



FEBRUARY 28, 2022

The Great Transition: A Look at the Risks and Opportunities Ahead

Bernard Baumohl
Chief Global Economist
The Economic Outlook Group, LLC
475 Wall Street, Princeton, NJ 08540
(609) 529-1300



The Economic Outlook Group LLC

www.EconomicOutlookGroup.com

ASSUMPTION 1: Putin seeks to demilitarize Ukraine and install a puppet gov't. *But is his own future now in doubt?*

- Russia's economy can not withstand a protracted war. While it has accumulated a record \$650 billion in FX reserves & gold, harsh sanctions by the West can DEplete those funds or BLOCK their use.
- Russia's GDP today is smaller than Italy's! Inflation now at 9%. Its central bank kicked up interest rates to 9.5%! Covid death rates are the highest in Europe.
- Vladimir Putin will feel increasing heat from Russia's oligarchs. They invested heavily in the West. New sanctions will block travel and access to their properties and assets in the West. (Criminal charges and forfeitures possible too.)
- The Great Backfire! Putin's militancy has unified NATO's 30 countries. More defense spending seen by the West. Finland, which has an 830 mile border with Russia, shows greater interest now in joining the alliance.



Consequences for US and Europe: Odds of recession increases in 2022.

- Stagflation (sharp slowdown in growth with high inflation).
- Oil prices settle close to, or exceed, triple digits; Cost of critical commodities climb sharply.
- Consumer & business spending turns cautious.
- Disrupts supply chain flows in and around Europe.
- NATO ramps up government spending on defense.

**% of population
NOT VACCINATED!**
(as of February 13, 2022)

Haiti	99%
Madagascar	97%
Tanzania	97%
Nigeria	93%
Sudan	92%
Ethiopia	92%
Kenya	88%
Syria	88%
Algeria	84%
Ghana	78%
S. Africa	66%
Egypt	62%
Russia	47%

World	40%
-------	-----

Source: Ourworldindata.org
(University of Oxford)

ASSUMPTION 2: Pandemic ---> endemic:

• GOOD NEWS - Impact of Covid-19 is less and less with each wave.

Most Americans are inoculated and crave a return to normal life.

--- 86% of “consumer population” have already received **1 dose**.

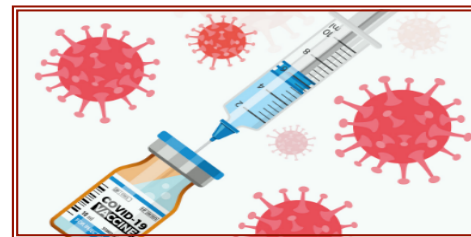
Projection: By end of Q1, 88% seen vaccinated with 1 dose.

--- 73% of “consumer population” are now **fully vaccinated**.

Projection: By end of Q1, 75% expected to be fully vaccinated.

--- Booster - 44% of “consumer population” received **booster shots**.

Projection: By end of Q1, 46% will have gotten boosters.



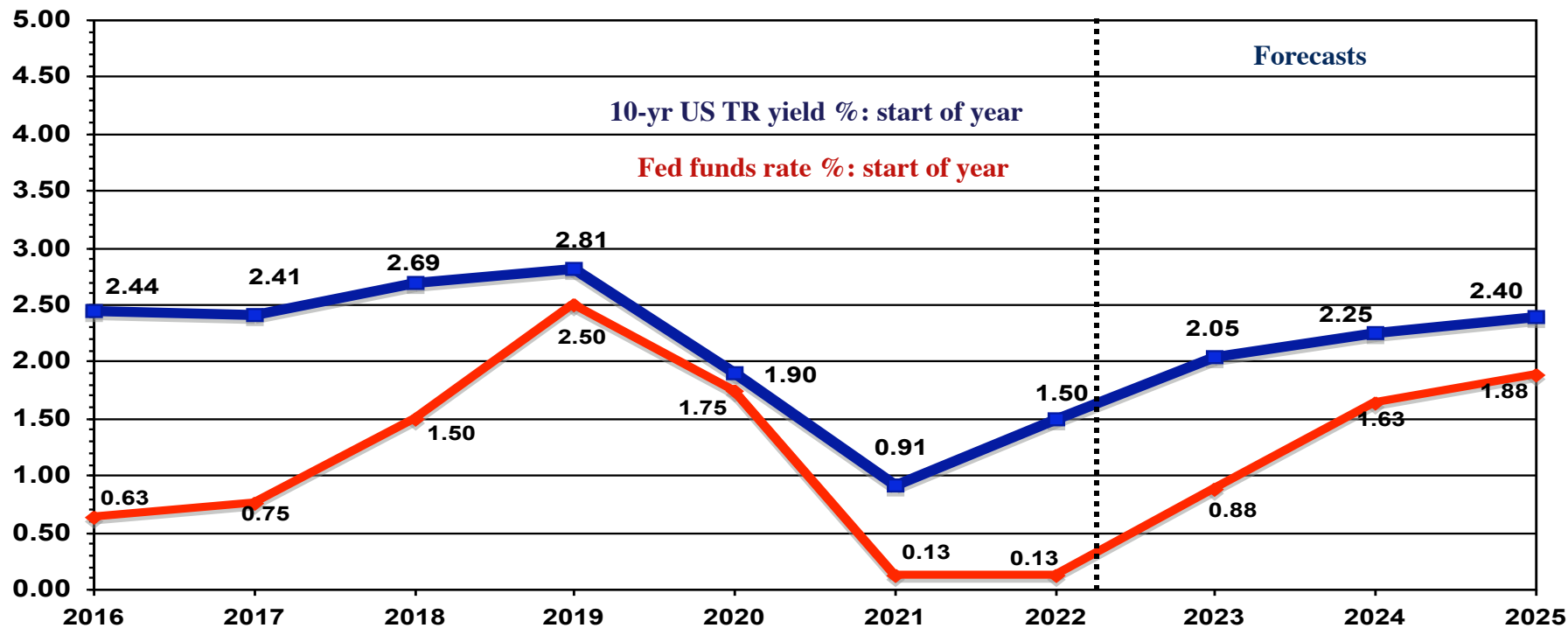
• HARSH REALITY - NO silver bullet (yet) to eradicate this pathogen.

--- Too many countries have failed to adequately vaccinate their population.

--- Result: New variants are highly likely in 2022 and 2023.

--- Must remain vigilant to the emergence of a more lethal Covid strain.

ASSUMPTION 3: Federal Reserve to proceed cautiously; lift rates 25 bps in March + two 25 bps in 2H 2022.
10-yr. Treasury yield drops in 1H (rush to safe haven), then slope higher 2H of this year and 2023.



**Consumers: Americans are eager to travel, eat out and shop this year.
But rising inflation and higher interest rates will dull the recovery in consumer spending.**

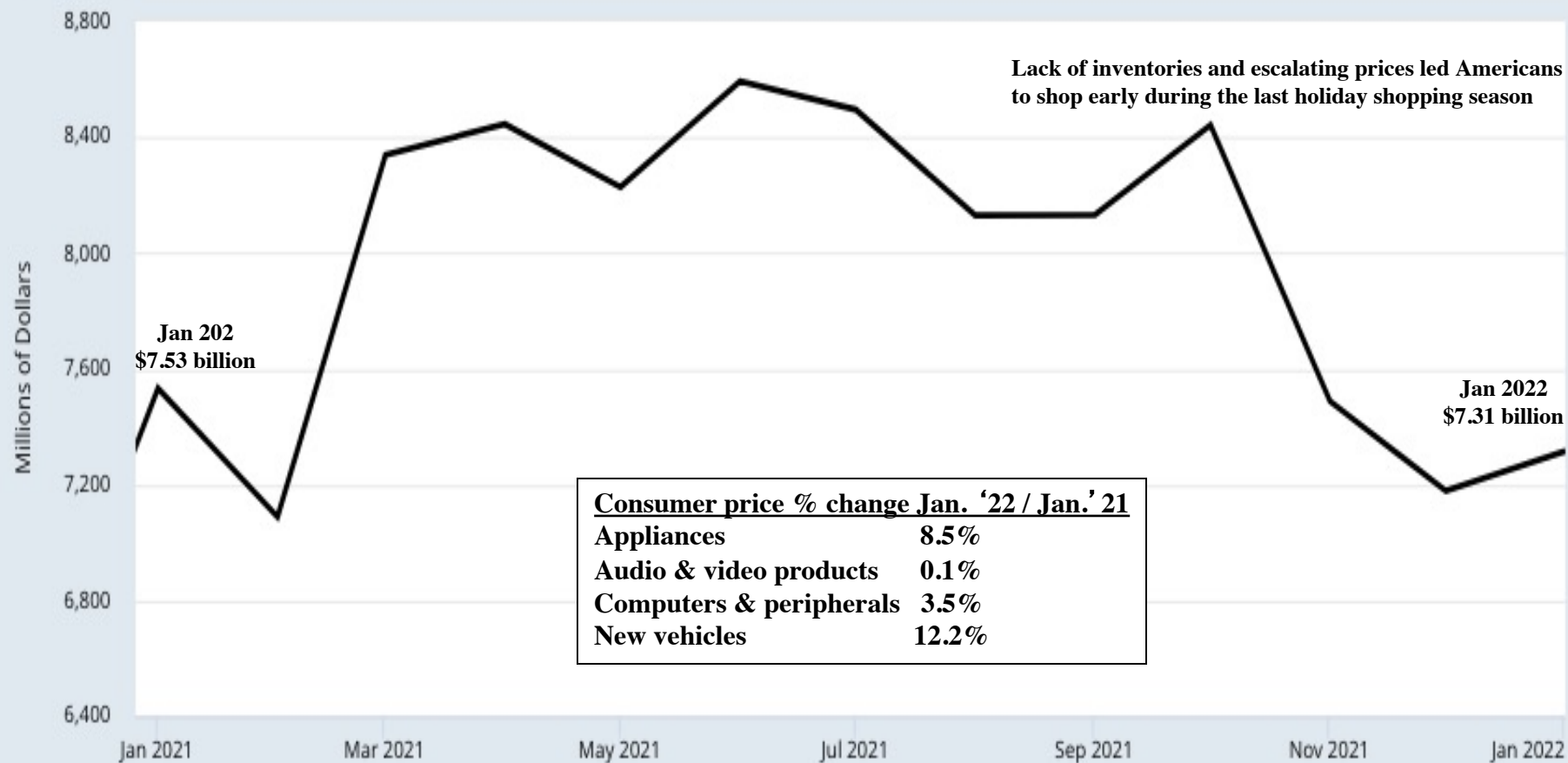
Entering 2022:

- Consumer sentiment (Jan.) **lowest in a decade**: “Twindemic”(Omicron & flu), inflation, rising interest rates, geopolitical tensions.
 - Inflation (CPI - Jan.,YOY) leaped to **7.5%, highest in 40 years!**
 - **Wages not keeping pace with inflation.** Average “real” weekly pay over the past 12 months **fell 3.1%**
 - **As purchasing power erodes, consumers dig into savings.** Savings rate **drops below 8% in Dec. ‘21** vs. 10.5% five months earlier!
-

Spending outlook for the year *gradually* improves:

- **Omicron threat to recede this spring** as more Americans are vaccinated.
- Competition to hire workers will support wage growth. *But the pace of hiring may slow due to the conflict in Europe.*
 - US job **openings** (**10.9 million**) far exceeds those **unemployed** (**6.5 million**).
- **Inflation to peak in 1Q 2022.** Reasons: (1) Economic growth will moderate. (2) Supply chains knots should loosen. (3) More people re-enter the workforce. (4) Companies find it more difficult to pass on higher costs. (Fear of losing market share.)
- Expect the Federal Reserve to raise rates 25bp in March ---- then pause to reassess state of economy and inflation!

Retail sales of electronics & appliances were **down 2.9%** in January 2022 from year-ago level.



US manufacturing output of semiconductors & other electronic components (NAICS code: 3344)

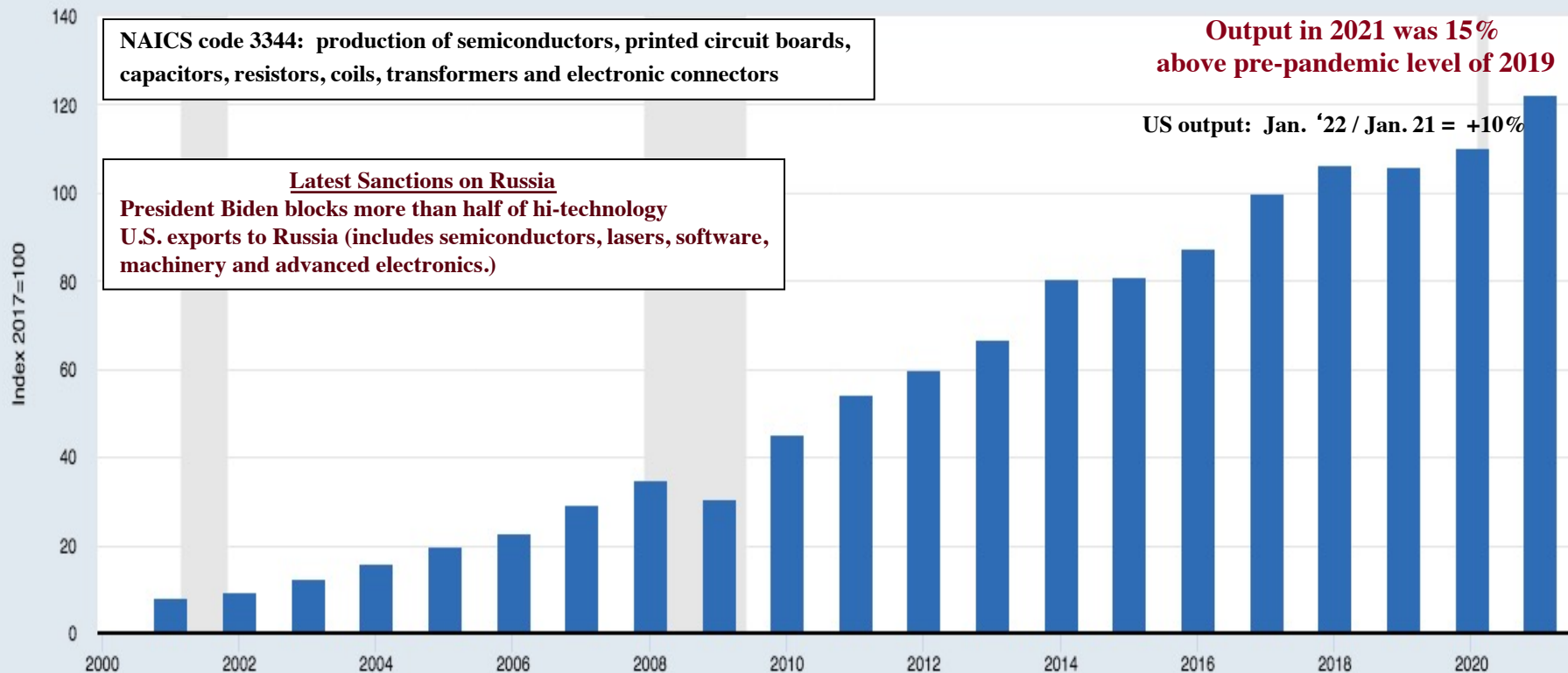
NAICS code 3344: production of semiconductors, printed circuit boards, capacitors, resistors, coils, transformers and electronic connectors

Latest Sanctions on Russia

President Biden blocks more than half of hi-technology U.S. exports to Russia (includes semiconductors, lasers, software, machinery and advanced electronics.)

Output in 2021 was 15% above pre-pandemic level of 2019

US output: Jan. '22 / Jan. 21 = +10%

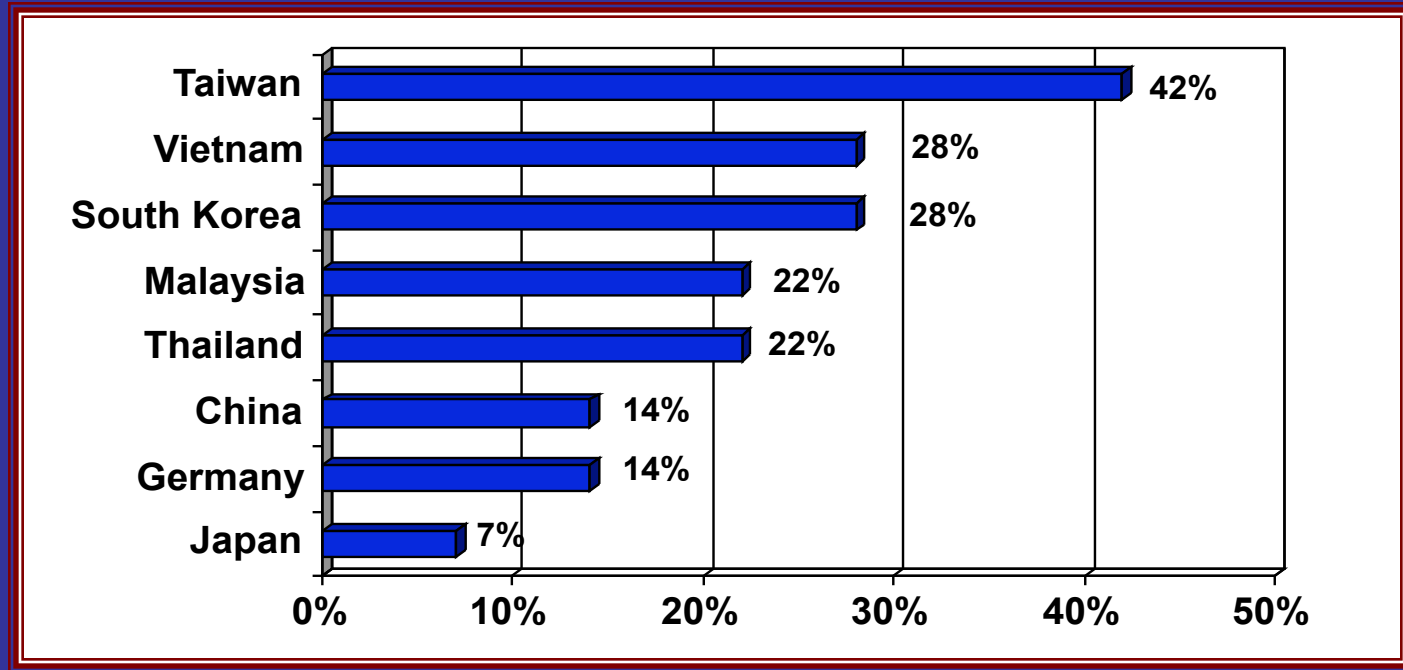


Shaded areas indicate U.S. recessions.

