

Industry Top Trends 2019

Aerospace and Defense

November 14, 2018



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Key Takeaways

- **Ratings Outlook:** Rating trends across the global industry will likely be fairly stable as growing defense spending in the U.S. and Europe and increasing aircraft production rates support higher earnings and cash flow. However, the credit quality of some commercial aerospace suppliers could be affected by their continued struggles to increase production rates. Likely high levels of merger and acquisition (M&A) activity in both sectors could also lead to increasing ratings volatility.
- **Forecasts:** We expect credit ratios to improve in 2019 on moderate revenue growth and higher margins. However, this improvement could be constrained by operational issues at suppliers and increased leverage to fund M&A activity. Shareholder returns at the larger firms remain a concern, though less so now than in recent years.
- **Assumptions:** We expect production rates of commercial aircraft to continue to increase in 2019, despite the flat to declining level of new orders, though at a slower pace than in 2018. In the U.S., we expect defense spending growth to moderate this year, though companies will continue to benefit from the strong growth in 2018. In Europe, large order backlogs for commercial (mainly the Airbus A320) and defense aircraft continue to support credit metrics.
- **Risks:** The largest risk facing the commercial aerospace industry is that suppliers will be unable to keep up with higher production rates while, at the same time, facing elevated margin pressure due to their evolving relationship with the aircraft manufacturers. For U.S. defense contractors, political concerns and competing fiscal priorities that limit the growth of military spending are key risks to growth. In Europe, the main risk is Brexit and its potential impact on the supply chain for commercial aerospace. The uncertainty over Britain's EU exit has already led to increased inventories and could cause production delays.
- **Industry Trends:** The commercial aerospace market is softening somewhat but remains strong. Increased U.S. defense spending should support demand over the next few years, though the longer-term outlook is more uncertain. The European aerospace market remains strong, although a number of companies have faced operational setbacks. We expect increased defense spending by a number of European governments and the European Defence Fund to support revenue growth for European firms.

