Valuation Note on General Electric (GE)

After discussions with company management, we are sharpening our forecasts for near-term profitability.

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Key Takeaways

- **In our recent revaluation of General Electric shares, we split the firm into Industrial and Financing segments and focused on Industrials.** GE management presents its business in these terms and the split makes sense in certain cases.
- **After further consideration, we are re-focusing on a consolidated GE for valuation purposes**. Doing so allows a more realistic appraisal of cash-based profits from operations versus cash inflow from divestments.
- **Various factors are contributing to lowered cash-based profitability on an entity level.** Some factors are probably temporary, but valuation risk exists due to uncertainty related to normalized profitability ranges.
- **Changes to our model do not shift our valuation range much.** However, we now are relatively more circumspect about our profitability assumptions, and this caution shifts our most likely valuation outcome down.
- **We are personally reducing our leverage level in this investment.** We believe that uncertainty related to profitability warrants a lower leverage exposure to the investment.

Overview

The divestment of consumer finance businesses and the "merger" of GE with its formerly fully-owned finance subsidiary, GECC, has created a great many one-off accounting adjustments and non-repeating cash flows. In our recent revaluation of the company, we followed management's lead and analyzed the firm from the perspective of an Industrials firm that was paid dividends by its Finance subsidiary.

This process leads to clarity in some respects, but confusion in others, and the more we spoke with management, the more convinced we became that, as owners of the entire entity, we should value the company on an entity basis, rather than to try to do so on the basis of segment-level data.

While this change of perspective may seem minor, in fact, it has allowed us insights into the efficiency at which the firm converts revenues to profits and has allowed us a new conceptual model for looking at the firm's operations. The result of this is that we realize that various factors – soft gas turbine, energy products and services, and locomotive markets, and the acquisition of lower profit Alstom – is presently negatively affecting GE's profit conversion process.

Rather than trying to triangulate GE's normalized Owners' Cash Profit (OCP) margins by looking at related measures and competitor margins, as we did in our July analysis, we have made an attempt to explicitly forecast near-term profits and adjust those levels for changing conditions longer term. With no comparable historical data to go on (due to the extensive corporate actions), we believe this is the soundest approach.

The model changes do not have much effect our simple valuation range, but a review of the possible sources of profitability give us less confidence in our high-profitability valuation scenarios. As such, we have decided to dial back our leverage on this investment.

Valuation Summary

A bet on General Electric is a bet on the future prosperity of the human race.

We believe that the firm can generate from $133 billion to $152 billion in revenues in five years' time (compared to $124 billion in 2016) and generate profits for its owners totaling from $13.9 billion to $21.2 billion (with an average worst- and best-case OCP margin of 10% to 13%). After a long period of disinvestment, the company is normalizing its investment spend at what we think should be its long-term historical level of the mid-teens percentage of profits. This implies a Free Cash Flow to Owners range of between $0.09 and $0.12 per dollar of revenue generated in the short-term.

While not thrilled about all parts of its portfolio, we believe that General Electric has invested in several areas likely to see robust growth during the medium-term, which we assume lasts from years six to 10 of our model. We forecast a growth in cash flows of between 5% and 7% per year during this time.

We assume a long-term cash flow growth rate of 5% and use a discount rate of 10% based on GE's market capitalization.