Source: Board of Governors of the Federal Reserve System (US)

fred.stlouisfed.org

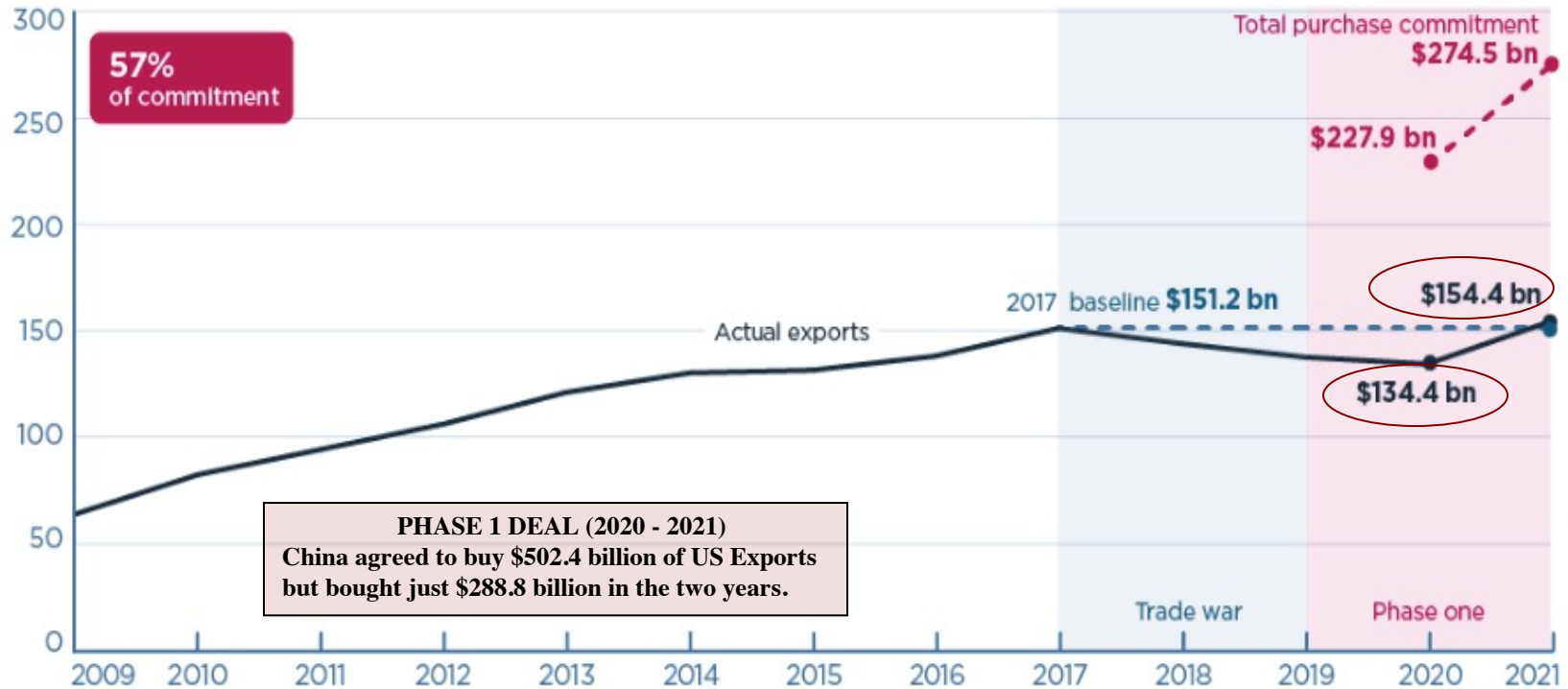
US Imports of Electronics from Key Countries (% Change 2021 vs. 2020)



CATEGORIES: Electronics, information and communication technologies:
(Products include integrated circuits, multi-layered circuit boards, surface mounted components (e.g., capacitors and resistors)
CPUs, computers and peripheral units, facsimile machines, telephonic switching equipment, radar apparatus, communication satellites)

China utterly failed to meet its commitments under the Phase 1 trade deal.

It did not purchase a *single dime* of the \$200 billion in additional US exports Beijing agreed to buy over 2020 & 2021.



Autos, trucks, and parts



Aircraft, engines, and parts



Semiconductors



Semiconductor equipment



Covid-19 products

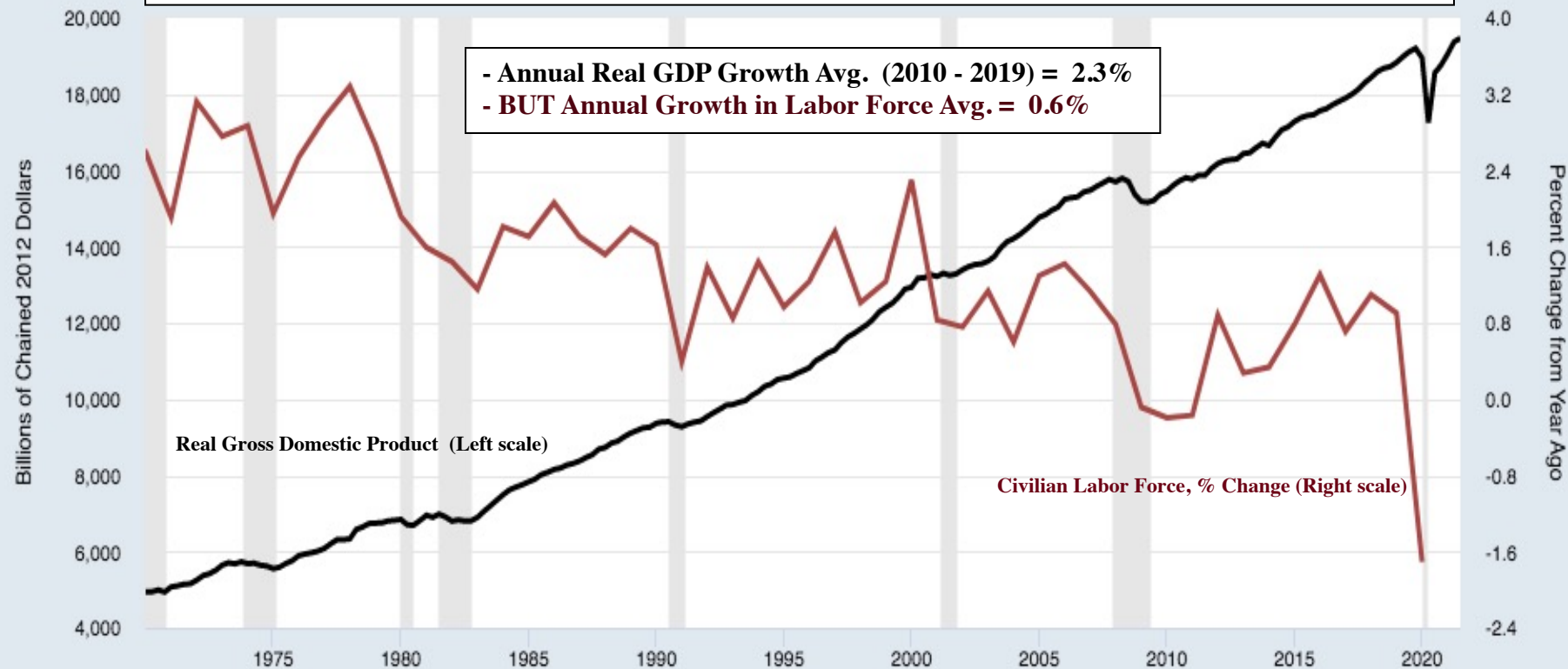


Other manufacturing



US labor crunch has been in the works long before Covid-19!

Reasons: Falling low birth rates, retirements and restrictions on immigration into the US



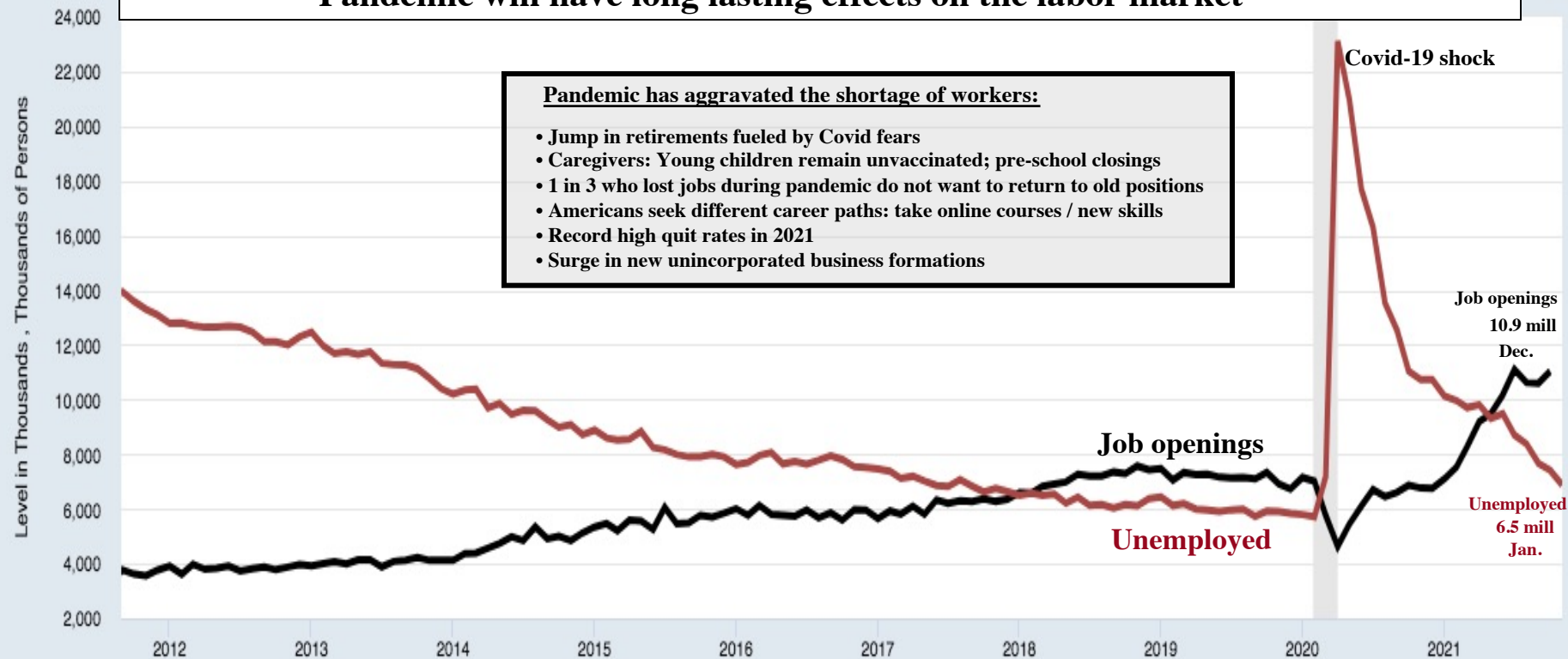
Shaded areas indicate U.S. recessions.

