

The Aerospace & Defense Forum

Santa Clarita Valley Chapter Meeting:

“An Economic Outlook for 2022 and Possible Impacts on the A&D Industry”

January 20, 2022

- Please ensure your mike is muted and your video is off.
- Questions will be welcomed via the Chat function.
- The event will start at 8:00AM Pacific Time.

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The Aerospace & Defense Forum

Who We Are...



- An 11-year-old global aerospace and defense leadership community of over 2,400 professionals that facilitates communication, collaboration, and commerce relative to the business of A&D
- Nine chapters—Los Angeles, San Fernando Valley, Santa Clarita Valley, South Bay, Orange County, San Diego, Arizona, Dallas-Ft. Worth, and Ventura County.
- Conduct monthly meetings with presentations, panels and tours with industry leaders focused on some aspect of the business of A&D



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The Aerospace & Defense Forum

Webinar Guidelines

		
• Turn off camera video	Alt+V	⌘+Shift+V
• Mute audio	Alt+A	⌘+Shift+A
• Active Speaker View	Alt+F1	⌘+Shift+W
• Questions in Chat addressed to Everyone.		

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The Aerospace & Defense Forum

**Santa Clarita Valley Economic Development Corporation
Santa Clarita Valley Chapter
Host and Sponsor**



scvedc.org

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The Aerospace & Defense Forum

“An Economic Outlook for 2022 and Possible Impacts on the A&D Industry”

Presenters:




Paul Single
Managing Director, Senior Economist,
City National Rochdale



Katie McDowell
Senior Vice President, Relationship
Manager, Aerospace and Defense
City National Bank

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AN RBC/CITY NATIONAL COMPANY



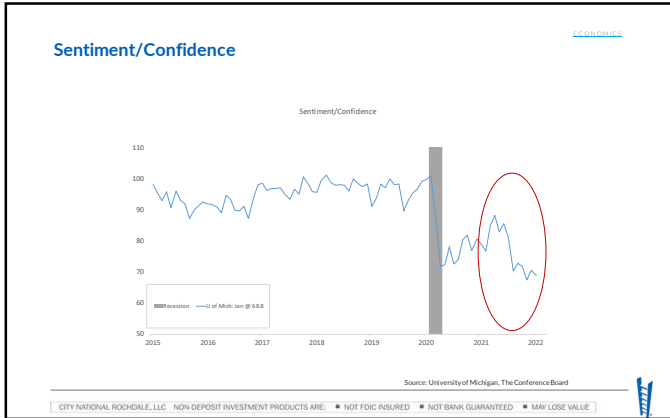
January 20, 2022

Economic Outlook

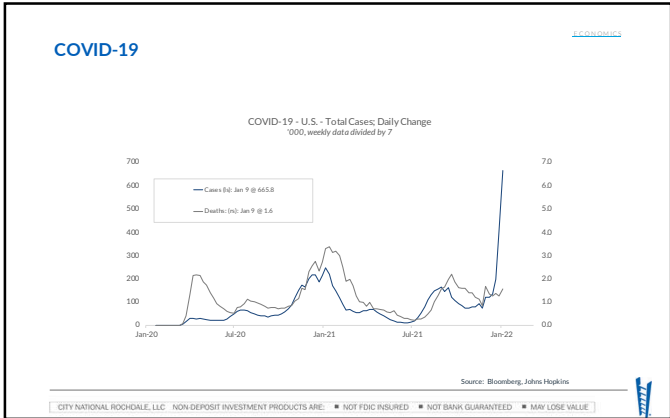
Paul Single
Managing Director,
Senior Economist,
Senior Portfolio Manager

