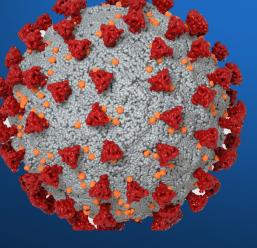
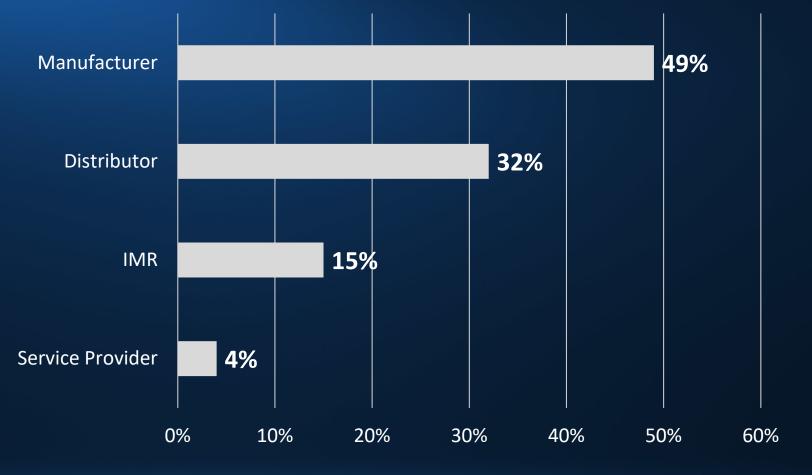
COVID-19 ECONOMIC GUIDANCE DURING UNCERTAIN TIMES

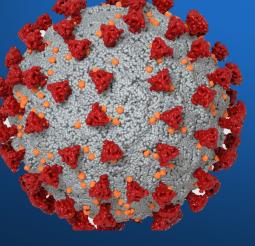
Speaker – Alan Beaulieu

A Webinar Hosted by ISA

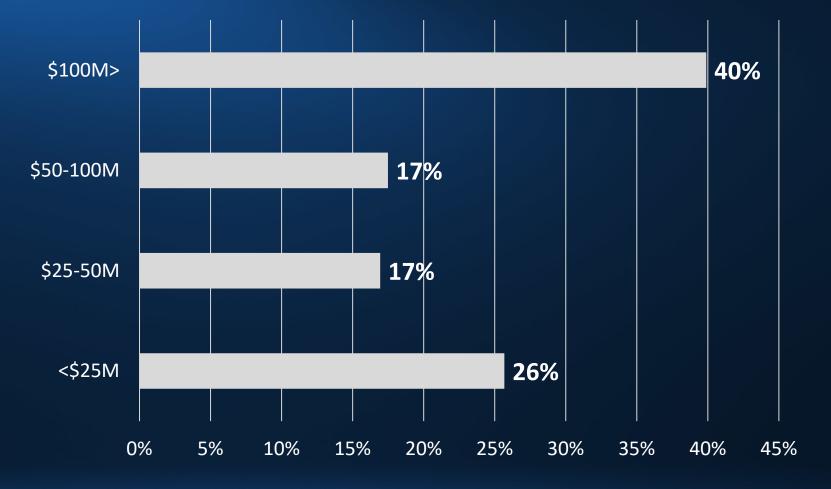


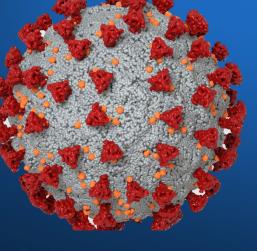
By Member Type



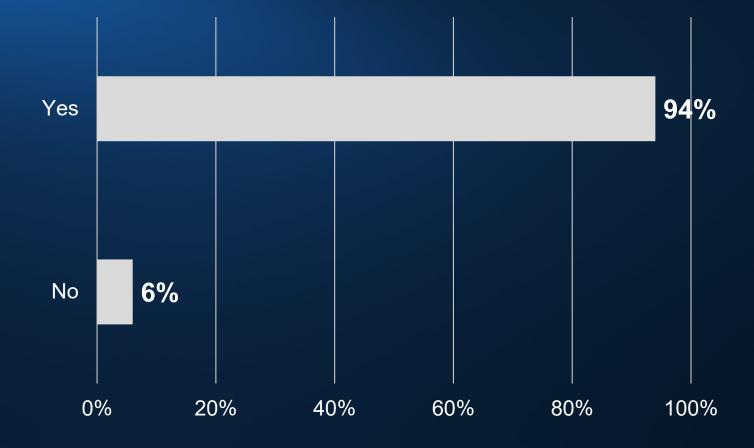


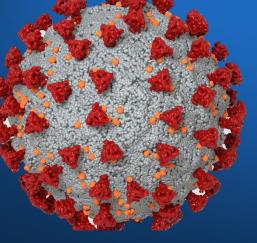
By Revenue Size





Essential business?

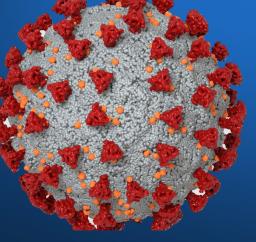




<u>Sentiment</u> Expected revenue by month

(current month vs prior year month)

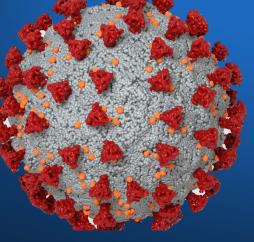




control

COVID-19

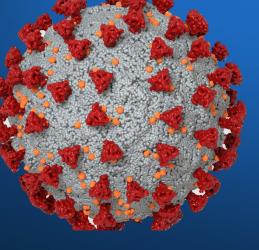
Expenses Freeze 62% Headcount Freeze 54% 35% Pay Freeze Methods being Capex Freeze 30% used for cost Other 27% Pay Reductions 22% Headcount Reductions 20% Furloughs 20% 0% 10% 20% 30% 40% 50% 60% 70%



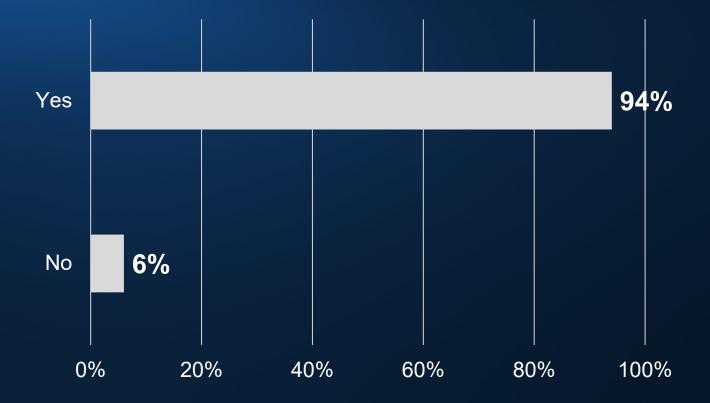
Delayed Inventory Purchases

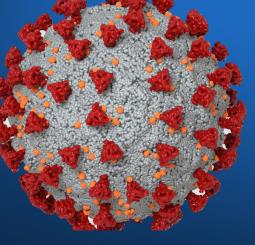
- ✓ Inventory Reductions/Returns
- ✓ 2 Week Shutdown in Manufacturing
- ✓ 401K Match Hold or Elimination
- ✓ Eliminated Overtime
- ✓ Rotate Staff in 2 Weeks Shifts (Avoiding Layoffs)
- ✓ Federal Pay Roll Protection Loan (PPP)
- ✓ Budget Reductions

Other methods being used for cost control



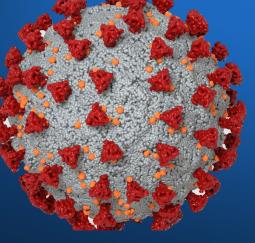
Staff now having to work remotely?



