

# General Electric Co GE (XNYS)

Morningstar Rating	Last Price	Fair Value Estimate	Price/Fair Value	Trailing Dividend Yield %	Forward Dividend Yield %	Market Cap (Bil)	Industry	Stewardship
★★★	10.07 USD	11.10 USD	0.91	0.41	0.40	88.21	Specialty Industrial Machinery	Standard
23 Nov 2020 22:19, UTC	23 Nov 2020	10 Nov 2020 02:13, UTC		23 Nov 2020	23 Nov 2020	23 Nov 2020		

Morningstar Pillars	Analyst	Quantitative
Economic Moat	Narrow	Narrow
Valuation	★★★	Fairly Valued
Uncertainty	High	High
Financial Health	—	Moderate

Source: Morningstar Equity Research

## Quantitative Valuation



	Current	5-Yr Avg	Sector	Country
Price/Quant Fair Value	1.02	0.85	0.80	0.83
Price/Earnings	25.0	87.0	16.8	20.1
Forward P/E	24.4	—	13.9	13.9
Price/Cash Flow	12.7	21.8	11.2	13.1
Price/Free Cash Flow	32.5	30.7	18.4	19.5
Trailing Dividend Yield%	0.41	3.19	2.30	2.35

Source: Morningstar

## Bulls Say

- ▶ From a valuation perspective, GE once again trades under the value of GE Aviation and GE Healthcare, less any benefits or detriments from its other businesses. A bet at these prices is a bet on a turnaround that will once again gain momentum fundamentally.
- ▶ Larry Culp is a proven industry veteran with a long-track of success and execution, and will increasingly shift GE toward lean operations principles that prize efficiency.
- ▶ GE's installed base boasts the youngest fleet, with over 60% of its CFM narrow-body fleet yet to make its first shop visit in this high-margin business.

## Bears Say

- ▶ GE's turnaround has a lot of unknowns, including the fallout from COVID-19 and the magnitude and duration of the commercial aerospace cycle over the next several years.
- ▶ With low interest rates, GE Capital potentially has negative equity value and management will likely have to continue supporting the unit for far longer than the market appreciates.
- ▶ GE continues to burn substantial cash due inheritance taxes from prior management's Alstom purchase; this will negatively impact GE's businesses as it's not clear how its troubled businesses generate profitability.

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## GE's Improved Financial Standing Raises Our Confidence to Lift Our Valuation

### Business Strategy and Outlook

Joshua Aguilar, Eq. Analyst, 29 October 2020

Our GE thesis remains an all-out bet on industry vet Larry Culp. We believe he is the best industry executive to lead the long-term turnaround of GE. We credit Culp with the astute decision to sell GE Biopharma for \$21.4 billion at greater than our assessed value, as well as his decision to methodically sell off over 63% of GE's interest in Baker Hughes. Culp's decision to sell-off Biopharma and his GE Healthcare sales audible walked the appropriate balance between aggressively deleveraging the balance sheet, while retaining a valuable, strong cash flow-generating business of critical strategic importance.

Despite the rapid degradation in the commercial aerospace market, which we believe will translate to a delayed return of sales for a period of three years by year-end 2020, we still think GE Aviation's long-term fundamental secular drivers, including middle-income class growth and urbanization trends in developing nations, remain in place. We believe that Culp and his team can rapidly work to improve the segment's decremental margins through a combination of aggressive cost-out and restructuring initiatives, including furloughs, curtailing discretionary spending, and a shift in commercial aerospace capacity to GE's strong military order book, among other initiatives. These efforts are also why we expect a correspondingly similar incremental margin in 2021 relative to our decremental expectation in 2020.

A combination of lower restructuring after GE's newbuild coal exit and actions at Aviation, lower headings from receivable factoring, working capital improvements, and most importantly, broad-based earning power, should help GE generate positive free cash flow in 2021. These outcomes in turn will help the firm on its journey toward a high-single-digit free cash flow margin in the out years of our model, particularly as the inheritance taxes from Alstom subside in 2022 and beyond.

Despite the deflationary nature of the healthcare business, we think GE's digital initiatives can improve mix and drive additional sales. The healthcare team has

worked fast to improve operating margins ex-biopharma sale, and we think it can grow margins about 75 basis points per year.

## Analyst Note

Joshua Aguilar, Eq. Analyst, 29 October 2020

Despite severe aerospace coronavirus-related headwinds, narrow-moat General Electric, or GE, surpassed our expectations year to date on its top line, earnings per share, and industrial free cash flow. Therefore, we raise our fair value estimate by over 8% to \$10.40 from \$9.60 previously. Our new fair value estimate puts us the very top of CapIQ consensus estimates in fundamentals and near the top of price targets (which is affected downward by the normalized weighted average cost of capital in our model).

While there were various puts and takes in our model, the primary driver in our increased optimism was healthcare's outperformance--it knocked the cover off the ball. Segment operating margins improved sequentially by 270 basis points and 260 basis points year over year on an organic basis (when stripping out the effect of the sale of biopharma to Danaher). This is a business we originally expected to grow about 50 basis points after the sale to about 15.2% for full-year 2020. We're now expecting healthcare segment operating margins in 2020 of about 16.8%, though we note one quarter bakes in the biopharma as the sale occurred during the first quarter of 2020.

Our confidence stems further from GE CEO Larry Culp's public commentary that he believes the healthcare team can expand 75 basis points year over year, while performing at low-single-digits plus at the top line (at the midpoint). While these figures are nothing new per se as they were shared during the December GE Healthcare Investor Day, the team has outperformed expectations. What was interesting was Culp's willingness to quote the top end of the range for margin expansion. In our experience, Culp is not prone to wild prognostications, and we're confident in his leadership.

## Economic Moat

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Close Competitors	Currency (Mil)	Market Cap	TTM Sales	Operating Margin	TTM/PE
Vestas Wind Systems A/S VWS	DKK	243,310	17,167	5.22	67.57
Raytheon Technologies Corp RTX	USD	110,320	83,559	7.37	117.65
Siemens AG SIE	EUR	89,063	86,569	7.03	19.34
Royal Philips NV PHIA	EUR	39,735	19,213	6.91	34.97

Joshua Aguilar, Eq. Analyst, 09 November 2020

We assign General Electric a narrow economic moat based primarily on switching costs and intangible assets stemming from its massive installed base of industrial equipment, as secondarily from cost advantage due to economies of scale in some of its core businesses. Nevertheless, we hold off on assigning GE a wide economic moat given our lack of confidence in our 20 year hurdle rate for excess return on capital.

