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Company Valuation and Pairs Trading in the Aerospace and Defense Industry

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Abstract

This paper conducts a company analysis and equity valuation of Lockheed Martin and the RTX Corporation, incorporating current financials, forecasts, and market scenarios. The objectives are twofold: to establish a probability-weighted price target for each company and to devise pairs trade strategies leveraging stock price differentials. Findings suggest, as of 22nd of September 2023, the market is undervaluing LMT and accurately valuing RTX. Testing multiple pairs trade strategies suggests that a scenario adjusted pair trade of going long in LMT and shorting RTX, used as a defensive strategy, can minimize market risk, and potentially generate alpha.

Keywords

Equity Valuation, Scenario Analysis, Lockheed Martin, LMT, Raytheon, RTX Corporation, RTX, DCF, China, PRC, USA, United States, Taiwan, Weighted Price Target

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Disclaimer

We used the AI Program ChatGPT to help us with some of our formulations within this thesis, aiming to create a more coherent and comprehensible text. This is the only usage of ChatGPT within our thesis. All content in this thesis is original work done by either one of us or the two of us together and all resources we used for our work are listed accordingly.

Introduction (Group Part)

This paper is a comprehensive analysis of two of the largest Aerospace and Defense companies, Lockheed Martin and the RTX Corporation. The paper consists of four parts: an overview of both the industry and the companies, a scenario analysis, the corporate valuations in the context of the market and the two additional scenarios, and an overview of our pairs trade models. A pairs trade, also called an equity long-short strategy, is an investment strategy that aims to minimize market risk. This is achieved by simultaneously taking a long position and a short position in two highly similar companies. In this way the portfolio would be secure against overall market movements as the movement of both positions would cancel each other out. Pairs trades can be purely market neutral, which means identical sized long and short positions, or have a bias by investing a higher share of total capital in the respective position. As pairs trade have a beta close to zero, they attempt to create alpha, meaning excess return compared to the market, by going long on undervalued stocks and short on overvalued stocks, expecting them to revert to their respective fair value. Pairs trades typically have a low risk profile although the total returns of the strategy can be increased with the use of leverage. The Industry Overview provides a comprehensive insight into the Aerospace and Defense industry, including current trends, its status and growth, the competitive landscape, key drivers, and an outlook. It also includes information on key players and how they are positioned within the industry as well as elaborating on how the industry is expected to change

in the future. The Company Overview provides information on the identity, operations, and strategic directions of the companies under analysis. It expands on the industry specific value drivers and growth segments and shows how each company is positioned to take advantage of them. The overview also provides information on the segmentation of the companies and what their main strengths are within the A&D market. In the Scenario Analysis we will introduce and explain the three scenarios that we use to conduct the company valuations in this thesis. The Corporate Valuation part includes an explanation on all the information necessary for the valuation of our companies, including their market position, financial strength, product segmentation, geographic segmentation, financial metrics, and key drivers as well as an explanation of our corporate valuation model.

In the final part of this thesis, we explore multiple pairs trade strategies in the context of historical data to see how they would perform. Each pairs trade has an underlying approach, either trying to take advantage of smaller market betas via volatility or by exploring industry trends to achieve above market returns. In addition to the traditional approaches we created a scenario adjusted pairs trade to see how the scenarios and their probabilities affect the performance of both the S&P 500 and the pair. The paper discusses the implications of the analysis on investment decisions involving the industry and gives a clear answer on which business model is preferable, what investment strategy to pursue and, through the context of geopolitics, which company is superior.

Aerospace and Defense Industry Overview (Group Part)

The aerospace and defense industry is a critical sector in the United States that encompasses companies involved in the design, manufacturing, distribution, and maintenance of a wide range of products and services in both the government and commercial sector. These products include, but are not limited to air- and spacecraft, semiconductors, weapons, munitions, vehicles as well as

other military and commercial technologies. It is a consolidated industry dominated by a small group of large multinational corporations alongside many smaller specialized firms. The industry is particularly sensitive to political shifts with defense spending, technological advancement, and international conflicts being crucial in influencing and sustaining the growth of the sector. The political environment in the United States is particularly important to the industry due to the USA being the largest market for these companies, with the majority of company contracts and orders originating from the Department of Defense and other US government agencies. The Aerospace and Defense industry has a combined market cap of \$770.61B with a total of 71 publicly traded firms in the US (Stock Analysis, 2023) and a global reported revenue of \$741 B in 2022. (PWC, 2023) The industry is divided into multiple segments, the largest being defense technologies, military and commercial aviation, and space exploration, with the largest corporations usually being involved in multiple or all these segments.

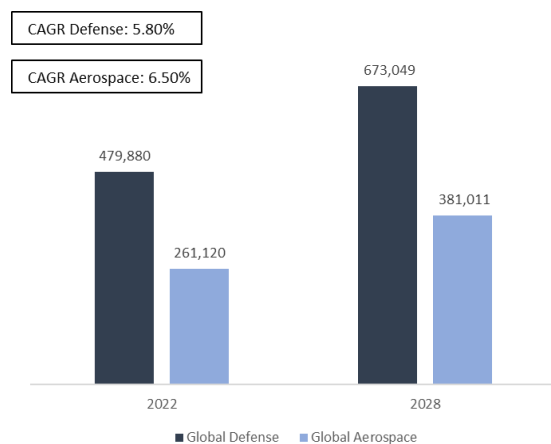


Figure 1 - Aerospace and Defense Sector Growth Forecast

We look at two industry CAGR used for the A&D industry, one specific to the defense sector and the other to the aerospace sector. Both are further divided into the growing global A&D industry and the more mature US sector. For the US market from 2023-2031 the defense CAGR is projected at 0.67% (Mordor Intelligence, 2023), while for aerospace it

is 2.40% (Expat Market View, 2023), resulting in an estimated CAGR for the whole industry of 1.21% from 2023-2028. There is a heightened outlook for the international industry, with the global defense and aerospace CAGRs being 5.80% (Research and Markets, 2023) and 6.50% (The Business Research Company, 2023) respectively, resulting in a weighted average CAGR of 6.05%.

Within this thesis we will use the US CAGRs, as the majority of our company's revenues originate from the domestic market, which is why we believe that these figures better reflect the growth prospects of the pair. The industry is moderately consolidated due to high entry barriers with many large and small companies vying for contracts and market share. The main fields of innovation aimed at gaining a competitive advantage are civilian aircraft, military technology, cybersecurity, space exploration and experimental tech. The largest players in the industry are the RTX Corporation, Lockheed Martin, Boeing, Northrop Grumman, and General Dynamics, with consolidation being the current trend as these large companies purchase and integrate smaller ones to gain their innovative tech and talent.

In this Work Project we will examine the first and third largest publicly traded companies within the industry: the RTX Corporation (RTX) and Lockheed Martin (LMT). Both companies command a significant market capitalization with that of RTX being approximately \$110 B., while for Lockheed, approximately \$104 B. (FinViz, 2023) Lockheed Martin is RTX's closest competitor in the military defense sector, ranking first in both the number of contracts as well as the revenue gained from them. Where RTX competitively outperforms LMT is business diversification, with only 65% of its revenue coming from defense, compared to 95% for LMT. (Defense News, 2023) Additional competition comes from similar size local and foreign corporations such as Boeing, Northrop Grumman, Airbus and BAE Systems. Currently there are four main trends driving the aerospace and defense industry: technological innovation, commercial aviation shifts, government and commercial space ventures, increased defense spending. The long-standing technological innovation in the industry is competitive product innovation in the defense sector with the goal of creating superior weapons, defense systems and aircraft to secure government contracts. Another more recent disruptive factor is AI and its implementation with the aim to enhance the performance,

safety, and efficiency of aerospace and defense systems. As the use of AI and automation of key systems increases, the necessity for cybersecurity improvements is growing, to protect sensitive information and critical defense systems. In the case of commercial aviation, significant shifts occurred in demand and capacity due to the pandemic, with all flights being grounded for two years and then experiencing a sharp boom in demand. This shift affects the industry, however both target companies have limited or no presence whatsoever in the commercial aviation sector. Consequently, the changes occurring in the commercial airlines sector only have marginal impact on the two companies' businesses. In contrast to civilian aviation, both companies have invested heavily in the space sector. RTX is involved in ground control and orbital observations, with focuses on weather prediction, satellite data collection, GPS, and observation systems, as well as providing global coverage with the Joint Polar Satellite System. (RTX, 2023) Additionally the company's separate division Pratt & Whitney develops aircraft engines and propulsion systems for satellites and space missions. (Pratt & Whitney, 2023) LMT is also heavily involved in orbital and space exploration technology with the company developing weather and climate observation satellites as well collaborating closely with NASA on projects like the Orion spacecraft and the Hubble Space Telescope. (Lockheed Martin, 2023)

Rising geopolitical tensions have contributed greatly to the increase in defense spending and with that, to industry growth. More recent conflicts such as the war in Syria and Ukraine have resulted in greater security concerns in the US, leading to increases in military budgets. Additionally, the involvement of the USA in these conflicts through military aid creates a deficit in the country's stockpile, that needs to be filled by the military industrial complex. Worries over potential conflicts such as a war with China over Taiwan as early as 2025 and direct conflict with other powers, such as Russia and Iran, further contribute to the increase in government spending and support the notion

that the industry will continue to grow throughout the decade. (Mollman, 2023). In addition to geopolitics, macroeconomic, regulatory, and political factors play significant roles in shaping the aerospace and defense industry. Global and domestic economic growth affects demand for commercial air travel, military spending, and defense investments and the opposite applies for periods of economic stagnation or shrinkage. Changes in interest rates greatly impact the cost of borrowing and affect investment activities of highly leveraged companies, although the aerospace and defense industry is usually capital intensive with a more conservative debt to equity ratio of around 26%. (Damodaran, 2023) During periods of increasing rates, such as the current one, acquisitions, R&D spending, interest costs and other company financials are affected, potentially leading to lower margins. Other macroeconomic factors such as currency fluctuations, oil prices, consumer demand can affect the profitability and growth of the industry, although to a lesser extent.

Regulation is a much more prominent factor as a significant regulatory stipulation can greatly affect a large portion or the entirety of the revenue of a company, depending on how diversified it is. Changes in trade policy and export controls impact movement of products and components, but industry specific regulation results in significant implications for the companies and the whole industry. Some such decisions are changes in the International Traffic in Arms Regulation (ITAR), the Foreign Military Sales (FMS) regulations and DoD contract and procurement regulations.

Political factors such as a new administration or changes in international relations carry significant impact. Democrat or Republican control of the house influences the US defense spending, with disagreements often occurring on whether to and by how much to increase the Defense Budget for each year. (Harris, 2023) Additionally, new allies or conflicts can be potential sources of market expansion. Such examples are the former Warsaw Pact members, now part of NATO, rearming with US assistance (Morris, 2023) and, more recently, the conflict in Ukraine. (Judson, 2022)

Many of the factors that benefit the aerospace and defense industry also pose its biggest source of risk. Sudden changes in geopolitical conflict and relations can bring an unexpected stop to a large source of revenue. Beneficial government regulations and increases in the budget could be undone by a change of administration, or new stricter regulations enforced. Sudden disruptions brought on by technological breakthroughs such as AI also bring significant downside risk to companies that fail to adapt in a timely manner. Sudden fluctuations in demand, like the one brought on by the pandemic, also pose a risk to those companies in the industry that are under diversified. In an industry where products are high-tech, failure to discover defects has serious consequences for the company's reputation and stock. Examples of this are the Boeing 737 grounding and, more recently, RTX's powder defect which resulted in a stock price drop of 14%. (Linnane, 2023) For companies such as Lockheed Martin, which rely on the US government to achieve most of their revenue, budget cuts are another significant risk factor. Additionally, less specific to the industry risk factors are cybersecurity, exchange rates, changes in interest rates and in environmental regulation.

The industry outlook for the aerospace and defense industry is positive, despite it being a mature industry with low CAGR in the USA. The main factors that drive growth in the industry are technological innovation, presence of global conflicts, space exploration and commercial air travel. Benefits from tech innovation come in the form of more fuel-efficient aircraft, advanced avionics, automation, and artificial intelligence (AI) in aerospace and defense systems. As the global population is increasing, the possibility of conflicts over resources, disparity, and ideology remains highly possible in the coming decades. The aforementioned trends are also what drives the growth in space exploration, as it will become increasingly important for both government and private organizations. Space exploration could take many forms, like tourism, expansion, or resource seeking. Finally, the commercial aviation sector is expected to see steady growth, especially in the

developing world, likely due to an increase in disposable income and the growth of the middle class in these countries.

Company Overview

RTX Corporation (Individual Part)

The RTX Corporation is an aerospace and defence company that provides advanced systems and services for commercial, military and government customers both domestically and internationally. Incorporated in Delaware in 1934 under the name United Technologies Corporation (UTC), the company changed its name to Raytheon Technologies Corporation following the merger of UTC and the Raytheon Company in April 2020. In July 2023, Raytheon has officially rebranded as RTX Corporation. As of September 2023, RTX has a market cap of around \$110 Billion with the business generating a revenue of close to \$67 Billion in the fiscal year 2022. The business of RTX can be divided into four segments; Collins Aerospace (referred as Collins), Pratt and Whitney, Raytheon Intelligence and Space (referred as RIS) and Raytheon Missile and Defence (referred as RMD). Collins is a global leader in advanced technological aerospace and defence products as well as in aftermarket solutions for airlines, airplane manufacturers and the general aviation business. Products and services are sold to businesses and governments worldwide. Boeing and Airbus are the most important commercial customers and jointly account for approximately 20% of total sales during the period between 2020 and 2022. In 2022 Collins received multiple defence contracts with the US government, including work on the B-52 modernization program and the development of NASA's next-generation spacesuit. Pratt and Whitney is a leading provider of aircraft engines for the whole aviation industry including military, business, and commercial customers. This segment's most important customer, Airbus, accounts for around a third of total sales during each of the last three years. One of Pratt and Whitney's most important contracts is with the U.S.

government to produce the engines for the highly successful F-35 program. Raytheon Intelligence and Space (further called RIS) produces space, communication, and sensor systems, as well as solutions for cyber security. RIS is one of the major contractors for multiple US governmental bodies, including the DoD and Department of Homeland Security, while also providing their solutions to commercial customers worldwide. In 2022, RIS earned multiple valuable contracts to work as the prime contractor for various programs of the U.S. Space Force. Raytheon Missiles and Defence (further called RMD) provides solutions to governments to defend and engage against threats from air, land, sea, and space. The solutions include air-to-air and air-to-ground weapons, ground-based sensor systems and satellites. RMD is one of the prime contractors for not only US Navy, US Air Force and US Army but also governments worldwide. New contracts involve the development of Hypersonic Weapon Systems for the US Air Force as well as multiple contracts for long-range missile systems for various international clients. Collins and Pratt & Whitney are the two segments with the biggest impact on the overall performance of the business, with both segments accounting for around 30% of total sales respectively while RMD and RIS each make up 20% of total sales over the span of the last three years. The US government is by far the most important customer of RTX. From 2019 to 2022 sales to the US government made up between 45% and 48% of total sales. Based on location, around 39% of RTX's revenue is from international customers while 61% of the total revenue is made domestically.

As previously mentioned in April 2020, the merger of United Technologies and Raytheon was completed, resulting in the formation of the Raytheon Company. This merger signified a new approach in the business strategy. The merger followed the spin-off of UTC's Carrier and Otis business segments. Otis was one of the global leaders in designing, manufacturing, and servicing escalators, elevators and moving walkways for both commercial and industrial buildings. The

Carrier business segment was one of the major global players in the HVAC (Heating, Ventilation, and Air Conditioning), refrigeration and security solutions market. Carrier provided these systems and services to residential, commercial, and industrial customers. It is vital to highlight that both segments were commercial in nature and operated mostly outside of the aerospace industry. In FY2019 both segments combined accounted for roughly \$30 Billion in revenue, which was approximately 39% of total revenue. The remaining revenue was earned in the commercial aerospace and military aerospace and defence sectors. Post-merger, with the addition of the RIS and RMD segments nearly all revenue came from the commercial and military aerospace sector or the defence sector. These observations clearly show that RTX now follows a business strategy with clear focus on the aerospace and defence industry. Furthermore, the merger affected the importance of the US government as a customer for RTX. Pre-merger, the average share of revenue earned by US government contracts was around 13%, while post-merger, this share increased to approximately 46% of total revenue. At this point it is crucial to point out that even though this share increased it is still not nearly as high as the share of competitor LMT, which in the past few years ranged between 70% and 74% annually. The transition to a more specialized company of course brings with it some chances but also risks. The outlook for the aerospace market is positive even though the industry is already quite matured in the US. The aerospace industry is expected to grow by a CAGR of 2.4% from 2024 until 2032 is expected, outperforming the expected annual growth rate of the US GDP, which is expected to range between 2.09% and 1.48% in the same timeframe. Concluding from this observation, focusing on the aerospace industry through the merger might lead to attractive growth opportunities. Simultaneously, specialization always entails increased risk, as negative industry shocks can have significant impact on the business. Customer concentration, in this case the heightened reliance on the US government, can pose a similar risk. Any developments that will have negative impact on the DoD budget or that lead to less

government spending could have an adverse impact on future revenue. Although, as previously mentioned, the customer concentration of RTX is still quite small compared to the likes of LMT. Finally, we want to highlight that with mergers there is always the possibility of challenges during the integration of segments from two different companies into one entity which may hinder the full realization of benefits and efficiency gains in the business. In conclusion, the merger brought about a significant change in the company structure, and it remains to be seen whether this strategic initiative will have a positive effect on future business.

Scenario Analysis (Group Part)

Scenarios

In this section, three hypotheses are introduced to estimate the future values of the two companies' stock. The rationale behind this approach is the intrinsic link between the US defense industry and geopolitics, as well as the influence of the administration and individual politicians in the US. The scenarios will allow us to make a price forecast for each company that does not only rely on financials but also on key global events that may occur throughout our valuation period.

The analysis centers on potential international conflicts and diplomatic tensions, recognizing their influence on US' commitment to national defense with a higher commitment benefiting the military industrial complex by increasing funding to the private sector. (Huang, 2023) For this reason, the Peace- and War Scenarios focus primarily on the two likely conflicts the United States might face during the next 5 years, with the first being the war in Ukraine and the second a potential Chinese invasion of Taiwan. We analyze these conflicts through the lens of internal US politics concerning the upcoming 2024 elections as well as the upcoming Taiwanese 2024 election and how the candidates might affect future relations with the PRC. Depending on the winner of the 2024 U.S.

elections, the DoD budget, the level of US involvement, and the probability of events will change. For additional accuracy we also consider historic precedents in changes in defense spending by political party. To reflect the republican's tendency to spend more on defense we make adjustments of + \$46.3 bn. in the scenarios where the Republicans win the election. (Coletta, 2021) From this the three scenarios are as follows:

The Base Scenario relies on current market data, trends, and information, with our valuations being done using the company annual reports in a typical valuation approach. This case sees a protracted Ukraine War, going on past 2025, a Democrat victory in the 2024 elections and no conflict with China as the most likely events. This scenario relies on current forecasts of the DoD budget for the next 5 years with no significant changes in the larger geopolitical environment. It is assumed that DoD/GDP will remain constant at 3.65% of real GDP. (Statista, 2023; Macrotrends, 2023)

The Peace Scenario assumes minimal U.S. economic involvement in the Ukraine war, with a resolution within the next two years, a Republican victory in the 2024 elections and no conflict with China. This scenario assumes the Republican campaign will be driving an 'America First' approach to spending, leveraging the heavily pro-Ukraine sentiment the Democrats have and the general disapproval of the Biden administration to achieve a victory. (Reuters, 2023) To that end in this scenario we see a slightly lower budget estimate, even with the adjustment of + \$46.3 bn. to accommodate for a Republican victory. (Coletta, 2021) It is assumed aid to Ukraine will be lowered after the 2024 elections, with spending on DoD relative to GDP reverting to around the same as it was during the Syrian Civil War (3.20%) in 2024 and increasing to the average ratio to GDP as it was during the Trump Administration (3.37%) from 2026 onward. As no events occur that directly affect the US GDP in this scenario, current GDP forecasts are used. (Statista, 2023)

The War Scenario sees a protracted Ukraine War, going on past 2025 and an escalation of hostility with the PRC in the South China Sea with a subsequent invasion of Taiwan, due to Lai Ching-te becoming the new president. (Mollman, 2023) This scenario sees the US maintaining the same DoD/GDP as it did during 2022, equaling 3.73% for 2023 as the current administration remains committed to funneling resources to Ukraine. From 2024 an increase in defense spending to a level like that of the Iraq War (4.04%) is expected, as tensions between the PRC and Taiwan begin to escalate. For this scenario a Biden victory is also assumed, as the current president has had a less hardline position on China. It is important to note that in this scenario the winner of the 2024 election will likely be inconsequential to the Defense budget as neither party will be able to remain uninvolved regardless of their relations with China. As the USA has guaranteed the independence of the island since WW2, a surrender of that responsibility will be equivalent to accepting the PRC as an equally powerful nation on the world stage, which neither party is likely to do. Assuming an invasion happens sometime during 2025 (Mollman, 2023), it becomes increasingly difficult to estimate budget changes after that, although it will certainly increase. To remain realistic, we assume a DoD/GDP somewhere between the Iraq War (4.04%) and the Vietnam War (8.08%), starting at 70/30 in 2026 and increasing YOY as the conflict goes on and US involvement increases, reaching a 60/40 ratio by 2028. For this scenario, GDP forecasts also had to be re-calculated as a blockade of Taiwan, the world's biggest semiconductor producer, and a conflict with China, will result in a global recession. The specifics of how conflict affects the GDP and defense spending are explored in the Scenario Methodology in the Appendix.

Maintaining the assumption that an increase in global conflicts leads to an increase in the defense budget, these scenarios will be used to develop a pairs trade strategy focused on the consequences of these geopolitical changes. For both companies a significant portion of their revenue is

dependent on US military contracts and the changes presented in the two alternative futures, one peaceful and one violent, will greatly affect their revenue forecasts. The idea being that by estimating the company stock prices in the context of both extremes, a more accurate estimate of the companies' stock values can be made. The scenarios will also help to forecast the returns of a pairs trade as well as expected returns of the S&P 500 by accounting for weighted scenario effects.