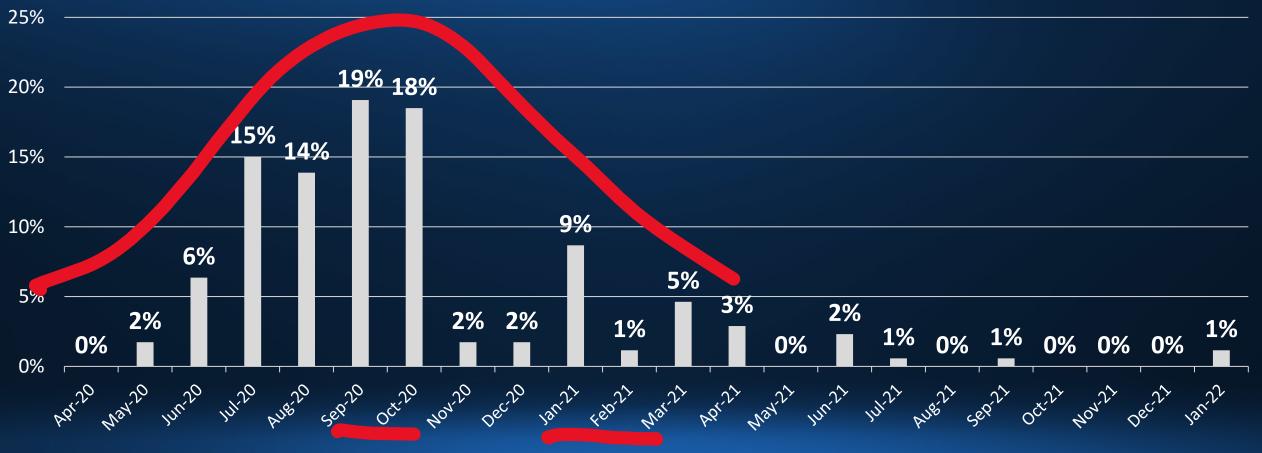


Sentiment Effectiveness of teams having to work remotely





Sentiment: When we will be back to normal run rates?





Leading the Channel Forward®

Economic Guidance During Uncertain Times

Alan Beaulieu, PhD President





Outcomes Vary Widely Coronavirus (COVID-19)

Global Deaths:



Global Fatality Rate:

6.9%

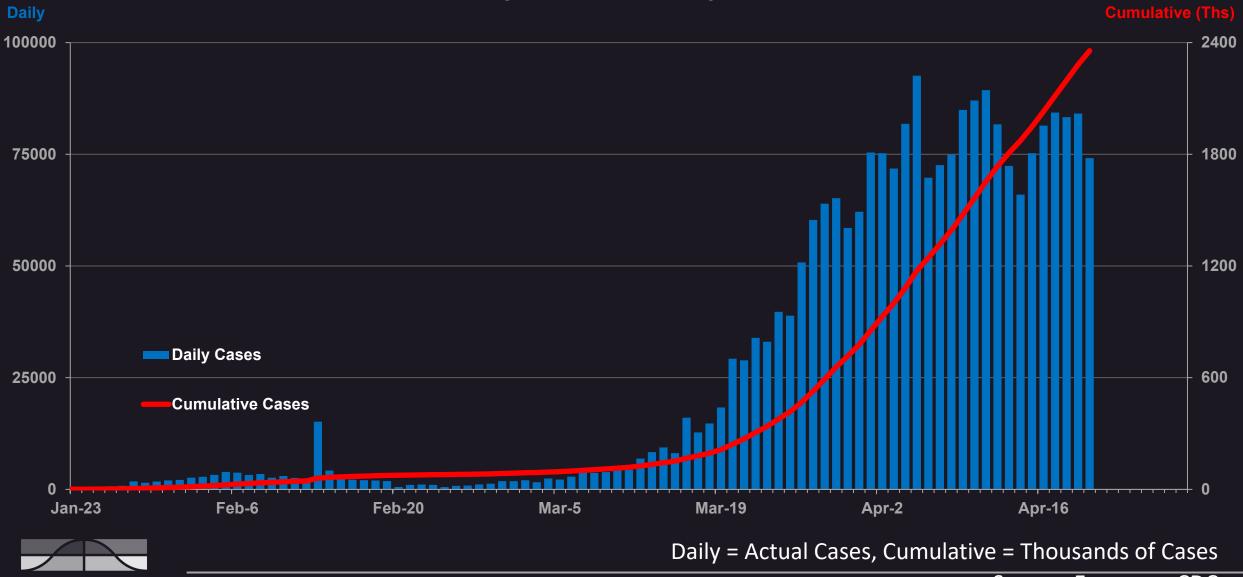


	Deaths	Fatality Rate
United States	40,565	5.3%
Italy	23,660	13.2%
Spain	20,852	10.4%
France	19,718	12.9%
United Kingdom	16,060	13.4%
Belgium	5828	14.6%
Iran	5209	6.2%
Germany	4642	3.2%
China	4632	5.6%
Netherlands	3751	11.2%
Brazil	2484	6.3%
Turkey	2017	2.3%

