

**American Subcontractors Association
SUBExcel 2022**

March 11, 2022

**The Economic Outlook:
Adapting to a New Economic & Business Landscape**

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The Economic Outlook Group LLC

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ASSUMPTION 1: Russia - Ukraine War: What is the end game?

Scenario 1. Probability: 35%

Russia (under Putin) miscalculates mission difficulty; Russian economy crippled. Agrees to a cease fire but keeps troops in place. Demands Ukraine adopt a policy of international neutrality and accepts Crimea as part of Russia. War duration: 1Q 2022

Scenario 2. Probability: 30%

Russia (under Putin) achieves its mission and takes over Ukraine. Installs puppet regime. Massive damage, deaths and injuries. War duration: 2Q 2022

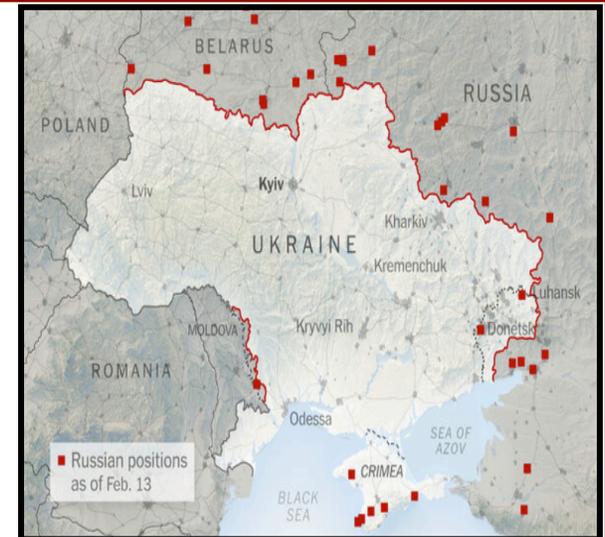
Scenario 4. Probability: 20%

Putin doesn't stop with Ukraine. He tests Section 5 of the NATO treaty by seeking to take over the Baltic states (Estonia, Latvia, Lithuania).

His calculation: The US would never risk nuclear war just to protect these NATO countries .

Scenario 3. Probability: 15%

Russia's Putin is forced out of office. New leader emerges to end the war. Russian soldiers retreat. Ukraine maintains its independence. Memorandum of understanding on future relationship between Ukraine and Russia. War duration : 2Q 2022

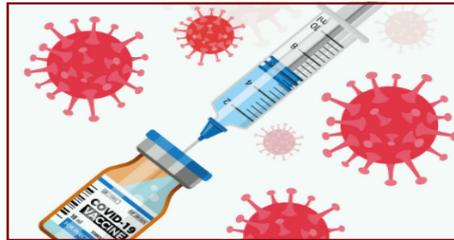


ASSUMPTION 2: Path of the Covid-19 virus

- **GOOD NEWS** - Impact of Covid-19 is less and less with each wave.
- Most Americans are inoculated and crave return to normal life.

Vaccination projections of US “consumer population” (12 years & older)

- By end of Q1 2022, 75% expected to be *fully vaccinated*.
- By end of Q1 2022, 47% will have also received *boosters*.



- **BUT MUST REMAIN VIGILANT** – We’re not in a “post-Covid” era yet!
 - Too many countries have failed to adequately vaccinate their population.
 - More variants highly likely in 2022 and 2023.
 - Threat of new lethal Covid virus is still real.

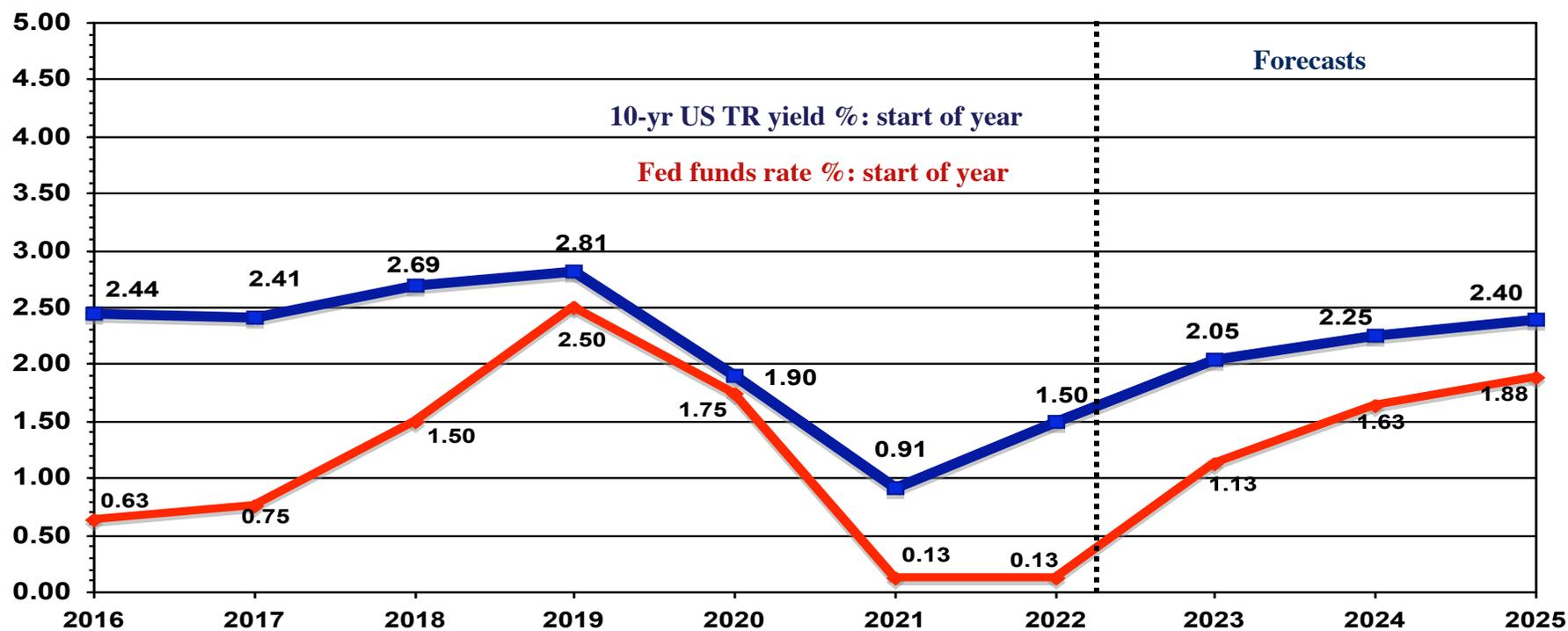
**% of population
NOT VACCINATED!**
(as of February 13, 2022)

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



Sources: Federal Reserve, The Economic Outlook Group (forecasts)

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No US recovery is possible without the consumer.

Despite a nervous 1st quarter, Americans are determined to go out and enjoy a normal life style this year.

CONCERNS:

--- Consumer sentiment in Jan. **lowest in a decade.**

Reasons: Surging inflation, rising interest rates, geopolitical conflicts.

--- Inflation (CPI - Jan.,YOY) leaped to **7.5%** --- fastest in 40 years --- and still climbing!

--- **Wages not keeping pace with inflation.** Average “real” weekly pay over the past 12 months fell 3.1%

--- **Result: Americans are digging into savings.** Savings rate drops to **6.4%** in Jan. 2022 vs. **10.5%** six months earlier!

POSITIVE DEVELOPMENTS:

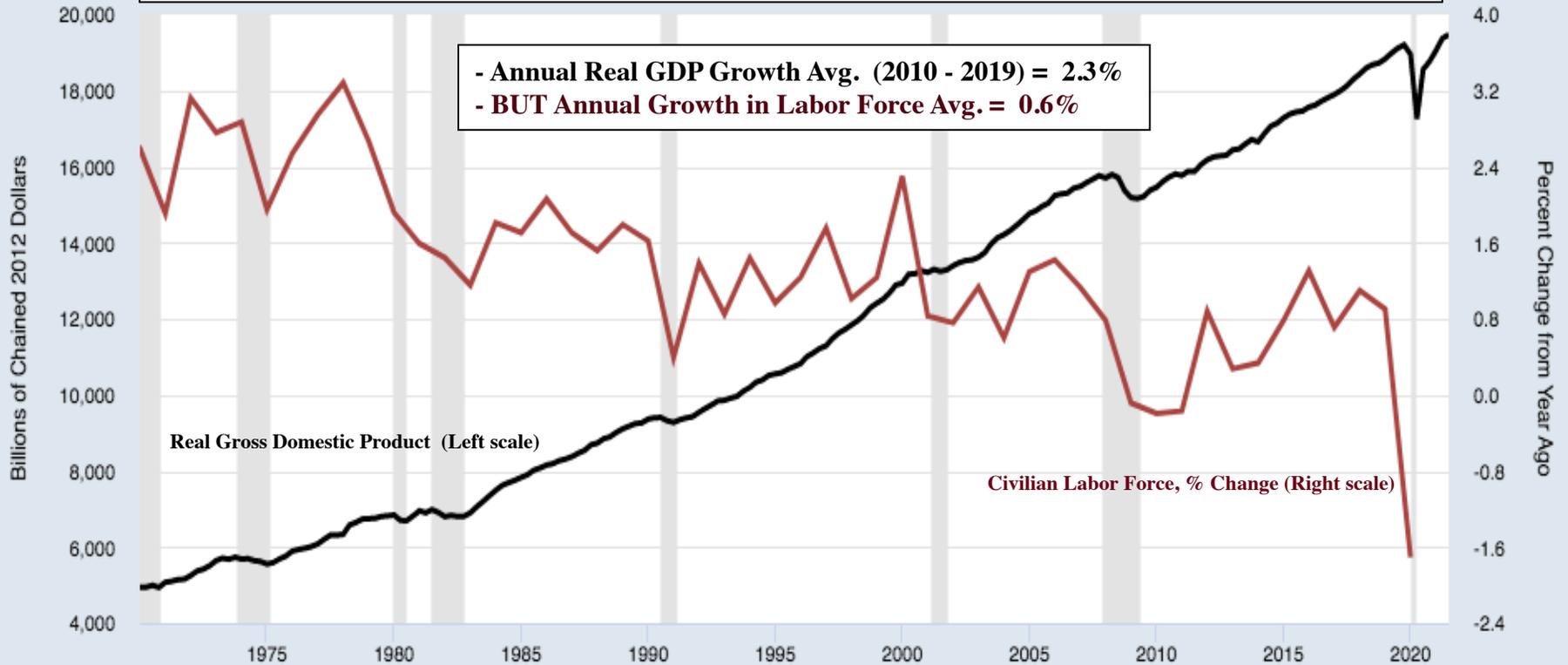
- With increased vaccinations, more Americans will travel, eat out, head to malls. **Biggest risk? Avg. retail gas above \$4.75 gal.!**
- Job market remains exceptionally strong! Positions to fill (**10.9 million**) far exceeds those unemployed (**6.3 million**).
One caution: February payrolls surged by 678,000. BUT survey took place **BEFORE** Russia's Feb. 24th invasion of Ukraine.
- **Inflation to peak by summer 2022.**