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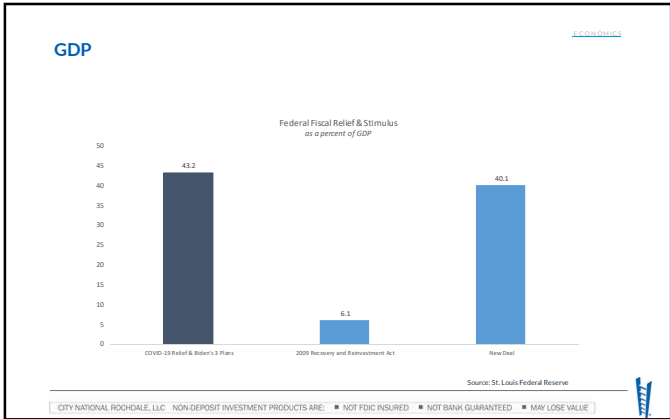
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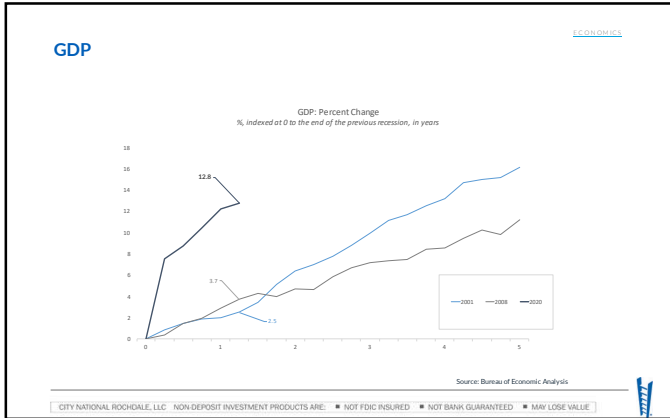
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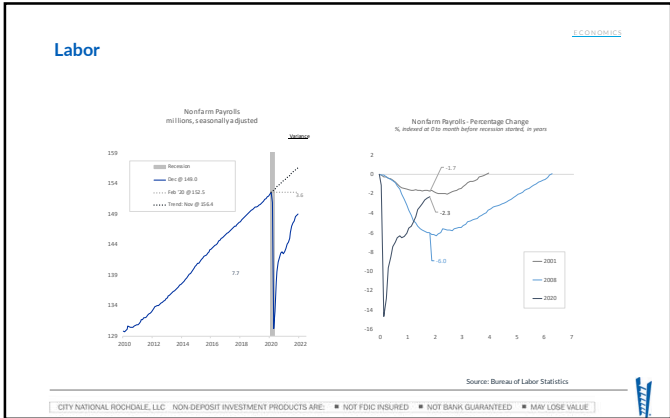
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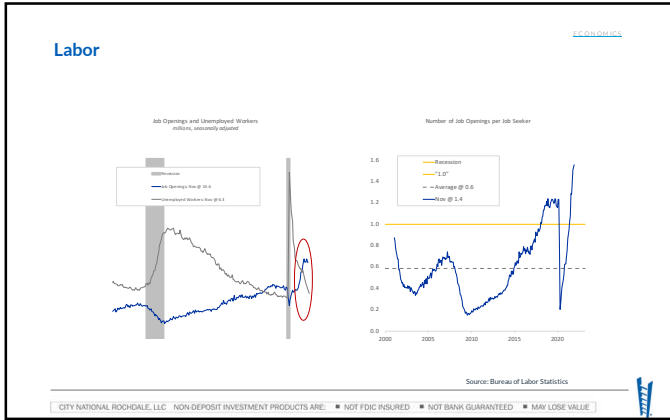
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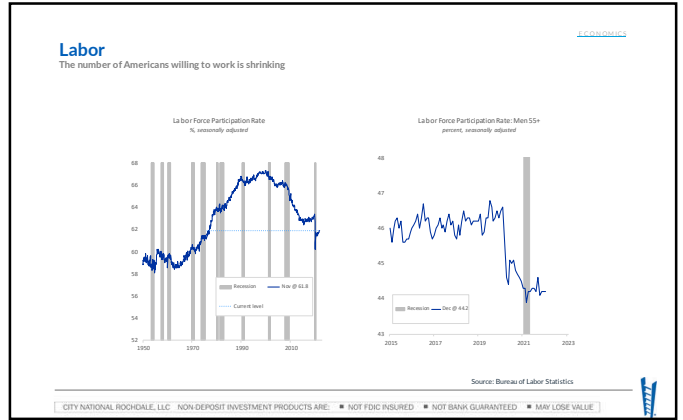
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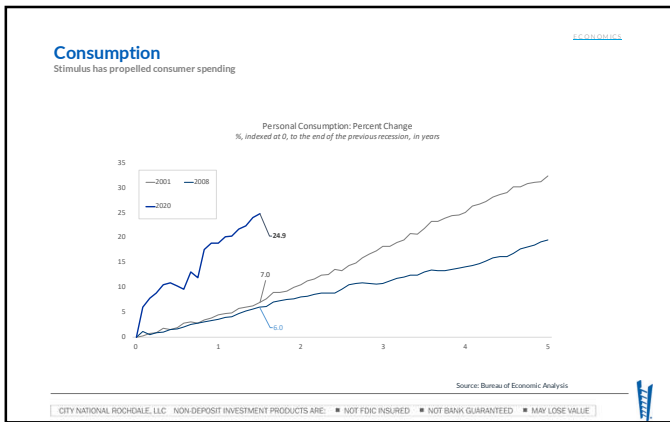