Source: Worldometer

The Global Perspective

COVID-19, World Daily Cases per Day vs. Cumulative Cases

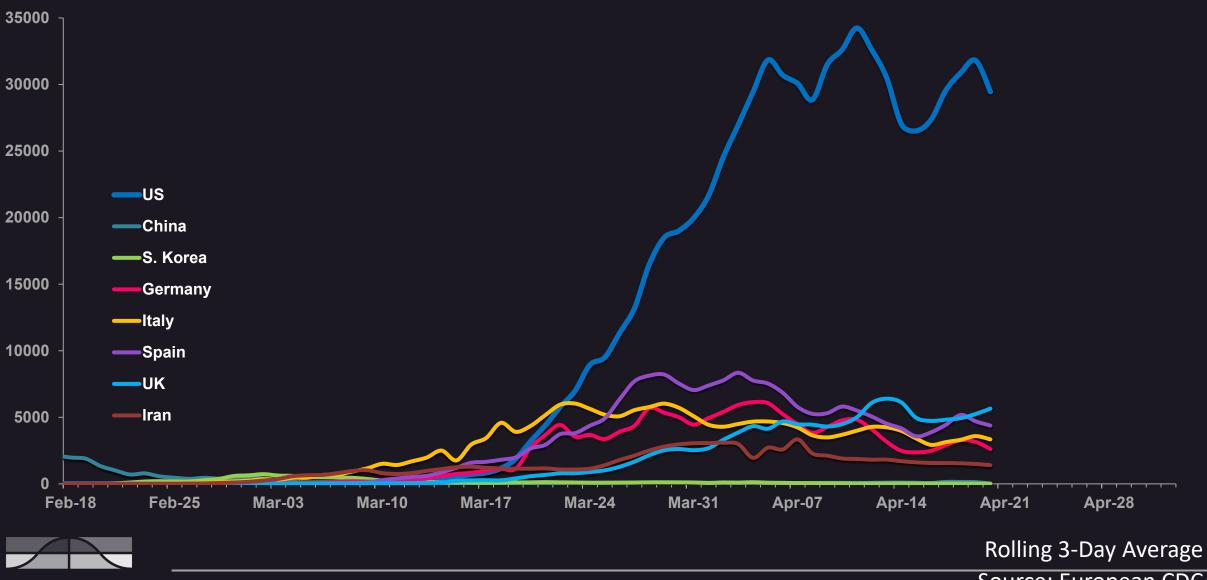


ITR ECONOMICS

Source: European CDC

Encouraging Trends

Daily New Confirmed Cases of COVID-19 (3-day rolling average)



ITR ECONOMICS

Source: European CDC

Signs of a Plateau

Daily New Confirmed Deaths due to COVID-19





Source: European CDC

Federal Reserve Takes Action

March 12

• Fed announced pumping \$1.5 trils into short-term lending markets

March 15

- Cut interest rates by 100bps to 0% 0.25%
- Lowered the primary credit rate to 0.25% and lengthened term of loans to 90 days
- Cut reserve requirements to zero
- Announced at least \$700 billion of asset purchases:
 - \$500 billion of treasuries and \$200 billion of MBS
- Announced coordinated efforts with BoC, BoJ, BoE, ECB, and SNB to lower the rate and extend the term on existing dollar swap arrangements

March 16

• Announced the launch of commercial paper funding facility

March 18

• Announced reopening of primary dealer credit facility

March 23

Created new and extensive lending facilities

The CARES Act

BTW: A normal yield curve is back in place

Source: Federal Reserve



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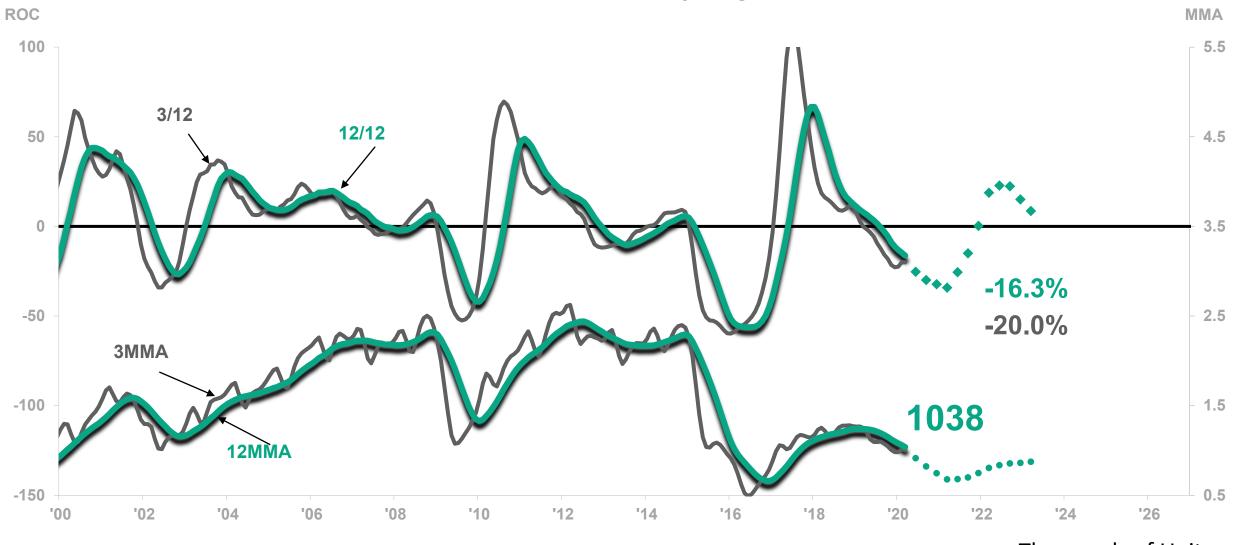
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Oil



12/12 and 12MMA Low Around Mid 2021

North American Rotary Rig Count



Thousands of Units Source: Baker Hughes

More Oil & Gas Coming Out of the Ground **Oil & Gas Extraction Production** R-O-C MMA 265 20 12/12 9.1% 10 225 7.3% 3/12 185 75.8 3MMA -10 145 **12MMA** 105 -20 12MMA high around June 2020 Descends to a mid-2021 low -30 65 '00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20 '22 '24 2012 = 100

Source: FRB



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Macroeconomi

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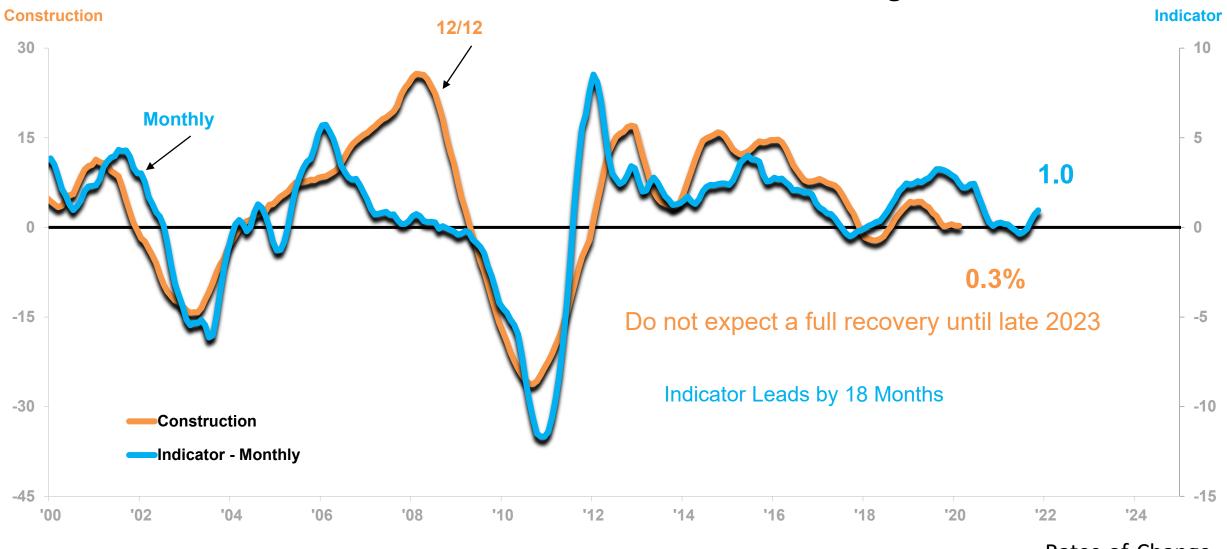
U.S. Economic Leading Indicators