Reasons: (1) Economic growth will moderate this year.

(2) Companies may find it more difficult to pass on higher costs. (Demand eases and fear of losing market share.)

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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

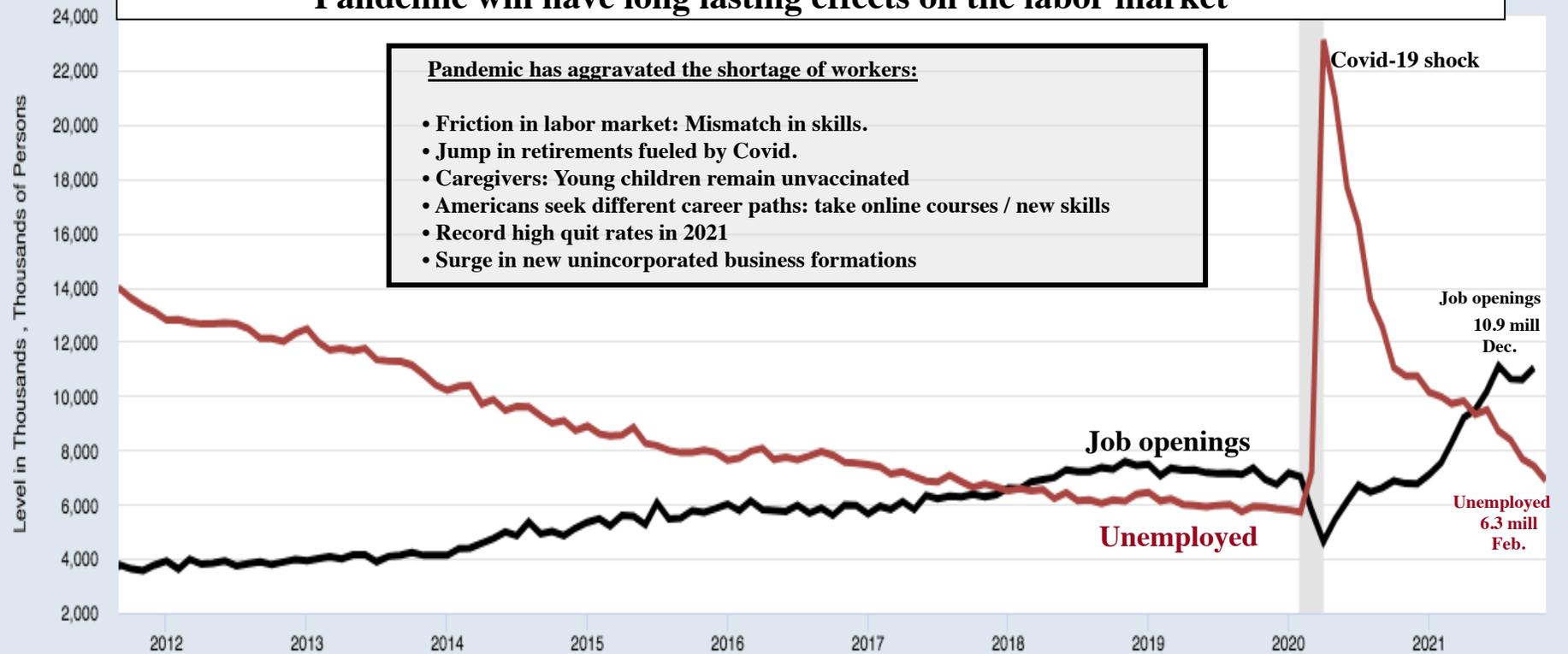
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Sources: BLS projections on 2020 - 2030 labor force released December 2021); BEA for GDP growth

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Help! *“Can’t find qualified workers!”* Pandemic will have long lasting effects on the labor market



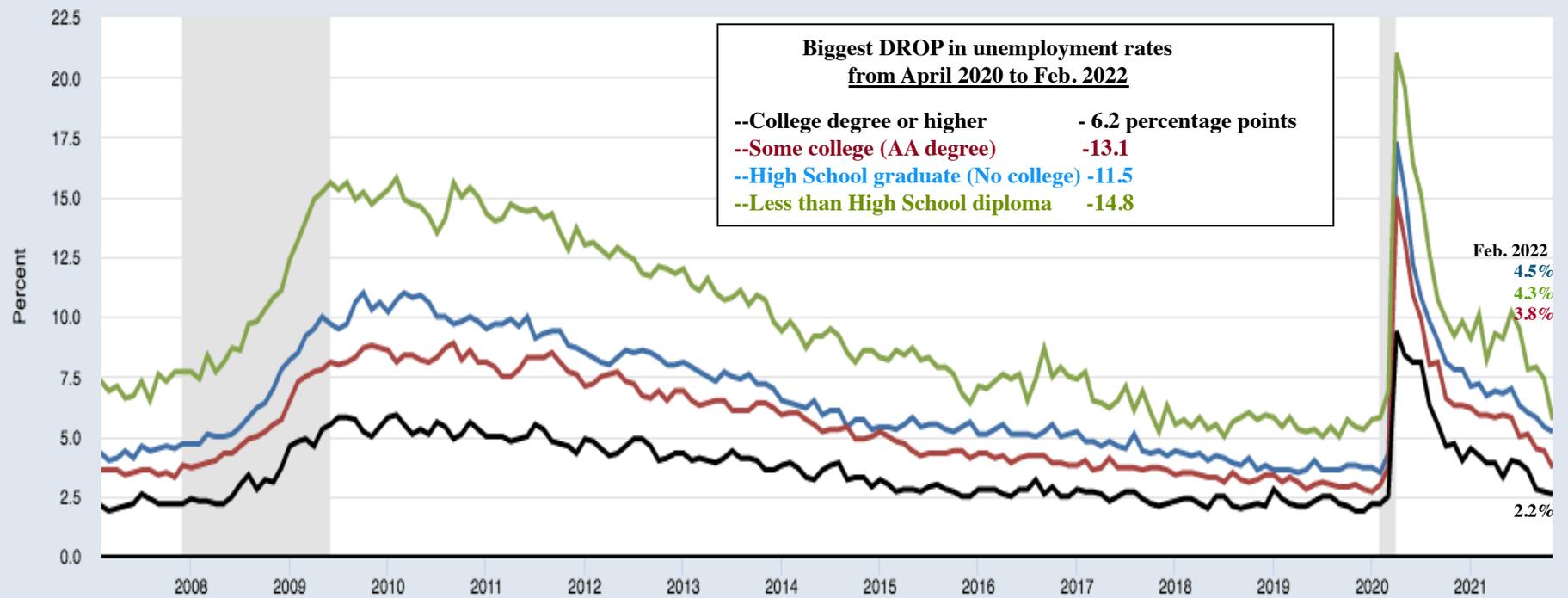
Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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**Employers are also seeking out unemployed without HS diplomas!
Screening: Do they have the ambition, aptitude, responsibility and willingness to learn new skills?**



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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Source: Bureau of Labor Statistics

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The process of creative destruction: Shortages of labor have led more firms to rely on innovative technology

DIFFICULTY FINDING RESTAURANT WORKERS?

Place iPad-like devices at every table.
Meals can be orders from one's seat.
Menus can also be altered as needed.



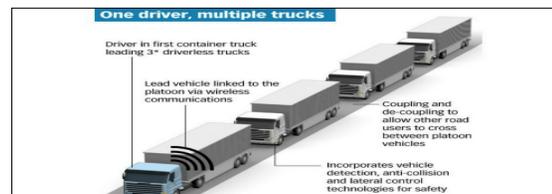
HOME CONSTRUCTION USING 3-D PRINTING TECHNOLOGY.

