker rent a car for a day or two on the weekend or Friday to quickly drive for Uber/Lyft or deliver. This is why all rental terms for this type of work are weekly vs HyreCar's minimum 1-day rental length. Large car rental companies are also asset intensive and own all of their cars by sourcing from OEMs and manufacturers, whereas HyreCar has flexible dealer partnerships to better react to market demand and achieve better margins while growing faster. The highly levered capital structure of these traditional rental companies has come to hurt them, as seen in the bankruptcy filing of Hertz. Hertz and its peers are already well invested in their rental lot structure where travelers go to a rental car location near an airport. Transitioning to a software platform like HyreCar would, therefore, require dramatic changes to business operations.

Value Drivers

Revenue is driven by fees taken out of each rental processed on the HyreCar platform. Drivers pay a daily rental rate set by the owner plus a 10% HyreCar Driver Fee and direct daily insurance costs. Owners receive their daily rental rate minus a 15-25% HyreCar Owner Fee. As of December 31, 2019, the average daily rental rate of a HyreCar vehicle nationally is approximately $38.00. The following calculations project revenue using this average:

Daily Gross Revenue Example			Daily Net (GAAP) Revenue Example		
National Avenger Daily Rental Rate	$	38.00	HyreCar Owner Fee (20% Avg)	$	7.60
Driver Fee	$	3.80	HyreCar Driver Fee (10% rate)	$	3.80
Daily Insurance Fee	$	13.00	Insurance Fee (100% of fee)	$	13.00
Daily Gross Billing Paid by Driver	$	54.80	Daily Avenger Net Revenue	$	24.40

HyreCar is able to charge high fee percentages from transactions as its rates are still the most affordable and terms most flexible. This ensures a steady revenue stream and growth source.

Interview with Nil Yenice, Director of Partner Growth

I reached out to Nil over LinkedIn and scheduled an interview to discuss HyreCar. Opinions expressed are solely her own and do not express the views or opinions of HyreCar as a whole.

Q: How has the coronavirus impacted HyreCar's sales, specifically in terms of ride-sharing and delivery services?

HyreCar has a great concern overall for the public health and economic situation at hand. Given the large number of people that are in lockdown or working from home, we are mitigating the situation largely through our sales team. We're focused on expanding and mainlining supply relationships through our trusted advisor system, and recently we've worked more closely with Postmates food delivery by integrating our network of drivers. Package delivery is another area on top of food delivery that we're pivoting towards through increased marketing efforts. We're confident that our platform will perform well.

Q: As stated in your 10-K, HyreCar seems to get most of its sales growth through organic search traffic, and that moving forward the company will increase spending on marketing to improve brand awareness. How has this plan worked out in 2019, and will the growth strategy look similar moving forward?

We definitely see marketing as the core part of our growth strategy moving forward. While we continue to make incremental improvements to our platform and interface, marketing is how we will increase growth and market share. We have put a lot of effort into improving brand awareness through search optimization. Our service is near the top result when searching for "rent a car for uber," and we plan to maintain this visibility over our competitors. One internal statistic not released in our official financial reports is that lead generation went up 40% year over year in 2019.

Q: What is the culture like working at HyreCar, and how do you see that benefitting your company as a whole?

HyreCar has a very entrepreneurial culture with a problem-solving mindset. First and foremost, we pride ourselves on our growth rate, and we wish to expand while maintaining our current lean leadership structure. Having personally worked for Volkswagen and Tata, both very German-like, structured, and bureaucratic work environments, HyreCar stands out with its startup mentality in a midsized firm.

Q: Are you worried of potential new competitors?

No, most unique new competitors have phased out due to HyreCar's first mover advantage and a better understanding of customers and the competitive landscape. A good example of this was Fair, a direct competitor backed by Softbank and founded by an auto industry "god." Fair was greatly backed by prestige and pedigree, enabling it to partner with Uber. Fair aggressively expanded its fleet under an asset heavy model, and the approach eventually failed to sufficiently steal market share and customers from us. Softbank pulled out its investment, and Fair had to liquidate assets recently. A new competitor GetAround also emerged, and they also have an hourly rental rate for ridesharing. Their initial cost structure is lower, but drivers lack flexibility and see much higher price points if they want to extend rental hours. Most importantly, among the companies left standing HyreCar is the only platform agnostic marketplace.

Q: How do you feel about competition with traditional rental companies like Hertz and Enterprise?

Generally speaking, we are confident that by focusing our efforts entirely on creating the best ride-sharing marketplace, we can beat out traditional rental companies. Hertz and Enterprise have on and off relationships with Uber and Lyft, and only during downtimes in their regular business will they focus on ride-share rentals. It simply isn't convenient or efficient for them to divert their efforts towards short-term rentals for gig work in contrast to the typical week long rentals they provide. That being said, traditional rental companies have stronger relationships with OEMs, and they usually work out favorable deals to purchase newly manufactured cars. HyreCar is currently focused on getting a used car supply from individual dealers, but our SVP Brian Allan is also looking into OEM relationships so that we can attack from both ways.

Q: Do you consider decreasing car ownership a risk?

Yes, and we've addressed this by shifting our platform to facilitate commercial partnerships with large fleet operators. In 2016, 90% of our revenue was from peer to peer car sharing from private owners and renters, and now over 60% of revenue is from consistent car fleets provided by strategic partners.

