CYBER
GOVERNANCE

CYBERHEDGE

Alert

FRIDAY,
JUNE 26,
2020

GE

GE

★☆☆☆☆

GE	12M	6M	Current
	1 (–)	1 (–)	1 (–)

Cyber-Financial (CyFi) Analysis

- **Strategic KPI for GE business model:** Margin expansion and cashflow growth
- **How do digital assets create value for GE shareholders?** Sensors and data transmission help create operating margins through improved productivity and efficiencies across every business line
- **Biggest governance problem:** Poor financials constrain ability to make necessary investments in cybersecurity
- **What financial metrics investors can track to measure cyber governance:** Net debt/ EBITDA as an indication of increasing or decreasing financial constraints that either increase or decrease ability to invest in cybersecurity

Why does Cyber Governance matter?

Investors need to know whether management is overinvesting or underinvesting in securing its most valuable asset—technology—relative to the increasing risks the company faces as a result of the ongoing digitization of the business. GE has rightly identified digital transformation as essential to all of its businesses, but its Cyberhedge 1-Star rating indicates significant underperformance and heightened downside financial risk at a time when the business is already enduring significant shocks amidst COVID-19.

Persistently poor performer that lacks the financial resources to make necessary investments in cyber—a problem not only for GE but also for the global supply chain that it is a part of

Though in the past GE was considered the benchmark for a well-managed company, its multi-year restructuring is a cautious tale of 'financial overengineering'. As a 1-Star-rated company, GE's below average cybersecurity is notable considering the critical role technology plays across all of its business lines and its explicit recognition of security in support of digital transformation.

GE needs more resilience in a time of significant market volatility, but poor cyber governance makes it less resilient. Low operating margins and high leverage mean that there are significant financial constraints to investing in needed improvements to its cybersecurity. The result is heightened exposure to further downside financial risk in the form of a possible operational disruption to any one of its businesses.

Poor cyber governance entering COVID-19 positioned GE poorly to navigate the significant disruptions that have ensued, in contrast to its better performing Industrial peers.

This Alert should serve as a warning to any company or organization that works closely with GE. Unlike a company such as Ryanair or Rite Aid, GE's poor cyber governance is not just an issue for the company and its shareholders. As a diversified conglomerate, it is a potential risk for any one of the industries and large companies it provides products and services to, ranging from aviation and hospitals to the world's largest utility and energy companies. GE Digital works with companies ranging from utilities and power to manufacturing and oil/gas specifically on digital transformation. It is also a prominent supplier to the US military, including the B-52 and new T901 for the US Army's Turbine Engine Program to power its next-generation Apache and Black Hawk helicopters.

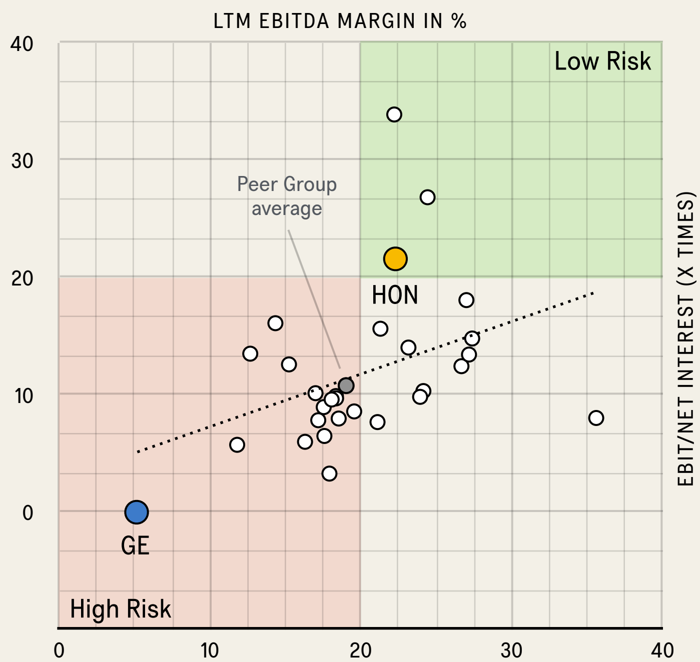
While strengthening the balance sheet is what the market expects and what CEO Lawrence Culp has indicated is the top priority, GE should invest effectively in security to better protect the company against further downside financial risk at a time when COVID-19 is accelerating digital transformation globally.

1-Star CBH rating driven by very poor financials paired with sub-par cybersecurity

GE's position as a Cyberhedge 1-Star rated company is driven in part by very poor financial scores. The company suffers from myriad well-documented financial challenges: low margins, high debt and dependence on overly financially engineered businesses. Free cash flow has been stubbornly low for years. GE's fall from being one of the most widely admired companies in corporate America in the 1980's to a troubled conglomerate has been steep and long, and its medium-term outlook was challenging even before COVID-19 disrupted the global economy.