Ratings trends and outlook

Global Aerospace and Defense

Chart 1

Ratings distribution

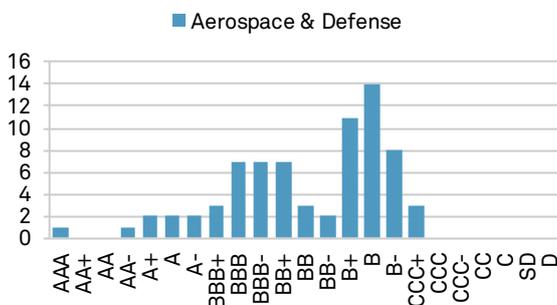


Chart 2

Ratings distribution by region

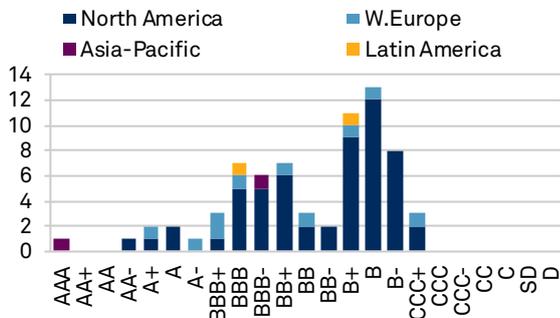


Chart 3

Ratings outlooks

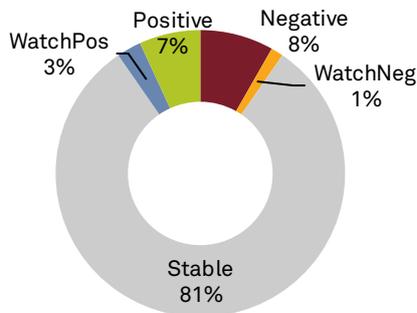


Chart 4

Ratings outlooks by region

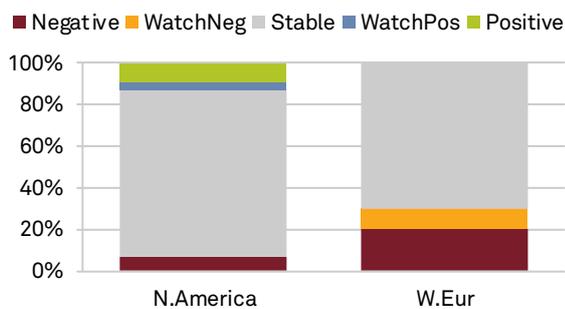


Chart 5

Ratings outlook net bias

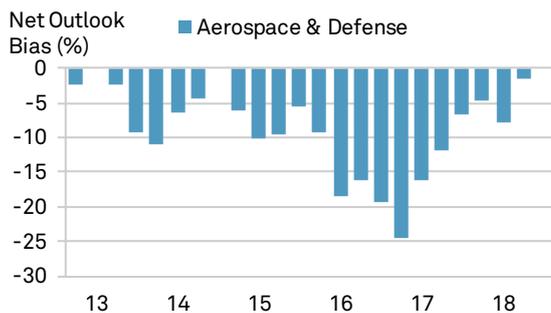
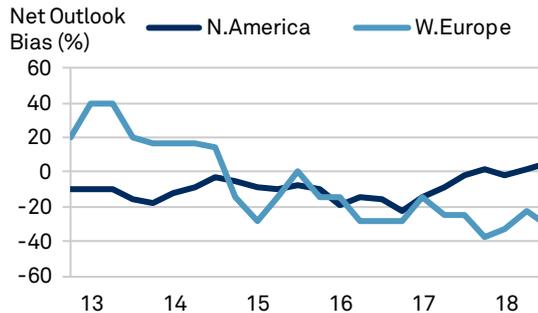


Chart 6

Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured quarterly with last shown quarter ending September 30, 2018

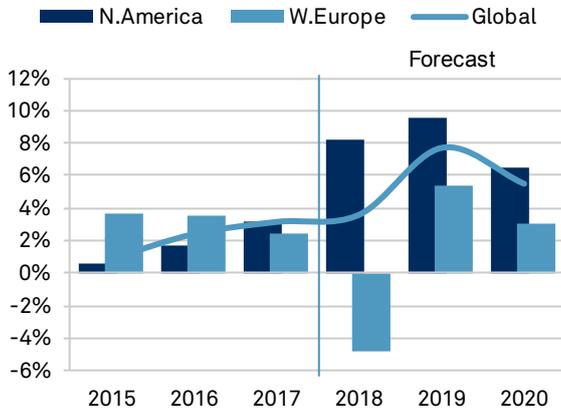
Because we currently have stable outlooks on more than 80% of the A&D companies that we rate, we do not expect there to be many rating changes in this segment over the next 12 months. For those companies with non-stable outlooks, there is a very slight negative bias. The vast majority of our outlooks on North American A&D companies are stable and most of the non-stable outlooks are related to pending acquisitions. European-based A&D companies make up only a small portion of our global portfolio. The negative outlooks that we have on a few European A&D companies mainly reflect company-specific factors.

Industry forecasts

Global Aerospace and Defense

Chart 7

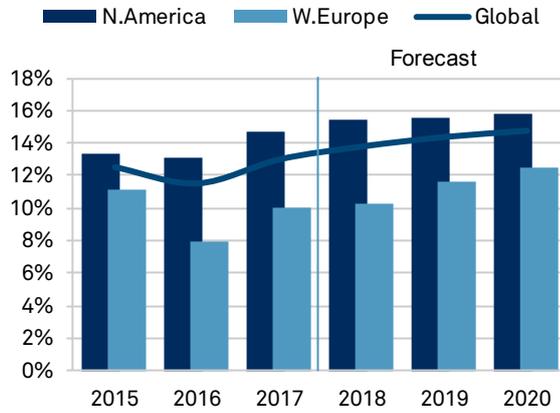
Revenue growth (local currency)



Revenue growth will be solid in 2019 due to increasing production rates on commercial aircraft and growing defense spending in the U.S. and Europe.

Chart 8

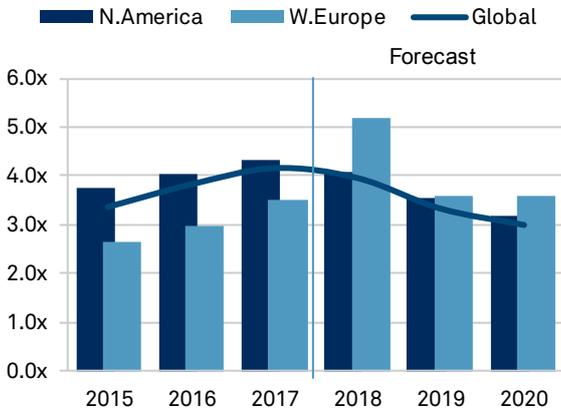
EBITDA margin (adjusted)



EBITDA margins should improve as commercial aircraft suppliers benefit from higher volumes and improving operations as the pricing pressure facing defense contractors lessen somewhat.