Three critical issues are key to our analysis: secular pressures facing and uncertainties surrounding GE Power and Renewable energy; the firm's financial position as it pares down assets and the timing related to those disposals (though those are rapidly approaching the rearview mirror); and lingering liabilities related to GE Capital, particularly as it concerns long-term care insurance. While the firm's Aviation and Healthcare segments certainly have moats, the firm is losing one of its most highly desirable assets that generates consistent earning power in GE Biopharma going forward.

GE Aviation undoubtedly meets our highest standard of a wide-moat business and is GE's crown jewel. The segment benefits from intangible assets, switching costs, and scale-driven cost advantage. GE essentially competes in a duopoly in both the wide-body (twin-aisle) and narrow-body (single-aisle) space against Rolls-Royce and Pratt and Whitney, soon to merge into Raytheon Technologies. Excluding GE's 50% interest in its CFM joint venture with Safran, we estimate that GE typically commands about 40% of the combined narrow-body and wide-body engine markets, as measured by new deliveries. The Aviation segment operates on a razor-and-blade model. A GE engine is present in two of every three commercial departures, and the firm's installed base between GE and its joint ventures reaches about 35,000 engines. In the formative years after a new engine launch (about one third of the overall cost of a new plane), GE will typically implement an estimated 70% discount on its new narrow-body engines from their listed prices. Over time these discounts erode. A typical jet engine will then first require service in about year seven

of operation at which time an engine program may pass break-even and become a recurring and enviable profit stream for GE (in the LEAP engine's case, management anticipates NPV breakeven in 2021). These bespoke service contracts typically extend 25 years into the future. We believe intangible assets are particularly critical for engine deliveries—the razor in the razor-and-blade model. The technical knowledge needed to design and manufacture a jet engine is GE's main source of intangible assets. This technical know-how is supported by the firm's research and development budget, of which about one third is principally funded by the U.S. government. Other intangible assets include the firm's patents, a long track record of success, and its customer relationships with both Boeing (primarily) and Airbus. A track record of success can have a disproportionate impact in delivery wins.

Relatedly, switching costs are strongly associated with aftermarket sales – the blade in the razor-and-blade model. GE's switching costs are a result of the firm's engines and associated equipment's strong integration into customers' airframes and landing systems. In the United States, aircraft engine inspections are both mandated and regulated by the Federal Aviation Administration, and unplanned downtime related to concerns over an engine's efficacy can wreak havoc for airlines, both in terms of time and expense. This high cost of failure ultimately increases customer loyalty. By our count, nearly 61% of GE's commercial aviation revenue stems from its services, which we believe represents strong evidence of customer reliance on GE as the original equipment manufacturer. Moreover, GE's pursuit of rate-per-flight hour service agreements, whereby OEMs like GE receive service payments based on flight hours, both boosts returns and solidifies switching costs. With flight hour services agreements, GE receives payments over the life of a contract. Additionally, because OEMs assume the maintenance risk, firms like GE, Pratt, and Rolls Royce are incentivized to increase on-wing time. According to Aviation Week in late 2016, the LEAP's predecessor, the CFM56-7B demonstrate an industry-leading 99.96% percent engine dispatch reliability rate, which equates to only one delay or cancelation every 2,500 departures. Furthermore, that engine can stay on-wing for as many 20,000 cycles (typically 18,000). Cost advantage from scale is also evident in GE Aviation's margins, which exceeds Pratt's by several percentage points (aside from the benefit of a massive installed base, we think GE is particularly adept at manufacturing engines at a large

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scale), or in the R&D it can leverage not just across its power segment with its gas turbine units, but also previous-generation jet engine models - the LEAP engine continues the tradition begun by the CFM-56 with \$1.4 billion greater residual value than its closest competitor.

Healthcare is currently GE's second-best business and one we think also merits a wide-moat rating, even with the absence of GE Biopharma within GE Healthcare's Life Sciences division.

Medical imaging, which constitutes about two thirds of GE Healthcare's revenue base, is a notoriously opaque industry and increasingly commoditized, but one where we think GE also benefits from intangible assets, cost advantage from scale, and some switching costs. GE's medical imaging installed base is large at over 4 million units. From our conversations with industry experts, GE and its competitors consolidated the industry, acquiring competitive threats like well-regarded x-ray machine maker Picker in the 1980s. Two major players have dominant share in the market, including GE and Siemens, with each trading blows for a competitive advantage. Practically speaking, moreover, our experts inform us that GE and Siemens are the only two vendors actively considered by large hospital networks (with notable exceptions like Hologic's mammography machines). Doctors may go as far as choosing their residencies based on the reputation of these machines, particularly CT scans, both in terms of quality and service reliability. Indeed, most large U.S. hospitals will have a reputation of being either a "GE hospital" or a "Siemens hospital." Our belief is that this reputation obviates some of the pricing pressures that may naturally occur in more rural markets, where price is far more important given availability of resources (this is a deflationary business that overall loses price about 1% per year). Given the critical functions these machines perform, their high cost of failure, and a doctor's familiarity of use, hospitals loathe switching providers for a less expensive alternative. These switching costs are reinforced by GE Healthcare's massive footprint, which allows the firm to expeditiously service any faulty equipment and avoid any disruption to patient care.

Another advantage of having acquired makers of different machines is that both GE and Siemens attempt to sell hospital procurement departments an entire suite of machines. GE's economies of scale afford it the privilege of hiring a large salesforce of specialists for each types

of units, including MRIs, X-rays, CT scans, ultrasounds, and mammography machines. Moreover, while it is our understanding hospitals will often pool procurement resources to increase bargaining power when negotiating with medical imaging providers, GE mostly continues to directly negotiate with each hospital. We suspect it retains its bargaining power by not disclosing pricing and requiring hospitals to sign non-disclosure agreements regarding any pricing information, keeping confidential what was once common knowledge in the industry two decades ago. Finally, GE's digital software is well-integrated with machines, which also reinforces these switching costs. Physicians less often read x-rays from hard copy film, but instead rely on GE technology to read these images digitally in a single image repository, often in a different location from where a machine may be located. While a third-party software vendor could in theory operate with GE machines, our understanding is that this solution is far less than optimal.

After GE Aviation and Healthcare, however, GE's competitive position fares far worse, with many of its other business lines facing secular pressure. GE Power, the firm's other large segment (it was once the largest by revenue, but is now third in GE's sales mix inclusive of GE Biopharma) faces three long-term issues: 1) overcapacity in the industry; 2) pricing pressures; and 3) a shifting energy mix in its end markets toward renewables (as well as operational issues). Grouping together its Power and Renewable Energy segments, we think of this super-segment as a no-moat business. While Power operates in a three-way oligopolistic market (along with Siemens and Mitsubishi-Hitachi), GE Renewable Energy competes in a more fragmented industry with other wind turbine manufacturers (onshore and offshore wind revenues represent the brunt of Renewable Energy's portfolio, even when including its Grid Solutions business). Moreover, while GE Power touts its 7,000-plus gas turbine installed base, and the fact that it currently powers more than 30% of the world's power (as of 2018), the segment has at times fallen to number three of global gas turbine orders by energy capacity behind its other competitors.

