

Economic Update & Outlook



ASU Retirees Presentation April 2023

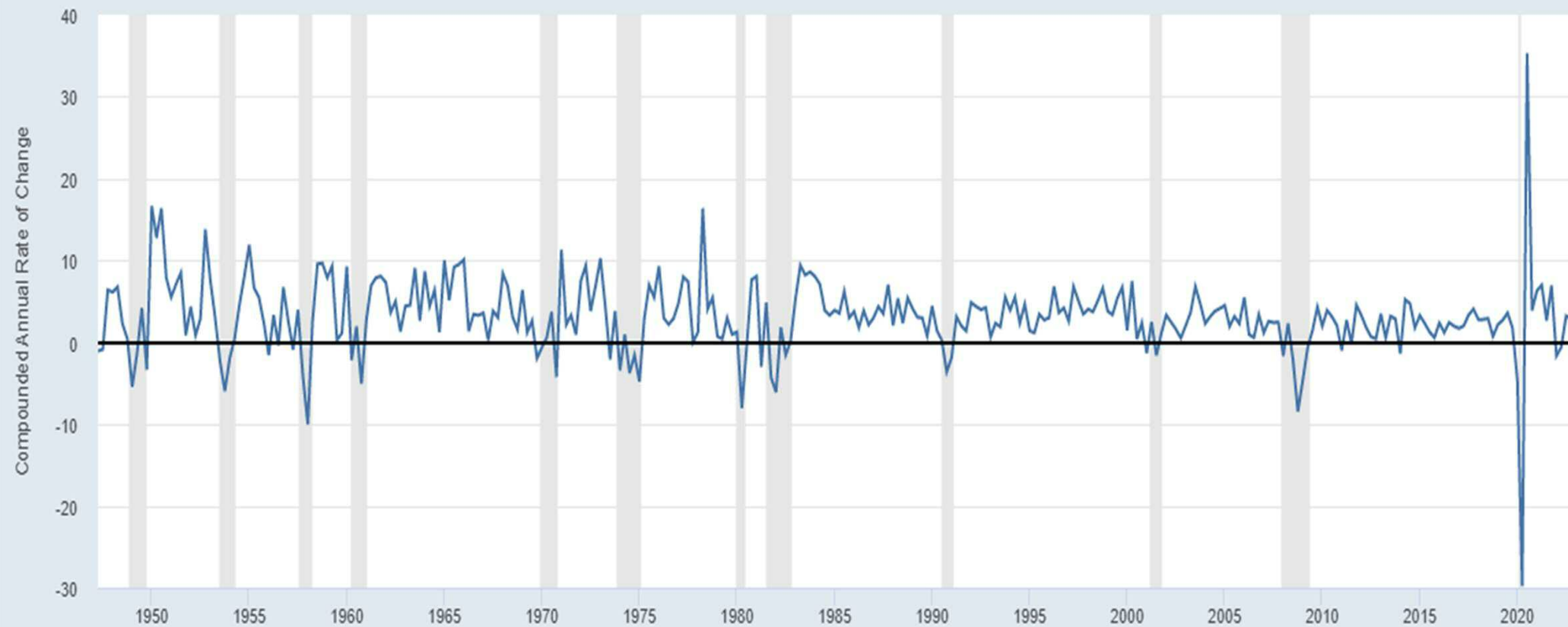
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Economic Update & Outlook Summary

- Arizona recovered from the pandemic downturn before most states; recent employment growth has been slower than the U.S. average, but the state added nearly 110,000 jobs in 2022
- Health care, manufacturing, transport, and scientific/tech industries are among the strongest in the nation; unemployment is currently near a 40 year low
- Declining housing affordability from strong demand, inflation and rate hikes is a threat to growth; but the Phoenix MSA had greater net migration than any other metro area last year, and population gains are expected to continue with the State's OEO seeing significant gains.
- Aggressive Fed policy may trigger a national recession, bringing higher unemployment rates, reduced job growth, and a slowdown in residential building; however, based on the current strength of the Arizona and Phoenix economies, the effect is should be milder than in many other states

For Today

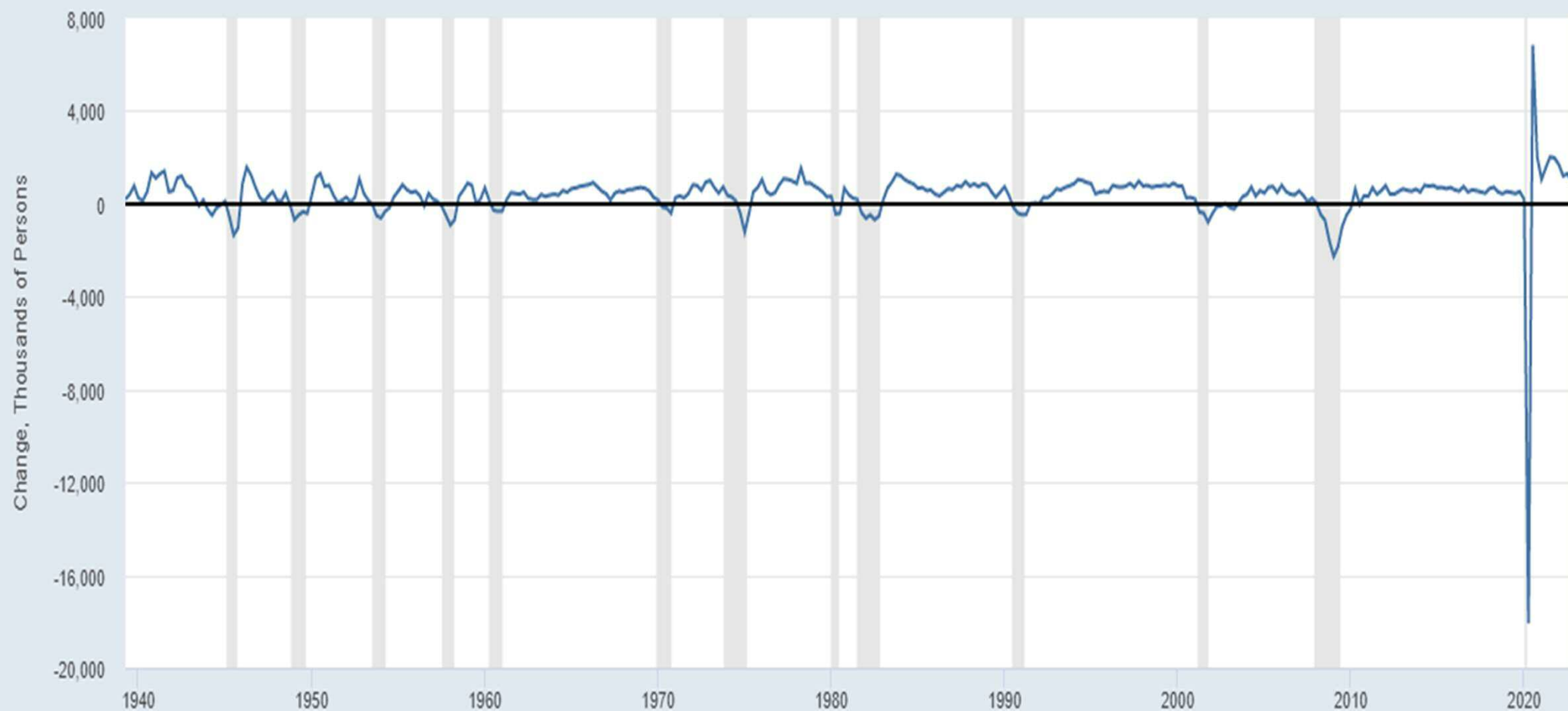
- Where is the Economy Today
- How did we get here
- What are some of the key determinants of Economic Performance
- What is Next?
- Key Trends
 - Globalism vs. Nationalism
 - Energy
 - Banking and a Credit Crunch
 - Consumer Trends