Chart 9

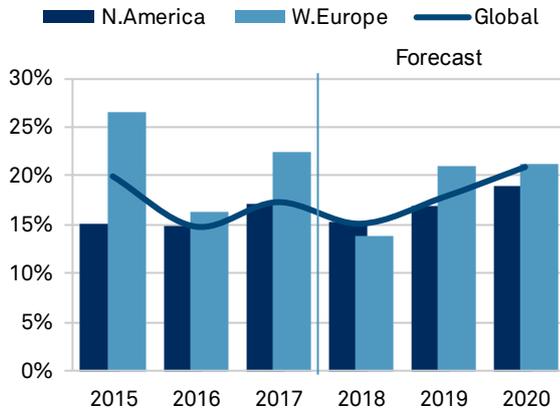
Debt / EBITDA (median, adjusted)



Leverage should decline as earnings increase, though this could be offset by the impact of M&A and, possibly, shareholder returns.

Chart 10

FFO / Debt (median, adjusted)



Companies in this sector should also see their cash flow improve as their earnings increase.

Source: S&P Global Ratings. Revenue growth shows local currency growth weighted by prior-year common-currency revenue-share. All other figures are converted into U.S. Dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO--Funds from operations.

Key assumptions

Commercial Aerospace

1. Aircraft demand moderating

Aircraft orders will likely remain at or below the level of production (about 1,600 in 2018) for the next few years. After peaking at a record of over 3,300 in 2014, the number of orders declined to the 1,800-2,300 range in 2015-2017 and will likely decline further in 2018. We expect this decline to occur because near-term demand will have been met, the manufacturers' large backlogs are leading to long wait times for popular aircraft, and there are few new models to drive increased sales. However, air traffic continues to increase at a faster pace than the historical average of 5.5% and there is still demand to replace older aircraft with new, more fuel-efficient models. Widebody orders have been particularly weak, especially for the largest version of each model family, though we have seen some strength recently and demand could increase further in the next few years as the airlines begin to replace their older Boeing 777s and Airbus A330s. Orders for cargo aircraft have also risen on demand from package express companies like UPS. This higher level of demand could continue if the global economy remains strong, though cargo aircraft represent a very small part of the market.

2. Increasing production supports higher revenues but the rate of growth will slow

Airbus and Boeing will likely continue to increase the production rates of their popular aircraft, including the Boeing 737 and Airbus A320, due to the huge backlog of orders for these aircraft. However, the rate of growth in the total number of deliveries will likely slow from the almost 10% level we expect for 2018 as manufacturers reach their near-term production targets for other aircraft, like the Boeing 787 and Airbus A350, while older model widebody production rates are flat to declining. Although airlines would probably like Airbus and Boeing to further increase the production rates of their 737 and A320 aircraft, which are currently slated to peak at 57 a month and 63 a month, respectively, in the next two years, issues with the supply chain could limit future increases and may even make reaching these targeted rates difficult. Deliveries of both the 737 and A320 have been delayed in 2018 due to issues with the engines for both families of aircraft and the supplier-provided fuselage for the 737. Both manufacturers expect to catch up with, and meet, their full-year targets, though delays could continue into 2019.

3. Margins and cash flow should improve

The significant increase in aircraft production and the large number of new models introduced in recent years, as well as the related operational problems in some cases, have constrained the earnings and cash flow of many suppliers despite their higher revenues. With the rate of production growth slowing and most new models now in production, suppliers should see improving margins and cash flow. However, efforts by the original equipment manufacturers (OEMs) to reduce their costs could limit the improvement in some of their suppliers' margins. Suppliers are trying to offset this pricing pressure by improving their operating efficiency through increased automation and other efforts, as well as by trying to reduce the costs from their suppliers. Higher material costs due to tariffs could also become an issue if the suppliers and OEMs are unable to pass these increases onto their customers.