Indicator	Trend	Comments	Lead Time (mos)
ITR Consumer Activity Leading Indicator	Rise	Potential April 2019 low expected to hold	14
ITR Financial Leading Indicator	Decline	August 2019 low; lost the low	14
JPMorgan Global PMI	Rise	Feb 2020 1/12 r-o-c low	12
OECD Leading Indicator	Rise	August 2019 1/12 low; but weakened in Mar	10
G7 Leading Indicator	Rise	August 2019 low; but weakened in Mar	10
Purchasing Managers Index (PMI)	Rise	September 2019 1/12 low holding thru March	9
ITR Leading Indicator	Rise	October 2019 low looks likely to hold	8
Wilshire Total Market Cap	Rise	Feb 2019 3/12 low holding through Mar	8
US Leading Indicator	Rise	Dec 2019 1/12 low likely will lose the low	8
Single-Family Housing Starts	Rise	12/12 Aug 2019 low <u>expected to hold</u>	8
Total Industry Capacity Utilization	Rise	Jan 2020 low threatened assume we lose the low	6
US Exports, Goods – World	Rise	Jun 2019 3/12 low viability is threatened	4

Sources: ITR Economics, Institute for Supply Management, OECD, Yahoo Finance, The Conference Board, US Census Bureau, FRB

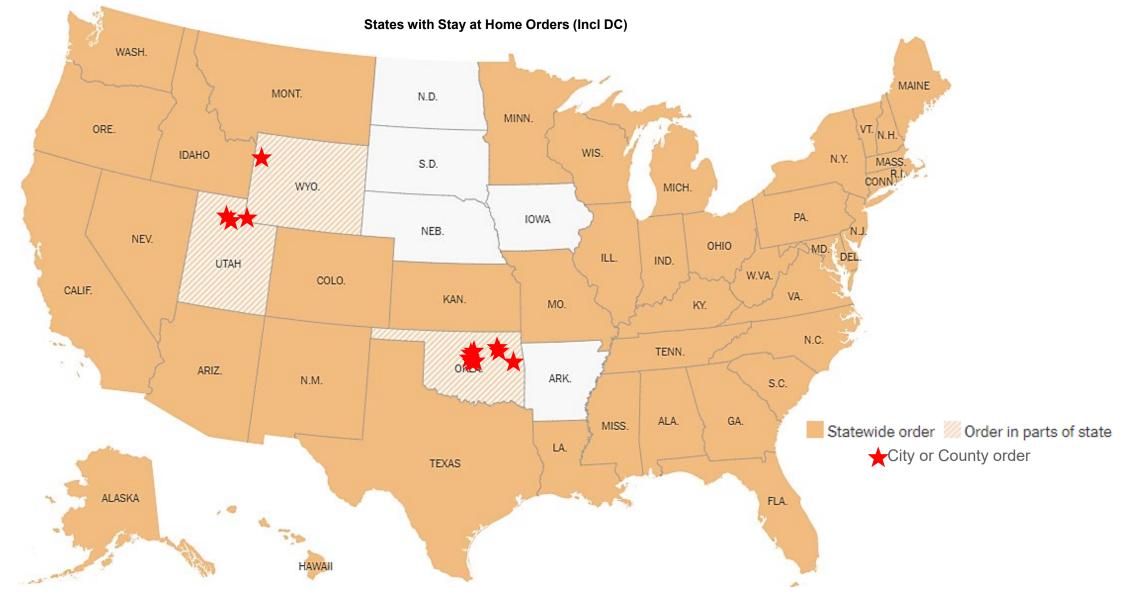
Expect the 12MMA to Decline Until Late 2021

US Private Nonresidential Construction to ITR Leading Indicator[™]



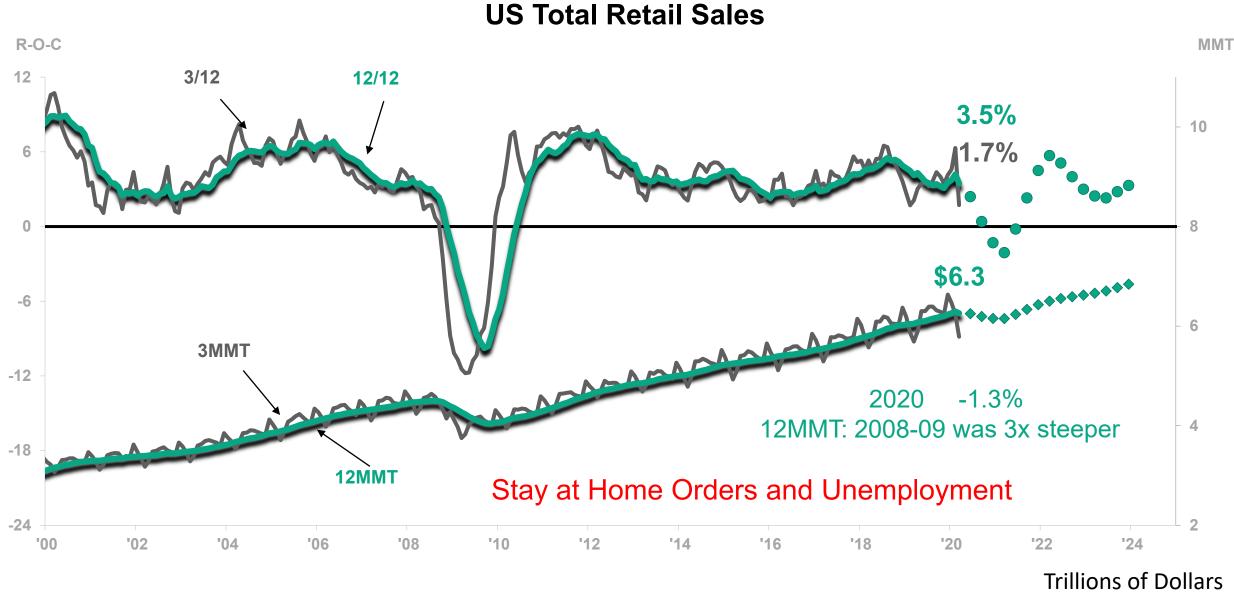
Rates-of-Change Sources: US Census Bureau, ITR Economics