Valuation Drivers

Revenue Growth

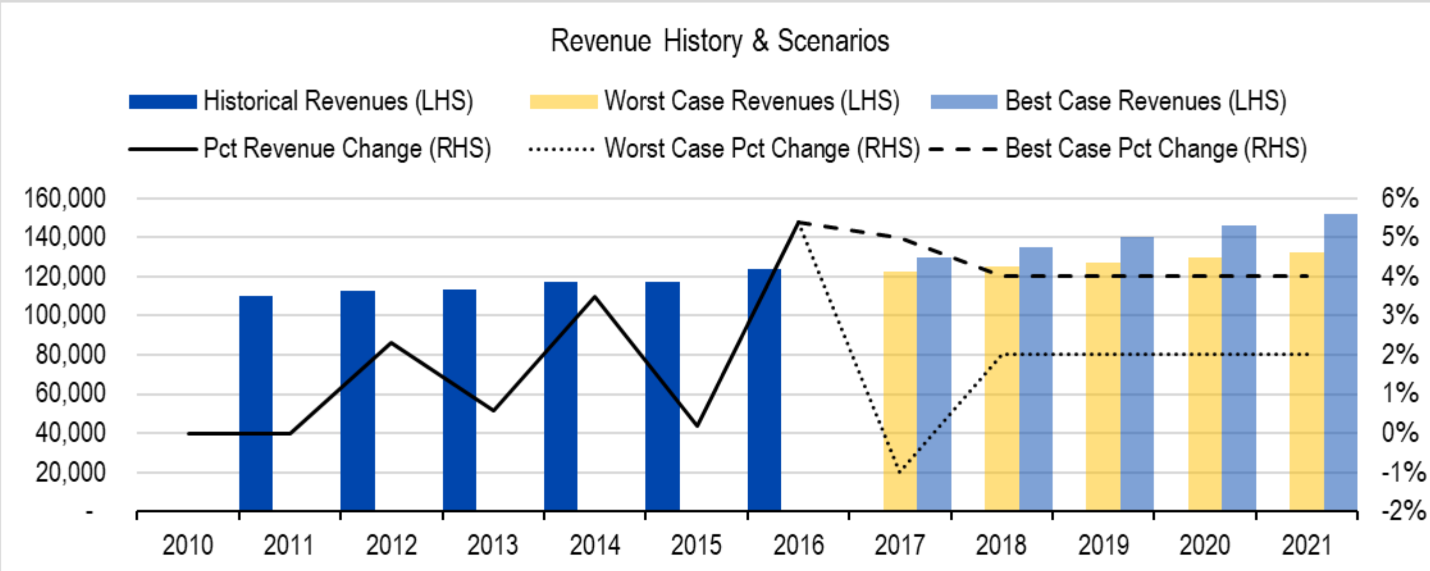


Figure 1. Source: Company Statements, Framework Investing Analysis

We have not made any changes to our revenue growth assumptions since we published our ChartBook in early August. The company reports that organic revenue growth has increased by 4% during the first half of 2017 compared to 2016, but the announced divestment of GE's water business and the timing of its immanent disposal of its Industrial Solutions business will decrease revenues from continuing operations and the July 3 merger of GE's Oil & Gas business with that of Baker Hughes's will increase them.

GE's segments with the weakest projected growth in the near-term (excluding Oil & Gas due to the corporate action) are Power and Transportation. We discussed revenue dynamics for both businesses in our recent presentation on GE and further below in the context of slowing revenues' effects on profits.

In our valuations, we strive to create a range of revenue growth rates that will accurately encompass actual revenues reported on a nominal basis. The company's orders are higher by nearly 8% on a nominal basis this year, and backlog values are higher by around 2%. Not all orders will be filled this year, but a strong order book will partially ameliorate demand softness next year. In addition, the company reports in US dollars, so recent dollar weakness is likely to provide a tailwind to the 55% of revenues generated overseas (i.e., revenues overseas will be worth more and domestic costs will be worth less).

All things considered, we think that, barring an economic downturn, revenue growth will likely be closer to our best-case scenarios than to our worst-cases ones. Demand weakness in several sectors – discussed below – represents a risk to this view.