Chart 11

Large commercial aircraft orders

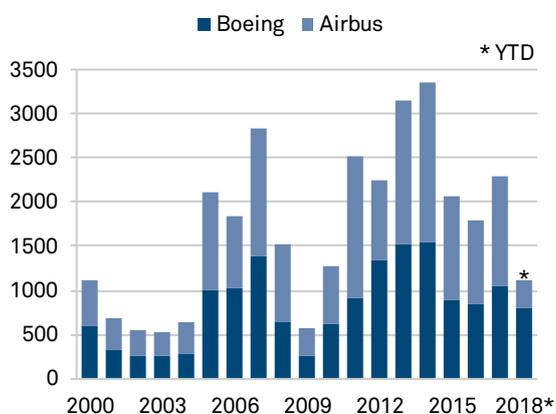
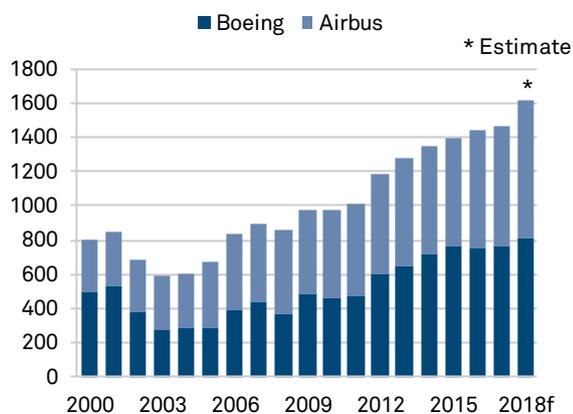


Chart 12

Large commercial aircraft deliveries



Source: Manufacturers' websites, S&P Global Ratings

U.S. Defense

1. Increased revenue as defense spending rises

The U.S. defense budget increased by more than 10% in fiscal year 2018 to \$590 billion. Although the defense budget increased by only 3% in fiscal year 2019 (to \$606 billion), the lag between when the money is appropriated by Congress and when it is actually spent by the military should support higher revenues for most defense contractors for the next few years. However, the pace of growth will vary by company depending on which programs they are working on and what parts of the market they address. In addition, the longer-term growth prospects for defense spending are becoming more uncertain. Higher levels of U.S. defense spending should also be bolstered by solid demand from countries in the Middle East, Asia, and Europe for missile defense and other weapons systems; however, deliveries under existing foreign contracts as well as new orders could be cancelled or delayed due to political issues. Sales to Saudi Arabia, the largest buyer of U.S. weapons, could be halted due to the alleged murder of a dissident journalist by the Saudi regime, which could possibly affect the revenues of a number of large defense contractors.

2. Margins likely to moderate

The U.S. government continues to look for the best technology at the most affordable price even though overall defense spending has increased. Therefore, we expect that the elevated pricing pressure in this industry will persist, although it will be less onerous than in recent years. More recently, prime contractors have been pressuring their suppliers to reduce costs as well. Most companies have worked to rationalize their cost structures in order to bid more competitively on defense programs, though much of these savings are being passed on to their customers, which has limited any material improvement in their margins.

3. M&A increasing while shareholder returns moderate

Increased defense spending has led many firms to shift their cash deployment priorities toward M&A and internal investment and away from shareholder returns, which is a trend that we expect to continue. However, the volume of share repurchases and dividends by the large firms will remain high, though these companies will likely choose to fund their shareholder rewards with internal cash flows. Acquisitions could lead to elevated

leverage if firms do not pull back on their shareholder returns in response; however, in some cases, the effect on their credit quality could be moderated by their improved scale and expanded capabilities.

