

Aerospace & Defence Update

737 freeze impact on supply/demand

Industry Overview

Boeing production freeze impact on supply/demand

Boeing reported 4Q23 last Weds & a big focus was on commentary around [the FAA freeze of the 737-production ramp](#) & whether this could potentially impact the [Max-7 & 10 certification process](#). We discussed last week [the implications for our EU civil coverage](#) & and this week we analyse the read across from Boeing results and how the FAA freezing 737 production rates could impact our supply and demand models as Senior US analyst Ron Epstein believes that the MAX-7 and MAX-10 certification will likely be pushed further out to late 2024 & 2025 (see Ron's [Boeing 4Q23 feedback here](#)).

Capacity model suggests 2016-26 growth of CAGR 3%

The industry is still recovering from COVID, and supply/demand for new aircraft is in clear deficit. As a result, we believe the Boeing production freeze could compound the supply demand imbalance in 2024. We update our seat capacity model for our latest production expectations for Airbus & Boeing and update our retirement assumptions following a sharp normalisation in 2H23 (BofAest c.400 NB & 150 WB 2025-26 p.a.). These assumptions indicate a 10-year CAGR of net seat growth of c.3% for the period 2016-26, well below long-term travel expectations (c.4%). Within this, NB is expected to grow at a 3.7% CAGR in line with the long run 4% average air traffic growth. WB growth is well below, at 1.5%, which could suggest upside risk to the current production rates.

Retirements accelerated in 2023 & were at >70% vs '19

Retirements fell significantly through 2020-21, troughed in FY22 & have accelerated progressively in 2023 driven by supply chain normalization & OEM increasing production rates mid-term. Both NB and WB retirements were >70% 2019 levels in 2023, largely driven by a 2H23 normalisation. WB retirements accelerated significantly after troughing in 2022. We believe the FAA decision to freeze 737 production rates at current levels (and the potential delay of the Max-7 and Max-10 certification) could weigh on the retirements of old aircraft in 2024 on the NB side. However, we still see retirements reaching 2019 levels in 2024 (c.450) and stabilizing at around 550 (150 WB and 400 NB) from 2025 onwards, which should be supportive of current production rates.

In service fleet: n/body already >2019 levels in 2023

We derive our estimates of the in-service fleet based on our assumptions on production & retirements, & assuming no material changes in stored fleet going forward. In 2023 the in-service NB fleet was already >2019 levels (+8.9%) while WB was still below (-7.5%). We see WB in-service fleet recovering 2019 levels by 2026E, while we see the NB in-service fleet at c.+30% vs 2019 levels.

05 February 2024

Equity
Europe
Aerospace & Defence

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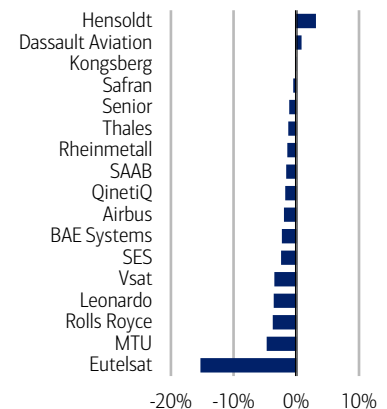
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Exhibit 1: Sector weekly performance rel FTEU 300

Weekly stock performance

Source: Eikon (prices as of 01st Feb, 2024)

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Refer to important disclosures on page 20 to 22.

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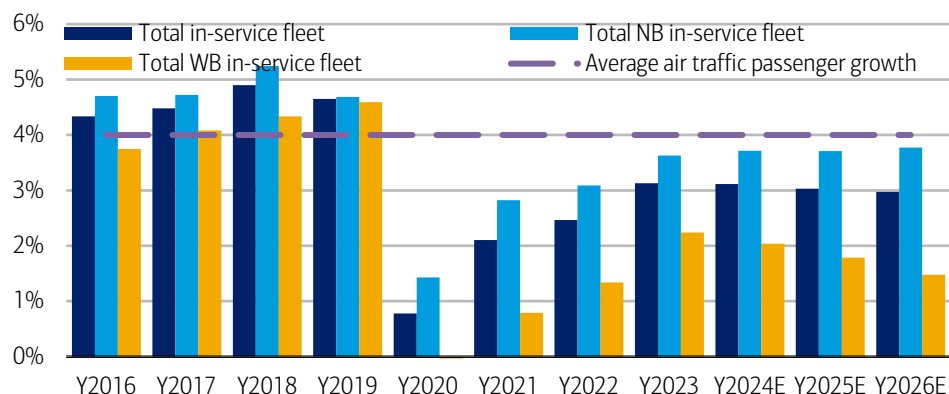
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Exhibit 2: In-service fleet growth (NB, WB and Total)

We see NB total in service fleet seats growing in line with air traffic growth while we see WB in service fleet growing materially below



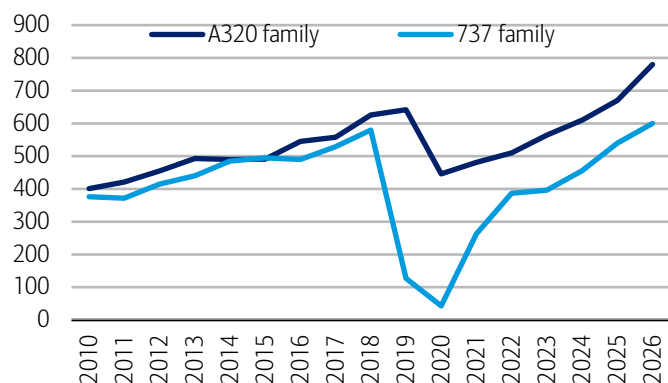
Source: BofA Global Research estimates, Cirium

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Based on BofA production forecasts for Airbus & Boeing we see NB seat capacity growing at c.6.3% CAGR 23-26E, & WB capacity growing at c.3.0% CAGR 23-26E.

Exhibit 3: A320 & 737 families production estimates (# aircraft)

We expect main n/body families to drive the volume ramp medium term

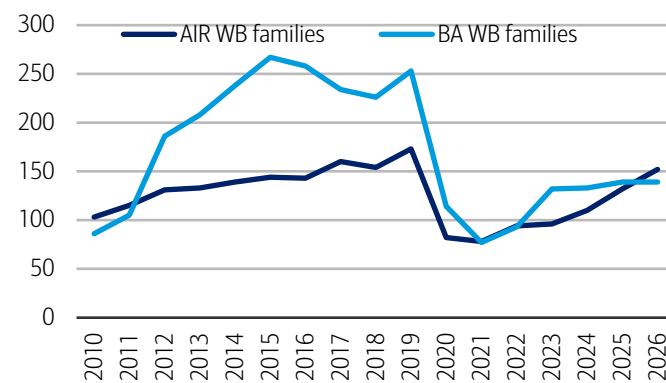


Source: BofA Global Research estimates

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Exhibit 4: AIR & BA WB families production estimates (# aircraft)

We see Airbus almost recovering FY19 WB production rates by FY26

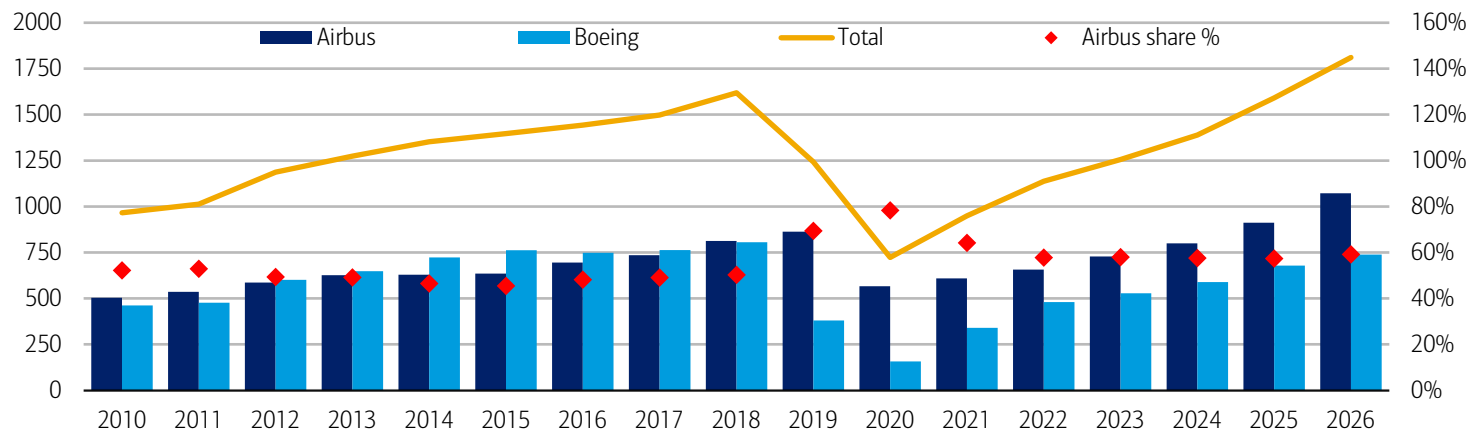


Source: BofA Global Research estimates

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Exhibit 5: Aircraft production estimates for AIR & BA FY10-26E (LHS: # of aircraft, RHS: AIR % share)

We expect production rates to ramp mid-term driven by the recovery of air traffic, supply chain normalization & demand for higher fuel efficiency



Source: BofA Global Research estimates

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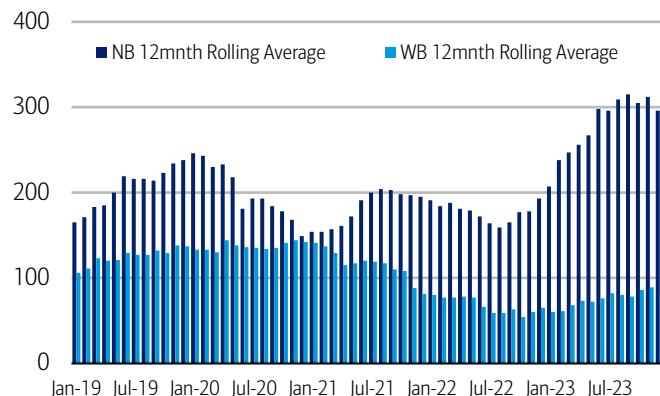
Retirements significantly accelerated in 2023

Retirements have accelerated in 2023 significantly after the 2021-22 trough.

Throughout the Covid-19 pandemic, retirements lagged expectations (materially) since 1) airlines needed flexibility in matching supply & demand 2) it was cheap to keep aircraft parked, giving airlines low cost capacity optionality should demand come back strongly; 3) MRO demand has been low during pandemic, which has driven low demand & weighed on pricing for USM (Used Serviceable Materials), removing a way for airlines to monetise the retirement; 4) fewer deliveries typically mean fewer retirements: fewer new aircraft given production bottlenecks mean the older aircraft are needed for the travel recovery.