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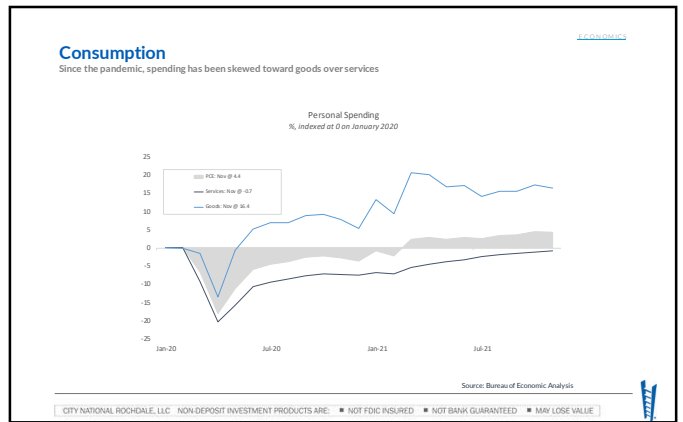
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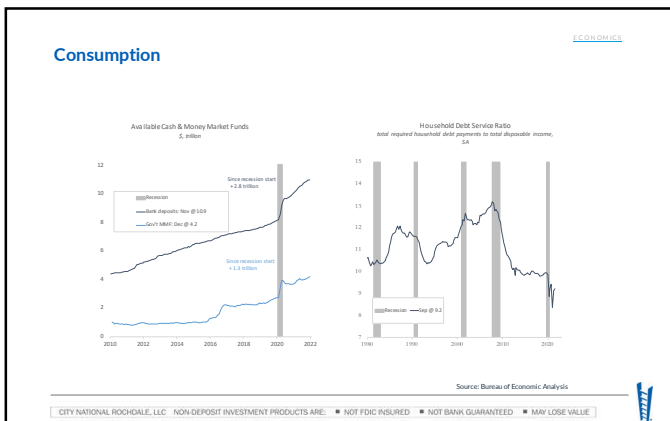
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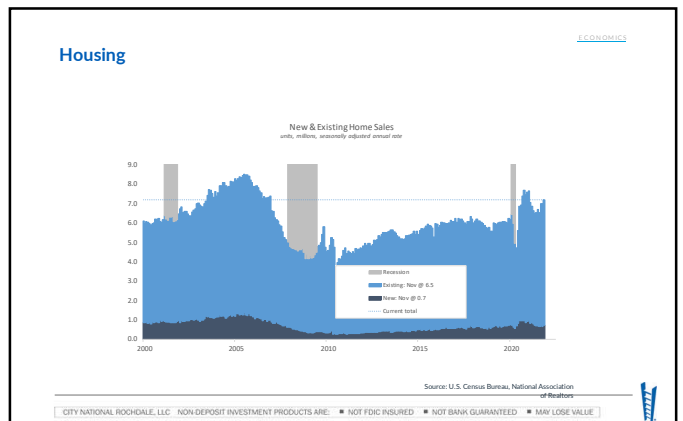
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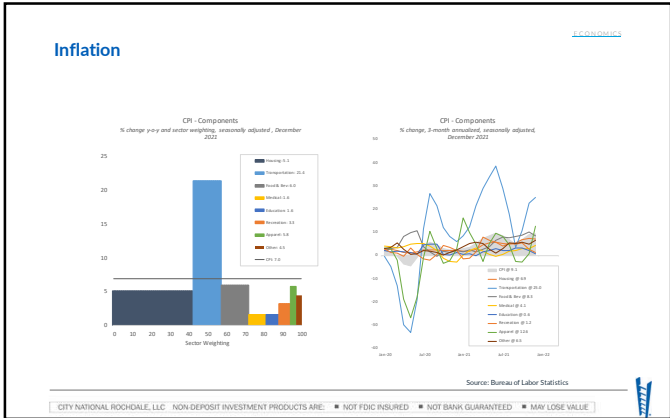
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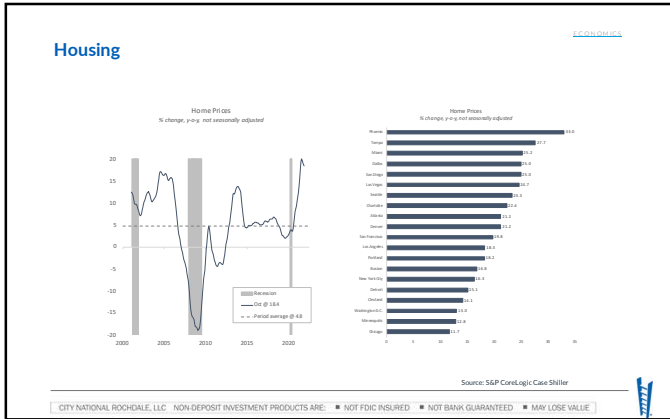
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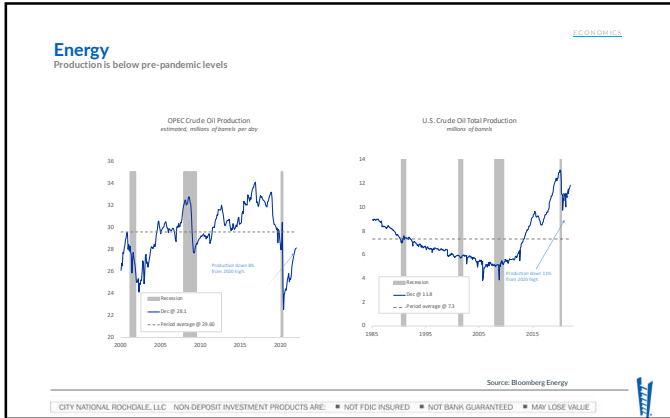