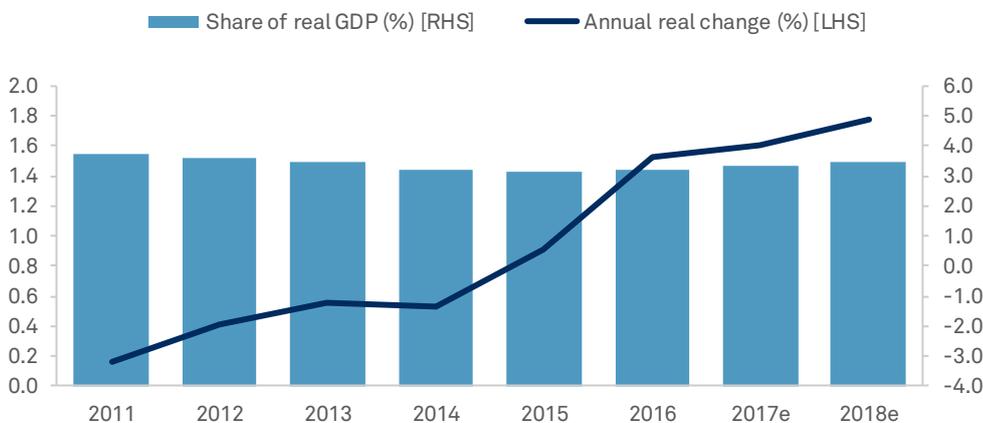
European Defense

1. European commitment to NATO driving future revenue growth

Growth in the defense budgets of European countries, due to geopolitical tensions and the rising threats posed by cyberattacks and disruptive technologies, is providing a supportive environment for defense companies. European members of the North Atlantic Treaty Organization (NATO) are attempting to reach the NATO spending target of 2% of GDP (currently 1.5% on average) and continue to increase their real spending on defense, which we estimate will rise by 4.85% in 2018 (see chart below). European governments continue to move toward achieving “strategic autonomy”, which aims to reduce Europe’s reliance on U.S.-made weapons. We expect European defense spending to continue to rise and believe that this growth will be supported by the European Defence Fund (EDF) (which launched in June 2017) and the European Defence Industrial Development Programme (EDIP). The EDF should create incentives for EU member states to cooperate on their acquisitions of defense equipment and technology by providing co-financing from the EU budget and practical support from the European Commission. The EDIP should also support research and development in the industry through its research grants.

Chart 13

European NATO Members Defense Spending over time



Source: NATO

2. Digitization gathers momentum

As European governments modernize their armed forces and cyber threats become a common facet of modern warfare, European defense companies are trying to establish themselves as digital leaders through M&A or by seeking partnerships. For example, on Dec. 17, 2017, Thales (A-/Negative/A-2) announced that it was acquiring Dutch-based digital security company Gemalto for an enterprise value of about €5.6 billion. Gemalto is a major player in cybersecurity that derives about half of its revenue from the production of smart cards for mobile phones and payment cards and the rest mainly through identification systems, enterprise security, mobile platforms, and the internet of things. In addition, cyber security accounted for 5% of BAE Systems PLC's (BBB/Stable/A-2) revenue in 2017, while Airbus (A+/Stable/A-1+) has launched a new digital program

called Quantum, which seeks to create new business models around advanced technology. We expect the capital expenditures of European defense companies to remain fairly stable at around 5% of revenue. Therefore, we anticipate that most issuers will utilize joint ventures or strategic M&A to boost their digital capabilities.

3. European Defence Fund to encourage research and development

The EDF and EDPIP should support increased levels of research and development in the industry through research grants by partially subsidizing research costs for rated entities. However, the full effect of this support will not be felt in the next year because the EDF has, as of yet, only allocated €90 million for defense research projects for 2017-2019. The EDF plans to make €500 million available for the development of defense technologies during 2019-2020 before both the EDF and EDPIP receive increased funding under the long-term EU budget starting in 2021.

Key risks and opportunities

Commercial Aerospace

1. The supply chain's ability to increase production

Problems at the suppliers of engines, fuselages, interiors, and other components to the commercial aerospace industry have led to delays in the deliveries of the Boeing 737 and Airbus A320 this year, which could continue into 2019. These problems not only affect the earnings and cash flow of the suppliers but could also cause the OEMs to delay further production increases. At the same time, the relationship between aircraft manufacturers and their suppliers is evolving as the OEMs try to improve their margins by reducing costs, expanding their presence in the lucrative aftermarket, and increasing their control over aircraft development and production. This trend could lead to reduced demand and lower margins for aerospace suppliers, though we expect that this shift will likely take a long time to develop. The threat, however, has prompted some suppliers to increase their negotiating leverage by expanding the scope of their operations through acquisitions.