Exhibit 6: NB vs WB Rolling 12M rolling average 2019-2023 (includes only Boeing and Airbus)

Retirements have accelerated on narrowbody 2H23

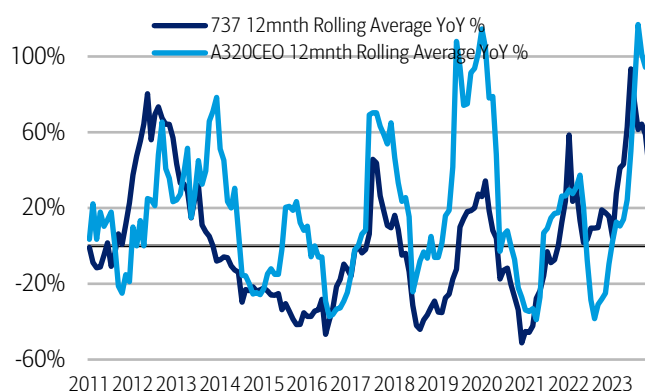


Source: BofA Global Research estimates

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Exhibit 7: 737 and A320CEO retirements YoY growth

12mth rolling average retirements accelerated through 2023 on both the 737 and the A320CEO



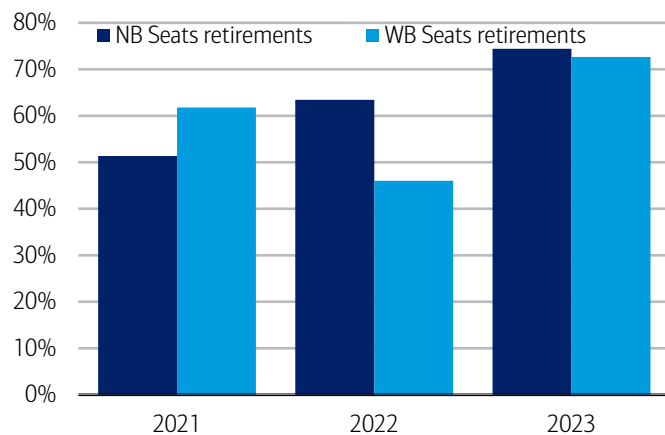
Source: BofA Global Research estimates

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Both NB and WB retirements were >70% 2019 levels in 2023, largely driven by a 2H23 normalisation. WB retirements accelerated significantly after troughing in 2022. We believe the FAA decision to freeze 737 production rates at current levels (and the potential delay of the Max-7 and Max-10 certification) could weigh on the retirements of old aircraft in 2024 on the NB side. However, we still see retirements reaching 2019 levels in 2024 (c.460) and stabilizing at around 550 (150 WB and 400 NB) from 2025 onwards, which should be supportive of current production rates.

Exhibit 8: Narrowbody vs Widebody seat retirements 2021, 2022 & 2023 as % of 2019 seat retirements

NB & WB retirements were already >70% vs 2019 levels in 2023

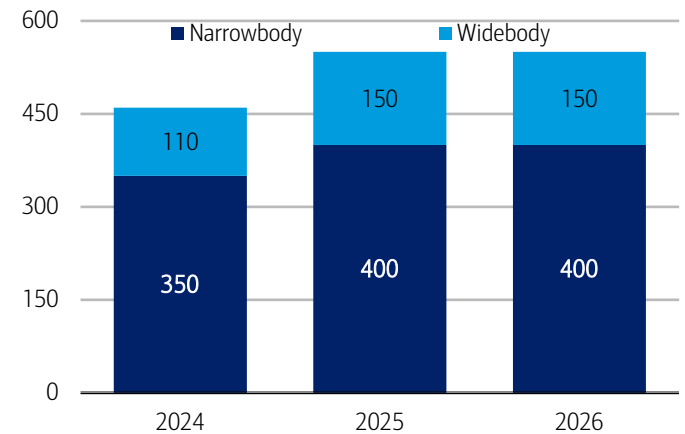


Source: BofA Global Research estimates

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Exhibit 9: Narrowbody vs Widebody 2024-26E retirements

We expect retirements normalizing at c.550 from 2025 onwards



Source: BofA Global Research estimates

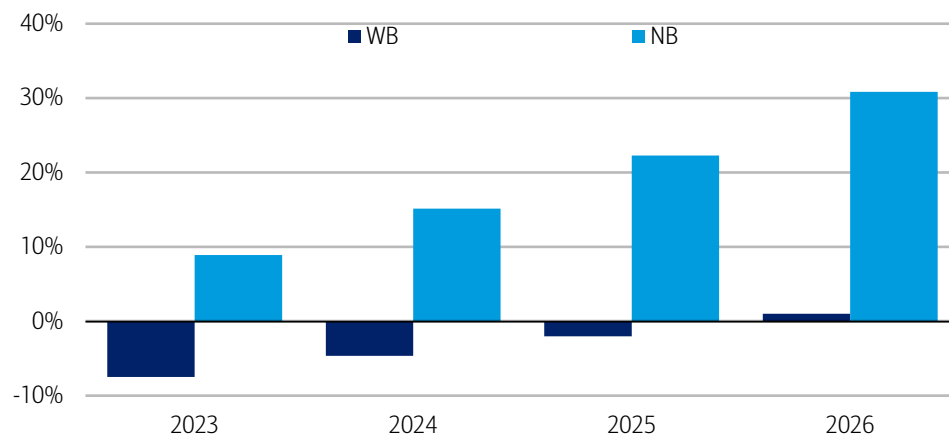
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In service fleet: n/body already >2019 levels in 2023

We derive our estimates of in-service fleet based on our assumptions on production & retirements, & assuming no material changes in stored fleet going forward. In 2023 in-service NB fleet was already >2019 levels (+8.9%) while WB was still below (-7.5%). We see WB in-service fleet recovering 2019 levels by 2026E at c.+1%, while we see the NB in-service fleet at c.+30% vs 2019 levels.

Exhibit 10: WB and NB in-service fleet vs 2019 levels

We see NB in-service fleet materially above 2019 levels by 2026 but don't see WB in-service fleet recovering 2019 levels mid-term



Source: BofA Global Research estimates

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Weekly news round up

Exhibit 11: Global Aerospace and Defence Weekly Newsflow

Major news from the last week in the Global Aerospace & Defence Industry

Weekly newsflow

Source

India's Tata and France's Airbus to manufacture helicopters together: India's Tata group and France's Airbus have signed an agreement to manufacture civilian helicopters together, India's Foreign Secretary Vinay Kwatra said. The agreement was signed during French President Emmanuel Macron's ongoing state visit to India, he said. Tata and Airbus are already cooperating to make C-295 transport aircraft in Prime Minister Narendra Modi's home state of Gujarat. "Industrial partnership (signed) between Tata and Airbus helicopters for production of H125 helicopters with a significant indigenous and localisation component," Kwatra told. Airbus, in a statement announcing the final assembly line (FAL) for helicopters, said the machines produced would also be exported to some of India's neighbouring countries. "The FAL will take 24 months to set up and deliveries ... are expected to commence in 2026," Airbus said, adding that the companies will jointly decide on the facility's location. Tata did not immediately respond to a request for comment.

[Reuters](#)

Lockheed Martin to cut 1% of its jobs in cost-cutting push: Lockheed Martin will cut 1% of its jobs over the course of the year in a bid to cut costs and streamline operations, a company spokesperson said on Friday. The reductions will impact positions across all of its business and enterprise operations, the spokesperson said in a statement to Reuters, adding that the cost-cutting actions will include hiring freezes and voluntary separations. The Maryland-based defense contractor employs 122,000 people worldwide, according to its website. The cost reductions will aid the company in transforming its operations digitally. "We're driving cost reduction in our direct cost base through supply chain optimization, factory productivity and also on 1LMX-driven efficiencies," Lockheed Martin CFO Jay Malave said in the company's post-earnings conference call on Tuesday. 1LMX is Lockheed's name for its transformation program. The cuts come as some companies in a variety of industries are implementing layoffs to reduce costs with tech companies topping the list.

[Reuters](#)

United CEO kickstarts Airbus talks amid Boeing delays, sources say: United Airlines has approached Airbus about buying more A321neo jets to fill a potential void left by the delayed Boeing 737 MAX 10, in a trade-off likely to ease deadlock over a long-delayed separate order for larger A350s, industry sources said. United CEO Scott Kirby flew to Toulouse recently to sound out the planemaker on a potential quid-pro-quo deal after a mid-air emergency on an Alaska Airlines 737 MAX 9 raised new doubts over certification of the already delayed MAX 10, they said. "United Airlines has been in talks with Airbus about possible alternatives to the MAX 10 order. To my knowledge no agreement has been reached," a person familiar with the discussions said. Talks embracing a potential sale of some A321neo jets and the status of United's previously ordered A350s are at an early stage and there is no guarantee of a deal, the sources said. Airbus and United Airlines declined to comment.

[Reuters](#)

Southwest prepared to wait for delayed Boeing MAX 7s, executive says: Southwest Airlines is willing to wait until 2026 or 2027 if necessary to take delivery of Boeing 737 MAX 7 aircraft, a senior executive said after safety concerns were likely to delay production. Southwest, the largest customer of the MAX 7, has already switched dozens of MAX 7 orders due for delivery in 2024 to the larger MAX 8 to avoid delays. Vice President Treasurer Dean Jenkins said the airline would continue with this policy until the Boeing plane is ready. On Monday, Boeing withdrew a request for a key safety exemption that could have allowed the FAA to speed up certification. "We understand Boeing's position and the FAA's position. ... We just have to roll with the punches," he told journalists on the sidelines of the Airline Economics conference in Dublin. "But we really want the aircraft." A harrowing mid-air cabin blowout on Jan. 5 has turned into a full-blown safety and reputational crisis for Boeing that will slow plane production and risks it ceding further market share to Airbus.

[Reuters](#)

Brazil's Embraer reports 2023 aircraft deliveries slightly below guidance: Brazilian planemaker Embraer reported on Tuesday deliveries of 75 jets in the fourth quarter, making both its executive and commercial jets slightly miss the full-year delivery guidance. The company delivered 49 executive jets in the last three months of the year, bringing the annual total to 115 aircraft, compared to its guidance of a range of 120-130 jets. The business "continued its sales momentum with sustained demand across its entire product portfolio," the company said. Commercial aircraft delivered in the quarter reached 25 units, taking the yearly figure to 64, also below Embraer's guidance of between 65 and 70. Embraer, the world's third-largest planemaker behind Boeing and Airbus said it "continues to face supply chain delays which have affected 2023 deliveries." The company had previously said some deliveries scheduled for the third quarter had to be moved to the next one due to supply chain issues. Despite the miss, total deliveries grew 13% to 181 in 2023, including two aircraft from its defense and security unit. Its firm order backlog grew by \$1.2 billion from 2022, ending the year at \$18.7 billion, the highest since 1Q18, Embraer said.

[Reuters](#)

Boeing is sued by shareholders following MAX 9 blowout: Boeing has been sued by shareholders who said the company prioritized profit over safety and misled them about its commitment to making safe aircraft, prior to the Jan. 5 mid-air cabin panel blowout on an Alaskan Airlines 737 MAX 9. According to a proposed class action filed on Tuesday, Boeing spent more than four years after the Oct. 2018 and March 2019 crashes of two other MAX planes, which killed 346 people, assuring investors that it was "laser-focused" on safety and would not sacrifice safety for profit. Shareholders said Boeing's statements were false and misleading because they concealed the "poor quality control" on its assembly line, and caused its stock price to be inflated. Boeing's share price fell 18.9% from Jan. 5 to Jan. 25, 2024, the day after the Federal Aviation Commission barred Boeing from expanding MAX production because of safety concerns. The decline wiped out more than \$28 billion of market value. A Boeing spokesman declined to comment on Wednesday. On Wednesday, Boeing said it couldn't provide full-year financial targets because of uncertainty over its planes. It also reported better-than-expected fourth-quarter results, which included a \$30 million loss, \$22 billion of revenue and \$3.38 billion of cash flow.