Valuation Note: General Electric

Profitability

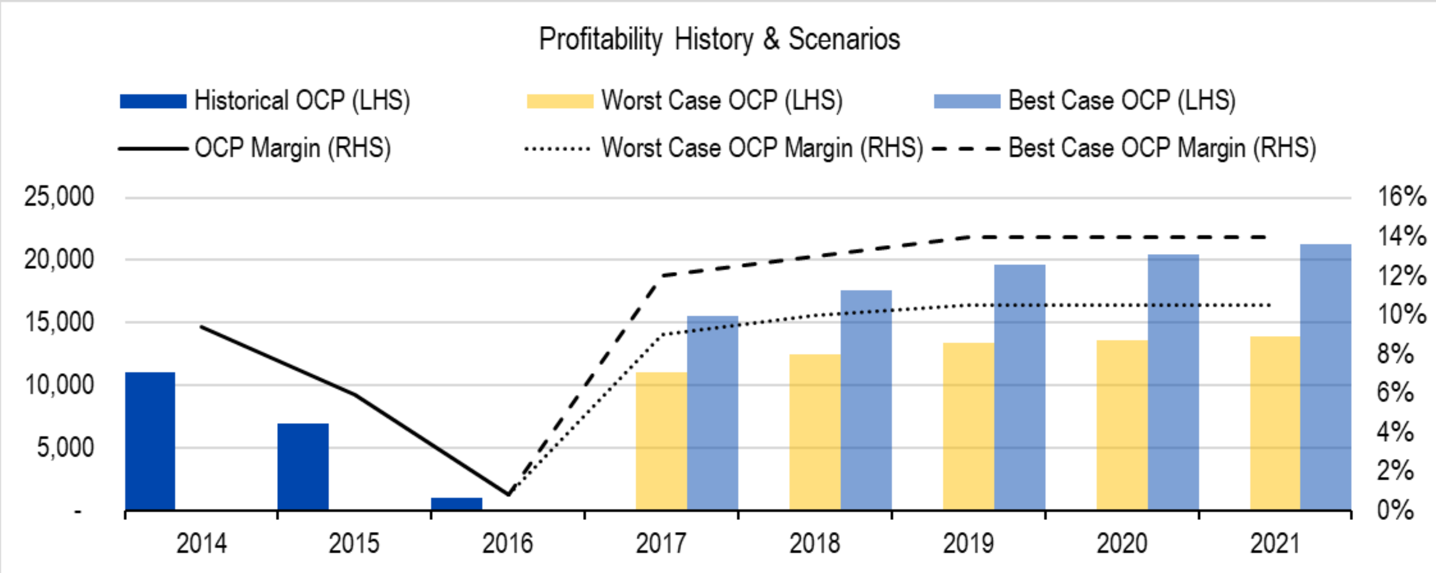


Figure 2. Source: Company Statements, Framework Investing Analysis

Historical profitability looks very different in this chart than the one posted in our ChartBook and our average forecasted best- and worst-case profitability levels over the next five years has dropped one percentage point under both scenarios (11%-14% average OCP margin dropped to 10%-13% over our Explicit forecast period).

The change in historical profitability is caused by our focus on GE's consolidated numbers rather than on adjusted segment-level numbers. 2015 and 2016's profitability was affected by the disposition of consumer finance businesses, the re-integration of GE Capital Corporation into GE proper (through 2015, GE was a holding company that wholly owned GECC, a separate legal entity), the Alstom acquisition, and several Industrial segment dispositions. We do not consider any of these historical data to be representative of GE's capacity to convert revenues to profits.

We are building our view of GE's normalized profitability on the basis of GE's historical results for the Industrials segments, actual 1H 2017 results, and the management team's guidance for Cash Flow from Operating Activities (CFOA) for the year.

	2014	2015	2016	2017 (I)	2017 (F)
Revenues	117,184	117,386	123,693	112,000	11,000
Cash Flow from Operations [1], [2]	16,033	11,856	6,099	12,000	4,000
Depreciation & Amortization [2]	4,953	4,847	4,997	2,450	2,500
Inflation Rate [2]	1%	1%	2%	2%	2%
Less: Estimate of Maintenance Capex	(4,990)	(4,875)	(5,102)	(2,499)	(2,550)
Owners' Cash Profits	11,043	6,981	997	9,501	1,450
OCP Margin	9%	6%	1%	8.5%	13.2%

Figure 3. Source: Company Statements, Framework Investing Estimates. "2017 (I)" represents results from the Industrials segments, "2017 (F)", results from GE's Financing segment.

The revenue forecasts included here for a calculation of margin, are base-case numbers stemming from our analysis of GE's historical revenue seasonality and detailed in our review of GE's 2Q17 earnings. The $12 billion of Cash Flow from Operations is the lower end of management's guidance for Industrial CFOA. The $4 billion of CFO on the Financing side is roughly twice the 1H17 results for this segment and is also the amount to which company management guided us in response to our questions.

The Financing business still has too little historical data (essentially, only two quarters' worth) to understand its profit dynamics very well, so we are relying on management's own assessment of what the Financing group can generate in OCP. We do note, however, that roughly half this business is made up of GECAS aircraft leasing and GE's smaller competitor in this business, AerCap Holdings, generates OCP margins ranging between around 25% and 30%. We had thought that the other portion of GE's Financing business likely generated relatively low profitability, and the comparable with AerCap would appear to confirm that. One of the low-profit businesses is a legacy insurance business that the company is operating in run-off mode, and management has told us that claims against insurance policies have been relatively high lately (which would mean lower profitability and or losses). As that business shrinks, we would anticipate GECAS's higher margins to shine through. One thing to note is that GECAS owns aircraft, so is a capital-intensive business, hence the large depreciation charge shown in the above figure.

