promontory investment research

Caterpillar Inc.
HCA Healthcare Inc.
MetLife Inc.
Wells Fargo & Company

Fall 2020 Equity Report

Foreword

Promontory Investment Research is proud to publish its seventh equity research report in another exclusive online-only edition. Even in enduring times, our Research Analysts have continued to deliver high quality reports and we are thrilled to share our newest research with you.

Following the campus-wide shift to mainly remote learning, Promontory operated virtually this quarter with all general meetings, office hours, and BFT lectures organized over Zoom. We held internal events with notable firms like Contrary Capital and Morningstar and hosted NYU Stern Professor Aswath Damodaran in a virtual event attended by approximately a hundred students. We also continued to promote our strong sense of community by welcoming our Fall 2020 BFT cohort through a socially distanced quad hangout as well as a Linkedin photoshoot for all club members, among other activities.

And yet, as President, I would highlight our biggest accomplishment this quarter as something entirely different: our education reform. After many weeks of planning and writing over the summer, our Board reorganized and transcribed the seven lectures of our Basic Financial Training (BFT) into a 70+ page textbook made specifically for our New Recruits and accessible by all members. We hope this educational material serves many BFT classes well and that it will also become readily available to the public someday.

Our Research Analysts meanwhile worked hard with their peers in industry pods to write the full-length equity research reports seen here in this print. Alongside them, our Research Committee continually checked in to make sure each pod was on the right track every week. What has been printed is the culmination of much hard work and dedication during difficult times and I could not be prouder of our community.

Finally, it is bittersweet for me to announce that our entire Board has just transitioned for the next year. However the new Board have all proven themselves to be highly competent, dedicated, and hard working members of Promontory, and I'm absolutely confident that they will do a stellar job of leading the club to new highs. As a soon-to-be-alum, I am truly excited to see where the club goes from here.

Evan Xiang
November 2020

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The Board
Evan Xiang — President
Nathan Nangia — Head, Education
Victoria Gin — Head, Engagement
Akash Lohumi — Head, Operations

Research Committee
Mingda Zhang — Head, Research
James Chou — Member
Akshat Jain — Member

Special thanks to Jamie Manley for the front and back cover.

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Promontory Investment Research
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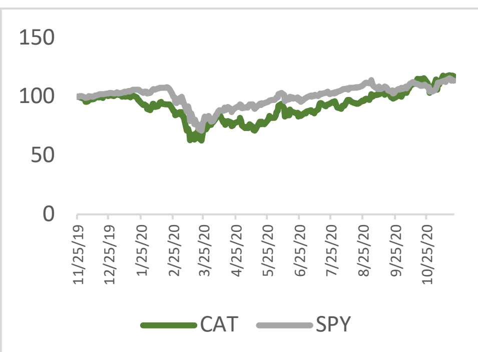
Caterpillar (NYSE: CAT)

Caterpillar Inc. | NYSE: CAT	
Negative / **Neutral** / Positive	
Share price, 11/14/20:	$171.71
Market capitalization:	$93.283B
Shares outstanding:	543.26mm
52-week range:	$171.71 / $143.44
EPS (TTM):	$6.03
Beta	0.98
Average analyst opinion:	$149.00
Price target:	$189.33

Price Chart



Financial Highlights

(Dollars in millions)	**2017**	**2018E**	**2019**
Revenue	1704	1795	1555
% Growth	*-51.5%*	*-5.3%*	*-13.0%*
EBITDA	780	897	410
% Payout	*-3.9%*	*15.0%*	*-54.5%*

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Investment Overview

We rate Caterpillar a hold for its strong financials and large balance sheet and its technology and automation acquistions.

Caterpillar's strong market presence secures stable future revenue. The company has the largest market share (25.6%) in the U.S. construction machinery manufacturing industry, and the second largest market share (9.3%) in the U.S. mining, oil and gas machinery manufacturing industry. The large market share of Caterpillar makes it much harder for competitors to replicate its success.

Caterpillar's wide moat is contributed significantly by its intangible assets, which includes the strength of its brand and extensive global dealer network. Caterpillar ranks 76th most valuable brand at $6.8 billion, and it is boosted by the large amount of Caterpillar gear ranging from clothing to boots that is available on mainstream online channels such as Amazon. There is a limited pool of competitors that are capable of entering and maintaining in Caterpillar's industries, which leads to tight relationships between Caterpillar's dealers and the owners of the equipment. Caterpillar has significant coverage on every content, totalling 165 dealers through which it sells its products. The dealers are independently operated companies, often large organizations, that exclusively sell Caterpillar's products. It would be difficult for any new entrant to produce at the scale and coverage of Caterpillar.

Caterpillar Inc. continues to prioritize research and development on their autonomous driving technology. This not only helps them mitigate the drastic impact of COVID-19 on sales of its traditional products but will also instigate significant growth. Caterpillar's autonomous technology for mining operations in particular will continue to grow due to their current partnerships with space agencies to use satellite technology for remote communication with machines on job sites. Furthermore, Caterpillar announced that remote controlled technology, which will allow users to operate machines from miles away, will be available for construction sites in January.

Company Overview

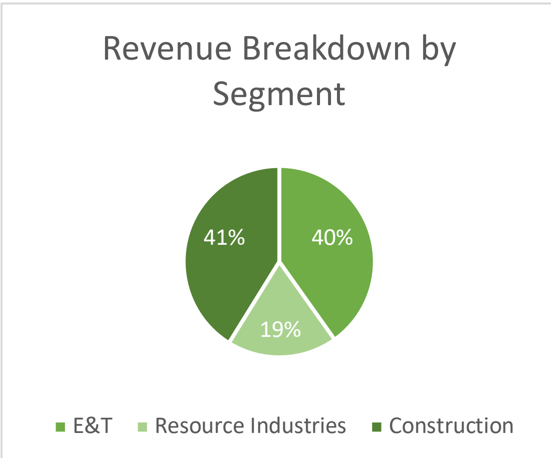
Caterpillar, formed in 1925 out of a merger between Holt Manufacturing Company and the C. L. Best Tractor Company, is an industrial company based in Deerfield, Illinois. Most notably, Caterpillar designs, develops, manufactures and markets construction and mining equipment, industrial gas turbines, diesel-electric locomotives, and engines. Broadly speaking, it serves the construction, energy, and transportation, resources, and power system industries worldwide. Aside from their main products, they also sell power systems, financial products, insurance, and a newly released line of branded Caterpillar clothing.

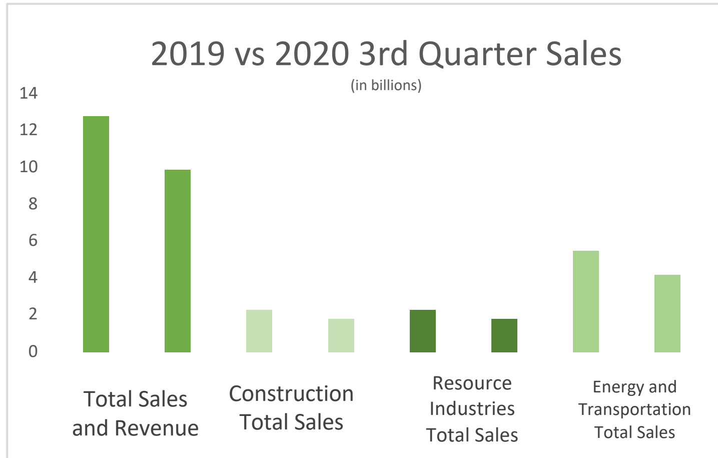
M&A

In October, Caterpillar acquired Weir Group's oil and gas division with a $405-million all-cash deal. The company said that with this acquisition, it would have "one of the broadest product lines in the well service industry."

Product Lines

Specifically, Caterpillar offers a large array of products over 3 main categories: construction, resources, and energy and transportation. Within their construction industry (primarily responsible for supporting companies in building infrastructure and buildings), they offer a portfolio of products over 3 subcategories: excavation, earth-moving, and building. Their resource industry caters their products towards companies in mining, heavy construction, and waste and material handling. This industry includes machinery ranging from Large Track Type Tractors to Rotary Drills and Draglines. Finally, Caterpillar manufactures machinery for their energy and transportation industry. These products support companies in Oil and Gas, power generation, and rail transportation. This industry has a portfolio including products such as train locomotives and Diesel generators.





Industry Overview

Caterpillar resides within the industrial goods and machinery sector with an increased emphasis on ESG issues. Industrial demand is heavily dependent on supply chain needs. Majority of Caterpillar's revenue stems from its Machinery, Energy, & Transportation (MET) sector.

Machinery, Energy & Transportation (MET) industry

The MET industry is a quickly evolving industry that forces companies to adapt to political and technological shifts. Companies that use the latest digital, analytics, and data forecasting tools to interact with the current environment will succeed.

Generally, the MET industry is rather volatile, depending heavily on commodity prices, national and global economy, and end-user demand and capital expenditures. The construction machinery industry has had very volatile performances in the past five years, with percentage change in industry revenue ranging from 12% to -20%. Oil and gas machinery is subject to the volatility of global oil prices. The current low oil price is predicted to significantly limit end-user capital expenditures, and thus hurting the revenue of this sector. However, this sector is expected to slightly rebound after Covid as the demand for oil picks up.

Robotics and automation in manufacturing

Companies applying robotic and automation solutions are performing better than broader industrials benchmarks, as demonstrated by the ROBOT index (a robotics and automation industry performance benchmark provided by ROBO Global). The integration of technologies such as 3D printing, automation, and robotics increase the efficiency of manufacturing workers and simplify the manufacturing process. According to a 2018 robotics report by Oxford Economics, every single robot installed replaces 1.6 manufacturing workers. Despite the increase in technology adoption over the last two decades, productivity has not increased- likely due to lack of proper measurement methodologies. Regardless, it is an apparent trend within the industry that companies are adopting automation within their supply chain operations.

Technology innovations in product offerings

Another trend is the increasing focus on creating value-added services through technology integration. Competition among operators is largely based on quality and customized products, and technological innovation and integration can distinguish a company from others, which is exactly what many companies are focusing on right now. For example, Halliburton Company (Halliburton) registered more than 450 patents in a single year; Komatsu Ltd. is installing GPS devices on its machines and introducing excavators that consume less fuel; Caterpillar introduced the new Dynamic Gas Blending (DGB) engine that allows an up to 85% replacement of diesel fuel with natural gas, offering more fuel flexibility. Downstream markets also demand more reliable and efficient equipments, especially in the oil and gas industry, which places an even greater emphasis on R&D among machinery manufacturers.

Investment Thesis

Strong balance sheet, recurring and stable cash growth

Caterpillar has a strong balance sheet, and in comparison to its peers, Caterpillar has the second highest gross margin percentage, highest EBITDA margin percentage, highest EBIT margin percentage, and second highest net income margin. The consistency of Caterpillar's high margins provides a high bottom line and demonstrates the sustainability of company's main business lines. In addition to its recurring and stable cash flows, its total Debt/EBITDA of 5.0x demonstrates relatively low leverage and greater ability to pay off debt, especially considering it is below the average industry. Therefore, in the future, it is unlikely to be swamped by debt maturity or interest payments.

Global presence

Caterpillar's machinery has a strong international presence, which comes as a result of their broad network of independent dealers, established long-term relationships with global customers, and direct sales of products.

Caterpillar's machines serve 191 countries, with machines distributed through an international dealer network. 58 are located in the U.S. and 119 located outside the U.S. Their reciprocating engines, for example, are sold for use in products through this dealer network. Engines manufactured by their subsidiary, Perkins Engines Company Limited, are also distributed through this network, with 67 distributors covering 178 countries. Caterpillar's subsidiary, Caterpillar Northern Ireland Limited sells the FG Wilson branded electric power generation system and is sold through a network of 150 distributors across 109 countries.

The majority of Caterpillar's worldwide dealers are independently owned and operated, but they notably own and operate the Nippon Caterpillar division, a dealership in Japan that covers approximately 80% of the market. Caterpillar's relationship with each independent dealers is memorialized in standard sales and service agreement- many of Caterpillar's long-standing dealers have worked with the company since 1925. Caterpillar has a strong and broad network of dealers and is thus well positioned to maintain its global presence.