Shrinking margins and rising debt compared to Industrial peers

GE's troubled position is illustrated by having the lowest margins and the highest leverage in its Industrials sector cohort



Cybersecurity performance is below average on a regional basis and compared to its Industrial peers in the US and Europe

Though it has streamlined its business in recent years, GE still operates a diversified Industrial conglomerate ranging from aviation and healthcare to power and financial services. Strong management of cybersecurity for such a company is challenging for even the best management teams.

But GE's well-chronicled management challenges also extend to its cybersecurity, as is often the case for poorly managed companies.

GE's 1-Star rating among US Industrials over the past year suggests the company has persistent structural shortcomings related to its cyber posture. These scores indicate the company has done a worse job relative to its peers at managing its network, the people and processes that underpin its cybersecurity and active security risks facing the network relative to the financial resources available to improve cyber governance. This is important because looking at GE on a peer basis enables investors to assess its performance against companies that face similar challenges stemming from the size and scope of a diversified Industrial business.

Though the February breach involving supplier Canon Business Process Services that exposed what the company described as "a wide-ranging number of sensitive HR-related documents" appears to have not impacted GE's systems, it could be a symptom of larger structural problems in the company's cybersecurity program.

What bearing do financial constraints have on cybersecurity?

GE is a case study in why applying a Cyber-Financial lens to companies is a better way to understand which companies are more likely to win or lose amid the current crisis. Alongside solid financials (good financial reserves, lower leverage, general lack of over-financial optimization), the strong management of digital technology (the Cyber)—including well-executed digital transformation strategies—is an ever more important factor in predicting a company's market performance.

GE's significant financial constraints make it more difficult for the company to make the investments necessary to improve its overall cyber governance. This challenge is even greater because it has to improve cyber performance across four diverse business segments—from connected medical devices to the software powering its turbines. This is why the combined Cyber-Financial view provides a more complete picture of the company's challenges. Its poor cyber governance has a multiplier effect. It also poses a significant supply chain risk as a provider of life-saving medical equipment, jet engines, and software that powers global energy infrastructure.

GE's poor financials will create a structural drag on its ability to mitigate cyber risks permeating throughout the supply chains of several industries. This is similar to how we have seen poorly managed cyber risks spread like a contagion throughout a partner ecosystem through mishaps at cloud service providers over the past 18 months. And its persistently poor cyber governance is a factor in the company's continued significant underperformance in the market versus its 5-Star rated US Industrial peers.

Further downside financial risk: Possible operational disruption

A further downside financial risk due to GE's persistently poor cyber governance is the possibility of a significant operational disruption. The increasing digitization of industrial control systems (ICS) among industrial, energy and utility companies creates increasing cyber risks for companies like GE to manage. A recent report highlighted how features of the same successful ransomware attack on Honda could disrupt the very ICS GE deploys.

GE Digital is in the business of helping other companies with digital transformation while highlighting its "secure-by-design" mindset and cloud security as a selling point.

It is doing a poor job managing its own technology despite the critical nature of technology across all of its businesses, the recognition of how essential digital transformation is to the present and future of key sectors, and the importance of security.

But such a disruption may not just impact GE, it could also impact any one of the companies it works with.

A small snapshot of the global supply chain GE is a part of:

Nuclear

GE Hitachi Nuclear Energy (GEH) self-described as a world-leading provider of advanced reactors, fuel and nuclear services

Oil/Gas

Provides gas turbines to the global oil and gas sector. The company states that it is 'co-creating' the future of energy around the world

Power Generation

Provides cybersecurity solutions to the power generation sector

Aviation

Leading supplier of jet engines to commercial airline industry

Healthcare

3 patients imaged every second using GE imaging agents. Edison intelligence platform "integrates and assimilates data from disparate sources, and applies analytics or advanced algorithms to generate clinical, operational, and financial insights. Edison solutions can be securely deployed via Cloud, Edison HealthLink, or directly onto smart devices." Its CARESCAPE R860 Ventilator is providing life-saving care to COVID-19 patients around the world

Consider this: one of the three trends GE says are going to "reshape our electricity future" is digitalization.

It is itself trying to drive digital transformation in the energy and power sectors (among others) while indicating "our technology equips 90% of power transmission utilities worldwide. And 40% of the world's energy is managed by our software."

COVID-19 has provided a range of shocks to GE's business (see below), but a significant operational disruption impacting one of its business areas would provide a further shock at a time when the company is already in a significantly weakened position financially to respond.