Takes about 7- 10 days to construct at a
cost 30% to 50% cheaper than standard
construction methods.



HOW CAN TRUCKING FIRMS SAVE ON FUEL, LABOR COSTS AND REDUCE EMISSIONS?

Wireless communications allows for “platooning,”
with one driver controlling multiple trucks or trailers



FEWER RETAIL WORKERS NEEDED.

Want some fancy shoes fast?
Purchase the proprietary codes and your
3-D printer at home will
manufacture a customized pair.



Top 20 states in nonresidential construction starts 2021 vs. 2020 (in dollars)

	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).

Who gained & lost construction jobs over last 22 months?

- 26 states still had construction employment **below Feb. 2020**.
- 23 states saw construction jobs **exceed Feb. 2020 level**.
- 1 state (Montana) matched Feb. 2020 level.

States that LOST most construction jobs

Biggest Job losses:

- NY - 42,000 (-10.0%)
- TX - 30,200 (-3.9%)
- CA - 22,300 (-2.4%)

Biggest percentage loss

- LA -13% (-17,200)
- WY -11% (-2,500)
- NY -10% (-42,000)

States that ADDED most construction jobs

Biggest Job gains:

- UT +10,000 (+8.8%)
- WA +8,200 (+3.7%)
- NC +7,900 (+3.4%)

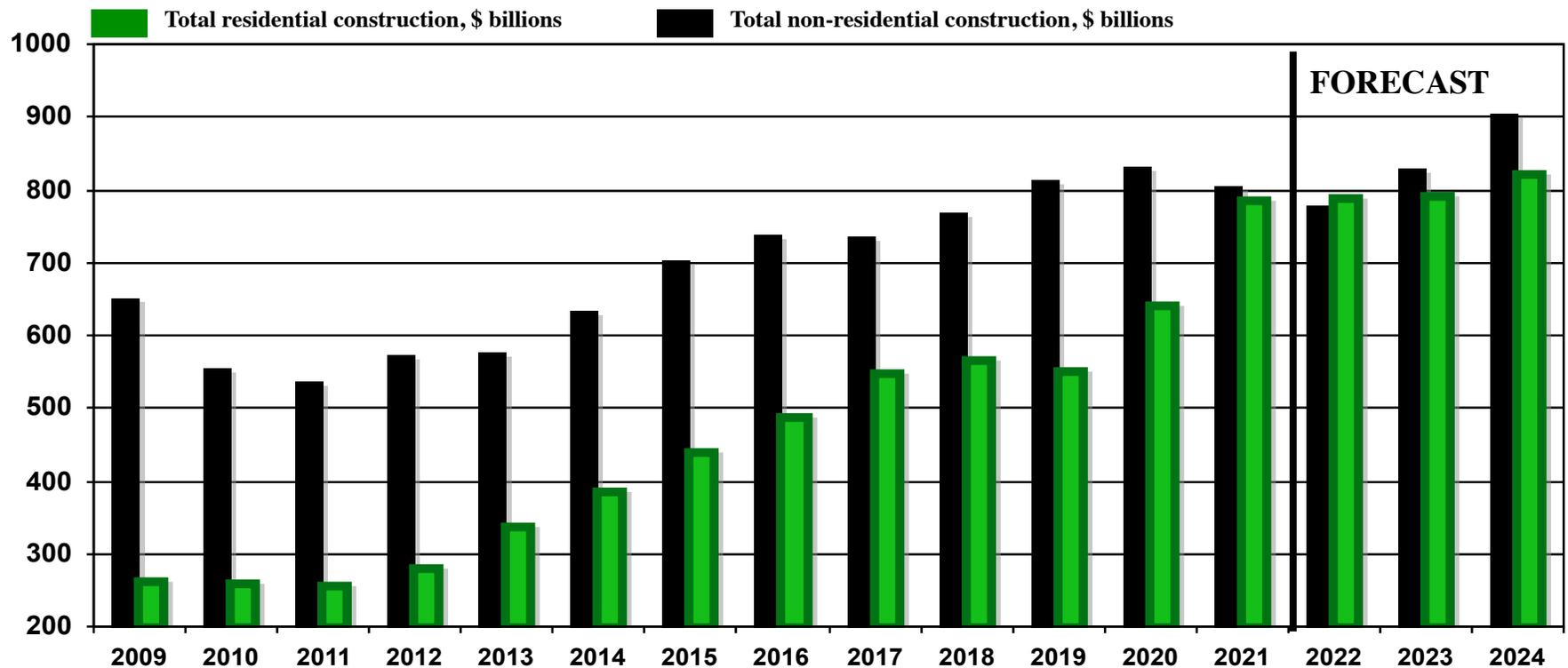
Biggest percentage increase

- SD +10% (2,500)
- UT +8.8% (10,000)
- ID +8.2% (4,500)

Construction industry struggles with labor shortages, costly material and equipment rental.

Non-residential spending to slip in 2022, but recovers in 2023 - 2024 as commercial & infrastructure investments picks up.

Residential construction to accelerate as Americans continue their suburban shift.



Sources: Census (historical data); Economic Outlook Group (forecasts)

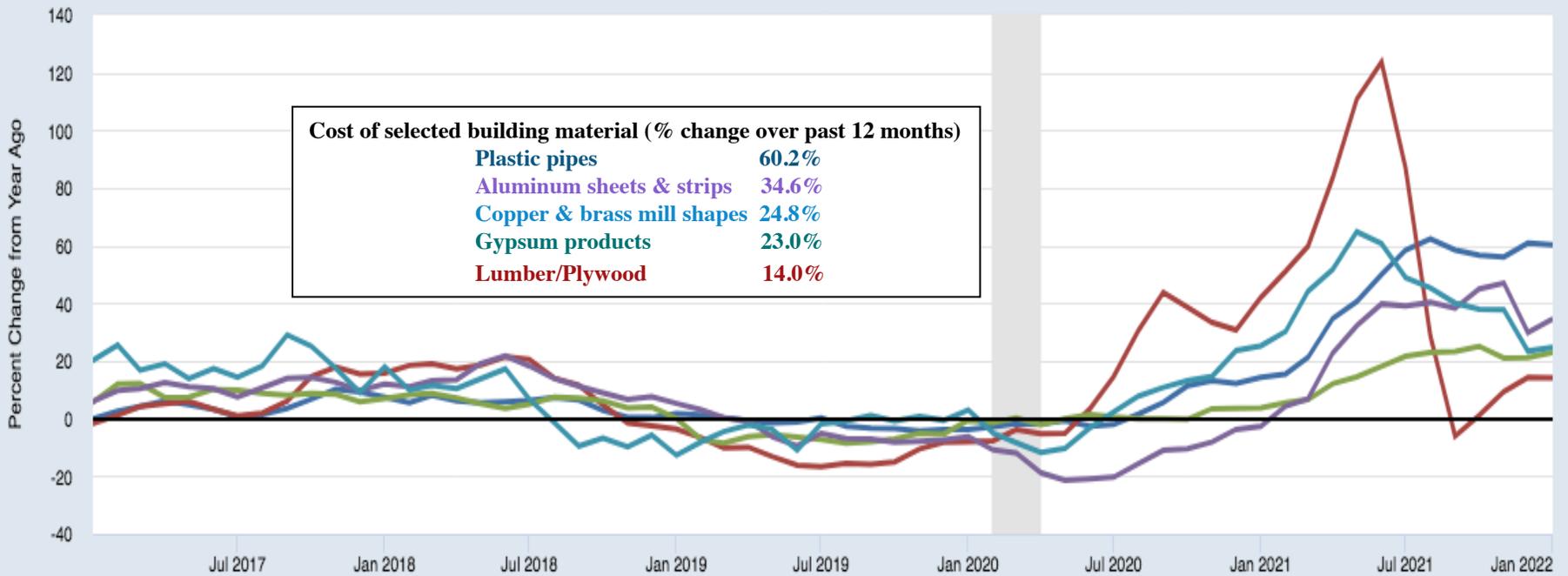
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Cost of building material continues to be elevated and remains difficult to forecast.

Reasons: Supply chain bottlenecks, tariffs, higher petroleum prices, plant shutdowns.

Result: Greatly complicates pricing bids on construction projects --- and length of time they are valid.