Unprecedented Response in 46 States



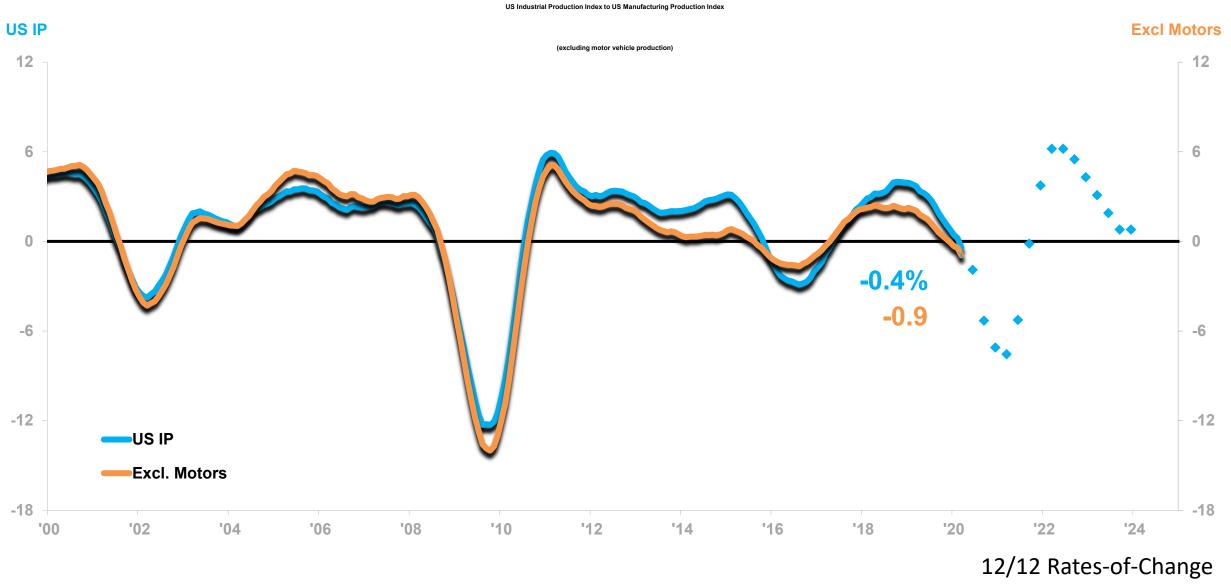
Source: New York Times

Problems Will Extend Until Late 2020/Early 2021



Source: US Census Bureau

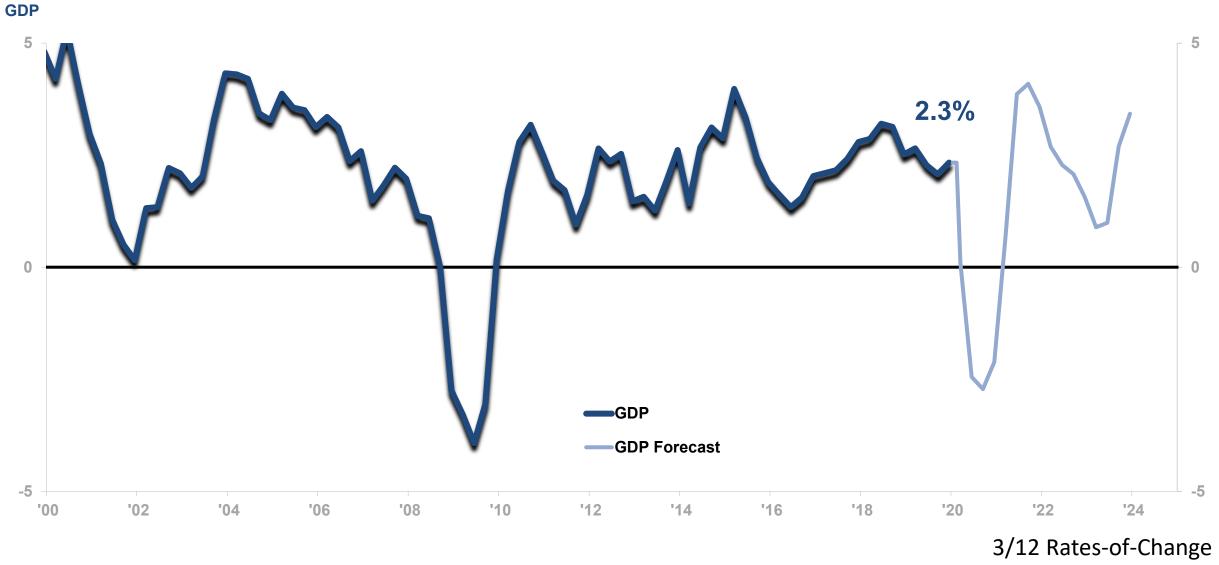
Downward Cyclical Pressure Until Late 2020/Early 2021



Source: FRB

Expect a Volatile Recovery

US Real Gross Domestic Product



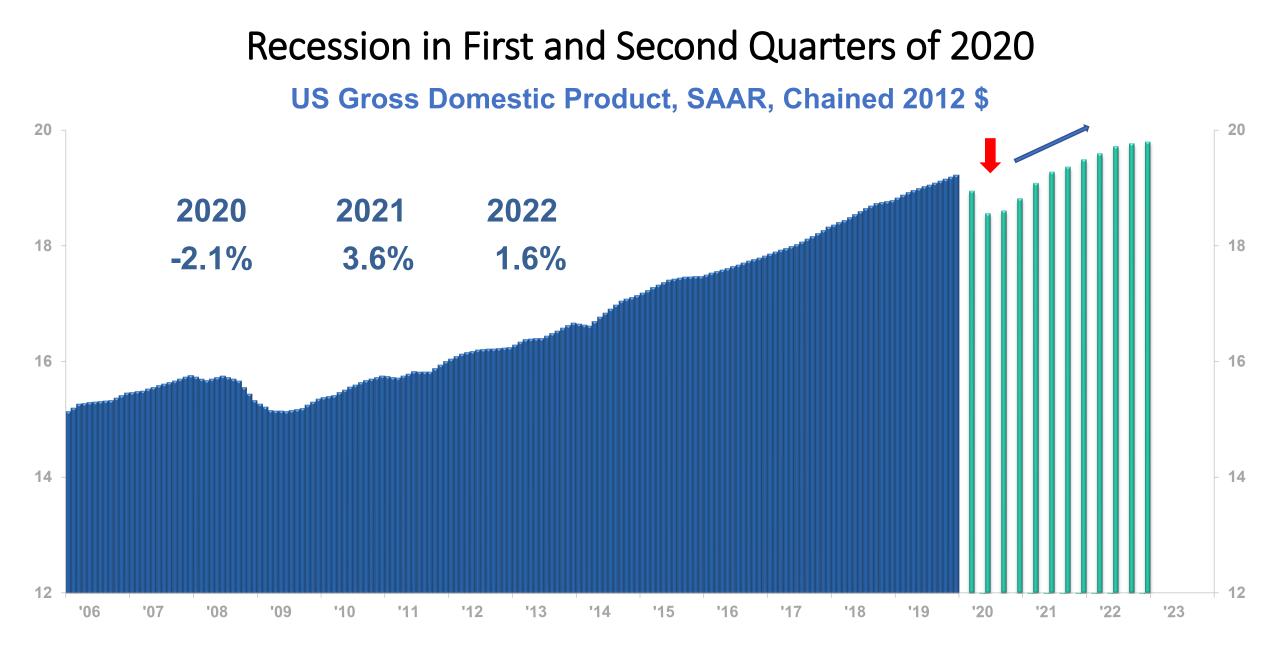
Source: US Bureau of Economic Analysis

An Important Leading Indicator to Monitor

US Real Gross Domestic Product to ITR Leading Indicator[™]