Investment Risks

Cyclicality

On top of that, end-market demand for heavy machinery remains stable in the long-term despite cyclical fluctuations. This is due to the resilient demand for constructions - residential and nonresidential - and resources such as metals, oil and gas.

Mitigating factor

In the construction sector, residential and nonresidential construction markets are expected to grow at an annualized rate of 0.8% and 2.5% respectively over the next five years. As for the oil industry, global oil consumption has been steadily increasing except during the financial crisis when oil consumption decreased by 2.8% from 2007 to 2009. Yet, annual global consumption returned to the 2007 level in less than a year since 2009, which further proves the resilience of demand. Arguably, the current change in demand for oil and gas is unlike what we had during the financial crisis, but the possibility for oil and gas demand to pick up in a post-covid era is very high, which supports heavy machinery manufacturing companies such as Caterpillar.

Valuation

Energy and Transportation assumptions

- Revenue: We predict Energy and Transportation revenue to continue to decrease due to concerns in environmental concerns, presidential shift, and uncertainty in oil and gas industries. However, it will not decrease dramatically because of Caterpillar's strong balance sheet
- EBIT Margin: We expect a dip in EBIT margin due to Covid-19, however based off historical data Caterpillar looks consistent with around 17% EBIT Margin. It should slowly increase due to advancements in the Energy and Transportation industry
- CapEx: CapeEx, as a percentage of revenue, stays relatively consistent at around 3%
- D&A: Reinvestment and capital expenditures continues to be stable. We do not expect heavy reinvestment in the near future, so we keep it constant at 2%
- Change in Net Working Capital: Change in Net Working Capital has been fluctuating with the cyclical nature of the industry. Therefore, we followed a similar trend of cyclicality

Historical Values					
Year:	2016	2017	2018	2019	2020 (LTM)
Revenue	$18,519.00	$14,411.00	$19,382.00	$22,785.00	$22,097.00
Revenue Growth:	-14.77%	-22.18%	34.49%	17.56%	-3.02%
EBIT (Operating Profit?)	$3,239.00	$2,222.00	$2,883.00	$3,938.00	$3,910.00
EBIT Margin	17.49%	15.42%	14.87%	17.28%	17.69%
CapEx	$869.00	$519.00	$527.00	$742.00	$613.00
CapEx (% of rev):	4.69%	3.60%	2.72%	3.26%	2.77%
D&A	$690.00	$677.00	$653.00	$640.00	$628.00
D&A (% of rev.)	3.73%	4.70%	3.37%	2.81%	2.84%
Change in NWC	($1,096.56)	($744.26)	$1,531.06	$320.24	$845.47
Change in NWC (% of rev)	-6.11%	-5.16%	7.90%	1.41%	3.83%

Terminal Growth Rate:	2.5%	Exit Multiple:	10x	Shares Outstanding:	541.51
Year:	2020	2021	2022	2023	2024
Revenue:	-4.0%	-5.0%	-3.0%	1.0%	5.0%
EBIT Margin:	13.5%	17.0%	17.5%	18.0%	19.0%
CapEx (% of rev)	1.0%	1.5%	2.0%	3.0%	3.0%
D&A (% of rev)	2.0%	2.0%	2.0%	2.0%	2.0%
Changes in NWC (% of rev)	3.0%	4.0%	5.0%	6.0%	4.0%
Tax Rate	21.0%	21.0%	21.0%	21.0%	21.0%

Historical Values					
Year:	2016	2017	2018	2019	2020 (LTM)
Revenue	$5,726.00	$7,861.00	$10,270.00	$10,276.00	
Revenue Growth:	-24.20%	37.30%	30.60%	0.10%	
EBIT (Operating Profit?)	($1,654.00)	$176.00	$1,141.00	$1,204.00	
EBIT Margin	-28.89%	2.24%	11.11%	11.72%	
CapEx	$243.00	$183.00	$188.00	$168.00	
CapEx (% of rev):	4.2%	2.3%	1.8%	1.6%	
D&A	$607.00	$514.00	$462.00	$425.00	
D&A (% of rev.)	10.6%	6.5%	4.5%	4.1%	
Change in NWC	($368.84)	$640.37	$319.68	$453.31	
Change in NWC (% of rev)	-6.4%	8.1%	3.1%	4.4%	

Terminal Growth Rate:	2.5%	Exit Multiple:	10x	Shares Outstanding:	541.51
Year:	2020	2021	2022	2023	2024
Revenue:	-26.0%	10.0%	8.0%	6.0%	6.0%
EBIT Margin:	11.0%	14.0%	14.0%	12.0%	11.0%
CapEx (% of rev)					
D&A (% of rev)	3.0%	3.0%	3.0%	3.0%	3.0%
Changes in NWC (% of rev)					
Sales to Capital	5.35	5.35	5.35	5.35	5.35
Tax Rate	21.0%	21.0%	21.0%	21.0%	21.0%

Resource assumptions

- Revenue: revenue is predicted to decrease by 26% in 2020, based on the performance of the last three quarters and company estimates, and pick up in 2021 due to end-users' decreased inventories and economic recovery; 2022 onwards, revenue increase would slow down
- EBIT Margin: EBIT margin in 2020 is derived from the performance of the last three quarters; in 2021, EBIT margin is expected to increase due to successful restructuring of the Resource segment this year and fixed costs reduction
- Sales to Capital: sales to capital ratio is set as industry average taken from NYU Stern website
- Terminal Growth Rate: the terminal growth rate is set as the risk-free rate
- WACC is the same across all three segments

Construction assumptions

- Based off 3rd quarter numbers presented in Caterpillar's 10-Q, assumptions for 2020 are relatively similar to what was reported, especially in revenue growth
- We expect revenue values to rebound in 2021 due to the belief that vaccines as wells as greater prevention measures will halt the spread and businesses will look towards construction
- Despite the pandemic, EBIT margins remained relatively stable compared to historical values, and we expect these numbers to hold for the forseeable future
- CapEx & D&A projections remained relatively steady around historical values
- NWC projections for 2020 were dropped slightly to account for pandemic and then rebounded in 2021 to historical values

Historical Values					
Year:	2016	2017	2018	2019	2020 (LTM)
Revenue	15,612	19,240	23,237	22,649	20,894
Revenue Growth:	(12.0%)	23.2%	20.8%	(2.5%)	(8.6%)
EBIT (Operating Profit?)	1,650	3,258	4,174	3,931	3,490
EBIT Margin	10.6%	16.9%	18.0%	17.4%	16.9%
CapEx	186	228	266	201	
CapEx (% of rev):	6.1%	1.2%	1.1%	0.9%	5.3%
D&A	458	400	367	331	
D&A (% of rev.)	2.9%	2.1%	1.6%	1.5%	
Change in NWC		1306.58	432.08	888.21	
Change in NWC (% of rev)	7.6%	6.8%	1.9%	3.9%	-33.3%

Terminal Growth Rate:	2.5%	Exit Multiple:	10x	Shares Outstanding:	541.51
Year:	2020	2021	2022	2023	2024
Revenue:	-9.0%	19.0%	17.0%	15.0%	15.0%
EBIT Margin:	18.0%	18.0%	18.0%	18.0%	18.0%
CapEx (% of rev)	2.0%	3.0%	2.7%	2.5%	2.0%
D&A (% of rev)	3.0%	3.0%	3.0%	3.0%	3.0%
Changes in NWC (% of rev)	-10.0%	5.0%	5.0%	5.0%	5.0%
Tax Rate	21.0%	21.0%	21.0%	21.0%	21.0%

Revenue Breakdown (in millions)					
Year	2015	2016	2017	2018	2019
Total	$47,011	$35,749	$46,483	$56,292	$55,022
E&T	$17,938	$14,411	$19,382	$22,785	$22,097
% of total	38.20%	40.30%	41.70%	40.50%	40.20%
Resource	$7,551	$5,726	$7,861	$10,270	$10,276
% of total	16.10%	16.00%	16.90%	18.20%	18.70%
Construction	$16,568	$15,612	$19,240	$23,237	$22,649
% of total	35.20%	43.70%	41.40%	41.30%	41.20%
NWC (Total)	$8,115.00	$5,835.00	$9,313.00	$10,385.00	$12,572.00
Change in NWC	($2,875.00)	($2,280.00)	$3,478.00	$1,072.00	$2,187.00
Change in NWC (% of rev)	-6.12%	-6.38%	7.48%	1.90%	3.97%

Year	2015	2016	2017	2018	2019
E&T					
NWC (Total)	$3,096.44	$2,352.18	$3,883.24	$4,203.48	$5,048.95
Change in NWC	($1,086.56)	($744.26)	$1,531.06	$320.24	$845.47
Change in NWC (% of rev)	-6.11%	-5.16%	7.90%	1.41%	3.83%
Resource					
NWC (Total)	$1,303.45	$934.61	$1,574.97	$1,894.66	$2,347.97
Change in NWC		($368.84)	$640.37	$319.68	$453.31
Change in NWC (% of rev)		-4.88%	8.15%	3.11%	4.41%
Construction					
NWC (Total)		$2,548.21	$3,854.79	$4,286.87	$5,175.08
Change in NWC			$1,306.58	$432.08	$888.21
Change in NWC (% of rev)			6.79%	1.86%	3.92%

Implied Fair Value					
Enterprise Value:	$ 238,553.87	-	$ 132,138.84	Net Debt	$ 29,614.00
Equity Value:	$ 208,939.87		$ 102,522.84		
Implied Share Price:	$ 385.85		$ 189.33		
Implied Upside:	149.5%		22.4%		

Comparables

E&T		Resource		Construction	
Cummins Inc. (NYSE:CMI)		Komatsu Ltd. (6301.T)		Deere & Company (NYSE: DE)	
Share Price	$236.55	Share Price	$23.92	Share Price	$251.79
Share Outstanding	148	Share Outstanding	945	Share Outstanding	313
Market Cap	35,012	Market Cap	22,607	Market Cap	78,911
Net Debt	800	Net Debt	7,526	Net Debt	15,544
Enterprise Value	**35,812**	**Enterprise Value**	**30,134**	**Enterprise Value**	**94,455**
EBIT	1,745	EBIT	1,654	EBIT	3,736
D&A	678	D&A	1,299	D&A	1,614
EBITDA	**2,423**	**EBITDA**	**2,953**	**EBITDA**	**5,350**
Net Income	1,588	Net Income	970	Net Income	1,995
Levered Beta	1.18	Levered Beta	1.63	Levered Beta	0.94
EV / EBITDA	**14.3x**	**EV / EBITDA**	**9.6x**	**EV / EBITDA**	**17.7x**
P / E	21.7x	P / E	17.8x	P / E	20.0x
AB Volvo (ST: VOLV-B)		National Oilwell Varco, Inc. (NYSE: NOV)		CNH Industrial N.V. (NYSE: CNHI)	
Share Price	$23.28	Share Price	$10.98	Share Price	$10.09
Share Outstanding	1,580	Share Outstanding	388	Share Outstanding	1,350
Market Cap	36,782	Market Cap	4,263	Market Cap	13,622
Net Debt	10,184	Net Debt	-748	Net Debt	9,541
Enterprise Value	**46,966**	**Enterprise Value**	**3,515**	**Enterprise Value**	**23,163**
EBIT	2,916	EBIT	-2,124	EBIT	-639
D&A	308	D&A	270	D&A	1,779
EBITDA	**5,482**	**EBITDA**	**-1,854**	**EBITDA**	**1,140**
Net Income	2,013	Net Income	-2,189	Net Income	-625
Levered Beta	1.42	Levered Beta	1.98	Levered Beta	1.47
EV / EBITDA	**9x**	**EV / EBITDA**	**N/A**	**EV / EBITDA**	**20.3x**
P / E	23.3x	P / E	N/A	P / E	N/A
General Electric Company (NYSE: GE)		Schlumberger Limited (NYSE: SLB)		Terex Corporation (NYSE: TEX)	
Share Price	$9.25	Share Price	$18.00	Share Price	$28.81
Share Outstanding	8,670	Share Outstanding	1,390	Share Outstanding	69
Market Cap	80,198	Market Cap	25,020	Market Cap	1,997
Net Debt	-6,580	Net Debt	17,482	Net Debt	301
Enterprise Value	**73,618**	**Enterprise Value**	**42,502**	**Enterprise Value**	**2,298**
EBIT	7,547	EBIT	-11,350	EBIT	60
D&A	6,137	D&A	1,983	D&A	47
EBITDA	**13,684**	**EBITDA**	**-9,367**	**EBITDA**	**107**
Net Income	3,646	Net Income	-10,892	Net Income	-28
Levered Beta	0.92	Levered Beta	2.13	Levered Beta	1.48
EV / EBITDA	**4.7x**	**EV / EBITDA**	**N/A**	**EV / EBITDA**	**21.5x**
P / E	21.8	P / E	N/A	P / E	N/A
Average EV / EBITDA	**9.3**	**Average EV / EBITDA**	**9.6**	**Average EV / EBITDA**	**19.8**
CAT EBITDA E&T	**$4,538.00**	**CAT EBITDA Resource**	**$1,629.00**	**CAT EBITDA Construction**	**$4,262.00**
CAT EV E&T	**$42,354.67**	**CAT EV Resource**	**$15,638.40**	**CAT EV Construction**	**$84,529.67**

CAT Implied EV (in million $)	**$142,522.73**
CAT Implied Equity Value (in million $)	**$113,711.73**
Shares Outstanding (in million)	**543.26**
CAT Implied Share Price	**$209.31**
Implied Upside	**21.90%**

We compared CAT's three segments (Energy and Transportation, Resource, and Construction) with industry peers.