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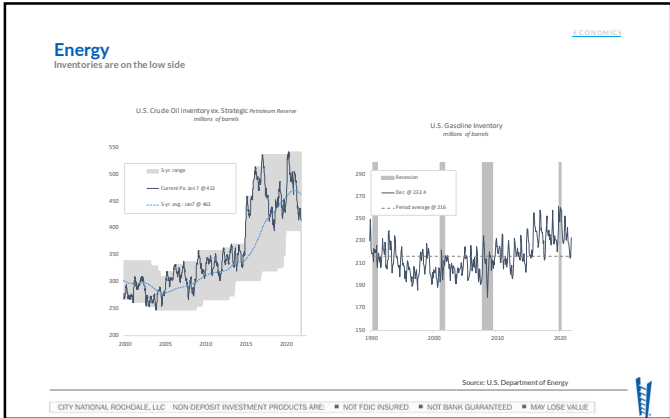
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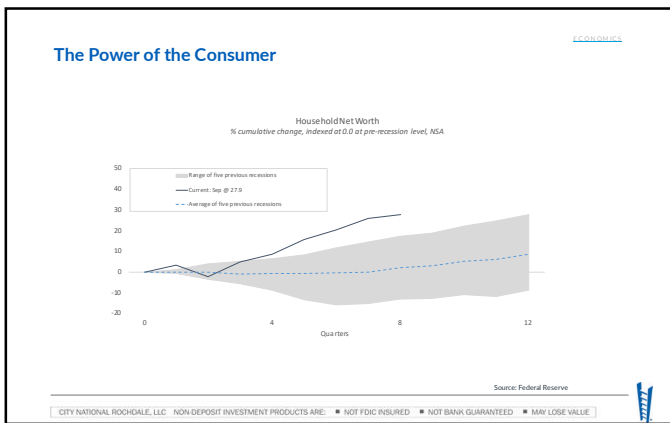
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The yields and market values of municipal securities may be more affected by changes in tax rates and policies than other income bearing tradable securities. Certain investment income may be subject to the Federal Alternative Minimum Tax (AMT), and taxable gains are also possible.