With 91% of revenues (Industrials segments) converted to profits at an 9% margin rate and the remaining 9% of revenues (Financing segment) converted at a 13%, our worst-case projection for OCP margin for 2017 works out to just 9%.

GE's Financing business is set to pay the Industrial's business a special dividend of $6 billion this year, which we do not include here, but account for in the investment section of our model ($4 billion of these dividends were already paid as of the 2Q earnings announcement). Some of this dividend amount will be used to offset deal taxes related to divestment of several Industrials businesses.

2017's forecast $11 billion of Owners' Cash Profits has a headwind of roughly $2 billion in one-off cash restructuring costs, suggesting that even if revenue growth remains slow and operational efficiencies do not materialize, will see higher profitability in 2018. Also, GE's management talks about efficiency improvement-related cost cutting of a total of $2 billion planned for this year and next, with roughly half of 2017's planned billion-dollar cut already complete.

Looking at revenue share and associated operating profits for each of the Industrials segments, it is easy to see which businesses' profits are leading and lagging.

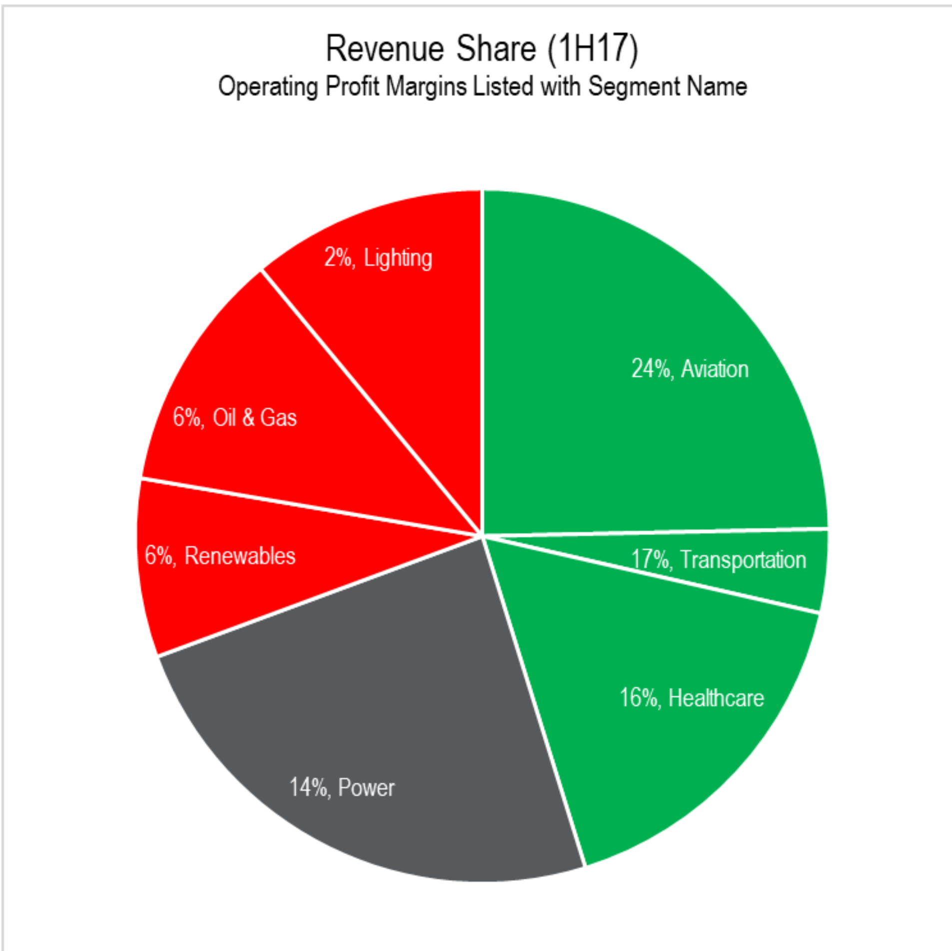


Figure 4. Source: Company Statements, Framework Investing Analysis. This is the present segment line-up, but one portion of Lighting will be integrated into the Power segment and the consumer lighting business will be divested.

The listed margin figures do not include overhead costs, which amounted to roughly $3.5 billion in the first half of 2017. If overhead costs are distributed over each of the segments in proportion to segment revenues (which is an overly-rough way to estimate), each of the three red-shaded segments drop into a loss and Power, shaded gray, drops to a high single-digit operating margin.