COVID-19 Impacts:

- Aviation is GE's largest division, so COVID-19 presents huge challenges
- Revenue neutral for Healthcare division as COVID-19 product sales counterbalanced by collapse in non-COVID-19 product sales

COVID-19 has been a particularly serious challenge to GE, as Aviation accounts for 38 percent of the sales for GE's Industrial division, and GE Financial's GECAS Aircraft financing division adds significant exposure at the group level. Since COVID-19 shut down commercial air traffic globally, 80 percent of GECAS' borrowers have asked for payment deferrals. In response to these challenges, GE has cut 25 percent of its Aviation workforce (13,000 workers).

And while GE also has a large Healthcare division, which contributes 23% of revenues, the net effect of COVID-19 has so far been effectively neutral to this division's sales. GE's COVID-19 related health care products, such as ventilators (3 percent market share of ICU ventilators, #6 in world), have seen sales increase 1.5-2x since the pandemic began, but these only account for approximately 50 percent of its healthcare product line. GE's other non-COVID-19 related medical products have seen sales decline 50 percent due to the postponement of elective procedures.

Post-COVID-19:

- Heavy exposure to Airline industry likely to keep financials under pressure
- Aviation division contributed most of group profits pre-COVID-19, so reduction here will have an outsized impact on GE
- Market already skeptical of GE prospects as stock price hit a 29-year low and has been the worst performer in its cohort since the pandemic began

Heavy exposure to sectors acutely impacted by COVID-19 will place further strain on GE's financials. While the future of an air travel rebound both in terms of timing and volume is uncertain, it is a near certainty that passenger volumes and flight schedules (and therefore demand for operational maintenance) will not return to pre-COVID-19 levels for the foreseeable future.

In addition to governments being cautious about allowing the resumption of widespread travel until effective COVID-19 treatments and vaccines are widely available, customer behavior is likely to change, with air travel demand structurally reduced. Tourist demand for air travel will be negatively impacted—at least on the margins—by the increased hassle factor that is likely to accompany the resumption of air travel. Things like vaccine or proof-of-immunity certificates, intrusive and mandatory contact tracing surveillance apps, and higher flight ticket cost due to the imposition of onboard social distancing requirements will reduce the appeal of flying. Business travel is likely to be reduced both due to corporate cost-cutting in response to the recession, but also due to the fact that widespread remote working over the past months has 'normalized' video conference calls as a partial substitute for in-person meetings.

The net result of these pressures is that barring a structural reorganization of the company that reduces its exposure to the airline industry, GE's airline-heavy business model is likely to remain a drag on financials over the medium term. This will continue to place constraints on GE's ability to make the necessary investments to improve its cyber governance. And these financial constraints and GE's structurally low free cash flow mean that GE will not have the financial resources to quickly recover from a significant operational disruption if one were to occur.

GE's other Industrial businesses are unlikely to improve the companies' overall financial position. In fact, pre-COVID-19 Aviation was by far the most profitable Industrial division with 20.7 percent operating margins and $6,819m operating income in 2019. Healthcare (23 percent of revenues, 19.5 percent operating margins, $3,896m of operating income) was also profitable, but the Power (21 percent of revenues, 2.1 percent operating margin, $385m in operating income) and Renewables (18 percent of revenues, -4.3 percent operating margin, -$666m operating loss) divisions are drags on GE. The certain reduction in Aviation margins will therefore put even more pressure on GE's overall profitability than its high group revenue percentage would indicate.

Bottom Line:

- GE's focus on balance sheet strengthening (it is the most leveraged of its peers) and large underfunded pension obligations (which are made even worse by low bond yields) further constrain its ability to invest sufficiently in cybersecurity.
- GE's poor cyber governance has a multiplier effect. It also poses a significant supply chain risk as a provider of life-saving medical equipment, jet engines, and software that powers global energy infrastructure. GE's poor financials will create a structural drag on its ability to mitigate cyber risks permeating throughout the supply chains of several industries.
- Considering the severe challenges GE faces over the medium term, and the fact that based on 1Q20 results, COVID-19 has so far had a more negative impact on its sales and margins than its peers, its 1-Star rating makes it less likely to emerge from the crisis a winner. As a possible sign of things to come: GE's stock price recently hit a 29-year low, and it has been the worst performing of its cohort during the market's COVID-19 convulsions.
- Poor cyber governance entering COVID-19 positioned GE poorly to navigate the significant disruptions that have ensued, in contrast to its better performing peers.
- While strengthening its balance sheet is what the market expects, GE should invest appropriately in security to better protect the company against further downside financial risk at a time when COVID-19 is accelerating digital transformation globally.

Research

Ryan Dodd, Founder and CEO, Cyberhedge
Chris Nolan, Research, Cyberhedge
Kevin Dougherty, Research, Cyberhedge
Denis Bolshakov, Creative Director, Cyberhedge

Disclaimer