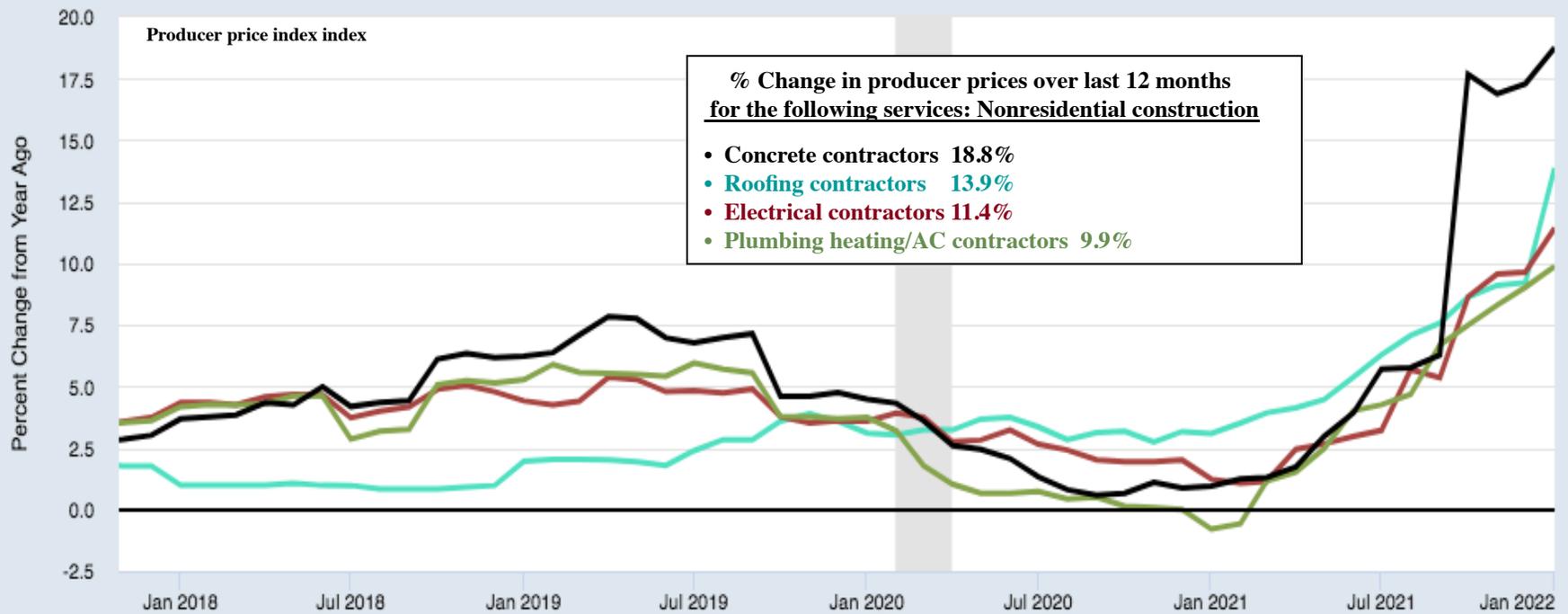
Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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**Contractor fees on NONRESIDENTIAL projects climbed sharply over the year!
Primary reasons: Higher labor costs, building material, equipment rental and leasing.**



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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CRE sectors of weakness in 2022:

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

Sectors of strength:

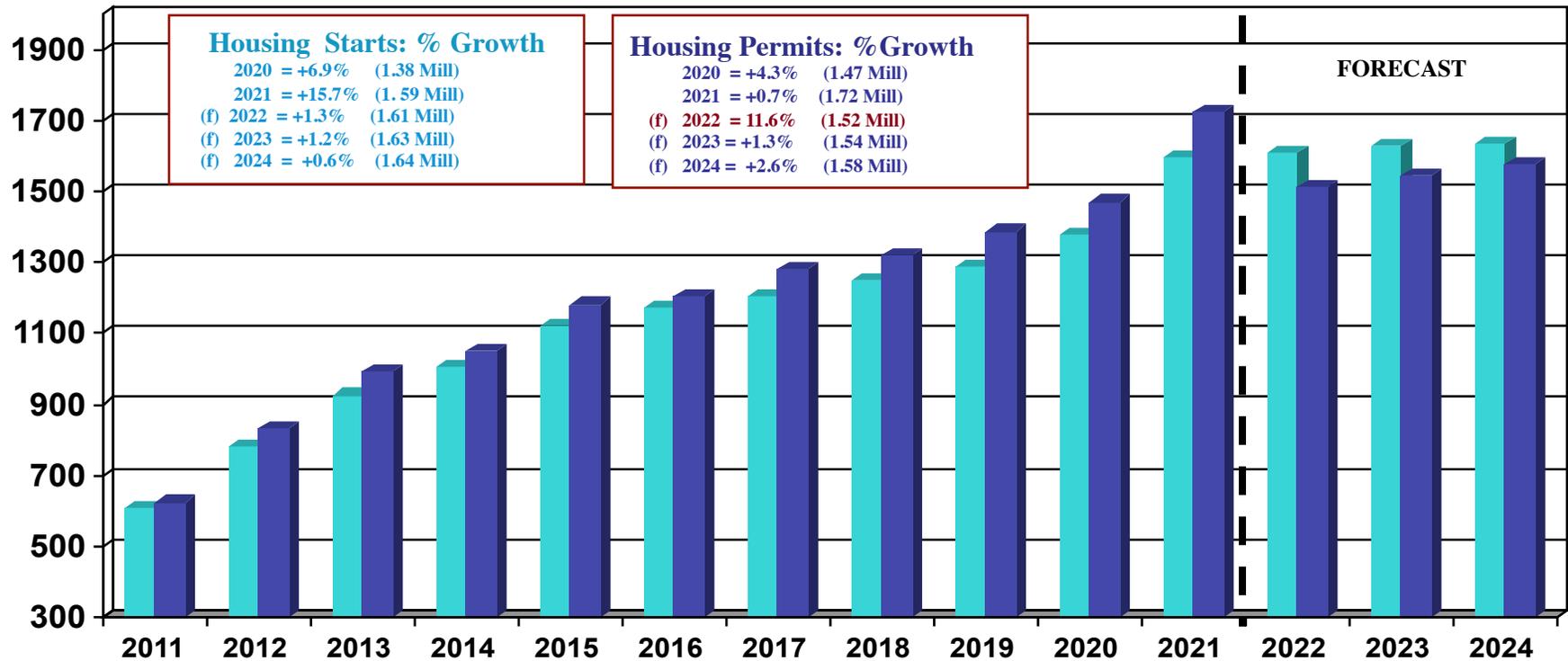
- **Manufacturing**
- **Data centers**
- **Warehouses**
- **Health care centers**



Forecast - Capital Outlays: (% annual change)	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
<u>Nonresidential construction spending</u>	-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%

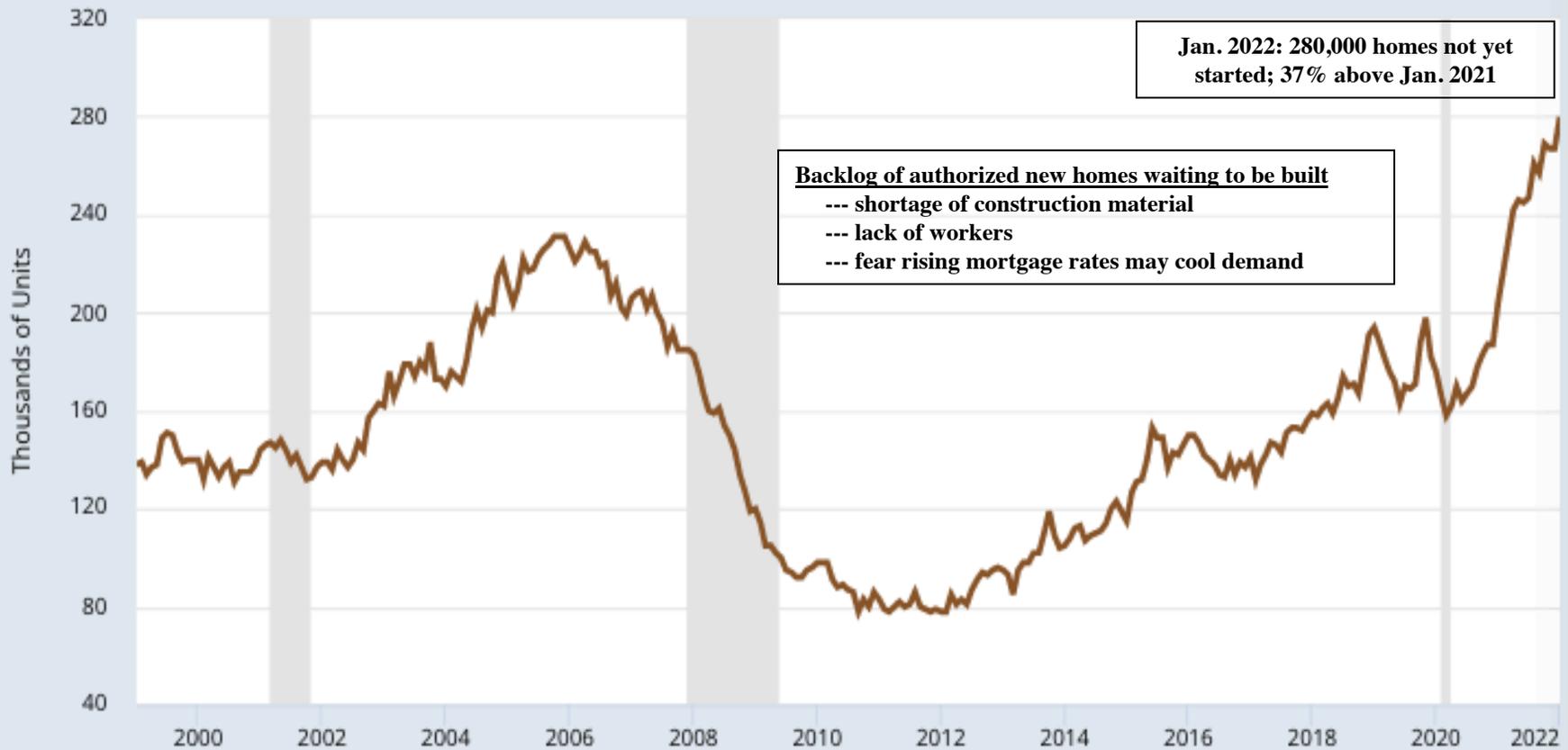
Housing starts in 2021 was strongest in 15 years. Growth to continue 2022- 2024 but at a slower pace. Builders grapple with scarcity of affordable land, higher building costs and shortage of labor.