Scenario Probabilities

The Scenario Analysis provided the estimates for revenues from military contracts with which two additional DCFs per company were constructed. To arrive at a final price target the probabilities of the three scenarios occurring were derived. To achieve this both the primary and the presidential candidate polls were used, as well as the Taiwanese presidential polls. (Chau, 2023) The reason for using the Taiwanese polls is the PRC views on the upcoming elections on the island. From the 4 main candidates: Lai Ching-te (DPP), Huo Yu-ih (KMT), Ko Wen-je(TPP), Terry Gou(Independent), the latter 3 have either a friendly or neutral opinion towards China and vice versa. The DPP candidate is most likely to win, however, is a fierce supporter of independence. According to a former Deputy Undersecretary of the Navy, a victory for Lai Ching-te is most likely to cause an invasion. (Mollman, 2023). Considering this, by using the polls as measures of probability we arrive at the likelihood of the Peace scenario occurring, which requires Trump to win both the Republican Primaries (56.10%) and the Presidency (40%) as well as any of the other three Taiwanese candidates to win, resulting in 10.43% of the Peace Scenario to occur. For the War Scenario the same approach was taken with Biden having to win the Primaries (62.8%) and the Presidency (45%) and Lai Ching-te winning in Taiwan (35.30%), resulting in a probability of 9.98% for the War Scenario. As a result, the Base Scenario has a probability of 79.59%. (Project 538, 2023)

RTX Valuation (Individual Part)

Introduction

In this thesis both a Discounted Cash Flow (DCF) approach and Multiples approach is used to value the stock price of RTX. A detailed explanation of the DCF methodology can be found in the appendix of this thesis. The Multiples approach will be explained further down in this section. As already explained in the Scenario Analysis section of this thesis, we look at three scenarios: the Base Scenario, Peace Scenario and War Scenario. For each of the three scenarios an individual DCF valuation will be done which will give three different prices for the stock of RTX. Using the probabilities of each scenario happening makes it possible to calculate the weighted stock price of RTX. Before looking at each scenario individually there are factors that affect each of the three scenarios equally. First, the calculated terminal growth rate for RTX is 2.09%, which is slightly higher than the rate for LMT (1.99%). The reason for that is RTX's higher Estimated Growth Rate. RTX has a stronger focus on the aerospace industry in comparison to LMT, with the aerospace industry accounting for 79% of RTX's total revenue while it constitutes only 58% for LMT. The aerospace industry has a higher expected growth rate (2.4%) than the defence industry (0.67%), which is the reason for the overall higher terminal growth rate. At the same time, RTX's weighted average cost of capital (WACC) is at 9.52%, compared to only 8.69% for LMT. Although RTX has slightly lower costs of debt, the costs of equity is higher than it is for LMT. Since both companies maintain a relatively low Debt-to-Equity ratio the higher equity costs will have a notable impact on the overall cost of capital.

Base Scenario

First, we look at the base scenario. In this scenario we predominately look at historical growth rates to compute future values for our valuation. If we look at the growth rate of the historical revenues (from 2012 until 2022) we see that the revenue growth rate of RTX's revenues is approximately 2.3%. This growth rate seems relatively low compared to the competition (for comparison, the average revenue growth during the same period for LMT is at 5.83%). The primary cause contributing to this minuscule growth is a significant decline in revenue observable in 2020. Between FY2019 and FY2020 total revenue of RTX dropped by 26.55%, from around \$77 bn in 2019 to around \$56 bn in 2020. The decline in revenue is a result of the previously mentioned merger between United Technologies and Raytheon in April 2020, which followed the successful spin-offs of Otis and Carrier. According to the annual report of RTX, starting in 2020, all income statements exclude all revenues generated by these two segments which explains the cause for the sudden drop in total revenue. We believe that the spin-off of two business segments is an unusual event, and that there are no indications that additional spin-offs might occur in the foreseeable future. Therefore, we believe that excluding the revenue data from 2020 in our average calculation gives us a more accurate picture of the past core business growth and in-turn will lead to more precise forecast of future performance. After excluding the 2020 data we get an average revenue growth of 5.49%, which seems to be a more realistic figure and in scale with the revenue growth of the competition.

Value Drivers

One of the key value drivers for future performance is RTX's strategic focus on the Aerospace sector, mainly post-merger. This is made evident in the annual report from FY2022, which showed that RTX's defence segment, Raytheon Missiles and Defense (RMD), only accounted for 21% of

total revenue. As we already discussed in the company overview this strategic shift in focus towards the Aerospace sector could lead to attractive growth opportunities. Past years indicate that RTX's revenues are relatively stable (excluding the decline caused by the merger), both in product sales and service sales, and there is no indication that should lead us to assume otherwise for the future. Important to note is that all RTX business segments, both in the defence sector and aerospace sectors, show positive average sales growth over the last two years (post-merger period), suggesting that there is no single part of the overall business that is performing badly and could negatively influence future revenues. In addition, there is no overreliance on a single segment, as RTX maintains a relative balanced revenue distribution between all segments, with each of them contributing between 20% and 30% of total revenue. Adding to the positive revenue outlook is RTX's expanding backlog, which is currently reaching approximately \$175 Billion, with at least 25% expected to be recognized as sales during the next financial year.

Cost Drivers

Both the Aerospace and Defence industry are highly technologically driven, which means sizeable investments into Research and Development are necessary to create advanced products and to keep up with the competition. There is no indication for a significant difference in R&D expenses between both sectors, which means that a shift in focus from defence to aerospace should not have any significant effect on R&D expenses going forward. Historically, R&D costs accounted for approximately 4% of total revenue, with only minor variations. Consequently, we don't expect a change in RTX's approach towards R&D, so we will continue to expect R&D costs to account for roughly 4% of total revenue going forward. The merger had an impact on the share of revenue earned by products and services. Pre-merger product sales accounted for approximately 70% of total revenue while service sales made up the remaining 30%. Post-merger the focus shifted slightly

towards product sales, which now account for roughly 76% of revenue and service sales only 24%. With the merger we saw product costs to have an uptick, from around 54% of revenue pre-merger to approximately 65% post-merger. Simultaneously, there is a positive trend over the last three years (post-merger) with product costs declining from 67.4% of total revenue in 2020 to 62.5% in FY22. We anticipate this downward trend to continue as the company will proceed the integration process post-merger which will most likely result in cost efficiency gains down the line. For that reason, we assume the product costs to account for 63% during 2023, then declining to 62% in 2024 and 60% in 2025 before settling at 58% from 2026 onward. The costs of services sold appear to be constant over the last 10 years, ranging between 19.3% and 17.1% of total revenue over the whole period, with no significant difference pre- and post-merger. Therefore, we forecast them to account for the historical average 18.7% of total revenue going forward. Selling, General and Administrative expenses accounted for approximately 10% of total revenue in the period between 2012 and 2020 and around 9% post-merger. We believe in the long run the results of the merger will have a positive impact on administrative costs and that current SG&A costs are still a bit inflated because of integration issues. For that reason, we expect SG&A costs to stay at around 9% for the next couple of years before declining to a percentage of 8% from 2025 onward. We decided to continue to tax future profits with the current statutory tax rate of 21%. Historical data indicates that RTX's effective tax rate, in most cases, was lower than the statutory rate, but doing a precise forecast of the effective tax rate is difficult to do so we decided to take a conservative approach and keep the income tax at 21%. History showed that the statutory tax rate remained constant, despite the change in administration from republican to democratic in 2020. This gives us confidence in assuming that our forecasted income tax at the statutory level of 21% will persist in the future, regardless of the outcome of next year's elections.

Summary

Using the historic average growth rate, we forecast RTX to increase their revenues from around \$67 Billion in 2022 to approximately \$92 Billion in 2028, with a subsequent increase in EBIT by around \$4.5 Billion from \$7.3 in 2022 to \$11.8 in 2028. After deducting taxes, we forecast RTX to increase their Net Profit After Tax (NOPAT), approximately \$9.3 bn in 2028. Finally, we discount the FCF's and the Terminal Value by our calculated WACC of 9.52%. After summing up the discounted cash flows, we calculate a value per RTX share of \$71.33, which is slightly lower than the actual share price (\$71.58) on the day of valuation (22.09.2023). Still, this estimation is more on the lower side of analyst's expectation, which range between \$62.34 and \$100.74, with the average being at \$79.31 (Yahoo Finance, 2023).

Peace Scenario

As previously mentioned in this scenario we expect a relatively quick ending to the military conflict between the Ukraine and Russia, as well as a victorious republican party in the US elections of 2024. For these projections we need to adjust the future defence budgets accordingly. While the defence budget in 2023 is expected to be the same as the budget in the Base Scenario we expect a subsequent decline in budgets (around \$750 Billion compared to \$812). This, in turn, will have effects on the expected total value of contracts. The previously mentioned ratio of military contracts in relation to total defence budget (46%) gives us the total value of military contracts in the whole industry for the next five years. Using the total value of contracts and the value of military contracts exclusive to RTX (given in the annual report), we can calculate RTX's market share of military contracts in the future, which is stable between 10% and 11% for each of the next five years. Before we can forecast the total future revenues of RTX we first have to look at the past 11 years and calculate the share of total revenue that was earned by US government contracts. We briefly

mentioned before that with the merger the strategy of RTX's business shifted towards a higher focus on US government contracts. Because we want to predict future performance it is only logical for us to assume that in the next five years RTX will continue its strategy which is why we only use the post-merger average share to forecast future revenues (46%).

Value Drivers

As we already explained a peaceful scenario will bring with it a reduction in military spending, which will unsurprisingly have an overall negative impact on the business projections of companies operating within the Aerospace and Defence industry. At the same time RTX might have a competitive advantage over competitors like LMT during peaceful times. With Colins and Pratt & Whitney RTX has two business segments that heavily operate in the commercial sector, which is anticipated to experience a lesser decline during peaceful times than the governmental defence sector, considering the reduction in military spending. Therefore, we expect RTX to comparatively do well in peaceful times when compared to competitors in the industry.

Cost Drivers

All the assumptions made in the Base Scenario regarding costs related to R&D, SG&A and Costs of Services Sold will align with this scenario, as there is no direct indication that these sources of costs should differ in a peaceful scenario. This same assumption will also hold true for the War Scenario. In addition to that we don't expect the statutory tax rate to change between scenarios, which is why it will be held constant at 21% in each valuation. Still, we assume some difference in the costs of products sold. In peaceful times, with a less booming business we believe that the company leaderships focus will shift more towards cost reductions to circumvent decreases in revenue in order to keep the business successful. For this reason, we believe that the observed

downward trend in costs post-merger will be pick up. In the first two years of our forecasted period the costs will mirror those of the Base Scenario, with product costs accounting for 63% of total revenue in 2023 and 62% in 2024. Beginning in 2025, we expect the cost share to decline to 59% while settling at 57% from 2026 onward.

Summary

Unsurprisingly, the revenues in the Peace Scenario are slightly lower than those in the Base Scenario (in 2028 the forecasted revenue is approximately \$85 bn, which is around \$7 bn less than in the base scenario). For the Peace Scenario we calculated EBIT's that are slightly lower than those in the Base Scenario, although with similar EBIT margins. After subtracting taxes, CapEx and NWC we get our FCF's that we discount to arrive at a stock price of \$63.02, which is approximately 12% less than the price calculated in the Base Scenario and which gives us a downside of around 11% to the actual stock price on our valuation date, the 22nd of September 2023.

War Scenario

In this scenario we assume a five-year period that is marked by an increase in military conflicts. More precisely, we assume a Ukraine War that will take at least another 5 years to resolve as well as an escalation in the China – Taiwan conflict. Similarly, to the Peace Scenario we once again forecast the Department of Defense budget and the total value of US contracts to calculate revenues of RTX in the upcoming years. As one might expect we anticipate higher defense budgets in this scenario compared to the other two (\$1,186 bn in 2028). As previously mentioned, by keeping the contract/budget ratio and market share of RTX constant we can now calculate the value of RTX's contracts and with that their total revenues for the next five years.

Value Drivers

An increase in military spending will consequently lead to increasing revenues for RTX, especially in the governmental defense sector which is expected to experience substantial growth. In contrast, the commercial sector is expected to underperform, as time periods with high military tensions tend to have a negative impact on markets and lead to an overall decline in most businesses. Therefore, the relatively high share of commercial business that led to a competitive advantage in the Peace Scenario will work against RTX in the War Scenario, as the company won't be as effective in capitalizing on the gains associated with the increasing military tensions. For that reason, it is to be expected that RTX will underperform its competitors in this scenario.

Cost Drivers

We expect a heavy increase in the Cost of Products sold during the War Scenario. Like the other scenarios we assume that during 2023 and 2024 the Costs of Products sold will stay the same as in the other scenarios (63% and 62% of total revenue respectively), although the costs will start to differ from 2025 onwards. It is still likely that RTX will be successful in decreasing costs due to efficiency gains after the merger, but going against this trend will be an increase in costs caused by the military tensions in our War Scenario. As explained in the Scenario Analysis, an escalation of tensions between China and Taiwan starting in 2025 is expected. This will cause a significant disruption of the semiconductor industry (Telling, Gross, Ting-Fang, 2023), which would most definitely lead to an increase in Costs of Products sold costs as semiconductors are a key input factor in the production of RTX's products. Additionally, supply chain disruptions caused by military conflicts are expected to impact the prices of other raw materials as well, leading to a further increase in costs. Therefore, in 2025 and 2026 we expect the Costs of Products sold to account for 61% of total revenue, before decreasing to 60% in 2027 and settling at 58% from 2028 onward.

Summary

Through rising DoD budgets we anticipate revenue of around \$1,293 bn and a subsequent EBIT of approximately \$16 bn in 2028, with both figures unsurprisingly being significantly higher than those in the other two scenarios. After discounting the Free Cash Flows, we calculate a value per share of \$83.79, which is around 15% higher than the base scenario and presents an upside of 17% over the actual share price.

Multiples Analysis

To add another perspective, we did a simple multiples analysis in addition to our DCF valuation to determine the value of RTX and its equity. We use a multitude of metrics to compare RTX's business with those of its nearest competitors so that we can assess multiple aspects of the companies and get a more comprehensive picture of their performance. The underlying assumption of this approach is to assume that companies that share similar characteristics should be comparable using certain valuation metrics. We can use this assumption to make an estimation of RTX's equity and stock price. Applying the multiples approach gives us a mean (median) target price of \$103.64 (\$72.78) for the stock. We immediately see that there is a significant difference between mean a median value, which might indicate an outlier value that might skew the results. After reviewing the metrics we use for the multiples it seems likely that the P/B ratio is the deciding outlier, as the P/B of LMT is significantly different than the ratio for all its competitors (LMT has a P/B of 11.56 while the P/B's of the other companies ranges between 4.24 and 3.01). In this case it seems more advantageous to focus on the median price target as medians are less sensitive to outliers than averages. The median price of \$72.78 is very close to the actual price of the stock (\$71.58), indicating that RTX's stock is already trading at its fair value. We want to note here that multiples

analysis is a very simple tool to value a company and can fail to capture a lot of important details, which is why we should not put too much emphasis on the results. Nonetheless it can be helpful to give an idea of how the fair value should be. In this case the target price is in line with the actual stock price and the weighted stock price we got from RTX's DCF valuation (\$72.84).

Weighted Price Targets (Group Part)

Following the Base Scenario, the stock projections for LMT and RTX of \$441.79 and \$72.75 are adjusted to factor in the variability of the political climate. The Peace scenario stock values are multiplied by its probability of 10.43%, with the same being done with the War scenario forecasts (9.98%). The remaining probability of maintaining the status quo of 79.59% is multiplied by the base stock valuations. As a result, the weighted average stock forecasts are \$446.64 for LMT and \$72.84 for RTX. The new price target suggests LMT is undervalued, as the target is 7.98% above the market price on 22nd of September and that RTX is accurately valued by the market, as the target is 1.75% above the market price.

Pairs Trade Model (Group Part)

In this section, the focus is on creating different pairs-trade strategies involving the two companies and back test them with the use of historical market data to find profit opportunities from mismatches in the market estimate of the stock value and the valuations. Depending on the strategy used the back testing data will cover either a 10-year or 20-year period, as one is more relevant to current market conditions while the other provides a better long-term performance assessment. A Pair Trade Model is an active trading strategy involving two similar companies, where one stock is bought and the other is shorted with the aim of creating high risk adjusted returns, through careful pair selection and risk mitigation. The historical data used in this model includes stock market

prices of both LMT and RTX, the historical performance of the CBOE Volatility Index (VIX) and the historical performance of the overall market. In this case we use the SPDR S&P 500 ETF trust (SPY) as a benchmark and proxy for the US stock market. The SPY, launched in January 1993 as the first exchange traded fund tracking the S&P 500 and has remained one of the most popular to this day. The data set starts from 01.09.2003 to 22.09.2023, which is the valuation date. This should provide a big enough sample size and should help mitigate survivorship bias when looking at market data, as a 20 year in-sample set of market data will include winners and losers. It is also important to note that logarithmic returns were used throughout this analysis, as they have a range of advantageous characteristics like their additive properties and symmetry around zero. The historical data used in this section was collected from Yahoo! Finance. Firstly, before creating any trading strategies, both the daily and monthly returns of the stocks as well as the market were calculated. This gives an overview of the performance of the pair in relation to the market. The results show us that LMT outperformed the market over the period while RTX underperformed compared to the S&P 500 (the cumulative monthly returns over 20 years for LMT, RTX and the S&P 500 are 219.11%, 136.21% and 166.81% respectively). This is in line with the conclusions of the individual valuations and scenarios, which present LMT as the superior performing company. (Yahoo Finance, 2023)

Volatility Pairs Trade

The first trading strategy that was performed is a strategy based on volatility. For this strategy the historical performance of the VIX was used, in addition to monthly historical pricing data for the companies over 20 years. To create trading signals, we first calculate the average of the VIX over the last 20 years, which is 19.50. Based on this average it can be estimated whether a month is in a high volatility environment (VIX is higher than average) or a low volatility environment (VIX is

lower than average). Following this the market beta for both our stocks was calculated by taking the covariance between the company returns and the market returns and dividing it by the variance of stock returns (the market betas for LMT and RTX are 0.40 and 0.49 respectively). The underlying assumption for this strategy is that high beta stocks can take advantage of high volatility environments and create exceptional returns. The strategy here being when there is high volatility, long the high beta stock (RTX) and short the low beta stock, LMT. By going long and short on similar stocks at the same time we try to eliminate the underlying market risk and gain alpha at the same time. For the strategy an equal weight approach is used. Applying this strategy results in a 20-year average return per month of 0.35%, which equals an annual return of 4.25%. The annual standard deviation of these returns is around 10%, which results in an Info Sharpe Ratio of 0.44. Compared to a long-only S&P 500 strategy over the last 20 years the Info Sharpe Ratio is slightly lower (0.55 for the S&P 500), which means that the volatility pair trade in this form is not the most profitable strategy. The main reason for the lower Info Sharpe Ratio is the average annual return, which is only around half the return of the S&P 500 (4.25% compared to 8.14%). On the other hand, this strategy has a lower risk (Standard Deviation of 9.63% compared to 14.84% for the S&P). All the performance statistics in addition to those of other strategies introduced in this thesis can be found in the appendix.

Trend Following Pairs Trade

The next strategy assumes that past performance trends can give us a signal on whether to invest in the company or not. The underlying idea is that a positive (negative) trend in the past indicated positive (negative) future performance. To illustrate past trends, we can use moving averages. In this case we are interested in the difference between multiple timeframes which is why we are testing moving averages spanning the last 5, 20, 50 and 150 months respectively. Using the monthly

closing prices for LMT and RTX we calculate the moving averages for each month. We also include a one-month lag in the calculations of the moving averages to circumvent forward-looking bias. After calculating the moving averages, we compare them to the actual closing price for each month. The deciding factor for the creation of our signals is the difference between the moving average and the closing price in the given month. We assume that a stock price which is higher than the moving average indicates a rising trend and therefore presents an attractive investment opportunity. In the next step we directly compare the above-mentioned differences for LMT and RTX. For each month we go long the company that has a bigger positive difference in stock price compared to the moving average and consequently go short the other company so that we always keep a long-short strategy and with that minimize exposure to systematic risk. After assigning the long and short positions for each month the returns of the strategy (once again keeping an equal weight between long and short positions) can then be calculated. Our returns show a negative correlation between length of moving average and returns, with the highest average returns and Info Sharpe Ratio coming from the 5-month moving average and the lowest returns and Info Sharpe coming from a strategy based on a moving average of 150 months. All trading strategies, apart from the one based on the 150-month moving average, outperform the market (long-only S&P 500) when it comes to Info Sharpe Ratio, although it must be noted that transaction fees are not included in this model. As this strategy is very heavy on the number of transactions the costs would bring down the overall performance significantly which in turn could lead to an underperformance relative to the market.

Scenario Adjusted Pairs Trade

The final strategy is a scenario adjusted Pairs Trade that relies on the Scenarios to forecast the performance of the pairs trade. This strategy uses an optimal long/short weight of 87/13, which is calculated through solver and is based on the scenario forecasts. The first step of this strategy

involved the creation of a standard pairs trade, buying LMT and selling RTX with equal weights using historical data from the past 10 years. This was done both as a comparison to the scenario adjusted returns and as a back test, since this trade relies mainly on the performance of the individual firms and is the clearest way to test the conclusions from the valuations. The 10-year range was chosen as it captures a more current market cycle and is more relevant to today's market conditions. In its basic form, the pair achieves above average returns of 10.64% annually, outperforming the S&P 500 with its average of 10.12%. It fails in creating positive alpha, however, as the higher SD of 19.78% relative to 14.96% for the S&P 500 results in lower risk-adjusted returns with an annual Sharpe Ratio of 0.54, compared to 0.68 for the market. When factoring in the scenarios the performance of the pairs trade and the S&P changes. In the event of a war with China, it is estimated that the US GDP will fall between 5-10% (Gombert, 2016) This would have a detrimental effect on the S&P which, in an optimistic scenario, would experience a crash similar to 2008 or -50%, when the war starts. (Newman, 2022) It is assumed that from this crash the S&P500 would immediately recover to its 10-year average the following year. Factoring this in, with a probability of 9.98% of the war happening, the new S&P 500 average projected returns are 8.92% with an SD of 15.93% and an Info Sharpe of 0.56. Following this, the standard Pairs Trade is adjusted using the expected pairs returns, scenario probabilities and the optimal weights of 0.87 LMT and 0.13 RTX. This gives our pairs trade returns of 5.71% (Base), -11.75% (Peace) and 34.01%(War), which, adjusted for probability, provides a new expected pair return of 6.71% and a portfolio beta of 0.2786, derived from the 10-year market betas of LMT and RTX of 0.38 and 0.40. The Variance and Standard Deviation of the new pairs trade were calculated, resulting in a SD of 23.31%. The strategy's Info Sharpe of 0.29 underperformed relative to the historical pairs-trade, the scenario adjusted S&P 500 and the historical S&P 500. However, by using the CAPM formula

to calculate alpha with the 3-month T-Bill rate of 5.32% (YCharts, 2023), the scenario adjusted pairs trade succeeded in generating positive alpha, having an alpha of 0.39%.

Price Projections and Pair Trade Implications (Group Part)

The stock prices projected are derived from the enterprise value figures, calculated through the corporate valuations for both companies using their financial statements and data provided by Bloomberg as well as other sources. The stock prices were calculated by deducting the net debt from the EV to arrive at the Equity Value and then dividing that by the most recent number of shares provided in the 2022 company reports. We assume that the number of shares outstanding will remain constant throughout the forecasting period. To account for any discrepancies in the forecasts, a sensitivity analysis was conducted for each scenario's DCF Analysis.