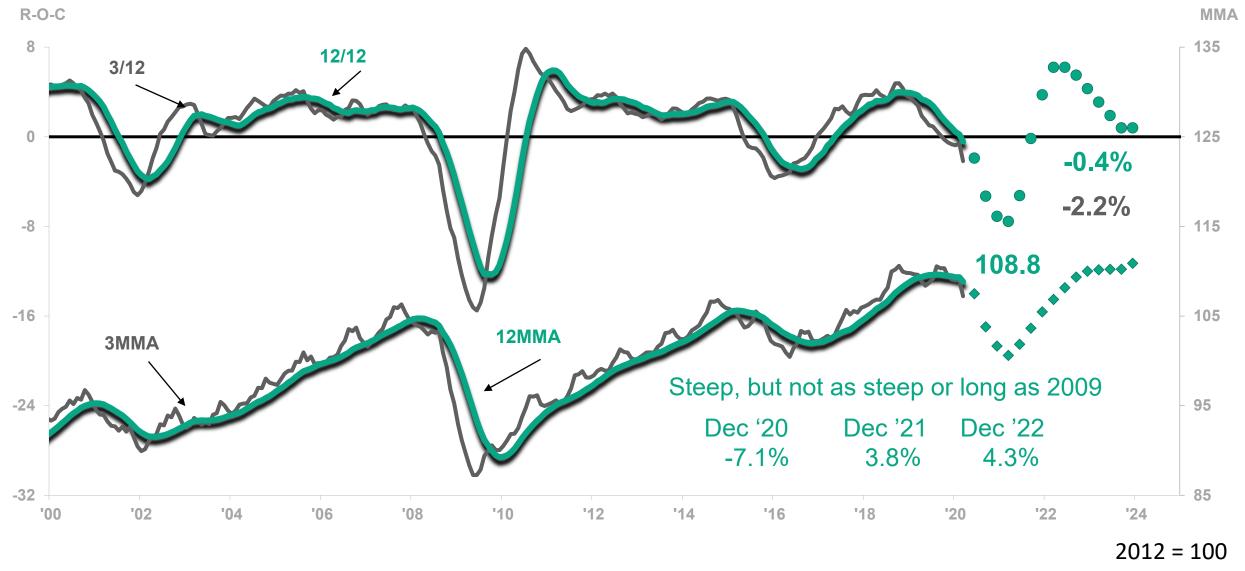
Sources: Bureau of Economic Analysis, ITR Economics



3-Month Moving Average Source: BEA

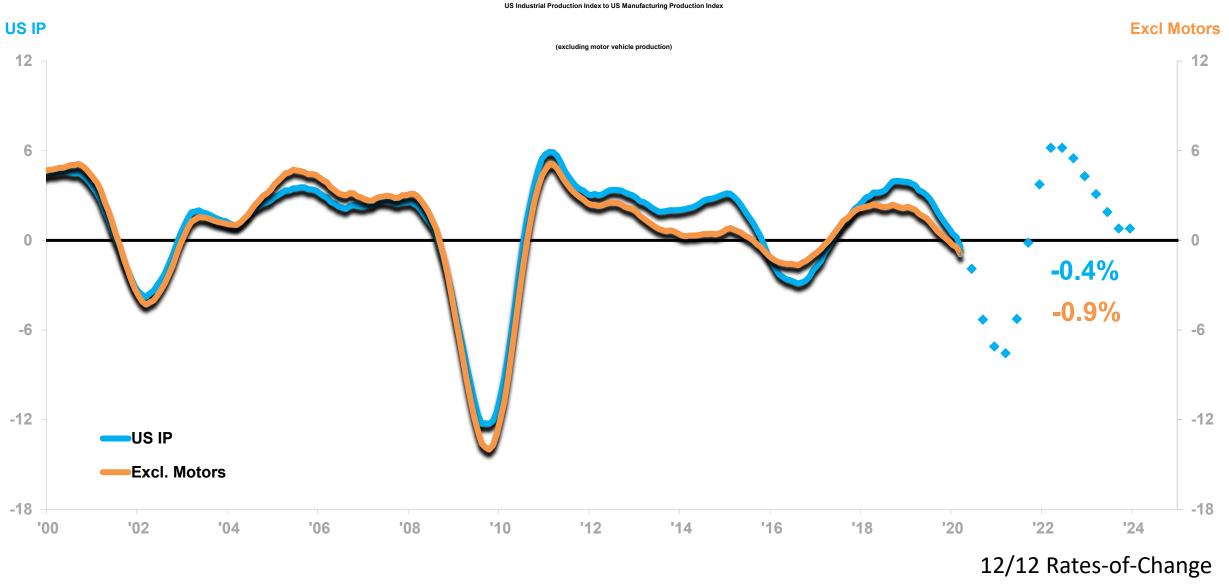
12/12 and 12MMA Lows in 1Q21

US Industrial Production Index



Source: FRB

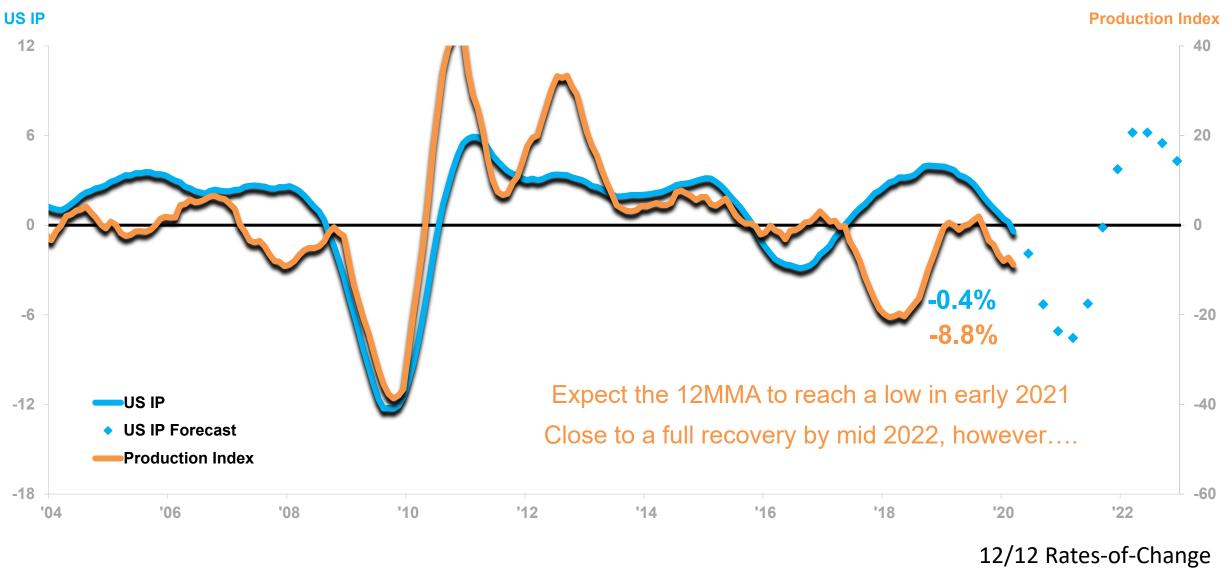
Downward Cyclical Pressure Until Late 2020/Early 2021