Sources: BEA; BLS

fred.stlouisfed.org

Help! *"Can't find qualified workers!"*

Pandemic will have long lasting effects on the labor market



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

Labor Demand vs. Supply: Wages & salaries surge as firms compete for new hires AND retain existing employees



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

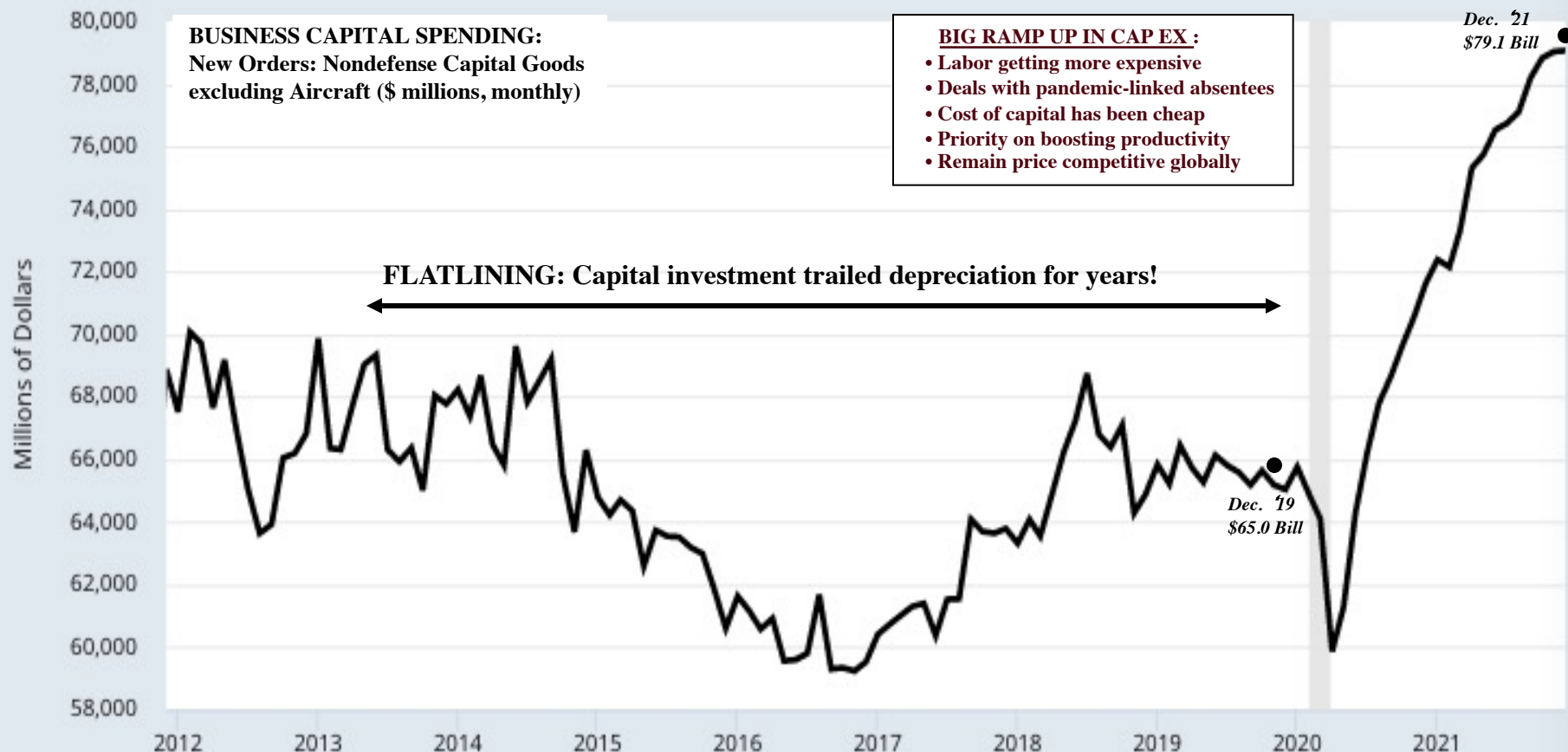
CATCH-UP: After years of neglect, US firms ramp up investments in equipment & technology

BUSINESS CAPITAL SPENDING:
New Orders: Nondefense Capital Goods
excluding Aircraft (\$ millions, monthly)

BIG RAMP UP IN CAP EX :

- Labor getting more expensive
- Deals with pandemic-linked absentees
- Cost of capital has been cheap
- Priority on boosting productivity
- Remain price competitive globally

FLATLINING: Capital investment trailed depreciation for years!



Global pandemic & geopolitics leads to a realignment in supply chains

Fragilities in the global supply chain system now fully exposed.

- Business leaders are tiring of endless trade conflicts, geopolitical clashes and costly ocean cargo shipping.
- Shifting production & supply chains from China to other Asian countries may also be problematic; Many lack the skills and needed infrastructure (roads, rails and ports).
- “Just-in-time inventory management” that relies on Asia is now a flawed strategy.



Top-to-bottom review of supply chains underway.

- Companies demand greater **simplicity, dependability, better control** of their supply chain networks
- Technology & gov't incentives are changing the economic calculus of onshoring and near-shoring
 - More investments in AI, robotics, 3D printing, cloud computing, IoT, Vr/Ar, drones
 - White House & Congress underwrite efforts to domicile essential industries for economic & national security reasons
 - full range of semiconductor chips, battery technology, rare earth minerals, medical supplies
 - COMPETES Act (House bill) -- versus -- US Innovation & Competition Act (Senate bill)
 - \$52 billion in subsidies helps, but is not nearly enough
 - Better balance needed between legacy and high-end chips
 - FABS operating costs must come down to be price competitive (taxes, regulatory compliance, labor costs)

Changes in work environment:

- > **Permanence to remote work: Many US firms found it seamless and successful;**
 - Reason: Technology! Also reduces health risks, reduces office space & rent.
 - Imagine if Covid-19 struck in 1980. No WiFi, laptops or cell phones at the time.
 - > Expect about **30%** of employees to **work remotely in a permanent basis.**¹
 - > **Apartment buildings** set aside a **floor with shared work spaces, private offices and conference rooms.**
 - Creates mental separation and avoids home distractions (and serves as a source of new revenue to the building)
-

Shifts in human behavior: We are headed toward a digital currency.

- > Consumers **dislike transacting with cash paper** and coins.
 - > We are headed toward a digital currency and electronic payment systems. The Federal Reserve is testing a **“Fedcoin.”**
 - It will fundamentally change the financial plumbing of the global economy.
 - > The pandemic has greatly **accelerated eCommerce’s penetration in total retail sales.**
-

The Energy Revolution: Transition away from fossil fuels will take decades!

- > **While a record amount of capital flowing into renewables,** dependence on fossil fuel will last for years and complicate efforts to reduce greenhouse gasses (GHG).
 - **CO₂ level now the highest in 4 million years!** ²
 - Rising sea levels: Greenland’s massive body of ice now losing **1 million tons of ice per minute!** ³
- > Experts foresee an increase in severe floods, droughts, wild fires, hurricanes and medical ailments.

CRE sectors of weakness in 2022:

- **Lodging**
- **Retail**
- **Office buildings**

Sectors of strength:

- **Manufacturing**
- **Data centers**
- **Warehouses**
- **Health care centers**

Forecast - Capital Outlays: (% annual change)	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Nonresidential construction spending	-3.1%	-3.0%	+6.7%	+9.2%
Office	-6.2%	-5.9%	+2.8%	+5.5%
Commercial (retail and warehouses)	+4.1%	+10.6%	+4.5%	+4.0%
Lodging	-32.0%	-6.5%	+1.2%	+3.2%
Manufacturing	+8.5%	+3.8%	+5.6%	+3.9%
Sewer & Water Supply	-3.1%	+7.5%	+8.3%	+6.9%

Commercial Real Estate Investments

Top 20 states by \$ volume of nonresidential construction starts in 2021 vs. 2020

	Jan-Dec 2021	% Change vs Jan-Dec 2020
1 Texas	\$46,906,464,503	-9.9%
2 California	\$39,564,032,616	-1.1%
3 Florida	\$24,015,809,974	-0.5%
4 New York	\$21,474,699,600	9.4%
5 Arizona	\$16,184,859,031	98.4%
6 North Carolina	\$14,368,870,348	33.8%
7 Ohio	\$14,146,647,353	-5.0%
8 Pennsylvania	\$13,233,782,933	14.4%
9 Illinois	\$12,621,626,810	-18.0%
10 Massachusetts	\$11,939,559,111	23.3%
11 Georgia	\$10,922,906,086	-14.2%
12 Virginia	\$9,614,946,223	-10.1%
13 Minnesota	\$9,592,629,924	8.2%
14 Tennessee	\$9,169,030,095	10.7%
15 Louisiana	\$8,803,042,880	86.9%
16 Michigan	\$8,586,169,130	12.3%
17 Missouri	\$8,261,490,776	-13.1%
18 Indiana	\$8,129,056,778	-2.5%
19 Washington	\$7,626,931,359	-41.4%
20 Colorado	\$7,137,589,856	1.6%

Figures are comprised of non-res building & engineering (residential is omitted).