In total, over the first half, GE generated roughly $3.8 billion in operating profits after corporate overhead and a $200 million loss from Financing is considered.

We believe that there are two root causes for the low-profit segments' results:

1. Relatively inefficient operations acquired in the Alstom transaction (affecting Power and Renewables segments)
2. Negative effects of operating leverage and a weak demand environment (affecting Oil & Gas and Transportation segments).

To counteract both factors, the main tool available to GE management is cost cutting.

We expect the efficiency improvements related to the Alstom acquisition will take time – as large corporate mergers usually do. In addition, Alstom's operations, based in France, will likely be harder to reform quickly, due to political and social factors. The Power segment is also going to experience the negative effects of operating leverage over the next few years, as the market for gas turbines (the sale of which makes up roughly a third of Power segment revenues) and servicing (roughly half of Power segment revenues) is likely to be soft through 2018 due to overcapacity and competition in overseas markets.

The company has been cutting structural costs in the Oil & Gas segment and has attempted to improve the operating leverage dynamic by acquiring a majority stake in Baker Hughes. In prior research, we explained that GE's legacy Oil & Gas business is positioned toward offshore mining, the part of the energy market most negatively affected by low oil prices. We think that the inclusion of Baker Hughes's business (whose portfolio is focused on onshore horizontal drilling and fracking) and cost improvements will likely boost Oil & Gas's profitability, but that the only true possibility for significant profit improvement in this segment is through an increase in oil and gas prices, which is obviously out of management's control.

Transportation segment profits, derived from the manufacture and servicing of locomotives, have been good considering the collapse in US locomotive demand. GE management is guiding to locomotive deliveries falling by 50% this year and 2Q segment profits were down 26% on a year-over-year basis. The company sees the weak conditions carrying on through 2018, but considering the large number of parked locomotives in the US, the weakness may extend even longer. GE is attempting to cut structural costs out of this business and to soak up manufacturing capacity by supplying overseas demand. In 2Q17, the segment won an order for 100 Egyptian locomotives, and will start shipping a large, 1,000-locomotive contract for Indian railroads this fall from GE's Erie plant (only 100 of those locomotives will ship from Erie; the other 900 will be built at a new GE plant in the Indian state of Bihar). The foreign orders and cost-cutting are important steps for the business, but operating leverage is working against the Transportation segment now. The company is still receiving service and spare parts orders, which alleviates some pain, but similar to the situation in the Oil & Gas business, a true turn-around in this segment will only come about with an improvement in the demand environment.

These issues considered and barring a sudden rise in energy prices, we think that our low profitability valuation scenarios are relatively more likely than our high profitability ones for the next several years.

Investment Spending

We think this year will be the last one in which GE will receive a net cash inflow from its investments, due to effects explained below. We estimate that GE will generate a little over $600 billion of cash from its investments and will generate an entity-level FCFO margin of 9.5%.

	2014	2015	2016	2017 (I)	2017 (F)
Gross Spending on PP&E	(7,134)	(7,309)	(7,199)	(4,500)	(3,000)
Capex in Excess of Maintenance	(2,144)	(2,434)	(2,097)	(2,001)	(450)
Plus: Cash in-flow from Asset Sales	3,785	84,918	69,671	4,000	2,618
Less: Cash Acquisition Costs	(2,091)	(12,027)	(2,271)	(10,043)	-
Plus / Less: Cash in- / out-flows from JVs	1,260	1,043	200	6,000	1,053
Less: Capital Lease Payments	-	-	-	-	-
Average Stock Price	26	27	30		
Number of Shares Issued	33.7	69.7	61.4		
Cash Received for Shares Issued	675	1,413	1,311		
Less: Net Anti-dilutive Stock Buybacks	(202)	(454)	(552)	(500)	-
Net Expansionary Cash Flow (ECF)	608	71,046	64,950	(2,544)	3,221
Free Cash Flow to Owners	11,651	78,027	65,948	6,957	4,671
FCFO Margin	10%	66%	53%	6%	42%

Figure 5. Source: Company Statements, Framework Investing Estimates. "2017 (I)" represents results from the Industrials segments, "2017 (F)", results from GE's Financing segment.