Source: FRB

Expect a 12/12 Low in Late 2020

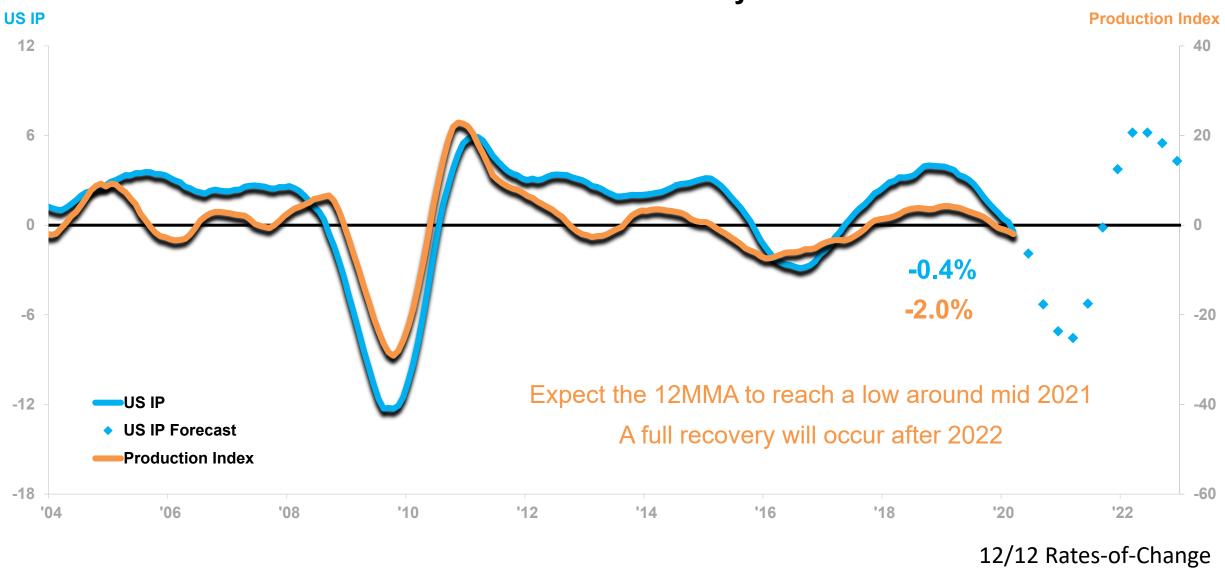
US Industrial Production Index to US Automobile Production Index



Sources FRB

Expect an Early 2021 12/12 Low

US Industrial Production Index to US Primary Metals Production Index



Source: FRB

Projecting 1Q21 12/12 and 12MMT Lows

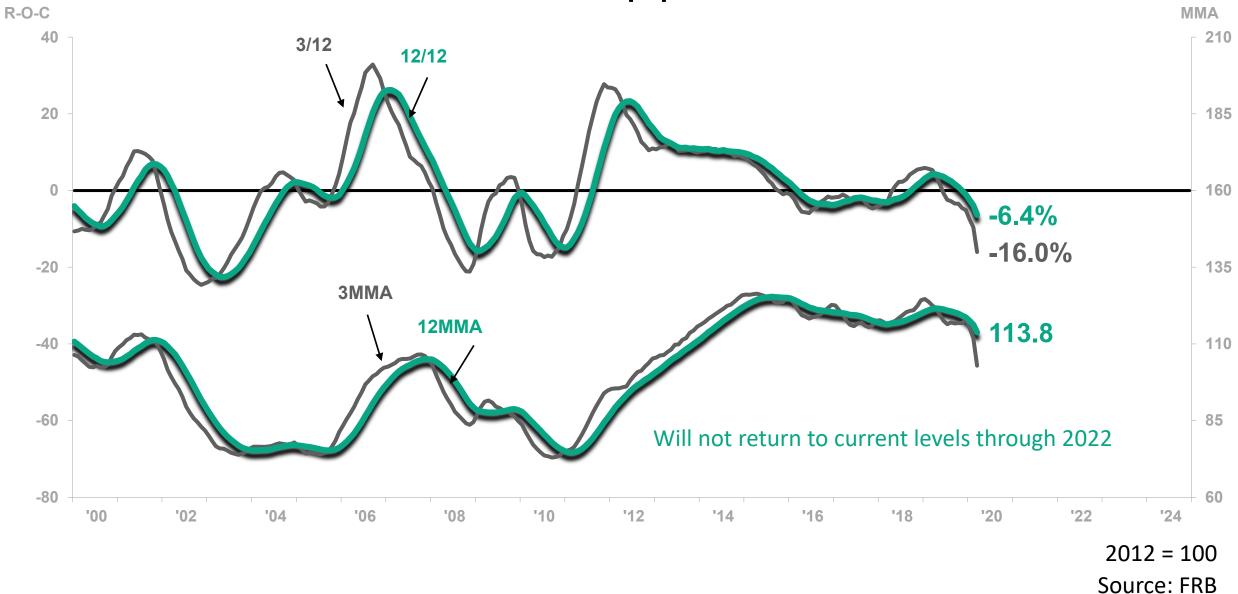
US Nondefense Capital Goods New Orders (excluding aircraft)

R-O-C MMT 16 1050 12/12 3/12 1.6% 0.5% 0 950 \$828.7 -16 850 A.M 3MMT -32 750 **12MMT Dec** '20 **Dec** '21 Dec '22 -48 650 -7.5% 3.2% 5.9% 550 -64 '02 '06 '08 '10 '12 '14 '16 '18 '20 '22 '24 '04 '00

> Billions of Dollars Source: US Census Bureau

Expect 12MMA decline Well Into 2H21

US Civilian Aircraft Equipment Production





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5.3

2.519

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Financial



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Bear Markets Occur Even When Retail Sales Are Rising