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Economic Analysis

fred.stlouisfed.org

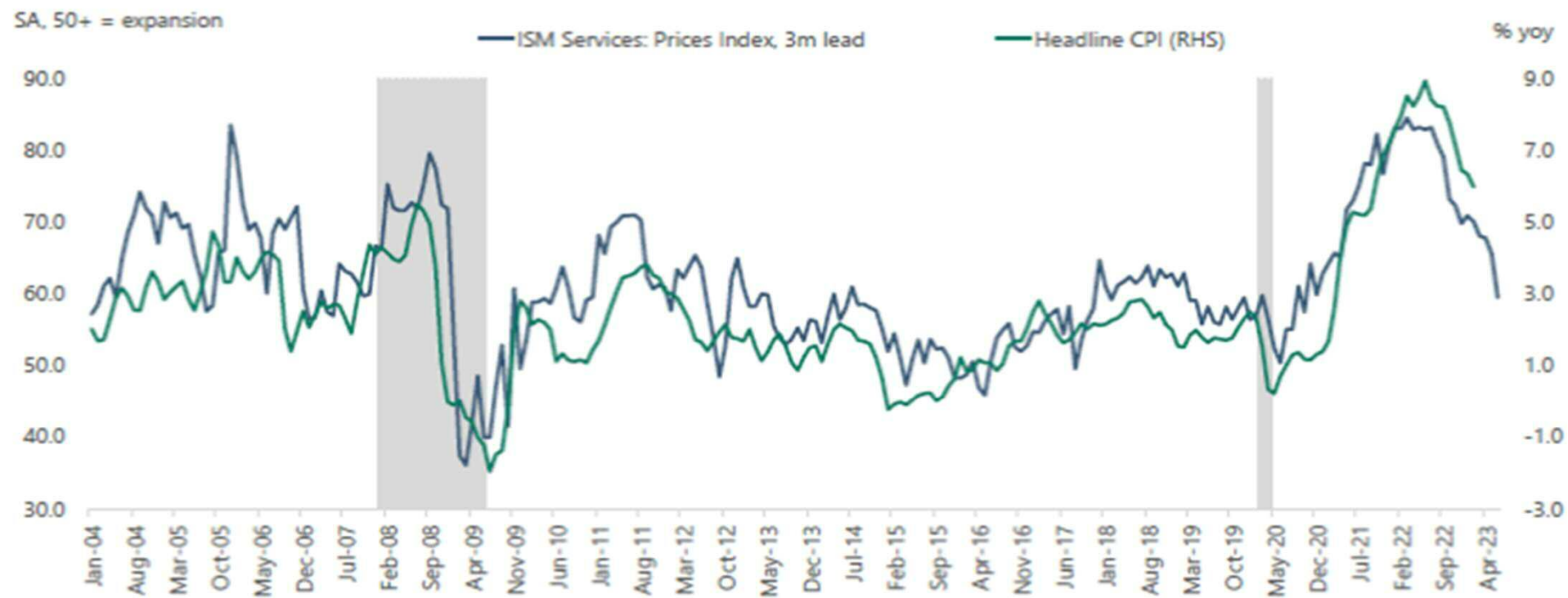


Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

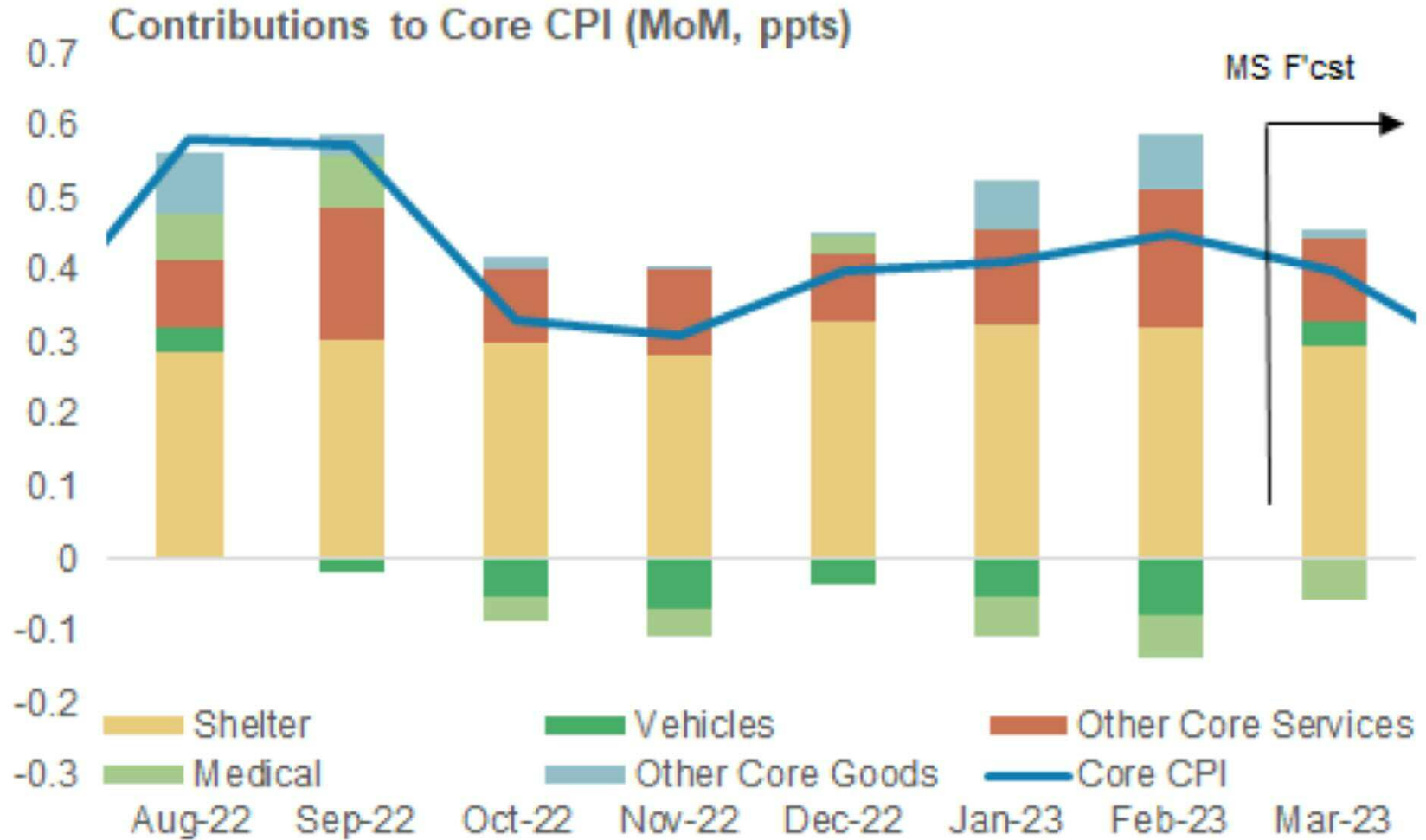
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Headline CPI coming down



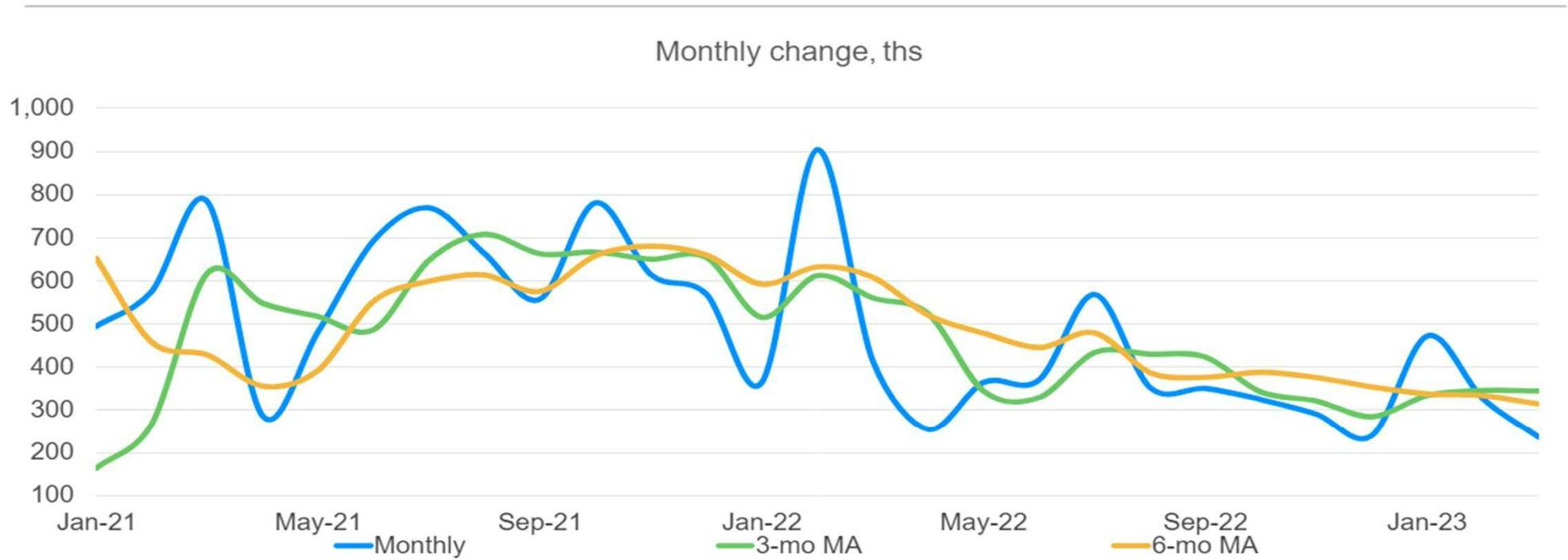
Source: ISM, BLS, Haver Analytics, Apollo Chief Economist

Exhibit 1: Core inflation to remain elevated on a pause in core goods deflation



Pace of Job Creation is Slowing

Tapping the Brakes



Sources: BLS, Moody's Analytics

Wage Growth Sliding Down

Annualized % change



Sources: BLS, Moody's Analytics

UI Claims Headed North?

Jobless claims and layoffs

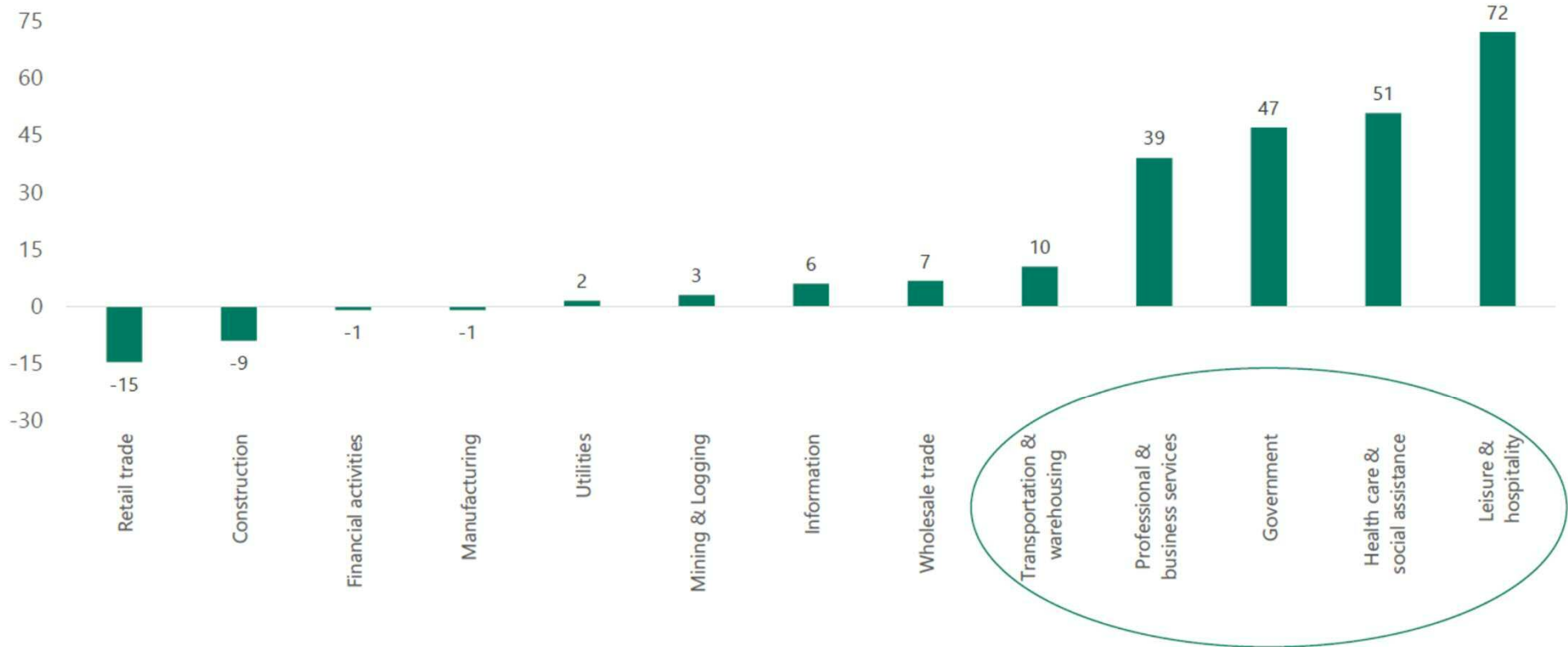


Sources: Challenger, Gray & Christmas, Inc., Cleveland Fed, ETA, Moody's Analytics