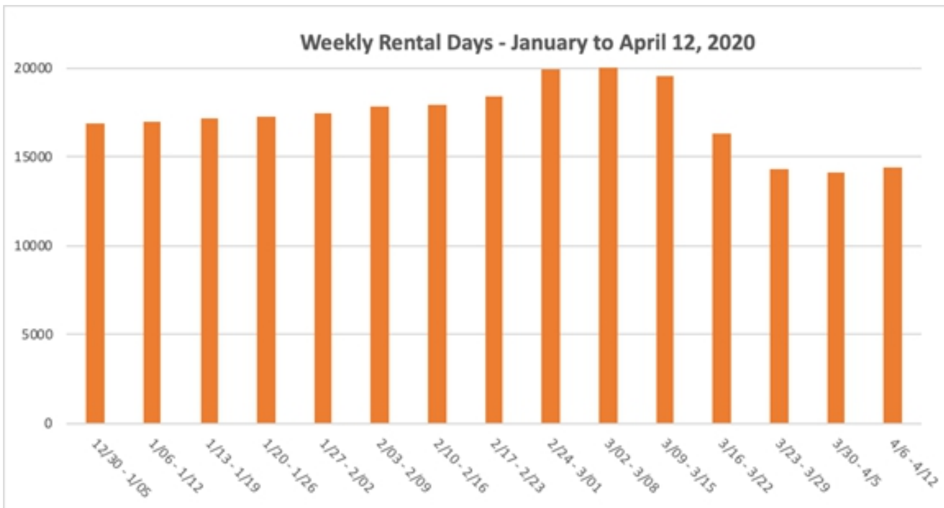
Q: Do you see autonomous vehicles becoming mainstream in the near future, and if so, do you plan to respond?

We aren't too concerned about autonomous vehicles, and it seems like a concern of the next decade. Having been to many industry events and conferences, it seems like government regulation and monitoring have greatly slowed and disincentivized developments in this technology. While it isn't really a priority, we are still looking out for commercial partnerships with autonomous vehicle suppliers.

Investment Thesis

Thesis 1: Price & Network Effect Moats

Being the first mover in the car-sharing industry for the gig-economy has allowed HyreCar to have tangible price advantages over its competitors and offer a larger two-sided network of buyers and sellers. To review, HyreCar can offer a lower lease price because it secured bespoke partnerships with insurance titans The Hartford, American Business Insurance Services, and LILCHA Holdings. This is due to HyreCar's early timing, using its large platform as leverage, and development of technological solutions that reduce the financial damage of fraudulent claims and at-risk drivers. HyreCar's industry leading insurance coverage and rates are what ultimately pushed Fair out of the market. Being a first mover with an attractive insurance policy and low prices has attracted both car owners and drivers to the HyreCar platform, thus securing the largest two-sided network effects. The popularity of the HyreCar marketplace is seen in the steady growth of weekly rental days depicted in the graph below.



After reaching an all-time high weekly rental day quantity of more than 20,000 during the first week of March, HyreCar saw a dip of approximately 30% over the next month to approximately 14,000 weekly rental days due to COVID-19 related public health and economic policies. HyreCar handed the situation very well, as this drop was relatively small compared to the 80% rideshare decline in transportation network companies such as Uber and Lyft. This speaks to HyreCar's successful diversification of business into other gig economy service providers like food and grocery delivery through late Q1 and early Q2. There is a clear uptrend from the floor in early April, further illustrating the resiliency of HyreCar's marketplace due to the speed at which HyreCar was able to pivot their business and sales efforts towards deliveries.

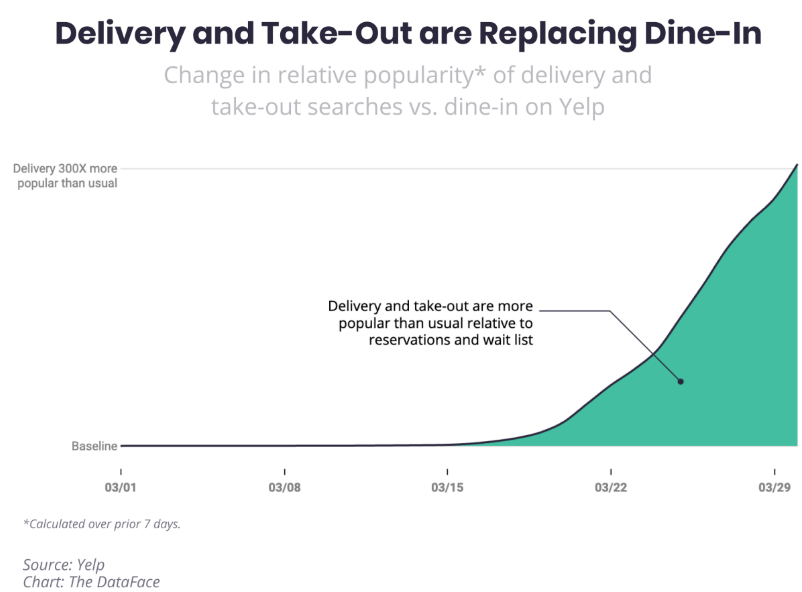
A potential catalyst is the exit or significant impairment of a competitor. This effectively happened when $HYRE rose over 20% following Hertz's bankruptcy filing.

Thesis 2: Gig Economy Surfer

HYRE is propelled by growth in the gig economy and changes to consumer spending. HyreCar grows when ride-sharing and delivery companies grow. More people are incorporating food delivery into their daily habits due to shelter-in-place, driving demand for delivery drivers who in turn come to HyreCar to rent cars.

Key statistics include: Uber estimated 10-15% of its drivers do not own a qualifying car. Ride-sharing CAGR is estimated to be 2%, and car-sharing CAGR is estimated to be 16.4% over the next 5 years.