Furthermore, GE was late to realize the inevitable transition from fossil fuels to renewables, which is predicted to compete with fossil fuels subsidy-free from a leveled cost of electricity standpoint. Wind turbines don't require the same maintenance needs as gas machines, which is where GE has traditionally made

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money on its long-term service contracts. We think these cost dynamics threaten to obviate the competitive benefits GE derives from its massive installed base in gas turbines, particularly as renewables also offer a far more attractive and minimal carbon footprint. According to the Financial Times, while natural gas narrowly beat wind power for new generation capacity in 2016, worldwide GE sales of large gas turbines dropped appreciably over a nine-year cycle (from 134 in 2009 to 102 in 2017). Using data from statista, market expectations, including the U.S. Department of Energy, materially under-forecast, by 383%, the energy usage and production of wind generation over a ten-year period. Under Jeff Immelt, GE failed to appreciate these risks, and we suspected its ill-time purchase of thermal energy provider and grid company Alstom will continue to weigh down the segment's ROIC, including goodwill, for years to come due to this overcapacity. Power is forced to continue restructuring efforts to counteract this dynamic as demand for new gas orders fell down to 25 to at most 30 gigawatts in 2018 compared with 40 to 45 GW articulated at the start of 2017, before recovering to 39 gigawatts in global orders in 2019. GE Renewable Energy suffers from many of the same competitive dynamics that plague GE Power, including even greater price competition to gain market share, and cheaper alternatives from other forms of energy, like solar, and depends heavily on production tax credits. As such, we don't believe it's a business with durable competitive advantage.

Finally, GE Capital has been an albatross around the company's returns, and in our view, is not only a no-moat business, but ultimately has been a liability for the company. The exception would be GE Capital Aviation Services, or GECAS, which has been the one bright spot for the segment. GECAS retains number-two market share behind AerCap in terms of estimated market value of its owned and managed fleets. In financial services, however, what matters is asset quality, which can hamper profitability during a recession. On this metric, GECAS has fared well, with reported segment profits declining only 14% from 2008 to 2009 (GECAS typically earns just over \$1 billion per year). Even so, this is a competitive business without any natural barriers to entry, and Chinese lenders are willing to underprice competitors like GECAS and AerCap. Other portions of GE Capital, moreover, have not fared nearly as well. Most notably is its long-term care insurance business. While GE has not originated any new policies since 2006, the Kansas Insurance Authority is

requiring the firm to contribute an additional over \$7 billion to its insurance reserves over the next five years after already contributing \$3.5 billion in 2018 (after a \$3.5 billion injection in 2018, a 1.9 billion injection in 2019, and a \$2 billion injection in 2020). These problems are exacerbated in a low interest rate environment as investment income can fall below projected returns. On the expense side, GE is also encountering claims that were underwritten with poor assumptions, including the life span of policyholders, or the cost of healthcare.

Bottom line, we expect that GE Capital will continue to incur charges as it restructures and in 2020, as well as from the impact of GAAP insurance accounting rules. In the short term, we believe this will mask the earning power of the firm's moatier assets. That said, we conclude that by 2021, GE Capital will no longer produce negative earning power.

## Fair Value & Profit Drivers

Joshua Aguilar, Eq. Analyst, 09 November 2020

After recently speaking with GE's investor relations team, we raise our fair value to \$11.10 from \$10.40 due to a lower cost of debt capital. We were already at the top end of the Cap IQ consensus range for EPS and industrial free cash flow estimates, and we no longer believe a credit downgrade is a most likely scenario. We value GE at about 25 times our 2021 full-year adjusted EPS estimate of \$0.44, but about 17 times our 2022 expectations. We still expect positive free cash flow of over \$3 billion in the fourth quarter of 2020, which we think will translate to positive free cash flow for full-year 2021 and a high-single-digit free cash flow margin in the outer two years of our model.

We still view GE Capital's book value with a high amount of skepticism. Even so, we're more comfortable assigning just over \$0 worth of equity value to GE Capital (compared with closer to negative \$1 in the past), given prior management comments that GE industrial's support will be far lower than the \$4 billion in 2019 and more in line with the support from the statutory testing contributions of about \$1.4 billion a year. We value GE Capital at a less than a fifth of its tangible book value.

We still foresee management monetizing Baker Hughes over the next three years. We point out 2020 is a tough year, and we expect EPS to grow next year. Our DCF valuation implies a discount to peers in 2022, while our sum of the parts value also implies GE shares are heavily

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**Forward Dividend Yield %**

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**Market Cap (Bil)**

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**Industry**
Specialty Industrial  
Machinery
**Stewardship**

Standard

discounted; however, since GE will slow down its pace of asset sales, we think this metric is less relevant.

In our view, the important contributors to GE's industrial portfolio are GE Aviation and GE Healthcare. Aviation will have significant headwinds in 2020, and as such, we model about a 33%-plus decline in segment sales, including a roughly 47% decline in commercial sales. Nevertheless, fundamentally, we think global middle income class growth will drive demand once more and help GE recover lost sales by 2023 to year-end 2019 levels. We rely on both industry commentary in our analysis, as well as survey data that states roughly two thirds of global passengers surveyed would be willing to board an aircraft within a month to six months' timeframe.

As for GE Healthcare, we assume key market drivers include increasing demand for healthcare services from emerging economies and an aging U.S. population, which we believe will help drive low-single-digit plus growth, along with its faster-growing digital initiatives.

## Risk & Uncertainty

Joshua Aguilar, Eq. Analyst, 09 November 2020

GE's principal risk is related to COVID-19 fallout on its commercial aerospace business, including government interventions and acceleration of infections which ultimately affect both revenue passenger kilometers (demand) and load factors (utilization). Additional risks include GE's significant cash burn in some of its operating businesses, including GE Power (which burned through negative \$1.5 billion in 2019 after segment restatements); liabilities at GE Capital, particularly from its legacy insurance operations; additional capital contributions from GE required to support GE Capital's operations amid asset sales; the SEC investigation related to GE's accounting for long-term service agreements; execution risk when implementing the separation of some of GE's assets; and shareholder lawsuits.