[Reuters](#)

Boeing execs stand by 2025-26 financial guidance; near-term focus is safety: Boeing Co executives on Wednesday stood by their financial targets for 2025-2026 and said the company is working hard to regain the confidence of regulators and customers after a mid-air cabin-panel blowout on a 737 MAX aircraft, lifting its shares 6.1%. As expected, CEO Dave Calhoun did not offer a financial or delivery forecast for 2024, stating that the company must focus on delivering quality airplanes. However, CFO Brian West said during an earnings call the company remains confident it will reach free cash flow of about \$10 billion and 737 production of 50 per month in the 2025-2026 timeframe, as the company outlined in November 2022. West added that Boeing expects a steady year of cash flow based on 737 production at its current rate of 38 jets per month, as well as 737 and 787 deliveries from its inventory.

[Reuters](#)

German defence firm Rheinmetall announces Romania acquisition: The German defence group Rheinmetall said on Thursday it was acquiring a majority stake in Romanian vehicle maker Automecanica Medias as it looks to expand its footprint as a manufacturer of military vehicles. Rheinmetall said it would hold a 72.5% stake in the company through Rheinmetall Landsysteme GmbH, while the remaining shares would stay in private hands. In the medium term, the group sees annual sales potential from its acquisition at around 300 million euros (\$323 million), expecting incoming orders in 2024 to be in the three-digit million-euro range. Rheinmetall has significantly expanded its production capacities as Germany and other countries ramp military spending and aid to Ukraine after the full-scale Russian invasion in 2022 and German Chancellor Olaf Scholz's subsequent defence push. "With this acquisition, Rheinmetall is strengthening its footprint in Central Europe and tapping into significant sales growth and new, promising customer countries in the region," the company said in a statement. The acquisition still requires approval by the relevant government authorities before it takes effect, the company added.

[Reuters](#)

Poland to buy Lockheed Martin missile launchers for navy: Poland has signed a deal to buy Lockheed Martin's MK 41 Vertical Launching System for three frigates it is building, Polish defence firm PGZ said on Thursday. The NATO-member has been on a buying spree as it seeks to deter any possible attack after Russia's invasion of Ukraine. "Today we have concluded an agreement with Lockheed Martin, through which...we have acquired the VLS MK 41 vertical launch system along with ExLS (Extensible Launching System) modules for the CAMM missile family for three frigates," PGZ said in a post on social media platform X. PGZ said each ship would receive four launchers with eight chambers each. Financial terms were not disclosed. The first Miecznik frigate is scheduled to enter service in the Polish Navy in 2029.

[Reuters](#)

Boeing 737 MAX crisis adds to high demand for older planes: The second-hand market for airplanes is booming due to a chronic shortage that has persisted since the pandemic - and fears are growing that Boeing's latest crisis could tighten the squeeze in coming months. The industry is already some 3,000 planes short of what it planned pre-COVID due to pandemic disruption and other bottlenecks at Boeing and Airbus, leasing firm Avolon says. Now, curbs on Boeing production in the wake of a mid-air blowout, to pressures forcing airlines to fly older planes for longer - from engine shortages to supply chains and an abrupt snapback in travel in many parts of the world. "It just compounds the supply shortage and it pushes back the date when we may return to a balanced market," said analyst George Dimitroff of the aviation analytics company Cirium, who sees strains until at least 2027.

[Reuters](#)

Exhibit 11: Global Aerospace and Defence Weekly Newsflow

Major news from the last week in the Global Aerospace & Defence Industry

Weekly newsflow**Source**

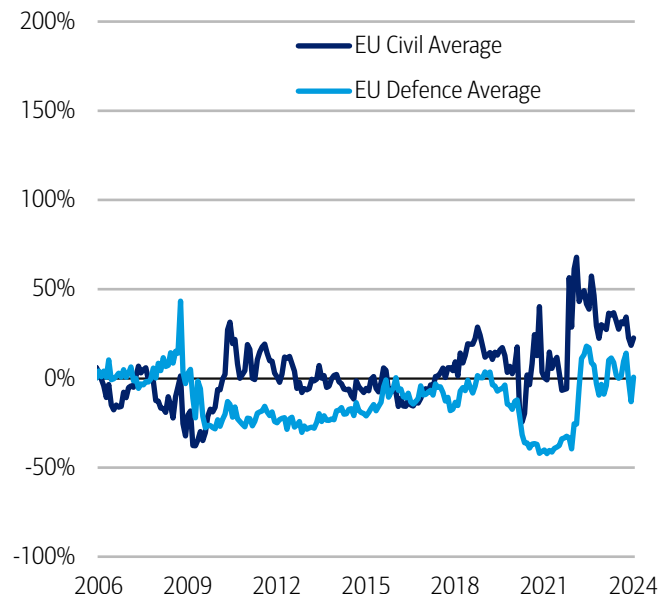
Carriers are paying higher prices to ensure they have a big enough fleet to keep up with demand, which airlines group IATA expects to reach a record 4.7 billion passengers in 2024. The supply crunch has been a hot topic at a major meeting in Dublin, home to many of the top lessors, this week. "We've seen a strong increase in values because of the shortage of new kit," Aengus Kelly, said CEO of AerCap the world's largest trader and lessor of aircraft. In a break from usual patterns, some airlines are buying the planes they had been renting rather than negotiating lease extensions, he said on the sidelines of the Airline Economics conference. That's a sign that "airlines know that the issues that we have are not going to get solved anytime soon," he added. More than half of the global passenger fleet is lessor-owned. Rental prices for those jets were rising well before the Jan. 5 panel blowout that led to a curb on Boeing's production. Boeing hoped to increase production for its MAX family of aircraft after a years-long crisis stemming from crashes in 2018 and 2019. But the panel blowout on an Alaska Airlines flight has added regulatory oversight expected to slow production growth.

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Global A&D Valuations

Exhibit 12: EU Civil & Defence 12mth fwd. PE rel SXNP (industrials).

EU Civil is currently trading at 22.6% premium to SXNP, and defence is trading at 0.6% premium to index (01/02/2024)

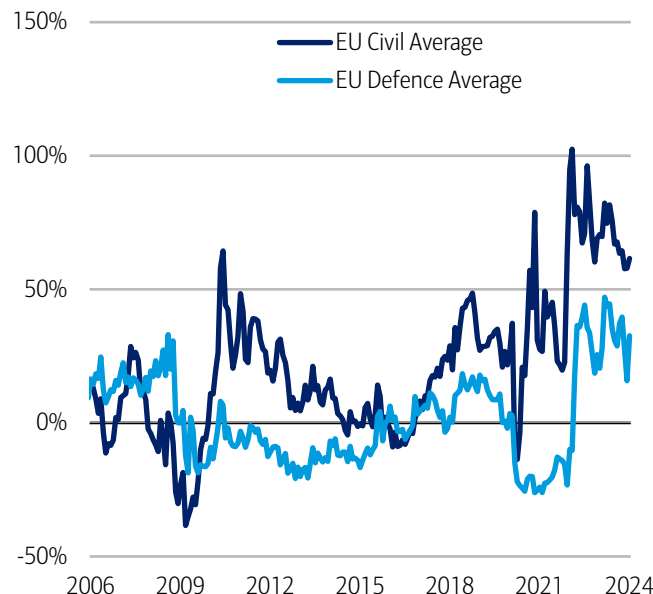


Source: BofA Global Research estimates. EU Defence = Thales and Finmeccanica, BAE, QQ, Rheinmetall, SAAB, Hensoldt, Kongsberg EU civil: Airbus, MTU, Safran, Senior

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Exhibit 13: EU Civil & Defence 12mth fwd. PE rel SXXP (market).

EU Civil is currently trading at a 61.6% premium to SXXP, and defence is trading at 32.6% premium to SXXP (01/02/2024)

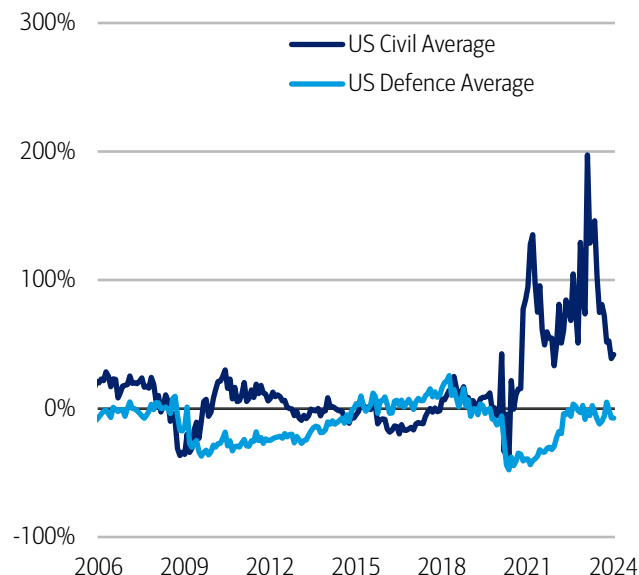


Source: BofA Global Research estimates. EU Defence = Thales and Finmeccanica, BAE, QQ, Rheinmetall, SAAB, Hensoldt, Kongsberg EU civil: Airbus, MTU, Safran, Senior

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Exhibit 14: US Civil & Defence 12mth fwd. PE rel S&P500 Industrials.

US Civil is currently trading at a 42% premium to index, and defence is trading at a 7.5% discount (01/02/2024)



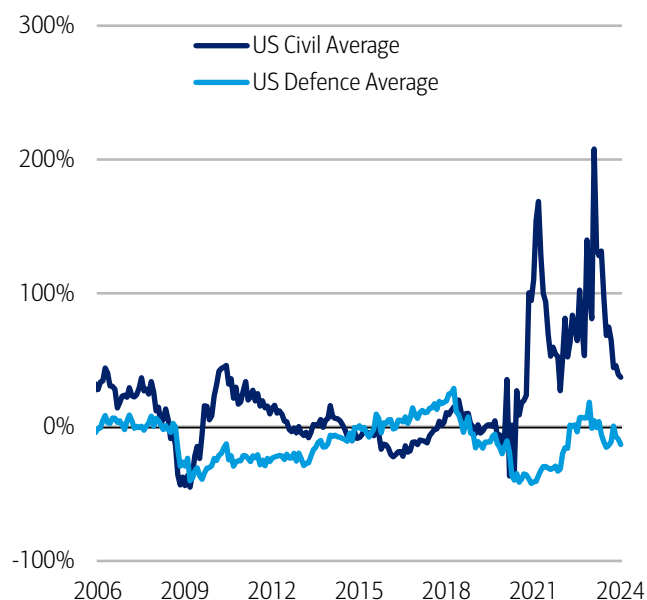
Source: BofA Global Research estimates

US Civil: Boeing, CAE, Crane Co, Hexcel, Triumph Textron. US Defence: General Dynamics, L3, Lockheed Martin, Moog, Northrop Grumman

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Exhibit 15: US Civil & Defence 12mth fwd. PE rel S&P500.