Although pairs trading strategies do not generally create positive alpha, a scenario adjusted pair trade that buys LMT and sells RTX at a weight of 87:13 may achieve this with consideration of the scenarios. When looking at the pairs trade, the scenario adjusted long short succeeds in achieving positive alpha, keeping in mind the lower number of trades and fees necessary to complete this strategy, however time frames and market conditions need to be considered as the strategy relies primarily on events post 2025. By comparing the changes in the stock prices in each scenario relative to the Base Scenario, we see that LMT experiences a higher upside from its market price in the War Scenario, 41.64% compared to 17.06% for RTX, while in the Peace Scenario Lockheed Martin's value per share decreases more, -15.28% compared to -11.96% for RTX. These findings are in line with the assumptions made in the valuation part of this thesis. Considering this, and assuming a war with China will negatively affect the performance of the S&P 500, an investor that expects global conflict to increase in the coming years could achieve positive alpha by going in long in LMT stock. If investors expect tensions to decrease, RTX might be the more attractive

investment opportunity than LMT, although an overall decrease of the investment is still to be expected. If neither scenario occurs, current events such as the war in Ukraine and, more recently, Gaza suggest that an escalation is more likely and that future price targets might be closer to the one projected in the War Scenario.

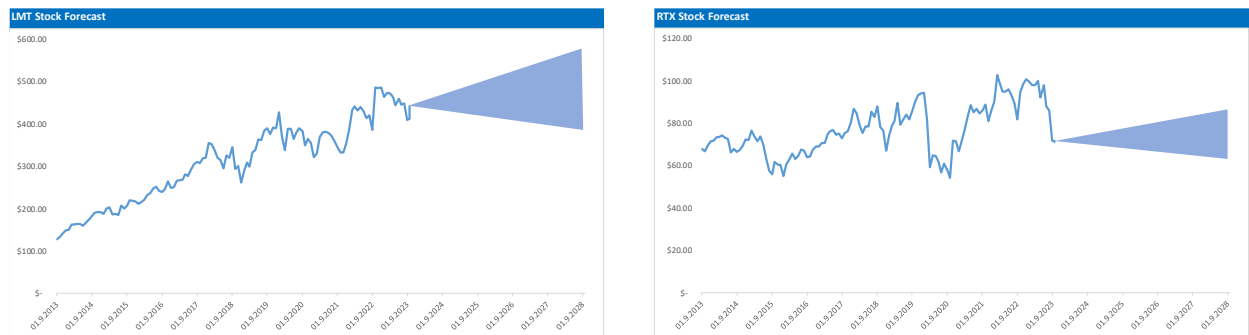


Figure 2 - LMT and RTX Stock Forecast

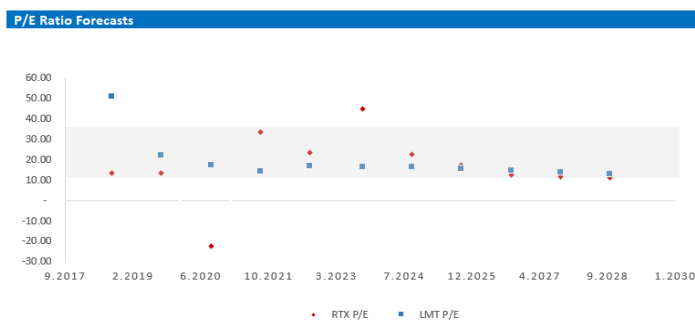


Figure 10 - LMT and RTX P/E Ratio Forecast

To test if the price projections were logical, we compared the historic company EV/Revenue and P/E ratios to the ones forecasted in the model and they remain consistent with the historical performance of the companies. For the EV/Revenue

ratio, the historical data suggest that LMT is undervalued, and forecasts remain consistent with the valuations, suggesting similar ratios being maintained of around 1.5 for LMT and 1.4 for RTX at a decreasing rate after 2023. For the P/E ratio, LMT historically averages a P/E of 20 and RTX of around 14, despite its P/E ratio being much more volatile. In the base forecasts both companies are expected to maintain a stable ratio, with LMT's being slightly higher throughout each period.

Conclusion and Final Remarks (Group Part)

In the “War Scenario”, LMT is likely to benefit more from the increase in defense spending as a significantly higher portion of its revenue comes from contracts. The company’s market share is projected to increase from 8.9% to 12.4% globally. The reasons for this are the company’s superior placement in the government contract market, its strong political connections with key US congressmen, its superior operations relative to RTX as well as its ability to create higher returns and achieve greater growth while being less levered than the industry average. Due to its superior operational efficiency, business model and extensive connections with the government Lockheed Martin is poised to surpass RTX in the domestic market, reaching a US market share of 19.1% compared to RTX’s 15.97% by 2028. As a result, Lockheed Martin will slightly outperform RTX in total revenue, generating more than \$92.6 bn. in 2028. Despite being outperformed in the domestic market, RTX is still expected to remain competitive and a large player in the USA and abroad, slightly outperforming LMT in total market share and in the international markets. RTX, however, continues to suffer from slower growth and higher operational costs. In contrast, Lockheed Martin has higher growth rates and is likely to capitalize more from international conflicts and appears to be currently undervalued when looking at the valuations and analyst forecasts. Geopolitical changes affect both corporations significantly, however LMT fares better overall, as RTX suffers from lower weighted average growth due to weaker capitalization of government contracts. In respect to demand, regulation, and economic shocks, both are likely to benefit more from the “War scenario” due to their extensive connections in government allowing for subsidies, tax cuts and risk mitigation, but both companies are estimated to see decreases in their value by around 15% for LMT and 10% for RTX in the “Peace Scenario.”

Looking at the weighted price target, RTX appears to be accurately valued even with the recent decline in industry market cap, although the additional scenarios suggest a significant disparity from the current price. Despite this, the weighted scenarios suggest the company is accurately valued with the Base Scenario price being 1.63% higher than the market one and the weighted price target suggests that the true value of RTX's stock price is \$72.84, which is only 1.75% above the market price. In contrast it appears the market is undervaluing LMT, as financials, multiples and scenarios suggest a price range between \$427.23 and \$585.90 with a weighted price target of \$446.64. LMT's stock price appears to be overvalued in the "War Scenario" with an expected growth of 40%. This is likely due to the valuations not accounting for inflation, supply chain problems. and instability, while assuming LMT will expand its share of the government contract market at the same rate as in the base case and will manage to maintain its current WACC in the event of the war. By performing a sensitivity analysis, we see that even in the worst forecast for WACC of 9.29% and growth of 1.49% during the "War Scenario", LMT's stock price is projected to reach \$515.61, an increase of 24%.

Overall, it appears the market is properly valuing RTX's potential with market expectations being close to the real and scenario adjusted value of the company. With consideration of the financial valuations and the scenarios, we suggest buying LMT and selling RTX. While neither of the two scenarios seems very likely, with each having an estimated probability of around 10%, we believe that the reality is somewhere between the base case and the war scenario, as current geopolitical trends suggest escalation of global tensions. The suggested position is supported by the historic performances of the companies. Through the equal weight pairs, we see a long-short manages to generate value, albeit at a lower Sharpe ratio compared to the market. When adjusted for the scenarios and changing the weights the Info Sharpe is lower at 0.29, underperforming the scenario

adjusted market one of 0.56, but also succeeds in generating positive alpha of 0.39%. The payoff of this strategy will be greatest in the event of the “War Scenario” as there the pairs trade is likely to generate returns of more than 15%, while the market is expected to crash by at least 50%. For this reason, it is suggested that the pairs trade is used defensively due to the superior returns being dependent on geopolitical tensions increasing.

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Appendix

Valuation Methodology

Discounted Cash Flows Valuation

To arrive at the true market value of Lockheed Martin's and RTX's stock a Discounted Cash Flow (DCF) approach was used. The method followed the conventional approach of creating a DCF analysis with the goal of arriving at annual cash flow estimates, by first forecasting revenues and calculating the yearly EBITDA, EBIT and then NOPAT values based on assumptions regarding the future trajectory of the company's performance drivers. We make these assumptions based on two different factors, past performance and the various scenarios that were introduced during the Scenario Analysis part of this thesis. The first step in this approach was reformulating the Income Statement, Balance Sheet, and Cash Flow Statement. The income statement was divided into 3 sections: Core Business, Non-Core Business and Financing. The Core Items include all items related to the operations of the business model's Revenue, COGS, Operating Costs and Core Tax. The non-core section includes items not related to the main business operations such as secondary expenses, other sources of income as well as adjustments to difference in nominal and real tax paid. The Financing Section includes items related to the financing of the business such as Debt and Interest. The Balance sheet was divided into Core Invested Capital, Non-Core Invested Capital and Financial Capital. Core Capital includes items such as inventories, PP&E and Cash. Non-Core Invested Capital includes additional items that do not fall within the main assets and liabilities of the businesses such as Goodwill and post-retirement obligations. The Financial Capital section again focuses on items such as Debt, Net Debt, and external cash. The Cash Flow Statement was also reformulated, however, items relating to the DCF, like Capital Expenditures (CapEx), Depreciation and Amortization (D/A) and Net Working Capital (NWC) were forecasted separately.

After having calculated all the necessary values we forecast the EBITDA, EBIT, NOPAT and FCF's of the company. In a last step, before we can calculate the Present Values of the company's Cash Flows, we calculate the Terminal Value. For this we are using the growing perpetuity method, for which we need a terminal growth rate. The calculation of the terminal growth rate uses both the US Average 10Y GDP Growth Rate (2.12%) and the expected growth rates from both the Aerospace Industry (2.40%) and Defense Industry (0.67%) weighted relative to the company presence in each segment. (Macrotrends, 2023) The terminal growth rate then uses a 70/30 weight towards GDP growth rate.

After calculating the FCF's and Terminal Value we discount them with the Weighted Average Cost of Capital (WACC) of the companies. A detailed explanation of the methodology of our WACC calculation is outlined below. This approach then uses the discounted values of the (FCF's) and Terminal Value to arrive at the Enterprise Value. From this the Market Value of Net Debt was subtracted to arrive at the Equity value. From the Equity Value we can then calculate the stock price of the company by dividing it by the number of shares outstanding.

- $\text{Net Debt} = \text{Market Value of Debt} - \text{Cash and Cash Equivalents}$
- $\text{Terminal Growth Rate} = 0.7 * 10\text{Y USA GDP Growth Rate} + 0.3 * \text{Company Growth Rate}$
- $\text{Company GR} = \text{Share in Aerospace} * \text{Aerospace CAGR} + \text{Share in Defense} * \text{Defense CAGR}$

WACC

To perform the DCF analysis the Weighted Average Cost of Capital (WACC) needed to be calculated. This method analyses the debt and equity of a company separately and then calculates a weighted average based on their share in the financial structure. The debt portion consists of the

pre-tax cost of debt (**Rd**) reduced by the respective tax rate (**T**) The equity is determined by the CAPM, which relies on the use of the riskless return (**Rf**) the difference between the market return and riskless return (**MRP**) as well as the company specific risk variable (**β**). **B** is the measure of systematic risk for the company and it shows its vulnerability to market movements.

- $$WACC = E/V \times [R_f + \beta \times (R_m - R_f)] + (D/V \times R_d \times (1 - T))$$

The first step was calculating the cost of debt. This was done by first calculating the weighted average maturity of each companies' debt by using the contractual interest and weight for each note the bond yield was calculated. By knowing each companies' credit rating, the 10Y S&P probability of default by rating was used and annualized. The S&Ps A&D industry average recovery rate for was also used to estimate each companies' probability of default. From this the cost of debt (**Rd**) was calculated.

Using this, together with the company interest expense from the income statements, the Weighted Average Maturity of debt and the total book value of debt from the Balance Sheet, the market value of debt for each company was calculated. Following this, the company betas were unlevered and re-levered by using the industry average unlevered beta, the corporate tax rate of 21% and each companies' D/E ratio.

After this, using the 10-year yield on U.S. treasury securities for the risk-free rate of 4.44%, and the average market risk premium for the U.S for 2023, the cost of equity (**Re**) was calculated. (FRED, 2023; Statista, 2023) From this the WACC was calculated using the relevant company debt and equity ratios at the valuation date.

- $$R_d = \text{Average Bond Yield} - \text{Loss Given Default} * \text{Annualized Probability of Default}$$

- $Re = \text{Risk-Free Rate} + \text{Relevered Beta} * \text{Market Risk Premium}$

It is important to note that despite this WACC value being computed for the base case scenario, it will also be used in the other 2 scenarios. The rationale behind this was that the companies will likely maintain their current structure despite any geopolitical changes in the future as they have maintained a significantly lower than the industry average D/E ratio well within the safe range of below 1. The extreme geopolitical consequences of the War with China Scenario will cause significant changes in the industry and company growth rate, the USA's GDP as well as the risk-free rate, among other factors. It is extremely unlikely, however, to accurately estimate these consequences as a conflict between powers of this scale has never happened. There was an attempt to estimate how the risk-free rate would potentially change using previous American wars, however fiscal policy, inflation, and economic cycles prevented an accurate correlation between conflict and interest rates. For these reasons, no adjustments were made to the discount rate for the two additional scenarios, and instead sensitivity analysis was conducted to estimate the effects the two additional scenarios might have on the stock prices.

Statistical Analysis

To gain a better understanding of our results we conducted several statistical analyses. First, we calculated the correlations of returns between not only our individual stocks but also the pairs trade strategies. To assess how stable our correlations are we performed the analysis across various time periods, including pre 2008 financial crisis, during the financial crisis, post financial crisis, as well as the first 11 years and the most recent 8 years of our dataset. By following this approach, we can analyze how different environments might affect the beta of our strategies. All the result tables can be found in the appendix. In some of the correlation calculations we excluded the longer moving

averages like 50 months or 150 months because the inclusion would've led to a lack of data points. First, we examine the return correlation between our two stocks throughout the whole period which is approximately 0.6 and quite close to the market beta of LMT over the same period (0.58). We also observe that with a market beta of approximately 0.71 RTX is significantly more correlated to the market than LMT. Surprisingly the correlations show notable differences if we only look at the pre-financial crisis period, with a return correlation of only approximately 0.17 between LMT and RTX. Still, we observe a noticeable pattern as once again LMT's market beta closely aligns with the correlation between both companies as well as RTX having a significantly higher market beta once again (0.45). One explanation for this discrepancy could be the small sample size of only 38 months (October 2004 – November 2007). In this case a few outlier months, for example July 2006 when LMT had a monthly return of 10.5% while RTX experienced a decline of -1.96%, can have a significant impact on the overall correlation. The correlations during the financial crisis present a very different pattern. All betas across our companies and the market are astonishingly similar, with all three ranging between 0.82 and 0.86. These results follow the theories presented in various scientific papers that argue an increase in correlations between individual stocks and whole indices during times of financial distress. In the period after the financial crisis (July 2009 onwards) the return correlations follow the same pattern as those across the whole period, with some minor changes. If we split the whole dataset into two parts, we can observe that the market betas of both LMT and RTX are higher during the period between 2004 and 2015 compared to the period from 2015 onwards. It is highly likely that this observation is driven by the high correlations during the crisis years between 2007 and 2009.

Examining the correlations of the pairs trade strategies (volatility-based and trend-following) with our individual companies and the overall market for the whole in-sample period shows us an

obvious pattern. For both strategies the betas are close to zero, indicating that the strategies are successful in hedging against systematic risk. Using 20 month moving averages even gives us a negative market beta. We can gain some more insights when looking at individual timeframes. In the years before the financial crisis both our strategies show a negative market beta with the volatility-based strategy even having a beta that is significantly different from zero. During the financial crisis the return correlations of both the volatility-based strategy and the trend-following strategy are negative and differ significantly from zero, indicating that during times of crises the strategies are not as effective in hedging against systematic risk. At the same time these findings indicate that our pairs trade strategies might be useful in securing our portfolio against strong market downturns in high volatility scenarios like financial crises. One quick note is that when using 50-month moving averages for our trend-following strategy the market beta is positive and close to zero, which stands in sharp contrast to the 5-month and 20-month moving average. There is no apparent reason for this discrepancy and the other calculations don't follow this pattern so we should not put too much significance into this finding. For the timeframe after the financial crisis the betas once again align closer to zero, with values between 0.16 and -0.08 (the trend-following strategy shows somewhat smaller betas with slight differences between the moving averages). When comparing the first and second half of our in-sample period we see that between 2004 and 2015 our strategies are more effective in hedging against market risk by exhibiting lower market betas (between -0.02 and -0.12) than from 2015 onwards (with betas between 0.18 and -0.30). The driving factor for this observation is most likely the correlations during the pre-crisis period, which were extremely close to zero.

In a next step we did a factor-based analysis using the "Fama-French Three Factor Model". The idea behind this model is to analyze how much of our returns can be attributed to the three factors

(1) Market-Risk Factor, which is essentially the Market Return minus the Risk-Free Rate, (2) the Small Minus Big Factor (SMB), which measures the return of small companies minus the return of big companies, and (3) the High Minus Low Factor (HML), which gives us the return of the cheapest third of stocks minus the returns of the most expensive third of stocks ranked by the Price/Book ratio. All the data used in this factor-based analysis are from the data library of Kenneth R. French. In the first step we calculate the Risk Adjusted Returns of our strategies, which we calculate by subtracting each month's risk-free rate from our monthly returns. Then we regress the three factors mentioned above on our risk-adjusted returns. We do that for both of our trading strategies and the individual moving averages. All the regression outputs can be found in the appendix. First, we look at the intercept value in our regression output. This can be understood as the alpha of our strategy, meaning the additional return that our strategies made compared to the benchmark. In this case the benchmark is the CRSP Total Market Index. We can observe that in each case the alpha is neglectable and not much different from zero which means our strategy does not outperform nor underperform the benchmark. When looking at the p-values it is important to note that, with the exception of the 50-month moving average trend-following strategy, none of the alphas are statistically significant at common levels. The Mkt-RF coefficient can be understood as the market beta. Unsurprisingly it is very close to zero in all our cases, although in the case of a 150-month moving average we have a statistically significant market beta of -0.15, which deviates slightly further from zero than in the other cases. We have a negative value in all our outputs for the SMB factor. This is in line with our expectations. The SMB factor measures the additional returns that small companies earn compared to bigger companies. In our thesis we work exclusively with large cap companies, so consequently our returns won't have a positive relation to this factor. This coefficient is statistically significant at all common levels for the 150-month moving average and at some levels for the 50-month moving average. Lastly, we have the HML coefficient, which

measures how exposed our returns are to the overperformance of value stocks against growth stocks. We can observe a mixed exposure to this factor. The volatility-based as well as the 5-month moving average trend-following strategy have a slightly positive exposure to the factor (0.04 and 0.11 respectively) while the returns of the 20-month, 50-month and 150-month moving averages show a negative exposure (-0.03, -0.10 and -0.12 respectively). We work with two companies that have significantly different Price-to-Book ratios, with LMT (RTX) having a P/B of 11.77 (1.70). As of January 2023, the average P/B ratio in the Aerospace/Defense sector is at 4.93, which means we could categorize LMT as a growth stock and RTX as a value stock. Having pairs trade strategies with both a growth and value stock could explain why we have such a variation in the exposure of our returns against the HML (High Minus Low) factor. Lastly, we must note that only for the 150-month average the R-Squared is significantly different from zero and with a value of 0.17 it is still not very high, which means that these factors are not really suited to explain the returns of our strategies.

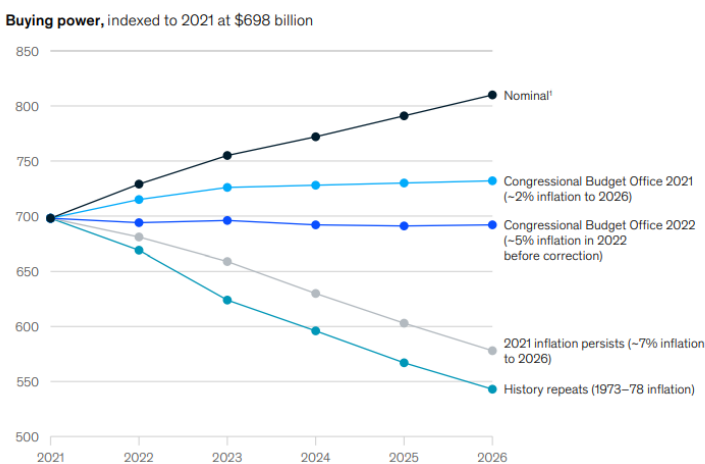
Furthermore, we want to test the sensitivity of both company returns and trading strategy returns to changes in the inflation rate and interest rate. For our inflation analysis we use non-adjusted monthly CPI data from the US Bureau of Labor Statistics. The dataset includes the Consumer Price Index, the over-the-year percentage change and the over-the-month percentage change for every month from 1913 to 2023. We are interested in the over-the-month percentage change for the period between February 2003 and September 2023. With this data and our monthly return series for the companies and trading strategies we can now calculate if there is a correlation between our returns and changes in the inflation rate. It is important to note that inflation data for a month is usually presented in the middle of the following month, meaning that the markets will react with a delay to inflation data. For this reason, we will introduce a one-month lag into our correlation

calculations. This means that, for example, we will measure the correlation between April returns with the change in inflation rate during March of the same year. The table with all correlations can be found in the appendix. At first glance, we can see that none of our companies or trading strategies are significantly impacted by inflation as all the correlations are close to zero. The highest positive correlations are our equal-weighted long-short strategy (correlation of 0.09) with LMT as the long position and RTX as the short, and the S&P 500 with a correlation of 0.06. Consequently, the only “somewhat” significant negative correlation can be observed for our volatility-based strategy, with a factor of -0.08. This might indicate that a volatility-based trading strategy might be useful in hedging inflation risk. Consequently, the strategy could be a valuable addition to any portfolio with returns that are susceptible to changes in the inflation rate.

We also explored an alternative approach to measure inflation sensitivity. The idea of this approach is based on a study done by McKinsey in March 2022. In the study McKinsey aims to understand the impact of inflation on the buying power of the Department of Defense. They do this by utilizing published data about DoD budgets to forecast future budgets under multiple inflation scenarios.