2. Trade wars and other political issues

Commercial aircraft production involves a complex global supply chain that could be disrupted by possible changes in trade agreements, especially between the U.S. and the U.K. The tariffs imposed by the U.S. on aluminum, steel, and Chinese imports have so far not had a material impact on U.S.-based manufacturers or suppliers, though they could lead to modestly higher costs over time. Boeing usually has price escalators in its customer contracts, which they could use to offset some of the increase, and also has long-term contracts with its aluminum suppliers. Any retaliatory tariffs placed on U.S. aircraft by China would likely not affect Boeing's deliveries for many years because Airbus would be unable to replace any cancelled Chinese orders in the near-term due to production constraints.

In Europe, Brexit poses a risk not only to the credit metrics of A&D companies but also to the business models of the OEMs and their suppliers. If any Brexit deal results in the U.K. leaving the European Aviation Safety Agency (EASA), we expect that there to be numerous implications for U.K. and EU aerospace firms. Specifically, we expect a no deal Brexit (under which no agreements between the EU and the U.K. are finalized by the time the deadline for negotiations is reached) to lead to delivery delays due to the increased logistical burden, thereby delaying revenues and increasing the associated transportation costs. On October 2 EASA allowed a number of U.K. firms that held certain approvals to apply for third-party approval, although we still believe this would increase costs for these firms. However, we note that aerospace giant Boeing recently opened its

first ever European manufacturing plant in Sheffield despite the potential uncertainties surrounding Brexit.

3. A sharp downturn in the global economy in 2019

An economic downturn could reduce the volume of global air traffic and possibly lead to an increase in order cancellations and deferrals. This would be exacerbated if the weaker economic conditions also reduce the availability of financing to fund aircraft purchases, especially because the U.S. and major European export credit agencies are not available to support the market. However, the huge order backlogs at commercial aerospace firms, which stretch out to more than six years for some models, provide some cushion for the manufacturers to maintain their current production rates, at least for popular models, though they would likely delay further production increases.

U.S. Defense

1. Uncertainty about longer-term defense spending

Although we expect U.S. defense spending to increase modestly for the next few years, the growth rate will not likely exceed the pace of inflation and we believe that actual declines in nominal spending are possible. Despite increasing threats from Russia and China and consistent public support for a strong military, the Trump Administration recently called for a 5% cut to all government spending. Nonetheless, Congress, which actually appropriates the money, could vote for higher levels. Growing fiscal deficits could also limit defense spending, though a politically split Congress may actually support higher spending because both parties will be forced to compromise to pass appropriation bills. Finally, U.S. defense spending is still limited by sequestration, which returns in fiscal year 2020. Although we expect Congress to either eliminate or temporarily waive sequestration to allow the government to fund the military at higher-than-sequestration levels, which under sequestration would be \$200 billion below current levels, nothing is certain in the current political environment.

2. M&A

M&A activity between defense companies has increased significantly in the past two years and is a trend that we expect to continue in 2019. This increase is being driven by improved visibility into near-term defense spending as well as higher cash flows from lower tax rates. The recent announcement of the planned merger between two midsize defense contractors, Harris Corp. and L3 Technologies Inc., could cause more small industry players to combine to increase their scale and broaden their product and service offerings. The recent wave of acquisitions could also lead some companies to divest the noncore operations they obtained from their acquired businesses. Although we expect the large prime contractors to continue to acquire smaller companies to gain new technologies or enter new markets, we don't expect there to be a merger between two primes because the U.S. government would likely not allow it. We also expect continued consolidation in the government services market, which is still price competitive despite higher defense spending.

3. A sharp downturn in the global economy in 2019

U.S. defense spending is generally not sensitive to short-term economic conditions because it is usually determined by the threats the country faces and political priorities. Non-U.S. defense budgets can be more sensitive to economic conditions, as evidenced by recent cuts to Italy's defense budget, so foreign demand could decline. Defense contractors or suppliers that also have exposure to the commercial aerospace or industrial markets could be affected by downturns in those sectors in a weak economy.