US Civil is currently trading at a 37.2% premium to index, and defence is trading at a 12.9% discount (01/02/2024)



Source: BofA Global Research estimates

US Civil: Boeing, CAE, Crane Co, Hexcel, Triumph Textron. US Defence: General Dynamics, L3, Lockheed Martin, Moog, Northrop Grumman

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Where numbers are moving

Sector FY24 EPS over the last month saw 0.8% decrease with Civil OE names seeing 1% decrease, civil aftermarket names seeing 0.2% decrease and defence names seeing 0.5% decrease. The major estimate increase was Kongsberg (+2.4%) and decrease was Hensoldt (-4.3%) during last month.

We will continue to monitor the consensus EPS data on a weekly basis.

Exhibit 16: EPS Revision to- 01st Feb, 2024

EPS revisions have been overall positive as the re-opening consolidates and the first positives of increasing defence budgets are felt

	1M	3M	6M	1Y
Airbus	-1.0%	-2.0%	-2.3%	-11.7%
BAE Systems	-0.3%	0.2%	4.4%	8.9%
Dassault	-3.2%	-2.4%	2.9%	16.7%
Hensoldt	-4.3%	-7.4%	-7.4%	-11.9%
Kongsberg	2.4%	3.8%	6.4%	20.5%
Leonardo	-1.7%	-3.1%	-0.3%	-6.9%
MTU	-0.1%	0.5%	-1.3%	5.6%
QinetiQ	0.2%	-0.1%	0.1%	0.9%
Rheinmetall	-0.1%	3.1%	5.3%	11.1%
Rolls-Royce	1.5%	13.9%	66.8%	105.9%
SAAB	0.2%	5.4%	12.2%	30.2%
Safran	-0.3%	-1.1%	4.0%	5.9%
Senior	-1.6%	-5.7%	-9.9%	-4.5%
Thales	-0.6%	-4.7%	-4.3%	-1.8%
EU Civil OE	-1.0%	-2.0%	-2.3%	-11.7%
EU Civil Aftermarket	-0.2%	-0.3%	1.3%	5.8%
EU Defence Average	-0.5%	-0.3%	2.0%	6.4%
EU Sector Average	-0.8%	-1.0%	0.8%	4.9%

Source: DataStream

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Exhibit 17: 12mnth FWD PE to- 01st Feb, 2024

Civil Aerospace has re-rated as the re-opening has consolidated

	1M	3M	6M	1Y
Airbus	2.1%	12.2%	1.9%	14.5%
BAE Systems	10.2%	6.4%	17.1%	19.0%
Dassault	-0.4%	-8.1%	-14.4%	-19.0%
Hensoldt	19.1%	-2.6%	-18.4%	5.9%
Kongsberg	16.3%	4.2%	6.4%	1.5%
Leonardo	16.3%	10.1%	26.0%	71.7%
MTU	13.6%	21.5%	-11.1%	-23.3%
QinetiQ	14.2%	2.5%	-2.2%	-7.8%
Rheinmetall	12.1%	11.1%	5.8%	1.9%
Rolls-Royce	-5.5%	15.7%	2.8%	-20.7%
SAAB	19.4%	6.6%	-3.6%	9.3%
Safran	1.9%	9.1%	7.6%	2.8%
Senior	-10.9%	-8.4%	-14.0%	-18.4%
Thales	-2.0%	-2.9%	-3.2%	5.1%
EU Civil OE	2.1%	12.2%	1.9%	14.5%
EU Civil Aftermarket	3.3%	15.4%	-0.2%	-13.7%
EU Defence Average	12.0%	3.0%	5.6%	20.6%
Sector Average	8.6%	4.8%	-0.2%	4.9%

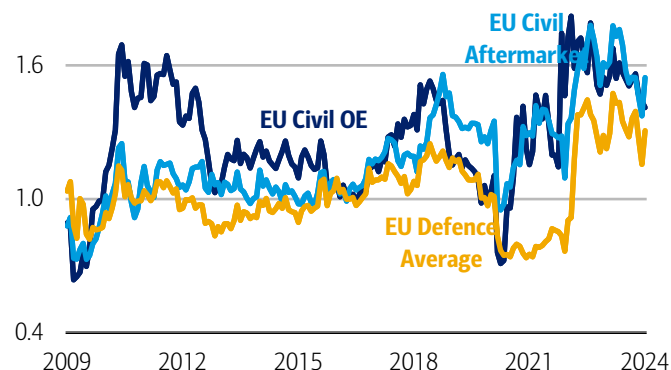
Source: DataStream

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Global PE Trends

Exhibit 18: EU A&D Sector Valuations -relative 12mnth FWD PE

Defence has re-rated since February 2022

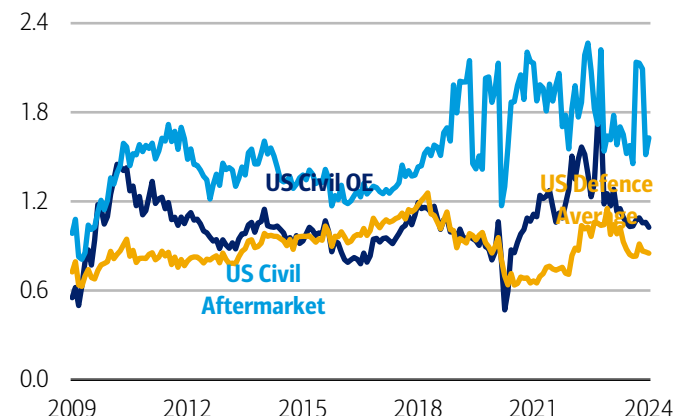


Source: DataStream

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Exhibit 19: US A&D Sector Valuations -relative 12mnth FWD PE

US names have not re-rated that much since February 2022 vs EU

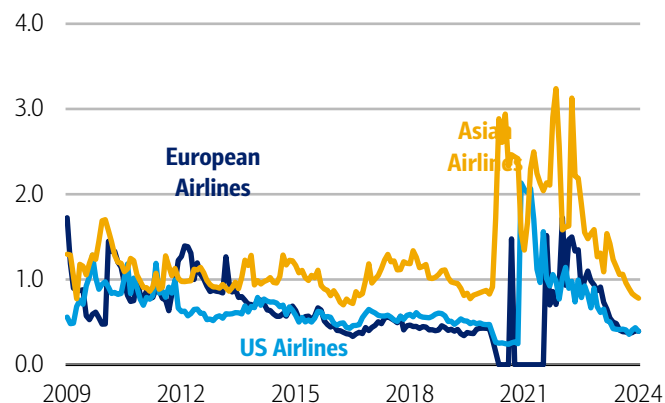


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 20: Global Airlines Valuations -relative 12mnth FWD PE

Airlines have de-rated since 2021 as consensus have been raising numbers due to air traffic recovery

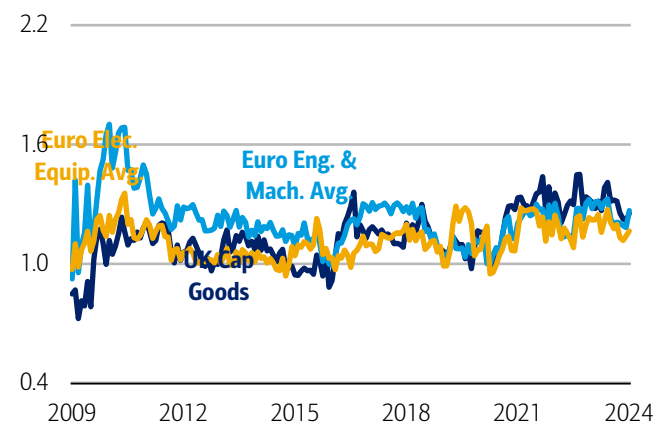


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 21: EU Industrials Sector Valuations -relative 12mnth FWD PE

European and UK Capital Goods started to re-rate since 2H20

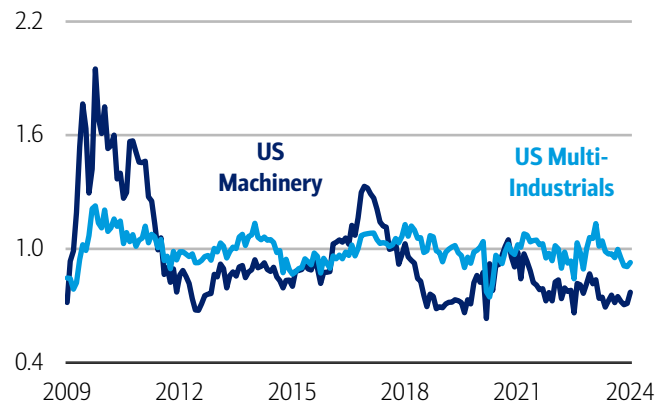


Source: DataStream

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Exhibit 22: US Industrials Sector Valuations -relative 12mnth FWD PE

US Industrials started to re-rate since 2H20 and have remained broadly stable through 2023



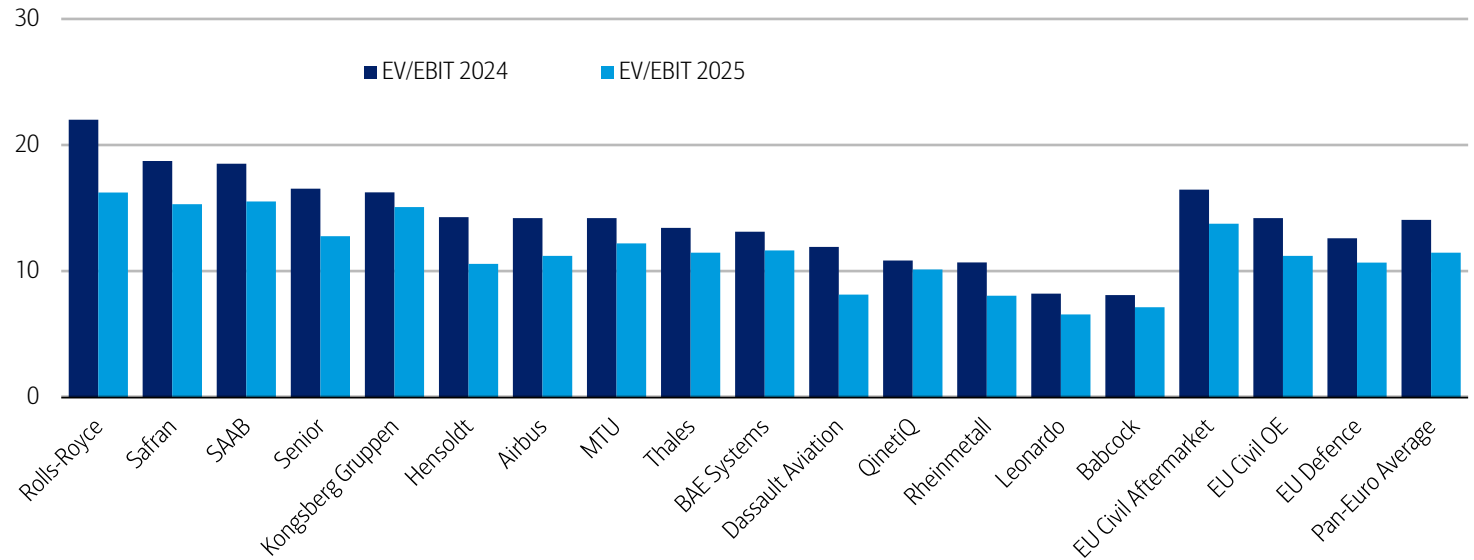
Source: DataStream

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Valuations and PE ranges

Exhibit 23: EV/EBIT for 2024 and 2025

2024 (Pan-Euro avg=14.07) and 2025 (Pan Euro avg =11.46) ordered in terms of 2024, most expensive to least