Mall owners are revamping their business models



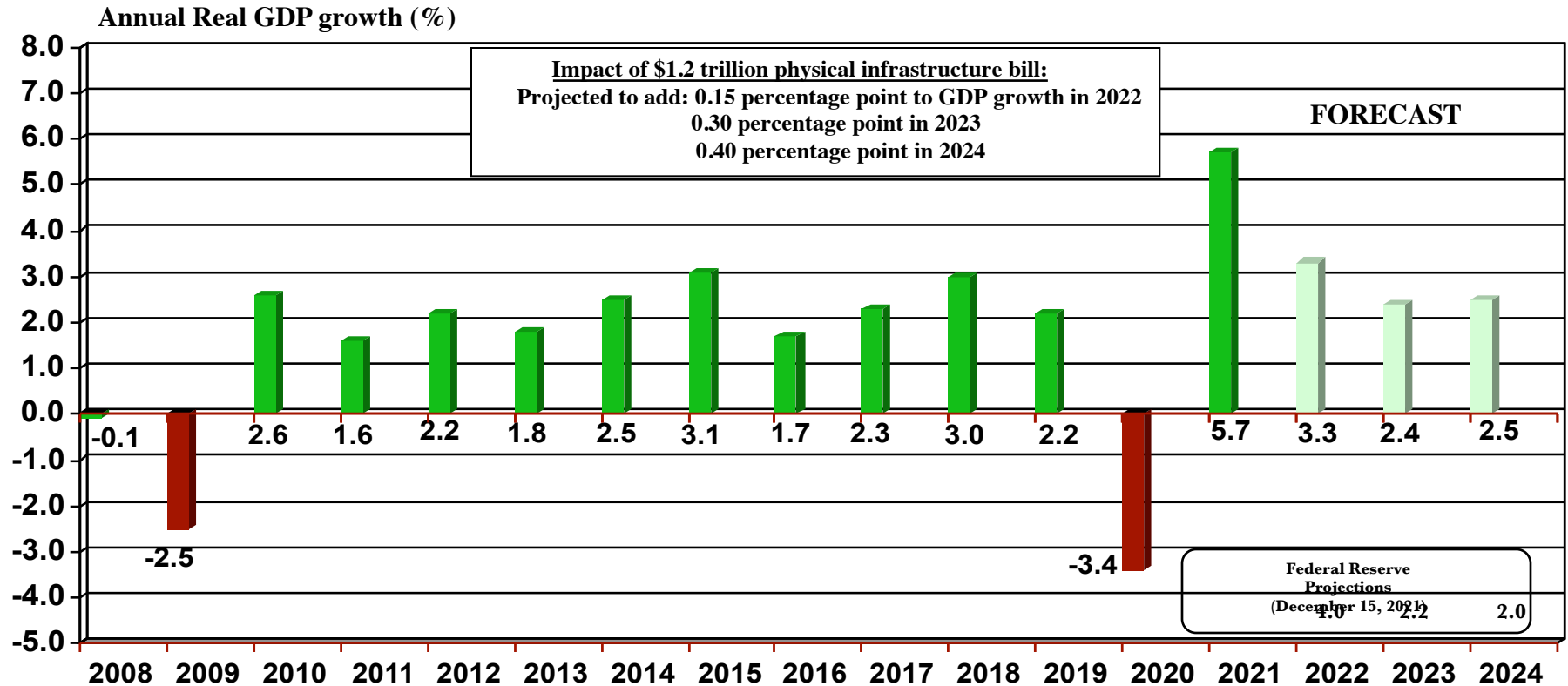
Being resilient in the retail real estate sector

1. Buy out tenants:

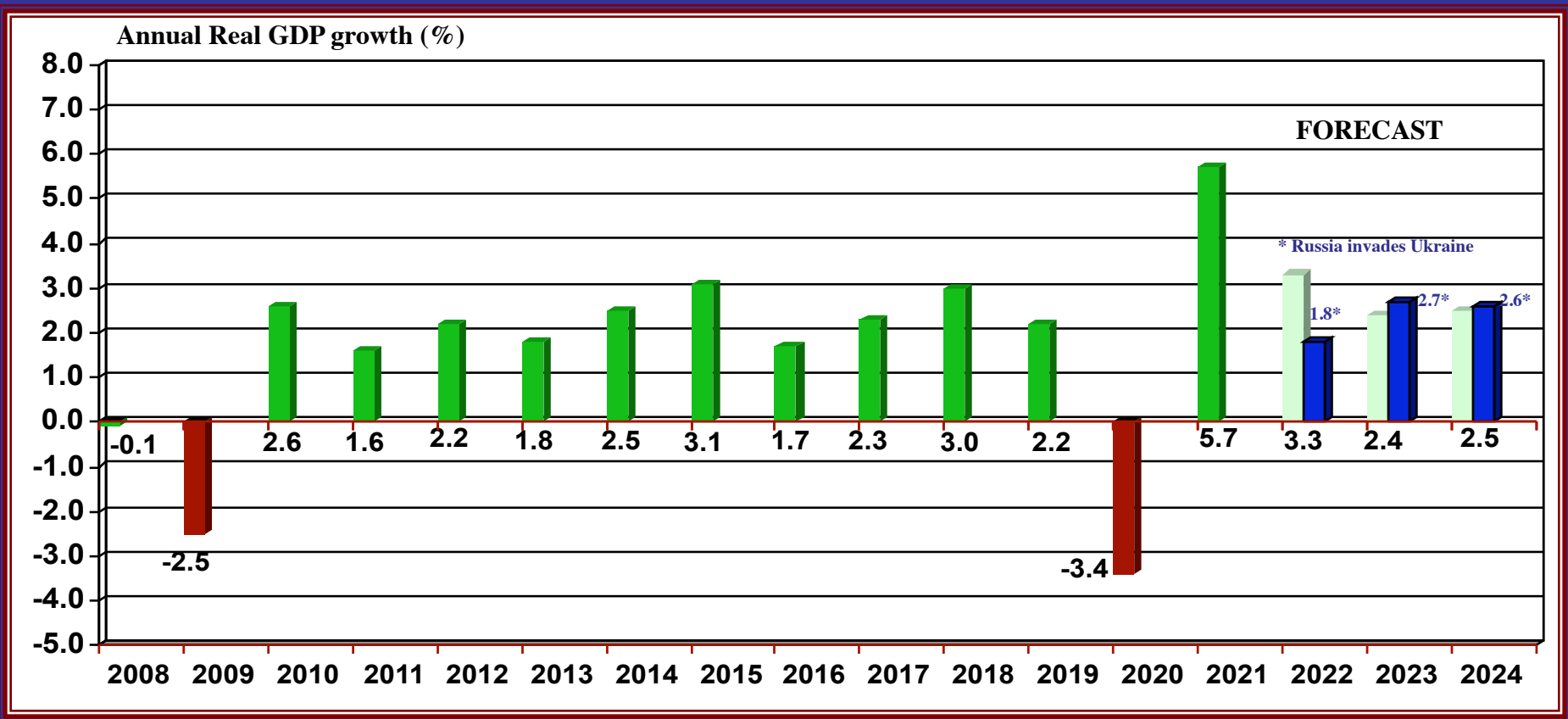
Simon Property Group, Brookfield Asset Management, Authentic Brands now own some bankrupt tenants.

- 2. Who else is moving into malls?** Service-oriented businesses. Amazon distribution centers, walk-in med clinics, fitness centers, food/restaurants, entertainment venues, even residential units.