We base our 2017 estimates for gross spending on property, plant, and equipment on management guidance and historical spending levels. Asset sales in the Industrials segment include the announced sale of GE's Water, Lighting, and Industrial Connections businesses; asset sales in the Financing segment are those that have been announced thus far in the year. For cash acquisition costs, the Industrials business has acquired several firms – LM Wind Power and Arcam & Concept Laser – and spent $7.4 billion in its merger with Baker Hughes (a deal that closed in early July and whose results have not yet been reported on quarterly statements).

In the JV-related cash flow row, we count collections on GE Financing receivables in this category for the Financing segment, and count the Finance segment's dividends to the Industrial's business in this category for the Industrials segment. This dividend represents earnings made historically by GECC when it was a separate company, but which were unable to be passed through to the holding company due to GECC's requirement to maintain "regulatory capital" in support of its consumer lending and other finance businesses. This "dividend" payment is essentially just an accounting journal entry that allows the Industrials business to use some of the cash formerly held on the Finance subsidiary's books. We believe that incorporating this dividend payment in the OCP calculations gives a misleading view of the profitability of the firm's operations, and prefer to think of it as the results of a prior business investment. However the cash flow is classified, this year's $6 billion is the last one for several years; management believes Financing will be able to pay Industrials a regular dividend of roughly $1 billion per year starting after 2020, the year in which Finance has a large chunk of debt expiring.

One bit of uncertainty related to these "JV flows" relates to GE's merger with Baker Hughes. GE will book two quarters' worth of the joint venture's results in its full-year 2017 financial statements. Because GE is the majority (62.5%) owner of the venture, it will count the entirety of the venture's financial results in its Cash Flow from Operations, but will include an entry to account for cash due to minority partners in another section of the Statement of Cash Flows. We do not yet have visibility into the Baker Hughes results, so have left it out of this calculation. Actual numbers will likely be different, and we think the difference will show a benefit to GE shareholders.

Last, we assume that the company will issue share compensation equal to around $500 million in value, consistent with recent levels.

A graphical depiction of our forecasts for Free Cash Flow to Owners is as follows:

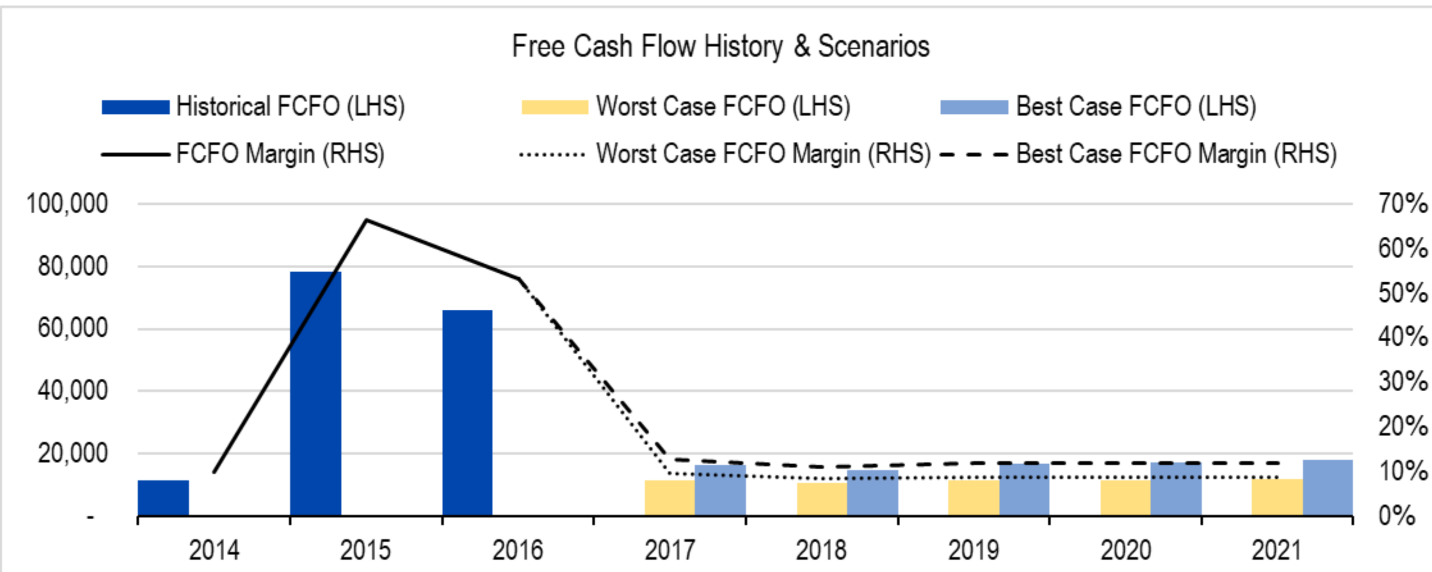


Figure 6. Source: Company Announcements, Framework Investing Analysis

Investment Efficacy / Medium-Term Growth

We have left our best- and worst-case medium-term growth forecasts, 7% and 5%, respectively, unchanged.