236K jobs added in March: Mainly driven by hiring in the service sector

Thousands

Nonfarm payrolls: Jobs added in March 2023

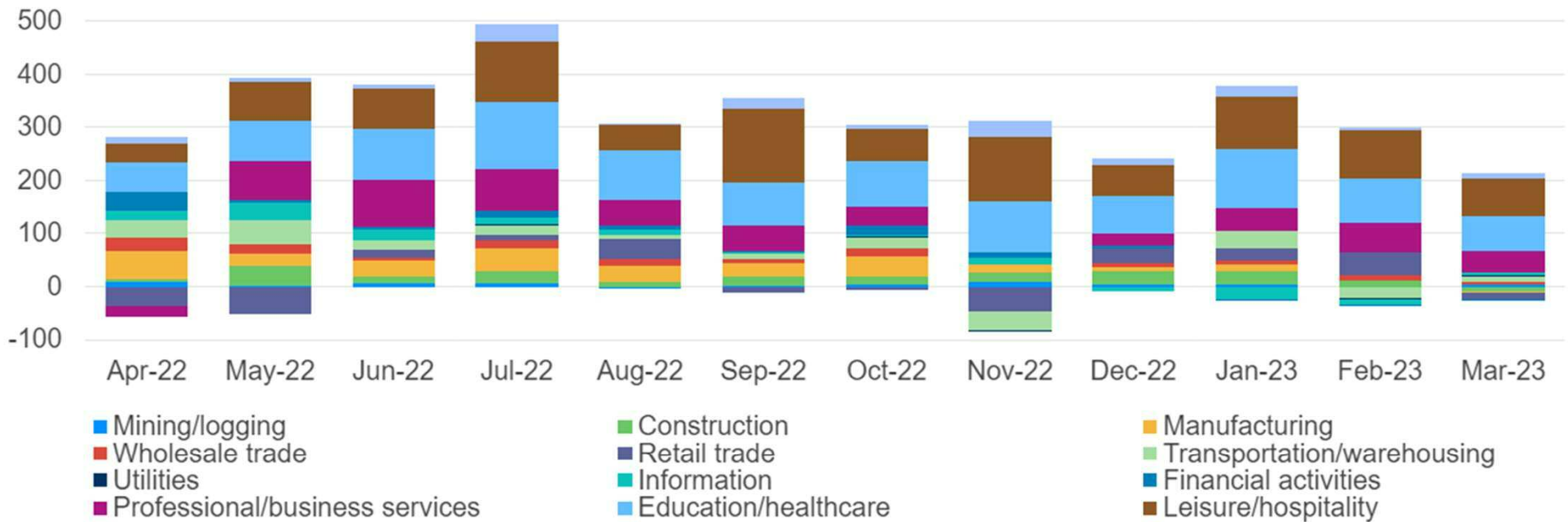


Most jobs created are in the service sector

Source: BLS, Haver, Apollo Chief Economist

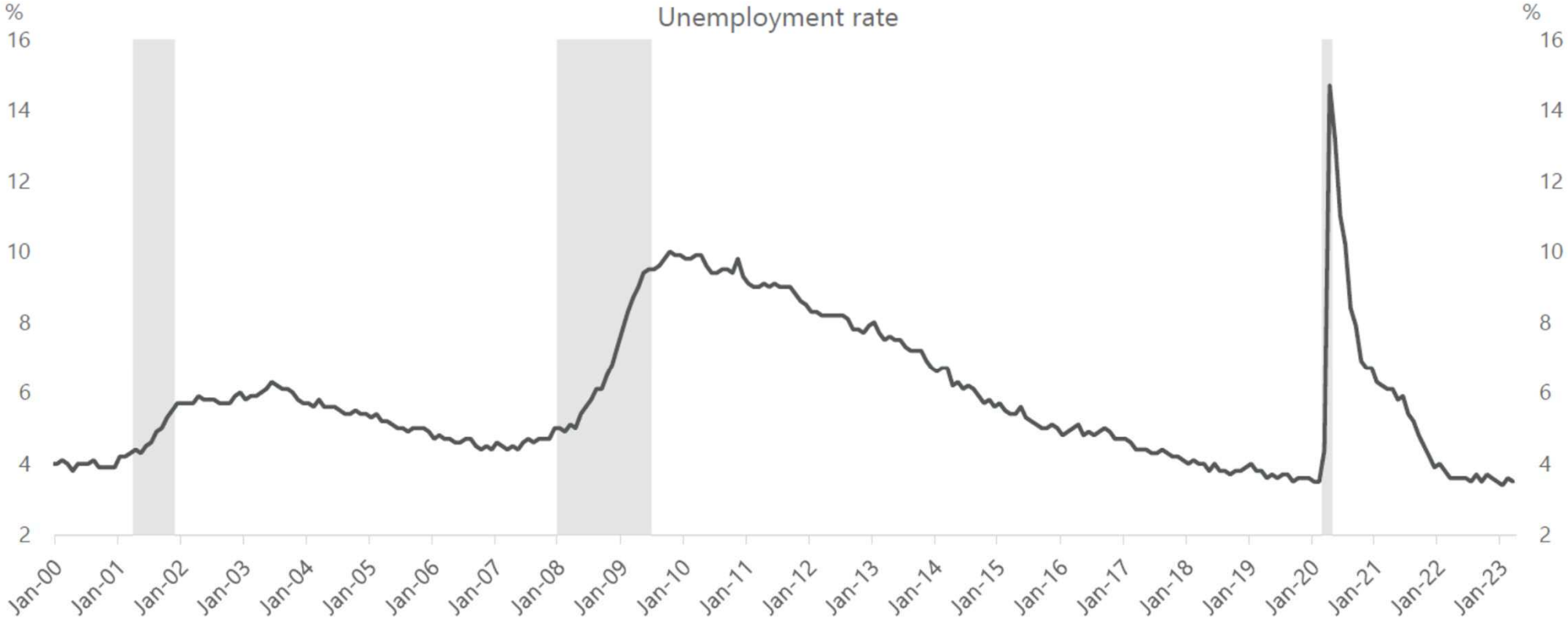
Same Industries Leading Job Gains

Nonfarm payrolls, change, ths

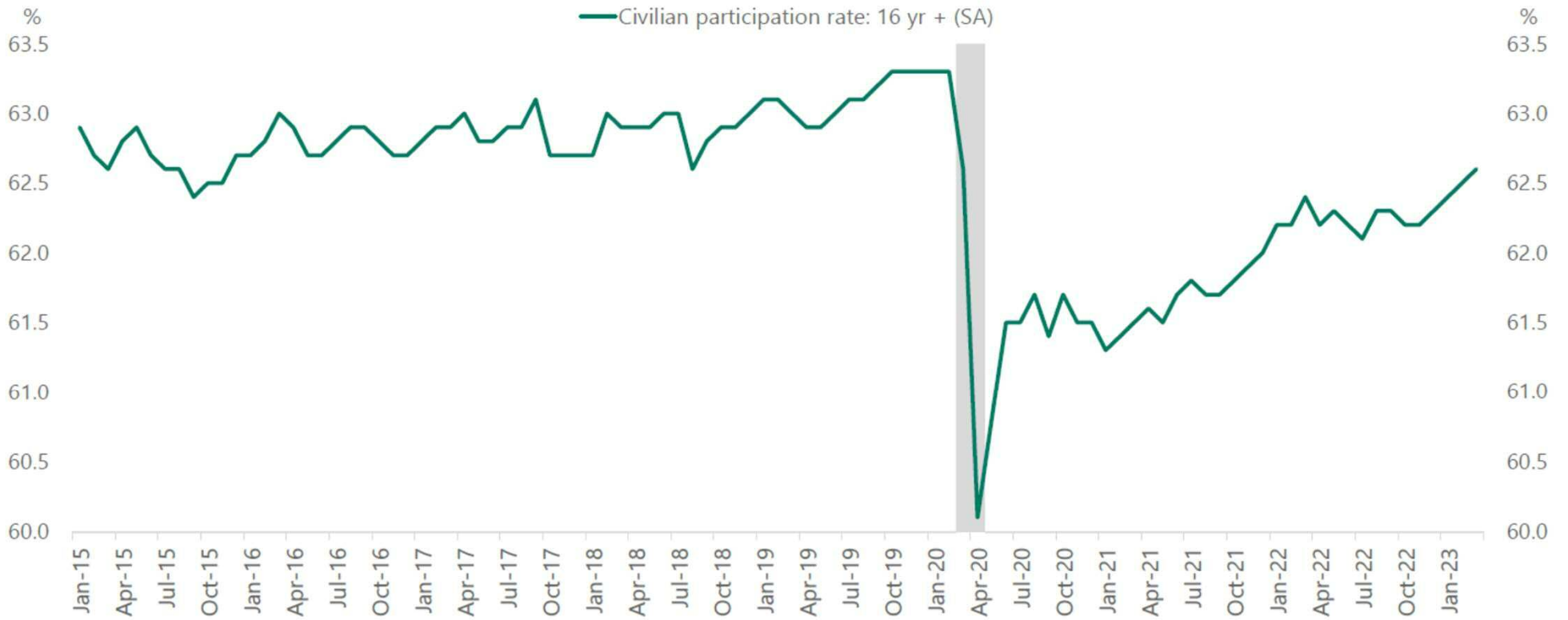


Sources: BLS, Moody's Analytics

Unemployment rate at 3.5%

