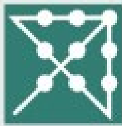
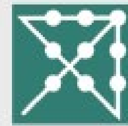

Yardeni Research


September 12, 2024

Morning Briefing

Defense, P/Es & DNA Origami

Check out the accompanying chart collection.

Executive Summary: Rapid earnings growth has sent the S&P 500 Aerospace & Defense industry's share price index rocketing skyward. But how long can investors look past looming clouds? Jackie examines the industry's fundamentals and valuation trajectories as well as what could happen to a primary funding source—the US defense budget—in the next administration. … The S&P 500 is down from its July 16 peak, but its valuation is roughly flat. Some S&P 500 sectors have been pulling it up and others pushing it down. … Also: The cancer-fighting potential of DNA origami.

Industrials: Time for Defense with Defense? Wars are bad for humanity but good for the defense industry. Many defense contractors have benefitted from bigger US defense budgets at home and abroad due to the wars between Ukraine and Russia and between Israel and Hamas as well as the political tensions between China and Taiwan.

The S&P 500 Aerospace & Defense stock price index has risen 14.2% ytd through Tuesday's close, outperforming the S&P 500 Industrials sector's 12.0% gain and keeping pace with the S&P 500's 15.2% increase (*Fig. 1* and *Fig. 2*). If perpetual underperformer Boeing—down 38.6% ytd—is excluded, the S&P 500 Aerospace & Defense stock price index's performance improves to 27.1% ytd. The index's performance is even more impressive over the past two years, when it climbed 33.3%—or 37.8% excluding Boeing—while the S&P 500 increased 35.1%.

Investors are expecting strong earnings growth. While the Aerospace & Defense industry's revenues increased 5.7% in 2023, it's expected to dip 3.2% this year and grow 8.6% in 2026 (compared to 3.4%, -3.6%, and 1.8% excluding Boeing) (*Fig. 3*). The industry's earnings growth has been extremely strong, 29.5% in 2023, moderating to an expected 18.5% this year and reaccelerating to 30.5% in 2025 (or 10.1%, 13.0%, and 10.3% excluding Boeing) (*Fig. 4*).

However, the industry's strong track record is well known. The Aerospace and Defense industry's forward P/E has increased by almost five points over the past year to 24.8, close to its recent record of 25.0, which is also far above its average of 16.3 over the past 30 years (*Fig. 5*). Excluding Boeing, the forward P/E falls to 23.1.

What could make investors regret buying into the industry after its strong run? While it's hard to imagine, peace could break out. More likely, a new president could go on a spending spree that pinches the government's budget and limits future increases on defense spending.

Byron Callan of *Capital Alpha Partners* wrote an excellent report highlighting the potential impacts that the next administration's policies may have on the budget deficit and defense spending. He also noted that President Trump's proposal to put Elon Musk in charge of a government efficiency commission might cast a shadow over defense contractors. And as the number of high-school graduates peaks in 2025, the military might need to boost wages to recruit enough military personnel.

Let's take a look at some of the most successful stocks in the Aerospace & Defense industry and some of the clouds that have been ignored:

(1) *The outperformers.* Howmet Aerospace is the top performing aerospace and defense stock this year, up 72.1% ytd through Tuesday's close. The company makes aircraft parts and forged aluminum wheels for commercial transportation. It has benefitted from strong travel demand and an aging aircraft fleet that has resulted in large backlogs at aircraft manufacturers, CEO John Plant said in the company's recent earnings *press release*.

The stock rode its latest leg up after Howmet reported Q2 adjusted earnings per share (EPS) of 67 cents, higher than last year's 44 cents and analysts' consensus forecast of 60 cents. The company also boosted its full-year EPS estimate to $2.55, up from a prior forecast of $2.35.

The Aerospace & Defense industry's second-best performer, up 43.0% ytd, is RTX, the former Raytheon Technologies. It has bested the share price performance of other large defense contractors this year, including Lockheed Martin (26.2%), General Dynamics (16.5), Northrop Grumman (11.1), and L3Harris Technologies (8.2).

The large defense contractors have benefitted from massive government spending on munitions and equipment (*Fig. 6*). Most recently, Congress approved in April a $95 billion

aid package, two thirds of which will fund new military equipment for Ukraine, Israel, and Taiwan, an April 28 *WSJ* *article* reported. RTX delivered Q2 results that beat estimates and raised its full-year earnings guidance to $5.40 a share from $5.33.