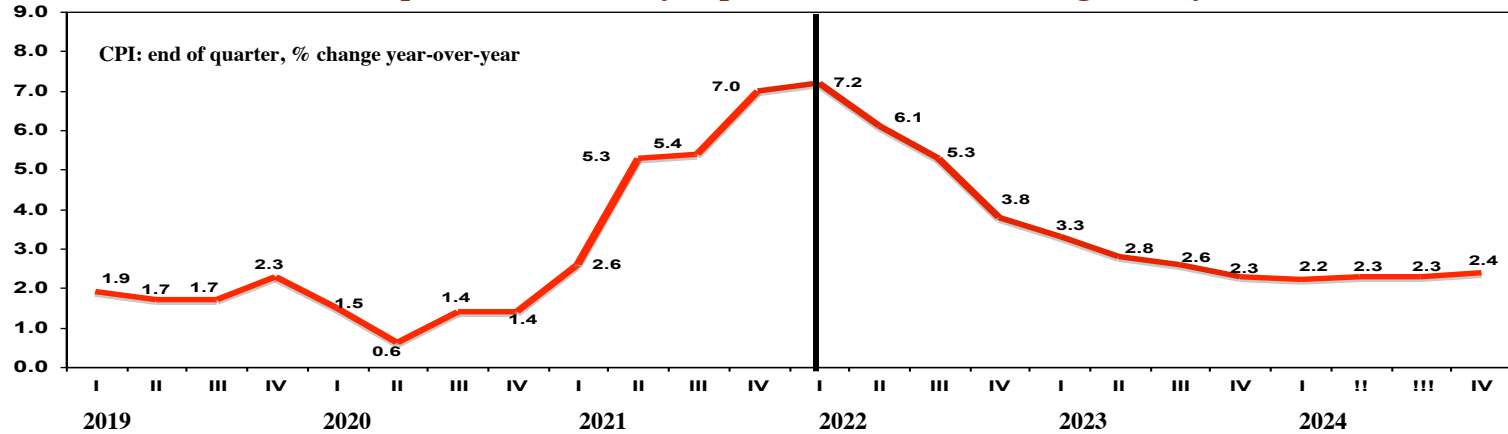
Forecast: Real GDP growth: 2022 - 2024



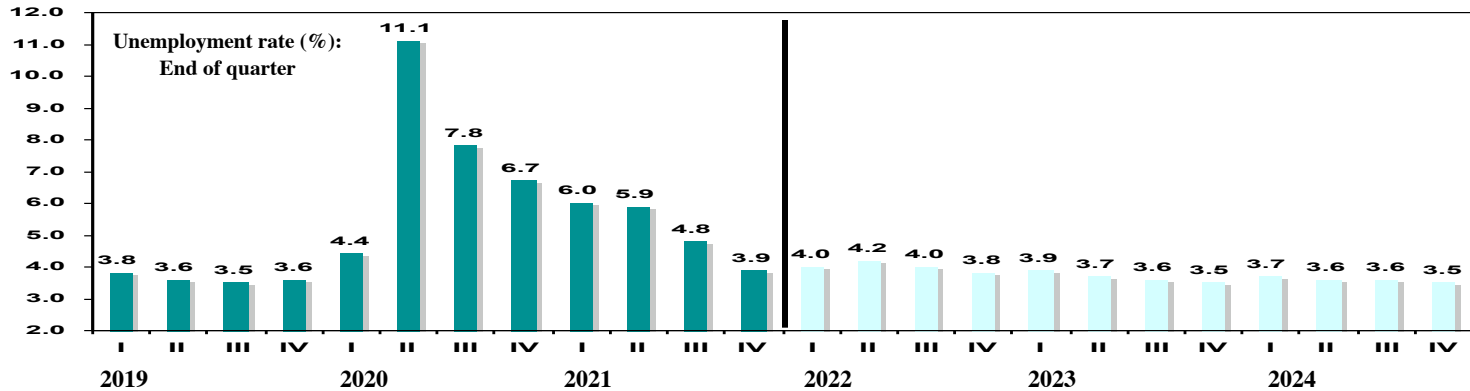
**A full-scale Russian - Ukrainian War:
Such a conflict would lead to stagflation in US. Odds of recession in 2022: 45%**



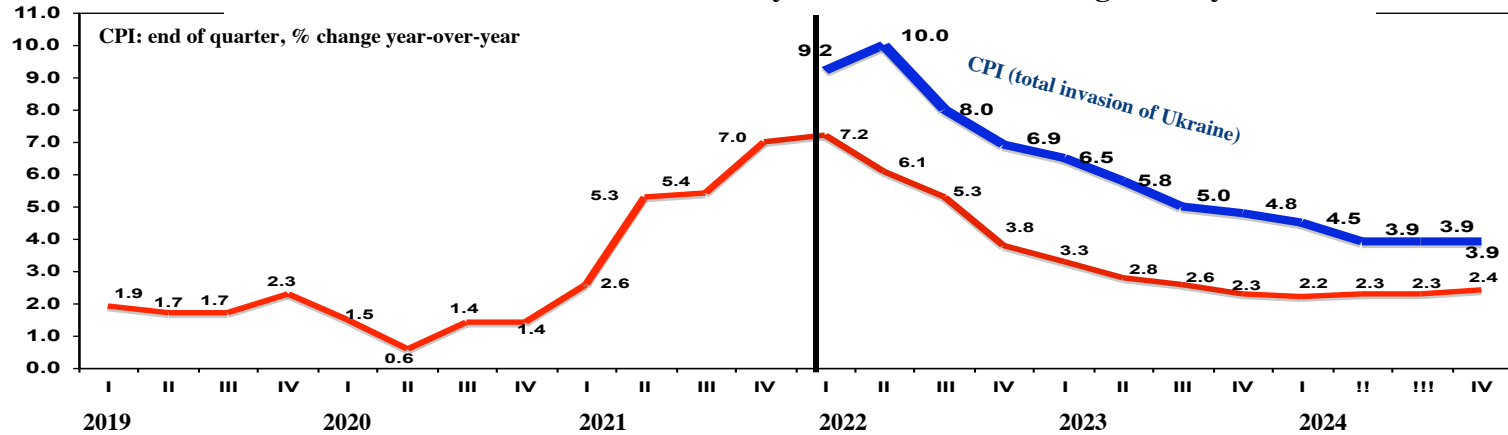
Consumer price inflation likely to peak in 1Q 2022 and then gradually decline



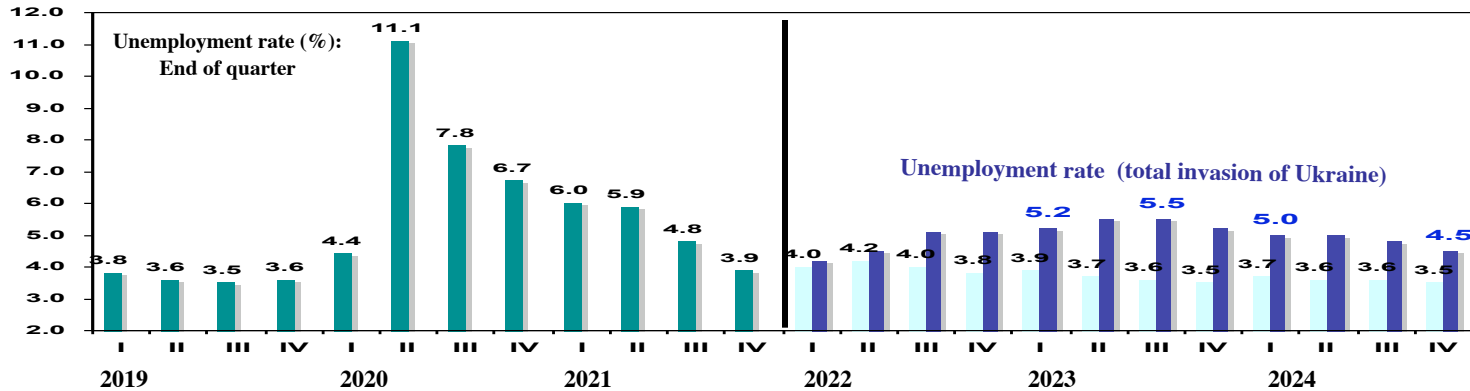
Unemployment rate to fall further in 2022 - 2024 as pace of hiring exceeds labor force growth



Scenario - Full scale invasion: CPI may exceed 10% and then gradually decline



Scenario - Full scale invasion: Given the economic, military and cyber uncertainties, firms delay hiring



Russia - Ukraine: Economic implications of full-scale invasion

Inflation:

- Oil (both Brent and WTI) to hover between \$110 to \$140 bbl
- US retail gasoline prices (national avg.): \$4.25 to \$6.25 gallon
- Europe nat. gas prices could climb to \$60 per million BTU (equiv. to \$300 bbl of oil)
--- Europe relies on Russia for 35% of its natural gas needs, EU's largest single source.
- Global food inflation leaps higher: All shipments below are thru Black Sea.
--- Ukraine – world's 3rd largest exporter of corn and 4th largest exporter of wheat.
--- Russia - world's largest exporter of wheat.

Cyber Attacks: Sporadic worldwide disruptions of supply chains, power generations, internet access, financial transactions, water distribution, gas pipelines.

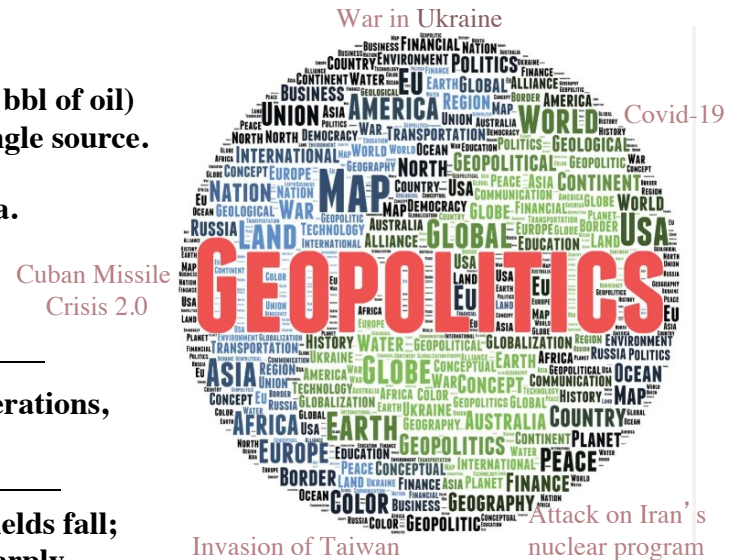
Financial markets: Global capital rush into safe haven assets: US treasury yields fall; US dollar, Swiss franc and Japanese yen to appreciate sharply.
Gold climbs; Cyber currencies to fall.

Recession risks in 2022:

- US: 45%
- Europe: 70%
- Japan: 60%

Outstanding bank loans made to Russia:

France	\$24.2 billion	Japan	\$9.6 billion
Austria	\$17.4 billion	Germany	\$8.8 billion
US \$16.0 billion			