Total housing starts and permits: Annual total, in thousands



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New Privately-Owned Housing Units Authorized but Not Started: Total Units

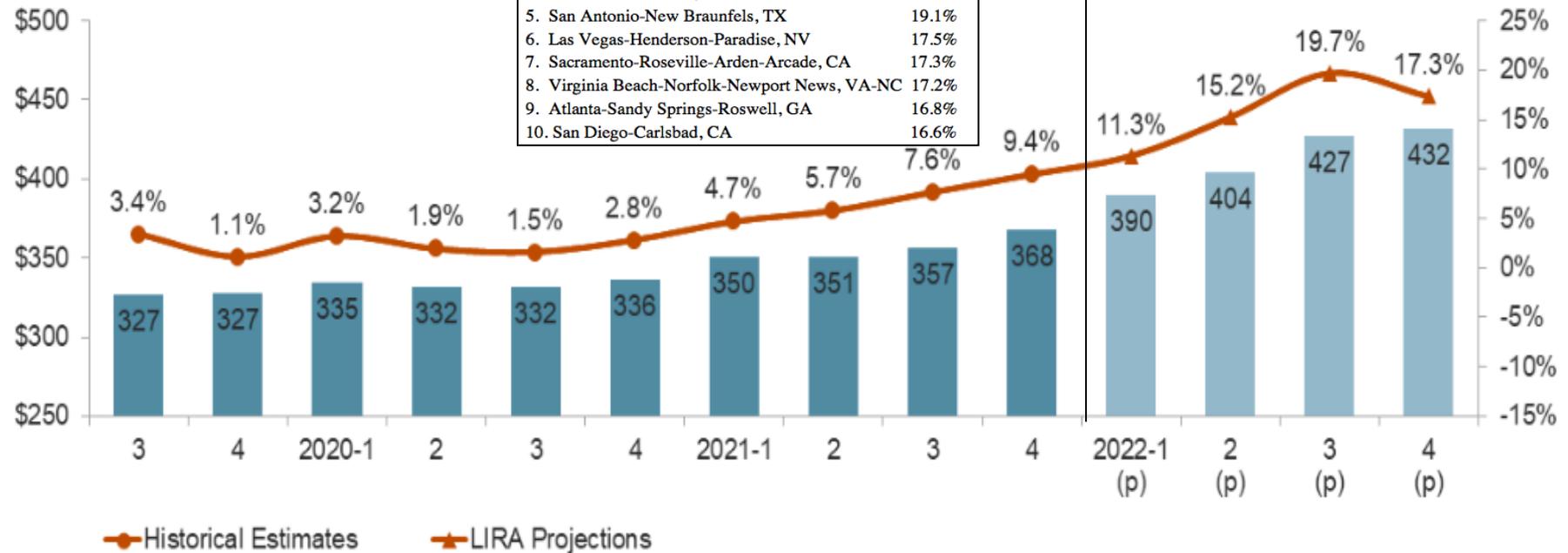


Jan. 2022: 280,000 homes not yet started; 37% above Jan. 2021

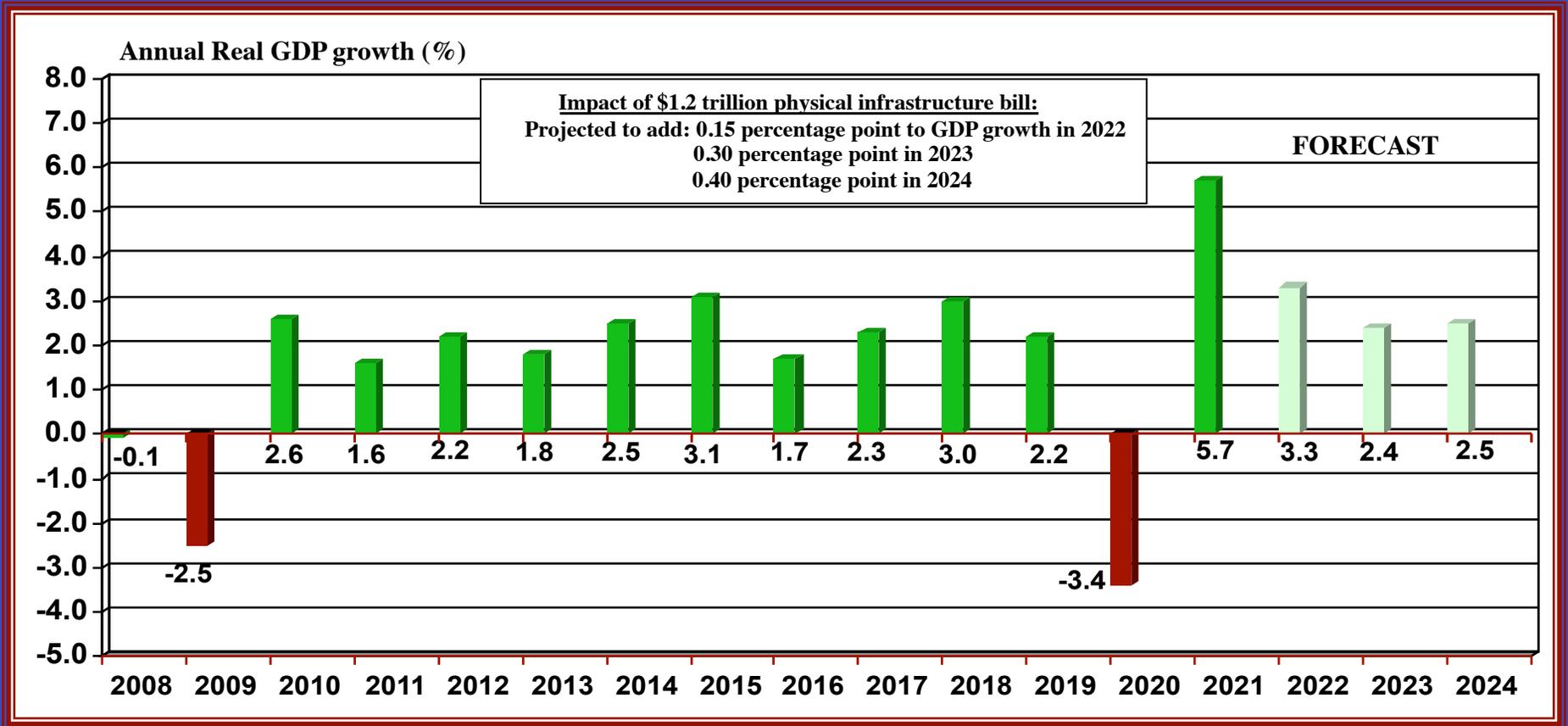
Backlog of authorized new homes waiting to be built
--- shortage of construction material
--- lack of workers
--- fear rising mortgage rates may cool demand