We are using the same scenarios to calculate adjusted future DoD budgets, which will then allow

Exhibit 1
Inflation will influence the buying power of the Department of Defense for the \$773 billion budget approved for fiscal year 2023.



us to forecast adjusted revenues for our companies (using the same methodology that we already explained in this thesis). We are using the same scenarios to calculate adjusted future DoD budgets, which will then allow us to forecast adjusted revenues for our companies

(using the same methodology that we already explained in this thesis). Finally, we will be able to do DCF valuations with the adjusted revenues, which will then allow us to compare the forecasted stock prices with those in a scenario without inflation. We will do this analysis for four different scenarios; an annual inflation of 2%, of 5%, of 7% and of 8.3%, which equals the average annual inflation rate in the US between 1973 and 1978. The study looks at a period of 6 years, between 2021 and 2026. In contrast to a scenario without inflation, McKinsey projects a loss in buying power as follows: 9.6% (1.6% annually) for a 2% inflation rate, 14.6% (2.4% annually) in the case of 5% inflation, 28.6% (4.8% annually) under a scenario with 7% inflation, and a loss of 33% in buying power (5.5% annually) if the future annual inflation rate would be equal to the one between 1973 and 1978. Having these annual rates lets us calculate the adjusted DoD budgets for each inflation scenario and each war scenario starting from those budgets projections done in valuation part of our thesis. All the adjusted budgets as well as other calculations for this analysis can be found in the appendix. The next steps equal those done in the valuation. First, we calculate the DoD contract values and the contract revenues for both our companies. We assume the same ratio of military contracts to the total budget (0.46) and the same contract share for our companies as we did in the valuation part of this thesis. Finally, by also holding constant the share of contract revenue in relation to the total revenue for our two companies we can calculate the adjusted revenues for each inflation scenario. After calculating the revenue, we can now do the DCF valuations for each inflation scenario. We assume that EBITDA margins, depreciation, and amortization as well as CapEx and Net Working Capital will stay the same as in our main valuation, regardless of the inflation rate. After doing all the DCF's we once again use the same probabilities for our war scenarios to derive the final prices for each of our inflation scenarios. Comparing the final prices quickly shows that the stock of RTX is more sensible to increases in the inflation rate. If we assume 2% annual inflation, we forecast a stock price of 65.34 for RTX and 384.04 for LMT, which

presents a downside of 8.72% compared to the actual stock price on our valuation date for RTX (7.16% downside for LMT). In the worst-case inflation scenario (8.3% annually), the downside for RTX stock would be 30.98% compared to 26.75% for LMT. One possible reason for the difference in sensitivity between our companies could be the EBITDA and EBIT margins. RTX has slightly higher profit margins than LMT, which in turn means that a decrease in revenue, driven by the inflation-related loss in the DoD's buying power, will lead to a consequently more significant decline in profits and cash flows for RTX compared to LMT. Looking at our pairs trade strategies these results suggest that rising inflation rates should, overall, benefit our long-short strategy, as the potential profits from our short position in RTX would outweigh any losses in our long position in LMT. In addition to that we could use rising inflation rates as a signal to increase our weight in the short position while simultaneously decreasing the size of the long position. However, an adjustment in weights could expose our portfolio to more systematic risk. Finally, we must note that this approach is rather simplified as we analyzed the inflation sensitivity exclusively through changes in revenues as we held all other input factors constant. In reality, inflation would have a broader effect on the businesses of our companies. Therefore, these findings give us an insight, but a more comprehensive analysis would be needed to capture the precise effect of inflation.

After checking the for the sensitivity against inflation we also want to know what possible impact changes in interest rates have on the returns of our trading strategies. We follow a similar approach as we did in our inflation sensitivity analysis, first calculating the correlation between changes in interest rates and the multiple return series for our companies, trading strategies and the market. As we already did in our valuation, we use the market yield of 10Y US Treasury Securities as the proxy for the risk-free rate. Using monthly data obtained from FRED we calculate monthly percentage changes in the risk-free rate. With the percentage changes and the monthly returns, we

can then calculate the correlations. Once again, the results can be found in the appendix. We can see that the individual stocks as well as the market have positive, although not highly significant (between 0.02 and 0.08) positive correlations with changes in the inflation rate. The same can be said about our volatility-based strategy. The trend-following strategy shows inconclusive results, although we can see a trend that suggests that strategies based on shorter moving averages are more positively correlated with interest rates. The standard long-short strategy shows a significant negative correlation with a change in interest rates (-0.26). This finding suggests that our scenario adjusted long-short strategy could also be used to hedge against interest rate risk, albeit there is no historical data to test this.

Scenarios Methodology

The approach used to forecast the defense spending for each scenario was estimating the Department of Defense spending in the future relative to total GDP, based on the context of our scenarios, from there we could calculate the budget by using the forecasts for real US GDP in the next 5 years to arrive at the DoD budget for each period. This approach assumes that DoD spending/GDP increases when the USA is at war. It also assumes that the current ratio of military contracts to defense budget for each company will remain constant in the future.

Although for the Base case and Peace scenarios the same GDP forecast was assumed, the likelihood of GDP remaining accurate with the forecasts during the War scenario is low due to the severe global recession a blockade of Taiwan and war with China would cause. For this reason, the analysis of RAND Corporation was used, which suggested a crash in GDP between 5% and 10% in the event of invasion. (Gombert, 2016) It was assumed that the following recession would leave the US economy stagnant, with it growing at half the rate of its average, or around 1%, although this is an optimistic assumption. For the S&P the exact effects cannot be calculated, but it is

assumed that the decline will be at least as bad as 2008, so a crash of at least -50% was assumed followed by an immediate recovery to the 10-year average returns. (Newman, 2022)

The first step in creating the scenarios was estimating the base case scenario spending for defense. This scenario was based on historical data of % of GDP spent on defense from the past 5 years to arrive at an average rate of 3.53%, which is assumed to remain constant until 2028. The assumption in this case being that the USA will continue to support Ukraine as it has in the past years without getting directly involved and no major geopolitical changes will occur. Statista was used to provide forecasts of the GDP for the USA in the next 5 years and from there we calculated the DoD spending for this scenario. (Statista, 2023)

The second step was determining how spending will change in the scenarios. For this we decided to use wars the USA was involved in as a precedent. We extracted data for the real GDP and the Defense Spending as a percentage of GDP for each year of a selected war, and from this created an average % of DoD spending/GDP for 5 distinct war periods from 1936-2022. With this a scale was constructed that ranked the level of involvement of the United States in 5 conflicts in the 20th and 21st century. The assumption here being that the defense spending relative to GDP was correlated to whether the country was in a conflict and how committed to that war America was. The historical data supported the assumption that the % of GDP assigned to defense increases relative to the scale of the war, as we saw significant changes in DoD spending/GDP when a conflict occurred relative to peace time and with each consecutive level of engagement. With this data the scale was created, encompassing 5 levels from limited to heavy involvement.

It was assumed that regardless of the political party, a conflict in Taiwan would be too large and consequential to ignore, therefore even a less aggressive administration would increase its DoD budget. It is important to note that this assumption relies on the new administration having a similar

approach to one of the past two. Considering that Biden is running for re-election and Trump is the runner-up for the Republican Party, it is not implausible to believe that either a Trump or Biden cabinet will be running the USA post-2024. For the war scenario, Biden was assumed to be the victor because at the valuation date of 22nd of September he was leading in the polls with 45% in favor of Biden and due to his administration being less aggressive towards the CCP.

After estimating the DoD budget for each of the three scenarios, it was assumed that the 2022 ratio of defense spending going towards military contracts relative to total defense spending would remain constant in the next 5 years, giving a ratio of 0.46 from 2023-2028. With this we calculated what the total value of contracts would be in each scenario. By estimating the amount of sales coming from contracts in the base case, each business' share was calculated. Assuming that it would grow at the same rate for each scenario as the base one, gives the estimates of how much revenue these companies would make in the other two scenarios from government contracts alone. Using their assumed ratios of total revenue belonging to contracts, resulted in the forecasted total revenues.

Ratio of Military Contracts/Total Budget	0.46
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Defense Budget Increase/Decrease by Administration Change (in \$ billion)	
Democrat	-8.2
Republican	46.3

Republican Average DoD Budget as % of GDP	3.37%
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Democrat Average DoD Budget as % of GDP	3.76%
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Leading DoD Contractors In the US by contract Value 2022		
Contractor	Contract Value (in \$ billion)	% of total
Lockheed Martin Corporation	46.21	13.42%
Raytheon Technologies Corporation	26.13	7.59%
General Dynamics Corporation	21.57	6.26%
Pfizer Inc.	16.67	4.84%
Boeing Company	14.80	4.30%
Northrop Grumman Corporation	13.77	4.00%
Humana Inc.	7.74	2.25%
L3Harris Technologies, Inc.	6.75	1.96%
Huntington Ingalls Industries, Inc.	5.36	1.56%
Bae Systems PLC	5.09	1.48%
Leidos Holdings Inc.	4.08	1.18%
Centene Corporation	3.55	1.03%
Analytic Services Inc.	3.28	0.95%
Bechtel Corp	3.21	0.93%
Amentum Services Inc.	3.19	0.93%
Atlantic Diving Supply Inc.	3.11	0.90%
KBR, Inc.	3.09	0.90%
McKesson Corporation	2.91	0.84%
Science Applications International Corporation	2.81	0.82%
Eli Lilly and Company	2.75	0.80%
Other	148.33	43.07%
Total	344.40	100.00%

US Defense Spending Changes During Periods of Conflict						
Year	Conflict	Defense Spending (in \$ bn.)	US Real GDP (in \$ bn.)	Defense Spending Relative to GDP	Average	
1936	Pre-war and World War 2 Period	12	1,114	1.10%	32.34%	
1937		13	1,171	1.11%		
1938		15	1,132	1.29%		
1939		13	1,223	1.05%		
1940		21	1,331	1.61%		
1941		76	1,567	4.87%		
1942		292	1,863	15.67%		
1943		774	2,180	35.51%		
1944		912	2,353	38.74%		
1945		919	2,330	39.42%		
1955	Vietnam War	274	2,873	9.52%	8.08%	
1956		273	2,934	9.30%		
1957		282	2,996	9.40%		
1958		280	2,974	9.40%		
1959		283	3,180	8.90%		
1960		272	3,262	8.33%		
1961		284	3,346	8.48%		
1962		306	3,551	8.63%		
1963		303	3,705	8.19%		
1964		294	3,919	7.49%		
1965		291	4,173	6.98%		
1966		370	4,449	8.31%		
1967		401	4,571	8.77%		
1968		412	4,795	8.59%		
1969		397	4,945	8.02%		
1970		359	4,954	7.25%		
1971		327	5,118	6.39%		
1972		325	5,387	6.04%		
1973		312	5,691	5.49%		
2003	Iraq War	487	13,866	3.51%	4.04%	
2004		534	14,400	3.71%		
2005		563	14,901	3.78%		
2006		576	15,316	3.76%		
2007		597	15,624	3.82%		
2008		649	15,643	4.15%		
2009		696	15,236	4.57%		
2010		726	15,649	4.64%		
2011		702	15,892	4.42%		
2014	Syrian Civil war	596	16,932	3.40%	3.20%	
2015		583	17,390	3.20%		
2016		585	17,680	3.20%		
2017		590	18,077	3.10%		
2018		622	18,609	3.10%		
2019		676	19,036	3.20%		
2022	Ukraine War	746	20,014	3.73%	3.73%	

Level Of Engagement			
Scale of Commitment	Level Of Engagement	War	Defense Spending Relative to GDP
1	Limited Involvement	Syrian Civil War	3.20%
2	Indirect Involvement	Ukraine War	3.73%
3	Moderate Involvement	Iraq War	4.04%
4	Significant Involvement	Vietnam War	8.08%
5	Heavy Involvement	World War 2	32.34%

US Defense Spending Outlay and Forecast from 2012-2028 (in \$ million)						
Year	DoD Budget	US Real GDG	Defense Budget as % of Real	US Nominal GDP	Defense Budget as % of Nominal GDP	
2012		670,500	16,254,000	4.13%	16,254,000	4.13%
2013		625,800	16,843,200	3.72%	16,843,200	3.72%
2014		596,400	16,932,100	3.52%	17,550,700	3.40%
2015		583,400	17,390,300	3.35%	18,206,000	3.20%
2016		584,800	17,680,300	3.31%	18,695,100	3.13%
2017		590,200	18,076,700	3.26%	19,477,300	3.03%
2018		621,700	18,609,100	3.34%	20,533,100	3.03%
2019		676,000	19,036,100	3.55%	21,381,000	3.16%
2020		714,000	18,509,100	3.86%	21,060,500	3.39%
2021		742,000	19,608,800	3.78%	23,315,100	3.18%
2022		746,000	20,014,100	3.73%	25,462,700	2.93%
2023		742,501	20,330,323	3.65%	26,238,000	2.83%
2024		750,372	20,545,824	3.65%	27,266,000	2.75%
2025		763,578	20,907,431	3.65%	28,610,000	2.67%
2026		779,232	21,336,033	3.65%	29,932,000	2.60%
2027		795,752	21,788,357	3.65%	31,251,000	2.55%
2028		812,622	22,250,270	3.65%	32,525,000	2.50%

US Defense Spending Forecast in the event of War 2013-2028 (in \$ million)						
Year	DoD Budget	US Real GDG	Defense Budget as % of Real GDP	US Nominal GDP	Defense Budget as % of Nominal GDP	
2023		742,057	20,330,323	3.65%	26,238,000	2.83%
2024		830,051	20,545,824	4.04%	27,266,000	3.04%
2025		788,549	19,518,533	4.04%	28,610,000	2.76%
2026		1,035,240	19,713,718	5.25%	28,435,400	3.64%
2027		1,125,990	19,910,856	5.66%	29,688,450	3.79%
2028		1,137,250	20,109,964	5.66%	30,898,750	3.68%

Scenario Analysis																		
	Base Scenario 1						Peace Scenario						War Scenario					
(in \$ million)	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
Defense Budget Estimates	742,501	750,372	763,578	779,232	795,752	812,622	742,501	703,766	669,038	718,203	733,475	749,024	742,057	830,051	788,549	1,035,240	1,125,990	1,137,250
Military Defense Contract Value	342,785	346,418	352,515	359,742	367,368	375,157	342,785	324,902	308,869	331,567	338,618	345,796	342,580	383,203	364,043	477,931	519,827	525,025.44
LMT Contract Revenue Forecast	51,907	55,537	59,421	63,576	68,021	72,778	51,907	52,088	52,064	58,596	62,698	67,082	51,876	61,434	61,364	84,463	96,250	101,851
RTX Contract Revenue	32,901	34,706	36,611	38,620	40,739	42,975	32,901	34,354	33,980	35,636	37,576	39,657	32,901	38,385	40,492	46,987	54,048	61,795
LMT Defense Contract Share	15%	16%	17%	18%	19%	19%	15%	16%	17%	18%	19%	19%	15%	16%	17%	18%	19%	19%
RTX Defense Contract Share	10%	10%	10%	11%	11%	11%	10%	11%	11%	11%	11%	11%	10%	10%	11%	10%	10%	12%

Primaries Main Party Candidate Polls (22.09.23)	
Biden	62.80%
Trump	56.10%

Presidential Candidate Polls (22.09.23)	
Biden	45%
Trump	40%

Taiwan Presidential Candidate		
Party	Candidate	Polls
DPP	Lai Ching-te	35.30%
KMT	Huo Yu-ih	17.80%
TPP	Ko Wen-je	17.10%
Independent	Terry Gou	11.60%

Scenario Probabilities	
Base Scenario	79.59%
Peace Scenario	10.43%
War Scenario	9.98%

Global Industry Size Forecast							
in \$ Million Revenue	2022	2023	2024	2025	2026	2027	2028
A&D Revenue Forecast	741,000	785,806	833,329	883,736	937,200	993,909	1,054,060
Global Defense	479,880	507,713	537,160	568,316	601,278	636,152	673,049
Aerospace	261,120	278,093	296,169	315,420	335,922	357,757	381,011
Share of the Industry							
Defense	65%	65%	64%	64%	64%	64%	64%
Aerospace	35%	35%	36%	36%	36%	36%	36%

US Industry Size Forecast							
in \$ Million Revenue	2022	2023	2024	2025	2026	2027	2028
USA A&D	368,420	372,087	375,808	379,583	383,413	387,300	391,245
Defense	299,120	301,125	303,142	305,173	307,218	309,276	311,348
Aerospace	69,299	70,963	72,666	74,410	76,196	78,024	79,897
Share of the Industry							
Defense	81.19%	80.93%	80.66%	80.40%	80.13%	79.85%	79.58%
% change		-0.32%	-0.33%	-0.33%	-0.34%	-0.34%	-0.35%
Aerospace	18.81%	19.07%	19.34%	19.60%	19.87%	20.15%	20.42%
% change		1.39%	1.39%	1.38%	1.38%	1.37%	1.37%

Global Industry Size Forecast								Global Industry Size Peace Scenario								Global Industry Size War Scenario							
in \$ Million Revenue	2022	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028				
A&D Revenue Forecast	741,000	785,806	833,329	883,736	937,200	993,909	1,054,060	785,794	806,487	833,420	903,630	960,005	1,019,793	785,571	869,106	892,237	1,058,061	1,149,122	1,204,819				
Global Defense	479,880	507,713	537,160	568,316	601,278	636,152	673,049	507,703	515,508	527,864	574,379	609,078	645,780	507,523	564,697	572,668	693,301	753,214	784,463				
Aerospace	261,120	278,093	296,169	315,420	335,922	357,757	381,011	278,090	290,979	305,556	329,251	350,927	374,014	278,048	304,409	319,570	364,760	395,908	420,355				
Share of the Industry																							
Defense	65%	65%	64%	64%	64%	64%	64%	65%	64%	63%	64%	63%	63%	65%	65%	64%	66%	66%	65%				
Aerospace	35%	35%	36%	36%	36%	36%	36%	35%	36%	37%	36%	37%	37%	35%	35%	36%	34%	34%	35%				

US Industry Size Forecast								US Industry Size Peace Scenario								US Industry Size War Scenario							
in \$ Million Revenue	2022	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028				
USA A&D	368,420	372,087	375,808	379,583	383,413	387,300	391,245	372,075	348,965	329,267	349,843	353,396	356,978	371,852	411,584	388,085	504,275	542,514	542,003				
Defense	299,120	301,125	303,142	305,173	307,218	309,276	311,348	301,115	281,490	264,721	280,319	282,202	284,079	300,934	330,678	309,525	399,241	426,338	422,763				
Aerospace	69,299	70,963	72,666	74,410	76,196	78,024	79,897	70,960	67,476	64,546	69,524	71,194	72,899	70,918	80,906	78,560	105,033	116,176	119,241				
Share of the Industry																							
Defense	81.19%	80.93%	80.66%	80.40%	80.13%	79.85%	79.58%	80.93%	80.66%	80.40%	80.13%	79.85%	79.58%	80.93%	80.34%	79.76%	79.17%	78.59%	78.00%				
% change		-0.32%	-0.33%	-0.33%	-0.34%	-0.34%	-0.35%	-0.32%	-0.33%	-0.33%	-0.34%	-0.34%	-0.35%	-0.32%	-0.72%	-0.73%	-0.73%	-0.74%	-0.75%				
Aerospace	18.81%	19.07%	19.34%	19.60%	19.87%	20.15%	20.42%	19.07%	19.34%	19.60%	19.87%	20.15%	20.42%	19.07%	19.66%	20.24%	20.83%	21.41%	22.00%				
% change		1.39%	1.39%	1.38%	1.38%	1.37%	1.37%	1.39%	1.39%	1.38%	1.38%	1.37%	1.37%	1.39%	3.07%	2.98%	2.89%	2.81%	2.74%				

RTX Corporation

Financials

Income Statement

Income Statement											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Net Sales											
Product Sales	40729	45253	41545	39801	40735	41361	45434	54004	43319	49270	50773
Service Sales	16979	17373	16355	16297	16509	18476	21067	23042	13268	15118	16301
	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074
Cost and Expenses											
Cost of Products Sold	31094	34063	30367	29771	30325	31027	36754	42444	38137	41095	41927
Cost of Services Sold	11059	11258	10531	10660	11135	12926	13231	14621	9919	10802	11479
R&D	2371	2529	2475	2279	2337	2387	2462	3015	2582	2732	2711
SG&A	6452	6718	6172	5886	6060	6183	7066	8521	5540	5224	5663
	50976	54568	49545	48596	49857	52523	59513	68601	56178	59853	61780
Other Income	952	1151	1238	-211	785	1358	1565	521	-2298	423	120
Operating Profit	7684	9209	9593	7291	8172	8672	8553	8966	-1889	4958	5414
Non-Service Pension Benefit	-	-	-	-	-	-	659	829	902	1295	1889
Interest Expense	-773	-897	-881	-824	-1039	-909	-1032	-723	-1366	-1322	-1276
Pre-Tax Income	6911	8312	8712	6467	7133	7763	8180	9072	-2353	4931	6027
Income Tax Expense	-1711	-2238	-2244	-2111	-1697	-2843	-2626	-2295	-575	-786	-700
Operating Income	5200	6074	6468	4356	5436	4920	5554	6777	-2928	4145	5327
Noncontrolling Interest	-353	-388	-402	-360	-371	-368	-385	-411	-181	-248	-111
Income attributable to Shareholders	4847	5686	6066	3996	5065	4552	5169	6366	-3109	3897	5216
Income from discontinued Operations attributable to Shareholders	283	35	154	3612	-10				-410	-33	-19
Net Income attributable to Shareholders	5130	5721	6220	7608	5055	4552	5169	6366	-3519	3864	5197

EPS Basic											
EPS continuing Operations attributable to Shareholders	5.41	6.31	6.75	4.58	6.19	5.76			-2.29	2.6	3.54
EPS attributable to Shareholders	5.73	6.35	6.92	8.72	6.18	5.76	6.58	6.48	-2.59	2.57	3.52
EPS Diluted											
EPS continuing Operations attributable to Shareholders	5.35	6.21	6.65	4.53	6.13	5.7			-2.29	2.58	3.51
EPS attributable to Shareholders	5.66	6.25	6.82	8.61	6.12	5.7	6.5	6.41	-2.59	2.56	3.5
Dividends per Share	2.03	2.195	2.36	2.56	2.62	2.72					
Weighted Average of Shares Outstanding											
Basic shares	895.2	901	898.3	872.7	818.2	790	800.4	854.8	1357.8	1501.6	1475.5
Diluted Shares	906.6	915.1	911.6	883.2	826.1	799.1	810.1	863.9	1357.8	1508.5	1485.9

Comprehensive Income											
Net Income	5490	6109	6623	7966	5426	4920	5654	5948	-3295	4112	5308
Foreign currency adjustments	456	-498	-1295	-1460	-1089	610	-522	225	609	-647	-1048
Change in pension and post-retirement benefit plans	-440	2983	-2442	574	90	393	-1066	-317	2215	3468	1354
Unrealized gain/loss on available-for-sale securities	-19	151	12	-15	60	-348	-5				
Change in unrealized cash flow hedging	53	-82	-130	-130	177	234	-245	7	263	-254	-143
Income Tax									-547	-748	-266
Other comprehensive income	50	2554	-3855	-1031	-762	889	-1838	-85	2540	1819	-103
Comprehensive Income	5540	8663	2768	6935	4664	5809	3816	5863	-755	5931	5205
Noncontrolling Interest	-368	-374	-329	-285	-324	-448	-355	-399	-224	-248	-111
Comprehensive Income attributable to shareholders	5172	8289	2439	6650	4340	5361	3461	5464	-979	5683	5094