Rounding out the top three share price performers in the Aerospace & Defense industry is Axon Enterprise, which has jumped 39.1% ytd. The company makes tasers, body cameras, and cloud-based digital evidence systems used by law enforcement. Investors are excited about Draft One, which “writes the first draft of a police report based on Axon Body camera recordings,” an August 7 *Investor’s Business Daily* *article* reported. “Axon says the AI-enabled product saves more than 50% of the time in writing reports.”

(2) *Spending constraint coming?* The US Department of Defense’s (DoD) budget has been growing far faster than the US economy in recent years as it has juggled involvement in wars around the world. The budget, including supplemental spending, increased by 7.0% for the fiscal year ending this month, 9.7% in fiscal 2023, and 10.2% in fiscal 2022, according to this DoD *report*. Defense spending has risen under presidents of both parties, though the largest jump undoubtedly occurred during the Reagan years (*Fig. 7*).

The federal deficit is unusually high given the economic growth of recent years (*Fig. 8*). At some point, however, the growing federal budget deficit may force the US to slow—or even stop—the annual increase in military budgets. This might occur during the next administration if the same party controls the Oval Office and both houses of Congress, which would allow the new president to push through new, expensive policies. Former President Trump’s proposal to reduce the corporate tax rate to 15% would be particularly expensive. Both he and Vice President Harris have proposed spending increases and/or tax cuts without explaining how they'll fund their initiatives.

If the federal deficit balloons, Bond Vigilantes could force fiscal responsibility back into vogue. So oddly enough, defense investors would be wise to keep an eye on Treasury yields, which admittedly have shrugged off concerns over the growing deficit and fallen of late.

Strategy: A Look at P/Es. The S&P 500 has dropped 3.0% since its peak on July 16, but its forward P/E has barely budged: 21.2 as of September 9 versus 21.6 on July 16. That’s because internal shifts in the share price indexes and forward P/Es among the index’s 11 sectors have netted out to a wash: The stock price indexes of some sectors have fallen sharply since July 16 (e.g., Information Technology is down 9.5%) while those of other sectors have risen (like Utilities, up 9.3%). Similarly, the forward P/Es of some sectors and

industries have increased while others have decreased.

Here's a more detailed look under the S&P 500's hood:

(1) *Tech-related P/Es fall.* Even though the S&P 500 has fallen since July 16, most of its sectors' forward P/Es have risen. Here are sectors with rising forward P/Es since the S&P 500 peaked on July 16: Real Estate (38.0 on September 9, 34.7 on July 16), Industrials (21.4, 20.3), Consumer Staples (21.4, 20.2), Materials (20.0, 19.1), Health Care (19.5, 18.7), Utilities (17.7, 16.5), Financials (15.9, 15.1), and Energy (12.2, 11.9) (*Table 1*).

Conversely, sectors with many technology-related industries have declining forward P/Es since the market's July 16 peak: Information Technology (28.4 on September 9, 31.3 as of July 16), Consumer Discretionary (23.8, 25.3), and Communication Services (18.2, 19.8).

(2) *Most sectors' P/Es higher y/y.* Notably, all but one of the 11 sectors—Consumer Discretionary—still have higher forward P/Es today than they did a year ago. Here's the performance derby for the S&P 500 sectors' forward P/Es currently and a year ago: Real Estate (38.0 on September 9, 33.0 a year ago), Information Technology (28.4, 25.8), Consumer Discretionary (23.8, 24.1), Industrials (21.4, 17.9), Consumer Staples (21.4, 17.9), S&P 500 (21.2, 18.7), Materials (20.0, 17.5), Health Care (19.5, 17.0), Communication Services (18.2, 16.7), Utilities (17.7, 15.6), Financials (15.9, 13.3), and Energy (12.2, 12.0).

(3) *A look at industries' P/Es.* Two of the industries with the highest forward P/Es have nothing to do with Information Technology. Movies & Entertainment has a 31.5 forward P/E, up from 27.0 on July 16 and 24.4 a year ago. Likewise, the Consumer Staples Merchandise Retail industry—home to Walmart, Target, and the dollar stores—has a forward P/E of 31.3, up from 30.6 on July 16 and 24.4 a year ago.

The next three industries with the highest forward P/Es are each in the tech space, and two of them have forward P/Es today that are lower than they were at the market's July 16 peak but still higher than a year ago. They are Systems Software (30.9, 34.4, 29.2) and Semiconductors (29.7, 33.9, 24.7). Application Software's forward P/E is lower today, at 29.7, than it was at the July peak of 31.0 and a year ago, 30.8.