An illustration of the meteric rise in demand for delivery services due to policies relating to COVID-19 is provided to the left.



A student-run publication at the University of Chicago

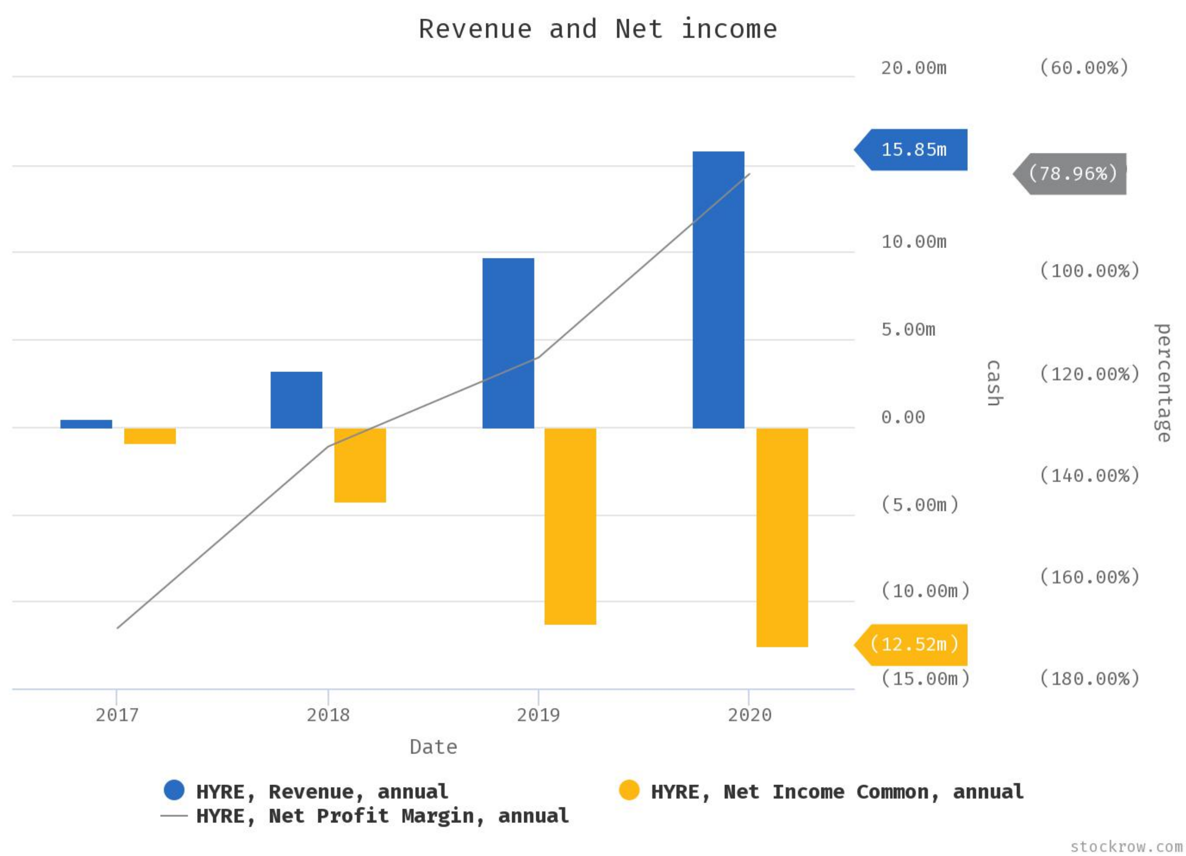
Even when the gig economy CAGR inevitably stagnates, HyreCar's asset light, high growth business operations will independently drive up its share price. HyreCar is best suited to take advantage of these trends due to its strong network of strategic dealer partnerships. Potential catalysts include an earlier than expected lift on shelter-in-place, additional Uber or Lyft bailout provisions, greater than expected growth in food delivery revenue segments for Uber or Doordash/GrubHub/Postmates, or industry merger and acquisition activity. M&A activity has been confirmed to be a catalyst, and $HYRE reacted positively to talks about Uber acquiring Grubhub. The rise in share price independently attributable to the potential acquisition is difficult to determine given the proximity of other notable news surrounding the event.

Thesis 3: Shifting Tastes

HYRE is driven by changes to consumer tastes on car ownership. Yearly, fewer people are owning cars. A Seba report predicts that most Americans will not own a car by 2030. Between 2020-30, US passenger cars will drop 80%, with 60% of the remaining vehicles being fleet owned. Car ownership is declining even faster in other nations, hurting overall sales. This means gig economy workers will need to rent cars to work out of cost efficiency and necessity, and other people will become more reliant on Uber and Lyft, further driving demand for ride-sharing services. There is a strong chance that not owning a car will be the most practical choice. HyreCar's competitive advantages will make potential customers come to the HyreCar platform first. Through HyreCar, renters only have to be 21, rent for a day at a time, drive for any company, and rest assured with insurance. Additionally, as indicated in the interview HyreCar has transitioned from a model that relied on private car owners for 90% of its sales in 2016 to less than 40% in 2019. Instead, HyreCar sources cars from a vast network of independent car dealerships that do not have relationships with traditional car rental companies. The key catalyst is a greater than expected decline in auto manufacturer sales.