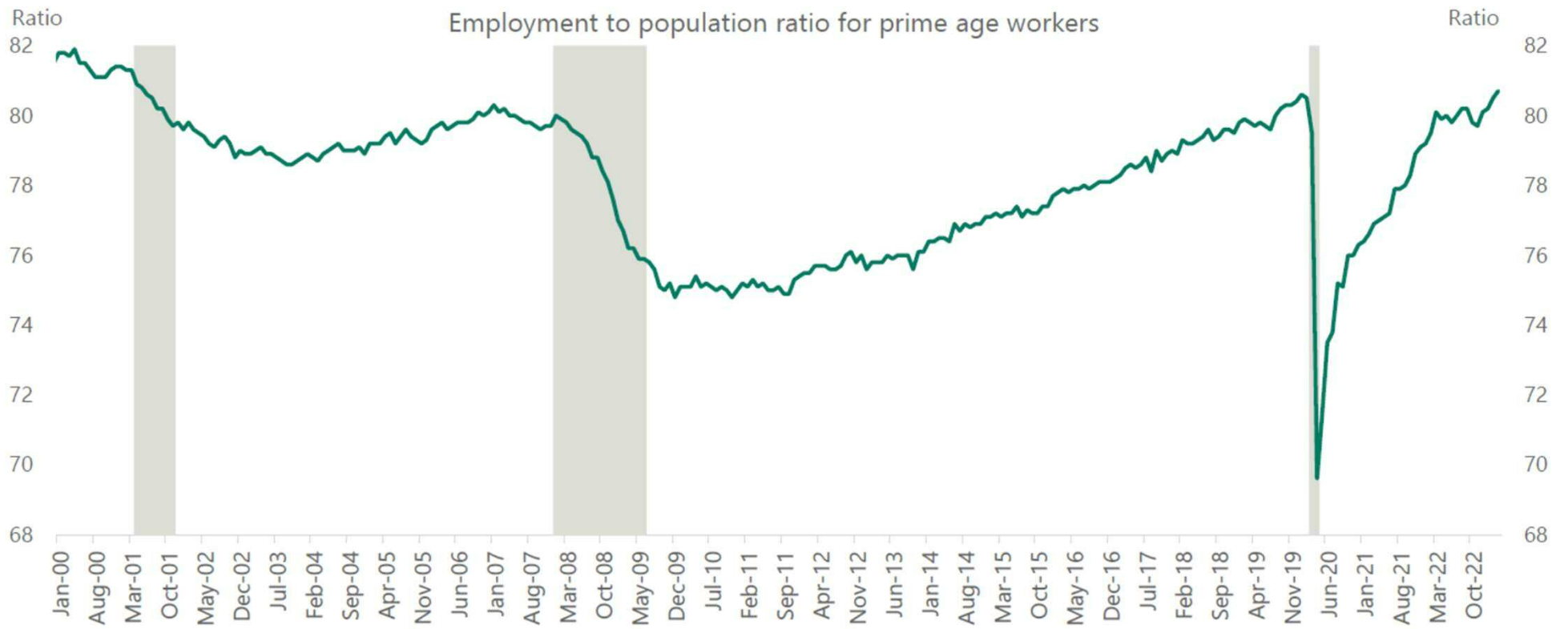


Labor force participation rate increased to 62.6% in March

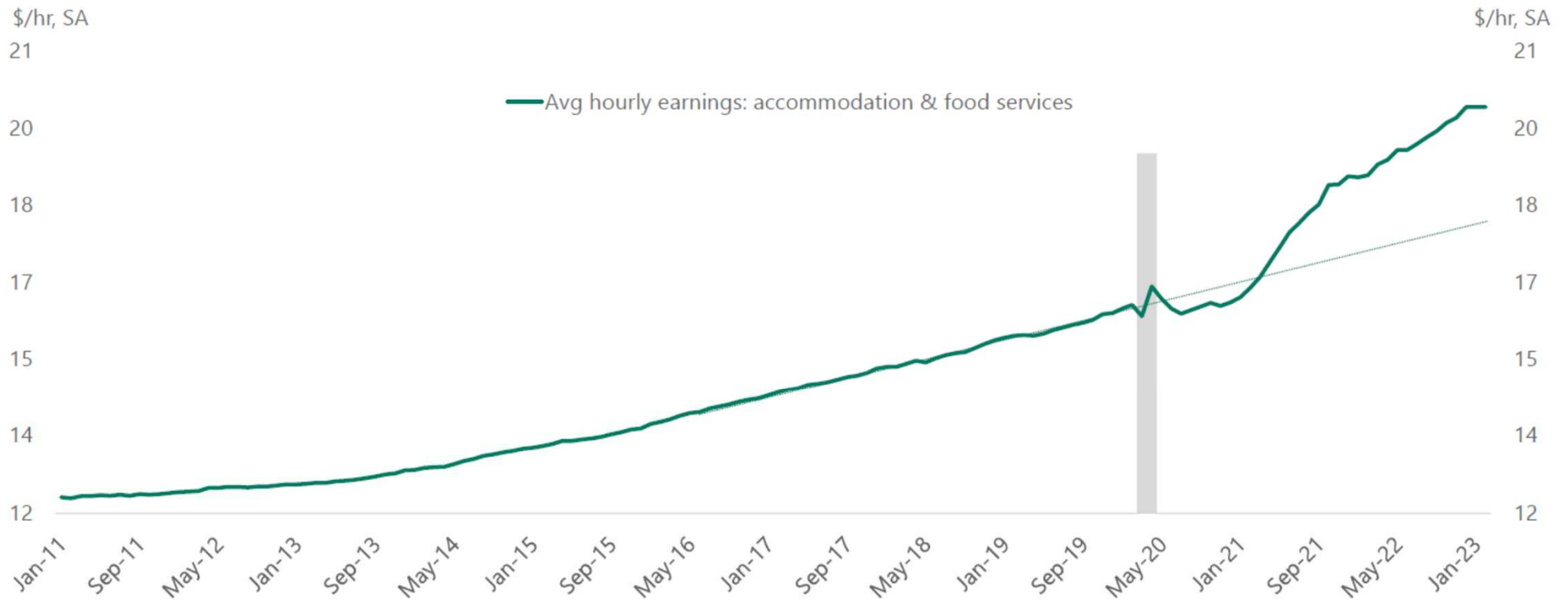


Source: BLS, Haver Analytics, Apollo Chief Economist

Employment-to-population ratio for prime age workers rising to post-pandemic high

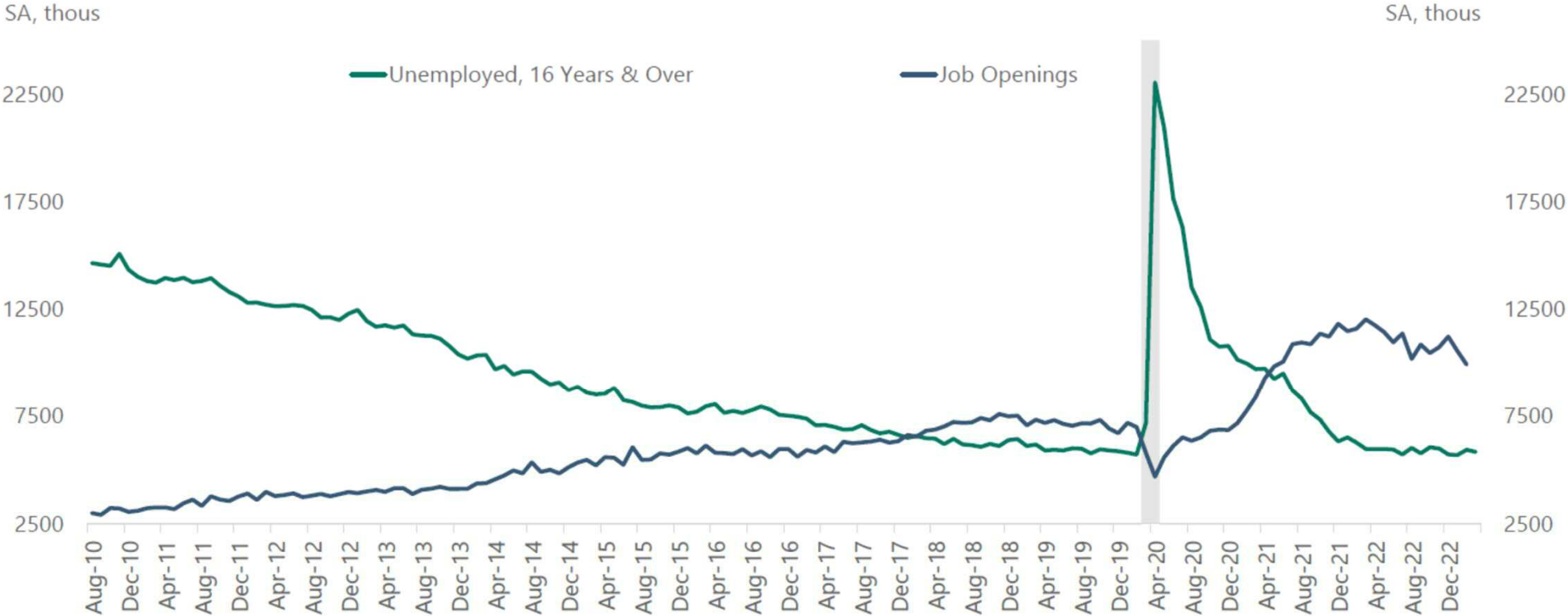


Hotel and restaurant wages substantially above pre-covid trend



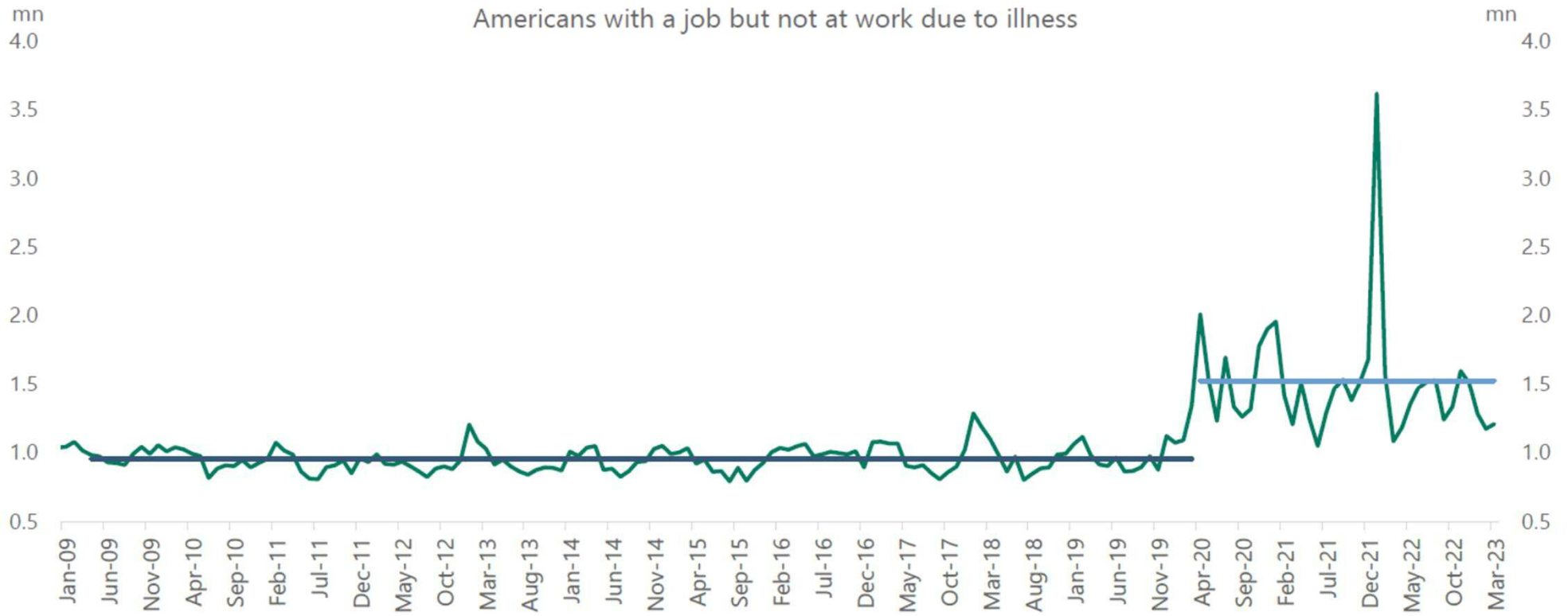
Source: BLS, Haver Analytics, Apollo Chief Economist