Almost every industry in the next grouping has elevated forward P/Es relative to the market's July peak and year-ago levels—and none of them are from the Information Technology sector: Financial Exchanges & Data (28.3 currently, 25.0 a year ago),

Consumer Discretionary Retail Composite (26.7, 28.6), Industrial Gases (26.4, 24.9), Aerospace & Defense (25.8, 19.9) Construction Materials (25.5, 24.8), Restaurants (24.9, 23.7), Automobile Manufacturers (24.9, 26.3), Health Care Equipment (24.6, 23.5), and Household Products (24.1, 22.8).

As technology-related industries have gotten less expensive during the recent selloff, a wide variety of other industries have grown more expensive. Which raises the question: Can the market's selloff be over before all industries' valuations get a haircut?

Disruptive Technologies: DNA Origami Fights Cancer. In DNA origami, a strand of DNA is folded to create 2-D or 3-D structures. These micro-structures have been around for a number of years, but scientists in Sweden have managed to use them to deliver cancer-killing materials to tumors. The result appears to be more effective drug delivery. That's a big development in cancer treatment because cancer-fighting drugs released into the body the usual way can do as much damage to healthy cells as they do to cancerous cells.

Researchers at Sweden's Karolinska Institutet had previously developed "structures that can organize so-called death receptors on the surface of cells, leading to cell death," a July 1 institute *press release* stated. Unleashed in the body, these structures would kill good and bad cells alike. But when the researchers put the "death receptors" in DNA origami, they were released only in low acidic environments such as usually surround cancer cells.

The scientists' DNA origami—sometimes called a "nanorobot"—worked as expected in a test tube, only releasing the cancer-killing material in a low acidic environment. When it was injected into mice with breast cancer tumors, there was a 70% reduction in tumor growth compared to mice given an inactive version of origami DNA.

Researchers need to evaluate the side effects before testing this on humans. They also plan to test whether putting proteins or peptides on the surface of the DNA origami would make it better able to bind and deliver the drugs to certain types of cancer.

Researchers at Harvard University have also been experimenting with DNA origami. They inoculated mice with a DNA origami vaccine on day zero and seven, then they inoculated the mice with cancer cells at day 14. By day 28, all unvaccinated mice developed tumors, whereas none of the vaccinated ones did, a May 6 *article* in *The Scientist* reported. However, when mice that already had cancer cells were treated with the DNA origami, none of the cancers were eliminated.

Calendars

US: Thurs: Headline & Core PPI 0.2%/0.2%; Initial Claims 229k; Federal Budget Balance -$338.3b; IEA Monthly Report; WASDE Report. **Fri:** University of Michigan Consumer Sentiment Index 68.4; Import Price Index 0.2%; Baker-Hughes Rig Count. (FXStreet estimates)

Global: Thurs: ECB Interest Rate Decision 3.65%; ECB Deposit Facility Rate 3.50%; Germany WPI 0.1%; Spain CPI 0.0%m/m/2.4%y/y; ECOFIN Meetings; Lagarde; Jochnick; McCaul; Breeden; Buch. **Fri:** Eurozone Industrial Production -0.2%m/m/-2.7%y/y; Eurogroup Meetings; Japan Industrial Production 2.8%; France CPI 0.6%m/m/1.9%y/y. (FXStreet estimates)

Strategy Indicators

Stock Market Sentiment Indicators (*link*): The *Bull-Bear Ratio* fell for the second week, sinking to 1.92 this week—the lowest since November 2023—after rising the prior three weeks from 2.07 to 2.42. It was at 4.43 22 weeks ago—which was the highest reading since February 5, 2018. *Bullish sentiment* fell for the second week, plunging to 43.5% this week—sinking to its lowest percentage since last August—after climbing the prior two weeks from 44.6% to 53.2%. Meanwhile, *bearish sentiment* edged up to 22.6% from 21.6% last week, hovering just above 20.0% the past five weeks. The *correction count* increased for the second week to 33.9%, after falling the prior three weeks from 34.4% to 24.2%. In the *AAII Sentiment Survey* (as of September 5), pessimism among individual investors about the short-term outlook for stocks increased during the latest week, while both bullish and bearish sentiment decreased. *Bullish sentiment* fell 5.8ppts to 45.3%, remaining above its historical average of 37.5% for the 43rd time in 44 weeks, while bearish sentiment slipped 2.1ppts to 24.9%—below its historical average of 31.0% for the fourth straight week. Meanwhile, *neutral sentiment* jumped 7.9ppts to 29.8%, holding below its historical average of 31.5% for the ninth straight week.