Chart 14

U.S. defense spending

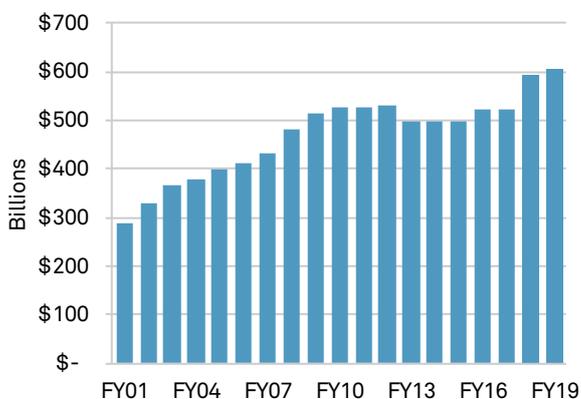
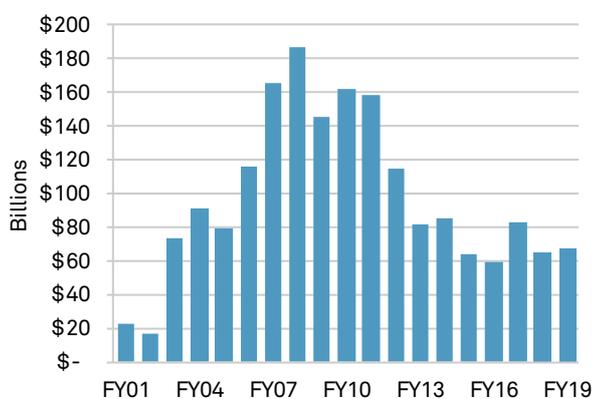


Chart 15

U.S. supplemental war funding



Source: U.S. Department of Defense, S&P Global Ratings

European Defense

1. A disorderly Brexit could negatively affect supply chains

In terms of the potential effects of a disorderly Brexit, many European defense companies are focused on how Britain's separation from the EU will affect their supply chains. Defense OEMs often have complex cross-border supply chains that would be highly sensitive to the impact of a disorderly Brexit, which could lead to immediate production delays at the OEMs due to short-term disruptions in their transport and logistics, a longer-term rebalancing of supply chains as the industry deals with the potential introduction of customs checks, and disruption caused by delays or changes in the regulatory approval process. Smaller defense suppliers would likely be the hardest hit by a disorderly Brexit because they lack the scale, resources, and liquidity to handle sudden large swings in their working capital. In particular, we have seen larger firms increase their inventory and stock up on raw materials in preparation for potential transport or supply-chain issues, which is a strategy that smaller suppliers may find hard to emulate.

2. Brexit could alter the U.K.'s role in the EU's defense strategy and lead to the relocation of production

The U.K. is currently the EU's biggest defense spender and one of the few countries that meets NATO's target of spending 2% of its GDP on defense. In fact, the country is responsible for about 40% of the bloc's current spending on defense R&D. However, there remain many unknown factors related to the aftermath of Brexit, including what role the U.K. will play in the EU's defense strategy going forward, whether it will have access to European research and industrial development funding, and how the cross-border movement of skilled labor will be handled. Although most existing defense contracts will likely not be affected, U.K. firms may be prevented from bidding on future EU contracts or vice versa. Some OEMs may also decide to relocate their production assets to be closer to their end customers and negate some of the aforementioned risks.

Tellingly, the announcement of plans for a Franco-German combat aircraft program to replace the Eurofighter Typhoon and Dassault Rafale excluded U.K. companies. The U.K.'s plan to develop the Tempest fighter through a consortium of rated entities (BAE, Rolls Royce, and Leonardo) should help support U.K.-based suppliers. However, both

programs are a long way from production, with Tempest expected to enter service in 2035 and the proposed Franco-German aircraft not expected to enter service until 2040.

On the other hand, some of the impact of the U.K.'s decision to leave the EU has already been seen in the bloc's decision to raise its military budget for the first time in six years, after the U.K. dropped its opposition to the plan, with the creation of more structured defense cooperation through the EDF and DFPIP.

3. A sharp downturn in the global economy in 2019

With continued pressure from the U.S. over NATO spending and the European Commission's recognition of defense as a key priority, we do not believe that EU defense spending will be sensitive to short-term economic conditions. However, because we currently have negative outlooks on a number of rated entities in Europe due to their operational performance, Brexit could trigger additional downgrades if defense spending moderates. Also, if there is a large decline in asset values (particularly government bonds), these companies' pension deficits could increase, which would raise their S&P adjusted debt levels.

Related Research

- Countdown to Brexit: No Deal Moving Into Sight, Oct. 30, 2018
- U.S. Military Contractors Will Likely See A Modest Boost From The Fiscal 2019 Defense Budget, Feb. 20, 2018

This report does not constitute a rating action.