Leading Indicator of Remodeling Activity – Fourth Quarter 2021

Homeowner Improvements & Repairs Four-Quarter Moving Totals Billions

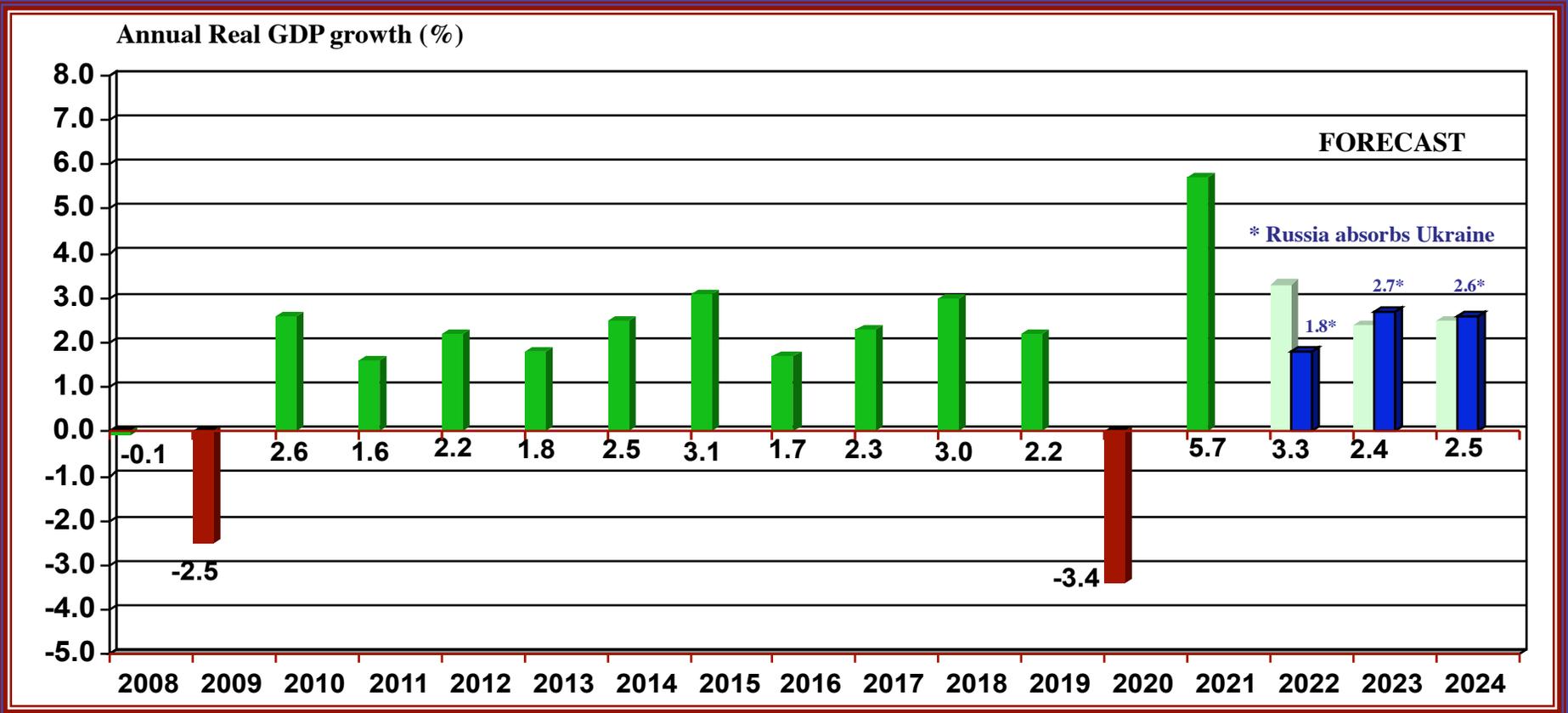


Forecast: Real GDP growth: 2022 - 2024



Sources: Bureau of Economic Analysis (historical); The Economic Outlook Group (GDP forecasts), Federal Reserve

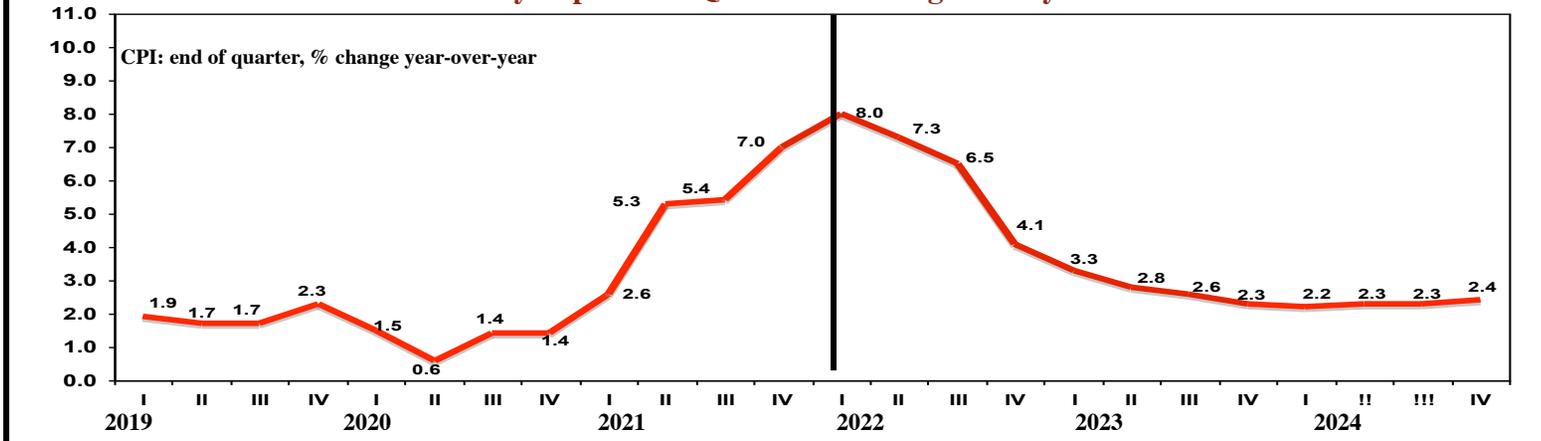
Scenario: Russian - Ukrainian War lasts into 2H 2022
Such a conflict would lead to stagflation. Odds of US recession in 2022: 45%



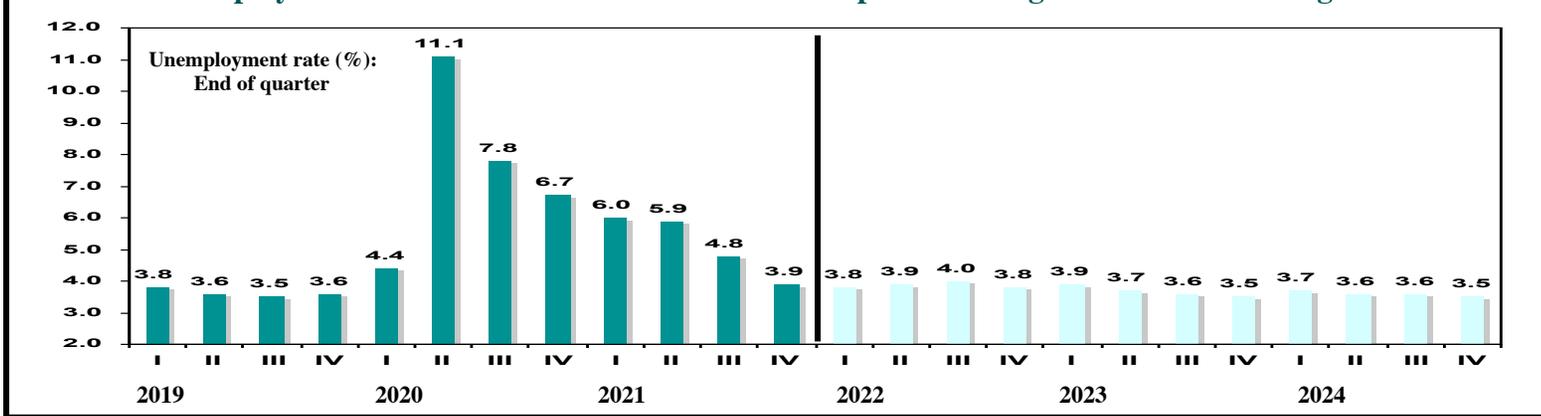
Sources: Bureau of Economic Analysis (historical); The Economic Outlook Group (GDP forecasts), Federal Reserve

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CPI inflation likely to peak in 2Q 2022 and then gradually decline



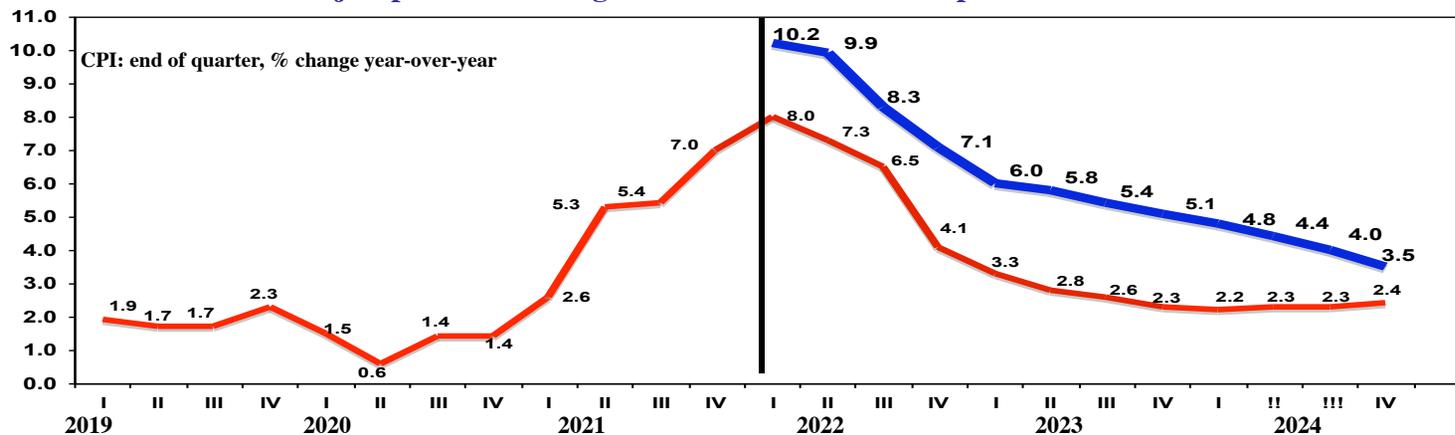
Unemployment rate to fall further in 2002 - 2024 as pace of hiring exceeds labor force growth