Thesis 4: Ten-Bagger

Quarter over quarter and year over year revenues are increasing rapidly. EBT margins have improved every year since 2016. Year over year revenue growth is averaged to be 55.73%. EPS is still negative at 0.89 for FY 2019, but net income figures have been increasing gradually overall. Market projections anticipate profitability in 2022. The company has no long-term debt. All in all, the company financials resemble an early stage tech company (market cap $29M) with high potential for growth and an unusually large margin of safety. At its current trajectory, HyreCar can create an entirely new market subsector and exponentially grow its market cap. Potential catalysts include stronger than expected quarterly earnings and reaching profitability at an earlier-than-expected date.



Investment Risks

Risk: Threat of New Entrant

The peer to peer rental platform of HyreCar can potentially be replicated by other companies, including well-funded startups or traditional rental companies.

Mitigating Factors:

Companies have tried and failed to sap market share from HyreCar. Softbank backed Fair, even with an Uber partnership, could not overcome HyreCar's cost advantage and exited the market despite being valued as a unicorn at its peak. Hertz and its asset-heavy business filed for bankruptcy after its business suffered too much from COVID-19. Traditional rental companies must choose between their existing business of renting cars to travelers for week-long time periods or offer short term rentals to part-time gig economy workers. It is not cost effective for these companies to directly compete with HyreCar due to sunk costs.

Risk: Weak performance of Uber and Lyft

Even after shelter-in-place and work-from-home orders are lifted, there could be health concerns of riding in Uber and Lyft rides, severly hurting business.

Mitigating Factors:

The weekly rental days chart shown in the investment thesis section shows that HyreCar can effectively pivot its platform to serve delivery drivers such that demand for rentals can reach pre-COVID levels. If there actually are societal shifts in attitudes towards public health safety, there would be increased food take-out and delivery which would mean more demand for HyreCar down the line.

Risk: Extended COVID-19 outbreak or second wave

Due to widespread protests or a return to in-person school in the fall, COVID-19 cases could potentially spike again.

Mitigating Factors:

As mentioned above, HyreCar is able to pivot its business to cater to food take-out and delivery services which would be more popular during a pandemic.

Risk: Failure to effectively expand margins

HyreCar's operating margin could potentially fail to reach the goal of becoming positive in 2022 or expand at a greater rate than revenue growth.

Mitigating Factors:

The reason for unprofitability is due to high discretionary spending on sales and marketing. This is a logical strategy for a high growth tech company at the stage HyreCar is currently in, as soaking up market share is necessary to achieve the full benefits of a two-sided network effect and essentially a monopoly on the space. HyreCar management is well aware of investor expectations on profitability and margin expansion. Every earnings call has mentioned whether HyreCar is on track to reach profitability by their goal in 2022. This responsiveness is shown in the strong, consistent financial growth since the HyreCar IPO.

Valuation

Assumptions

Revenue growth will be relatively lower in 2020 due to losses in the ride-sharing industry in the Q1, and growth will rebound for 2021 as the pandemic fades away and ride-sharing services become available once again. After 2021, revenue growth will gradually decline yearly. Growth numbers are in line with management projections stated in earnings calls as well as the growth trajectories of similar peer to peer, asset-light marketplace companies Esty and Fiverr.

Operating margins will close into profitability by 2022, a goal reiterated multiple times in earnings calls. Feasibility of achieving operating income profitability is high given the majority of costs are in the form of discretionary sales and marketing.

Effective tax rate is based on the Tax Cuts and Jobs Act (TCJA) amount. This is a conservative estimate given the effective tax rate of internet-based software companies is about 15% according to Professor Damodaran.

Depreciation and amortization are projected to be a low, constant value between $70,000 to $80,000 given historical values, management's intent to keep a lean workforce without new locations, and the in-house software development nature of the business. FY 2018 immediately depreciated a new property.

Capital expenditures are also low given the tech nature of the company, and are estimated to be 0.5% of annual revenues.

Working capital is expected to slightly decrease over time as the company becomes more streamlined and efficient.

The terminal growth rate is set at a conservative 2%, in line with the historical inflation rate.

Comparable companies include the publicly traded Uber, Lyft, and Grubhub due to high correlation in the gig economy work. Private companies Flexdrive and Fair.com (peak value prior to liquidation and exit) were also compared because they are direct competitors. The price to sales ratio is used because these are unprofitable early stage tech companies focused on increasing equity value and revenue growth. Flexdrive P/S was calculated using the $20 M acquisiton price paid by Lyft and the estimated annual revenue of $5.8 M. Fair.com P/S was calculated using Softbank's $1.2 B valuation through its funding and the associated $54 M in annual revenue at the time.

Income Statement, D&A, Capex, and NWC Projections

HyreCar

Daily rentals for Uber & Lyft

HyreCar Discounted Cash Flow Model	**Historical**				**Projected**				
(In millions USD)	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Free Cash Flow Projections									
Revenue	0.52	3.22	9.78	15.85	21.71	30.40	41.04	54.38	70.69
Revenue Growth %	0.00%	519.23%	203.73%	62.07%	*37.00%*	*40.00%*	*35.00%*	*32.50%*	*30.00%*
Operating Margin	-161.5%	-126.4%	-93.7%	-80.1%	*-50.0%*	*-20.0%*	*5.0%*	*10.0%*	*12.0%*
Operating Income (EBIT)	(0.84)	(4.07)	(9.16)	(12.69)	(10.86)	(6.08)	2.05	5.44	8.48
Effective Tax Rate	0.00%	0.00%	0.00%	0.00%	*0.0%*	*0.0%*	*21.0%*	*21.0%*	*21.0%*
EBIT * (1 - Tc), i.e. NOPAT	(0.84)	(4.07)	(9.16)	(12.69)	(10.86)	(6.08)	1.62	4.30	6.70
Plus: Depreciation & Amortization	0.00	0.06	1.52	0.07	*0.07*	*0.07*	*0.07*	*0.08*	*0.08*
Less: Capital Expenditures	0.00	0.00	(0.23)	0.00	*(0.11)*	*(0.15)*	*(0.21)*	*(0.27)*	*(0.35)*
Less: Change in Working Capital	0.00	(1.57)	6.37	1.55	*1.00*	*0.50*	*0.00*	*(0.50)*	*(1.00)*
EBITDA	(0.84)	(4.01)	(7.64)	(12.62)	(10.79)	(6.01)	2.13	5.51	8.56
Unlevered Free Cash Flow	(0.84)	(5.58)	(1.50)	(11.07)	(9.89)	(5.66)	1.49	3.60	5.43
Discount Factor					1.09	1.18	1.29	1.40	1.52
Discounted Free Cash Flow					(9.09)	(4.78)	1.16	2.57	3.56