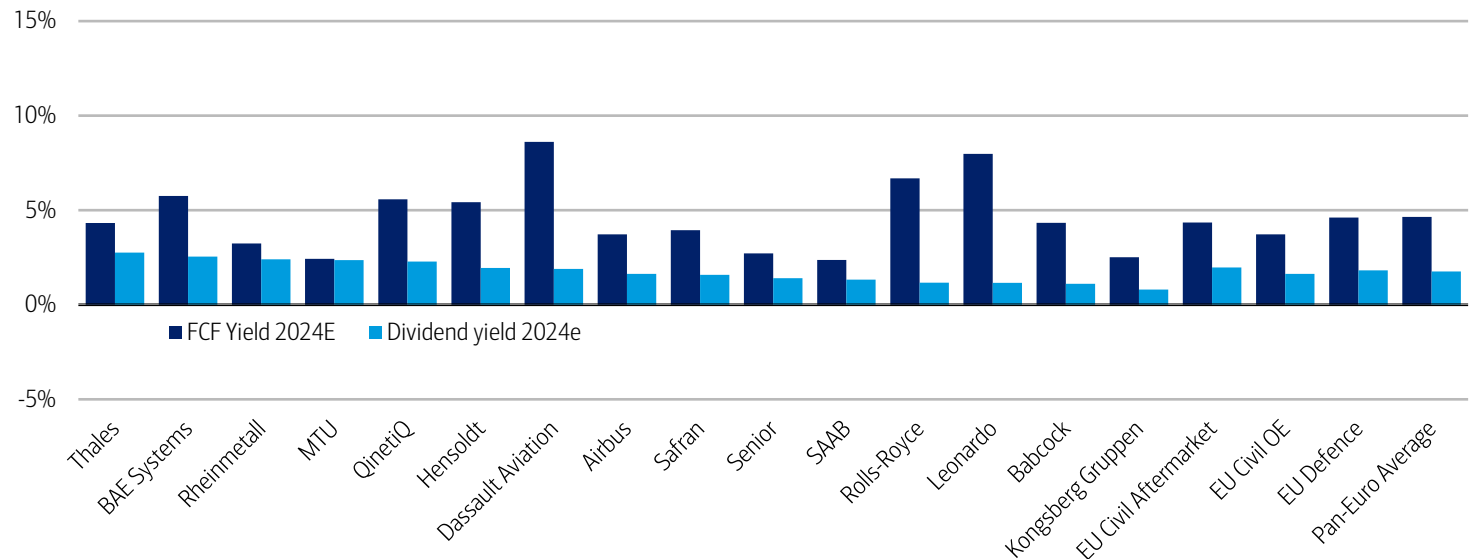


Source: BofA Global Research estimates

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Exhibit 24: Free Cash Flow Yield % and Dividend Yield %

Free cash flow Pan Euro avg= 4.64% and dividend yield avg =1.76%

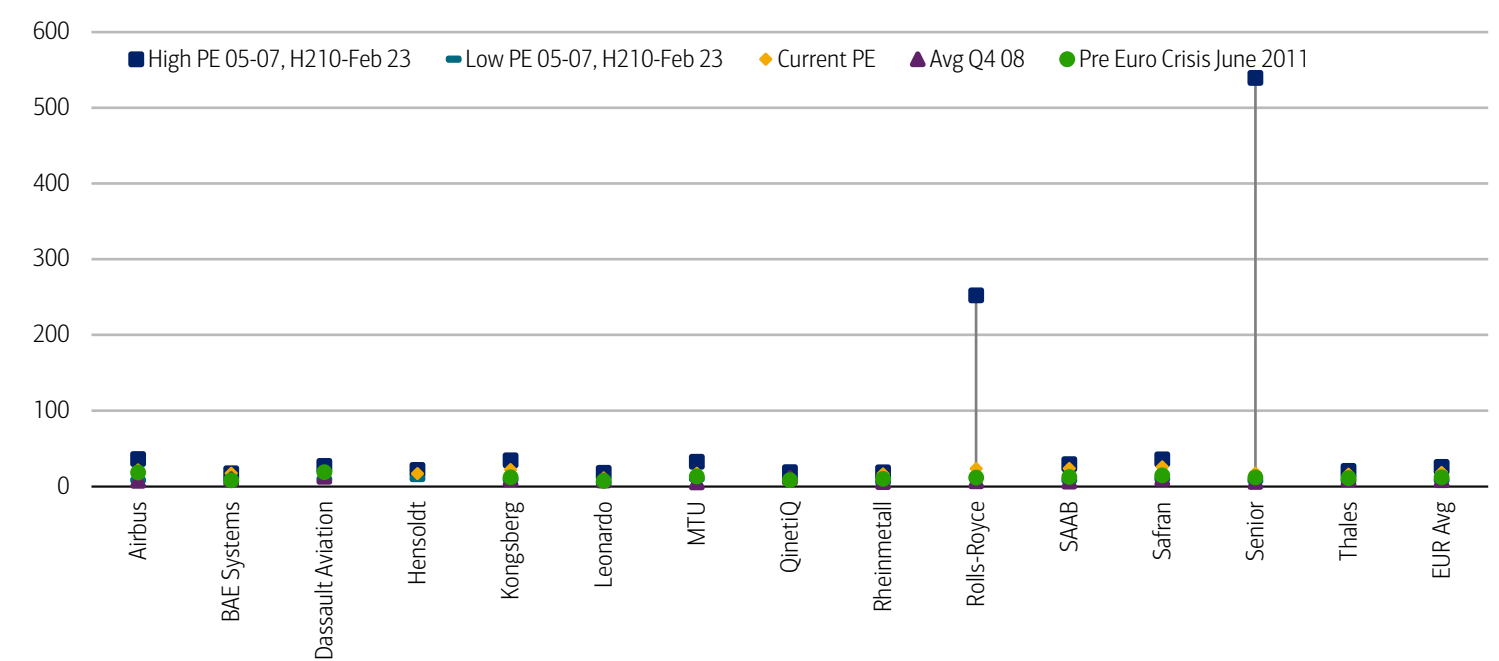


Source: BofA Global Research estimates

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Exhibit 25: European A&D Stock-PE Candle light Exhibit

Civil Aerospace companies trade at the top of their historical PE ranges due to air traffic recovery and high visibility on backlogs. Defence trades at peak of ranges due to high sector average multiples (increasing defence budgets)



Source: BofA Global Research estimates

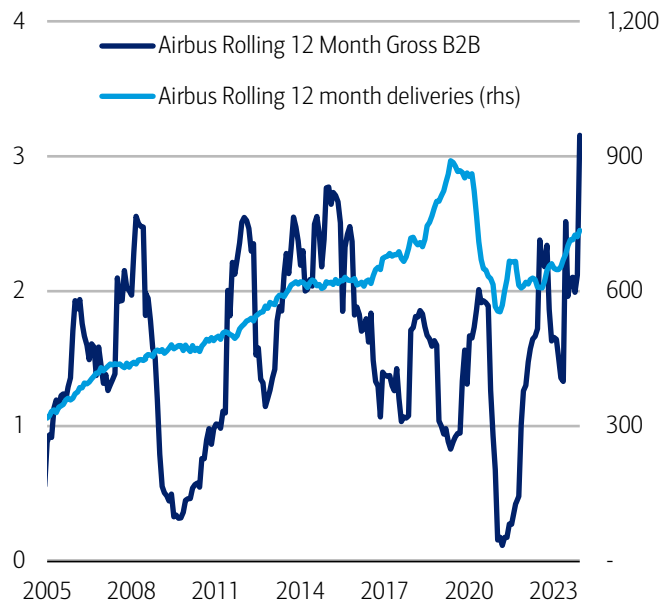
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Global book to bill trends

Exhibit 26: Airbus 12mth Rolling B2B and deliveries

Airbus delivered 735 aircraft in 2023 driving a step up in 12m rolling deliveries - new orders have improved significantly

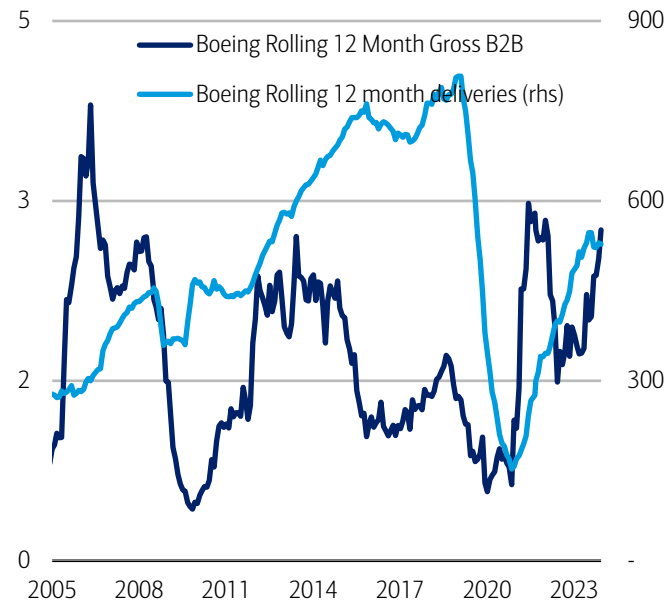


Source: BofA Global Research estimates

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Exhibit 27: Boeing 12mth Rolling B2B and deliveries

Boeing's Gross B2B and deliveries fell significantly after the 737MAX grounding in 2019

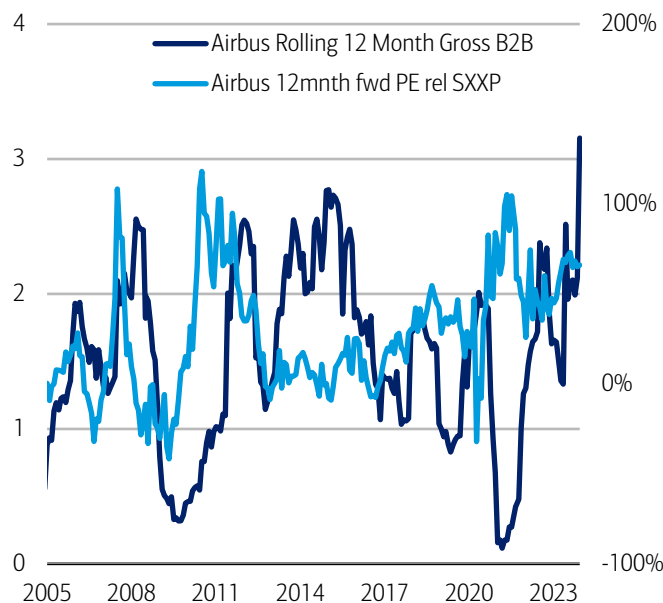


Source: BofA Global Research estimates

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Exhibit 28: Airbus 12mth Rolling B2B vs. Air 12mth fwd PE rel SXXP