We remain concerned over GE's insurance liabilities at GE Capital, as well as the amount of cash needed to support Capital from the parent company. Nevertheless, while we continue scrutinizing GE Capital's tangible book value as overly inflated, we're less concerned over this item than we were in prior years (albeit it's still GE's key risk in our view). Finally, GE has disproportionately large key person risk in CEO Larry Culp. Our thesis and the thesis of a number of sell-side bulls is a vote of confidence in

Culp's leadership (in tandem with GE's Assets), and losing him before a successful turnaround would pose both headline and fundamental risk, in our view.

## Stewardship

Joshua Aguilar, Eq. Analyst, 29 October 2020

We assign GE a Standard stewardship rating. Our thesis has and always has been an all out bet on Larry Culp's leadership, and our faith in his abilities has been rewarded. Some of these improvements are tangible. For instance, GE generated \$2.3 billion of free cash flow in 2019 on a year that was supposed to see \$0 at the midpoint of GE's guidance. This is despite considerable headwinds from GE's crown jewel in GE Aviation to the tune of \$1.4 billion. All of GE's businesses (less GE Aviation, which had about a \$400 million working capital headwind from the MAX) saw significant improvements to working capital, while margins improved 60 basis points and GE Power's results exceeded management's expectations. The company's financials, while still amongst the most difficult to read, have significantly improved thanks to the disclosures worked on by Steve Winoker and his team at Investor Relations. And finally, Larry Culp has also been improving GE's culture by implementing many of the principles he took from his time at Danaher, including a laser-like focus on the customer and use of lean tools and workshops. We now believe GE is moving past its prior record of Poor stewardship that was anchored on the Jeff Immelt era, which included opaque accounting, overly aggressive targets, a watered-down culture that discouraged candor, and disastrous capital allocation.

Culp was appointed Chairman and CEO of the company on Oct. 1, 2018. Culp was previously the CEO and President of Danaher Corporation from 2000 to 2014. Under his stewardship, Danaher's stock rose about 465% against the S&P 500's approximately 105% gain. Culp was responsible for helping evolve the Danaher Business System, taught strategy at Harvard Business School, and served in a variety of advisor roles at prestigious firms. We like the choice of Culp given his pedigree operating an industrial-healthcare conglomerate. We assumed he was the logical choice to succeed Flannery when he was named Lead Director. Replacing Culp as Lead Director is Thomas W. Horton, who served as Chairman and CEO of American Airlines from 2011 to 2013.

We applaud Culp for taking decisive action, particularly in obtaining selling GE's Biopharma business to his former



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firm Danaher for a very favorable price. We believe he will continue successfully executing GE's current plan to rationalize the firm's global footprint, rightsizing headcount, instituting lean initiatives, and positioning its operating businesses for long-term success. As Culp has indicated, GE is still in the early innings of a recovery that is a "game of inches." Nevertheless, we trust Culp's very capable operating acumen and his ability to bring both lean discipline to GE, while focusing on the voice of the customer.

On Nov. 25, 2019, GE announced that it is appointing Carolina Dybeck Happe as its new chief financial and officer and executive vice president. She started her role on March of 2020. The appointment of a new CFO isn't surprising, given that the firm previously announced on July 31 that current CFO Jamie Miller will be stepping down. We had previously suspected CEO Larry Culp would name new members on his executive team, but that the CFO replacement move was delayed given GE's previously precarious financial position (which arguably persists given its interest-bearing liabilities relative to the total free cash flow available to the firm).

We like the addition of Dybeck Happe and believe GE will benefit from both her experience and her outsider's view of GE (which closely mirrors that of CEO Larry Culp). We spoke with her on March 31, 2020 along with other sell-side analysts at a gathering in New York. We think GE likely valued her background related to both short- and long-cycle industrial businesses, her experience related to portfolio transactions (Maersk incidentally divested its own oil & gas business this year), as well as familiarity with a digital business in the case of Assa Abloy's, and her board service for electrical equipment and energy businesses; we believe all these will serve her well in her new role. Perhaps the most important attribute about her background, however, is Dybeck Happe's familiarity with debt reduction strategies. Given the importance of GE's credit rating to our valuation, her number one immediate priority will be to continue bringing down GE's industrial net debt to EBITDA to under 2.5 times at some point in GE's near future.

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## Analyst Notes Archive

### Retiring Joyce Is a Loss for GE and GE Aviation; We Maintain Our FVE

Joshua Aguilar, Eq. Analyst, 15 June 2020

On June 15, 2020, GE announced that its Vice Chair and CEO of Aviation David Joyce will retire. We think this is somewhat of a negative, no matter who Joyce's replacement is (former Embraer commercial aviation boss John Slattery will replace Joyce), although it's unclear to us how current negative headline risk will manifest itself in fundamental risk, if at all. It does give us somewhat less confidence in the recovery path GE Aviation will chart, because, in our view, turnarounds are heavily reliant on management teams in place. The timing of the announcement is unfortunate, to say the least. At this juncture, GE Aviation represents a disproportionate impact on GE's path going forward. The recovery in the stock is highly tied to a recovery in the commercial aerospace business, along with execution in the remaining portions of healthcare after the sale of Biopharma, and stymieing negatives in its remaining portions such as GE Capital. While we've expected executive turnover with CEO Larry Culp's tenure over time, we thought Joyce would be the one exception in the near term.

For now, we are not changing our \$10.60 fair value estimate, which is a long-term call that estimates GE's intrinsic value. Aside from the current turbulence in the commercial aerospace market, we point out that GE is losing one of its most experienced executives in Joyce. (Observers may note that old GE town hall clips with Jack Welch from the very early 1990s feature Joyce.) What makes Joyce's departure more difficult is that GE has historically had the unfortunate practice of moving executives around in different businesses, losing years of internal specialization in the process. Joyce was the rare exception, having spent his entire career in GE Aviation. From what we gather, GE is also losing Joyce's presence on the board, though it has aerospace experience from the likes of Lead Director and former American Airlines CEO Tom Horton.

### GE Will Take Longer to Dig Itself out of This Hole; We Lower FVE but Remain Bullish

Joshua Aguilar, Eq. Analyst, 29 July 2020

Narrow-moat-rated General Electric had a difficult second

quarter. That was expected. GE's higher margin businesses within aviation, healthcare, and gas power were more heavily impacted by coronavirus and were down three times relative to the rest of GE Industrial. While we arguably overly anticipated the revenue pressures, we failed to fully appreciate the magnitude of difficulties management faces in excising fixed costs from GE's business. To that end, we cut our fair value estimate by about 6.5% to \$9.90 (from \$10.60 previously). We now expect adjusted EPS of \$0.05 for full-year 2020, \$0.47 in 2021, and \$0.71 in 2022, as well as industrial free cash flow burn of just over negative \$2 billion for 2020. Our valuation implies a value of roughly 21 times our 2021 earnings expectations. Given the unique challenges in the commercial aerospace industry, we encourage investors to look out to next year's earnings, despite the clear level of macroeconomic uncertainty (which should be appropriately built into an investor's margin of safety).