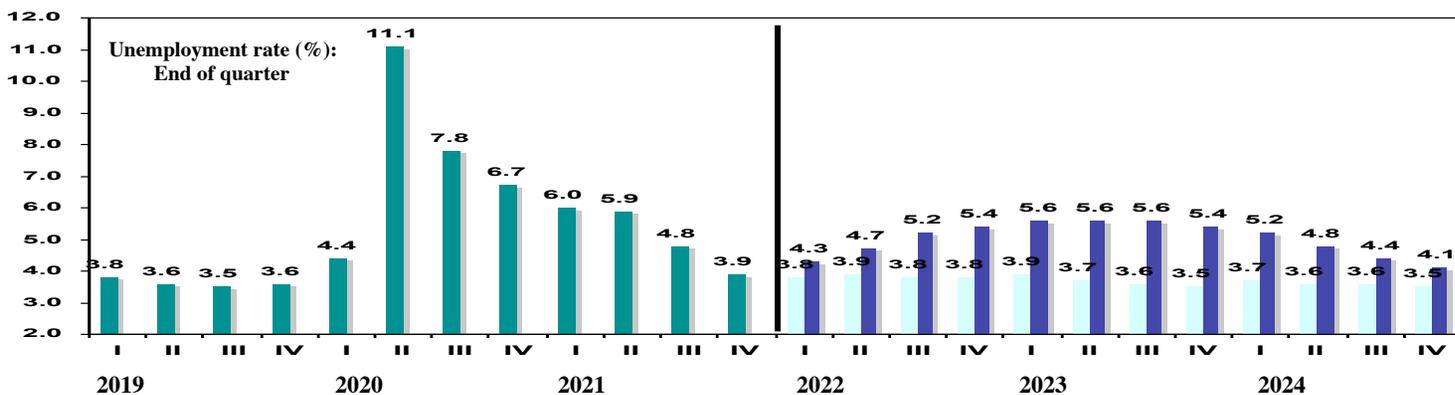
Source: Historical data - BLS; Forecasts by The Economic Outlook Group

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CPI inflation jumps to double-digits should conflict in Europe continue into 2H of 2022



Unemployment rate moves back up as a protracted war in Europe slows pace of hiring



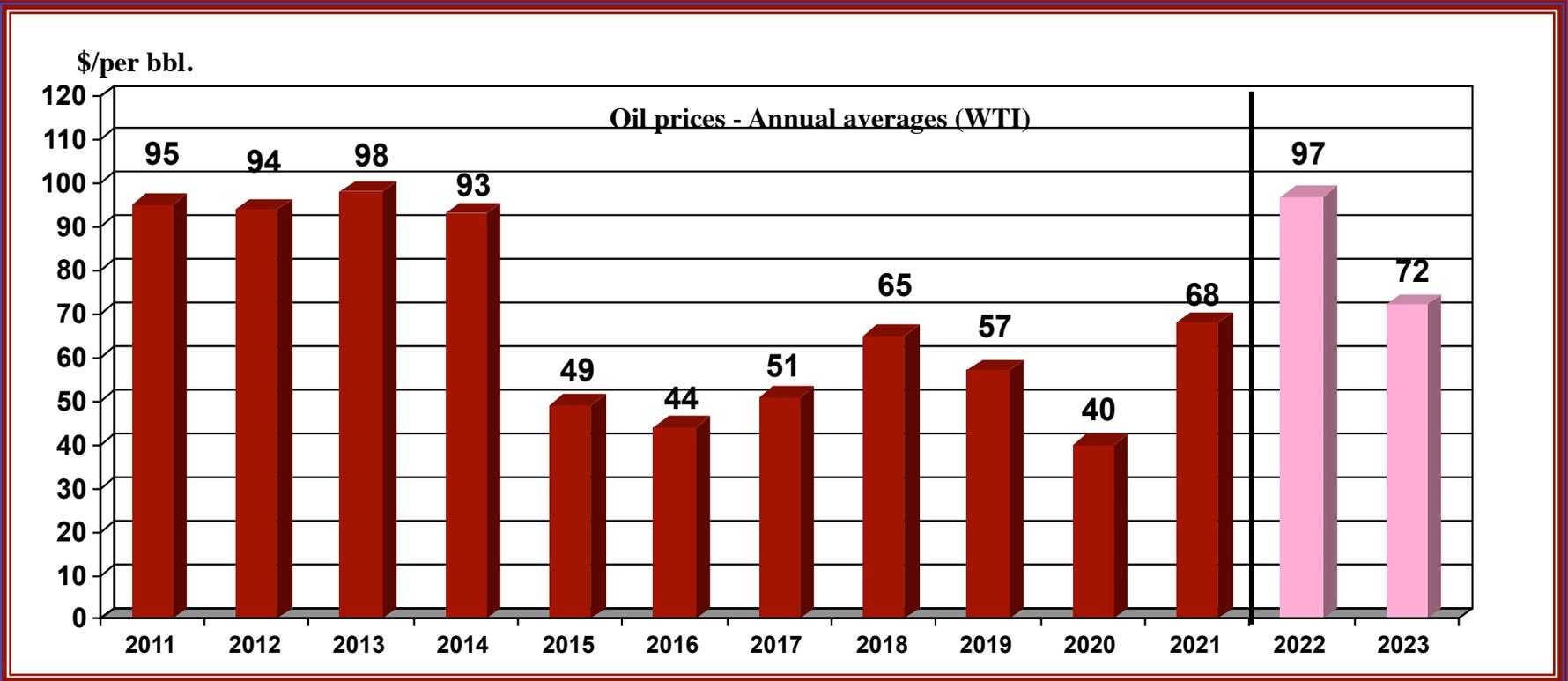
Source: Historical data - BLS; Forecasts by The Economic Outlook Group

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Oil prices in 1H 2022 will hold \$100+ bbl., and begin to slide 2H and 2023

2022: Geopolitical clashes, OPEC's failure to meet 400,000 bbl quota, nations rush to build up inventories for next winter.

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



Pandemic & geopolitics leads to a realignment in globalization

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.



The Next Exogenous Shock? Multiple hi-probability threats loom



- **Cyber warfare:** The threat has shifted from IP theft & ransomware ---> **to intentional sabotage!**
- **Proliferation of a new virulent Covid-19 mutation; Will current vaccine's effectiveness hold up?**
- **US - Russian conflict deepens: Putin eyes takeover of NATO members in the Baltic states.**
- **US - China clash militarily** in South China Sea and across Taiwan Strait.
- **Iran is "within months" of producing enough fissile material for nuclear weapon. Israel won't sit by.**
- **To regain attention, N. Korea tests ICBM over Pacific Ocean; Boasts it can now reach US mainland. US response?**



"High-probability" defined as having at least 1 in 3 chance of occurring based on our threat assessment model

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The New Reality: Adjusting to the changing economic & geopolitical landscape

A. Capital expenditures: Goal is to be price competitive and a reliable provider of goods and services

- 1. Boost investments to increase capacity, efficiency and productivity.**
 - 2. Just-in time-inventory strategy is now longer workable. Diversify supply chain sources.**
 - 3. Consider vertical integration. Acquire (or partly own) your suppliers to secure timely inventory.**
-

B. Companies must 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!



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QUESTIONS OR COMMENTS?

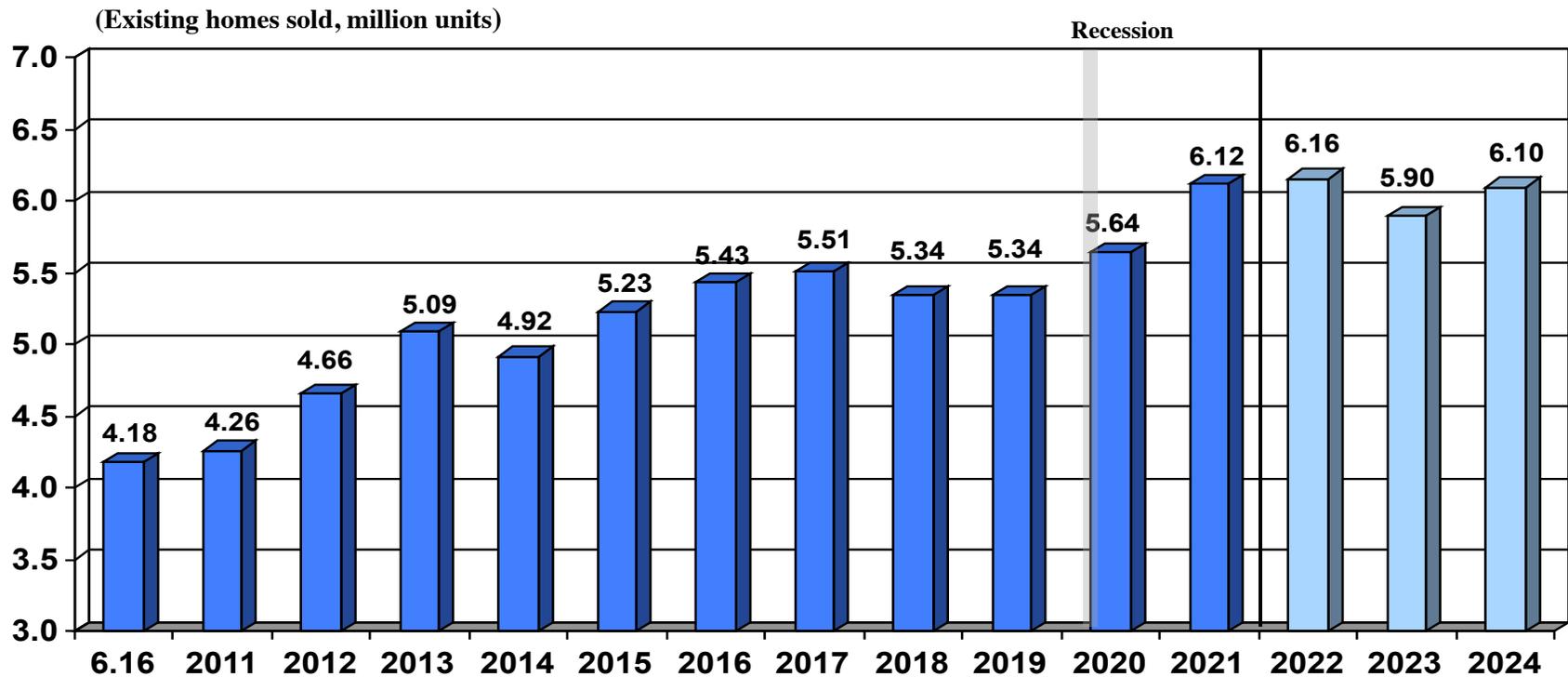
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US existing home sales in 2021 was best in 15 years! 2022 should top it.