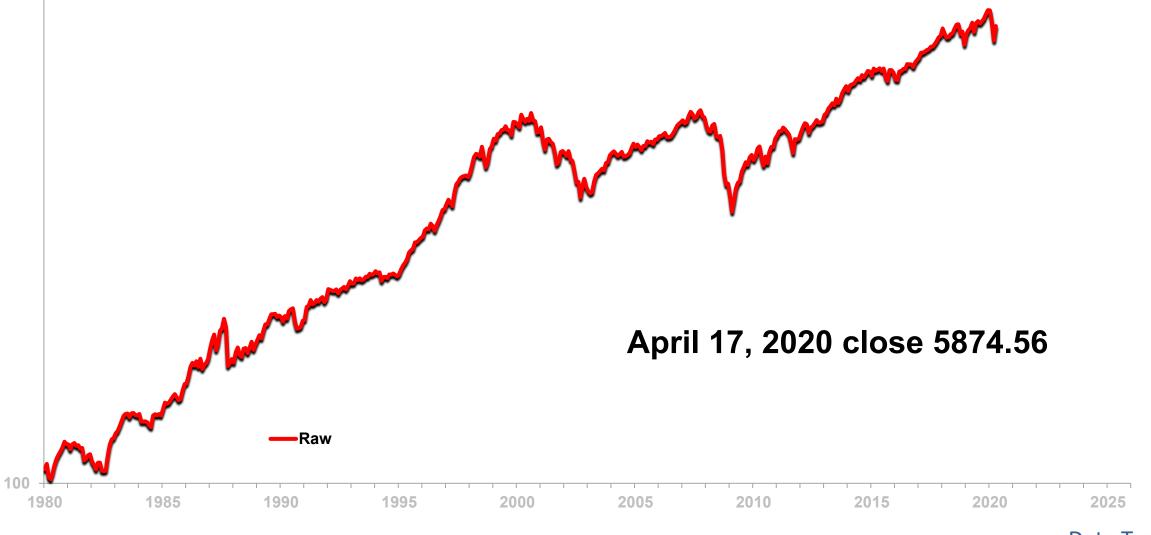
US Stock Prices Index to US Total Retail Sales



Data Trend Source: Wall Street Journal, US Census Bureau

Searching for the Bottom

S&P500 Stock Prices Index



Data Trends Source: Wall Street Journal



US Stock Prices Index

Daily Close Source: S&P Dow Jones Indices

In the Aftermath of the 7 Pertinent Precedents:



2. Market rebounds 56.5% to 85.5%

3. Length of rebound not a determining factor in magnitude of the rise

4. Median gain all cases is 60.8%



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Global Partners



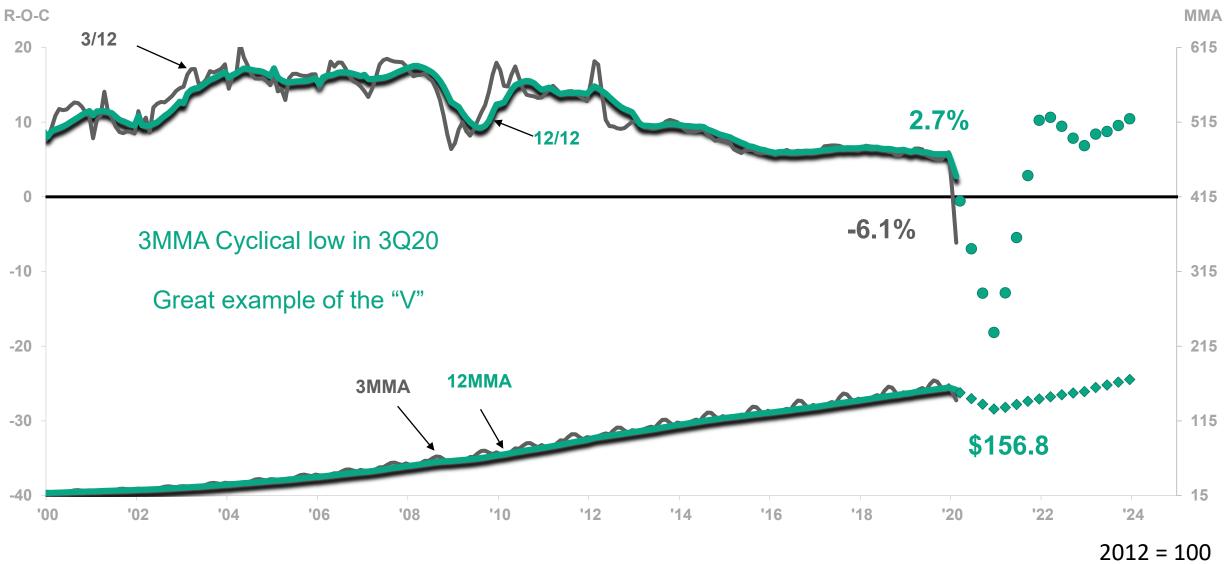
First In Forecasts Worldwide

China: Supply Chain Concerns

- Average resumption of production 85% to 95%
- Wuhan and Hubei province are open no travel restrictions
- Supply chain issues have been reversed China needs raw materials from EU, US.
- Demand issues are a bigger issue in China
- China is experiencing pent up consumer demand
- There is considerable concern in general because the Chinese economy is already debt heavy. We think that is more of a longer-term threat associated with the 2030 forecast.
- China's PMI has rebounded sharply
- Was all this caused by China as a power play or stock market grab?

12MMA Low Around Year-End 2020

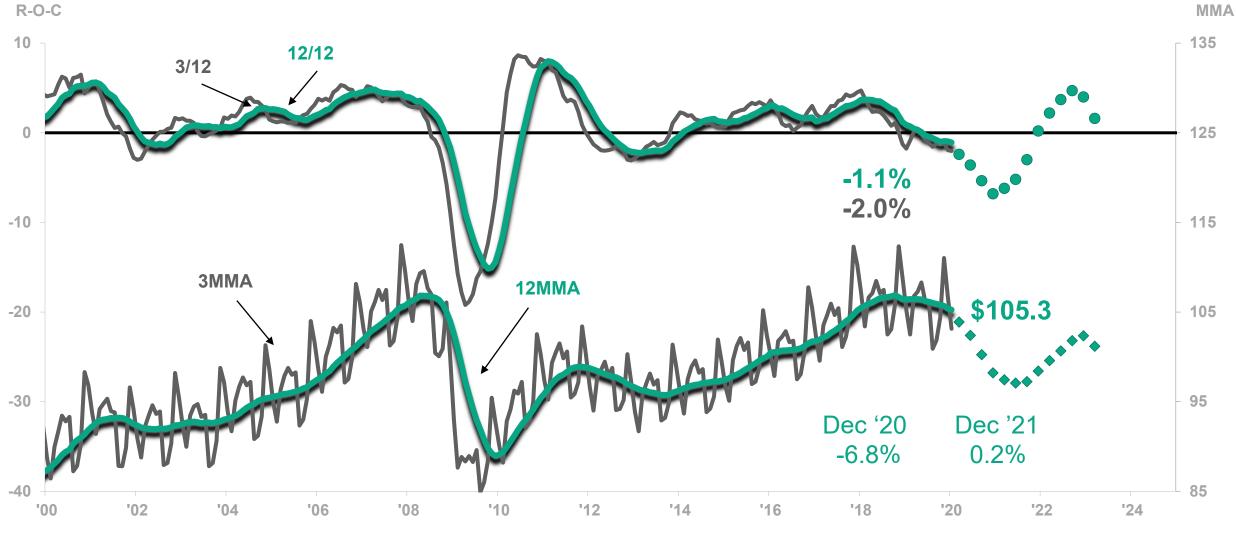
China Industrial Production Index



Source: CEIC

Cyclical Decline Until Aprox Mid 2021

European Union Industrial Production Index



2015 = 100

Source: Eurostat



Alan's Coming Back! September 29, 2020





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