While there were numerous puts and takes in our model, one was by far the most material--Aviation decremental margins. Two data points influenced our thinking here. First, the most recent quarterly results. On a headline basis, GE's decremental margin only improved sequentially from about 62% in the first quarter to about 59% in the second quarter. A sizable portion of that was due to charges in aviation's CSA contracts related to COVID-19, to the tune of about \$600 million, reflecting factors like lower engine utilization, contract modifications, customer fleet restructuring (our aerospace analyst estimates retirements represent about 4.25% of the global fleet to date since COVID-19, based on Boeing CEO Dave Calhoun's comments), and higher bad expense, among others. CEO Larry Culp had previously mentioned this at a late May investor conference ("probably in the hundred of millions of dollars").

### Amended Employment Agreement Keeps Culp Longer, a Necessity for Shareholders

Joshua Aguilar, Eq. Analyst, 20 August 2020

On Aug. 20, General Electric announced it is amending CEO Larry Culp's employment agreement. While there are puts and takes as to how it's structured, we are largely positive on the development. For now, we are leaving our current fair value estimate of \$9.60 for the narrow-moat-rated firm unchanged, even after the news that GE Power signed power agreements over \$1.2 billion in Iraq (which based on our currently outlook doesn't really move the needle on valuation).

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23 Nov 2020  
22:19, UTC
**Last Price**

10.07 USD

23 Nov 2020

**Fair Value Estimate**

11.10 USD

10 Nov 2020  
02:13, UTC
**Price/Fair Value**

0.91

**Trailing Dividend Yield %**

0.41

23 Nov 2020

**Forward Dividend Yield %**

0.40

23 Nov 2020

**Market Cap (Bil)**

88.21

23 Nov 2020

**Industry**
Specialty Industrial  
Machinery
**Stewardship**

Standard

The amended agreement extends the term of Culp's agreement until mid-August 2024, or such later date as agreed to by him and GE up until mid-August 2025. It also amends the financial terms of his agreement in light of the new economic reality post-COVID-19, particularly given the unprecedented multiyear challenge in commercial aerospace. To paint a broad-brush stroke, the International Air Transport Association recently amended its air passenger demand forecast (as measured by global revenue passenger kilometers) to a five-year recovery relative to 2019 levels (by 2024), from four years previously. Thus, GE has had to quickly switch to a cost-containment strategy given the difficult revenue outlook, which undoubtedly has thrown cold-water on its turnaround efforts in the near term (we've cut our fair value estimate by just over 30% since the beginning of the year, which was prior to the full impact of COVID-19). While the sell-side bears cut their price targets by a similar amount, we think their implied long-term expectations are too pessimistic.

## Market Reaction to GE's Wells Notice Perplexing

Joshua Aguilar, Eq. Analyst, 07 October 2020

GE's stock dipped nearly 4% on the trading day after its 8-K disclosed that on Sept. 30, 2020, the U.S. Securities and Exchange Commission issued a "Wells notice" for possible violations of securities laws. The 8-K was issued on Oct. 6, 2020. While we don't believe GE has a legal duty to disclose Wells notices, we're glad it did. We believe the \$2.4 billion of at-risk capital as implied by GE's lost market valuation today (based on the product of GE's second-quarter diluted share count and the difference of the current share price from today's open) is an overreaction. Therefore, we leave our fair value estimate of \$9.60 for the shares intact and will update after third-quarter earnings.

We reviewed the SEC's Division of Enforcement 2019 Annual Report. In fiscal 2019, parties on the opposite end of the SEC's actions and proceedings were ordered to pay a total of \$4.3 billion in total money ordered (of which about a quarter included penalties). In other words, the market's reaction is implying that GE will ultimately have to pay over 54% of the total money ordered from SEC actions for all companies in 2019. We find this determination excessive. The median SEC action required parties to pay \$550,00 in total money ordered in 2019. And while bears will surely point out that the top 5% of

cases constitute 70% of the total money ordered, that still amounts to about 43 of the 862 total enforcement actions brought by the SEC. If we take straight division, this implies an average responsibility of \$71 million in total money ordered from the top 5% of companies in 2019. That's a higher amount of total money ordered than any year totaling back to 2004 (and the second-highest amount of enforcement actions ever, narrowly failing to eclipse 2016 by 7 actions). We note that the SEC's highest total money ordered collected in fiscal year 2019 amounted to \$100 million in civil penalties alone, which was against Facebook for the Cambridge Analytica controversy.

## What Will It Take for Investors to Believe in the GE Comeback? We Raise Fair Value Estimate

Joshua Aguilar, Eq. Analyst, 29 October 2020

Despite severe aerospace coronavirus-related headwinds, narrow-moat General Electric, or GE, surpassed our expectations year to date on its top line, earnings per share, and industrial free cash flow. Therefore, we raise our fair value estimate by over 8% to \$10.40 from \$9.60 previously. Our new fair value estimate puts us the very top of CapIQ consensus estimates in fundamentals and near the top of price targets (which is affected downward by the normalized weighted average cost of capital in our model).

While there were various puts and takes in our model, the primary driver in our increased optimism was healthcare's outperformance—it knocked the cover off the ball. Segment operating margins improved sequentially by 270 basis points and 260 basis points year over year on an organic basis (when stripping out the effect of the sale of biopharma to Danaher). This is a business we originally expected to grow about 50 basis points after the sale to about 15.2% for full-year 2020. We're now expecting healthcare segment operating margins in 2020 of about 16.8%, though we note one quarter bakes in the biopharma as the sale occurred during the first quarter of 2020.

Our confidence stems further from GE CEO Larry Culp's public commentary that he believes the healthcare team can expand 75 basis points year over year, while performing at low-single-digits plus at the top line (at the midpoint). While these figures are nothing new per se as they were shared during the December GE Healthcare Investor Day, the team has outperformed expectations. What was interesting was Culp's willingness to quote the



# General Electric Co GE (XNYS)

<b>Morningstar Rating</b> ★★★ 23 Nov 2020 22:19, UTC	<b>Last Price</b> 10.07 USD 23 Nov 2020	<b>Fair Value Estimate</b> 11.10 USD 10 Nov 2020 02:13, UTC	<b>Price/Fair Value</b> 0.91	<b>Trailing Dividend Yield %</b> 0.41 23 Nov 2020	<b>Forward Dividend Yield %</b> 0.40 23 Nov 2020	<b>Market Cap (Bil)</b> 88.21 23 Nov 2020	<b>Industry</b> Specialty Industrial Machinery	<b>Stewardship</b> Standard
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top end of the range for margin expansion. In our experience, Culp is not prone to wild prognostications, and we're confident in his leadership.