To better account for the differences between the three segments under which Caterpillar is operating, we divided the Comparables analysis by segments. The analysis yielded an implied share price of $209.31, with an implied upside of 21.9%. The reliability of this analysis is limited by two factors: 1) the U.S. resource sector experienced a serious decrease in end-user spending, which is why many U.S. resource companies have negative EBITDA and therefore EV/EBITDA ratios are not available, and 2) companies in Construction sector are experiencing very low EBITDA while the impact on their enterprise values is relatively minor, which leads to considerably higher-than-normal EV/EBITDA ratio.

Disclosure: In the resource segment, many of the major players are experiencing negative EBITDA and earnings right now due to the pandemic. As a result, their EV/EBITDA ratios are not available, which affects the accuracy of the valuation.

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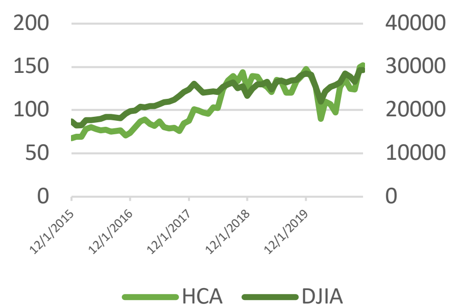
HCA Healthcare (NYSE: HCA)

HCA Healthcare | NYSE: HCA	
Negative / **Neutral** / Positive	
Share price, 11/20/20:	$152.60
Market capitalization:	$51.635 b
Shares outstanding:	338.38 mm
52-week range:	$58.38 / $155.84
EPS (TTM):	$9.89
Beta	1.54
Price target:	$167.91

Price Chart



Financial Highlights

(Dollars in millions)	**2017**	**2018E**	**2019E**
Revenue	$43,614	$46,677	$51,336
% Growth	*5.1%*	*7.2%*	*9.98%*
EBITDA	$8,264	$8,980	$9,877
% Growth	*0.14%*	*8.66%*	*9.98%*
EBITDA ratio	18.95%	19.24%	19.26%
EPS	$5.95	$10.66	$10.07

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Investment Overview

After analyzing HCA Healthcare (NYSE: HCA) we suggest a hold on the company's stock. Our DCF returned a share price of $167.91. While this valuation implies a 10% upside on the current stock price of $152, we believe that a company as large and well-covered as HCA is very unlikely to experience any market mispricing. However, just because the company is not a good investment does not mean that it is not a good company.

HCA is a market leader in the hospital space giving HCA a good growth outlook and strong competitive advantages aided by strategic placement in the South US, Texas, and Florida, which have aging growth populations leading to increased healthcare expenses. Looking towards the Covid-19 pandemic, HCA has responded to the pandemic better than majority of its competitors and when the issue is under control, elective operations will continue to support HCA margins.

Company Overview

Basic Overview

HCA Healthcare Inc., founded in 1968, is a manager of healthcare facilities that currently operates in 21 states and the United Kingdom. Currently, they operate and own 185 hospitals and around 2,000 sites of care. These include surgery centers, free standing emergency rooms, urgent care centers, and physician clinics. Their primary goal with these centers is to provide quality health care services in the most cost-effective manner possible.

Their general, acute care hospitals provide a full suite of medical services, such as internal medicine, general surgery, cardiology, oncology, neurosurgery, orthopedics and obstetrics as well as standard diagnostic and emergency services. Their outpatient and ancillary health care services are provided by the general, acute care hospitals as well as freestanding surgery centers, freestanding emergency rooms, urgent care centers, walk-in clinics, diagnostic centers and rehabilitation facilities. HCA also provides mental health care services at their psychiatric hospitals through inpatient, partial hospitalization and outpatient mediums.

Revenue Model

HCA largely generates revenue from insurance payments for patient services. These come in various forms: from the federal government through Medicare, state governments under their respective Medicaid programs, managed care programs, and private insurers. In some cases, patients pay directly. The most recent HCA revenue breakdown was provided in their 2019 Annual Report, with 41.5% of revenue coming from Medicaid or Medicare, 51.6% of revenue from other private insurers, and the remaining 6.9% coming internationally or from uninsured patients.

Medicare and Medicaid are completely subject to the government. The Center for Medicare and Medicaid Services determine reimbursement rates for services that hospitals provide. Hospital systems then can choose to opt in or out of Medicare/Medicaid. Because >50 million people are covered by Medicare and Medicaid, hospitals almost always opt in. However, private insurers generally must bargain with hospital systems. We discuss the pricing dynamics of private insurers in more detail in our investment theses.

There are a variety of factors that determine the magnitude of revenue. Revenues largely depend on inpatient care levels (occupancy), medical and ancillary services provided (either ordered by physicians or provided to patients), volume of outpatient procedures and the fees associated for such services. Revenues are also dependent on reimbursements rates for both inpatient and outpatient services. These tend to vary significantly depending on the third-party payer, service type, and geographic location of the facility.

Industry Overview

The hospital industry can largely be segmented into inpatient and outpatient services. Inpatient services are those that require a patient to stay at the hospital, while outpatient services are the opposite. Outpatient services generally have higher margins but lower revenue than inpatient, since inpatients use up bed capacity and hospital supplies. As a result, hospitals are incentivized to provide better services that help the patient recover quicker. Marginal revenues generated by a patient's stay are overshadowed by the potential revenue of a new patient. However, these benefits don't come to realization if hospitals are unable to fill bed capacity. In the past decade, there has been a growing trend towards outpatient care as hospitals have benefited from improved technology to earlier diagnostic techniques.

Hospitals are under intense price pressure, with a median net margin of 3.5%. Because insurance payouts make up almost all of a hospital's revenue, hospital finances are tied to the insurance companies. However, hospitals now face double-sided price pressure. On one hand, hospitals would like higher margins from insurance, but Gallup research suggests that as many as a third of Americans are delaying treatment for health conditions because of costs, partly from insurance premiums.

COVID-19

Financially, hospitals have performed significantly worse during the pandemic. Hospitals were forced to stop all but extremely urgent non-COVID care, creating a significant slowdown in revenue. Since most of a hospital's expenses come in the form of salaries, expenses remained high. Further, patients have been very reluctant to go to the hospital for high-margin surgeries or emergency room visits. 48% of Americans have delayed medical care in the pandemic. Costs associated with all treatments have increased significantly due to the increased safety requirements of healthcare provision during the pandemic. Additionally, the increased number of uninsured individuals due to job loss forces hospitals to operate at lower margins. Elective procedure volumes, a key source of profitability for healthcare facilities, have been and will most likely continue to decline substantially. Nevertheless, healthcare facilities are still essential in combating the pandemic and continue to stand at the forefront of the virus. Between requirements to treat and decreased repayment rates associated with uninsured individuals, this increase has cut into hospital revenues and this trend will continue after the pandemic has been resolved.

M&A

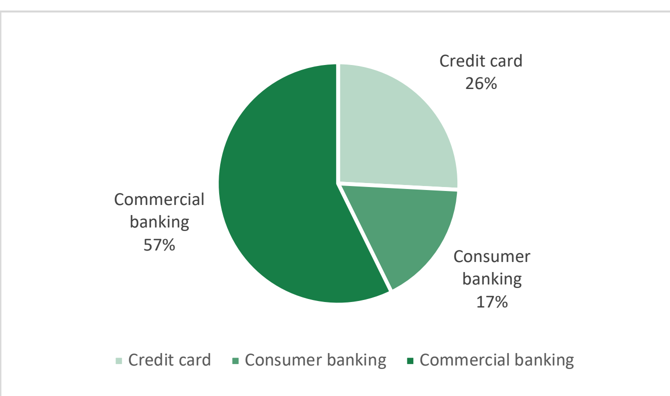
Healthcare M&A activity fell 24% in the first quarter of 2020, reflecting the contractionary impact COVID-19 has had on the sector. Despite this, an EY survey of health executives showed notable optimism: 77% of respondents stated they expect the healthcare M&A sector to improve in the next 12 months. Decreases in valuation have accompanied this COVID-19 crisis, placing larger firms in the sector in a strong position to acquire competitors. Short-term and long-term M&A strategy, however, are not aligned for many major firms in the industry. Short-term strategy is defined by a need to increase revenues to minimize the increased cost of healthcare provision today. New technology firms and digital healthcare providers make up the majority of acquisitions, with slim-margin and small hospitals prime for acquisition as they consider restructuring to avoid collapse. A long-term decrease in valuation of healthcare firms may lead to increased market concentration if the COVID recession persists. If the economy recovers quickly, however, M&A activity is expected to return to pre-COVID trends.

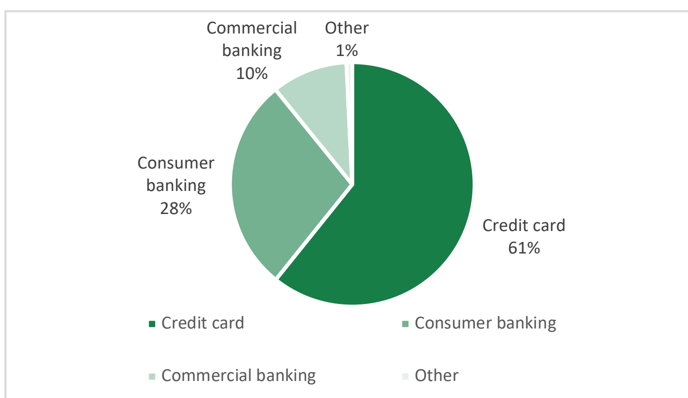
Stimulus Measures

If stimulus measures prove successful and the U.S. economy rebounds quickly over the fall and winter seasons, healthcare facilities could manage to experience a quick rebound in elective procedure volumes as patients begin to feel safer and communities begin to gradually open. On March 27th, 2020, the U.S. government passed a third stimulus bill to address COVID's impact, which provided $100 billion to healthcare providers in addition to Medicare and Medicaid provisions. This included payments for uninsured patients, a 20% boost to Medicare rates on COVID cases, and sweeping reimbursement increases. This boost should significantly aid hospitals in surviving the financial burden of accommodating substantially higher than normal patient volumes. Hospitals should be able to remain profitable with this stimulus. However, if the stimulus ends, unemployment could additionally increase.

Recent Numbers

Industry TTM EBITDA margins improved to 16.2% as of December 2019 from 15.9% and 13.7% as of December 2018 and 2017. Additional margin gains will be difficult to achieve as there are little opportunities for health care facilities in the first place. Meanwhile, industry leverage (net debt to TTM EBITDA) levels have remained fairly flat over the past few years, ranging between 4.8-5x, which is not uncommon for health care facilities. However, in a recession, this debt leverage poses a risk. As of November 2020, it is still too early to say or guess what the net financial impact of COVID will be on health care facilities, especially since little is known about how the disease will impact the world in the years to come. YTD through October 2nd, the S&P 1500 Health Care Facilities Index declined 14.1% vs. a 2.5% rise in the S&P 1500 Composite Index. In 2019, healthcare facilities rose 24.3%, just slightly less than the 28.3% gain of the S&P 1500.