9.9mn job openings and 6mn unemployed



Source: BLS, Haver Analytics, Apollo Chief Economist

Americans with a job but not at work due to illness



Source: BLS, Haver Analytics, Apollo Chief Economist

Working age immigrant population is up 4 million over the past 2½ years



Source: BLS, Haver Analytics, Apollo Chief Economist

Where Do We Go From Here? Blue Chip Forecast

Blue Chip Forecasts (pct)

	2023			2024		
	high 10	consensus	low 10	high 10	consensus	low 10
	GDP	1.5	.7	.1	2.0	1.2
CPI	4.2	3.6	2.8	2.8	2.4	2.0
Unemp	4.5	4.0	3.6	5.3	4.6	3.9
10 Yr Note	4.0	3.6	3.1	3.9	3.3	2.7

Source: *Blue Chip Economic Indicators*, Feb 10, 2023

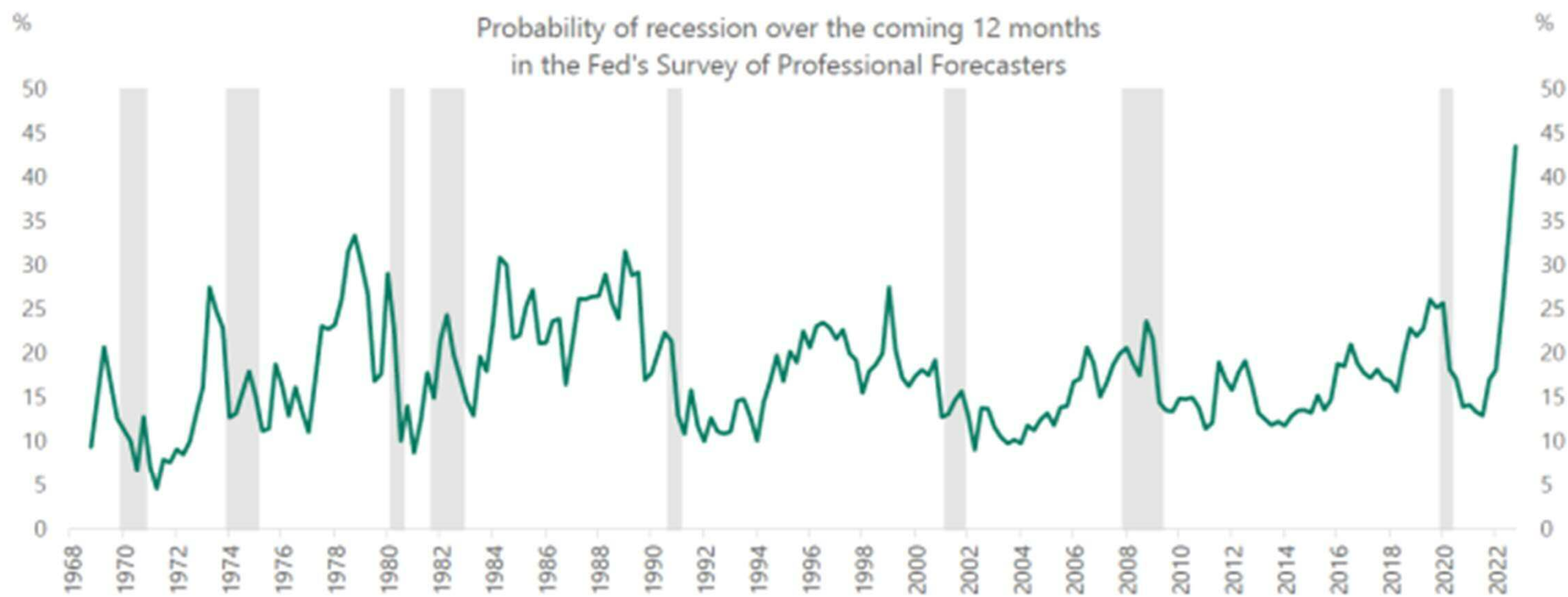
Inflation Projections
Morgan
Stanley

	12-month percent change			
	Headline PCE	Core PCE	Headline CPI	Core CPI
Jan-22	6.1	5.2	7.6	6.1
Feb-22	6.4	5.4	8.0	6.4
Mar-22	6.8	5.4	8.5	6.5
Apr-22	6.4	5.0	8.2	6.1
May-22	6.5	4.9	8.5	6.0
Jun-22	7.0	5.0	8.9	5.9
Jul-22	6.4	4.7	8.4	5.9
Aug-22	6.3	4.9	8.2	6.3
Sep-22	6.3	5.2	8.2	6.6
Oct-22	6.1	5.1	7.8	6.3
Nov-22	5.6	4.8	7.1	6.0
Dec-22	5.3	4.6	6.4	5.7
Jan-23	5.4	4.7	6.3	5.5
Feb-23	5.0	4.6	6.0	5.5
Mar-23	4.3	4.6	5.1	5.6
Apr-23	4.4	4.6	5.0	5.4
May-23	3.9	4.5	4.1	5.0
Jun-23	3.1	4.0	3.1	4.6
Jul-23	3.3	4.2	3.2	4.4
Aug-23	3.3	3.8	3.3	4.0
Sep-23	3.2	3.6	3.1	3.7
Oct-23	2.9	3.5	2.7	3.6
Nov-23	3.0	3.5	2.8	3.6
Dec-23	3.1	3.4	3.1	3.5
Jan-24	2.6	3.0	2.7	3.3
Feb-24	2.5	2.9	2.5	3.1
Mar-24	2.4	2.8	2.5	2.9
Apr-24	2.4	2.7	2.5	2.9
May-24	2.3	2.6	2.5	2.9
Jun-24	2.3	2.6	2.5	2.9
Jul-24	2.3	2.6	2.5	2.9
Aug-24	2.3	2.5	2.5	3.0
Sep-24	2.2	2.5	2.5	3.0
Oct-24	2.2	2.5	2.4	2.9
Nov-24	2.2	2.4	2.4	2.8
Dec-24	2.1	2.4	2.3	2.7

Released April 12, 2023

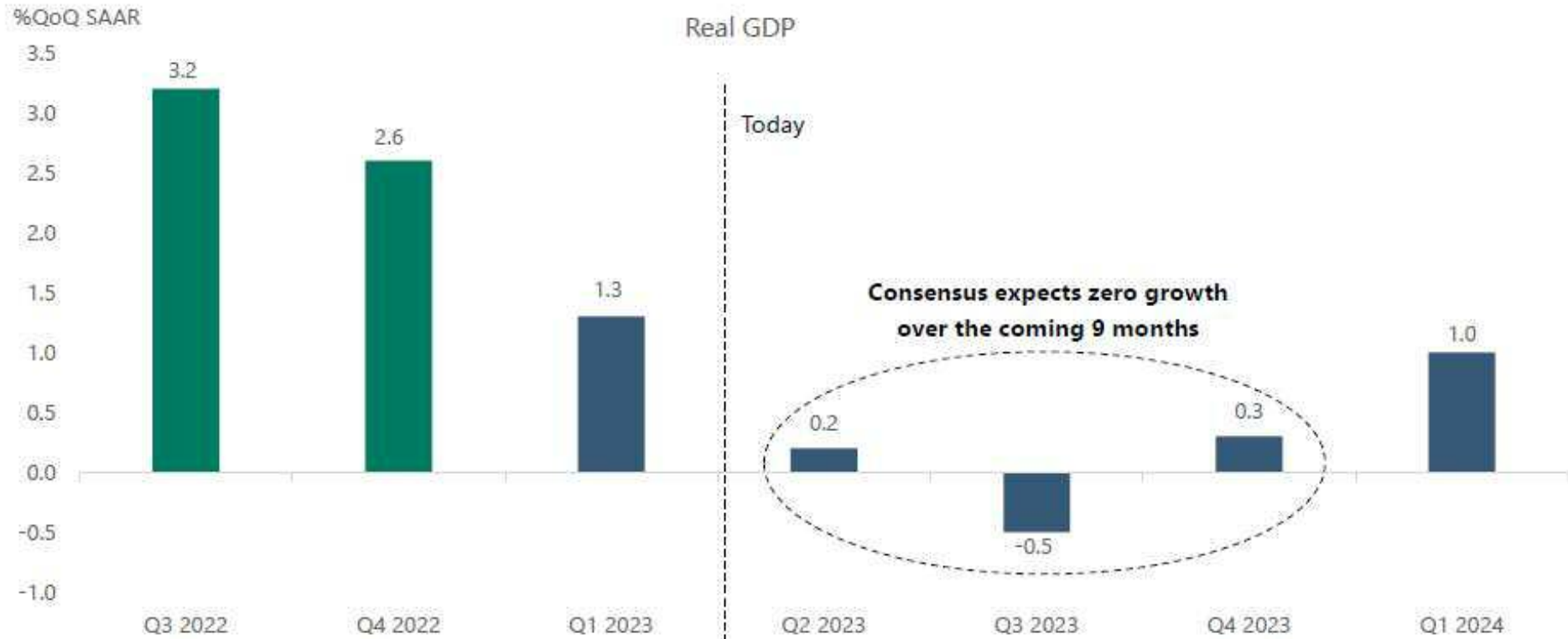
U.S. Consumer Price Index, % change yr ago, SA								
	Mar 23	Feb 23	Jan 23	Dec 22	Nov 22	Oct 22	Sep 22	Aug 22
CPI	5.0	6.0	6.3	6.4	7.1	7.8	8.2	8.2
Food	8.5	9.5	10.1	10.5	10.7	10.9	11.2	11.3
Energy	-6.4	5.0	8.4	7.1	13.1	17.7	19.9	23.8
Core CPI	5.6	5.5	5.5	5.7	6.0	6.3	6.6	6.3
Goods	1.6	1.0	1.3	2.2	3.7	5.1	6.6	7.0
Services	7.1	7.3	7.2	7.0	6.8	6.7	6.7	6.1