Airbus trades at a premium vs SXXP due to high backlog visibility and the recovery of air traffic

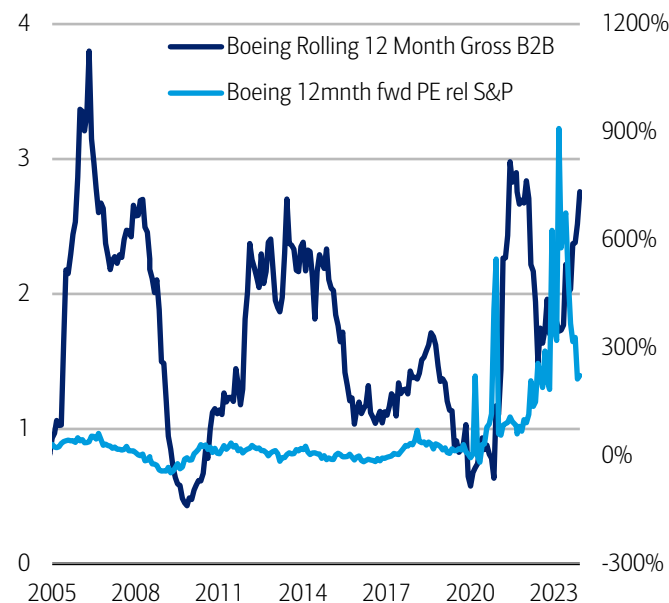


Source: BofA Global Research estimates

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Exhibit 29: Boeing 12mth Rolling B2B vs. BA 12mth fwd PE rel S&P

Boeing's 12M fwd PE multiple trades at a premium vs S&P due to a level of EPS



Source: BofA Global Research estimates

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Air traffic & Capacity

Exhibit 30: Global RPKs and ASKs (%)

COVID-19 drove global traffic growth to all time low levels in 2020

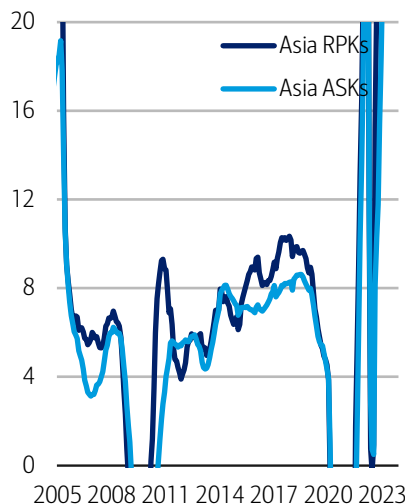


Source: IATA

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Exhibit 31: Asia RPKs and ASKs (%)

Asia-Pacific has increases significantly through 2023 as result of China re-opening

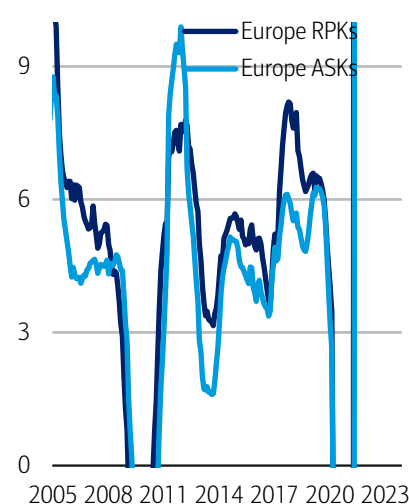


Source: IATA

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Exhibit 32: Europe RPKs and ASKs (%)

Europe started to improve from mid-2021 onwards

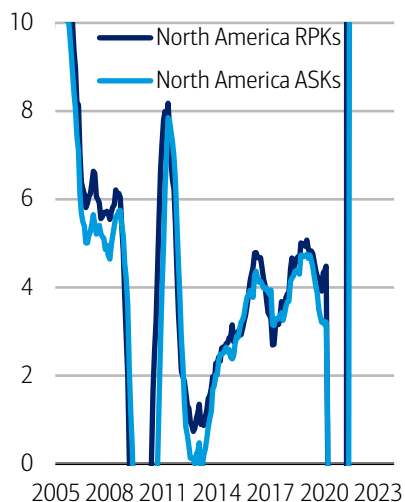


Source: IATA

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Exhibit 33: North America RPKs and ASKs (%)

NA has higher domestic mix than Europe

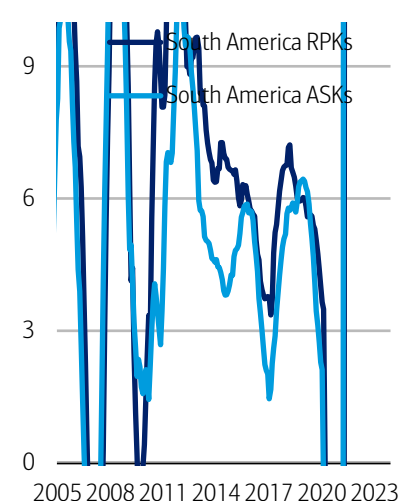


Source: IATA

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Exhibit 34: South America RPKs and ASKs (%)

South America relies heavily on intracontinental travel

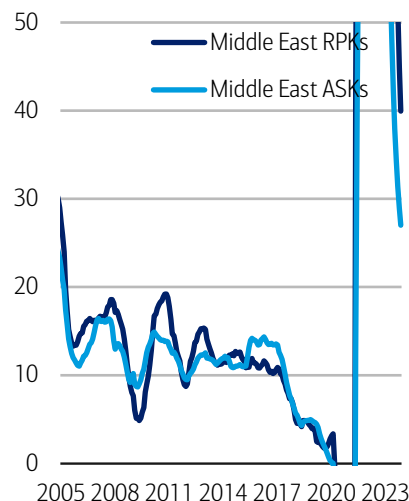


Source: IATA

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Exhibit 35: Middle East RPKs and ASKs (%)

Middle East relies heavily on international long-haul traffic through major airport hubs



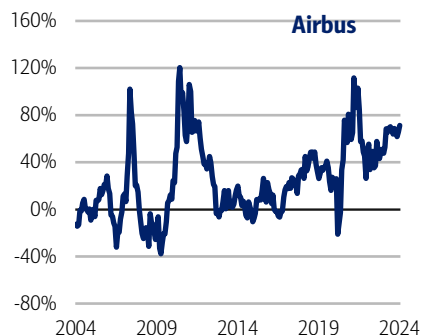
Source: IATA

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Relative stock valuations

Exhibit 36: Airbus 12 mnth fwd PE rel SXXP

Airbus has re-rated due to high backlog visibility

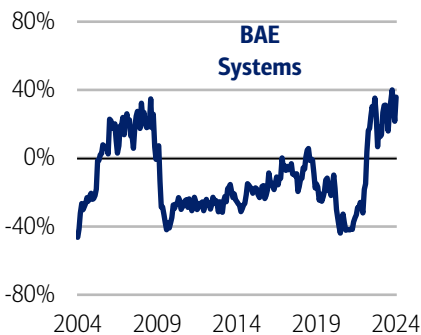


Source: DataStream

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Exhibit 37: BAE 12 mnth fwd PE rel SXXP

BAE has re-rated since Feb 2022 due to increasing defence budgets

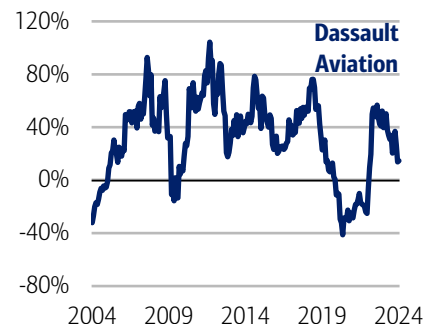


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 38: Dassault 12 mnth fwd PE rel SXXP

Dassault has de-rated heavily on business jet market weakness and GTF concerns



Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 39: Kongsberg 12 mnth fwd PE rel SXXP

Kongsberg has re-rated since Feb 2022

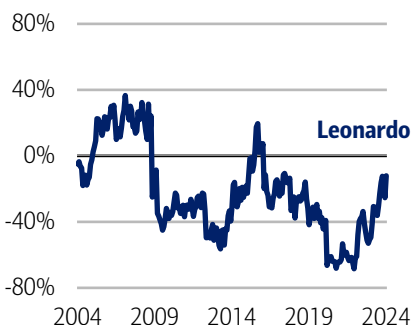


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 40: Leonardo 12 mnth fwd PE rel SXXP

Leonardo has re-rated significantly since Feb 22

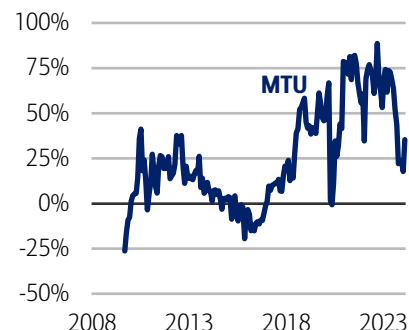


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 41: MTU 12 mnth fwd PE rel SXXP

MTU has de-rated due to GTF concerns

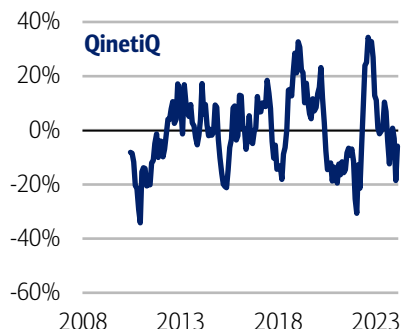


Source: DataStream

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Exhibit 42: QinetiQ 12 mnth fwd PE rel SXXP

QinetiQ is the only defence name that has de-rated since Feb 22 due to concerns around margins and cap allocation

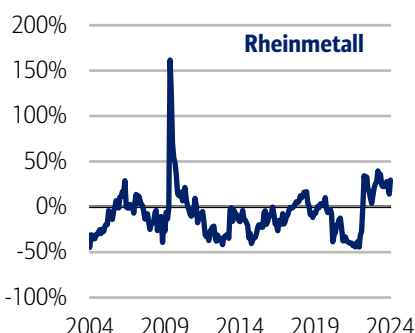


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 43: Rheinmetall 12 mnth fwd PE rel SXXP

Rheinmetall has re-rated since Feb 2022 due to strong growth on Ammo

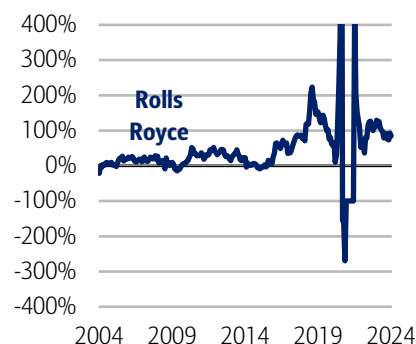


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 44: Rolls Royce 12 mnth fwd PE rel SXXP