Investment Thesis

Current Market Position

We stress that patients are far more concerned with the quality of healthcare than they are with the cost. HCA's primary source of revenue is from insurance, so trips to the hospital come at no greater expense to the patient. Private health insurance is highly localized, meaning that being the largest player in more specialized markets gives the hospital system greater bargaining power. HCA estimates that it is the first or second largest in terms of market share in 27 out of 37 markets. This granularity gives us confidence that HCA does have negotiating power with private insurers.

However, this negotiating power is offset by Medicare and Medicaid. While these are also to some degree local, hospitals are unable to negotiate with either coverage, and so HCA receives the same pricing as all other providers in an area.

Along with pricing power, HCA covers a full spectrum of services that a patient may need. Most of HCA's general hospitals offer inpatient, outpatient, intensive, diagnostic, and emergency services, meaning that the hospital becomes a general solution for any health issues.

Further, HCA's strategy has them adopt a strong outpatient footprint, which superficially contributes to margins. Additionally, by establishing itself as a caregiver to outpatients, these people are likely to trust HCA with their healthcare in more serious situations, increasing inpatient revenue in the long run.

Strong Financials

Again, we assert that the reaction to Covid-19 will overwhelmingly define the healthcare system going forward. HCA benefits from consolidation and strong balance sheets especially compared to other companies impacted by the pandemic. Since June, 42 hospitals have closed or filed bankruptcy highlighting HCA's status as the largest hospital services firm in the United States position and ability to outcompete smaller and less adaptable firms in the industry. Congress has taken action to combat Covid-19 by passing the CARES act. The bulk of this money is allocated to hospitals with high net-patient revenues. HCA represents one of these hospitals with a large proportion of high-paying, privately insured patients, and high operating margins. This allocation of funds fosters consolidation among the hospital industry benefiting HCA.

HCA received $1.6 billion in 2020 of Provider Relief Funds from the CARES Act and $4.4 billion in interest free Medicare advances. HCA announced in Q3 of 2020 that it plans to return all CARES Act funds received and repay all Medicare Advances early due to a strong quarter and cost control efforts. This surprise move differs from its direct competitors, Universal Health Services and Community Health Systems who are lobbying for more funds. This will foster goodwill among regulators and reflects the strong financial position HCA is in. This sentiment is furthered by HCA's relatively high current ratio of 1.44x over the past year compared to an industry average of 1.19x and quick ratio of 1.20x compared to industry average of 0.97x. With HCA showing solid cash flow compared to the top hospital companies and trends of consolidation, it has the ability to ride out this pandemic and even keep its current position.

Favorable Industry Dynamics

America's population is growing older; therefore, healthcare demand in the United States is steadily increasing. The Center for Medicare and Medicaid Services (CMS) anticipates that the US healthcare market will reach $6.0 trillion by 2027 growing at a 5.5% CAGR. Health spending is expected to grow faster than GDP between 2021 and 2027, and increase its share of US GDP from 17.9% to 19.4% in that same period.

Demand in the healthcare sector has generally been very stable. Even when people choose to skip checkups, that revenue comes back later in the form of conditions that have worsened. Again, hospitals are incentivized to take on less serious cases because of the higher margin, so they would prefer if patients didn't skip. However, there is still some amount of recourse and stable demand that the industry experiences.

Compounding the fast-increasing demand for healthcare services in the U.S. are favorable pricing dynamics in the sector. The CMS projects that healthcare prices will rise by 2.7% between 2018 and 2027, versus 1.1% between 2014 and 2017. As an increasingly large percentage of Americans ages into the healthcare market, an increase in demand will drive prices up.

Future outlooks for the industry reflect a return to pre-pandemic operating trends. Historically, the healthcare industry has proven adept at defending profitability in the face of regulatory and macroeconomic headwinds.

Investment Risks

Regulation

There is high uncertainty regarding HCA's cash flows due to potential healthcare policy changes, the company's high fixed costs, and the COVID-19 crisis.

In terms of U.S. policy, HCA faces uncertainty regarding the U.S. healthcare system and how it will operate in the long term. Despite the fact that the "Medicare for All" threat remains at 0%, even following this year's election, uncertainty still remains for healthcare providers in the long run due to ongoing policy risk. Based on the results of the election, a public option based on Medicare could expand access to care in the system. In this case, there are both benefits and costs to HCA. Higher insured patient rolls could act as a positive catalyst for healthcare providers such as HCA, however, if such a public option steals a significant share from employer-based insurance rolls, the reimbursement rates HCA receives for its services could also decline.

Generally, regulatory actions such as this could significantly change the profitability of HCA's operations and will remain a major risk for HCA in the long run.

Debt Leverage and COVID-19

The company has a high leverage, with a debt/cap ratio that is just under 100%. HCA's profits may decline dramatically given the COVID-19 crisis, as patient volumes significantly decrease. Impacts of COVID could also reduce reimbursement rates, raise liquidity issues, and increase ongoing costs. HCA faces some cyclicality when elective procedures are delayed in uncertain economic times, as not only volumes but the mix of procedures and/or services can turn negative. From a financial leverage perspective, the company's large debt balance creates an ongoing servicing need that could exacerbate a large contraction in operating profitability. Additionally, HCA faces risks related to intense competition.

Valuation

In our valuation, we projected out 5 years. In 2020, we assumed revenue growth of 12% because of the influx of patients due to COVID-19. Every year after, we assume revenue growth of 6%. We also lowered the EBIT margins in 2020 to 10% in order to account for COVID. We slowly scale EBIT margins back to the historical 13%. D&A, organic capex, and change in NWC were tied to revenue. We also scaled back capex from M&A down to 0 by the end of our projected period.

In our WACC calculations, we took beta to be 0.93, and cost of debt to be 5.5%, moved up from the weighted average interest rate of 5%. With a market risk premium of 8.75%, we yielded a WACC of 7.50%. This WACC is very conservative, given thattan HCA is a very large, stable company. We also take the terminal growth rate to be 1.5%.

These assumptions give a fair value of $167. A sensitivity table is below. Despite the upside, we still recommend a hold on the stock because our model is not as detailed as many analysts in the industry.

WACC Calculations	
Risk-free rate	1.00%
Beta	0.927
Market Risk Premium	8.75%
Cost of equity	9.11%
Cost of debt	5.50%
Net debt	$33,101
Market cap	$51,410
Terminal growth	1.50%
WACC	7.70%

Effective tax	0.23
Current stock price	$151.91
Stock outstanding (July 31)	338427300

	2019	2020	2021	2022	2023	2024
EBIT	$7,068	$5,750	$7,314	$8,398	$8,902	$9,436
D&A	$2,596	$2,760	$2,925	$3,101	$3,287	$3,484
CapEx	$5,901	$5,675	$5,876	$5,322	$4,509	$3,829
Change in net working cap	$33	$575	$609	$646	$685	$726
FCF	$2,104	$937	$2,072	$3,599	$4,948	$6,195
PV FCF		$937	$1,924	$3,103	$3,961	$4,605

Implied EV	$89,927
Implied Equity	$56,826
Implied Price	$167.91

Terminal Value

$75,397

Sensitivity Table

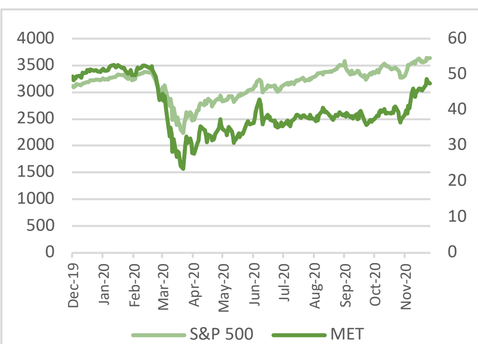
		WACC				
		6.80%	7.30%	7.70%	8.30%	8.80%
Growth	1.00%	$191	$167	$150	$129	$113
	1.25%	$203	$177	$159	$136	$119
	1.50%	$216	$187	$168	$143	$126
	1.75%	$230	$199	$178	$151	$133
	2.00%	$245	$211	$189	$160	$140

Fall 2020, Issue 7
Promontory Investment Research
http://www.promontoryir.com

MetLife (NYSE: MET)

MetLife, Inc. | NYSE: MET	
Negative Neutral	Positive
Share price, 11/14/2020:	$44.74
Market capitalization:	$40b
Shares outstanding:	907.6 million
52-week range:	$53.28 / $22.85
EPS (FY20):	$0.69
Beta	0.72
Median analyst opinion:	$49.00
Price target:	$28.93 – $44.83

Price Chart



Financial Highlights

(Dollars in millions)	**2017**	**2018**	**2019**
Revenue	62308	62308	69620
% Growth	*2.5%*	*9.04%*	*2.47%*
Net Investment Income	17363	16166	18868
% Growth	*3%*	*-7%*	*17%*
Debt/Equity	28%	26%	22%
% Growth	*-7%*	*-7%*	*-18%*
EPS	3.62	4.91	6.06

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Investment Overview

As MetLife continues to improve its operational efficiency by selling businesses that are not the right fit for the company and expanding into fast-growing markets (e.g., vision care, pet insurance), it is poised to take on the low interest-rate environment that has plagued the insurance industry since the Global Financial Crisis. Additionally, the company has a strong financial position. It has roughly $7.8 billion dollars in cash and it is the leading life insurance company in terms of direct premiums written, with a low direct expense ratio and sufficient capital for deployment on acquisitions. Moreover, the company enjoys strong growth in the Asia region and projected decline in Covid-related claims in 2021. All these factors make MetLife a compelling long-term value stock buy. Our conservative DDM model, which makes use of an exit multiple derived from P/E of 11.69 and a cost of equity of 5.99% yielded a price range of $39.24 - $61.13. This number is based on 3% yoy growth for investment income as well as other factors, such as a 20% COVID-19 saftey factor that were designed to make the price target range conservative.

Company Overview

MetLife Inc. is an American financial services company based in New York City, New York. The company provides the following services/products: life insurance, annuities, automobile and homeowner's insurance, and reinsurance and retirement savings products. After being founded in 1868 as the National Union Life and Limb Insurance Company (a stock insurance company), the company transformed into a mutual insurance company in 1915, only to revert to being a stock insurance company through IPO in 2000.

MetLife is the largest life insurer in the United States, but still does not have market share dominance with a paltry 15% of the segment. The company also operates in South American, Asian, and European markets, most notably in Japan and Mexico. For the US market, MetLife offers a full range of insurance options including dental, disability, AD&D, vision, accident, and health coverage. The firm currently serves only 44 markets, which is a third less than it did ten years ago. In addition to shedding non-core business, MetLife also made multiple acquisitions recently with the intention of strengthening its insurance arm, as will be elaborated on in the Investment Thesis section.

Unlike its peers, MetLife does not have a third-party asset management division of any significant size. In 2012, it launched MetLife Investment Management, which manages 140 billion dollars of institutional assets. Still, this amount pales in comparison to MetLife's peers, which is unfortunate because the asset management industry is widely considered to offer firms more of an economic moat than insurance. Moreover, MetLife's products offer very few differentiating factors compared to competitors, leaving the company to depend on pricing as the primary driver for consumer acquisition. The firm has added pet insurance and health savings accounts to the list of services that it offers, and both carry the possibility of giving it a key area to differentiate itself from competitors. However, it will take years for those segments to grow to be of any consequence to the company's bottom line. MetLife's recent strategy has been to simplify its business by selling or spinning off extraneous divisions such as MetLife Bank to GE capital in 2011 and Brighthouse in 2017. Finally, Metlife announced in September 2020 that it would resume its stock-buyback program that it paused in response to the number of COVID-19 deaths in the spring; this will boost share prices.