WACC and Terminal Value Calculations

WACC Calculations		
Current Stock Price	$2.72	
Shares Outstanding	17.55	
Market Capitalization	47.74	
Net Debt	($10.66)	
E / (E+D)	129%	
D / (E+D)	-29%	
Risk Free Rate	0.90%	10-Y Treasury (6/5)
Beta	1.23	
Market Risk Premium	5.35%	Prof Damodaran
Cost of Equity	7.48%	
Cost of Debt (Pretax)	3.67%	Prof Damodaran
Tax Rate	21.00%	
WACC	**8.80%**	

Terminal Cash Flow Calculations	
Terminal Growth Rate	2.00%
Terminal Value	81.38
Present Value of Terminal Cash Flows	53.38
Sum of PV of Near-Term Cash Flows	(6.59)
Implied Enterprise Value of Firm	46.79
Implied Equity Value	57.45
Shares Outstanding	17.55
Implied Price Per Share	**$3.27**
Implied Premium (Discount)	20.3%

Terminal Value Calculation

Exit Multiple Based Calculations			
$HYRE Current Price to Sales Multiple	1.56x		
Price to Sales Exit Multiple	3.96x	$UBER	4.36
Terminal Value	279.94	$LYFT	2.49
Present Value of Terminal Cash Flows	183.62	$GRUB	3.96
Sum of PV of Near-Term Cash Flows	(6.59)	Flexdrive	3.45
Implied Enterprise Value of Firm	177.03	Fair.com	22.2
		~~$CAR~~	~~0.23~~
Implied Equity Value	187.69	~~$HTZ~~	~~0.02~~
Shares Outstanding	17.55		
Implied Price Per Share	**$10.69**		
Implied Premium (Discount)	293.18%		

Spring 2020, Issue 6
Promontory Investment Research
http://www.promontoryir.com

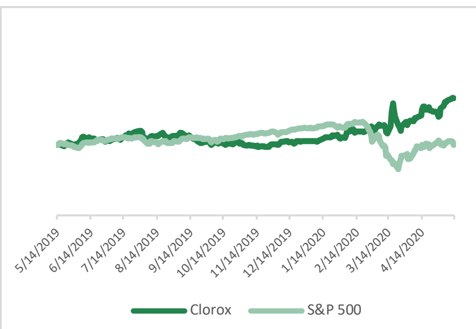
The Clorox Company

The Clorox Company | NYSE: CLX

Negative | Neutral | **Positive**

Share price, 06/03/20:	$206.2
Market capitalization:	$25,968mm
Shares outstanding:	125.9mm
52-week range:	$214.3 / $144.1
EPS (FY19):	$6.3
Beta	0.23
Average analyst opinion:	$186.2
Price target:	$224.7

Price Chart



Financial Highlights

(Dollars in millions)	2019	2020E	2021E
Revenue	6214	6304	6662
% Growth	*1.5%*	*1.5%*	*5.7%*
EBIT	1124	1134	1199
% Payout	*60.8%*	*57.6%*	*54.3%*

Research Analyst

Jingwen Zhang | jingwenzhang@uchicago.edu

Investment Overview

This analysis of The Clorox Company (NYSE: CLX) has yielded to an upside of 9.0%, and the stock overall is rated as positive despite vibrant price growth in the past three months. With a 4.8% WACC and 2% terminal growth rate, the target price is set to be $224.7. The Trading Comps Model has yielded an EV/EBIT multiple of 29x higher than 24x at which Clorox is predicted to be traded currently. With the multiple from the Trading Comps Model, the target price is predicted to be $244.6 with an upside of 18.6%.

The stock is rated as Positive because of strong earnings momentum and growth capacity in Cleaning segment, expected distribution gain in Household and Lifestyle segments owing to effective promotion strategies and shelf space recovery, potential for global expansion of its cleaning products, and promising new digital marketing partnership paired with loyalty programs.

Company and Industry Overview

Company History

The Clorox Company (Clorox) is a leading global manufacturer and marketer of consumer and professional products in America. It is most known for its namesake bleach and cleaning products, and it covers personal care, health, and professional products and solutions as well. Nearly 80% of the Company's sales is generated from brands that hold the No. 1 or No. 2 market share positions in their categories. 84% of its sales is based in America, and 90% of American households are using Clorox products. Clorox generates revenue primarily by directly selling its products through mass retailers, grocery outlets, warehouse clubs, dollar stores, home hardware centers, drug, pet and military stores, third-party and owned e-commerce channels, and distributors.

Business Segments

Clorox divides its business into four reportable segments (percent of sales): Cleaning (34%), Household (30%), Lifestyle (20%), and International (16%). Clorox is trying to expand its portfolio especially in the Lifestyle segment. Clorox acquired 100 percent of Nutranext, a dietary supplements company based in Sunrise, Florida, for $681 million, which is part of its long-term strategy to diversify revenue sources.