Taxes											
Effective Tax Rate	24.8%	26.9%	25.8%	32.6%	23.8%	36.6%	32.1%	25.3%	-24.4%	15.9%	11.6%
Statutory Tax Rate	35%	35%	35%	35%	35%	35%	21%	21%	21%	21%	21%

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Revenue Breakdown													Average
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
Product Sales	40729	45253	41545	39801	40735	41361	45434	54004	43319	49270	50773		
Service Sales	16979	17373	16355	16297	16509	18476	21067	23042	13268	15118	16301		
	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074		
Product Share	70.58%	72.26%	71.75%	70.95%	71.16%	69.12%	68.32%	70.09%	76.55%	76.52%	75.70%	72.09%	
Service Share	29.42%	27.74%	28.25%	29.05%	28.84%	30.88%	31.68%	29.91%	23.45%	23.48%	24.30%	27.91%	

Balance Sheet

Balance Sheet											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Assets											
Cash and Cash Equivalents	4819	4619	5229	7075	7157	8985	6152	7378	8802	7832	6220
Accounts Receivable	11099	11458	10448	10653	11481	12595	14271	13524	9254	9661	9108
Inventories	9537	10330	7642	8135	8704	9881	10083	10950	9411	9178	10617
Contract Assets							3486	4184	9931	11361	11534
Other Current Assets	4155	3035	8164	843	1208	1397	1511	1461	5978	4018	4964
Total Current Assets	29610	29442	31483	26706	28550	32858	35503	37497	43376	42050	42443
Customer Financing Assets	1150	1156	958	1018	1398	2372	3023	3477	3144	2848	2603
Future Income Tax Benefits	1599	1236	1491	1961	1809	1723	1646	1611			
Fixed Assets	8518	8866	8592	8732	9158	10186	12297	12755	14962	14972	15170
Goodwill	27801	28168	27448	27301	27059	27910	48112	48063	54285	54436	53840
Intangible Assets	15189	15521	15528	15603	15684	15883	26424	26046	40539	38516	36823
Other Assets	5542	6205	5706	6163	6048	5988	7206	10267	5847	8582	7985
Total Assets	89409	90594	91206	87484	89706	96920	134211	139716	162153	161404	158864
Liabilities and Equity											
Short-term borrowings	503	388	126	926	601	392	1469	2364	247	134	625
Accounts payable	6431	6965	6250	6875	7483	9579	11080	10809	8639	8751	9896
Accrued liabilities	15310	15335	12527	14638	12219	12316	10223	11737	13523	12820	13400
Contract liabilities							5720	6180	12889	13720	14598
Liabilities held for sale	421		2781								
Long-term debt currently due	1121	112	1791	179	1603	2104	2876	3496	550	24	595
Total Current Liabilities	23786	22800	23475	22618	21906	24391	31368	34586	35848	35449	39114
Long-term debt	21597	19741	17784	19320	21697	24989	41192	37788	31026	31327	30694
Future pension and postretirement obligations	7520	3444	6681	6022	5612	3036	4018	3502	10342	7855	4807
Other long-term liabilities	9199	11279	10562	10558	11026	12952	16914	19514	11053	12074	10035
Total Liabilities	62102	57264	58502	58518	60241	65368	93492	95390	88269	86705	84650
Redeemable noncontrolling interest	238	111	140	122	296	131	109	95	32	35	36
Stockholders Equity											
Capital Stock:											
Preferred Stock											
Common Stock	13976	14764	15300	16033	17285	17574	22514	23019	36930	37483	37939
Treasury Stock	-19251	-20431	-21922	-30907	-34150	-35596	-32482	-32626	-10407	-12727	-15530
Retained Earnings	36776	40539	44611	49956	52873	55242	57823	61594	49423	50265	52269
Unearned ESOP Shares	-139	-126	-115	-105	-95	-85	-76	-64	-49	-38	-28
Total accumulated other comprehensive loss	-5448	-2880	-6661	-7619	-8334	-7525	-9333	-10149	-3734	-1915	-2018
Total Stockholders Equity	25914	31866	31213	27358	27579	29610	38446	41774	72163	73068	72632
Noncontrolling interest	1155	1353	1351	1486	1590	1811	2164	2457	1689	1596	1546
Total Equity	27069	33219	32564	28844	29169	31421	40610	44231	73852	74664	74178
Total Liabilities and Equity	89409	90594	91206	87484	89706	96920	134211	139716	162153	161404	158864
Working Cash											
Cash and cash equivalents	4819	4619	5229	7075	7157	8985	6152	7378	8802	7832	6220
Operating cash rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Working Cash	96.38	92.38	104.58	141.5	143.14	179.7	123.04	147.56	176.04	156.64	124.4
Excess of Cash	4722.62	4526.62	5124.42	6933.5	7013.86	8805.3	6028.96	7230.44	8625.96	7675.36	6095.6
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

Reformulated Balance Sheet

	Base Scenario												Peace Scenario												War Scenario					
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025	2026	2027	2028		
Revenue	57708	62626	57900	56098	57244	59837	66501	77046	96587	64388	87074		70755	74637	78733	83054	87611	92419	70755	70002	68985	76549	85186	70712	82563	81308	110340	123970	129338	
Working Cash	96.38	92.38	104.58	141.5	143.14	179.7	123.04	147.56	176.04	156.64	124.4		155	164	173	182	192	203	155	154	151	168	177	187	155	181	178	242	272	284
% of Revenue	0.17%	0.15%	0.18%	0.25%	0.25%	0.30%	0.19%	0.19%	0.18%	0.24%	0.14%		0.22%																	
Accounts Receivable	11099	14588	10048	10653	11481	12595	14271	13524	9254	9661	9108		12840	13545	14288	15072	15899	16771	12840	12703	12519	13891	14655	15459	12832	14983	14755	20024	22497	23471
% of Revenue	19.23%	18.30%	18.04%	18.99%	20.60%	21.05%	21.46%	17.55%	16.35%	15.20%	15.58%		18.15%																	
Inventories	9537	10330	7642	8135	8704	9881	10083	10950	9411	9178	9061		10840	11435	12062	12724	13423	14159	10840	10775	10569	11728	12372	13051	10834	12649	12457	16905	18993	19816
% of Revenue	16.53%	16.49%	13.20%	14.50%	15.21%	16.51%	15.16%	14.21%	16.63%	14.25%	15.83%																			
Contract Assets	0	0	0	0	0	0	3486	4184	9931	11381	11534		4056	4279	4514	4761	5023	5298	4056	4013	3955	4389	4630	4884	4054	4733	4661	6326	7107	7415
% of Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.24%	5.43%	17.53%	17.44%	17.20%		5.73%																	
Other current assets	4155	3035	8164	843	1208	1397	1511	1461	5978	4018	4964		3889	4103	4328	4566	4816	5080	3889	3848	3792	4208	4439	4683	3887	4539	4470	6065	6815	7110
% of Revenue	7.20%	4.83%	14.10%	1.50%	2.11%	2.33%	2.27%	1.99%	10.16%	6.24%	7.40%		5.50%																	
Customer financing assets	1150	1156	958	1018	1398	2372	3023	3477	3144	2848	2603		2356	2486	2622	2766	2918	3078	2356	2331	2297	2549	2689	2837	2355	2750	2708	3675	4129	4307
% of Revenue	1.99%	1.85%	1.65%	1.81%	2.44%	3.96%	4.55%	4.51%	5.16%	4.42%	3.88%		3.33%																	
Future income tax benefits	1599	1236	1491	1961	1809	1723	1646	1611	0	0	0		1378	1453	1533	1617	1706	1800	1378	1363	1343	1491	1573	1659	1377	1608	1583	2149	2414	2519
% of Revenue	2.77%	1.97%	2.58%	3.50%	3.18%	2.88%	2.48%	2.09%	0.00%	0.00%	0.00%		1.95%																	
Fixed assets	8188	8866	8592	8732	9158	10186	12297	12755	14962	14972	15170		16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748
YoY growth in %	4.09%	3.09%	-1.63%	4.88%	11.23%	20.72%	3.72%	17.30%	0.07%	1.32%			6.19%																	
goodwill	27801	29168	27448	27701	27059	27910	48112	48063	54285	54436	53840		43650	46045	48572	51238	54049	57015	43650	43186	42558	47225	49819	52553	43624	50935	50161	68071	76480	79792
% of Revenue	48.18%	44.98%	47.41%	48.67%	47.27%	46.64%	72.35%	62.38%	95.93%	84.54%	61.69%		61.69%																	
Intangible assets	15189	15521	15528	15603	15684	15883	26424	26046	40539	38516	38823		26988	28469	30031	31679	33418	35252	26988	26701	26313	29198	30802	32493	26972	31492	31014	42087	47286	49334
% of Revenue	26.32%	24.78%	26.82%	27.83%	27.40%	26.54%	39.73%	33.81%	71.64%	59.82%	44.50%		38.14%																	
Accounts payable	6431	6965	6250	6875	7483	9579	11080	10809	8639	8751	9896		9565	10089	10643	11227	11843	12493	9565	9463	9325	10348	10916	11515	9559	11161	10991	14916	16758	17484
% of Revenue	11.14%	11.12%	10.79%	12.26%	13.07%	16.01%	16.66%	14.03%	15.27%	13.59%	14.75%		15.22%																	
Accrued liabilities	15310	15335	15257	14638	12219	12316	10223	11377	13523	13820	13400		15120	15950	16825	17748	18722	19750	15120	14959	14742	16358	17257	18204	15111	17643	17375	23579	26492	27639
% of Revenue	26.53%	24.49%	21.64%	26.09%	21.35%	20.58%	15.37%	15.23%	23.50%	19.13%	15.98%		21.37%																	
contract liabilities	0	0	0	0	0	0	5720	6180	12889	17320	14598		5305	5596	5903	6227	6569	6929	5305	5248	5172	5739	6055	6387	5302	6190	6096	8273	9295	9697
% of Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.60%	6.07%	22.78%	21.13%	17.70%		7.50%																	
future pensions and postretirement obligations	7320	8444	6681	6022	5612	3036	4018	3502	10342	7855	4807		3889	4103	4328	4566	4816	5080	3889	3848	3792	4208	4439	4683	3887	4539	4470	6065	6815	7110
% of Revenue	13.01%	13.50%	11.54%	10.73%	9.82%	5.07%	6.04%	4.55%	18.28%	12.20%	5.71%		5.45%																	
other long-term liabilities	9199	11279	10642	10918	11826	12962	16914	15914	11954	12074	12074		13889	14651	15455	16303	17198	18142	13889	13741	13342	15026	15852	16722	13881	16207	15961	21659	24335	25389
% of Revenue	15.94%	18.01%	18.24%	18.82%	19.26%	21.65%	25.43%	19.13%	19.13%	19.13%	14.96%		19.63%																	
Other Assets	5542	6205	5706	6163	6048	5988	7206	10267	5847	8582	7985		7761	8187	8636	9110	9610	10137	7761	7678	7567	8396	8858	9944	7756	9056	8918	12103	13598	14186
% of Revenue	9.60%	9.75%	9.85%	10.99%	10.57%	10.15%	12.64%	13.13%	10.13%	13.13%	11.50%		10.97%																	
Redeemable noncontrolling interest	238	111	140	122	296	131	109	95	32	35	36		144	152	160	169	178	188	144	142	140	156	164	173	144	168	165	224	252	263
% of Revenue	0.41%	0.18%	0.24%	0.22%	0.52%	0.22%	0.16%	0.12%	0.03%	0.03%	0.03%		0.20%																	
Excess Cash	4723.62	4526.62	5124.42	6933.5	7023.86	8806.3	6008.96	7230.44	8625.96	7675.36	6095.4		7609	8026	8467	8931	9422	9939	7609	7528	7419	8232	8684	9161	7604	8879	8744	11866	13332	13909
% of Revenue	8.18%	7.23%	8.85%	12.36%	12.25%	14.72%	9.07%	9.38%	15.24%	11.52%	8.09%		10.75%																	
short-term borrowings	503	388	126	936	601	392	1469	2364	247	134	625		767	809	853	900	949	1001	767	758	747	829	875	923	765	895	881	1196	1343	1401
% of Revenue	0.87%	0.62%	0.22%	1.65%	1.05%	0.66%	2.55%	2.43%	0.27%	0.44%	0.11%		1.09%																	
long-term debt currently due	1121	112	1791	179	1603	2104	2876	3496	500	24	595		1454	1534	1618	1707	1801	1904	1454	1439	1418	1573	1660	1751	1453	1697	1671	2268	2548	2658
% of Revenue	1.94%	0.18%	3.09%	0.32%	2.80%	3.52%	4.52%	4.54%	0.97%	0.04%	0.89%		2.06%																	
long-term debt	21597	19741	17784	19320	21697	24989	41192	37788	31026	31827	30694		30366	30042	29722	29405	29091	28781	30489	30164	29726	32985	34798	36707	30470	35577	35056	47546	53419	55733
YoY growth in %	-8.59%	-9.91%	8.64%	12.30%	15.17%		-8.20%	-17.89%	0.94%	-0.02%	-1.07%																			

	Core Business												Base Scenario												Peace Scenario				War Scenario			
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025	2026	2027	2028	2029	2030	2031	2032	
Working Cash	96	92	105	142	143	180	123	148	176	157	124	155	164	173	182	192	203	155	154	151	168	177	187	155	181	178	242	272	284			
Accounts Receivable	11099	11458	10048	10653	11481	12595	14271	13524	9254	9661	9108	12840	13545	14288	15072	15899	16771	12840	12703	12519	13891	14655	15459	12832	14983	14755	20024	22497	23471			
Inventories	9537	10330	7642	8135	8704	9881	10083	10950	9411	9178	10617	10840	11435	12062	12724	13423	14159	10840	10775	10569	11728	12372	13051	10834	12649	12457	16905	189				
Other current assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Customer financing assets	4155	3035	8164	841	1208	197	1021	1461	5978	4082	4964	3889	4103	4328	4566	4816	5080	3889	3848	3792	4208	4309	4683	3887	4539	4470	6065	681	710			
Other current assets	1100	1156	958	1018	1398	2372	3023	3477	3144	2848	2003	2356	2486	2602	2766	2938	3086	2376	2388	2351	2287	2459	2689	2875	2555	2750	2708	3875	4129	4037		
Long-term debt	1599	1236	1451	2661	3809	1773	5646	1611	0	0	0	1378	1453	1538	1617	1706	1800	1378	1378	1378	1658	1737	1868	1658	1737	1868	1658	1737	1868	1658	1737	
Fixed assets	4185	8866	8592	8732	9158	10868	12297	12755	14062	14972	15170	16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748			
Goodwill	27801	28818	27448	27701	27069	27750	41813	54285	54464	54846	53840	48065	46045	45272	51238	54040	55015	43600	43186	42587	42525	48819	51238	52464	50935	50515	60071	6048	79792			
Intangible assets	19389	15521	15338	16046	16434	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618	16618		
Accounts payable	6431	6965	6205	6875	7483	9759	11080	10809	8895	8751	9886	9565	10280	10643	11227	11834	12493	9565	9463	9325	10488	11096	11515	9559	11161	10991	14916	16798	14784			
Accrued liabilities	15310	1535	15257	14688	12219	12116	12323	12177	18523	12200	13400	15510	15950	16845	18748	18722	19750	15120	14959	1442	16188	17255	18034	15511	17374	17375	24509	26402	27689			
Other current liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Long-term debt	9120	9444	6861	6022	5612	3036	4018	3502	1043	7855	4807	6884	7051	7438	7638	8176	8730	6884	6613	6571	7321	7628	8047	6880	7799	7681	10423	11715	12218			
Other long-term liabilities	7539	14779	10562	10508	11052	12952	10914	11054	11053	10734	10015	10889	14053	14516	15303	17238	18142	13889	13741	13542	15226	16585	18732	16881	18207	15861	21609	24351	25319			
Stockholders Equity	4084	4239	4636	4636	4636	4034	4034	7021	7047	9124	8927	9247	7190	7547	8023	8462	8916	8460	7190	7305	7384	7941	8929	8877	7167	8194	820	10900	11788	12388		
Financials																																
	Core Business												Base Scenario												Peace Scenario				War Scenario			
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025	2026	2027	2028	2029	2030	2031	2032	
Revenue	4542	6205	5706	6163	6048	5988	7206	10267	5847	8582	7985	7761	8187	8636	9110	9610	10173	7678	7567	8396	8858	9344	7756	9506	8918	12103	13598	14186				
Other assets	5521	620	2781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Liabilities for sale	218	111	140	181	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
Other liabilities	4883	6094	2785	6041	5752	5857	7097	10172	5815	8547	7949	7617	8035	8476	8941	9449	7617	7536	7426	8241	8693	9170	7612	8868	8753	11878	13343	13923				
Income Statement																																
	Core Business												Base Scenario												Peace Scenario				War Scenario			
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025	2026	2027	2028	2029	2030	2031	2032	
Revenue	4713	6257	5124	6934	7014	8805	6029	7230	8626	7675	6296	7609	8026	8467	8931	9422	9939	7609	7528	7429	8232	8684	9161	7604	8879	8744	11886	13132	13988			
Cost of sales	503	388	138	792	5409	2364	247	134	625	767	818	820	940	1002	1051	1097	758	748	748	8109	875	921	356	895	881	1164	1281	1403				
Long-term debt	11257	1317	1979	1373	1603	2130	2876	3496	550	24	595	1454	1534	1654	1747	1801	1900	1534	1439	1418	1573	1660	1751	1453	1607	1671	2288	2548	2685			
Long-term debt	21297	1974	1778	1323	2166	24089	41197	37798	5103	31127	30596	30306	30042	29722	29405	29099	28781	20489	19001	29726	29608	14969	80707	80407	103577	103577	103577	4746	10431	55731		
Long-term debt	1818	1574	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	1457	
Invested Capital	27069	32129	32564	28844	29169	31421	40610	44231	73852	74664	74178	74338	59423	64773	70462	76328	82566	54216	54807	55318	60515	63974	67628	54193	61572	61955	78715	87249	91407			
Stockholders Equity	27069	32129	32564	28844	29169	31421	40610	44231	73852	74664	74178	74338	59423	64773	70462	76328	82566	54216	54807	55318	60515	63974	67628	54193	61572	61955	78715	87249	91407			

Cash Flow Statement

Cash Flow Statement											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Operating CF											
Net Income from Continuing Operations	5200	6074	6468	4356	5436	4920	5654	5948	-2928	4145	5327
Adjustments:											
Depreciation and Amortization	1524	1821	1820	1863	1962	2140	2433	3783	4156	4557	4108
Deferred income tax provision	120	242	403	662	398	62	735	35	-99	-88	-1663
stock compensation cost	210	275	219	158	152	192	251	356	330	442	420
Other Items						-158	-1192	109	2770	-765	-1413
Change in:				867							
Accounts receivable	-165	-531	111	-438	-941	-448	-2426	419	1318	-570	437
inventories and contracts in progress	-539	-1096	-636	-844	-719	-1074	-1141	-1523	475	-1431	-1809
Contract liabilities							205	359	1129	1372	846
other current assets	-4	74	-115	-55	49	-101	161	-309	-445	-566	-1027
accounts payable and accrued liabilities	811	1354	-89	490	450	1571	2446	1229	-1666	917	2075
income taxes						1579	-195	-406			
global pension contributions	-430	-108	-517	-147	-303	-2112	-147	-118	-1025	-59	-94
other operating activities	-122	-600	-670	-214	165	-655	-33	-961	319	-812	-39
other items					-237	-285	-429	-38			
Net operating cash flow	6605	7505	6994	6698	6412	5631	6322	8883	4334	7142	7168
Investing CF											
Capital expenditures	-1389	-1688	-1594	-1652	-1699	-2014	-1902	-2256	-1795	-2134	-2288
increase in customer financing assets	-100	-245	-202	-286	-438	-1197	-988	-787	-280	-231	-150
decrease in customer financing assets	75	110	331	117	217	222	606	129	368	389	179
investment in businesses	-16026	-151	-402	-538	-710	-231	-15398	-56	-419	-1088	-66
disposition in businesses	425	1560	344	200	211	70	1105	138	2556	1879	94
increase in intangible assets	-1543	-722	-593	-437	-388	596	-400	-351	-172	-188	-487
receipts from settlements			93	160	249	-380	143	336	-32	-16	-205
other investing activities	-237	-328	-169	-91	49	-85	-139	-245	3117	25	94
Net investing cash flow	-18795	-1464	-2192	-2527	-2509	-3019	-16973	-3092	3343	-1364	-2829
Financing CF											
issuance long-term debt	10899	92	98	1744	6469	4954	13455	88	2004	4062	1
repayment long-term debt	-842	-2862	-304	-1764	-2452	-1604	-2520	-2830	-16082	-4254	-3
change in short-term borrowings	-214	-113	-346	795	-331	-271	-356	927	-2041	-113	489
common stock issued				1100							
common stock issued under employee plans	522	378	187	41	13	31	36	27	15	7	
dividends paid on common stock	-1752	-1908	-2048	-2184	-2069	-2074	-2170	-2442	-2732	-2957	-3128
repurchase of common stock		-1200	-1500	-10000	-2254	-1453	-325	-151	-47	-2327	-2803
other financing activities	-592	-327	-334	-508	-564	-576	-155	-183	15023	-1174	-415
Net financing cash flow	8021	-5940	-4247	-10776	-1188	-993	7965	-4564	-3860	-6756	-5859
Discontinued Operations:											
cash change operating activities	41	-628	342	-372	-2532				-728	-71	
cash change investing activities	2974	351	-113	9000	6				-241		
cash change financing activities			-12	-9					-1414	71	
Net cash flow discontinued operations	3015	-277	217	8619	-2526	0	0	0	-2383	0	0
Exchange rate effects on cash	30	-41	-156	-174	-120	210	-120	-19	-22	-1	-42
net change in cash	-1124	-217	616	1840	69	1829	-2806	1208	1412	-979	-1562
cash beginning of year	5960	4836	4619	5235	7120	7189	9018	6212	7420	8832	7853
cash end of year	4836	4619	5235	7075	7189	9018	6212	7420	8832	7853	6291
cash of businesses held for sale	-17		-6		-32	-33	-60	-42	-30	-21	-71
cash of continuing operations, end of year	4819	4619	5229	7075	7157	8985	6152	7378	8802	7832	6220
Interest paid	725	1047	1076	1057	1157	974	1027	1801	1628	1339	1263
Income Taxes paid	1772	2789	2024	2060	4096	1326	1714	1768	1716	1124	2400