RR's valuation has re-rated due to strong WB recovery and a turnaround plan

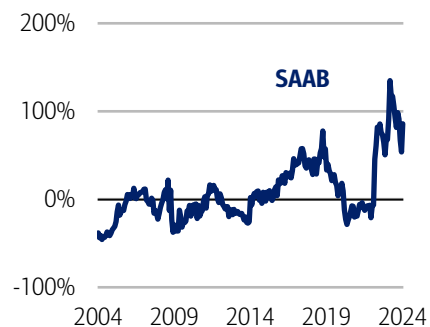


Source: DataStream

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Exhibit 45: SAAB 12 mnth fwd PE rel SXXP

SAAB has re-rated since Feb 22 due to strong growth outlook and Sweden potentially entering NATO

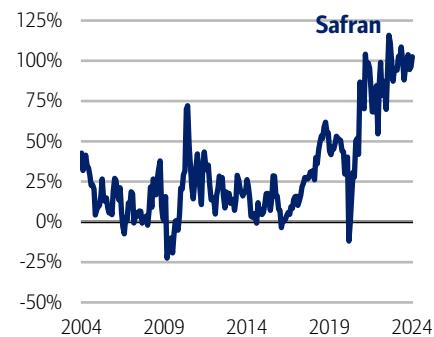


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 46: Safran 12 mnth fwd PE rel SXXP

Safran has re-rated since 2020 lows due to strong aftermarket growth and overall narrowbody recovery

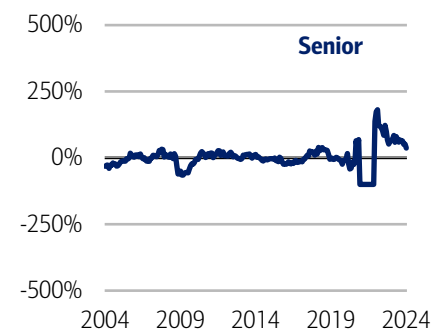


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 47: Senior 12 mnth fwd PE rel SXXP

Senior's valuation has broken from normal levels due to COVID-19 impact on earnings

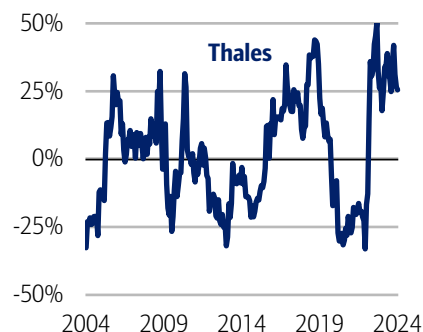


Source: DataStream

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Exhibit 48: Thales 12 mnth fwd PE rel SXXP

Thales has re-rated since Feb 2022 due to increasing defence budgets



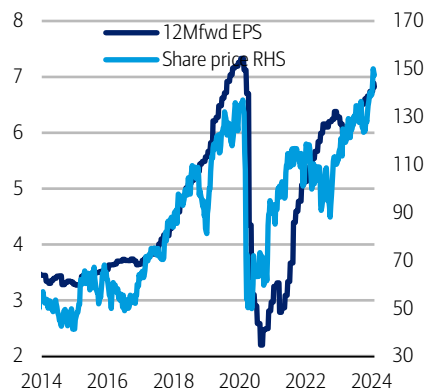
Source: DataStream

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A&D EPS Trends

Exhibit 49: Airbus EPS vs Share price

Airbus has faced positive EPS revisions as the company delivered 735 deliveries in 2023

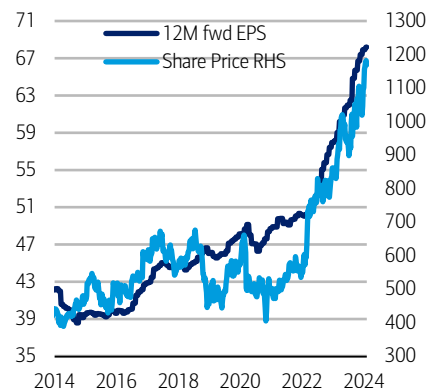


Source: DataStream

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Exhibit 50: BAE EPS vs Share price

BAE EPS expectations have grown reflecting strong growth on defence budgets

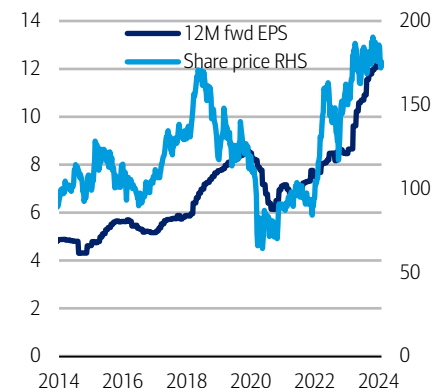


Source: DataStream

BofA GLOBAL RESEARCH

Exhibit 51: Dassault EPS vs Share price

Dassault share price have come down due to lower than anticipated deliveries

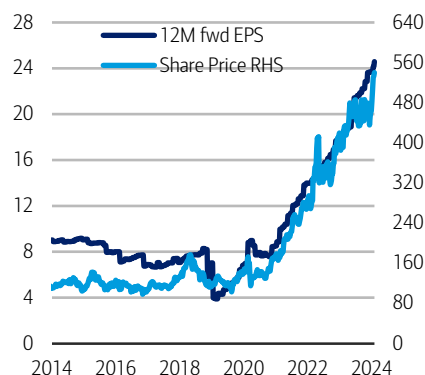


Source: DataStream

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Exhibit 52: Kongsberg EPS vs Share price

Kongsberg EPS/share price has been positively correlated since 2019

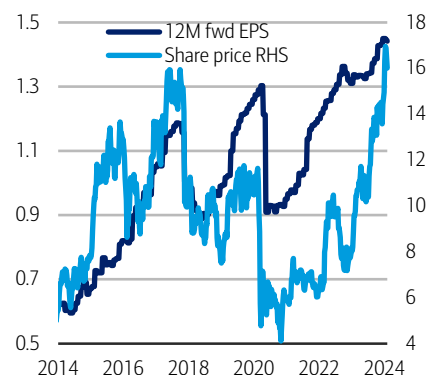


Source: DataStream

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Exhibit 53: Leonardo EPS vs Share price

Leonardo EPS expectations have increased since 2020 lows

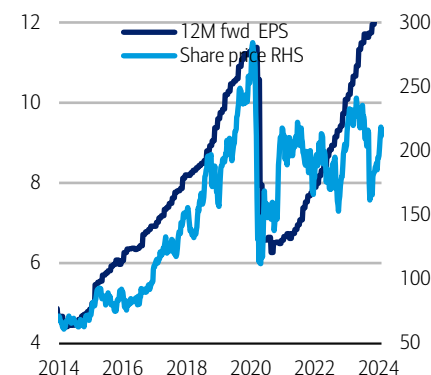


Source: DataStream

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Exhibit 54: MTU EPS vs Share price

GTF concerns weighed on MTU share price performance through 3Q23

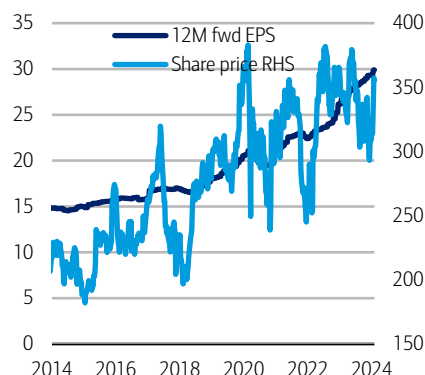


Source: DataStream

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Exhibit 55: QinetiQ EPS vs Share price

QQ EPS growth has been more limited than EU defence peers due to limited margin expansion

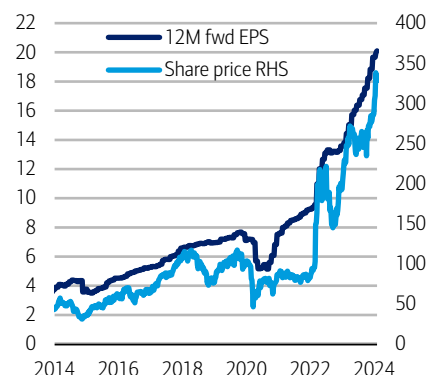


Source: DataStream

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Exhibit 56: Rheinmetall EPS vs Share price

Rheinmetall EPS expectations have increased due to strong growth outlook on Ammo

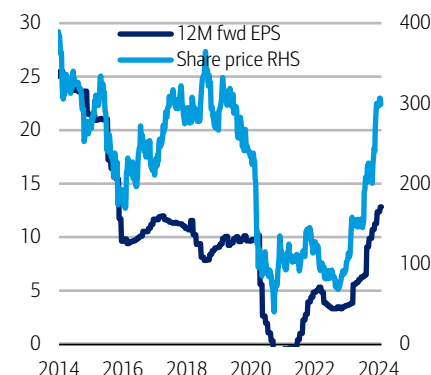


Source: DataStream

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Exhibit 57: Rolls Royce EPS vs Share price

Rolls Royce's share price started to improve since late 2022 due to the widebody recovery

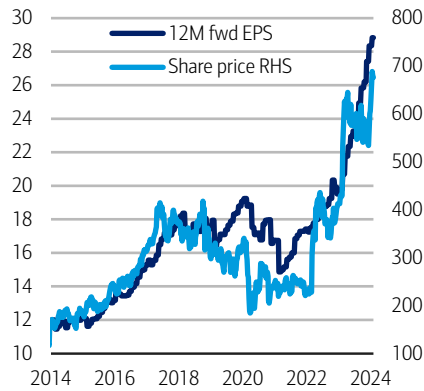


Source: DataStream

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Exhibit 58: SAAB EPS vs Share price

SAAB has seen EPS upgrades since Feb 22 due to strong growth outlook

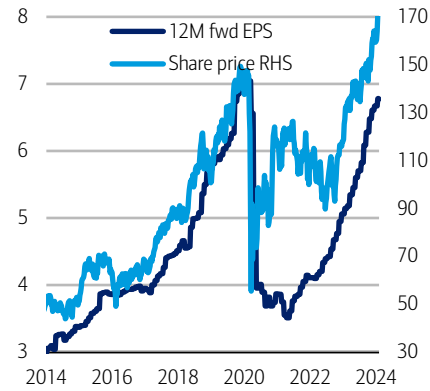


Source: DataStream

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Exhibit 59: Safran EPS vs Share price

Safran faced strongly positive earnings revisions due to strong aftermarket growth

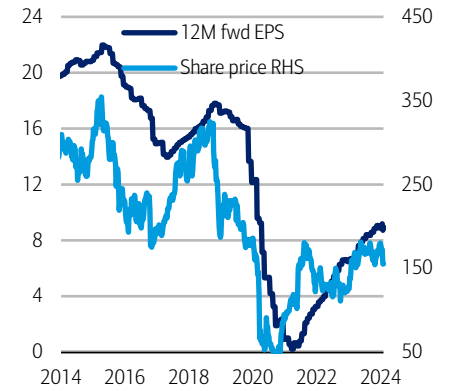


Source: DataStream

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Exhibit 60: Senior EPS vs Share price