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin rose 0.1ppt to a new record high of 13.4% during the September 6 week. That's its first record since the June 9, 2022 week, and it is now 3.1ppts above its seven-year low of 10.3% during April 2020. It was a strong week for revisions as forward revenues rose 0.5% w/w to its first record high since the August 4 week. Forward earnings surged 1.2% w/w to a

new record high too, also for the first time since the August 4 week. Revenues and earnings have been steadily making new record highs for 12 months now. That compares to its prior 16-month string of record highs from March 2021 to June 2022; prior to that, they peaked just before Covid-19 in February 2020. The consensus expectations for forward revenues growth was steady w/w at 5.7% and is down from a 23-month high of 5.8% during the August 1 week. It has gained 3.4ppts from its 33-month low of 2.3% during the February 23, 2023 week. That's down from a record high of 9.6% growth at the end of May 2021 and compares to 0.2% forward revenues growth during April 2020, which was the lowest reading since June 2009. The forward earnings growth forecast rose 0.4ppt w/w to a 35-month high of 14.1%. It's now 10.8ppts above its 31-month low of 3.3% during the February 16, 2023 week. That's down from its 23.9% reading at the end of April 2021, which was at its highest since June 2010 and up substantially from its record low of -5.6% at the end of April 2020. Analysts expect revenues to rise 4.7% in 2024 (unchanged w/w) and 5.8% in 2025 (unchanged w/w) compared to a revenues gain of 2.2% in 2023. They expect an earnings gain of 10.0% in 2024 (unchanged w/w) and a 15.3% rise in 2025 (unchanged w/w) compared to an earnings gain of 2.5% in 2023. Analysts expect the profit margin to rise 0.6ppt y/y to 12.5% in 2024 (unchanged w/w), compared to 11.9% in 2023, and to rise 1.1ppts y/y to 13.6% in 2025 (unchanged w/w). The S&P 500's weekly reading of its forward P/E fell 0.5pt w/w to a four-week low of 20.7, but is up 1.0pt from a 14-week low of 19.7 during the August 8 week. It's now 0.9pt from its 31-month high of 21.6 during the July 11 week and is up 5.4pts from a 30-month low of 15.3 in October of 2022. It also compares to 23.1 in early September 2020, which was the highest level since July 2000, and to a 77-month low of 14.0 in March 2020. The S&P 500 weekly price-to-sales ratio fell 0.05pt w/w to a four-week low of 2.79, but is up 0.16pt from a 14-week low of 2.63 during the August 8 week. It's now 0.07pt from a 31-month high of 2.86 during the July 11 week. That's up from a six-month low of 2.22 during the October 26, 2023 week and compares to a 31-month low of 1.98 in October 2022. That also compares to a record high of 2.88 at the end of 2021 and a 49-month low of 1.65 in March 2020.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins (*link*): During the September 6 week, forward revenues rose for all but the Energy and Materials sectors and forward earnings rose for all 11 S&P 500 sectors. This led to rising forward profit margins w/w for all but Consumer Staples. Six sectors posted record high forward revenues this week: Communication Services, Consumer Staples, Health Care, Industrials, Information Technology, and Real Estate. Financials' forward revenues would be at a record high too when adjusted for the incoming transfer of five former Tech sector firms in March 2023. These two sectors are less than 0.2% from their post-pandemic or record highs: Consumer Discretionary and Utilities. Energy and Materials are the biggest laggards at 6.0% and