Reformulated Cash Flow Statement

Reformulated Cash Flow Statement											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash from Operating Activities	6605	7505	6994	6698	6412	5631	6322	8883	4334	7142	7168
Cash generated before working capital adjustments											
Working capital movements	-449	-907	-1916	-1208	-1299	-1240	-1130	-1310	105	-1149	389
Net interest paid	725	1047	1076	1057	1157	974	1027	1801	1628	1339	1263
Tax paid	1772	2789	2024	2060	4096	1326	1714	1768	1716	1124	2400
Net Cash from Investing Activities	-18795	-1464	-2192	-2527	-2509	-3019	-16973	-3092	3343	-1364	-2829
Cash from Investing Activities	-18558	-1136	-2023	-2436	-2558	-2934	-16834	-2847	226	-1389	-2923
Other Investing Activities	-237	-328	-169	-91	49	-85	-139	-245	3117	25	94
Net Cash from Financing Activities	8021	-5940	-4247	-10776	-1188	-993	7965	-4564	-3860	-6756	-5859
Dividends paid	-1752	-1908	-2048	-2184	-2069	-2074	-2170	-2442	-2732	-2957	-3128
Cash from Debt	9843	-2883	-552	775	3686	3079	10579	-1815	-16119	-305	487
Cash from Equity	522	-822	-1313	-8859	-2241	-1422	-289	-124	-32	-2320	-2803
Other Financing Activities	-592	-327	-334	-508	-564	-576	-155	-183	15023	-1174	-415
Net Change in Cash	-4169	101	555	-6605	2715	1619	-2686	1227	3817	-978	-1520
Net Cash Flow from discontinued Operations	3015	-277	217	8619	-2526	0	0	0	-2383	0	0
Foreign Exchange Impact	30	-41	-156	-174	-120	210	-120	-19	-22	-1	-42
Net Increase/Decrease in Cash	-1124	-217	616	1840	69	1829	-2806	1208	1412	-979	-1562
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

Ratios

Ratios											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Debt Level	22718	19853	19575	19499	23300	27093	44068	41284	31576	31351	31289
Stock Price 22.09.2023	50.82	68.96	67	55.51	64.82	72.38	89.41	85.32	59.79	83.11	83.45
Shares outstanding	895.2	901	898.3	872.7	818.2	790	800.4	854.8	1357.8	1501.6	1475.5
Market Cap	45494.06	62132.96	60186.1	48443.58	53035.72	57180.2	71563.76	72931.54	81182.86	124798	123130.5
EV	68212.06	81985.96	79761.1	67942.58	76335.72	84273.2	115631.8	114215.5	112758.9	156149	154419.5
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Debt Level	22718	19853	19575	19499	23300	27093	44068	41284	31576	31351	31289
Total Assets	89409	90594	91206	87484	89706	96920	134211	139716	162153	161404	158864
D/A	0.25	0.22	0.21	0.22	0.26	0.28	0.33	0.30	0.19	0.19	0.20
Long Term Debt	21597	19741	17784	19320	21697	24989	41192	37788	31026	31327	30694
Cash and Cash Equivalents	4819	4619	5229	7075	7157	8985	6152	7378	8802	7832	6220
Net Debt	16778	15122	12555	12245	14540	16004	35040	30410	22224	23495	24474
Average D/A Ratio	0.24										
Book Value	72632										
Shares outstanding	1475.5										
Book Value per Share	49.23										
Share price	83.45										
Price to Book Ratio	1.70										

Scenario Analysis

	Base Scenario (Historical Average)										Peace Scenario										War Scenario									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Revenue	67074	70755	74637	78733	83054	87611	92419	97355	102602	108185	70755	70002	68985	70549	80754	85186	70712	82563	81308	110340	123970	129338	134336	138970	143776	148750	153881	159269	164914	
Total Operating Expenses	61780	63681	65843	68182	70704	73390	76259	79312	82559	85991	106391	106559	61942	67203	70895	74785	106328	128321	76818	101282	112553	114840	117353	120000	122781	125696	128745	131928	135245	
Other Income	120	100	100	100	100	83	75	68	100	100	100	91	83	75	68	100	100	100	91	83	75	68	100	100	100	91	83	75	68	
EBIT	5454	5527	5696	5742	5982	5986	5942	5927	5948	7194	9458	7194	9429	9925	10409	10506	46059	6796	9242	11482	12687	13853	14933	15970	16976	17951	18896	19914		
EBIT Margin	8.07%	7.82%	7.63%	7.30%	7.20%	6.83%	6.43%	6.16%	6.24%	10.21%	10.76%	10.21%	13.26%	11.82%	12.46%	14.85%	66.45%	8.24%	10.71%	12.43%	13.58%	14.72%	15.82%	16.88%	17.91%	18.91%	19.88%	20.82%		
Capital Interest	20.25	18.32	13.11	11.61	10.22	9.30	7.52	6.82	11.11	11.61	10.22	9.30	7.52	6.82	11.11	11.61	10.22	11.61	10.22	9.30	7.52	6.82	11.11	11.61	10.22	9.30	7.52	6.82		
Adjusted EBIT	5434	5509	5678	5723	5963	5967	5923	5908	5929	7173	9408	7173	9403	9897	10391	10488	45848	6772	9222	11462	12667	13833	14913	15950	16956	17931	18876	19891		
Depreciation and Amortization	4108	4240	4377	4518	4663	4813	4968	5127	5287	5446	4108	4240	4377	4518	4663	4813	4968	5127	5287	5446	4108	4240	4377	4518	4663	4813	4968	5127	5287	
EBITDA	9542	9767	9875	9961	10045	10099	10141	10175	10207	11614	13566	11614	13561	13894	14452	14694	92187	13494	18704	23129	26534	29790	32946	36096	39246	42396	45546	48696		

Scenario 1 - Long Ukraine War / Democrat / No China War						
	2023	2024	2025	2026	2027	2028
Defense Budget	742501	750372	763578	779232	795752	812622
Contract Value	342785	346418	352515	359742	367369	375157
RTX Revenue Forecast	32901	34706	36611	38620	40739	42975
RTX Contract Share	10%	10%	10%	11%	11%	11%

Scenario 2 - Short Ukraine War / Republican / No China War						
	2023	2024	2025	2026	2027	2028
Defense Budget	742501	703766	669038	718203	733475	749024
Contract Value	342785	324902	308870	331567	338618	345796
RTX Revenue Forecast	32901	32551	32078	35595	37551	39611
RTX Contract Share	10%	10%	10%	11%	11%	11%

Scenario 3 - Long Ukraine War / China War						
	2023	2024	2025	2026	2027	2028
Defense Budget	742057	830051	788549	1035240	1125990	1137250
Contract Value	342580	383203	364043	477931	519827	525025
RTX Revenue Forecast	32881	38392	37808	51308	57646	60142
RTX Contract Share	10%	10%	10%	11%	11%	11%

EBITDA and NWC

	Base Scenario										Peace Scenario										War Scenario									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	
Revenue	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074	70755	74637	78733	83054	87611	92419	70755	70002	68985	76549	80754	85186	70712	82563	81308	110340	123970	129338	
Cost of Products Sold	31094	34063	30367	29771	30325	31027	36754	42444	38137	41095	41927	44575	46275	47340	48171	50834	53603	44575	43401	40701	43633	46030	48536	44549	51189	49598	67307	74382	75016	
Cost of Services Sold	11050	11258	10531	10660	11135	12926	13321	14621	9919	10802	11479	13120	13956	14721	15529	16381	17280	13120	13089	12899	14313	15099	15928	13222	15438	15303	20631	23180	24184	
Other Operating Costs	8823	9247	8647	8165	8397	8570	9528	11536	8122	7956	8374	9110	9609	9521	10043	10594	11176	9110	9013	8342	9257	9765	10301	9104	10630	9832	13343	14991	15640	
Operating Costs	50976	54568	49545	48596	49857	52523	59513	68601	56178	59833	61780	66915	69840	71482	73744	77790	82059	66915	65502	61942	67203	70895	74785	66875	77256	74633	101282	112553	114840	
Other Income	952	1151	1238	1211	785	1358	2224	1352	1396	1718	2009	1105	1166	1230	1297	1369	1444	1105	1094	1078	1196	1261	1331	1105	1290	1270	1724	1937	2020	
Interest Expenses	773	897	881	824	1039	909	1032	723	1366	1322	1276	1096	1109	1106	1067	1134	1143	1101	1113	1107	1194	1136	1424	1100	1305	1295	1710	1996	2098	
Pre-Tax Profit	6911	8312	8712	6467	7133	7763	8180	9072	2353	4931	8579	3849	4854	7174	9540	10055	10661	3845	4480	7014	9348	9785	10108	3842	5291	6650	9072	11357	14421	
EBIT	7684	9209	9593	7291	8172	8672	9212	9795	987	6253	7303	4945	5963	8481	10607	11189	11803	4945	5593	8121	10542	11121	11731	4942	6596	7945	10782	13154	16519	
Depreciation and Amortization	1524	1821	1820	1863	1962	2140	2413	2783	4156	4557	4128	4240	4377	4518	4663	4813	4968	4207	4187	4159	4363	4476	4595	4107	4426	4392	5173	5540	5694	
EBITDA	9208	11030	11413	9154	10134	10812	11645	13578	3169	10810	11411	9186	10340	12998	15270	16002	16771	9152	9780	12280	14905	15597	16327	9049	11022	12337	15955	18893	22203	

	2126	2135	4570	2808	1890	1586	859	971	-724	-1207	-2296	-3053	-3171	-3785	-5590	-4319	-4863	-369	320	583	-298	1844	2338	-369	153	419	-747	1369	1751
NWC	9	9	2435	-7378	3898	496	-727	-1830	247	-483	-1089	-757	-118	-614	-1718	1184	-544	1927	689	264	-882	2142	494	1927	522	367	-1167	2017	482
Change	29610	29442	31483	26706	28550	32858	35503	37497	43376	42050	42443	44158	45942	47799	49730	51740	53831	39390	38971	38405	42616	44957	47424	39366	45964	45265	61428	69016	72004
Current Assets	-4819	-4619	-5229	-7075	-7157	-8985	-6152	-7378	-8802	-7832	-6220	-6513	-6820	-7142	-7479	-7832	-8201	-7764	-7681	-7570	-8400	-8861	-9348	-7759	-9000	-8922	-12108	-13604	-14193
Current Liabilities	23786	23860	23475	22618	21906	24391	31368	34586	35848	35449	39114	41269	43543	45942	48474	51144	53962	32566	32120	31752	35233	37169	39208	32547	38001	37424	50786	57060	59531
Less Debt	-1121	-112	-1791	-179	-1603	-2104	-2876	-3496	-550	-24	-595	-571	-1250	-1500	-719	-2917	-3470	-571	-1250	-1500	-719	-2917	-3470	-571	-1250	-1500	-719	-2917	-3470

Revenue	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074
EBIT	7684	9209	9593	7291	8172	8672	9212	9795	-987	6253	7303
EBIT Margin	13.32%	14.70%	16.57%	13.00%	14.28%	14.49%	13.85%	12.71%	-1.74%	9.71%	10.89%
EBITDA	9208	11030	11413	9154	10134	10812	11645	13578	3169	10810	11411
EBITDA Margin	15.96%	17.61%	19.71%	16.32%	17.70%	18.07%	17.51%	17.62%	5.60%	16.79%	17.01%

DFC RTX

Base Scenario

Actual Stock Price	71.58				DCF Base Scenario							
Valuation Date	22.09.2023					0	1	2	3	4	5	6
					2022	2023	2024	2025	2026	2027	2028	Terminal Period
Cost of Equity	9.85%				Revenue	67074	70755	74637	78733	83054	87611	92419
Nominal Tax Rate	21%				Growth Ratio		5.49%	5.49%	5.49%	5.49%	5.49%	5.49%
Terminal growth rate	2.09%				EBITDA	11411	9186	10340	12998	15270	16002	16771
WACC	9.52%				EBITDA Margin	17.01%	12.98%	13.85%	16.51%	18.39%	18.27%	18.15%
					Implied Interest	20.25	18.32	13.11	11.61	10.22	9.10	7.52
US Average 10y GDP Growth Rate	2.12%				Adjusted EBITDA	11431	9204	10353	13010	15280	16011	16779
US 10y Inflation Rate	2.32%				Depreciation and Amortization	-4108	-4240	-4377	-4518	-4663	-4813	-4968
Estimated Growth rate	2.03%				EBIT	7323	4964	5976	8492	10617	11198	11811
Revenue growth rate (historic)	5.49%				EBIT Margin	10.92%	7.02%	8.01%	10.79%	12.78%	12.78%	12.78%
					Tax Expense	1538	1042	1255	1783	2230	2352	2480
Aerospace Industry Growth rate	2.40%				NOPAT	5785	3921	4721	6709	8388	8847	9331
Defense industry growth rate	0.67%				Depreciation and Amortization	4108	4240	4377	4518	4663	4813	4968
					CapEx	-4306	-4662	-4822	-4987	-5158	-5336	-5519
Aerospace Percentage	79%				NWC	-2296	-3053	-3171	-3785	-5503	-4319	-4863
Defense Percentage	21%				Change NWC	-1089	-757	-118	-614	-1718	1184	-544
					FCF	6676.36	4256.70	4393.72	6853.76	9610.13	7140.21	9322.95
					Terminal Value							74266.95
					PV FCF		4256.70	4011.77	5713.95	7315.44	4962.79	5916.60
Weighted Price	Probability				Sum of discounted CF	32177.24						
Base Scenario	79.59%				PV Terminal Period	74266.95						
Peace Scenario	10.43%				Enterprise Value	106444.19						
War Scenario	9.98%				MV Net Debt	-897.74						
Stock Price Forecast	72.84				Equity Value	107341.94						
Actual Stock Price	71.58				Value per Share	72.75						
Difference	1.75%				Stock Price	71.58						
					Difference to Actual Price	1.17						
					Upside/Downside	1.6%						

Peace Scenario

DCF Peace Scenario								
		0	1	2	3	4	5	6
	2022	2023	2024	2025	2026	2027	2028	Terminal Period
Revenue	67074	70755	70002	68985	76549	80754	85186	
Growth Ratio		5.49%	-1.06%	-1.45%	10.96%	5.49%	5.49%	
EBITDA	5414	9152	9780	12280	14905	15597	16327	
EBITDA Margin	8.07%	12.29%	5.58%	8.32%	8.28%	9.27%	11.26%	
Implied Interest	20.25	18.32	13.11	11.61	10.22	9.10	7.52	
Adjusted EBITDA	5434	9171	9793	12292	14915	15606	16334	
Depreciation and Amortization	-4108	-4207	-4187	-4159	-4363	-4476	-4595	
EBIT	1326	4964	5606	8132	10552	11130	11739	
EBIT Margin	1.98%	7.02%	8.01%	11.79%	13.78%	13.78%	13.78%	
Tax Expense	279	1042	1177	1708	2216	2337	2465	
NOPAT	1048	3921	4429	6424	8336	8793	9274	
Depreciation and Amortization	4108	4207	4187	4159	4363	4476	4595	
CapEx	-4306	-4629	-4100	-4043	-5230	-4958	-5103	
NWC	-2296	-369	320	583	-298	1844	2338	
Change NWC	-1089	1927	689	264	-882	2142	494	
FCF	1938.73	1572.64	3825.96	6277.52	8350.54	6168.62	8271.60	113712.87
Terminal Value								
								65891.85
PV FCF		1572.64	3493.37	5233.54	6356.61	4287.48	5249.38	
Sum of discounted CF	26193.02							
PV Terminal Period	65891.85							
Enterprise Value	92084.88							
MV Net Debt	-897.74							
Equity Value	92982.62							
Value per Share	63.02							
Stock Price	71.58							
Difference from Historic	-13.4%							
Difference to Actual Price	-8.56							
Upside/Downside	-11.96%							

War Scenario

DCF War Scenario								
		0	1	2	3	4	5	6
	2022	2023	2024	2025	2026	2027	2028	Terminal Period
Revenue	67074	70712	82563	81308	110340	123970	129338	
Growth Ratio		5.42%	16.76%	-1.52%	35.71%	12.35%	4.33%	
EBITDA	5414	9049	11022	12337	15955	18893	22203	
EBITDA Margin	8.07%	12.80%	13.35%	15.17%	14.46%	15.24%	17.17%	
Implied Interest	20.25	18.32	13.11	11.61	10.22	9.10	7.52	
Adjusted EBITDA	5434.25	9067.58	11035.11	12348.61	15965.21	18902.35	22210.26	
Depreciation and Amortization	-4108.00	-4107	-4426	-4392	-5173	-5540	-5684	
EBIT	1326	4961	6609	7957	10792	13363	16526	
EBIT Margin	1.98%	7.02%	8.01%	9.79%	9.78%	10.78%	12.78%	
Tax Expense	279	1042	1388	1671	2266	2806	3470	
NOPAT	1048	3919	5221	6286	8526	10556	13056	
Depreciation and Amortization	4108	4107	4426	4392	5173	5540	5684	
CapEx	-4306	-4102	-5784	-4248	-8502	-7102	-6300	
NWC	-2296	-369	153	419	-747	1269	1751	
Change NWC	-1089	1927	522	267	-1167	2017	482	
FCF	1938.73	1996.61	3341.22	6162.99	6363.98	6976.87	11958.43	164397.10
Terminal Value								
								95261.25
PV FCF		1996.61	3050.76	5138.06	4844.40	4849.26	7589.14	
Sum of discounted CF	27468.23							
PV Terminal Period	95261.25							
Enterprise Value	122729.47							
MV Net Debt	-897.74							
Equity Value	123627.22							
Value per Share	83.79							
Stock Price	71.58							
Difference from Historic	15%							
Difference to Actual Price	12.21							
Upside/Downside	17%							

Capital Expenditures

CapEx	Base Scenario																				Peace Scenario								War Scenario										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048		
Revenue	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074	70755	74637	78733	83054	87611	92419	70755	70002	68985	76549	80754	85186	70712	82563	81308	110340	123970	129338	129338	129338	129338	129338	129338	129338	129338	129338	129338	
Fixed Assets	8518	8866	8590	8732	9158	10186	12297	12755	14962	14972	15170	16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748	16109	17105	18163	19287	20481	21748	21748	21748	21748	21748	21748	21748	21748	21748	21748	21748
CapEx		2369	1546	2003	2388	3168	4544	4241	6363	4567	4306	4662	4822	4987	5158	5336	5519	4629	4100	4043	5230	4958	5103	4102	5784	4348	8502	7102	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	
Maintenance CapEx	Base Scenario																				Peace Scenario								War Scenario										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	
Depreciation	1524	1821	1820	1863	1962	2140	2433	3783	4156	4557	4308	4240	4377	4518	4663	4813	4968	4207	4187	4259	4363	4476	4595	4106	4821	4426	4302	5173	5540	5684	5684	5684	5684	5684	5684	5684	5684	5684	
Maintenance/Fixed Assets	17.89%	20.54%	21.18%	21.34%	21.42%	21.01%	19.79%	29.66%	27.78%	30.44%	27.08%	26.32%	25.59%	24.87%	24.18%	23.50%	22.84%	26.12%	24.48%	22.90%	22.62%	21.86%	21.13%	25.49%	25.87%	24.18%	26.82%	27.05%	26.14%	26.14%	26.14%	26.14%	26.14%	26.14%	26.14%	26.14%	26.14%		
Average	23.47%																																						
Growth CapEx	Base Scenario																				Peace Scenario								War Scenario										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	
Growth CapEx		348	-274	140	426	1028	2111	458	2207	10	198	422	445	470	495	523	551	422	-86	-117	867	482	508	-5	1359	-144	3329	1563	616	616	616	616	616	616	616	616	616		
Revenue Growth		4918	-4726	-1802	1146	2593	6664	10545	-20459	7801	2698	3681	3883	4096	4320	4558	4808	3681	-753	-1017	7564	4206	4431	-42	11850	-1255	29032	13630	5369	5369	5369	5369	5369	5369	5369	5369	5369		
Growth Revenue/CapEx		7.68%	5.80%	-7.77%	37.17%	39.65%	31.68%	4.34%	-10.79%	0.13%	7.31%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%	11.47%		
Average	11.47%																																						

Cash Conversion Cycle

Cash Conversion Cycle											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Accounts Payable	6431	6965	6250	6875	7483	9579	11080	10809	8639	8751	9896
Cost of Sales	42153	45321	40898	40431	41460	43953	49985	57065	48056	51897	53406
Average payable period (days)	56	56	56	62	66	80	81	69	66	62	68
Inventories	9537	10330	7642	8135	8704	9881	10083	10950	9411	9178	10617
Cost of Sales	42153	45321	40898	40431	41460	43953	49985	57065	48056	51897	53406
Average holding period (days)	83	83	68	73	77	82	74	70	71	65	73
Accounts receivable	11099	11458	10448	10653	11481	12595	14271	13524	9254	9661	9108
revenue	57708	62626	57900	56098	57244	59837	66501	77046	56587	64388	67074
Average Collection Period (Days)	70	67	66	69	73	77	78	64	60	55	50
Cash Conversion Cycle (days)	97	94	78	81	84	79	71	65	66	58	54
Average CCC	75										

Weighted Average Cost of Capital

WACC	
Valuation Period	22.09.2023
WACC	9.52%
Cost of Equity	9.85%
Unlevered Beta	0.79
Nominal Tax Rate	21%
Actual Taxes 2022	11.61%
Adjusted Equity Beta	
Equity Beta	0.73
Relevered Equity Beta	0.95
Risk-Free Rate	4.44%
MRP	5.70%
D/E Ratio	0.25
Cost of Debt	3.86%
Average Bond Yield	3.97%
Credit rating	A-
Accumulative 10y Probability of Default	1.65%
Annualized Probability of Default	0.17%
Loss given default	70.70%
Recovery Rate	29.30%
Bond Yield Calculation	3.97%
Weighted Average Interest Expense	3.54%
US 1Y Treasury Bill	5.46%
US Treasury Securities at 10Y Constant Maturity	4.44%

Weighted Average Interest Expense	3.54%												
2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average		
Interest Expense	773	897	881	824	1039	909	1032	723	1366	1322	1276	1003.818	
Debt	22718	19853	19575	19499	23300	27093	44068	41284	31576	31351	31289	28327.82	