# General Electric Co GE ★★☆☆ 23 Nov 2020 02:00 UTC

## Last Close

23 Nov 2020

10.07

## Fair Value<sup>Q</sup>

23 Nov 2020 02:00 UTC

9.56

## Market Cap

23 Nov 2020

85,496.4 Mil

## Sector

Industrials

## Industry

Specialty Industrial Machinery

## Country of Domicile

USA United States

There is no one analyst in which a Quantitative Fair Value Estimate and Quantitative Star Rating are attributed to; however, Mr. Lee Davidson, Head of Quantitative Research for Morningstar, Inc., is responsible for overseeing the methodology that supports the quantitative fair value. As an employee of Morningstar, Inc., Mr. Davidson is guided by Morningstar, Inc.'s Code of Ethics and Personal Securities Trading Policy in carrying out his responsibilities. For information regarding Conflicts of Interests, visit <http://global.morningstar.com/equitydisclosures>

## Company Profile

With historical ties to inventor Thomas Edison, General Electric was formed through the combination of two companies in 1892. Today, GE is known for its digital industrial offerings and massive installed base spread across a variety of products and services, including aircraft engines, gas turbines, wind turbines, and medical diagnostic equipment, among others. After the sale of GE Transportation to Wabtec and a majority of its stake in Baker Hughes, as well as the sale of GE Biopharma to Danaher, the company's focus

## Quantitative Scores

		Scores		
		All	Rel Sector	Rel Country
Quantitative Moat	Narrow	97	97	96
Valuation	Fairly Valued	11	15	14
Quantitative Uncertainty	High	96	94	93
Financial Health	Moderate	85	57	85



## Valuation

	Current	5-Yr Avg	Sector Median	Country Median
Price/Quant Fair Value	1.02	0.85	0.80	0.83
Price/Earnings	25.0	87.0	16.8	20.1
Forward P/E	24.4	—	13.9	13.9
Price/Cash Flow	12.7	21.8	11.2	13.1
Price/Free Cash Flow	32.5	30.7	18.4	19.5
Trailing Dividend Yield %	0.41	3.19	2.30	2.35
Price/Book	2.6	2.6	1.6	2.4
Price/Sales	1.0	1.6	0.9	2.4

## Profitability

	Current	5-Yr Avg	Sector Median	Country Median
Return on Equity %	10.9	-16.4	11.5	12.9
Return on Assets %	1.3	-2.1	4.8	5.2
Revenue/Employee (K)	409.4	375.0	515.1	325.9

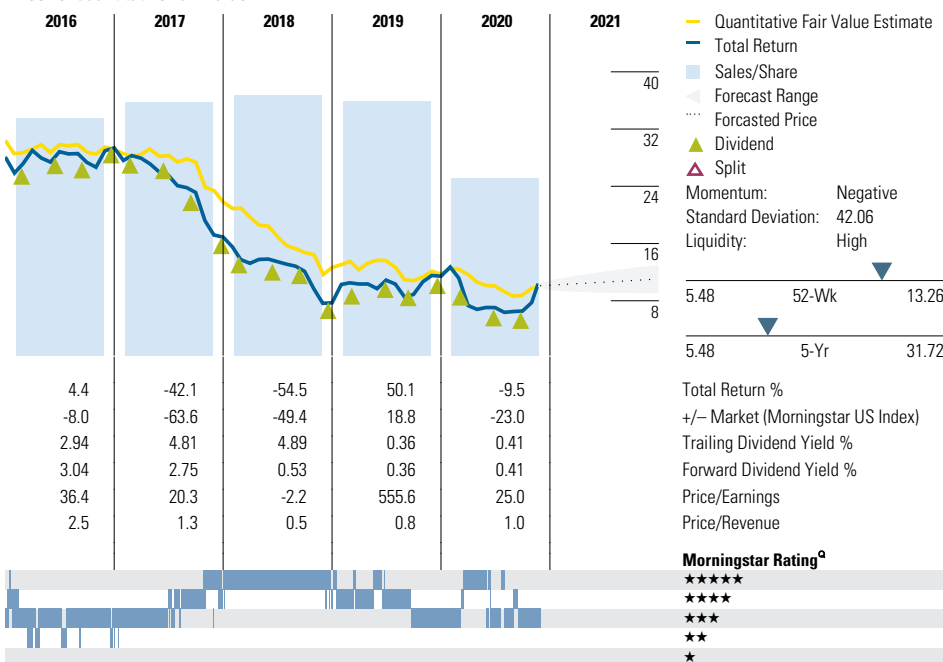
## Financial Health

	Current	5-Yr Avg	Sector Median	Country Median
Distance to Default	0.6	0.6	0.6	0.5
Solvency Score	647.8	—	484.2	552.4
Assets/Equity	9.4	7.0	1.8	1.7
Long-Term Debt/Equity	2.4	2.0	0.2	0.4

## Growth Per Share

	1-Year	3-Year	5-Year	10-Year
Revenue %	-1.9	-7.3	-3.9	-4.8
Operating Income %	43.2	-19.5	-18.4	-15.3
Earnings %	—	—	—	—
Dividends %	-89.2	-65.0	-46.2	-23.9
Book Value %	-9.0	-28.0	-24.0	-11.5
Stock Total Return %	-12.5	-15.9	-16.2	0.5