Investments in the municipal securities of a particular state or territory may be subject to the risk that changes in the economic conditions of that state or territory will negatively impact performance. These events may include severe financial difficulties and continued budget deficits, economic or political policy changes, tax base erosion, state constitutional limits on tax increases, and changes in the credit ratings.

Yield to Worst - The lower the yield to maturity on the yield to call is, essentially the lower potential rate of return for a bond, excluding delinquency or default.

Investments in emerging markets funds may be subject to more volatility, and substantially less liquid, than the kinds of government, government agencies, and government related corporations that do not have developed foreign markets. Emerging markets funds can have greater volatility and operational risks, and low developed legal and accounting systems than developed markets.

Investments in commodities can be very volatile, and direct investment in these markets can be very risky, especially for longer term investors.

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Important Information (continued)

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Please see the Client's Manual for more complete information regarding the Fund's investment objectives, risks, fees and other expenses.

Alternative investments are speculative, entail substantial risks, offer limited liquidity and are not suitable for all investors. These investments have limited transparency to the Fund's investments and may involve leverage which magnifies both losses and gains, including the risk of loss of the entire investment. Alternative investments have varying, and lengthy, lock-up provisions.

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Estimated returns are based on multiple sources of historical market index data input to proprietary quantitative models specific to each asset class (e.g., equity, fixed income, etc.) then adjusted for fundamental risks such as risk, emerging growth, the premiums, valuation, historical performance, and market regime expectations. Results may further adjust the estimated returns without our economic forecasts on market conditions and long term expectations (such as inflation, economic growth, inflation, interest rates, among other important inputs).

The expected results have many inherent limitations and no representation is made that any investor will or is likely to achieve returns similar to those shown. Changes in the assumptions used may have a material impact on the desired performance or result.

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Presentation for:

The Aerospace & Defense Forum

January 20, 2022

CITY NATIONAL BANK
AN AEC COMPANY

A LEGACY OF SERVICE, SOLUTIONS AND TRUST™

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About City National Bank

AN AEC COMPANY

As of 7/31/2021

Business Overview	Key Highlights
<ul style="list-style-type: none"> A premier U.S. regional bank founded in 1954, headquartered in Los Angeles, California and built on a legacy of relationship dedication serving the growing needs of businesses, professionals, entrepreneurs and their families. National platform delivering competitive and creative ideas across the spectrum of lending solutions (cash flow, asset based lending, equipment finance, loan syndication, franchise finance and more), wealth management and brokerage services. Wholly-owned subsidiary of Royal Bank of Canada since 2015 expanding our scope and reach into global markets and capabilities under one of the strongest banking institutions in the world. City National Bank's senior unsecured Moody's/BAA Ratings of A2/A+ are one of the highest among U.S. regional banks. 	<ul style="list-style-type: none"> Assets \$87.3 billion Total deposits \$77.4 billion Total loans and leases \$53.3 billion Assets under management \$70.3 billion Assets under management or administration \$96.0 billion

National Footprint

Light-branch model with 6,500 employees across 75 offices and 19 full-service regional centers

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CNB's Aerospace & Defense Overview

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- City National Bank formed the Aerospace and Defense industry vertical in June 2018 with a single hire and has since invested to expand the team to include ten colleagues spanning relationship management and credit.
- Since 2018, the A&D team has committed more than \$1.1B in credit and managed over \$300MM for our growing portfolio of clients.
- A team of bankers with over 90 years of combined banking experience and over 60 years in combined aerospace and defense industry experience. Our team's backgrounds span commercial banking, corporate banking, and investment banking.
- Credit Officers focused solely on the industry, expediting our review of credit requests and related approval processes.
- Supported by Product Partners with deep subject matter knowledge.
- Our colleagues are also committed to supporting the communities served by the industry, in particular our active duty and retired military personnel. We serve on boards for multiple not-for-profit organizations, including W. arrior Foundation Freedom Station, San Diego Military Advisory Council and San Diego Cybersecurity Center of Excellence, we drive bank contributions to veteran-focused charities, and we organize various volunteer events throughout the year.