Cash, debt, and returns

Global Aerospace and Defense

Chart 16

Cash flow and primary uses

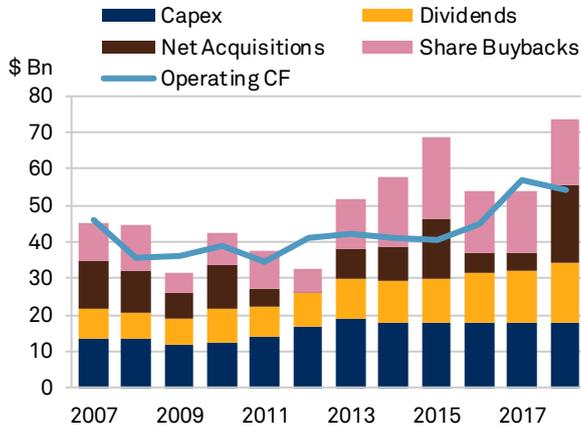


Chart 17

Return on capital employed



Chart 18

Fixed versus variable rate exposure

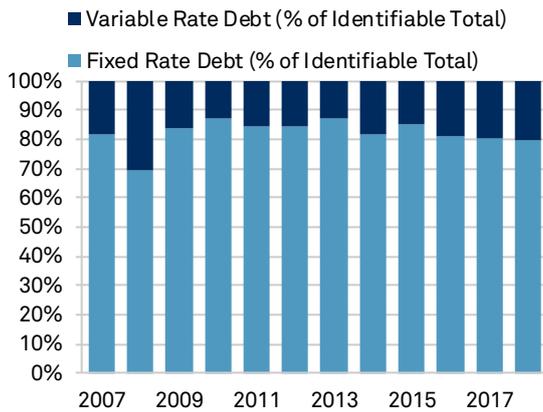


Chart 19

Long term debt term structure

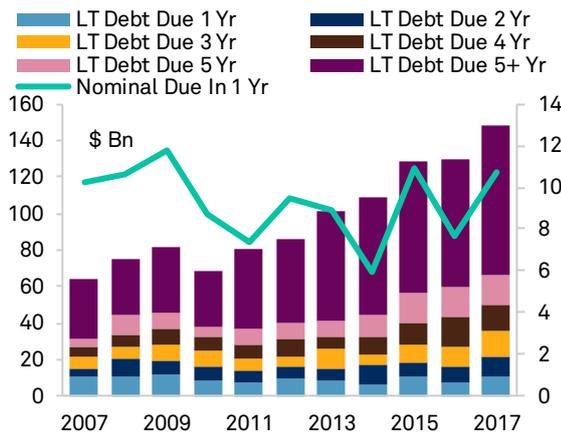


Chart 20

Cash and equivalents / Total assets

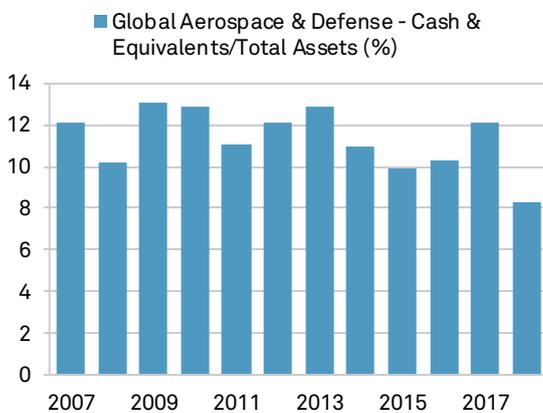
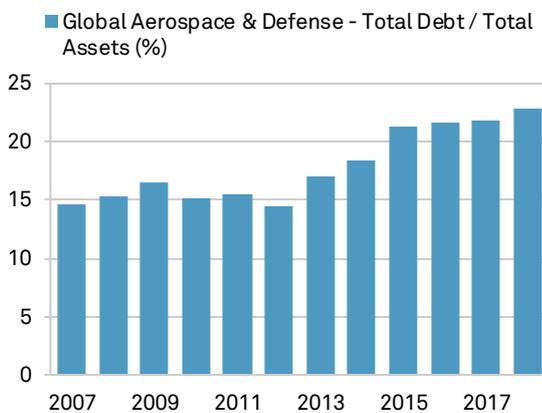


Chart 21

Total debt / Total assets



Source: S&P Global Market Intelligence, S&P Global Ratings calculations

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