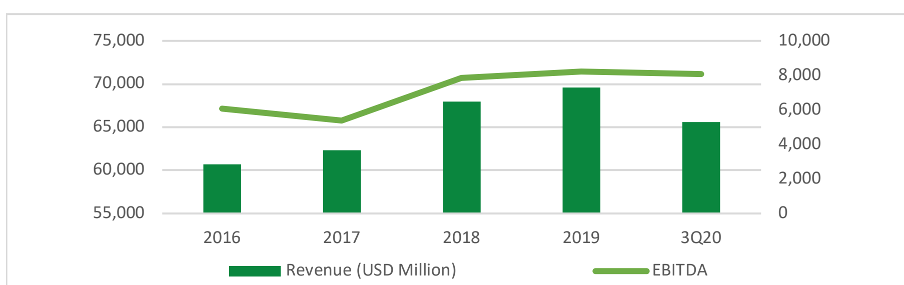


Exhibit 1: Revenue and EBITDA 2016-3Q20

Industry Overview

Insurance Industry
The modern insurance industry can be segmented into three main brackets (1) life and health insurance; (2) property and casualty segment (P&C); and (3) financial management segment involving resinruance and other forms of excess insurance.

Global Trends: According to the Allianz Global Insurance Report, the global insurance industry entered 2020 in good shape. Premiums grew by 4.4% in 2019, which was driven by (1) the growth in the life segment (globally grew 4.4%) in China, who has overcome regulatory difficulties and (2) mature markets coming to terms with low interst rates. In terms of P&C, the segment grew 4.3% in 2019 (5.4% in 2018). Despite the onset of the Covid-19 pandemic, which is expected to reduce global premium incomeby -3.8% (Life: -4.4%, P&C: -2.9%), Allianz projects a rebound of +5.6% in 2021.

Pivot to Asia: According to the Allianz Global Insurance Report, Asia (ex Japan) is expected to grow +8.1% per annum until 2030, almost twice as fast as the global market. This is driven by Asia's rising middle class, especially in emerging markets, who reflect "weak social security systems and protection gaps in natural catastrophes, health, retirement, and mortality."

Low Interest Rate Environment: A major industry headwind for insurance companies is the low-interest-rate environment that was brought about by the 2008 financial crisis and was further exacerbated by COVID-19. Interest rates should remain at historically low levels, rising only to about 3.25% over the next five years. Insurance firms' profitability and liquidity are sensitive to low interest rates because income from investments might be insufficient to meet contractually guaranteed obligations to policyholders, which cannot be lowered.

Barrier to Entry – Government Regulation: Companies operating in the insurance industry also must contend with high degrees of regulation and government scrutiny. Firms must undergo regular stress testing to see if they have the required resilience to survive various shocks from interest rates, mass lapse, and longevity. To that end, MetLife shed its Systemically Important Financial Institution (SIFI) status in 2016 (due to the aforementioned simplification of its business), which significantly reduced its exposure to federal regulation. Still, the recent Collins Amendment to the Dodd-Frank Act negatively affected the industry by imposing the same reserve and capital requirements that are imposed on banks. On top of this, the majority of government oversight is conducted on a state level, which makes it difficult for operators to operate in multiple jurisdictions throughout the country and scale to larger levels. When trying to expand internationally, this barrier is further heightened. Despite the high degree of regulation, the insurance industry receives little assistance from the government. In 2009, some life insurance companies did receive bailouts under the Troubled Asset Relief Program (TARP), but the offer was only extended to firms that owned federally chartered banks (which MetLife does not). The most salient example of government support for the industry comes in the form of domestic regulators negotiating with foriegn regulators to create regulatory equivalency agreements.

Barrier to Entry – Cash and Assets: The amount of cash and assets required for insurance companies to enter the market poses as a high barrier to entry, as small firms rarely come in the market without significant investments that allow for operations to run. Despite the amount of capital, the allocation of the capital and the risk of the capital must also be tightly regulated for the firm to compete in the market. Insurance companies must have a strong distribution system that allows for brokers to sell the product in order to thrive. Without a strong network, the firm is unable to market their services and scale their production. This network must be sufficient for both in-house and independent agents and brokers.

Digital Transformation: The insurance industry has a high degree of capital intensity due to its reliance on a bevy of computer systems to record and update customer records, conduct risk management, and allow customers to make online changes to their respective accounts. Moreover, to stay relevant companies will have to invest heavily in producing mobile applications for both customers as well as agents. The industry already has low fixed costs, meaning that company scale and market share are of little significance, and due to a shift to cloud computing, these fixed costs are projected to decrease even more. In terms of **ESG**, in the future, it will serve as a tool to screen risks to improve investment returns on customers' insurance premiums.

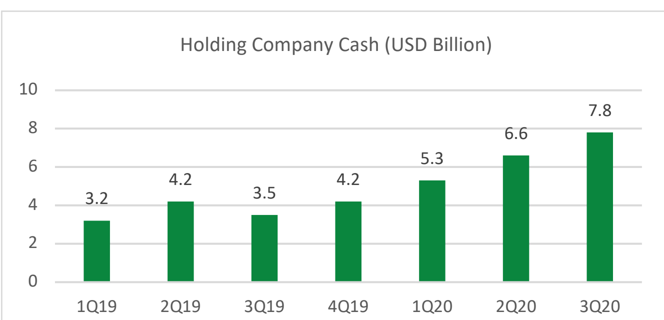


Exhibit 2: Holding Company Cash (Source: Company Disclosures)

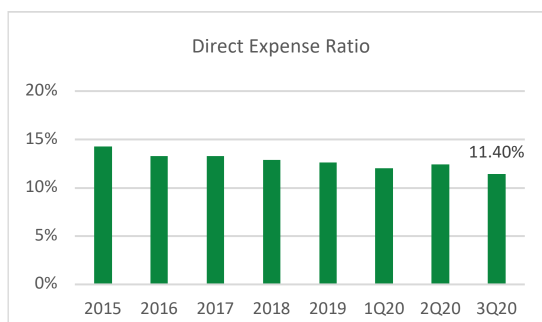


Exhibit 3: Direct Expense Ratio (Source: Company Disclosures)

Investment Thesis

Expansion into the vision care market, and recent expansions of product suite into pet insurance, digital estate planning, health savings and spending accounts:
On September 17, 2020, MetLife announced that they would be acquiring Versant Health from an investor group, Centerbridge Partners, for ~$1.7 billion using cash on hand; this deal is expected to close in 4Q20. Versant Health's Davis Vision and Superior Vision plans provide vision and eye health solutions that "range from routine vision benefits to medical management" to government-sponsored programs, commercial groups, and individuals. According to a press release, "with more than 90 percent of employees interested in receiving vision insurance through their

Health will strengthen MetLife's existing vision benefit offering for its existing customers through the larger provider network. It will also offer MetLife access to Versant Health's 35-million-member customer base, making it the 3rd largest U.S. vision insurer by membership. MetLife foresees high-teens internal rate of return. On top of this, Vision Care is a capital-light business with high free cash flow generation. Additionally, in December 2019, the company acquired PetFirst, as a foray into the nascent pet insurance market. On the other hand, MetLife also has commited to selling businesses that are not the right fit for the company in terms of operational efficiency, which included its annuity business in Argentina.

Strong financial position does not warrant low share price:
Given lower consumer spending with the onset of COVID-19 in March, MetLife's revenue declined in 2Q20 by 19% to $14.1 billion (it increased in 1Q20 by 12% to $18.3 billion). However, MetLife still maintains a solid cash position with cash flows of ~$7.8 billion ending 3Q20, which "is above [their] target cash buffer" of $3-4 billion. The increase in cash is mostly due to issuance of $1 billion of preferred stock during the quarter, which was used to retire $1 billion of floating preferred stock. Furthermore, it maintains its position as the top life insurance company in terms of direct premiums written, with 13% share of the market. However, MetLife's share price is still down >20%, although it is slowly recovering. Furthermore, it is trading at 5.19x earnings and MetLife has resume repurchases of common stock (~$80 million in 3Q20, ~$240 million since then), which makes this stock a compelling buy. In fact, management stated that MetLife remains on track to deploy $4.3 billion of capital this year toward strategic M&A, common stock dividends, and share repurchases.

In terms of its direct expense ratio – a measure of profitability and efficiency that is calculated by dividing expenses associated with acquiring and underwriting premiums by net premiums earned – MetLife's management maintains confidence in meeting their target of 12.3% by the end of the year, as evidenced by 3Q20 performance (Exhibit 3, Ratio = 11.4%). This low ratio was driven by a reduction in direct expenses and increased availability of MetLife's dental services, which drove average premiums higher.

Potential decline in COVID-19 deaths in 2021:
The stock may have been affected by claims that life insurance covers deaths caused by COVID-19. The Group Life mortality ratio was 89.6%, which included a roughly 3 percentage points related to COVID-19 claims and is at the top end of MetLife's annual target range of 85% to 90%. While this mortality ratio is expected to remain elevated above the annual target range as fourth quarter tends to have higher seasonal life claims, in the long-run, the United States' will likely be able to contain the pandemic, thereby increasing Group Beneftis' earnings (which were up 7% year-over-year in 3Q20). It is key to note that Retirement and Income (RIS) adjusted earnings were up 73% year-over-year, driven by strong investment margins primarily higher variable investment income, and more importantly, favorable underwriting margins of roughly $50 million in the quarter, of which approximately half is related to elevated COVID-19 mortality and volume growth. MetLife Holdings' adjusted earnings were up 35% year-over-year. This increase was primarily driven by higher private equity returns as well as favorable underwriting margins as lower claim incidents in long-term care more than offset marginally higher life claims due to COVID-19.

Strong earnings from Asia region:
In Asia, 3Q20 earnings were up 34% on a constant currency basis, primarily due to higher variable investment income as well as favorable underwriting and expense margins. In addition, Asia continues to benefit from solid volume growth, driven by higher general account assets under management, which were up 6% on an amortized cost basis. As mentioned in the Industry Overview section, Asia is expected to be a long-term, fast-growing geographical segment given the rising middle class.

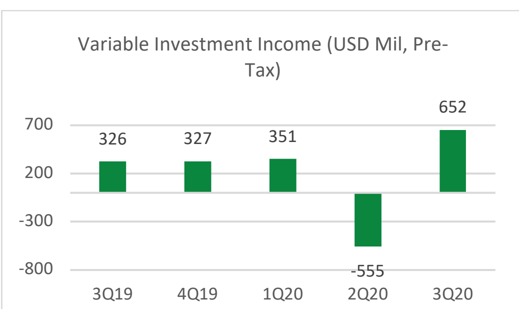


Exhibit 4: Variable Investment Income (Source: Company Disclosures)

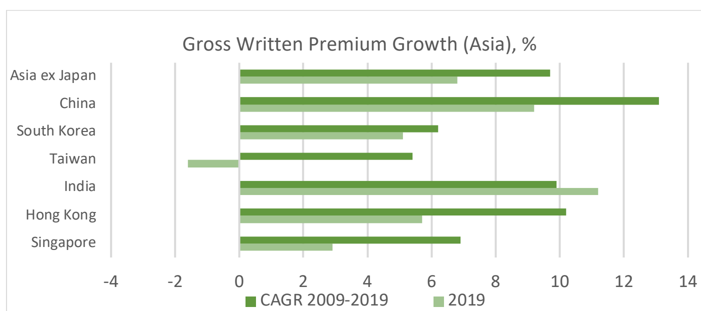


Exhibit 5: Gross Written Premium Growth, by Region (Source: Allianz Global Insurance Report)

Investment Risks

Overview: Finding investment risks that are truly uniqie to MetLife is nearly impossible due to the non-unique structure of the company and the assets it invests in. Instead, this section intends to compare and contrast the relative magnitude of MetLife's risks with those of peer insitutions.
Interest Rate Volatility: The "pure play" nature of MetLife makes it more sensitive to interest rate fluctuations and the low-rate environment. The low interest rates reduce returns from investing as well as "spread businesses," as mentioned previously in Industry Overview section. To be more specific, MetLife offers products with minimum interest rate guarantees; for example, when MetLife provides a life insurance option with guaranteed interest rate, the policyholder will know that the interest rate will not fall below a given rate.

However, higher interest rates may also harm MetLife's bottom line as well. MetLife's 10K estimates their loss from a 10% increase in interest rates to be 5.156 billion dollars or around 1% of total investments, which is in line with peer companies. However, the current low interest rate environment also creates an insidious risk related to the company's significant investment in securitized products, which make up 11% of its portfolio, placing it mid-pack amoung peer organizations. If interest rates rise, then these mortgage and asset backed securities, which resemble the CDOs (collateralized debt obligations) that brought on the 2008 finiancial crisis, could potientially lose a significant amount of value. With COVID-19 causing finiancial chaos for some individuals and companies alike the chances of a credit event wreaking havoc in these securitized products is heightened. To that end, the company has an exposure net of 19.1 billion dollars worth of credit default swaps to hedge against such an event.