Competitive Landscape

The Household and Personal Product Industry is highly competitive, and has high barriers to entry because existing companies have significant advantages over cost savings due to economies of scale. Clorox claims absolute dominance in the cleaning products industry. Clorox is the biggest player in Bleach Manufacturing and Disinfectant Manufacturing industry, the two industries that constitute the majority of the cleaning products industry and contribute the most revenue for Clorox. The industry is resilient in times of economic downturn, which is proven in the 2008 financial crisis.

Value Drivers

Household and personal products are highly similar so companies in this industry focus on innovation (or product differentiation) and forming consumer habits. Brand name is a huge growth driver, given that brand products significantly outperform off-brand and private-label products in 2019.

Although the industry, especially the disinfectant market, is likely to benefit from the COVID-19 outbreak as demand for cleaning products and household products has been increasing, price sensitivity is also expected to increase. In order to capture the opportunity, cost saving and prompt supply chain and manufacturing adjustment are necessary.

Exhibit 1: Clorox Segment Revenue

Company 10K

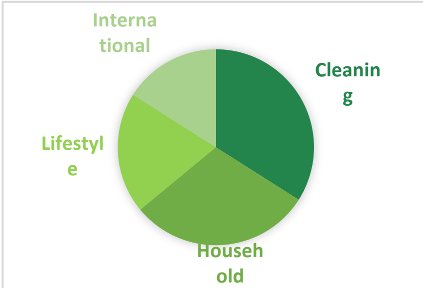
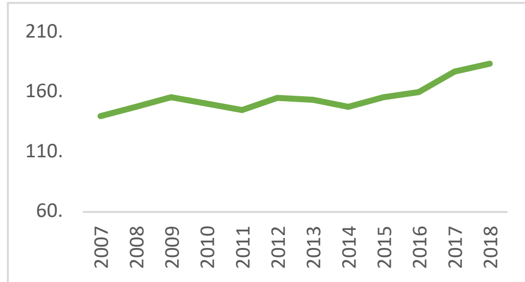


Exhibit 2: Average Annual U.S. Household Expenditure on Laundry and Cleaning Supplies per Consumer Unit from 2007 to 2018 (in $)

Statista



Investment Thesis

Strong earnings momentum in the Cleaning segment and capacity for future growth

Nielsen found that sales of multi-purpose cleaners for the four-week period ending April 4 are up 141% from the same period last year. Clorox is likely the company that can benefit the most from the new consuming pattern due to COVID-19. In its Q3 (ended on March 31, 2020) earnings report, its Cleaning segment saw a sales growth of 32% and pretax earnings increase of 71%. With better-than-usual performance in the other three segments, the company had an overall sales growth of 15%, and its organic sales growth reached 17%, compared to its flat growth rate in normal time. Moreover, Clorox is outperforming its peer companies in the Cleaning and Home Care units.

The reason behind Clorox's surging growth rate is that Clorox provides all kinds of cleaning products available in the market, while other consumer staples companies only cover a part of them. Therefore, the rising demand for cleaning products benefits Clorox the most. Moreover, due to the fact that Cleaning segment has always been Clorox's strongest segment, Clorox will have the biggest earnings momentum.

In the future, the demand for disinfectant products is expected to increase even more. On the consumer side, households will keep buying cleaning products when they run out of stock. Since people will be using cleaning products more often, the consumer demand for these products will remain high. On the company side, there will be a surge in demand for cleaning products once the economy starts to re-open if companies want to run their businesses safely.

Clorox is still very far from meeting the demand and it has the capacity to further ramp up production. The demand for its disinfectant products increased 500% according to its CEO. Therefore, it is very unlikely that Clorox will overproduce and there remains huge potential for further production growth. In Q3, the company's supply chain has not seen significant disruption, and it has been able to obtain most of its raw materials. It has been simplifying its supply chain to try to keep up with the demand. Also, it has narrowed its production focus to key cleaning products and resourced to third party manufacturing. As a result, Clorox has manufactured 40 million more disinfectant products in Q3 compared to the previous year quarter – an output increase of 40%.

Also, Clorox is very likely to withstand a possible recession based on historical data. In 2008/2009, its categories in aggregate declined less than half a percent, and of its 10 business units Clorox grew in 8 of them. The past performance did not involve a rising demand for cleaning products, and the fact that the managers of 9 of the 10 units also went through the 2008/2009 recession.

There has been an increase in logistics cost, but it is offset by the increase in volume and the company was able to secure a higher gross margin amid the COVID-19 outbreak. Clorox's higher-than-peer-average ROIC (+1,000 bps) has also contributed to its vibrant growth. Its operating margin was 18% and gross margin was 48%, up from 17% and 43%. Clorox has been able to secure a high margin against increasing cost without raising prices, which further shows that the company have secured, and will continue to secure, its price-sensitive consumers.