We believe there are only two ways that GE will be able to expand its profit margins to our best-case 14% level within the Explicit forecast period: a recovery in the end markets that are presently depressed, and / or a quick gain in efficiency of its relatively low-margin businesses. If either or both of these factors were to occur, we would expect medium-term growth to be relatively modest – in line with our assumptions for long-term nominal GDP growth: 5%. If, on the other hand, profitability remains relatively low during the Explicit forecast period, the likelihood that increasing efficiency at Alstom and the company's exposure to growing overseas markets' demand for energy production and transportation will generate better than GDP growth is likely.

Valuation

Our adjustments to our profitability forecasts have not been extreme enough to change our simple valuation range – we still see a worst-case valuation of $25 per share and a best-case valuation of $41 per share. In looking back at our August valuation, we believe that we inappropriately anchored our view of GE's baseline profitability to the results it recorded during a cyclical peak in several of its businesses and before its acquisition of Alstom. GE's extensive corporate actions meant that historical results were not easily comparable, and GE's use of special dividend payments from Financing to Industrials also helped to obfuscate the drop in profitability.

There are several things to keep in mind about valuation risks not directly related to operational measures mentioned in this report and our other research.

First, John Flannery, GE's new CEO, will complete his strategic review of the company in October and is planning to address owners and the investment community in November with the highlights of his strategic plan. There has been rumors that a large activist investor, Trian Partners, is pushing for a break-up of the firm and may ask for a board seat to try to force that change through. While we are not thrilled with the Oil & Gas or Transportation business, we do not believe that a complete split-up of the firm is in owners' best interests. Flannery may be influenced by Trian's position, and if so, the GE story would likely become even more complex, with another round of spin-offs and divestments over the next few years.

Second, we have tentatively valued the firm on the basis of a lowered share count target which is contingent on the company continuing to buy back its own stock. The company has announced its forecasted share count and present buy-back authorizations are sufficient to cut shares outstanding to that level. However, if share count does not fall by the second quarter of next year, we will assume that the company will not make good on that target and shift our share count back to the actual level at that time. This could have a discontinuous negative effect on our fair value range.

Our discussions with company management has allowed us to refine our view of likely valuation scenarios. These scenarios are identified in the Valuation Waterfall diagram on the next page.