Oil prices to hover \$85 to \$105 bbl. in 2022, and begin to slide in 2023

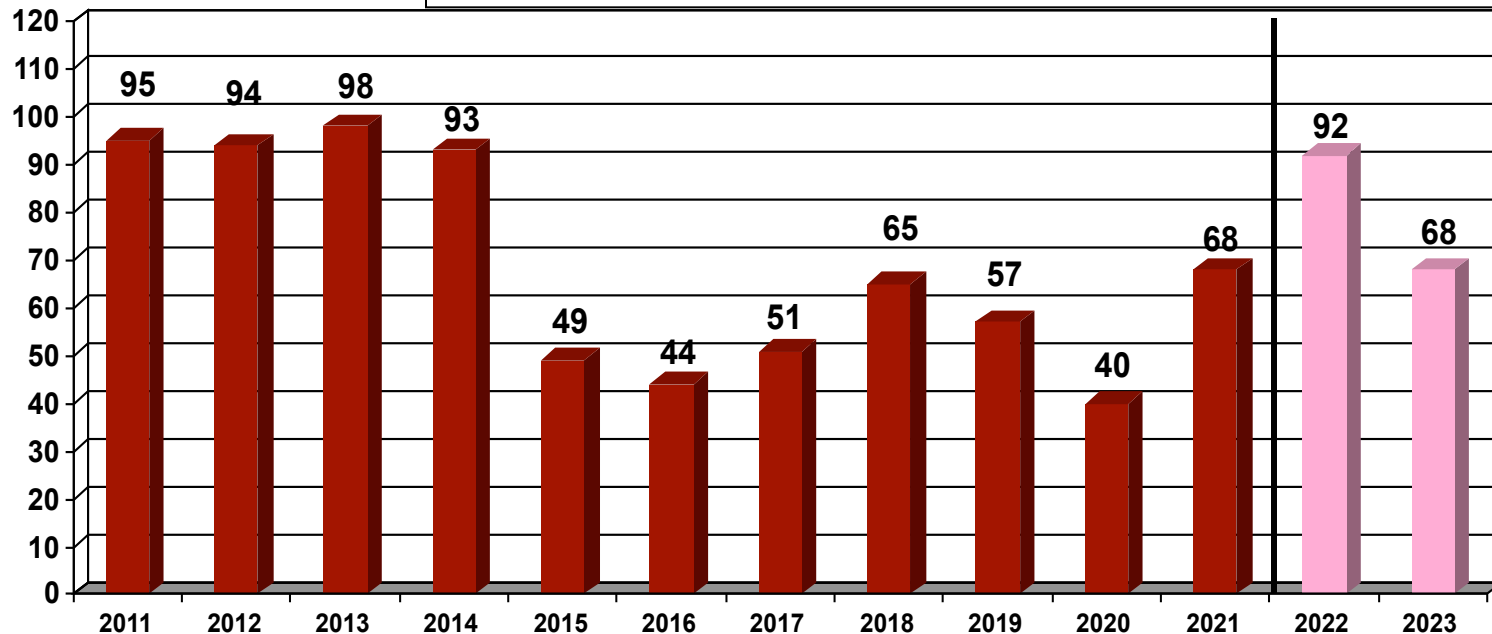
2022: Geopolitical clashes, rush to build up oil & natural gas inventories, OPEC+ struggles to meet quotas.

2023: International tensions subside and lowers risk premium, more supplies from Iran, shale producers increase output.

Oil prices - Annual averages (WTI)

\$/per bbl.

- Is an Iran deal near? --- Will it materially add to global oil supply?
- Time for Saudi Arabia to chose sides: Help the West -- or -- remain faithful to OPEC+?



GDP Growth - Global Economy

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
US	2.6	1.6	2.2	1.8	2.3	2.7	1.7	2.3	2.9	2.3	-3.4	5.7	1.8	2.7	2.6
Eurozone	1.7	1.4	-0.9	-0.2	1.4	2.1	1.9	2.5	1.9	1.2	-6.7	5.2	1.1	2.8	2.4
United Kingdom	1.7	0.7	0.3	1.8	2.9	2.2	1.9	1.9	1.3	1.5	-9.8	7.5	3.3	2.7	2.3
Japan	4.6	-0.4	1.6	1.5	-0.1	1.1	0.5	1.7	0.6	-0.2	-4.5	1.7	0.9	2.6	1.9
Canada	3.1	3.1	1.8	2.3	2.9	0.7	1.0	3.2	2.0	1.6	-5.3	4.5	1.9	2.9	2.6
India	8.4	8.6	6.7	4.9	7.4	8.0	8.1	7.2	6.8	4.8	-7.5	9.2	5.8	6.8	6.9
China	10.5	9.5	7.8	7.7	7.3	6.9	6.7	6.8	6.6	6.1	2.2	8.1	3.8	5.5	5.6
Brazil	7.5	2.7	0.9	2.3	0.1	-3.5	-3.5	1.2	1.2	1.1	-3.9	4.5	1.6	1.9	2.6
Mexico	5.2	4.0	3.9	1.4	2.3	2.7	2.7	2.4	2.1	-0.1	-8.5	5.0	1.1	2.7	2.4
Australia	2.8	2.6	3.6	2.4	2.6	2.5	2.4	2.4	2.7	1.8	-1.1	4.3	2.5	2.7	2.9
Russia	4.0	4.3	3.4	1.3	0.6	-2.8	-0.2	1.6	2.5	1.2	-2.9	4.5	1.8	2.2	2.1
World	4.2	3.1	2.5	2.6	2.8	2.8	2.6	3.4	3.2	2.7	-3.4	5.4	3.7	3.9	4.1

2022 - 2023 Growth leaders

China
India
UK
Australia

2022 - 2023 Moderate Growth

US
Canada
Brazil
Mexico
EZ

2022 - 2023 Near or In Recession

Lebanon
Venezuela
Russia*

Adjusting to the changing economic & geopolitical landscape

A. Capital expenditures:

- 1. Boost investments to increase capacity, efficiency and productivity. Focus on improving supply chain reliability.**
 - 2. New interest in vertical integration. Acquire (or partly own) your suppliers to secure timely inventory.**
-

B. Companies should undertake “rigorous” stress tests to identify their vulnerabilities.

Conduct adverse **“what if”** scenarios (e.g systemic power failure, supply chain disruptions, loss of access to credit lines, cyberattacks, another lethal pandemic).

C. Prepare contingency plans for the next exogenous shock --- and be ready to implement them!

Goal is to remain operational. Invest on being agile, flexible and adaptive.

Clients value reliability and quality. Shareholders reward firms that demonstrate resilience!



The Economic Outlook Group LLC

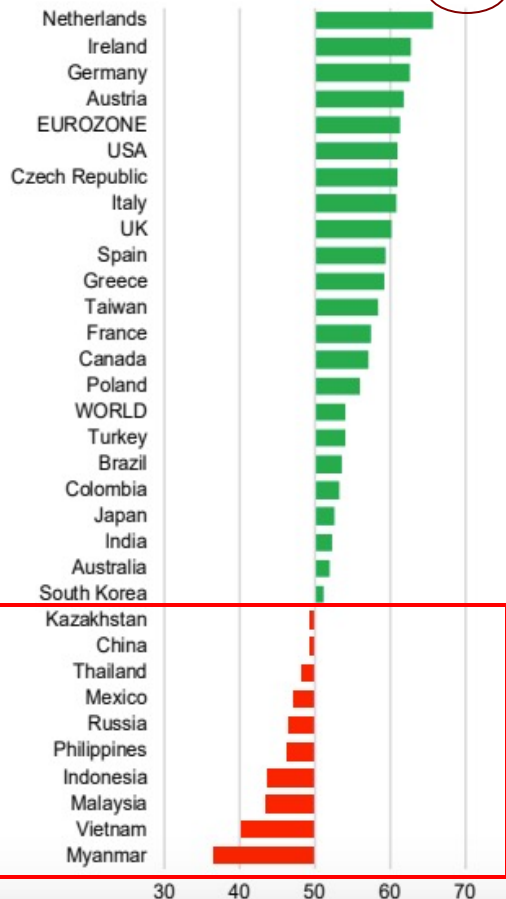
QUESTIONS OR COMMENTS?

bbaum@EconomicOutlookGroup.com

Bernard Baumohl
Chief Global Economist
The Economic Outlook Group, LLC
475 Wall Street, Princeton, NJ 08540
(609) 529-1300
www.EconomicOutlookGroup.com

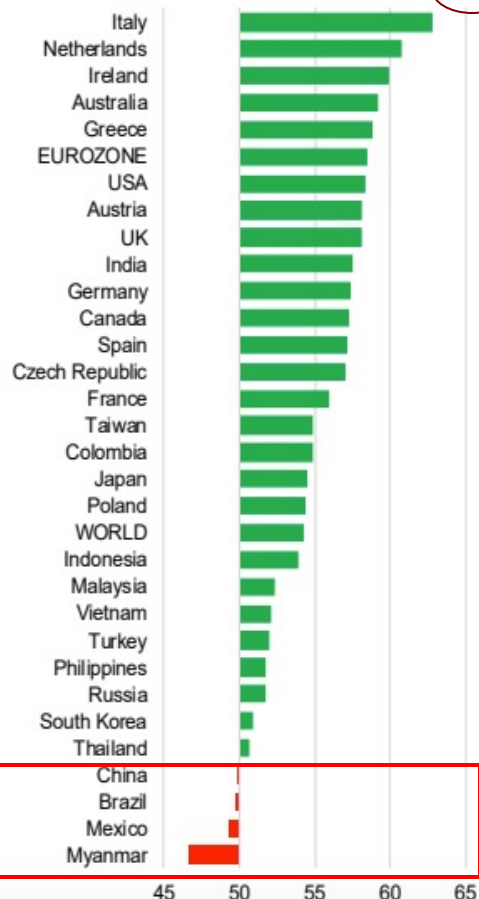
Manufacturing PMI
sa, >50 = improvement since previous month

Aug. '21



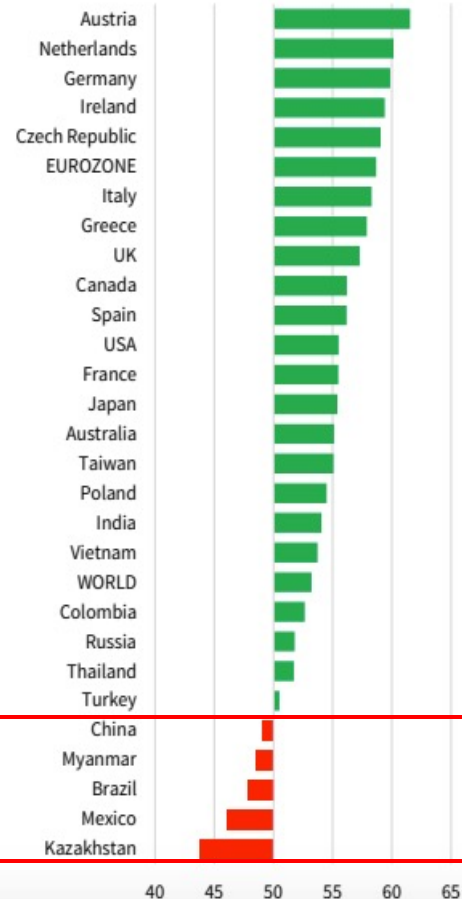
Manufacturing PMI
sa, >50 = improvement since previous month