## Price vs. Quantitative Fair Value

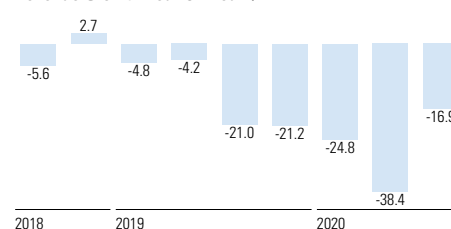


2015	2016	2017	2018	2019	TTM	Financials (Fiscal Year in Mil)
115,158	119,687	120,468	121,616	95,215	83,928	Revenue
-22.1	3.9	0.7	1.0	-21.7	-11.9	% Change
14,560	14,042	8,734	9,952	5,412	656	Operating Income
-73.5	-3.6	-37.8	13.9	-45.6	-87.9	% Change
-6,126	8,831	-5,786	-22,355	-4,979	3,796	Net Income
19,891	-244	10,426	4,246	8,772	6,702	Operating Cash Flow
-7,309	-7,199	-7,920	-8,056	-6,095	-4,078	Capital Spending
12,582	-7,443	2,506	-3,810	2,677	2,624	Free Cash Flow
10.9	-6.2	2.1	-3.1	2.8	3.1	% Sales
-0.62	0.89	-0.72	-2.62	-0.62	0.37	EPS
-141.3	—	-180.9	—	—	—	% Change
1.09	-0.29	-0.23	-0.07	0.22	0.30	Free Cash Flow/Share
0.92	0.93	0.84	0.37	0.04	0.04	Dividends/Share
11.86	9.37	8.77	3.61	3.20	3.80	Book Value/Share
9,379	8,743	8,681	8,702	8,738	8,760	Shares Outstanding (Mil)
-5.4	9.4	-8.9	-47.9	-18.4	10.9	Profitability
-1.1	1.9	-1.7	-6.6	-1.9	1.3	Return on Equity %
-5.3	6.8	-5.2	-18.8	-5.7	4.0	Return on Assets %
0.20	0.28	0.32	0.35	0.33	0.32	Net Margin %
5.0	4.8	5.9	10.0	9.4	7.6	Asset Turnover
26.2	23.7	21.1	21.4	23.8	19.4	Financial Leverage
12.6	11.7	7.3	8.2	5.7	0.8	Gross Margin %
147,466	105,178	109,933	96,883	68,811	73,488	Operating Margin %
98,274	75,828	64,263	30,981	28,316	33,269	Long-Term Debt
1.9	2.3	2.3	2.3	2.0	1.9	Total Equity
						Fixed Asset Turns

## Quarterly Revenue & EPS

Revenue (Bil)	Mar	Jun	Sep	Dec	Total
2020	20.5	17.8	19.4	—	—
2019	27.3	28.8	23.4	26.2	95.2
2018	28.7	30.1	29.6	33.3	121.6
2017	27.5	29.3	31.3	32.4	120.5
Earnings Per Share (I)					
2020	0.70	-0.26	-0.14	—	—
2019	0.40	-0.01	-1.08	0.06	-0.62
2018	-0.14	0.07	-2.62	0.07	-2.62
2017	0.07	0.13	0.21	-1.13	-0.72

## Revenue Growth Year On Year %



# Research Methodology for Valuing Companies

## Qualitative Equity Research Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. We believe this bottom-up, long-term, fundamentally based approach allows our analysts to focus on long-term business drivers, which have the greatest valuation impact, rather than short-term market noise.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at an uncertainty-adjusted discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our single-point star rating.

### 1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define excess economic profits as returns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats:

intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

To assess the direction of the underlying competitive advantages, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger; stable where we don't anticipate changes to competitive advantages over the next several years; or negative when we see signs of deterioration.

All the moat and moat trend ratings undergo periodic review and any changes must be approved by the Morningstar Economic Moat Committee, comprised of senior members of Morningstar's equity research department.

### 2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

#### Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working-capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes, or EBIT, and the net new investment, or NNI, to derive our annual free cash flow forecast.

#### Stage II: Fade

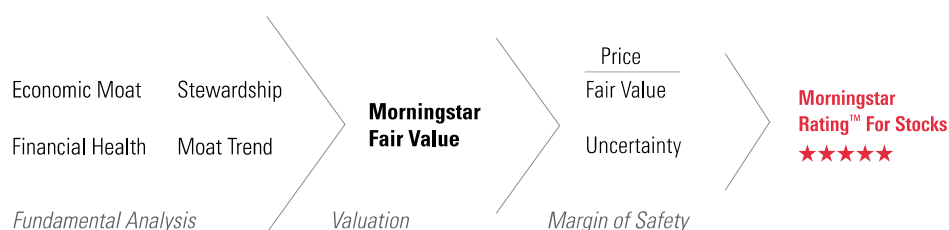
The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBIT over the period, a normalized investment rate, average return on new invested capital, or RONIC, and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until the perpetuity stage is reached. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

#### Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term market-value weights.

## Morningstar Research Methodology for Valuing Companies



# Research Methodology for Valuing Companies

## 3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case, and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

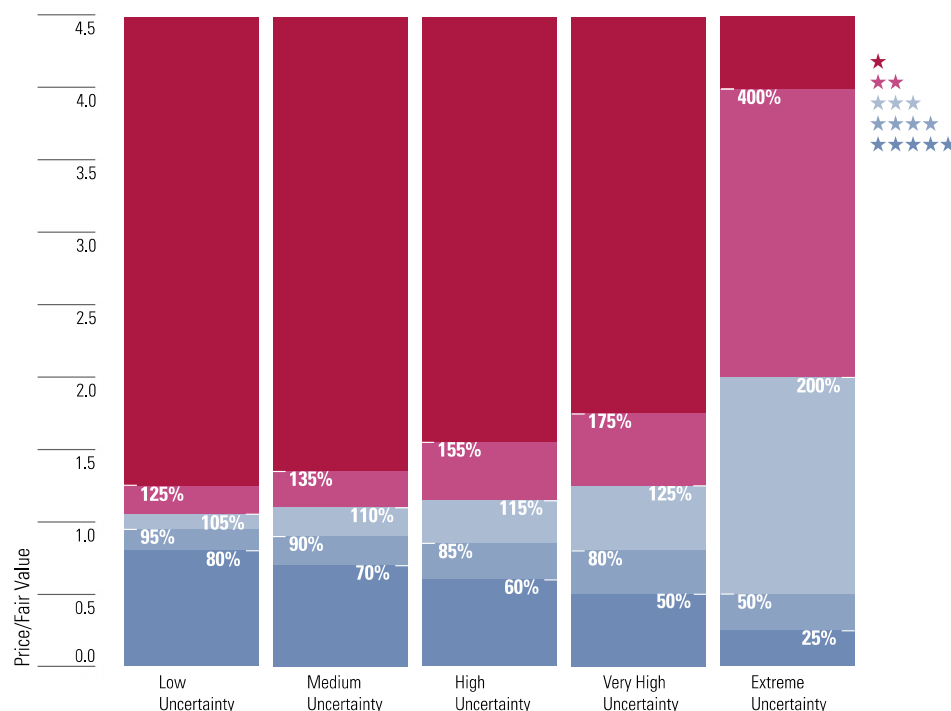
- ▶ Low—margin of safety for 5-star rating is a 20% discount and for 1-star rating is 25% premium.
- ▶ Medium—margin of safety for 5-star rating is a 30% discount and for 1-star rating is 35% premium.
- ▶ High—margin of safety for 5-star rating is a 40% discount and for 1-star rating is 55% premium.
- ▶ Very High—margin of safety for 5-star rating is a 50% discount and for 1-star rating is 75% premium.
- ▶ Extreme—margin of safety for 5-star rating is a 75% discount and for 1-star rating is 300% premium.

## 4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed, which we believe is a reliable source.

For more details about our methodology, please go to <https://shareholders.morningstar.com>.