Senior's earnings have been impacted by 737MAX grounding and lower production

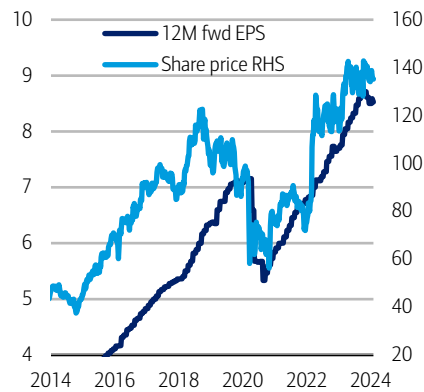


Source: DataStream

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Exhibit 61: Thales EPS vs Share price

EPS expectations have increased significantly as Thales should benefit from increasing defence budgets, primarily in Europe



Source: DataStream

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A&D Compsheet

Exhibit 62: A&D Compsheet

Below we highlight our valuation peer comparison table

Europe	Rating	Currency	Price	Mcap(USD)	EV/EBITDA			EV/EBIT			PE (x)			DY			FCF yield		
					2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026
Airbus	1 - Buy	EUR	147	125,356	11.0	9.1	7.5	14.2	11.2	9.1	21.4	16.0	11.9	1.6%	2.2%	2.9%	3.7%	5.7%	8.0%
Babcock	1 - Buy	GBP	452	2,900	5.4	4.8	4.2	8.1	7.1	6.2	11.9	10.6	9.1	1.1%	1.8%	2.9%	4.3%	5.6%	7.6%
BAE Systems	1 - Buy	GBP	1,170	45,036	10.3	9.1	8.6	13.1	11.6	10.9	16.1	13.8	12.2	2.5%	2.7%	2.8%	5.8%	6.7%	7.9%
Dassault Aviation	2 - Neutral	EUR	176	15,374	9.9	7.0	6.0	11.9	8.1	6.9	15.9	11.9	10.4	1.9%	2.5%	2.9%	8.6%	-0.4%	1.0%
Hensoldt	2 - Neutral	EUR	29	3,565	10.7	8.1	7.1	14.3	10.6	9.0	17.2	14.3	12.3	1.9%	2.8%	3.3%	5.4%	6.5%	7.6%
Kongsberg Gruppen	3 - Underperform	NOK	540	9,077	12.7	11.6	10.5	16.2	15.1	13.7	22.9	21.1	19.2	0.8%	0.9%	1.0%	2.5%	3.1%	4.2%
Leonardo	1 - Buy	EUR	16	9,977	5.1	4.3	3.4	8.2	6.6	4.6	12.9	10.5	8.9	1.2%	1.4%	1.7%	8.0%	9.9%	14.7%
MTU	2 - Neutral	EUR	211	11,670	9.7	8.6	7.7	14.2	12.2	10.4	16.2	14.0	12.2	2.4%	2.4%	2.8%	2.4%	2.4%	3.5%
QinetiQ	2 - Neutral	GBP	356	2,582	7.6	7.1	6.4	10.8	10.1	9.0	14.1	12.9	11.8	2.3%	2.4%	2.5%	5.6%	6.4%	7.3%
Rheinmetall	1 - Buy	EUR	329	15,225	7.7	6.1	5.0	10.7	8.0	6.2	15.2	11.8	9.3	2.4%	3.3%	4.3%	3.2%	4.4%	7.6%
Rolls-Royce	1 - Buy	GBP	299	31,713	11.4	9.3	7.9	22.0	16.2	10.8	21.4	16.8	12.4	1.2%	1.6%	2.1%	6.7%	8.2%	11.1%
SAAB	1 - Buy	SEK	676	8,650	11.2	9.7	8.6	18.5	15.5	11.9	24.3	20.8	18.2	1.3%	1.6%	1.8%	2.4%	2.5%	3.2%
Safran	1 - Buy	EUR	173	80,142	13.7	11.4	9.8	18.7	15.3	12.8	25.2	19.8	16.6	1.6%	2.0%	2.4%	3.9%	5.0%	6.1%
Senior	XRWW	GBP	155	823	7.8	6.7		16.5	12.8		22.3	15.7		1.4%	2.0%		2.7%	4.4%	
Thales	2 - Neutral	EUR	135	30,458	9.4	8.3	8.6	13.4	11.5	10.2	14.5	12.4	11.2	2.8%	3.2%	3.6%	4.3%	5.4%	0.0%
EU Civil Aftermarket					11.7	10.0	8.8	16.5	13.8	11.6	20.7	16.9	14.4	2.0%	2.2%	2.6%	4.4%	5.2%	6.9%
EU Civil OE					11.0	9.1	7.5	14.2	11.2	9.1	21.4	16.0	11.9	1.6%	2.2%	2.9%	3.7%	5.7%	8.0%
EU Defence					8.9	7.7	6.9	12.6	10.7	9.1	16.6	14.2	12.5	1.8%	2.2%	2.6%	4.6%	5.6%	6.7%
Pan-Euro Average					9.6	8.1	7.2	14.1	11.5	9.4	18.1	14.8	12.6	1.8%	2.2%	2.6%	4.6%	5.1%	6.4%

Non Europe	Rating	Currency	Price	Mcap(USD)	EV/EBITDA			EV/EBIT			PE (x)			DY			FCF yield		
					2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026
Boeing	2 - Neutral	USD	210	128,012	34.0	17.9	13.7	53.9	22.4	16.3	839.2	33.0	22.9	0.0%	0.0%	0.0%	3.2%	5.0%	6.1%
Embraer	1 - Buy	USD	18	3,370	7.5	5.9	4.7	11.7	8.6	6.5	12.2	9.4	7.6	0.0%	0.0%	0.0%	9.7%	11.9%	13.9%
General Dynamics	1 - Buy	USD	267	72,828	14.2	12.9	11.7	16.7	14.9	13.4	18.5	16.4	14.6	2.1%	2.3%	2.5%	5.4%	6.2%	6.8%
HEICO	1 - Buy	USD	184	22,147	26.6	23.2	19.9	32.2	28.0	23.6	53.2	44.8	36.3	0.1%	0.1%	0.1%	1.9%	2.4%	3.2%
Hexcel Corp	2 - Neutral	USD	67	5,675	15.3	13.5	12.2	22.2	18.8	16.5	28.7	23.3	19.8	0.8%	0.8%	0.8%	3.5%	4.3%	5.0%
Huntington Ing Industries	3 - Underperform	USD	268	10,603	12.8	11.5	10.5	16.6	14.7	13.2	15.8	13.9	12.4	2.1%	2.3%	2.5%	5.9%	6.6%	7.5%
L3Harris	2 - Neutral	USD	209	39,705	13.2	12.2	11.3	16.3	14.8	13.6	16.1	14.1	12.9	2.7%	2.8%	3.0%	5.5%	6.4%	7.0%
Lockheed Martin	2 - Neutral	USD	430	103,851	12.9	12.0	11.9	14.0	13.7	13.5	16.4	14.9	14.5	3.0%	3.2%	3.5%	6.1%	6.6%	7.0%
Mercury Systems	3 - Underperform	USD	31	1,820	69.4	66.1	62.6	62.7	52.4	44.1	24.6	21.0	19.2	0.0%	0.0%	0.0%	1.4%	4.1%	4.7%
Northrop Grumman	1 - Buy	USD	446	66,949	13.3	12.1	11.5	17.7	15.9	15.0	18.7	16.6	15.5	1.8%	2.0%	2.2%	3.8%	5.6%	6.8%
Raytheon	2 - Neutral	USD	92	132,531	11.8	16.9		17.2	16.9	16.5	17.1	15.0	13.8	2.7%	2.9%	3.1%	4.7%	5.7%	6.8%
Spirit Aerosystems	3 - Underperform	USD	28	3,213	7.2	5.9	5.2	11.2	8.2	6.8	14.2	8.4	6.8	0.0%	0.0%	0.0%	6.0%	6.6%	14.3%
Textron	2 - Neutral	USD	86	16,819	10.7	9.9	9.2	14.2	12.8	11.9	15.5	13.3	11.9	0.1%	0.1%	0.1%	6.3%	7.0%	8.4%
TransDigm Ltd	1 - Buy	USD	1,114	61,914	21.0	18.2	17.2	22.6	19.5	18.4	34.4	28.2	25.1	0.0%	0.0%	0.0%	2.7%	3.4%	3.9%
Triumph Group	1 - Buy	USD	16	1,256	14.4	11.6	10.0	19.7	14.1	11.9	36.3	20.2	13.1	0.0%	0.0%	0.0%	4.1%	4.9%	7.3%
US Civil Aftermarket					21.0	18.2	17.2	22.6	19.5	18.4	34.4	28.2	25.1	0.0%	0.0%	0.0%	2.7%	3.4%	3.9%
US Civil OE					16.8	11.8	10.1	25.4	15.5	12.9	224.4	19.5	15.4	0.2%	0.2%	0.2%	4.8%	5.7%	8.5%
US Defence					12.7	13.1	11.3	16.4	15.3	14.5	17.0	15.1	14.0	2.4%	2.6%	2.8%	5.1%	6.1%	7.0%
US Average					19.0	16.7	15.1	23.3	18.4	16.1	77.4	19.5	16.4	1.0%	1.1%	1.2%	4.7%	5.8%	7.2%

Source: BofA Global Research estimates

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A&D Calendar

Exhibit 63: A&D Calendar

Calendar of events for A&D companies

Date	Subject	Event
12 Jul 23	Kongsberg	1H23 results
20 Jul 23	QinetiQ	QinetiQ AGM
20 Jul 23	SAAB	1H23 results
21 Jul 23	Thales	1H23 results
26 Jul 23	Airbus	1H23 results
26 Jul 23	MTU	1H23 results
27 Jul 23	Safran	1H23 results
28 Jul 23	Eutelsat	FY23 results
28 Jul 23	Hensoldt	1H23 results
28 Jul 23	Leonardo	1H23 results
02 Aug 23	BAE Systems	1H23 results
03 Aug 23	Rolls-Royce	1H23 results
03 Aug 23	SES	1H23 results
08 Aug 23	Yahsat	1H23 results
09 Aug 23	Vestas	1H23 results
10 Aug 23	Rheinmetall	1H23 results
14 Aug 23	Nordex	1H23 results
15 Aug 23	Montana Aerospace	1H23 results
08 Sep 23	Avio	1H23 results
26 Oct 23	Eutelsat	1Q24 results
26 Oct 23	SAAB	9M23 results
27 Oct 23	Kongsberg	9M23 results
27 Oct 23	MTU	9M23 results
27 Oct 23	Safran	9M23 results
31 Oct 23	Thales	9M23 results
02 Nov 23	SES	9M23 results
06 Nov 23	Avio	9M23 results
07 Nov 23	Leonardo	9M23 results
08 Nov 23	Airbus	9M23 results
08 Nov 23	Vestas	9M23 results
09 Nov 23	Hensoldt	9M23 results
09 Nov 23	Rheinmetall	9M23 results
11 Nov 23	Nordex	9M23 results
14 Nov 23	Montana Aerospace	9M23 results
23 Nov 23	Eutelsat	Shareholders annual meeting

Source: Company report

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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