The most anticipated recession ever: Investors went into 2023 underweight risk

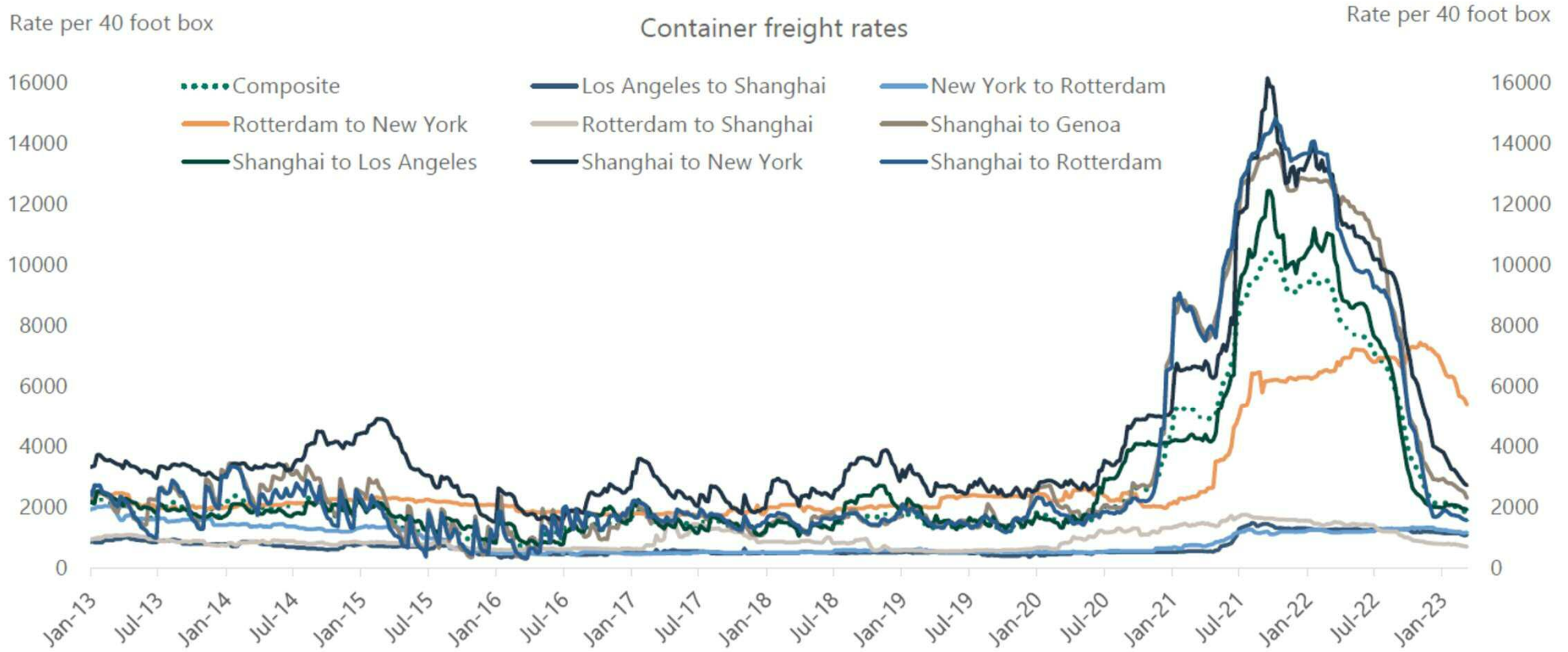


Source: Federal Reserve Bank of Philadelphia, Haver Analytics, Apollo Chief Economist

The consensus expects essentially zero percent growth for the coming three quarters

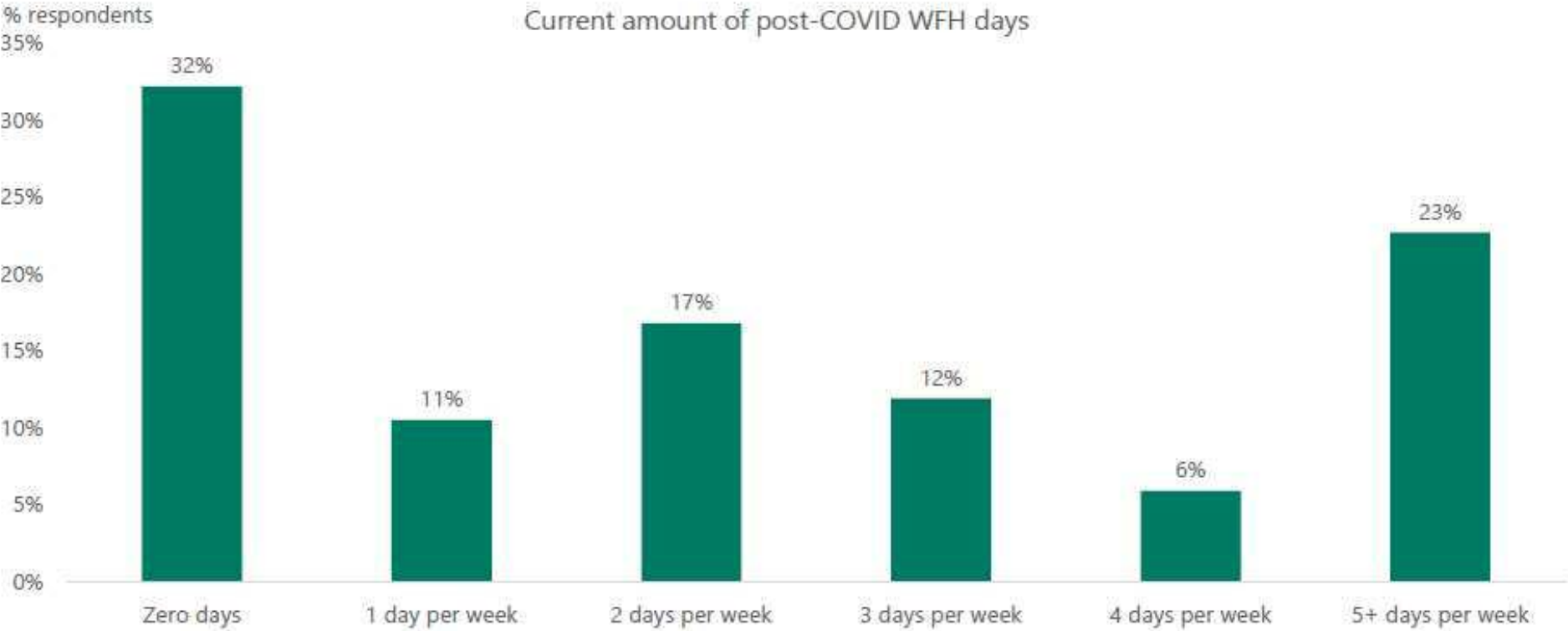


Container freight rates basically back at pre-pandemic levels



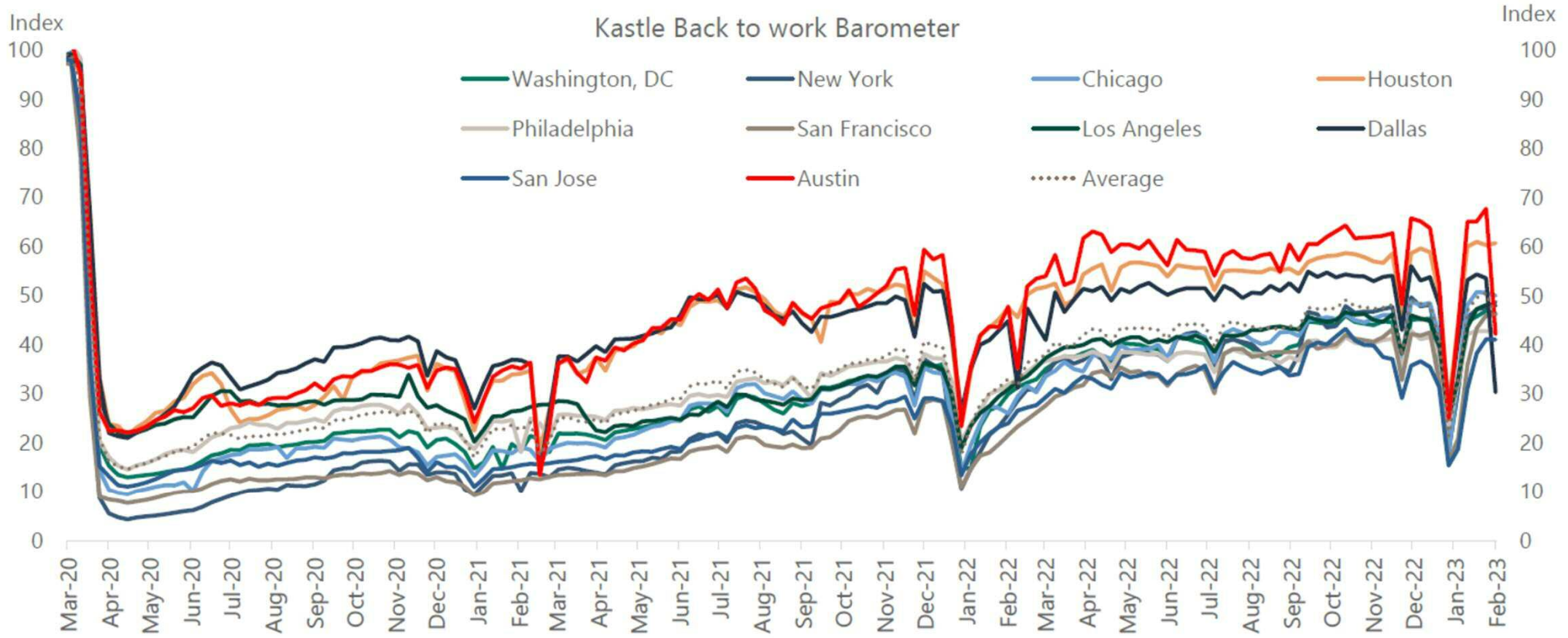
Source: WCI, Bloomberg, Apollo Chief Economist