Lender Public Company A Senior Secured Revolving Credit & TLA Facility November 2021	Lender Public Company B Senior Unsecured Revolving Credit Facility July 2021	Lender Public Company C Senior Unsecured Revolving Credit Facility June 2021	Lender Public Company D Senior Unsecured Revolving Credit and TLA Facility March 2021	Deposit Bank Private Company A Credit Facility July 2020	Lender Public Company E Senior Unsecured Revolving Credit and TLA Facility March 2020
Lender Public Company F Senior Unsecured Revolving Credit and TLA Facility January 2020	Lender Public Company G Term Loan December 2019	Lender Private Company B Senior Unsecured Revolving Credit & TLA Facility June 2019	Co-Manager Public Company H Senior Secured Notes March 2019	Lender Public Company H Senior Secured Revolving Credit Facility January 2019	Lender Public Company I Senior Secured Revolving Credit Facility September 2018

Note: All \$ figures shown are in \$MM unless noted.

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Products, Services & Solutions

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CNB's leaders and coverage bankers thrive on crafting creative, actionable and carefully packaged solutions across a range of institutional RBC capabilities to serve the complex and dynamic needs of our corporate clients.

Lending & Leasing

- Term loans and revolving lines of credit
- Acquisition and bridge financing
- Asset-based lending
- Equipment financing and leasing
- Commercial real estate
- Tax-exempt lending

Treasury Solutions & Services

- Liquidity strategies
- Deposit & escrow solutions
- Online portal
- Corporate card and payment solutions
- Trust/Clarity Services
- Retirement plan services and administration

Capital Markets & Investment Banking

- Loan syndications & strategic financing arrangements
- Debt Capital Markets
- Equity Capital Markets
- Private Capital Solutions
- Mergers and Acquisitions
- Asset Backed Securities

Risk Management & International Banking

- Foreign exchange solutions
- Interest rate risk management
- International banking solutions
- Trade and supply chain financing
- Trade Letters of Credit / Documentary collections
- Government Guaranteed Lending Program

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Today's Discussion

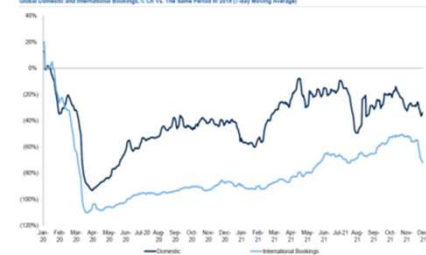
- Air Traffic Recovery
- Airline's Health
- Commercial OEM Production Rates
- Impact to the Supply Chain
- Reasons for Optimism

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Evolving Bookings Outlook

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- Recovery has been uneven with larger domestic markets (U.S., China, Russia, intra-Europe) driving activity
- Impact of new variants have had short-term impacts on both domestic and international travel
- Expectations are that domestic travel will continue to drive recovery with international lagging; as of December 2021, international travel was still down 48% as compared to 2019; 2023 should see air traffic return to pre-pandemic levels



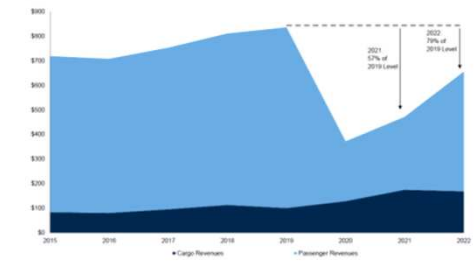
Source: IATA Economics

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Airline Revenue Recovering

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- Industry losses are diminishing with gradual air traffic recovery and improved demand for cargo
- Per IATA, as of December, airline stocks are still on average 37% lower than 2019 levels
- There is still considerable risk to the recovery due to impact of new variants and potential border closures
- Eventual fuel prices are also dragging on airlines recovery



Source: IATA Economics

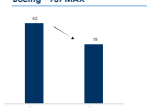
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Commercial OEM – Production Changes

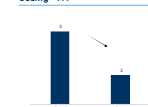
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- Boeing and Airbus maintained some level of production during the pandemic to keep the supply chain intact and position suppliers to support a full recovery
- In 2021, Boeing increased its deliveries from 118 aircraft to 302; Airbus was less impacted by the pandemic and only had an 8.6% increase in deliveries from 477 to 518. (Note December deliveries are not captured in these figures.)
- Narrowbodies will continue to lead the recovery; Airbus's latest order is 44 A320XLR/month by Q2'23, potentially going up to 75/month. Boeing's latest ramp is to get to 31/month in early 2022. A320 current backlog is 2,420 aircraft and 737 current backlog is 3,334 aircraft