		RTX Debt Outstanding						
Principal Amount	31289							
Type	Tranche	Amount	Interest	Weight	Maturity			
Notes	3,650% due 2023	171	3.650%	0.55%	1		3.7500%	0.55%
Notes	3,700% due 2023	400	3.700%	1.28%	1		3.8000%	1.28%
Notes	3,200% due 2024	950	3.200%	3.04%	2		3.3000%	3.04%
Notes	3,150% due 2024	300	3.150%	0.96%	2		3.2500%	0.96%
Notes	3,950% due 2025	1500	3.950%	4.79%	3		4.0500%	4.79%
Notes	2,650% due 2026	719	2.650%	2.30%	4		2.7500%	2.30%
Notes	3,125% due 2027	1100	3.125%	3.52%	5		3.2250%	3.52%
Notes	3,500% due 2027	1300	3.500%	4.15%	5		3.6000%	4.15%
Notes	7,200% due 2027	382	7.200%	1.22%	5		7.3000%	1.22%
Notes	7,100% due 2027	135	7.100%	0.43%	5		7.2000%	0.43%
Notes	6,700% due 2028	285	6.700%	0.91%	6		6.8000%	0.91%
Notes	7,000% due 2028	185	7.000%	0.59%	6		7.1000%	0.59%
Notes	4,125% due 2028	3000	4.125%	9.59%	6		4.2250%	9.59%
Notes	7,500% due 2029	414	7.500%	1.32%	7		7.6000%	1.32%
Notes	2,150% due 2030	531	2.125%	1.70%	8		2.2250%	1.70%
Notes	2,250% due 2030	1000	2.250%	3.20%	8		2.3500%	3.20%
Notes	1,900% due 2031	1000	1.900%	3.20%	9		2.0000%	3.20%
Notes	2,375% due 2032	1000	2.375%	3.20%	10		2.4750%	3.20%
Notes	5,400% due 2035	446	5.400%	1.43%	13		5.5000%	1.43%
Notes	6,050% due 2036	410	6.050%	1.31%	14		6.1500%	1.31%
Notes	6,800% due 2036	117	6.800%	0.37%	14		6.9000%	0.37%
Notes	7,000% due 2038	148	7.000%	0.47%	16		7.1000%	0.47%
Notes	6,125% due 2038	575	6.125%	1.84%	16		6.2250%	1.84%
Notes	4,450% due 2038	750	4.450%	2.40%	16		4.5500%	2.40%
Notes	5,700% due 2040	553	5.700%	1.77%	18		5.8000%	1.77%
Notes	4,875% due 2040	600	4.875%	1.92%	18		4.9750%	1.92%
Notes	4,700% due 2041	425	4.700%	1.36%	19		4.8000%	1.36%
Notes	4,500% due 2042	3500	4.500%	11.19%	20		4.6000%	11.19%
Notes	4,800% due 2043	400	4.800%	1.28%	21		4.9000%	1.28%
Notes	4,200% due 2044	300	4.200%	0.96%	22		4.3000%	0.96%
Notes	4,150% due 2045	850	4.150%	2.72%	23		4.2500%	2.72%
Notes	3,750% due 2046	1100	3.750%	3.52%	24		3.8500%	3.52%
Notes	4,050% due 2047	600	4.050%	1.92%	25		4.1500%	1.92%
Notes	4,350% due 2047	1000	4.350%	3.20%	25		4.4500%	3.20%
Notes	4,625% due 2048	1750	4.625%	5.59%	26		4.7250%	5.59%
Notes	3,125% due 2050	1000	3.125%	3.20%	28		3.2250%	3.20%
Notes	2,820% due 2051	1000	2.820%	3.20%	29		2.9200%	3.20%
Notes	3,030% due 2052	1100	3.030%	3.52%	30		3.1300%	3.52%
Other		293						

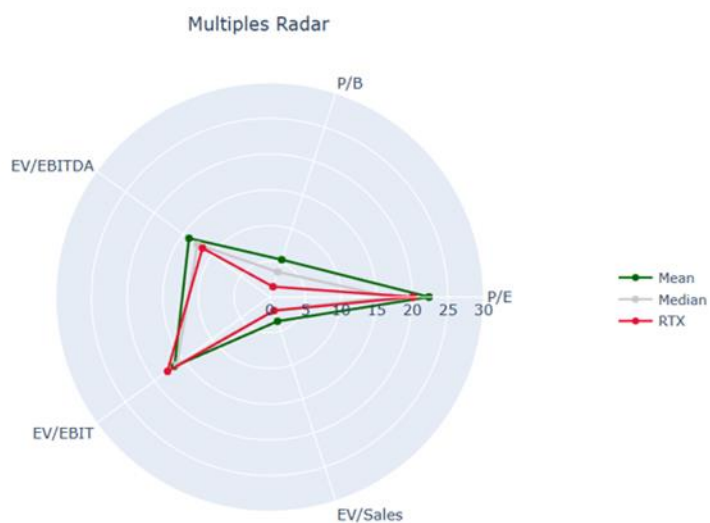
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Share of the Market

RTX Market Share				
	2022			2028
	Revenue	Market Size	Market Share	Market Share
US	41190	368420	11%	16%
International	25884	372580	7%	5%
Total	67074	741000	9.05%	8.91%

Contract Forecast				Base Scenario																												Pessim Scenario										Optim Scenario																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Revenue	27008	60335	13500	20110	21544	23444	25887	28803	32268	36377	41188	47074	53755	61437	70537	81437	94537	110137	128737	150837	176937	207537	243137	284337	331637	385637	447037	516537	594937	683137	781937	893137	101737	115537	130837	147737	166337	186737	209937	235937	264737	296437	331037	368637	409337	454137	503137	556437	614137	676437	743437	815337	892337	974637	1062437	1155737	1254737	1359437	1470837	1589037	1714037	1845937	1984837	2130837	2284037	2444537	2611537	2785137	2965337	3152337	3345337	3544337	3749337	3960337	4177337	4399337	4626337	4858337	5094337	5334337	5578337	5826337	6078337	6334337	6594337	6858337	7126337	7398337	7674337	7954337	8238337	8526337	8818337	9114337	9414337	9718337	10026337	10338337	10654337	10974337	11298337	11622337	11948337	12276337	12606337	12938337	13272337	13608337	13946337	14286337	14628337	14972337	15318337	15666337	16016337	16368337	16722337	17078337	17436337	17796337	18156337	18518337	18882337	19245337	19604337	19965337	20328337	2069337	21059337	21427337	21797337	22169337	2254337	22919337	23296337	23675337	24056337	24438337	24822337	25208337	25595337	25984337	26375337	26768337	2716337	27559337	27957337	28357337	28759337	2916337	29568337	29975337	30384337	30794337	31206337	31619337	32034337	32450337	32868337	33288337	33709337	34132337	34556337	34982337	35409337	35838337	36268337	36699337	37132337	37558337	37985337	38414337	38845337	39278337	3971337	40149337	40586337	41025337	41466337	41908337	42351337	42796337	4324337	43691337	44141337	44592337	45045337	45499337	45955337	4641337	4687337	47335337	47798337	4826337	48729337	49197337	49666337	50137337	50609337	5108337	51558337	52034337	52511337	52990337	53471337	53954337	54438337	54924337	55412337	55902337	56394337	56888337	57384337	57881337	58380337	58881337	59384337	59889337	60395337	6090337	6141337	61924337	62437337	62952337	63468337	63986337	64506337	65028337	65551337	66076337	6660337	67131337	67661337	6819337	68727337	6926337	69801337	70341337	7088337	71427337	7197337	72519337	73067337	73617337	74169337	7472337	75278337	75835337	76394337	76955337	77518337	7808337	78649337	79216337	79785337	80356337	80929337	8150337	82078337	82655337	83234337	83815337	84398337	8498337	85568337	86155337	86744337	87335337	87928337	8852337	89118337	89715337	90314337	90915337	91518337	92124337	92731337	93340337	93951337	94564337	95179337	95795337	9641337	9703337	9765337	98275337	98898337	9952337	10014337	10076337	10138337	10200337	10262337	10324337	10386337	10448337	10510337	10572337	10634337	10696337	10758337	10820337	10882337	10944337	11006337	11068337	11130337	11192337	11254337	11316337	11378337	11440337	11502337	11564337	11626337	11688337	11750337	11812337	11874337	11936337	12000337	12062337	12124337	12186337	12248337	12310337	12372337	12434337	12496337	12558337	12620337	12682337	12744337	12806337	12868337	12930337	12992337	13054337	13116337	13178337	13240337	13302337	13364337	13426337	13488337	13550337	13612337	13674337	13736337	13798337	13860337	13922337	13984337	14046337	14108337	14170337	14232337	14294337	14356337	14418337	14480337	14542337	14604337	14666337	14728337	14790337	14852337	14914337	14976337	15038337	15100337	15162337	15224337	15286337	15348337	15410337	15472337	15534337	15596337	15658337	15720337	15782337	15844337	15906337	15968337	16030337	16092337	16154337	16216337	16278337	16340337	16402337	16464337	16526337	16588337	16650337	16712337	16774337	16836337	16898337	16960337	17022337	17084337	17146337	17208337	17270337	17332337	17394337	17456337	17518337	17580337	17642337	17704337	17766337	17828337	17890337	17952337	18014337	18076337	18138337	18200337	18262337	18324337	18386337	18448337	18510337	18572337	18634337	18696337	18758337	18820337	18882337	18944337	19006337	19068337	19130337	19192337	19254337	19316337	19378337	19440337	19502337	19564337	19626337	19688337	19750337	19812337	19874337	19936337	19998337	20060337	20122337	20184337	20246337	20308337	20370337	20432337	20494337	20556337	20618337	20680337	20742337	20804337	20866337	20928337	20990337	21052337	21114337	21176337	21238337	21300337	21362337	21424337	21486337	21548337	21610337	21672337	21734337	21796337	21858337	21920337	21982337	22044337	22106337	22168337	22230337	22292337	22354337	22416337	22478337	22540337	22602337	22664337	22726337	22788337	22850337	22912337	22974337	23036337	23098337	23160337	23222337	23284337	23346337	23408337	23470337	23532337	23594337	23656337	23718337	23780337	23842337	23904337	23966337	24028337	24090337	24152337	24214337	24276337	24338337	24400337	24462337	24524337	24586337	24648337	24710337	24772337	24834337	24896337	24958337	25020337	25082337	25144337	25206337	25268337	25330337	25392337	25454337	25516337	25578337	25640337	25702337	25764337	25826337	25888337	25950337	26012337	26074337	26136337	26198337	26260337	26322337	26384337	26446337	26508337	26570337	26632337	26694337	26756337	26818337	26880337	26942337	27004337	27066337	27128337	27190337	27252337	27314337	27376337	27438337	27500337	27562337	27624337	27686337	27748337	27810337	2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	Average	Median
EV	177,021.81	131,779.44
Net Debt	25,069.00	25,069.00
Equity Value	151,952.81	106,710.44
Price Per Share	\$ 103.64	\$ 72.78



	Military Industrial Complex Stocks (in \$ millions)							
	Market Cap (in \$ bn.)	EV (in \$ bn.)	P/E	P/B	EV/EBITDA	EV/EBIT	EV/Revenue	Div Yield
Mean			22.36	5.49	13.98	16.50	3.57	0.02
Median			16.98	3.69	12.51	16.10	1.94	0.02
RTX	125.9	141.86	20.11	1.52	11.65	17.71	2.01	3.11%

Pair Trades

Performance Statistics of Trading Strategies

Performance Statistics		
Long LMT	Annual	Monthly
Average Return	10.64%	0.89%
Standard Deviation	20.67%	5.97%
Info Sharpe	0.52	0.15
Positive Months	60%	
Compounded Return	465.67%	
Monthly Skew	-67%	
Monthly Kurt	320.29%	
Max Drawdown	-180.45%	

Performance Statistics		
Long RTX	Annual	Monthly
Average Return	6.62%	0.55%
Standard Deviation	21.88%	6.32%
Info Sharpe	0.30	0.09
Positive Months	57%	
Compounded Return	134.42%	
Monthly Skew	-57%	
Monthly Kurt	3.738243	
Max Drawdown	-180.00%	

S&P 500 Performance Statistics (20 Years)		
Long S&P 500	Annual	Monthly
Average Return	8.14%	0.68%
Standard Deviation	14.84%	4.29%
Info Sharpe	0.55	0.16
Positive Months	65%	
Compounded Return	319.53%	
Monthly Skew	-80%	
Monthly Kurt	1.85	
Max Drawdown	-120.69%	

Performance Statistics Volatility Pairs Trade

Performance Statistics		
Volatility Pairs Trade	Annual	Monthly
Average Return	4.33%	0.36%
Standard Deviation	9.64%	2.8%
Info Sharpe	0.45	0.13
Positive Months	57%	
Compounded Return	0.00%	
Daily Skew	25%	
Daily Kurt	2.89	
Max Drawdown	-52.42%	

Performance Statistics Trend Following

5 Months Moving Average		
TF Monthly	Annual	Monthly
Average Return	11.89%	0.99%
Standard Deviation	8.97%	2.59%
Info Sharpe	1.33	0.38
Positive Months	69%	
Compounded Return	912.57%	
Daily Skew	13%	
Daily Kurt	3.59	
Max Drawdown	-125.02%	

20 Months Moving Average		
TF Monthly	Annual	Monthly
Average Return	10.47%	0.87%
Standard Deviation	9.19%	2.65%
Info Sharpe	1.14	0.33
Positive Months	63%	
Compounded Return	570.21%	
Daily Skew	90%	
Daily Kurt	2.49	
Max Drawdown	-34.62%	

50 Months Moving Average		
TF Monthly	Annual	Monthly
Average Return	6%	0.52%
Standard Deviation	10%	2.78%
Info Sharpe	0.65	0.19
Positive Months	56%	
Compounded Return	157.87%	
Daily Skew	13%	
Daily Kurt	3.29	
Max Drawdown	-58.41%	

150 Months Moving Average		
TF Monthly	Annual	Monthly
Average Return	3%	0.28%
Standard Deviation	10%	2.84%
Info Sharpe	0.34	0.10
Positive Months	54.08%	
Compounded Return	26.50%	
Daily Skew	10%	
Daily Kurt	4.73	
Max Drawdown	-36.32%	

Scenario Adjusted Pairs Trade

Company	Stock Price				
	Base Case	Peace Scenario	War Scenario	Weighted Price Target	
LMT	\$ 441.79	\$ 350.46	\$ 585.90	\$ 446.64	
RTX	\$ 72.75	\$ 63.02	\$ 83.79	\$ 72.84	

	Percent change in Stock Price				
	Market Price (22 September)	Base Case	Peace Scenario	War Scenario	Weighted Price Target
LMT	\$ 413.65	6.80%	-15.28%	41.64%	7.98%
RTX	\$ 71.58	1.63%	-11.96%	17.06%	1.75%
Weighted Pairs Trade Return		5.71%	-11.74%	34.01%	6.71%

S&P500 10-year Performance Statistics		
	Annual	Monthly
Average Return	10.12%	0.84%
Standard Deviation	14.96%	4.32%
Info Sharpe	0.68	0.20
Positive Months	67.50%	
Compounded Return	144.90%	
Monthly Skew	-62.17%	
Monthly Kurt	1.066	
Max Drawdown	-70%	

Performance Statistics LMT-RTX 10-years		
	Annual	Monthly
Average Return	10.64%	0.89%
Standard Deviation	19.78%	5.71%
Info Sharpe	0.54	0.16
Positive Months	56%	
Compounded Return	140%	
Daily Skew	39%	
Daily Kurt	4.5514	
Max Drawdown	-141.19%	

Probability Adjusted Pairs Returns	
Expected Return Base	4.54%
Expected Return Peace	-1.22%
Expected Return War	3.39%
New Variance	5.43%
New SD	23.31%
Expected Return	6.71%

Portfolio Beta	
Betas	Weights
0.38	87%
0.4	13%
0.2786	

S&P Scenario Adjusted Performance Statistics		
	Annual	Monthly
Average Return	8.92%	0.74%
Standard Deviation	15.93%	4.32%
Info Sharpe	0.56	0.17

Scenario Adjusted Pairs Trade	
New Return	6.71%
Standard Deviation	23.31%
Info Sharpe	0.29
Weights LMT/RTX	87/13

Alpha	
S&P 500 Adjusted Return	8.92%
Pairs Trade Adjusted Return	6.49%
Portfolio Beta	0.2474
Risk-Free Rate (3 month Treasury)	5.32%
Alpha (CAPM)	0.28%

Statistical Analysis

Return Correlations

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months
Correlation of Returns over entire Period (October 2004 - May 2023) Excluding 50 Months and 150 Months	LMT	1					
	RTX	0.592108	1				
	S&P 500	0.577704	0.714407	1			
	Volatility	0.067913	0.049416	0.046726	1		
	5 Months	0.000823	0.030031	0.021168	0.436183799	1	
	20 Months	-0.00924	-0.17802	-0.07411	0.321416012	0.526988	1

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months
Correlation of Returns before Financial Crisis (October 2004 - November 2007) Excluding 50 Months and 150 Months	LMT	1					
	RTX	0.172802	1				
	S&P 500	0.18542	0.453209	1			
	Volatility	0.680554	-0.59069	-0.18121	1		
	5 Months	0.004684	-0.30374	-0.03591	0.219966933	1	
	20 Months	0.282456	-0.36329	-0.04258	0.483326493	0.730648	1

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months	50 Months
Correlation of Returns During Financial Crisis (December 2007 - June 2009) Excluding 150 Months	LMT	1						
	RTX	0.823173	1					
	S&P 500	0.862837	0.859414	1				
	Volatility	-0.70367	-0.20173	-0.42519	1			
	5 Months	-0.40175	-0.08879	-0.36724	0.517937987	1		
	20 Months	-0.39602	-0.23035	-0.41525	0.405236115	0.75419	1	
	50 Months	0.188969	-0.25714	0.04752	-0.644071156	-0.27797	-0.076977442	1

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months	50 Months
Correlation of Returns after Financial Crisis (July 2009 - May 2023) Excluding 150 Months	LMT	1						
	RTX	0.567691	1					
	S&P 500	0.501796	0.698058	1				
	Volatility	0.164153	0.151653	0.158336	1			
	5 Months	0.09288	0.078836	0.108014	0.460660704	1		
	20 Months	0.044543	-0.15184	-0.01147	0.28297494	0.470182	1	
	50 Months	0.100201	-0.32773	-0.08124	0.162318807	0.217248	0.635861304	1

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months
Correlation of Returns First 11 Years (October 2004 - June 2015) Excluding 50 Months and 150 Months	LMT	1					
	RTX	0.542351	1				
	S&P 500	0.633896	0.780149	1			
	Volatility	-0.0025	-0.17352	-0.03735	1		
	5 Months	-0.17482	-0.23196	-0.12423	0.384835053	1	
	20 Months	-0.0935	-0.1693	-0.02698	0.518310912	0.676663	1

		LMT	RTX	S&P 500	Volatility	5 Months	20 Months	50 Months	150 Months
Correlation of Returns Last 8 Years (July 2015 - May 2023)	LMT	1							
	RTX	0.655063	1						
	S&P 500	0.512238	0.661932	1					
	Volatility	0.157398	0.264897	0.149803	1				
	5 Months	0.206872	0.261545	0.185951	0.487073815	1			
	20 Months	0.099068	-0.19003	-0.12796	0.074529495	0.358823	1		
	50 Months	0.187332	-0.53027	-0.28786	-0.223440335	-0.00067	0.468703127	1	
	150 Months	0.222414	-0.59095	-0.30722	-0.17375916	-0.11661	0.350972916	0.884241349	1

Fama-French Three Factors Model Analysis

SUMMARY OUTPUT Volatility-Based Strategy

Regression Statistics	
Multiple R	0.110576702
R Square	0.012227207
Adjusted R Square	-0.000119953
Standard Error	0.027941807
Observations	244

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.002319479	0.000773	0.990285	0.398028604
Residual	240	0.187378698	0.000781		
Total	243	0.189698177			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.002241382	0.001823224	1.229351	0.220144	-0.001350182	0.005832946	-0.001350182	0.005832946
Mkt-RF	0.0508155	0.043973263	1.1556	0.248994	-0.035807328	0.137438327	-0.035807328	0.137438327
SMB	-0.094027104	0.078209796	-1.20224	0.230455	-0.248092395	0.060038188	-0.248092395	0.060038188
HML	0.048581801	0.057967917	0.838081	0.402819	-0.065609062	0.162772664	-0.065609062	0.162772664

SUMMARY OUTPUT 5 Month Moving Average

Regression Statistics	
Multiple R	0.145567728
R Square	0.021189964
Adjusted R Square	0.008903645
Standard Error	0.025989718
Observations	243

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.003494885	0.001165	1.72468	0.162556443
Residual	239	0.161436241	0.000675		
Total	242	0.164931126			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.008767604	0.001695673	5.170573	4.93E-07	0.00542723	0.012107978	0.00542723	0.012107978
Mkt-RF	0.018016142	0.040955413	0.439896	0.66041	-0.062663541	0.098695824	-0.062663541	0.098695824
SMB	-0.034182798	0.072900353	-0.4689	0.63957	-0.177792076	0.10942648	-0.177792076	0.10942648
HML	0.115354039	0.053732878	2.146806	0.032816	0.009503526	0.221204553	0.009503526	0.221204553

SUMMARY OUTPUT 20 Month Moving Average

Regression Statistics	
Multiple R	0.080913425
R Square	0.006546982
Adjusted R Square	-0.006758192
Standard Error	0.026836998
Observations	228

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.001063187	0.000354	0.492063	0.688139796
Residual	224	0.161330279	0.00072		
Total	227	0.162393466			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.007722877	0.00180752	4.272636	2.86E-05	0.004160957	0.011284797	0.004160957	0.011284797
Mkt-RF	-0.012700726	0.042656135	-0.29775	0.766172	-0.096759374	0.071357921	-0.096759374	0.071357921
SMB	-0.066825084	0.077857652	-0.8583	0.391645	-0.220252227	0.086602059	-0.220252227	0.086602059
HML	-0.025740828	0.056003695	-0.45963	0.64623	-0.136102322	0.084620667	-0.136102322	0.084620667

SUMMARY OUTPUT 50 Month Moving Average

Regression Statistics	
Multiple R	0.186512566
R Square	0.034786937
Adjusted R Square	0.019860962
Standard Error	0.02761439
Observations	198

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.005331699	0.001777	2.330631	0.075606193
Residual	194	0.147935581	0.000763		
Total	197	0.15326728			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.004265451	0.001997147	2.135773	0.033952	0.000326544	0.008204359	0.000326544	0.008204359
Mkt-RF	-0.008098707	0.044348937	-0.18261	0.855292	-0.095566675	0.079369262	-0.095566675	0.079369262
SMB	-0.13668834	0.084072053	-1.62585	0.105605	-0.302500921	0.02912424	-0.302500921	0.02912424
HML	-0.100895093	0.058624812	-1.72103	0.08684	-0.216518906	0.01472872	-0.216518906	0.01472872

SUMMARY OUTPUT 150 Month Moving Average

Regression Statistics	
Multiple R	0.420407696
R Square	0.176742631
Adjusted R Square	0.150468459
Standard Error	0.026167072
Observations	98

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.013817956	0.004606	6.726858	0.000367723
Residual	94	0.064363273	0.000685		
Total	97	0.07818123			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.002769257	0.002698167	1.026348	0.307362	-0.002588016	0.008126531	-0.002588016	0.008126531
Mkt-RF	-0.15716399	0.05806026	-2.70691	0.008067	-0.272443997	-0.041883983	-0.272443997	-0.041883983
SMB	-0.210540045	0.103876243	-2.02684	0.045512	-0.416788761	-0.00429133	-0.416788761	-0.00429133
HML	-0.121186519	0.066828222	-1.8134	0.072961	-0.253875521	0.011502483	-0.253875521	0.011502483