11.4% below, respectively. Five sectors have record-high forward earnings this week: Consumer Discretionary, Financials, Industrials, Information Technology, and Utilities. These three sectors are less than 1.0% below their recent records: Communication Services, Consumer Staples, and Real Estate. Health Care's forward earnings is 3.7% below its high and improving now after stalling since late 2022. Forward earnings remains depressed for Energy and Materials; both are more than 21.2% below their post-pandemic highs. Looking at the forward profit margin, all of the sectors are showing signs of recovering from their early 2023 forward profit margin lows. These four sectors have their forward profit margin at a post-pandemic or record high this week: Consumer Discretionary, Financials, Industrials, and Information Technology. Among the laggards, Energy's forward margin has fallen 0.4ppts from its six-month high of 10.9% in mid-June to a hair above its 23-month low of 10.4% in February; Consumer Staples' is 0.2ppt above its seven-year low of 6.7% in March 2023; and Health Care is 0.3ppt above its 8.5% record low in April. The annual profit margin is expected to fall y/y in 2024 for Energy, Materials, and Real Estate and to improve for the other eight sectors. Here's how the S&P 500 and its 11 sectors rank based on their current forward profit margin forecasts along with their record highs: Information Technology (27.6%, up 0.2ppt w/w to a new record high), Financials (19.4, up 0.1ppt w/w and down from its 19.8 record high in August 2021), Communication Services (18.0, up 0.2ppt w/w and down from its 18.1 record high during the August 8 week), Real Estate (17.4, up 0.1ppt w/w and down from its 19.2 record high in 2016), Utilities (14.1, down from its 14.8 record high in April 2021), S&P 500 (13.4, up 0.1ppt w/w to a new record high), Materials (11.3, up 0.2ppt w/w and down from a 20-month high of 11.6 in July and from its 13.6 record high in June 2022), Energy (10.5, down from a six-month high of 10.9 in June and its 12.8 record high in November 2022), Industrials (10.8, up a hair w/w to a new record high for the first time since September 2013), Consumer Discretionary (9.2, up 0.1ppt w/w to a new record high), Health Care (8.8, up 0.1ppt w/w and 0.3ppt from its record low at the end of April and down from its 11.5 record high in February 2022), and Consumer Staples (6.9, down from its 7.7 record high in June 2020).

US Economic Indicators

Consumer Price Index (*link*): The headline yearly inflation rate fell below 3.0% in July for the first time since March 2021 and ticked lower in August, with the monthly gain in line with expectations. *Headline* CPI rose 0.2% in August following a 0.2% gain in July and a 0.1% downtick in June, while core prices rose 0.3% (vs 0.2% expected), accelerating from increases of 0.2% and 0.1% the prior two months. On a *year-over-year basis*, the *headline* rate slowed to 2.5%, its lowest rate since February 2021 and down from June 2022's peak

rate of 9.1%. Meanwhile, the core rate was unchanged at 3.2% in August, matching July's three-year low; it peaked at 6.6% during September 2022. *Goods inflation* fell 1.2% y/y in August, with durable goods prices falling 4.2% y/y, down from the 18.2% peak in January 2022, while the rate for nondurable goods was flat, down from 14.4% in June 2022. *Services excluding energy services* is drifting lower, though remains relatively high at 4.9%, well above rates a couple of years ago. Looking at *durable goods prices*, there's lots of red in the yearly percent changes: used cars & trucks (-10.4% y/y), furniture & bedding (-5.1), major appliances (-3.2), new vehicles (-1.2), and motor vehicle parts & equipment (-0.2%). Here's a snapshot of yearly rates for some key *nondurable goods* prices from highest to lowest: recreational commodities (7.9% y/y), food (2.1), medical care commodities (2.0), housekeeping supplies (1.1), and apparel (0.3). Energy prices (-4.0% y/y), fell back below zero in August, after five months above, posting a recent peak of 3.7% in May. It had bottomed last June at -16.7%. Turning to services inflation, *rent of shelter* remains high, though the yearly rates are easing from their recent highs in April 2023: rent of primary residence (5.0% from 8.8%) and owners' equivalent rent (5.4 from 8.1). Turning to *non-housing-related services*, the yearly rate of transportation service (7.9% y/y) remains high, though is easing recently, as is the rate for recreation services (3.2), which is the lowest since fall 2021. Meanwhile, the yearly rate for education & communication services is hovering around 2.0%, while the medical services (3.2% y/y) rate has been on an accelerating trend, though is looking toppy recently. The rate for other personal services (4.6% y/y) eased a bit in August, after moving up to 5.1% in July from 4.0% in May—which was the lowest rate since October 2021.

Contact us by *email* or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683
Eric Wallerstein, Chief Markets Strategist, 201-661-3575
Debbie Johnson, Chief Economist, 480-664-1333
Joe Abbott, Chief Quantitative Strategist, 732-241-6502
Melissa Tagg, Director of Research Projects & Operations, 516-782-9967
Mali Quintana, Senior Economist, 480-664-1333
Jackie Doherty, Contributing Editor, 917-328-6848
Valerie de la Rue, Director of Institutional Sales, 516-277-2432
Mary Fanslau, Manager of Client Services, 480-664-1333
Sandy Cohan, Senior Editor, 570-228-9102