Only 32% work five days in the office



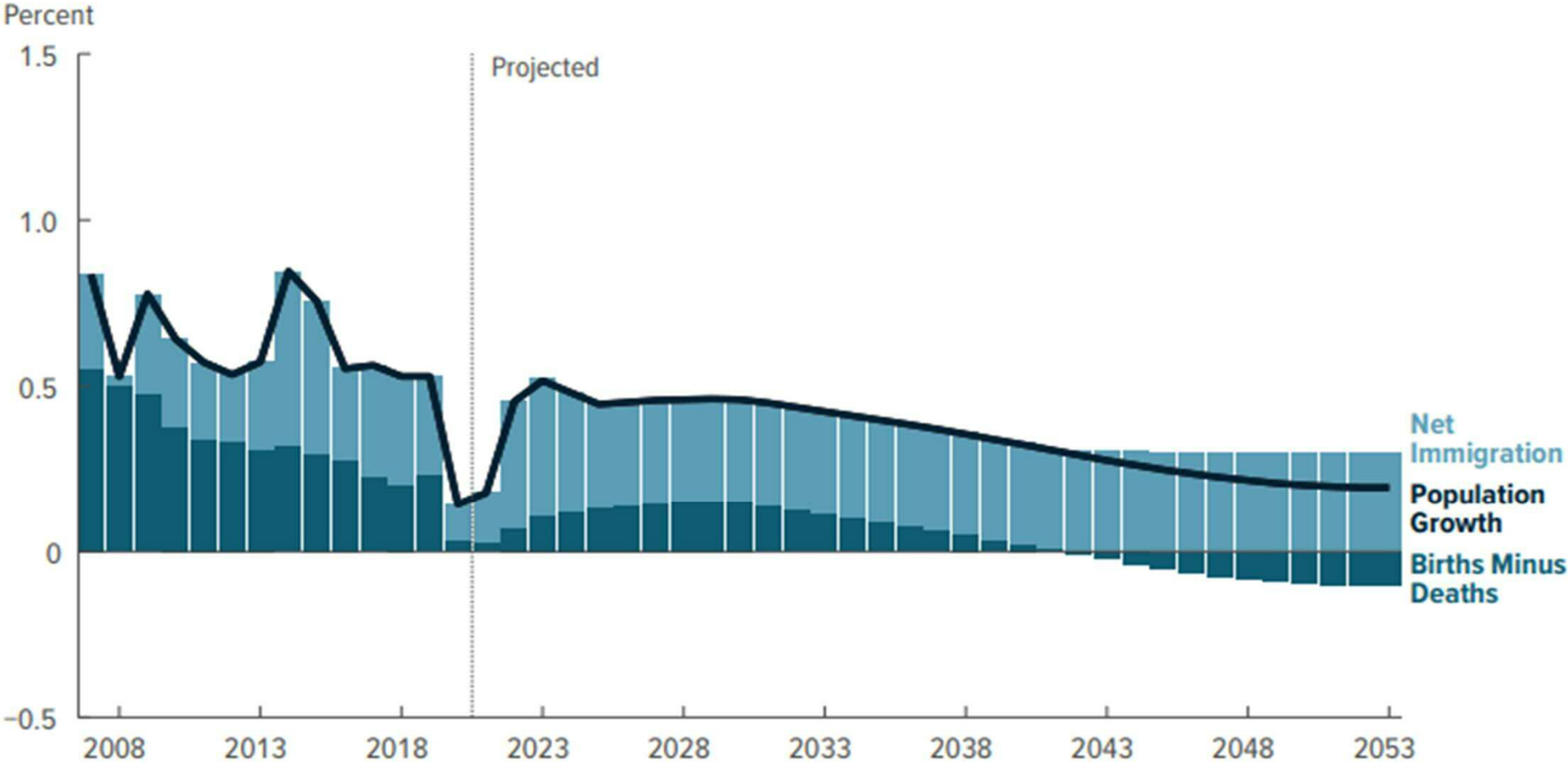
Source: Nick Bloom; Stanford, WFH Research, Apollo Chief Economist