Metlife utilizes different asset investements to hedge against interest rate risks, both for increases and decreases. MetLife stated that in the case of lower interest rates, they will reinvest profits at lower yields for a smaller investment spread. In the case of higher interest rates, MetLife will change their fixed income investments according to liabilities that are affected by interest rate changes.

Uncertain International Waters: MetLife must contend with risks that are unique to its position as a truly global insurance company. Also, MetLife is somewhat unique in that it does not have a third-party asset management arm of any consequence, meaning that it is especially exposed to regulatory actions in the markets that it operates in. Across the globe, but especially in Europe, regulators are instituting mandates that are squeezing insurance companies. This is of great consequence for Metlife because the company relies on international business for roughly 35 percent of its earnings. In 2016, the European Union introduced Solvency II, which increased the capital requirements for both traditional and annuity life insurance products. Since the company acquired American Life Insurance Company in 2010, it has been able to rebalance away from the lower margin US insurance business towards higher margins abroad. Since the company relies heavily on the Asian, European, and Latin American markets to drive profitability as well as growth, it is sensitive to the regulatory trends in those areas as well as insurance from their domestic insurance firms. In Europe especially, the trends point towards the likelihood of further regulation that will undoubtedly lower profits. Finally, MetLife's global reach means that is must deal with a relatively high degree of foreign currency risk. Specifically, the company is exposed to movements of the U.S. dollar relative to the Japanese yen, Korean won, Mexican peso, Brazillian real, euro, and the British pound.

Valuation

Valuation Assumptions:

Investment Income Growth: Steady Investment Income growth consistent with previous five-year average (i.e. 4.41 % annualized return)

Net Income: Net Income growth continues to be pegged to investment income according to a linear regression identified by historicals

Terminal Value Assumptions: Dividend & Equity growth undergo 1 % annual growth into perpetuity; Exit Multiple corresponds to amalgamized P/E multiple of comparable firms (I.e. 11.69)

Company Name	Market Cap (M)	Quick Ratio	EV/EBITDA	P/E	P/B	Debt / EBITDA	Debt / Capital	Expense Ratio
Prudential Financial, Inc. (NYSE: PRU)	29,959.5	0.4x	63.9x	6.72x	0.5x	56.1x	35.28%	-
Lincoln National Corporation (NYSE: LNC)	8,488.2	0.7x	10.0x	4.86x	0.4x	5.7x	26.81%	-
Principal Financial Group, Inc. (NasdaqGS: PFG)	13,458.9	1.6x	8.6x	8.39x	0.9x	2.6x	21.66%	-
American International Group, Inc. (NYSE: AIG)	33,211.8	0.2x	7.5x	9.38x	0.5x	4.1x	37.18%	34.4
Aflac Incorporated (NYSE: AFL)	30,106.8	0.4x	7.8x	9.05x	0.9x	2.2x	22.30%	20.7
The Allstate Corporation (NYSE: ALL)	30,428.1	0.4x	4.8x	8.17x	1.2x	0.8x	19.57%	24.2
The Travelers Companies, Inc. (NYSE: TRV)	34,037.1	0.2x	10.5x	13.14x	1.2x	1.9x	20.96%	29.6
Brighthouse Financial, Inc. (NasdaqGS: BHF)	3,039.6	1.9x	-	3.10x	0.2x	-	37.91%	-
Manulife Financial Corporation (TSX: MFC)	32,378.5	2.1x	6.5x	7.10x	0.9x	3.8x	35.30%	-
The Progressive Corporation (NYSE: PGR)	55,309.7	0.4x	8.7x	16.71x	3.1x	0.8x	23.58%	20.5
Target Company	**Market Cap (M)**	**Quick Ratio**	**EV/EBITDA**	**P/E**	**P/B**	**Debt / EBITDA**	**Debt / Capital**	**Expense Ratio**
MetLife, Inc. (NYSE: MET)	41,136.6	0.9x	16.0x	7.46x	0.6x	13.9x	60.41%	11.4
Summary Statistics	**Market Cap (M)**	**Quick Ratio**	**EV/EBITDA**	**P/E**	**P/B**	**Debt / EBITDA**	**Debt / Capital**	**Expense Ratio**
High	55,309.7	2.1x	63.9x	16.71x	3.1x	56.1x	37.91%	34.4

Low	3,039.6	0.2x	4.8x	3.10x	0.2x	0.8x	19.57%	11.4
Mean	27,041.8	0.8x	14.2x	8.66x	1.0x	8.7x	28.06%	23.5
Median	30,267.4	0.4x	8.6x	8.28x	0.9x	2.6x	25.20%	22.5

Future Financial Statements (i.e Pro Forma Financials)

Year:	2020E	2021E	2022E	2023E	2024E
Net Income	*$ 6,178.53*	*$ 6,495.63*	*$ 6,826.72*	*$ 7,172.41*	*$ 7,533.34*
Discounted for Cycle	$ 5,560.68	$ 5,846.07	$ 6,144.05	$ 6,455.16	$ 6,780.00
Dividend Payout Ratio	25.00%	25.00%	25.00%	25.00%	25.00%
Projected Dividends	$ 1,390.17	$ 1,461.52	$ 1,536.01	$ 1,613.79	$ 1,695.00

Dividends Projections:

Dividends:	$ 1,390.17	$ 1,461.52	$ 1,536.01	$ 1,613.79	$ 1,695.00
Discounted FCF:	$ 1,311.48	$ 1,300.74	$ 1,289.66	$ 1,278.26	$ 1,266.59
Sum FCF:	$ 1,311.48	$ 2,612.22	$ 3,901.87	$ 5,180.13	$ 6,446.72

Implied Terminal Values

Growth Rate	1.00%	Exit Multiple TV:	11.69
Discount GG TV:	$34,237.40	Discounted Exit Multiple TV:	$19,814.56
Implied Fair Value			
Enterprise Value:		-	
Implied Equity Value:	$40,684.12	-	$26,261.28
Implied Share Price:	$44.83	-	$28.93
Implied Upside:	10.7%	-	-28.5%

	Cost of Equity						
	4.49%	**4.99%**	**5.49%**	**5.99%**	**6.49%**	**6.99%**	**7.49%**
0.50%	54.45	49.11	44.82	41.29	38.34	35.83	33.67
0.65%	56.37	50.62	46.04	42.31	39.19	36.56	34.30
0.80%	58.43	52.24	47.34	43.38	40.09	37.32	34.95
Growth Rate 1.00%	61.46	54.58	49.22	44.91	41.36	38.40	35.88
1.20%	64.86	57.18	51.26	46.56	42.73	39.55	36.86
1.35%	67.69	59.31	52.92	47.90	43.83	40.47	37.64
1.50%	70.81	61.62	54.71	49.32	44.99	41.44	38.46

Exit Multiple						
8.69	**9.69**	**10.69**	**11.69**	**12.69**	**13.69**	**14.69**
23.33194347	25.19948875	27.06703402	28.93457929	30.80212456	32.66966984	34.53721511

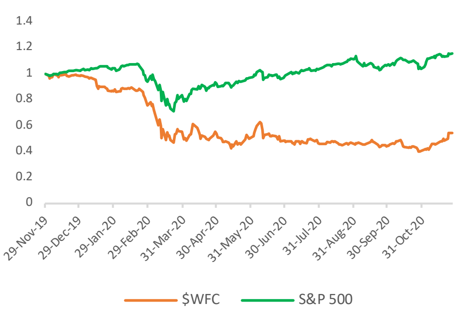
Cost of Equity	
Industry BETA (NYU Stern)	0.62
Levered BETA	0.721092914
Risk-free Rate:	0.83%
Rate of Market Return:	8.0%
Market Risk Premium:	7.2%
Implied Cost of Equity:	6.00%

Fall 2020, Issue 7
Promontory Investment Research
http://www.promontoryir.com

Wells Fargo & Company (NYSE: WFC)

Wells Fargo & Company | NYSE: WFC		
Negative	Neutral	**Positive**

Share price, 11/29/20:	$28.46
Market capitalization:	$117.54B
Shares outstanding:	$4.13B
52-week range:	$20.76 – $54.56
EPS (Q3 '20):	$0.42
Beta (5yr):	1.07
Average analyst opinion:	$30.00
Price target:	$54.15



Financial Highlights

(Dollars in millions)	2019	2020E	2021E
Revenue	82,458	52,826	59,450
% Growth	*-2.65%*	*-25.94%*	*12.54%*
EBIT	24,198	-5,823	4,009
% Growth	*-15.21%*	*-124.1%*	*168.85%*
Net Income	20,041	-3,823	4,730
% Growth	*-12.39%*	*-119.1%*	*223.73%*
ROE	10.4%	-2.1%	2.65%
Dividend Yield	3.47%		

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Investment Overview

We are calling a BUY rating on Wells Fargo. In the past years, the company has taken numerous blows to its reputation and productive capabilities including numerous scandals resulting in regulatory fines and restrictions and the crippling macroeconomic effects of COVID-19. Resultingly, Wells Fargo has lost investors' favor, being valued by the market at a cheap price to tangible book value ratio of 0.76. Due to a recovering reputation amongst consumers and regulators, a brightening outlook for COVID recovery, and massive cost efficiency plans, we believe that Wells Fargo will remerge as a trusted leader in the banking industry and exceed cash flow expectations, generating favorable return for investors.

Company and Industry Overview

Company History

Founded in 1852, Wells Fargo is a San Francisco-based financial services company offering banking, investing, mortgage, and other financial products to individuals and businesses in the US and internationally. Wells Fargo currently operates as a bank holding company, as their parent holding company in San Francisco holds subsidiary national banks that carry out the operations of the company. Wells Fargo's primary subsidiary bank is Wells Fargo N.A.

Orginally focusing on standard banking services, Wells Fargo grew into its present form through a 1998 merger with Norwest Bank, one of the nation's largest banks and the largest mortgage underwriter, and a 2008 acquisition of Wachovia, through which it expanded to providing investment banking and wealth management. Today, Wells Fargo is regarded as one of the "Big 4" US banks, holding the 3rd most assets out of all US-based banks with~1.92B. However, Wells Fargo has recently undergone much criticism and regulatory scrutiny recently due to a series of scandals, including a ploy to create fraudulent checking and savings accounts. This has resulted in billions in fines and regulatory barriers, including a cap on its assets at $2T, that have impaired the performance of the bank and led to large scale downsizing and cost-cutting including the sale of its retail banks in some Midwest states and the recently announced sale of its Asset Management business.

Segments

Wells Fargo is organized into three operating segments: their Community Banking Segment, their Wholesale Banking Segment, and their Wealth and Investment Management segment. The Community Banking segment is historically the largest revenue generator, contributing $45.3B of revenue (53% total revenue) in 2019. The community banking segment consists of financial products and services for consumers including checking and savings accounts, credit and debit cards, and loans for cars, student debt, mortgages, and small business lending. The net interest income generated from loans is by far the largest individual contributor in the community banking segment, totaling $27.6B in 2019.

Wells Fargo's second largest segment, Wholesale Banking, consists of Wells Fargo's services for large businesses (typically over $5M+ sales) including commercial banking services, commercial real estate lending, corporate and investment banking, credit investment, and treasury management. In 2019, Wholesale Banking generated $27.7B in revenue (32.5% of revenue), of which $17.7B was from interest income.

Lastly, Wells Fargo's Wealth and Investment Management segment consists of offerings for high net worth individuals and families including financial planning, private banking, and investment management in its subsidiaries WF Advisors, The Private Bank, and Abbot Downing. Wells Fargo also offers brokerage services and investment management for institutional clients primarily through its' subsidiary WF Asset Management. In 2019, Wealth and Investment Management generated $17.3B in revenue (20.4% total revenue), with most revenue from trust and investment fees and interest income.