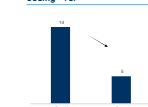
Boeing – 737 MAX



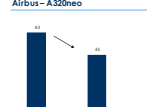
Boeing – 777



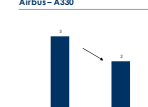
Boeing – 787



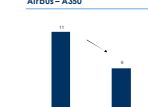
Airbus – A320neo



Airbus – A330




Airbus – A350



Source: Airbus, Boeing, IATA, JARug, IATA, Airbus and Boeing

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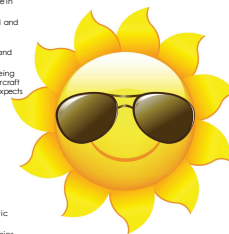
Risks to the Supply Chain



Liquidity	<ul style="list-style-type: none"> Governmental support in 2020 and 2021 was unprecedented, and injected significant liquidity into the supply chain directly through the CARES Act and by accelerating payments through the Primes, among other forms of intervention. Prior to MAX grounding and the pandemic, smaller suppliers were investing in equipment, R&D, and facilities which led to budgeting balance sheets to support production rate growth. The double black swan events put pressure on earnings bringing leverage points higher, potentially limiting access to traditional bank capital. Suppliers will have significant increases in working capital to increase staffing, fund inventory and other working capital requirements to support the expected ramp-up.
Workforce	<ul style="list-style-type: none"> According to AIA the civil aviation sector lost more than 87,000 jobs since the start of the pandemic which represents a 4% decline compared to 2019, and slightly under the 2018 workforce size. More than 60% of the losses were attributable to thousands of small businesses supporting the industrial base. Aging populations of aerospace & defense employees without the pipeline to backfill the requirements and tribal knowledge for lower and middle-market suppliers. Other industries are attracting talent; these industries are potentially more flexible and provide significant upward mobility and strong value propositions. Potential young talents is also looking for strong corporate leadership shaped by diversity, equity and inclusion. DEI is no longer a nice to have, it is a MUST have.
Increased Costs	<ul style="list-style-type: none"> Increasing wages and the impact of inflation will put additional pressure on suppliers. Increasing costs for raw materials (steel, aluminum, etc.) according to AirPartners, the aviation industry on average paid 27% to 44% more for raw materials in 2021 vs. 2020. Increasing costs for new equipment and longer lead times. Increasing industry and governmental regulations.

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Reasons for Optimism

- In 2021, the industry grew 7.5%, analysts expect a 20-30% increase in 2022
- Deliveries increased 40% in 2021 and are expected to increase an additional 40% in 2022
- Record narrowbody backlog and increasing y-o-y build rates
- Macro demand for aircraft: Boeing expects demand for 43,000 aircraft over the next 20 years; Airbus expects 39,000+
- Increased defense budget
 - \$188Bn defense policy bill
 - Viewed positively given concerns around a shrinking budget under the Biden administration
 - Increased funding for missile defense, hypersonics, cybersecurity, emerging technologies and space
- Continued demand for domestic military products
 - Driven by geopolitical dynamics
 - Existing and emerging threats
 - Government stimulation into the large and critically important industrial base
- Robust demand for business jets
 - Strong market performance and elevated corporate profits are driving demand for business jet utilization
 - Increasing personal balance sheets supporting charter and fractional operators
- Emerging Technologies
 - Advanced air mobility
 - Sustainable aviation fuels
 - Small unmanned aerial systems
 - Space commerce
- Industry resiliency
 - The industry will be smarter, stronger and more evolved than when we entered the pandemic
 - From 2001 to the GFC, A&D has survived and innovated through various crises, and this time will be no different

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Q&A

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- January 26: **"The Supply Chain Risk Conundrum: Rethinking the Network and Its Risks"**, Michael Gold, Partner and Chair of the Cybersecurity & Privacy Group, Jeffer Mangels Butler & Mitchell LLP | [National Online Forum](#)
- February 16: **"Manufacturing in the Cosmos - Low Earth Orbit, on the Moon, Mars and Beyond"**, John Grunsfeld, Founder and President, Endless Frontier Associates (former NASA astronaut, former Associate Administrator of NASA's Science Mission Directorate) | [National Online Forum](#)

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