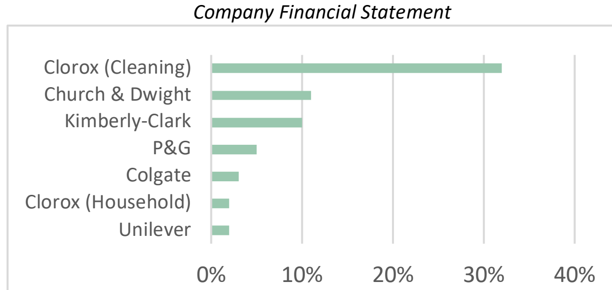
Exhibit 3: Clorox Q3'20 Financial Performance

Company 10-K

(YoY % change)	Net Sales	EBT
Cleaning	32%	71%
Household	2%	15%
Lifestyle	10%	29%
International	11%	50%

Exhibit 4: Growth Rate in Home Care/Cleaning Unit in the Latest Quarter (YoY)

Company Financial Statement



Sales across segments are expected to have better performance

Household and Lifestyle

Clorox witnessed significant sales decrease in its Glad trash bags as price hike backfires in Q2 last year. However, the company's trade promotions, particularly in Glad, drove up sales growth in the Household segment from 8% sales decrease (Q2) to 2% increase (Q3). Although increased demand in household products is also a contributor, Clorox had been actively recovering shelf space prior to the pandemic, especially in the grilling and laundry categories, which has shown positive results in market shares. All these trends indicate a sustainable shelf space recovery into the future. Moreover, increasing demand in Clorox's products may also give the company more bargaining power with retailers to secure shelf space in the future.

International

The management team recently suggested possibility and optimism in global expansion for cleaning products, given heightened demand for cleaning products worldwide and the low penetration of Clorox wipes in the international market. In Q3'20, EBT YoY growth rate of International segment was the second highest (50%). If Clorox were able to actually grasp this opportunity, the International segment would be a new major growth driver, especially the European and Asian market where Clorox does not have a high presence. The United States outperformed all other countries in term of the average household spending on disinfectant products, which indicates the huge growth potential in the global cleaning products market. Given that the International segment only accounts for 16% of its sales, and the only player of scale in the global disinfectant product market is Reckitt, there is significant potential for global expansion and it is very likely that Clorox can capture the growth. Aside from its sanitary products, its Burt's Bees and cat litter products have already seen optimistic results since the company started global expansion.

Exhibit 5: Clorox Household Quarter Sales Growth Rate (YoY)

Company 10K

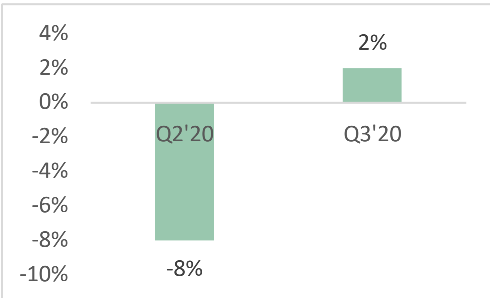
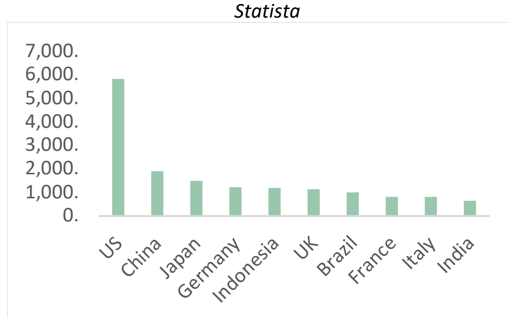


Exhibit 6: Top 10 Revenue of the Household Cleaners Market Worldwide by Country in 2018 (in million U.S. dollars)

Statista



New efforts to increase digital media advertising

Clorox will consolidate its $500 million U.S. media account under OMD, the world's largest media network with more than 13,000 people working in over 100 countries. OMD is ranked as the Most Effective Media Network by Effie, and half of its experts are specialized in digital media. With OMD's expertise in digital marketing and its past 18-year partnership with Clorox in its traditional media segment combined, it is very promising that Clorox will make some significant breakthroughs in digital marketing. Clorox is among the few companies that are capable of increasing marketing spending amid the pandemic, while most of its competitors have to cut ad spending to save cost.

Digital marketing is crucial for Clorox in making its products stand out in the market. As mentioned earlier, products in this market are very similar so customers do not have any natural preference for a single company. What matters in ensuring sales and market dominance is shaping consumer habit, which is largely realized through marketing and advertising. Traditionally, consumer staples companies engage with customers indirectly through retail stores, which is inefficient and gives retailers huge bargaining power. With improved digital customer engagement strategy, Clorox can bypass retailers in customer engagement and will be able to gain bargaining power with retail stores due to its popularity and dominance in the market.

Also, Clorox is pairing its digital marketing strategy with loyalty programs. The brand will increase its ad spend by $50 million in the second half of 2020 in an effort to hold onto the increased trial of Clorox products it is seeing during the coronavirus health crisis. Prior to the health crisis, Clorox had put in place a marketing platform, IGNITE Strategies, aimed at building loyalty by increasing its personal customer relationships in the United States from 20 million to 100 million people over the next five years. The brand has increased its digital marketing budget from 24% its marketing spending to 55% in 2019.

Investment Risks

1. High Leverage - Clorox has high leverage, with a debt to equity ratio of 7.33. If the company fails to fulfill its debt responsibilities, it will largely impact the target price set by this report.

Mitigating Factor - Leverage is generally high among consumer staples companies due to their capital intensiveness. Interest ratio and Net Debt/EBITDA ratio are better than peer average, therefore the company is able to pay off its debt and will not face significant threat from its current debt structure.

2. Dependence on U.S. Market - The company is largely dependent on U.S. market compared with competitors such as P&G, Unilever, and Johnson & Johnson. This means that Clorox faces higher risk and volatility from the U.S. economy.

Mitigating Factor - The management has indicated the possibility for global expansion in FY21. Within the U.S. market, Clorox has been diversifying its portfolio, especially in the Lifestyle segment, through mergers with companies such as Nutranext in 2018.