Revenue Drivers

Interest Rates

Commercial banks like Wells Fargo are greatly impacted by interest rate changes through interest income. Between 2015 and 2018, the Federal Reserve implemented a gradual process of interest rate normalization in the form of eight increases to the federal funds rate. The economy-wide rise in interest rates led to an annualized increase in commercial bank interest income by 10.2%. Recently however, due to the pandemic, the Federal Reserve decreased the federal funds rate such that commercial banking industry revenue is expected to decrease 9.8% in 2020 (also due to additional factors such as lower demand).

Over the next five years, the Federal Reserve will likely raise the federal funds rate as macroeconomic conditions improve. However, after the Fed's switch to average inflation targeting, rates may stay lower for longer. Eventual growth in the federal funds rates and prime rate will drive growth in loan yield and net interest margin, boosting the commercial banking industry.

Mortgages
Mortgage products and associated real estate loans comprise a large portion of commercial banking revenue. In 2020, real estate loans are projected to account for 30.2% of total commercial banking revenue. Mortgage portfolios are also repackaged and sold as collateralized debt obligations or other securitized products. While mortgage demand is greatly impacted by interest rates, housing prices and employment are also important factors.

Wells Fargo in particular stands to benefit from growth in mortgage products and real estate loans. In 2008, Wells Fargo acquired Wachovia and became the nation's largest mortgage lender. Wells Fargo's expansive network of retail branches and community ties constitutes a competitive advantage in terms of continuously generating profit and growing its mortgage business.

Plans to Sell Asset Management Arm
On October 22, Wells Fargo announced its plans to sell off its asset management business, which manages well over $578B in customer assets. According to CEO Charles Scharf, the impact of the sale is two-fold: first, Wells Fargo would be able to aggressively cut its costs even more, and second, Wells Fargo can gain $3B from the sale while still maintaining retain parts of its WIM segment that cater to high net worth clients. This change is in line with Wells Fargo's overall restructuring changes as the company exits non-core businesses to create room on their balance sheet.

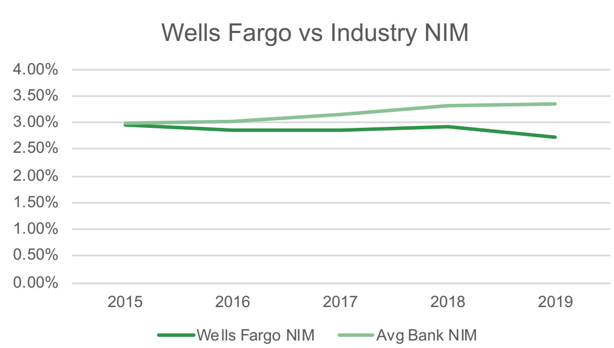
Industry Overview
Wells Fargo competes in community banking, wholesale banking, and wealth management industries. Competitors include Bank of America, Deutsche Bank, Citigroup, and PNC Financial. The company's return on equity (1.9%) and debt-to-capital (50.1) have exceeded the industry average for the past 5 years. The banking industry is large, and Wells Fargo is among the 86% of banks that pay dividends. Total assets are $1.9 trillion, compared to competitors like PNC ($380B) and Bank of America ($2.43T). It's ROA is consistent with the industry norm at around 1%.

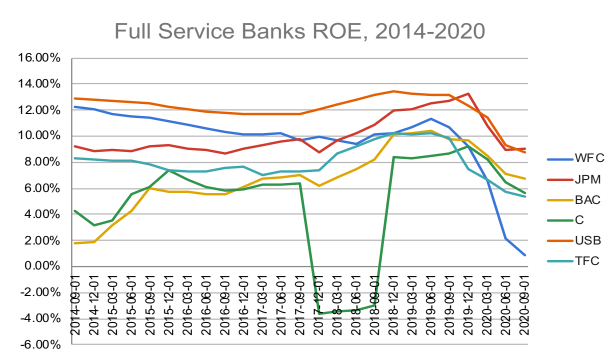
Community Banking
Although Covid-19 decreased the average NIM for commercial banks from about 3.37% to 2.89%, commercial banking indicators are still positive. Deposits have grown 21% in the past year, up from 5% the year before. Mortgage originations have reached a high of $3.9 trillion. Consumer debt has hit a record of $14.3 trillion, although this has been primarily driven by high unemployment and suppressed income due to Covid-19. Despite this, the number of banks and branches have continued to decline, consolidating services amongst the banks with the highest number of assets. While fintech has created competition for banks, research has demonstrated that trust and satisfaction in U.S. banks have still remained high.

Digital channels have increasingly driven growth in deposits and consumer lending and are being utilized by nonbanks to win market share. For example, over the past two years Quicken Loans has become the largest mortgage originator in the United States. The future of retail banking entails a lesser number of banks, increased investment in product innovations focusing on clients' financial well-being, and on closely connecting lending and payment services. Privacy concerns will also rise due to this and will need to be closely monitored.

Wholesale Banking
Covid-19 has changed the wholesale banking landscape, with wholesale banking clients signaling strong intentions to consolidate banking relationships. 86% of banks, compared to 53% pre-Covid, expect consolidation within the next few months. As in the other segments, digital advisory has become essential in the wholesale banking industry and has prompted banks to foster an end-to-end digital experience. This entails reorganizing teams and services in order to ensure that their coverage supports digital delivery and tailored insights. In order to do this, banks will need to leverage partnerships in order to gain more capabilities, with 90% of banks acknowledging this will be essential in the post-Covid world.

Wealth Management
Wealth management has seen an increase in competition in the past few years, placing pressure on fees and margins, and forcing greater price transparency. There has been an increase in privacy concerns on the regulatory side, leading to rising costs in compliance and data enforcement. Digitization has also become essential in wealth management services, especially with the impact of Covid-19. Critical business workflows are being digitized to enable changes in both client behavior and accommodate for employees working remotely. Firms have also begun targeting millennials due to the size of the market, evolving wealth needs, and the wealth transfer occurring within the next few years. This has led to an increase in impact investing, innovative pricing models (subscription-based, for example), and new asset classes (music royalties).





Investment Thesis

Recovering Reputation

The Wells Fargo we know today strikes a much different impression than the old Wells Fargo--a consumer-oriented bank marked by its famous Stagecoach logo, a demonstration of its reliability and reputation of trust. As of late, Wells Fargo's image has been marred by a series of scandals, including its fake account scandal and its predatory lending scandal. As investors, we must look past public criticism to understand if these scandals will have a material impact on the business in the future. As it stands, it appears that Wells Fargo is recovering customer confidence and will be well-poised to lead the industry when the market improves.

A recovery in consumer trust is evidenced partially by a bounce back in Wells Fargo's deposit growth. After shrinking in 2017 and 2018, Wells Fargo's deposits have increased 2.8% in 2019 ans have increased 4% LTM. Though this was well below the 2019 average deposit growth of the other three big banks (5.2%), the limiting effect of Wells Fargo's asset cap is somewhat to blame. Also, prior to COVID, renewed consumer trust was manifested through debit card usage rising 6% YoY compared to a nominal GDP increase of 4.11%. Though these points are not directly related to revenue generation in the near term, they are telling of strong demand for Wells Fargo services that will pay off as management focuses on growing loans and as the asset cap is eventually lifted.

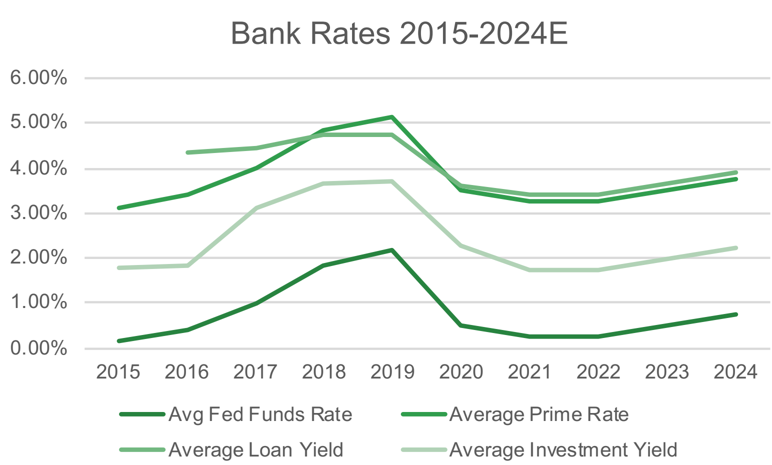
The company has also taken active steps to improve risk management in order to earn the trust of regulators, investors, and customers. First, Wells Fargo has done much to clean house of old company loyalists, trading for well-established outsiders in the roles of CEO, COO, CFO, and Chief Operational Risk Officer. The new CEO, Charles Scharf, former Visa and BNY Mellon CEO, has announced a vast company restructuring, adopting new reporting standards for five business lines. Additionally, Scharf has established a risk organizational structure within Wells Fargo with a purpose of allowing comprehensive risk oversight by establishing a Chief Risk Officer for each business line. Though in general we shouldn't stake much on management teams and their promises, Wells Fargo's poor management and culture have been the primary reason for their ills in recent years, so meaningful changes made to resolve these failings should be considered material to cash flow, especially when such a constricting asset cap hangs in the balance. Wells Fargo's fresh perspective and dedicated commitment could go a long way to improving company culture, restoring faith in the bank, and compelling regulators to lift the asset cap that has been so plaguing to performance.

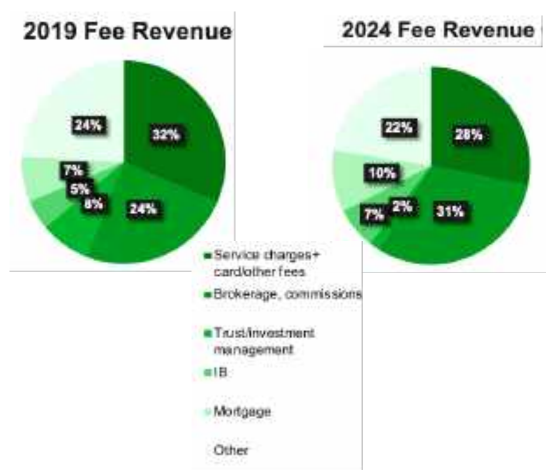
Immense Cost Cutting

Much of WFC's success is dependent on their ability to cut fat in a meaningful way. WFC is primarily a consumer bank offering highly non-differentiable products that other banks will be able to offer. The number of levers WFC has to generate performance above peers, especially on the product side, is limited. In the near term, management aims to cut costs through trimming management and consolidating ranks. Layoffs have already reached around 1,000, with most being third level managers and commercial banking employees. Additionally, the company has halted base pay increases on salaries exceeding $150,000. Several thousand more layoffs are expected. This should reduce $1B in expenses annually from a $54 expense base. Also, the company has disclosed plans to trim extraneous assets and focus on their core businesses. Wells Fargo has taken steps to reduce their physical footprint as they focus on optimizing client delivery by increasing reliance on digital channels. They have closed around 153 of their roughly 5,400 branches and will eventually close around 300. Moreover, Wells Fargo has begun to exit non-core business lines, with recently announced intention to sell their asset management arm. Though Wells Fargo will lose the $2B in annual revenue generated the asset management division, they can gain a quick a $3B and trim a considerable amount of expenses to increase company-wide efficiency. Wells Fargo is also considering selling other business lines including their corporate trust unit, student loan portfolio, and private label card business.

In the long term, Wells Fargo plans to cut $10B annually in order to remain competitive with peers. Following the near-term cost cutting, most long term cuts will come from layoffs across the organization, cutting down on branches, simplifying products, leaving non-core business areas, adopting cloud and data center strategies, and increasing deployment of artificial intelligence and machine learning. This amount is nearly 1/5th of the current WFC expense base. In total, it will take up to 4 years for WFC to reach $10B fewer in annual expenses. While a $10B expense cut annually seems quite large, it would simply put WFC at an efficiency ratio around that of its peer group. Additionally, this magnitude of cuts is quite appropriate as the industry is being driven to more digital banking.

The effects of this kind of expense trimming is obvious. If Wells Fargo can trim low-earning assets and pair back unnecessary expenses, the company will be able to significantly raise net income and boost free cash flow to equity. Morevoer, though less tangible, focusing company resources on competing in increasingly crowded core businesses like wealth management and consumer financial products may allow Wells Fargo to outperform competitors focused on building a myriad of business lines. Success of the cost cuts can be assured by the fact that cuts are well under way and have already been highly aggressive, and that discipline in the cuts should be supported by a new management team with an objective, outside perspective on the problem.