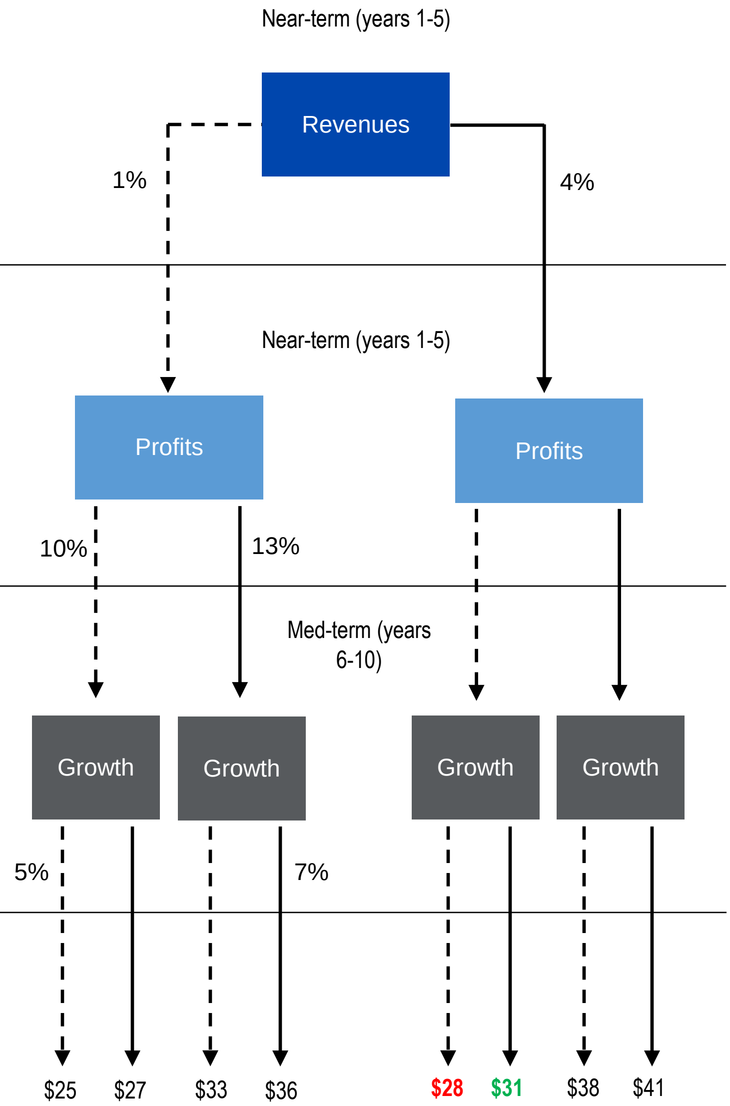
Valuation Waterfall

Revenue Growth
We believe the demand softness in several of GE's businesses is cyclical, but may last for several years. For this reason, we think that organic revenue growth may be nearer to our worst-case projections after 2017. In the short-term, a weakening US dollar paired with acquisition activity (e.g., Baker Hughes) may lift reported revenue growth rates.

Profitability
Owners' Cash Profitability of the "new GE" (the one without exposure to consumer credit risk) is still uncertain due to a lack of clean historical data. We have made our best attempt to accurately forecast GE's 2017 OCP, and use that level as a base to project profitability for the remaining years in the Explicit forecast period. Divestment activities and a short operating history for the Financing segment's profitability adds uncertainty to our forecast.

Medium-Term Cash Flow Growth
We believe that GE has built a portfolio of products and services – based on fundamental human and economic necessities – that have excellent growth prospects. We believe that an investment spend of 15% of profits in the near term will allow medium-term Free Cash Flow to Owners (FCFO) growth within the range listed here. Due to changes in GE's portfolio, we did not use an historical assessment of GE's investment efficacy.

Fair Value Range
If we are right regarding revenue growth (closer to best-case) and profitability (closer to worst-case), there is one branch that stands out as most likely; we mark the associated values in red and green for worst- and best-case respectively. Considering the present stock price of around $25 / share, we believe an investment structure with little or no leverage to be most appropriate. We have decided to dial back the leverage we added just a short time ago.



Methodology

Framework Investing analyses focus on three main valuation drivers: revenue growth, profitability, and medium-term cash flow growth. We estimate a best- and worst-case scenario for each of these drivers resulting in a total of $2^3 = 8$ fair value scenarios based on discounted cash flow methodology. Profitability is measured by Owners' Cash Profit (OCP) margin. We use a discount rate of 10% for large capitalization stocks.

A wide spread of lowest and highest fair values indicates a firm whose value is uncertain. Risk depends on the stock price's relationship to the valuation range.

Best-case scenarios are represented with a solid line; worst-case scenarios, with a dotted one.

Valuation Note: General Electric

As mentioned in the Fair Value commentary in the Valuation Waterfall diagram, we think that the most-likely fair value range for General Electric is in the $28-$31 range, relatively near to the present market price of around $25 / share. As such, until the price falls and / or the outlook for strong near-term profitability improves, a levered investment is not prudent. While we increased our leverage in our GE position after publishing our last report, we plan to lower our leverage now. We added leverage at around the same price at which the stock is now trading, so the transaction should be about a break-even one. While we do not like to transact this often, and we will certainly regret reducing leverage (on the Søren Kierkegaard principle that one will eventually regret all actions), we believe it is a prudent step to take given our more detailed work on the company's profitability profile and our updated understanding.

While we have made the decision to reduce leverage, there is always a choice about timing. The company will report third quarter 2017 earnings on October 20th and GE's new CEO, John Flannery, is scheduled to make a presentation about his strategic review of the company on November 13th. Both of these events bring with them market risk – meaning the risk of stock price fluctuation, either up or down. Closing the positions before one or both events means that I will reduce my position's market risk, but this reduction in market risk may represent an opportunity cost (i.e., if I close the position and the market receives the news stories in a positive light, I will not benefit from having a levered position). I will continue to think about my own appetite for market risk and encourage readers in a similar position to do likewise.