## Morningstar Equity Research Star Rating Methodology



## Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. The current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. The market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

# Research Methodology for Valuing Companies

## Other Definitions

**Last Price:** Price of the stock as of the close of the market of the last trading day before date of the report.

**Stewardship Rating:** Represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider companies' investment strategy and valuation, financial leverage, dividend and share buyback policies, execution, compensation, related party transactions, and accounting practices. Corporate governance practices are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three ratings: "Exemplary," "Standard," and "Poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Most companies will receive a Standard rating, and this is the default rating in the absence of evidence that managers have made exceptionally strong or poor capital allocation decisions.

**Quantitative Valuation:** Using the below terms, intended to denote the relationship between the security's Last Price and Morningstar's quantitative fair value estimate for that security.

- Undervalued: Last Price is below Morningstar's quantitative fair value estimate.
- Fairly Valued: Last Price is in line with Morningstar's quantitative fair value estimate.
- Overvalued: Last Price is above Morningstar's quantitative fair value estimate.

## Risk Warning

Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

## Quantitative Equity Reports Overview

The quantitative report on equities consists of data, statistics and quantitative equity ratings on equity securities. Morningstar, Inc.'s quantitative equity ratings are forward looking and are generated by a statistical model that is based on Morningstar Inc.'s analyst-driven equity ratings and quantitative statistics. Given the nature of the

quantitative report and the quantitative ratings, there is no one analyst in which a given report is attributed to; however, Mr. Lee Davidson, Head of Quantitative Research for Morningstar, Inc., is responsible for overseeing the methodology that supports the quantitative equity ratings used in this report. As an employee of Morningstar, Inc., Mr. Davidson is guided by Morningstar, Inc.'s Code of Ethics and Personal Securities Trading Policy in carrying out his responsibilities.

## Quantitative Equity Ratings

Morningstar's quantitative equity ratings consist of:

- (i) Quantitative Fair Value Estimate
  - (ii) Quantitative Star Rating
  - (iii) Quantitative Uncertainty
  - (iv) Quantitative Economic Moat
  - (v) Quantitative Financial Health
- (collectively the "Quantitative Ratings").

The Quantitative Ratings are calculated daily and derived from the analyst-driven ratings of a company's peers as determined by statistical algorithms. Morningstar, Inc. ("Morningstar," "we," "our") calculates Quantitative Ratings for companies whether it already provides analyst ratings and qualitative coverage. In some cases, the Quantitative Ratings may differ from the analyst ratings because a company's analyst-driven ratings can significantly differ from other companies in its peer group.

**Quantitative Fair Value Estimate:** Intended to represent Morningstar's estimate of the per share dollar amount that a company's equity is worth today. Morningstar calculates the quantitative fair value estimate using a statistical model derived from the fair value estimate Morningstar's equity analysts assign to companies. Please go to <https://shareholders.morningstar.com> for information about fair value estimates Morningstar's equity analysts assign to companies.

**Quantitative Economic Moat:** Intended to describe the strength of a firm's competitive position. It is calculated using an algorithm designed to predict the Economic Moat rating a Morningstar analyst would assign to the stock. The rating is expressed as Narrow, Wide, or None.

- Narrow: assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 70% but less than 99%.
- Wide: assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 99%.
- None: assigned when the probability of an analyst receiving a "Wide Moat" rating by an analyst is less than 70%.

**Quantitative Star Rating:** Intended to be the summary rating based on the combination of our Quantitative Fair

Value Estimate, current market price, and the Quantitative Uncertainty Rating. The rating is expressed as 1-Star, 2-Star, 3-Star, 4-Star, and 5-Star.

★: the stock is overvalued with a reasonable margin of safety.

Log (Quant FVE/Price) < -1 \* Quantitative Uncertainty

★★: the stock is somewhat overvalued.

Log (Quant FVE/Price) between (-1 \* Quantitative Uncertainty, -0.5 \* Quantitative Uncertainty)

★★★: the stock is approximately fairly valued.

Log (Quant FVE/Price) between (-0.5 \* Quantitative Uncertainty, 0.5 \* Quantitative Uncertainty)

★★★★: the stock is somewhat undervalued.

Log (Quant FVE/Price) between (0.5 \* Quantitative Uncertainty, 1 \* Quantitative Uncertainty)

★★★★★: the stock is undervalued with a reasonable margin of safety. Log (Quant FVE/Price) > 1 \* Quantitative Uncertainty

**Quantitative Uncertainty:** Intended to represent Morningstar's level of uncertainty about the accuracy of the quantitative fair value estimate. Generally, the lower the quantitative Uncertainty, the narrower the potential range of outcomes for that particular company. The rating is expressed as Low, Medium, High, Very High, and Extreme.

- Low: the interquartile range for possible fair values is less than 10%.
- Medium: the interquartile range for possible fair values is less than 15% but greater than 10%.
- High: the interquartile range for possible fair values is less than 35% but greater than 15%.
- Very High: the interquartile range for possible fair values is less than 80% but greater than 35%.
- Extreme: the interquartile range for possible fair values is greater than 80%.

**Quantitative Financial Health:** Intended to reflect the probability that a firm will face financial distress in the near future. The calculation uses a predictive model designed to anticipate when a company may default on its financial obligations. The rating is expressed as Weak, Moderate, and Strong.

- Weak: assigned when Quantitative Financial Health < 0.2
- Moderate: assigned when Quantitative Financial Health is between 0.2 and 0.7
- Strong: assigned when Quantitative Financial Health > 0.7



# Research Methodology for Valuing Companies

## Other Definitions

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- Overvalued: Last Price is above Morningstar's quantitative fair value estimate.

This Report has not been made available to the issuer of the security prior to publication.

## Risk Warning

Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report.

The quantitative equity ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative equity ratings. In addition, there is the risk that the price target will not be met due to such things as unforeseen changes in demand for the company's products, changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions.

A change in the fundamental factors underlying the quantitative equity ratings can mean that the valuation is subsequently no longer accurate.

For more information about Morningstar's quantitative methodology, please visit <http://global.morningstar.com/equitydisclosures>.

# General Electric Co GE (XNYS)

Morningstar Rating	Last Price	Fair Value Estimate	Price/Fair Value	Trailing Dividend Yield %	Forward Dividend Yield %	Market Cap (Bil)	Industry	Stewardship
★★★	10.07 USD	11.10 USD	0.91	0.41	0.40	88.21	Specialty Industrial Machinery	Standard
23 Nov 2020 22:19, UTC	23 Nov 2020	10 Nov 2020 02:13, UTC		23 Nov 2020	23 Nov 2020	23 Nov 2020		

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