SUMMARY OUTPUT Long-Short

Regression Statistics	
Multiple R	0.419677249
R Square	0.176128994
Adjusted R Square	0.155004096
Standard Error	0.052713188
Observations	121

ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.069501802	0.023167267	8.337507563	4.52534E-05
Residual	117	0.325105585	0.00277868		
Total	120	0.394607387			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.01045429	0.004930813	2.120196001	0.036102107	0.000689073	0.020219506	0.000689073	0.020219506
MKT-RF	-0.287448853	0.112492154	-2.55527913	0.01189273	-0.510233669	-0.064664037	-0.510233669	-0.064664037
SMB	-0.509003848	0.188412663	-2.701537362	0.007927935	-0.882145253	-0.135862442	-0.882145253	-0.135862442
HML	-0.290522619	0.130814839	-2.220868994	0.028285217	-0.549594553	-0.031450686	-0.549594553	-0.031450686

Inflation Sensitivity Analysis

Correlation Returns and Inflation	
	Monthly Change Inflation
Monthly Change Inflation	1.00
LMT	-0.01
RTX	0.02
S&P 500	0.06
TF 5 Months	-0.03
TF 20 Months	0.02
TF 50 Months	0.02
TF 150 Months	0.04
Long/Short Equal Weight	0.09
Volatility-Based	-0.08

McKinsey Study					
	Nominal	2%	5%	7%	8.3%
2021	700	700	700	700	700
2026	810	732	692	578	543
Growth	110	32	-8	-122	-157
Buying Power Loss		-9.6%	-14.6%	-28.6%	-33.0%
Annually Loss		-1.6%	-2.4%	-4.8%	-5.5%

		DoD Budgets														
Period	Year	Base Scenario					Peace Scenario					War Scenario				
		0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
Thesis Projections	742501	750372	761291	779232	795752	812622	742501	703766	669025	718203	733475	749024	830051	788549	1035240	1125990
2% Inflation	742501	738329	739265	742312	745883	749471	742501	692471	647735	681755	687509	690816	742057	816729	763441	986191
5% Inflation	742501	732153	726949	723840	721238	718646	742501	686679	636944	667149	664793	662403	742057	809897	750722	961650
7% Inflation	742501	714552	692417	672881	654344	636318	742501	670171	606687	620181	603134	586518	742057	790427	715061	893948
8.3% Inflation	742501	709148	681983	657729	634773	612618	742501	665102	597546	606216	585095	564672	742057	784449	704286	873819

		DoD Contract Values														
Period	Year	Base Scenario					Peace Scenario					War Scenario				
		0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
Thesis Projections	342785	346418	352515	359742	367369	375157	342785	324902	308870	331567	338618	345796	342580	383203	364043	477931
2% Inflation	342785	340859	341291	342698	344346	346003	342785	319688	299025	315858	317397	318924	342580	377053	352452	455287
5% Inflation	342785	338007	335605	334170	332969	331772	342785	317014	294053	307998	306910	305806	342580	373899	346580	443957
7% Inflation	342785	329882	319663	310644	302086	293764	342785	309392	280085	286314	278444	270773	342580	364910	330116	412702
8.3% Inflation	342785	327387	314846	303649	293051	282822	342785	307053	275864	279867	270116	260688	342580	362151	325142	403409

		Base Scenario						Peace Scenario						War Scenario					
Year		2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2028
LMT Defense Contract Share		15.14%	16.03%	16.86%	17.67%	18.52%	19.40%	15.14%	16.03%	16.86%	17.67%	18.52%	19.40%	15.14%	16.03%	16.86%	17.67%	18.52%	19.40%
RTX Defense Contract Share		9.60%	10.02%	10.39%	10.74%	11.09%	11.46%	9.60%	10.02%	10.39%	10.74%	11.09%	11.46%	9.60%	10.02%	10.39%	10.74%	11.09%	11.46%

		LMT Contract Revenue														
Period	Year	Base Scenario					Peace Scenario					War Scenario				
		0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
Thesis Projections	51907	55537	59421	63576	68021	72778	51907	52088	52064	58596	62698	67082	51876	61434	61364	84463
2% Inflation	51907	54646	57529	60564	63759	67122	51907	51252	50406	55820	58769	61869	51876	60448	59410	80461
5% Inflation	51907	53864	56570	59056	61652	64361	51907	50823	49566	54431	56827	59284	51876	59943	58420	79439
7% Inflation	51907	52886	53883	54899	55934	56988	51907	49601	47212	50599	51556	52528	51876	58502	55645	72915
8.3% Inflation	51907	52486	53071	53663	54261	54866	51907	49226	46500	49460	50014	50572	51876	58059	54807	71293

		RTX Contract Revenue														
Period	Year	Base Scenario					Peace Scenario					War Scenario				
		0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	2023	2024	2025	2026	2027	2028	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
Thesis Projections	32901	34706	36611	38620	40739	42975	32901	32551	32078	35595	37551	39611	32881	38392	37808	51308
2% Inflation	32901	34149	35445	36790	38186	39635	32901	32028	31057	33909	35198	36533	32881	37775	36604	48877
5% Inflation	32901	33864	34855	35874	36924	38005	32901	31760	30539	33065	34035	35030	32881	37459	35994	47661
7% Inflation	32901	33050	33199	33349	33500	33651	32901	30997	29088	30737	30878	31017	32881	36559	34285	44305
8.3% Inflation	32901	32800	32699	32598	32498	32398	32901	30762	28650	30045	29954	29862	32881	36282	33768	43308

Year	Base Scenario								Peace Scenario								War Scenario							
	2023	2024	2025	2026	2027	2028	2029	2030	2025	2026	2027	2028	2029	2030	2031	2032	2025	2026	2027	2028	2029	2030	2031	2032
LMT Contract Revenue Share	74.33%	75.15%	75.98%	76.82%	77.66%	78.52%	74.33%	75.15%	75.98%	76.82%	77.66%	78.52%	74.33%	75.15%	75.98%	76.82%	75.98%	76.82%	77.66%	78.52%	74.33%	75.15%	75.98%	76.82%
RTX Contract Revenue Share	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%	46.50%

Period Year	LMT Revenue															War Scenario												
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	0	1	2	3	4	5	6	7	8	9	10	11	12
Thesis Projections	69829	73899	78205	82763	87586	92690	98299	104309	110829	117859	125499	133849	142909	152689	163199	69829	73899	78205	82763	87586	92690	98299	104309	110829	117859	125499	133849	142909
2% Inflation	69829	72713	75715	78842	82097	85487	89099	92949	97049	101409	106029	110909	116049	121459	127149	69829	72713	75715	78842	82097	85487	89099	92949	97049	101409	106029	110909	116049
5% Inflation	69829	72105	74454	76880	79385	81971	84649	87409	90249	93179	96199	99309	102509	105799	109179	69829	72105	74454	76880	79385	81971	84649	87409	90249	93179	96199	99309	102509
7% Inflation	69829	70371	70917	71467	72022	72581	73144	73711	74281	74854	75431	76011	76594	77181	77771	69829	70371	70917	71467	72022	72581	73144	73711	74281	74854	75431	76011	76594
8.3% Inflation	69829	69839	69848	69858	69868	69877	69887	69897	69907	69917	69927	69937	69947	69957	69967	69829	69839	69848	69858	69868	69877	69887	69897	69907	69917	69927	69937	69947

Period Year	RTX Revenue															War Scenario														
	Base Scenario							Peace Scenario							War Scenario															
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	7	8	9	10	11	12			
Thesis Projections	70755	74637	78733	83054	87611	92419	97055	70002	68985	68985	76549	80755	85186	70712	82563	81308	110340	123970	129338											
2% Inflation	70755	73439	76226	79118	82121	85237	70755	68878	68788	72922	75694	78566	70712	81238	78719	105112	116201	119287												
5% Inflation	70755	72825	74956	77150	79407	81731	70755	68302	65676	71107	73193	75314	70712	80558	77407	102436	112761	114381												
7% Inflation	70755	71074	71396	71718	72042	72368	70755	66560	63256	68111	66404	66704	70712	78622	73730	95280	101940	101278												
8.3% Inflation	70755	70537	70320	70103	69888	69672	70755	66156	61571	66411	64418	64420	70712	78027	72610	93135	98891	87505												

DCF LMT		DCF RTX	
Actual Stock Price	413.65	Actual Stock Price	71.58
Valuation Date	22.09.2023	Valuation Date	22.09.2023
Cost of Equity	9.41%	Cost of Equity	9.85%
Nominal Tax Rate	21%	Nominal Tax Rate	21%
Terminal growth rate	1.99%	Terminal growth rate	2.09%
WACC	8.69%	WACC	9.52%
US Average 10y GDP Growth Rate	2.12%	US Average 10y GDP Growth Rate	2.12%
US 10y Inflation Rate	2.32%	US 10y Inflation Rate	2.32%
Estimated Growth rate	1.68%	Estimated Growth rate	2.03%
Revenue growth rate (historic)	5.83%	Revenue growth rate (historic)	5.49%
Aerospace Industry Growth rate	2.40%	Aerospace Industry Growth rate	2.40%
Defense industry growth rate	0.67%	Defense industry growth rate	0.67%
Shares Outstanding	264	Shares Outstanding	1475.5
Scenario Percentages	Probabilities	Scenario Percentages	Probabilities
Base Scenario	79.59%	Base Scenario	79.59%
Peace Scenario	10.43%	Peace Scenario	10.43%
War Scenario	9.98%	War Scenario	9.98%

Prices	LMT	RTX
Actual Share Price	\$ 413.65	\$ 71.58
Final Price Thesis	\$ 446.64	\$ 72.12
Final Price 2% Inflation	\$ 384.04	\$ 65.34
Final Price 5% Inflation	\$ 365.86	\$ 54.50
Final Price 7% Inflation	\$ 317.09	\$ 52.49
Final Price 8.3% Inflation	\$ 302.99	\$ 49.78

Downside from Actual Price	LMT	RTX
2% Inflation	-7.16%	-8.72%
5% Inflation	-11.55%	-23.86%
7% Inflation	-23.34%	-26.67%
8.3% Inflation	-26.75%	-30.46%

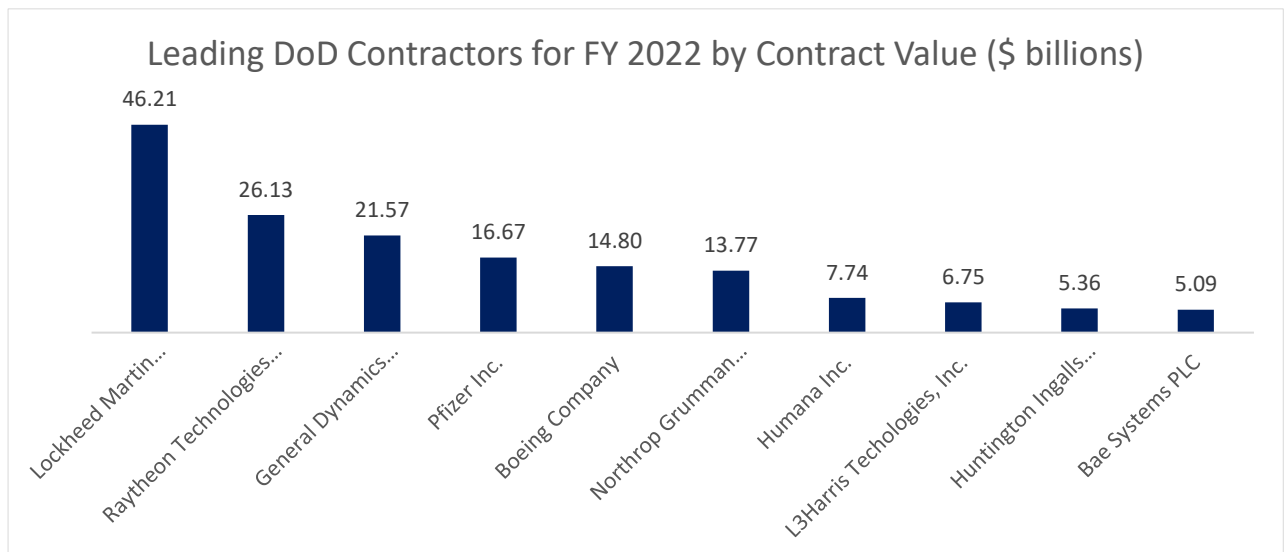
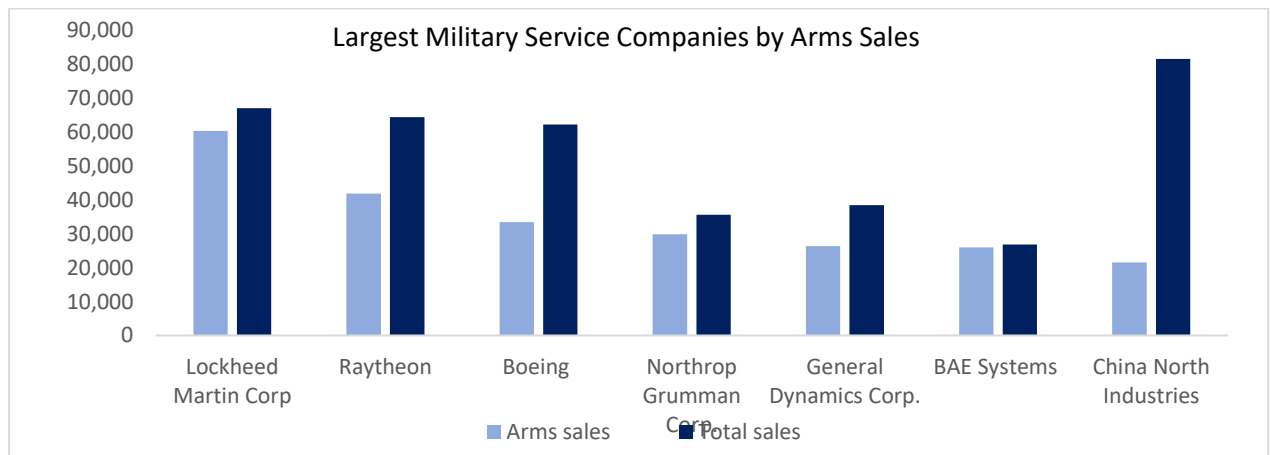
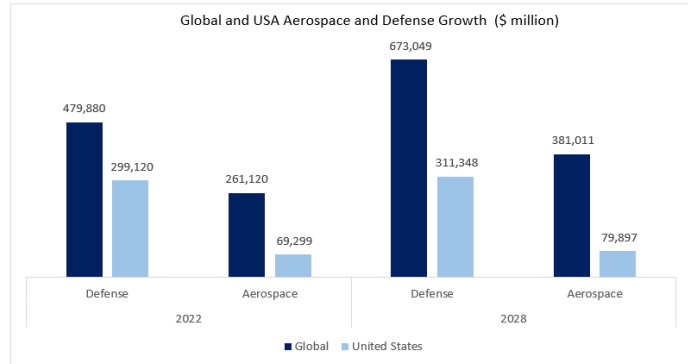
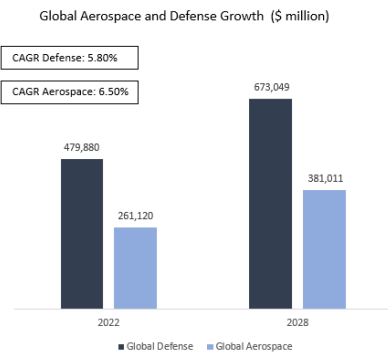
Downside from Thesis Price	LMT	RTX
2% Inflation	-14.01%	-9.40%
5% Inflation	-18.09%	-24.43%
7% Inflation	-29.00%	-27.22%
8.3% Inflation	-32.16%	-30.98%

Interest Rates Sensitivity Analysis

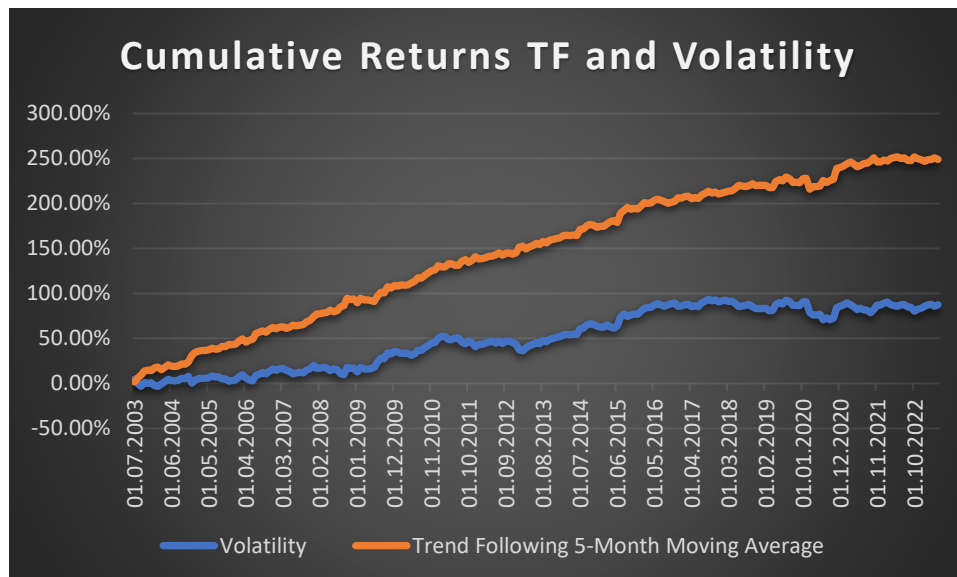
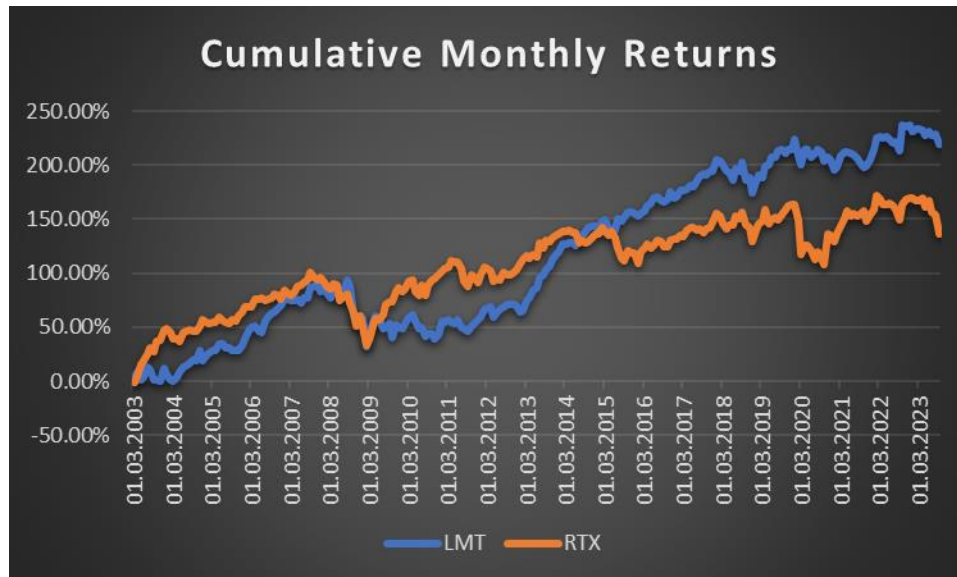
Correlation Returns and Interest Rates		
	Monthly Change Risk-Free Rate	
LMT		0.04
RTX		0.08
S&P 500		0.02
TF 5 Months		0.12
TF 20 Months		0.01
TF 50 Months		-0.10
TF 150 Months		-0.13
Long/Short Equal Weight		-0.26
Volatility		0.06

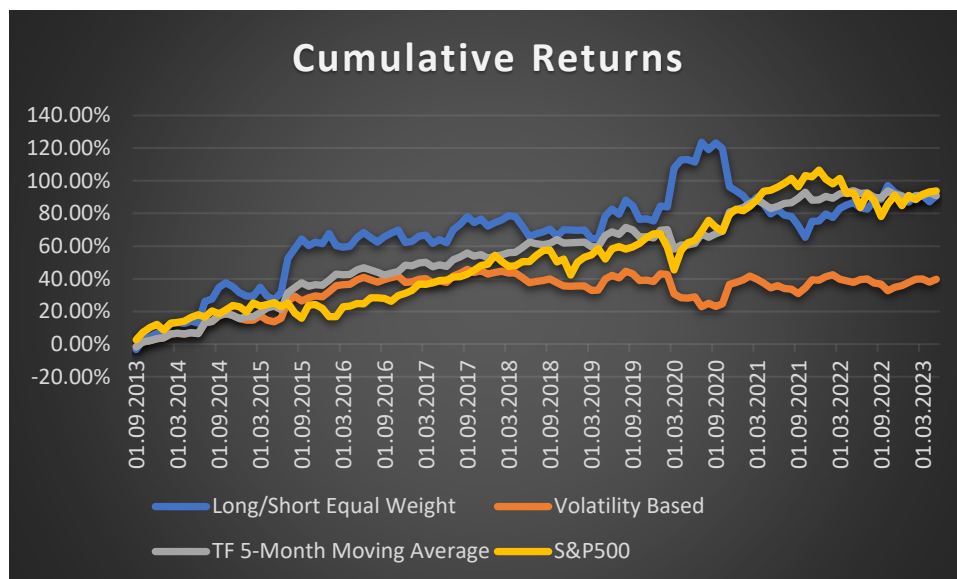
All Graphs

Industry



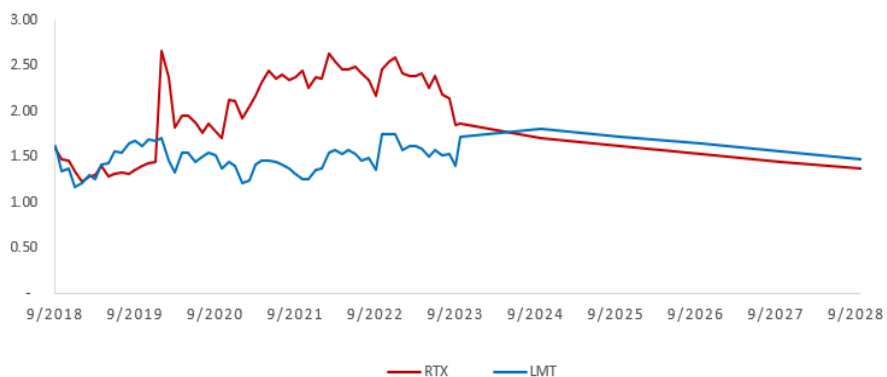
Pairs-Trading Strategies Graphs





Pairs Ratios

EV/Revenue Ratio Forecasts



P/E Ratio Forecasts