Nov. '21



Manufacturing PMI
sa, >50 = improvement since previous month

Jan. '22



China:	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Real GDP growth %	8.1	3.8	5.2	5.4
Private consumption %	5.6	4.1	4.9	5.8
Industrial production %	9.6	5.1	5.6	5.7
Inflation (CPI) %	0.9	2.2	2.3	2.5



2022 - 2023: Economy not on solid footing. China faces multiple domestic and international challenges

- Zero-Covid policy will continue to disrupt production, supply chains, and depress consumer demand.
- Property developers' crushing debt to hamper new construction. Housing activity slumps. (Accounts for 20% to 25% of GDP)
- Expect little resolution to trade disputes with the US. Bi-partisan support in Washington to limit technology exports to China.
- PRC's crackdown on domestic technology firms will stifle innovations and reduce new investments.
- Government will introduce additional fiscal and monetary stimulus measures to prevent a more serious slowdown.
- Top gov't priorities:
 - (1) Become a leader in cutting edge technology. Seeks self-sufficiency in semiconductor production.
 - (2) Crack down on the "five poisons" - Uyghurs separatists, Tibetan independence supporters, Falon Gong followers, democracy movement in Hong Kong, advocates of Taiwan's independence.
 - (3) Fortify military presence in South China Sea and Taiwan Strait.
 - (4) Boost birth rates to offset aging Chinese population and projected dearth of labor supply.

2022: US \$ mostly strengthens due to economic growth, rising interest rates and geopolitical concerns. (Investors seek safe-haven currencies.)

2023: US \$ weakens as investors diversify into recovering EU and LATAM economies.

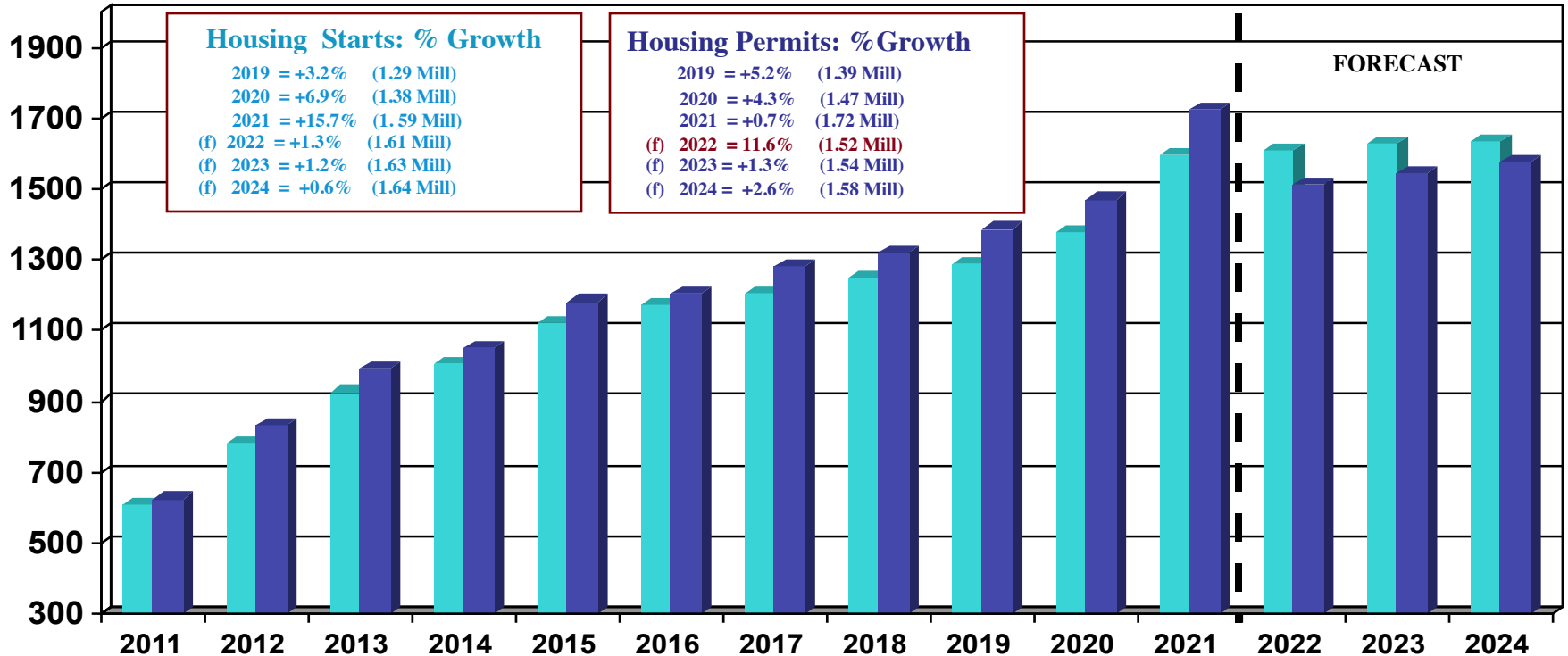


■ US Dollar strengthens ■ US Dollar weakens

(Per U.S. dollar, year-end level)	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Euro (in US dollars)	1.15	1.12	1.23	1.13	1.11	1.16
Japanese yen	111	109	104	115	118	116
UK pound (in US dollars)	1.27	1.31	1.36	1.34	1.37	1.34
Canadian dollar	1.36	1.30	1.27	1.27	1.21	1.19
Chinese yuan	6.88	6.96	6.54	6.43	6.48	6.31
Brazil's real	3.87	4.02	5.20	5.63	5.70	5.45
Mexican pesos	19.68	18.93	19.90	20.6	21.0	20.2

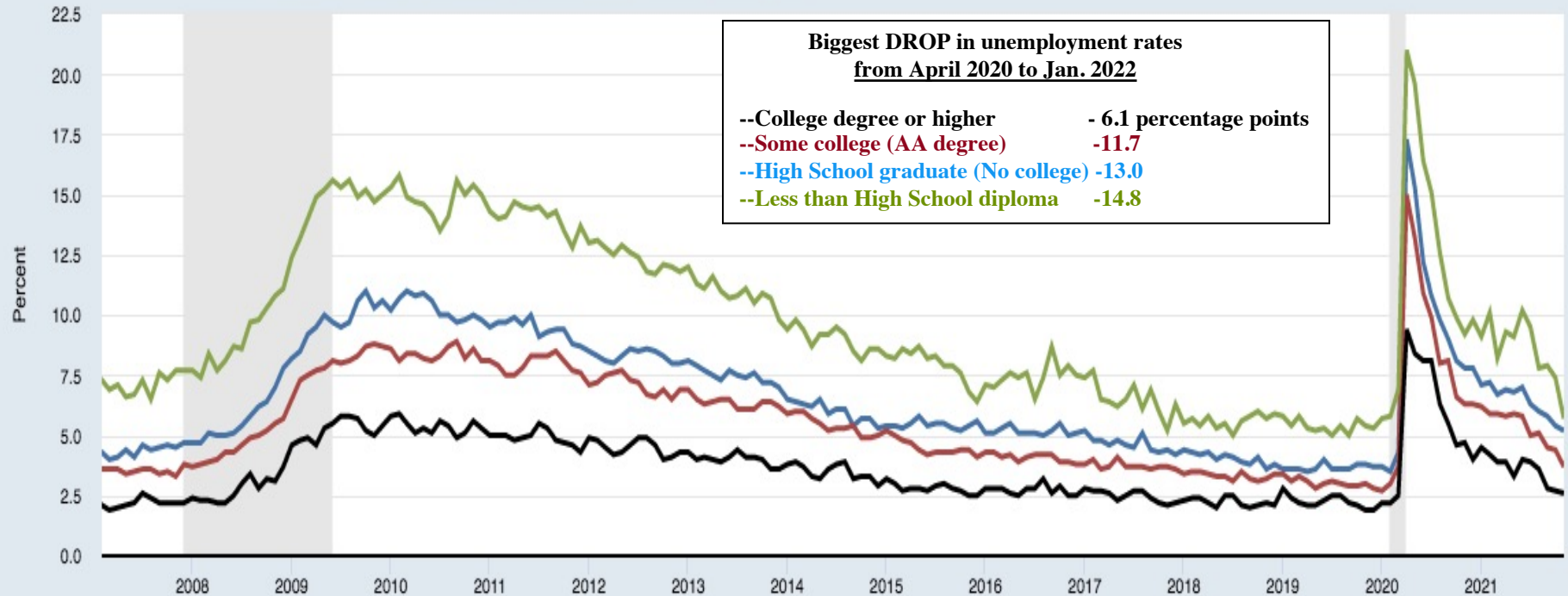
Housing starts in 2021 was the strongest in 15 years. Growth to continue 2022- 2024 but at a slower pace. Builders will grapple with scarcity of affordable land, higher building costs and shortage of labor.

Total housing starts and permits: Annual total, in thousands





- Unemployment Rate - High School Graduates, No College, 25 Yrs. & over
- Unemployment Rate - Some College or Associate Degree, 25 Yrs. & over
- Unemployment Rate - Less Than a High School Diploma, 25 Yrs. & over
- Unemployment Rate - College Graduates - Bachelor's Degree, 25 years and over



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

**The energy crisis shows how dependent countries remain on oil and natural gas.
U.S. investments in renewables are increasing, but not enough to offset reliance on fossil fuels.**

U.S. energy composition 2021