3. Walmart's Buyer Power - Walmart alone accounts for nearly a quarter of its sales, and has had huge bargaining power with many consumer staples companies, including Clorox.

Mitigating Factor - The rising demand for Clorox's disinfectant products is expected to give Clorox larger bargaining power and an advantage over shelf space. Also, the company is putting more emphasis on its online channels in order to bypass traditional retailers and to cater to the shift of consumer behavior to online shopping.

Valuation

The bull-case DCF Model has yielded a target price of 224.7, with a 4.8% WACC and a 2% terminal growth rate.

Assumptions

Clorox expects to see a 4% to 6% sales growth with a 6% to 8% organic sales growth, and an EPS range from $6.70 to $6.90. In the future, Clorox is going to keep focusing on its promotion programs in its Household segment (especially Glad trash bags) and shelf space regain. The company might take global expansion into consideration, but specific details have not been announced yet. Customer relation is also going to be a main focus in FY2021, specific measures of which include improving digital advertising and direct customer engagement. As a result, the company expects that advertising spending will account for 10% of sales. Based on these expectations, this report sets the assumptions as follows,

1. Revenue Growth
    a) Sharp increase in Cleaning segment in FY2020&2021, slow down after FY2022
    b) Household segment will remain negative growth rate in 2020, but is expected to retain positive growth rate from 2022 owing to shelf space regain strategy and promotion
    c) Lifestyle and International segments will remain moderate growth rate; this reports expects large-scale global expansion to take place in FY2021&2022
2. Cost
    a) Expected to have flat CoGS due to the combined effect of favorable commodities movement, minor supply chain disruption and higher than normal logistics cost
    b) Expected to have slightly higher SG&A due to promotion spending (potential global expansion) in FY2020&2021, comes back to historical level from FY2022
3. Flat CapEx, D&A and change in NWC

The Clorox Company	2017	2018	2019	2020E	2021E	2022E	2023E	2024E
Revenue	$5,973.0	$6,124.0	$6,214.0	$6,304.7	$6,662.2	$6,966.5	$7,270.9	$7,551.2
- Cleaning	2002	2060	2109	2425	2619	2750	2888	2975
Growth Rate	5%	3%	2%	15%	8%	5%	5%	3%
- Household	1961	1959	1870	1833	1833	1851	1888	1945
Growth Rate	5%	0%	-5%	-2%	0%	1%	2%	3%
- Lifestyle	1000	1077	1265	1028	1090	1155	1225	1298
Growth Rate	1%	8%	17%	6%	6%	6%	6%	6%
- International	1010	1028	970	1019	1120	1210	1270	1334
Growth Rate	1%	2%	-6%	5%	10%	8%	5%	5%
CoGS	$3,302.0	$3,449.0	$3,486.0	$3,530.6	$3,730.8	$3,831.6	$3,999.0	$4,153.1
% of rev	55%	56%	55%	56%	56%	55%	55%	55%
SG&A	$1,544.0	$1,539.0	$1,604.0	$1,639.2	$1,732.2	$1,741.6	$1,817.7	$1,887.8
% of rev	25%	25%	25%	26%	26%	25%	25%	25%
EBIT	$1,127.0	$1,136.0	$1,124.0	$1,134.8	$1,199.2	$1,393.3	$1,454.2	$1,510.2
EBIT Margin	19%	19%	18%	18%	18%	20%	20%	20%
CapEx	$231.0	$194.0	$206.0	$252.2	$266.5	$278.7	$290.8	$302.0
% of rev	4%	3%	4%	4%	4%	4%	4%	4%
D&A	$163.0	$166.0	$180.0	$189.1	$199.9	$209.0	$218.1	$226.5
% of rev	3%	3%	3%	3%	3%	3%	3%	3%
ΔNWC	$47.0	$87.0	$2.0	$63.0	$66.6	$69.7	$72.7	$75.5
% of rev	0.8%	1.4%	0%	1%	1%	1%	1%	1%

FCF	$770.4	$814.1	$961.4	$1,003.4	$1,042.1
DCF	$734.8	$776.5	$917.0	$957.0	$993.9
				Sum DCF	$4,379.3

Terminal Growth Rate	2%
Gordon Growth TV	$35,668.3
EV	$32,537.2
Net Debt	$4,446
Implied Equity Value	$28,091.2
Implied Share Price	$224.7
Implied Upside	9.0%

Exhibit 7: DCF Model

The Trading Comps Model has yielded an upside of 18.6% with a target EV/EBIT multiple of 29x, which is higher than the 24x at which Clorox is expected to be traded at currently. The ten companies selected are include major players in Household and Personal Product sector both domestic and abroad. Selected companies cover the entire portfolio of Clorox, and thus is a comprehensive and relevant representation of the market's performance.

Company	EV/EBIT
The Procter & Gamble Company	39x
Colgate-Palmolive Company	19x
Church & Dwight Co., Inc.	21x
The Estee Lauder Companies Inc.	45x
Coty Inc.	negative
Johnson & Johnson	24x
Ecolab	49x
Kimberly-Clark Corporation	17x
Unilever	16x
Reckitt Benckiser Group plc	negative
The Clorox Company	**24x**

Low EV/EBIT	16x
High EV/EBIT	49x
Median EV/EBIT	23x
Mean EV/EBIT	29x
Implied EV (in million $)	33,026
Implied Equity Value (in million $)	30,575
Shares Outstanding (in million)	125
Implied Share Price	**$244.6**
Implied Upside	**+18.6%**

Exhibit 8: Trading Comps Model