Fear of rising mortgage rates and strong job market will accelerate home buying this year.

Sales to slow 2023. High borrowing costs, scarce inventory & steeper home prices --> reduces affordability.



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.

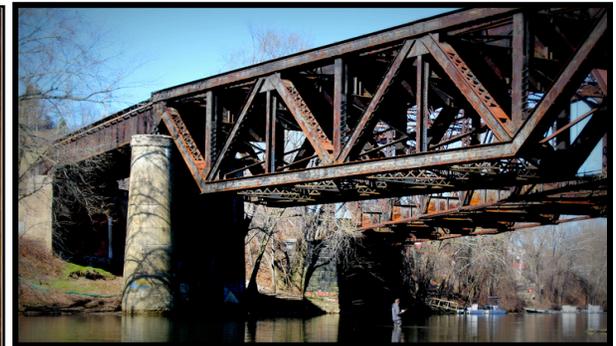
Decrepit infrastructure holds back economic growth

\$1.2 trillion infrastructure law is a decent start.

But competition will be fierce over labor, building material and equipment

EXAMPLES:

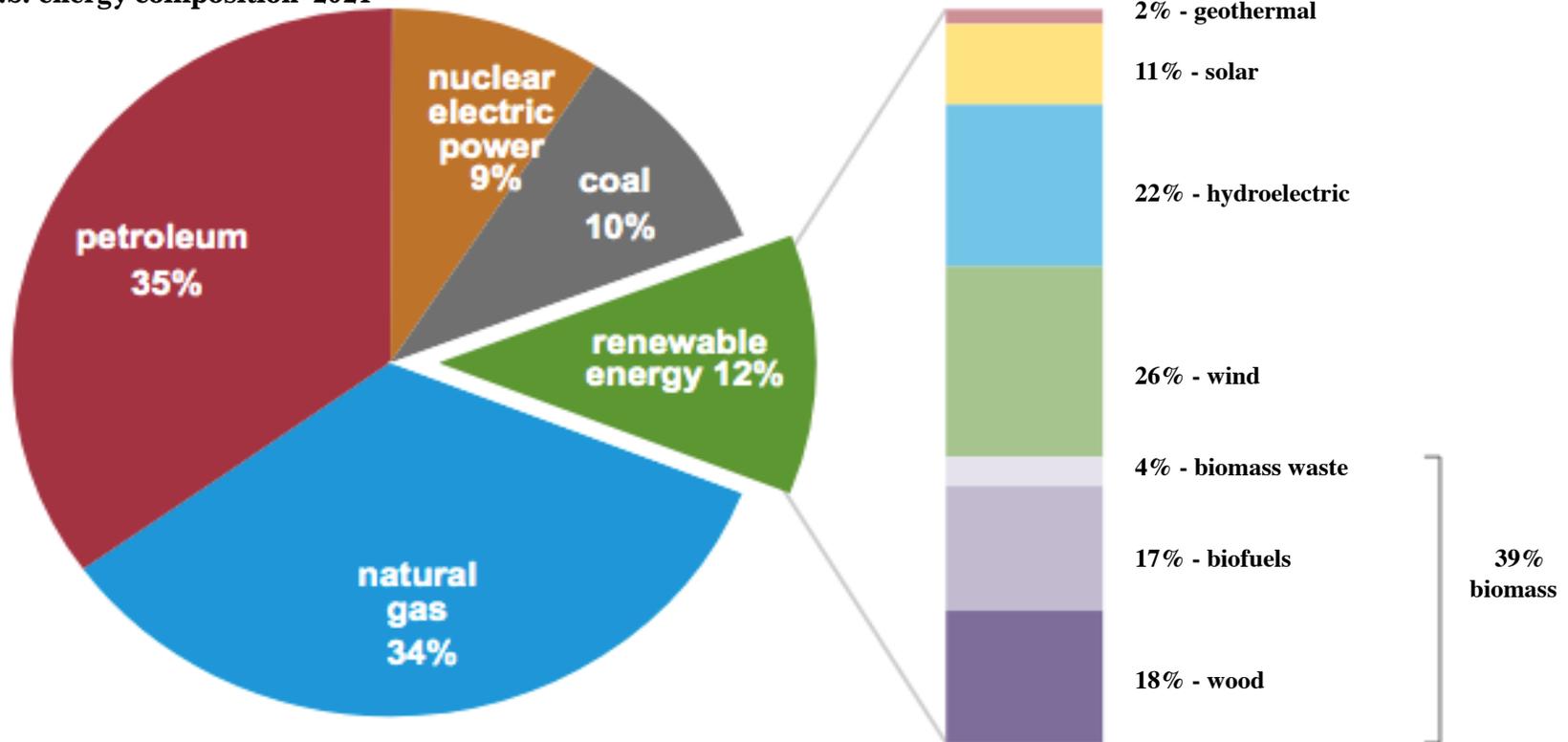
- Philadelphia still relies on underground pipes installed *before* the Civil War.
- 84,000 bridges considered functionally obsolete.
- 58,000 bridges deemed “**structurally deficient,**” yet still carry 180 million cars a day!



- There are more than 685 water main breaks a day on average in the US; 250,000 a year.
- Leakages and spills waste an average of **5.8 billion gallons of water each day!**

**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

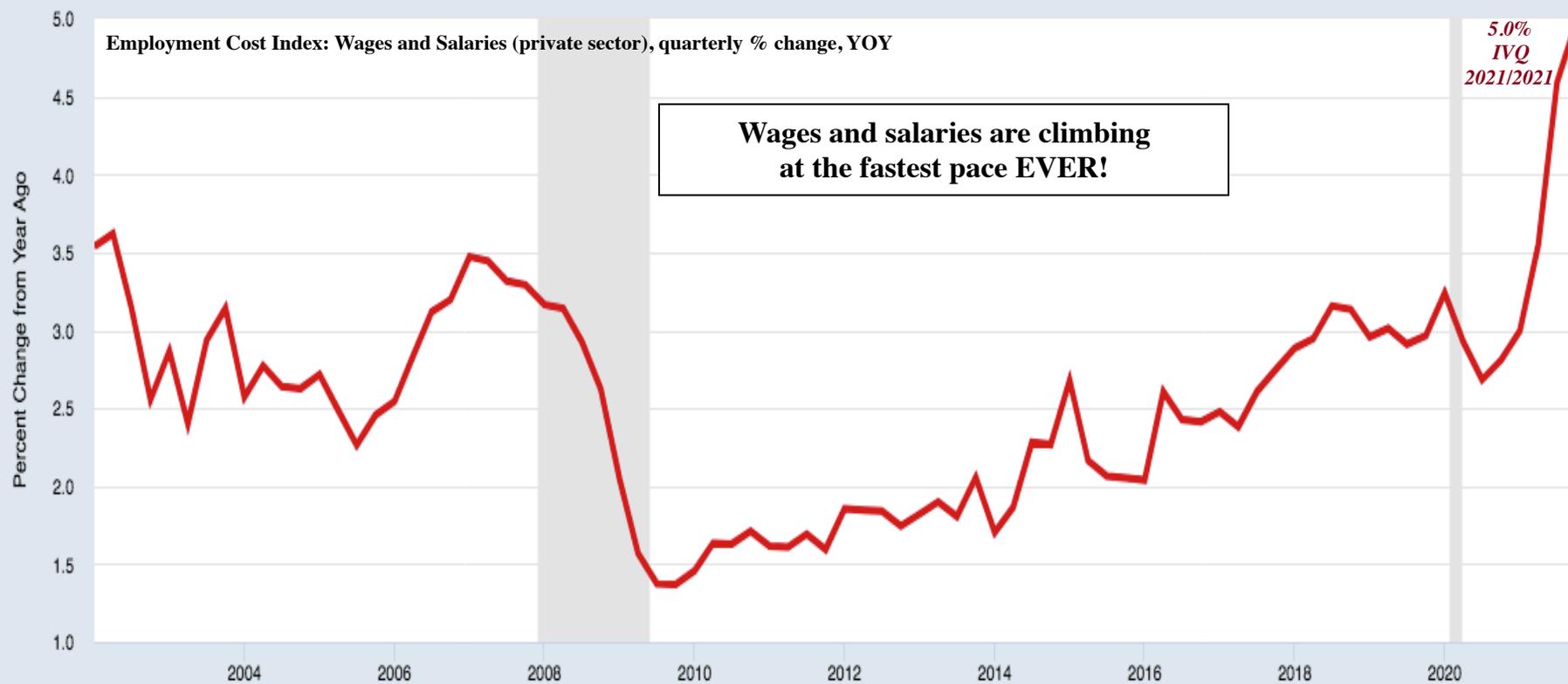


Source: U.S. Energy Information Administration

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



Wages and salaries are climbing at the fastest pace EVER!

5.0%
IVQ
2021/2022

Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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