A student-run publication at the University of Chicago

Brightening Macro Outlook

While Wells Fargo's reputation and valuation has been damaged over the past few months due to their fake accounts scandal and federally imposed lending limits, the positive outlook for banks in the near term can allow for a discrepancy between the actual intrinsic value of Wells Fargo and the market's more cautious pricing. There have been two major events that have occurred in the past month that offer operational benefits for banks, in general, and Wells Fargo: the 2020 presidential election, with Joe Biden taking control of the presidency and the Democrats continuing their hold of the House and the early positive results of the Pfizer/BioNTech and Moderna Covid-19 vaccines.

With Joe Biden assuming presidency in January, there will be a greater push to implement an aggressive stimulus package due to the Covid-19 crisis. A large stimulus package should increase consumer and business spending, boosting demand for loans and lessening the rate of charge-offs. With the federal funds rate probably staying around 0.25% for 2021, this consumer behavior should continue for the complete duration of 2021 as well.

Additionally, the recent positive results of both the Pfizer/BioNTech and Moderna Covid-19 vaccine trials--in which they were both able to state with confidence that their vaccine has a 95% success rate--demonstrates that there will be a distribution of an effective vaccine within the upcoming months. This would lead to a quickened economic recovery, allowing businesses to reopen and people to return back to work. A quickened economic recovery will lead to household wealth to increase, allowing for higher consumer and business spending as well. This recovery along with the fact that the national health will be better protected provides hope that the federal funds rate will begin to increase next year, that loan defaults will diminish, and that demand will lift for other consumer products, causing an increase in profitability for Wells Fargo and the broder banking industry.

Though Covid-19 cases are reaching new highs and there still remains uncertainty in the recovery of the US economy and the path of the virus, a Democratic government will increase demand for loans, providing a source of long-term revenue for Wells Fargo. Adding on to the fact that a number of companies such as Pfizer, BioNTech, and Moderna are in the final processes of having a finished Covid-19 vaccine offers hope for a quicker economic recovery, higher interest rates, and an improved operating environment for banks. In terms of valuation, perhaps Wells Fargo will benefit the most from a brightening macro outlook due to the fact that the market currently has been cautious with its pricing for Wells Fargo because of its recent scandals.

Risks

Challenges in Wealth Management

Wealth management has seen an increase in competition in the past few years, placing pressure on fees and margins, and forcing greater price transparency. Increased competition is best seen in rivals Morgan Stanley and Bank of America Merrill Lynch, who have indicated that wealth management is a central part of their growth strategy given its stability. Morgan Stanley's wealth management net revenues increased 7% year over year to $4.7B from their 15,469 advisors. Bank of America Merrill Lynch's combined wealth and investment management wings declined 7% year over year to $4.5B from their industry-high 17,800 advisors. In contrast, Wells Fargo's wealth management revenues declined 26% YoY to $3.8B (compared to $5.1B) from 12,908 advisors (compared to 13,723).

Additional wealth management trends require Wells Fargo to constantly adapt operations and react to potentially higher costs. There has been an increase in privacy concerns on the regulatory side, leading to rising costs in compliance and data enforcement. Digitization has also become essential in wealth management, especially with the impact of Covid-19. Given that, in 2019, 12% of all affluent clients' investable assets move on an annual basis and roughly 7% of those assets moved directly between institutions, there is the chance that assets shift over time to digitized wealth management platforms given the rise in popularity of "robo-advisors" (McKinsey). Critical business workflows are being digitized to enable changes in both client behavior and to accommodate for employees working remotely. Also, an industry-wide increasing focus on millennials will continue to shake up business models and make room for new competitiors.

Covid-19

Covid-19 has changed the wholesale banking landscape, with wholesale banks noticing clients signaling stronger intentions to consolidate banking relationships, with 86% of banks, compared to 53% pre-Covid-19, expecting consolidation within the next few months. For instance, PNC recently announced a $11.6B acquisition of the US business of BBVA, which has about $86B in deposits and $66B in loans. This follows Citizens BankShares's acquisition of CIT Group for $2.2B and the BB&T and SunTrust merger for a combined valuation of $66B. Consolidation through consolidation of smaller banks puts pressure on the established rule of historically large banks such as Wells Fargo, likely leading to slimmer margins and less potential growth. Similar to trends in community banking and wealth management, digital advisory has become essential in the wholesale banking industry. Banks need to create a digital end-to-end transactional experience across products, specifically in digital and sector advisory services. In regards to this demand in digital advisory, banks need to reorganize their teams and services in order to ensure that their coverage model fits the tools to drive digital delivery and more tailored insights. In order to do this, banks will need to leverage partnerships in order to gain more capabilities, with 90% of banks acknowledging this will be essential in the post-Covid world.

Near-term Ills

Wells Fargo earnings have fallen about 40% because of their one-time large expenses that amounted to over $1.5B. Their fake account scandal caused their reputation as a trustworthy large bank to be shattered, and it cost millions for the bank. The net interest margin of the bank has decreased substantially, which leads to the lowering of the profit spread to 2.1% for its loans. This has a dramatic impact on Wells Fargo as a large component of its business is related to the mortgage business, which has been suffering from the all-time low interest rates. Other banks like Goldman Sachs have seen their earnings triple from the volatile markets.

If the bank is not able to turn around customer perception, they may suffer suppressed demand compared to other large banks. If the bank is not able to implement meaningful structural reforms, regulators will not remove the asset cap and growth will be further constrained. Both of these events must be avoided for Wells Fargo to overcome its near-term ills and grow cash flows in the future.

Valuation

Discounted Cash Flows Method

Base Case Assumptions

- CET1 ratio will lower modestly due to high rate vs peers, sizable cushion from minimum rates, and lessening future incentive to be conservative.
- Loan growth will accelerate towards the end of the period as the economy recovers and the asset cap is lifted.
- Fed funds rate will remain depressed for quite some time before raising modestly, lifting loan and investment yields.
- Expense reductions will be primarily realized through reduction in salary and SG&A expenses. Reduction of ~$7B in expense base by end year.
- Fee income will complete a steep decline in 2020 then remain flat as reductions in investment management, service charge, and mortgage fees are countered by increases in investment banking, brokerage advisory, and card fees.

Loan Growth Step	1.25%
End Fed Funds	0.75%
End Average Investment Yield	2.25%
End Year NIM	2.81%

Terminal Growth Rate	0.69%
Shares Outstanding	3,099
Current Share Price	$28.46

Risk Free Rate	0.69%
Market Rate	5.09%
Market Risk Premium	4.40%
Beta	1.07
CoE	5.40%

FCFE Discounted Sum	941.11
Terminal Value	$182,439.14
Present Value	$140,267.22
CoE	5.40%
Value of Equity Today	$141,208.32
DCF Value per share	**$45.57**
Upside	**60.10%**

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E
Risk Adjusted Assets	1,358,933	1,285,563	1,247,210	1,245,853	1,205,865.00	1,211,894.33	1,262,230.88	1,330,100.06	1,417,906.67
Common Equity Tier 1 Ratio	10.77%	12.28%	11.74%	11.14%	11.40%	11.25%	11.10%	10.95%	10.80%
Tier 1 CE Capital	146,357.08	157,867.14	146,422.45	138,788.02	137,468.61	136,338.11	140,107.63	145,645.96	153,133.92
Change in Regulatory Capital	4,009.67	11,510.05	-11,444.68	-7,634.43	-1,319.41	-1,130.50	3,769.52	5,538.33	7,487.96
Book Equity	200,497.00	208,079.00	197,066.00	187,984.00	179,954.00	178,474.00	182,380.00	188,669.00	196,942.00
ROE	10.94%	10.66%	11.36%	10.40%	-2.12%	2.65%	0.29%	3.39%	7.10%
Net Income	21,938.00	22,183.00	22,393.00	19,549.00	-3,823.15	4,730.35	527.66	6,403.46	13,974.54
FCFE	17,928.33	10,672.95	33,837.68	27,183.43	-2,503.73	5,860.85	-3,241.86	865.14	6,486.58

Bear Case Assumptions

- Loans will grow slowly as both the asset cap remains and the economy remains suppressed for an extended period
- Fed funds rate will remain depressed for the entire period as the economy remains weak for a period and the Fed adopts a dovish stance.

Loan Growth Step	0.25%
End Fed Funds	0.25%
End Average Investment Yield	1.60%
End Year NIM	2.20%

FCFE Discounted Sum	-1,626.29
Terminal Value	$55,982.42
Present Value	$43,041.74
CoE	5.40%
Value of Equity Today	$41,415.45
DCF Value per share	**$13.36**
Upside	**-53.04%**

Bull Case Assumptions

- Loans will accelerate aggressively, reaching level of growth post-2008, as WFC fulfills pent-up demand
- Fed funds rate will rise modestly to counteract surge of economic growth, raising loan and investment yields considerably.

Loan Growth Step	1.50%
End Fed Funds	1.00%
End Average Investment Yield	2.50%
End Year NIM	3.07%

FCFE Discounted Sum	2,562.25
Terminal Value	$261,412.46
Present Value	$200,985.37
CoE	5.40%
Value of Equity Today	$203,547.62
DCF Value per share	**$65.68**
Upside	**130.79%**

Sensitivity Table

Loan Growth Step Value									
	$45.57	0.25%	0.50%	1%	1.00%	1.25%	1.50%	2%	2.00%
2024 Fed Funds Rate	**0.25%**	-$0.58	$1.30	$3.19	$5.10	$7.02	$8.97	$10.93	$12.90
	0.50%	$18.01	$20.06	$22.12	$24.20	$26.29	$28.41	$30.54	$32.70
	0.75%	$36.61	$38.82	$41.05	$43.30	$45.57	$47.85	$50.16	$52.49
	1.00%	$55.20	$57.58	$59.98	$62.40	$64.84	$67.30	$69.78	$72.29
	1.25%	$73.80	$76.34	$78.91	$81.50	$84.11	$86.74	$89.40	$92.08
	1.50%	$92.39	$95.10	$97.84	$100.60	$103.38	$106.19	$109.02	$111.88
	1.75%	$110.99	$113.87	$116.77	$119.70	$122.65	$125.63	$128.64	$131.67
	2.00%	$129.58	$132.63	$135.70	$138.80	$141.92	$145.08	$148.26	$151.47

Public Comparables Method

Company Name	Trailing P/E	Forward P/E	P/B	Dividend Yield (Q)	ROE
Wells Fargo & Company	**73.31**	**14.29**	**0.74**	**6.74%**	**1.76%**
Bank of America Corporation	14.37	13.79	1.02	3.68%	7.23%
Citigroup Inc.	11.14	9.77	0.68	6.04%	6.18%
JPMorgan Chase & Co.	15.93	13.68	1.54	4.33%	9.53%
The Goldman Sachs Group, Inc.	13.63	9.83	1.00	3.34%	7.31%
Truist Financial Corporation	16.33	13.68	1.03	4.22%	7.60%
U.S. Bancorp	14.79	14.90	1.44	4.78%	9.23%
The Bank of New York Mellon Corporation	8.89	10.39	0.89	3.68%	9.95%
The PNC Financial Services Group, Inc	19.08	18.76	1.12	4.27%	6.84%
Toronto Dominion Bank	13.86	12.67	1.50	4.61%	10.74%
Morgan Stanley	10.72	12.09	1.44	3.42%	11.62%
Capital One Financial Corporation	43.64	10.66	0.70	1.82%	2.28%
State Street Corporation	11.5	11.48	1.10	4.33%	9.64%
Fifth Third Bancorp	13.34	12.25	0.91	4.87%	7.02%
Citizens Financial Group, Inc.	15.70	11.56	0.72	6.13%	4.74%
Ally Financial Inc.	14.90	8.53	0.81	3.02%	5.46%
KeyCorp	14.48	12.20	1.02	7.20%	7.00%
Bank of Montreal	13.41	11.38	1.22	5.57%	8.95%
Median	**14.37**	**12.09**	**1.02**	**4.33%**	**7.31%**
Mean	**15.63**	**12.21**	**1.07**	**4.43%**	**7.72%**


Promontory Investment Research
Fall 2020 Report, Issue 7
promontoryir.com