New York City: Office use 48% of capacity

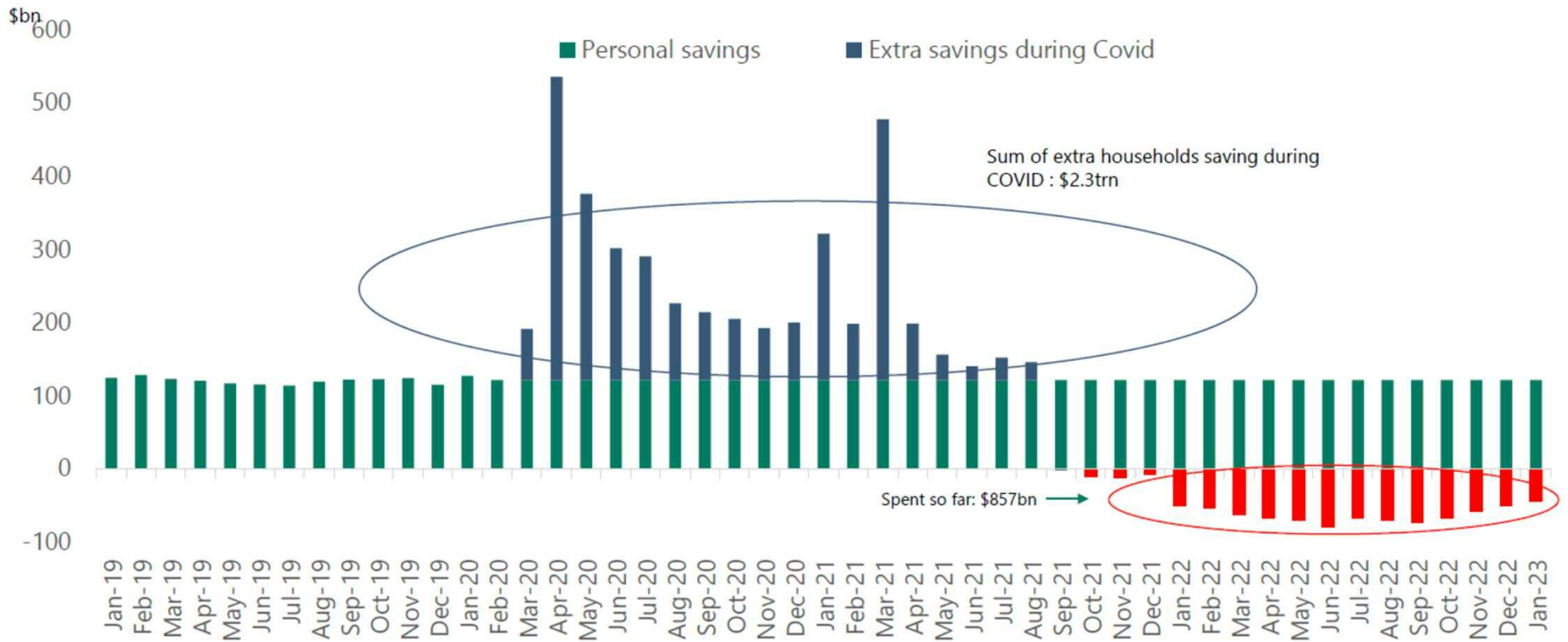


Source: Bloomberg, Apollo Chief Economist

Population Growth and Its Underlying Factors

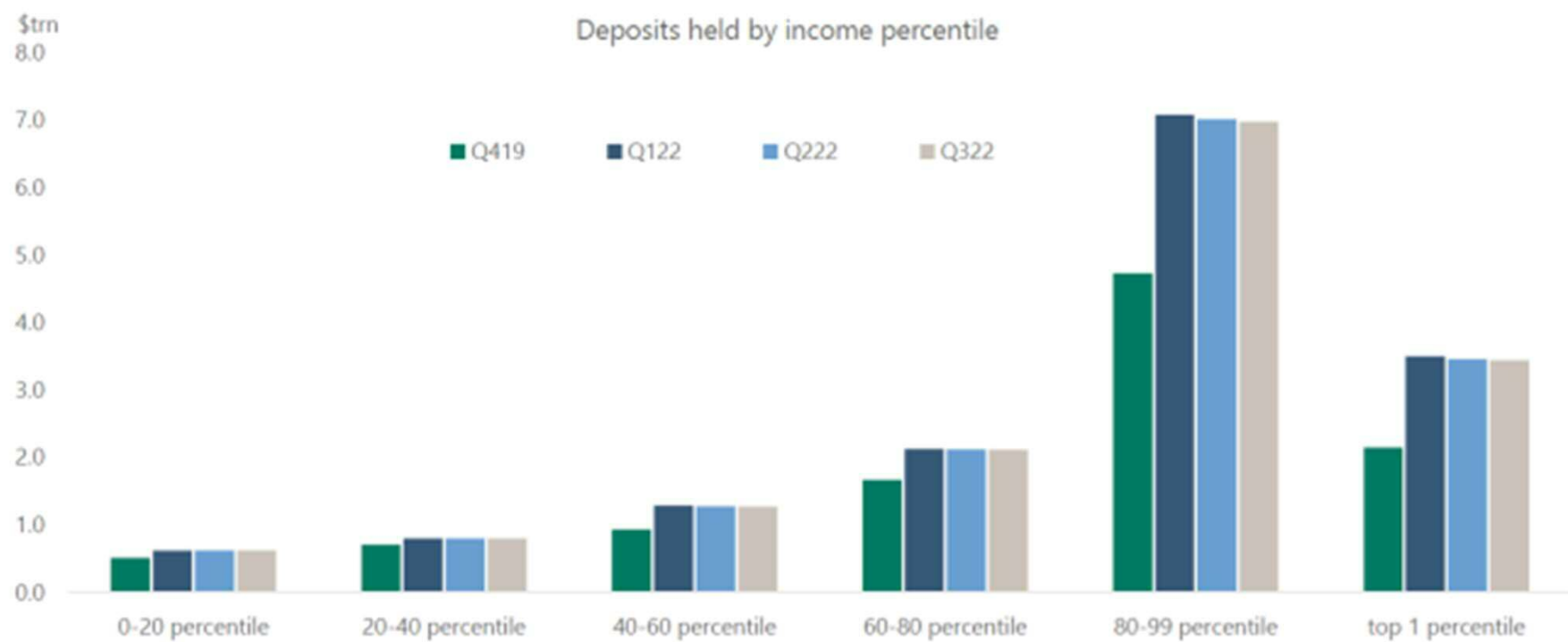


Households are running down their savings, but still about \$1.5trn left



Note: Bloomberg, Apollo Chief Economist

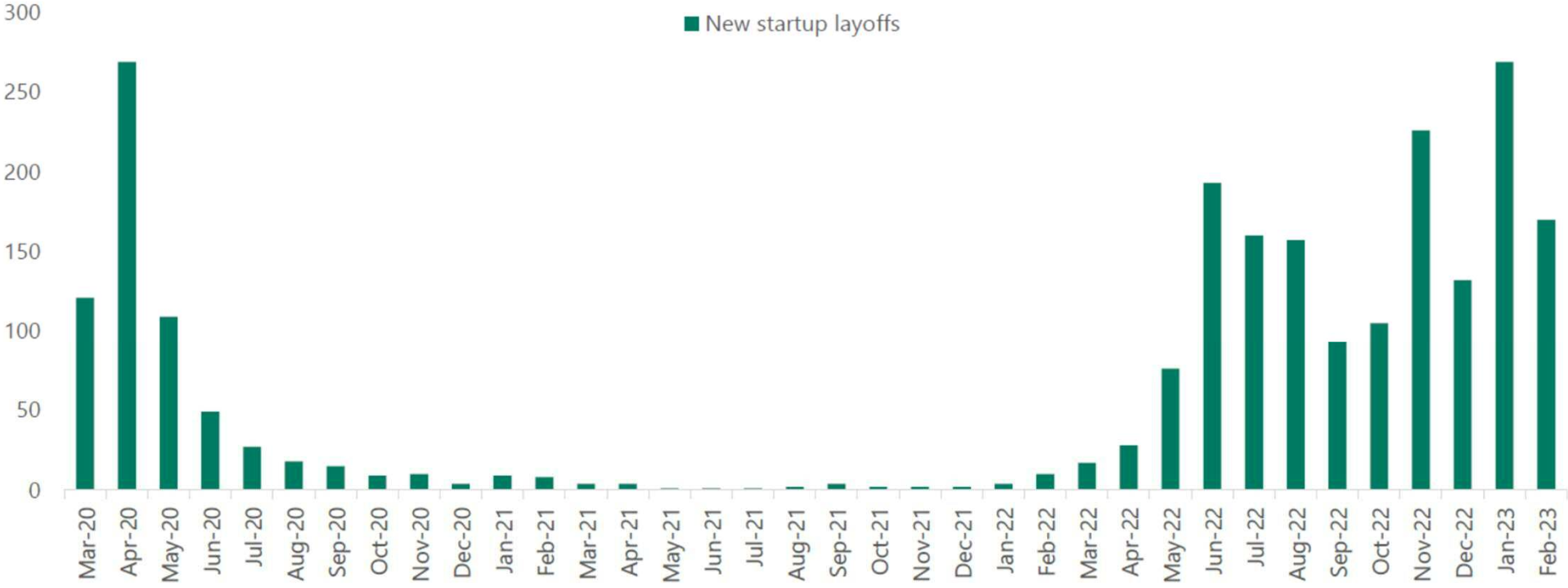
Household savings across different income groups



Source: FRB, Haver Analytics, Apollo Chief Economist

Layoffs at tech startups

of layoff events



Recent Trends

- Globalism vs. Nationalism
- Energy Investments and Fossil Fuel
- Bank Lending and SVB
- Health of the Consumer

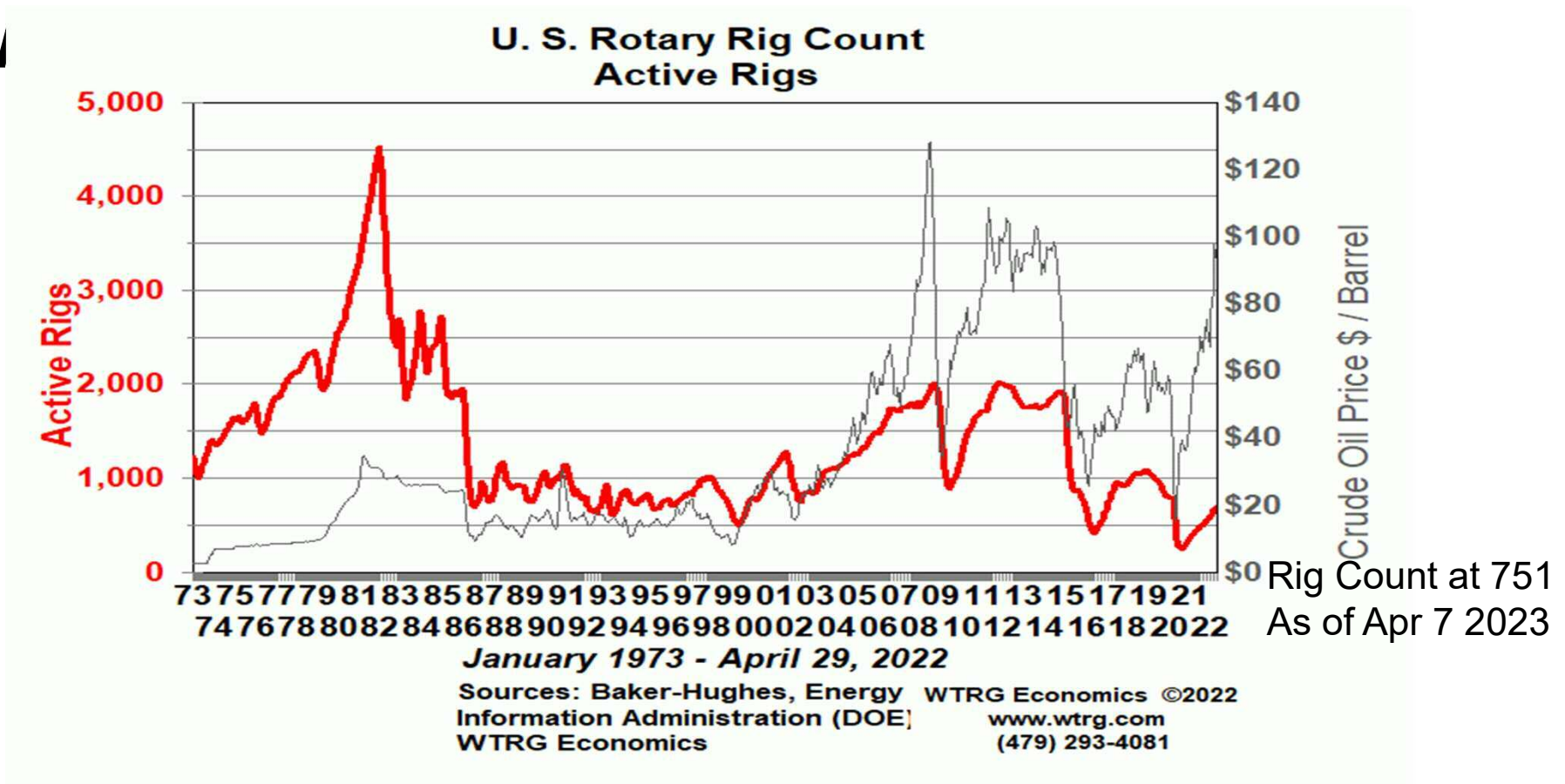
Globalism vs. Nationalism

- Protectionist vs. Free Trader
- Immigration restrictions vs. Pathways
- Economic isolation and content restrictions vs. Economic Integration
- Tariffs vs. no barriers on trade The world BDT and DDT
- The U.S. imposes a 25% tariff on imported pickup trucks, which is higher than the 2.5% tariff that is applied to most other imported passenger vehicles. It is called the chicken tax...

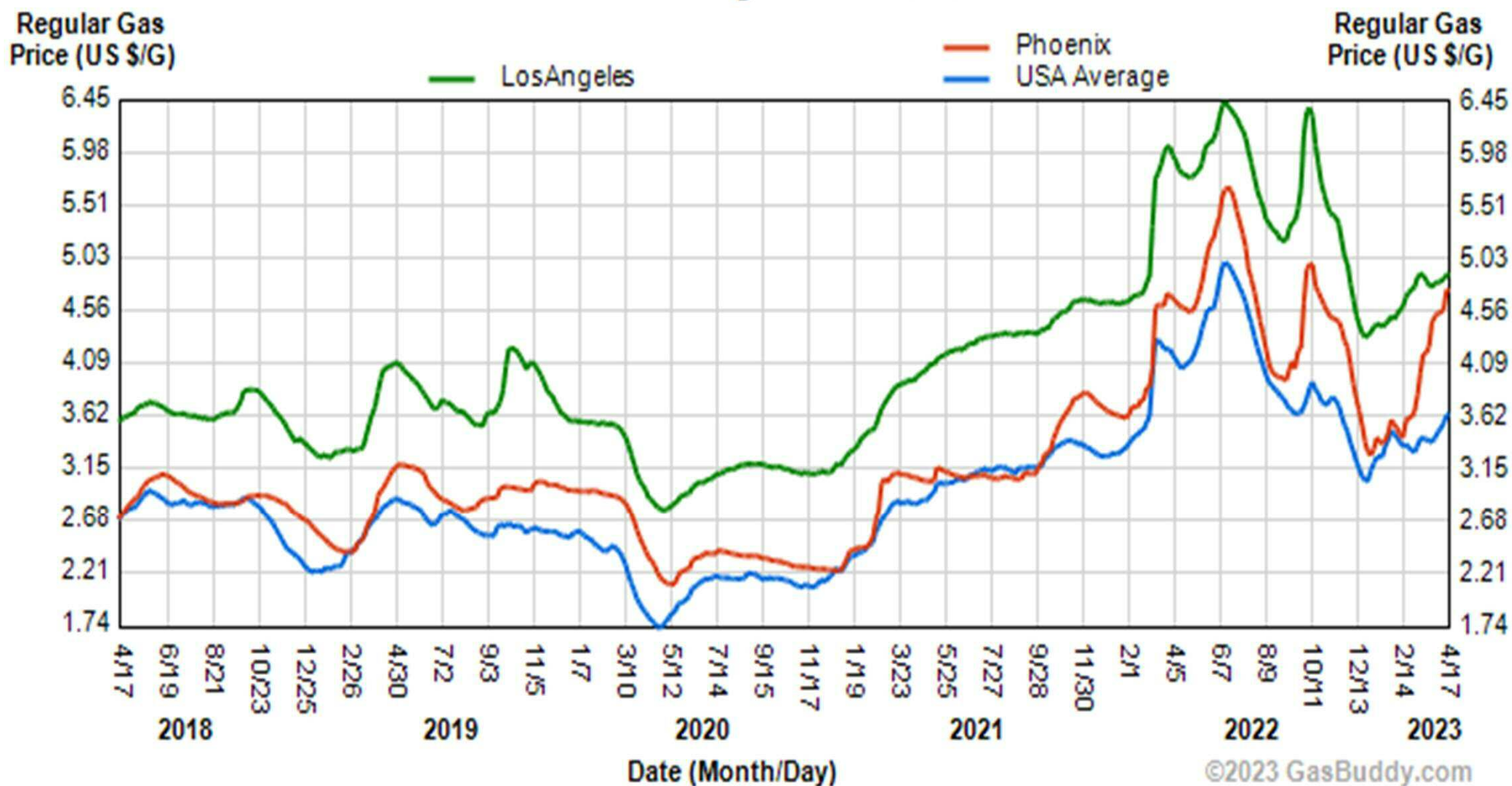
Why isn't there more Oil Patch Investment

1. **Environmental concerns:** There is a growing awareness of the negative environmental impact of fossil fuels, and many investors are shifting their focus to renewable energy sources that are considered more sustainable in the long term. This shift in priorities has led to reduced demand for oil production investments.
 2. **Economic factors:** The oil industry is subject to volatility in oil prices, and the COVID-19 pandemic has had a significant impact on the demand for oil. As a result, some investors may be hesitant to invest in an industry with such uncertainty and risk.
 3. **Increased competition:** The oil industry is facing increased competition from alternative energy sources, such as solar and wind power. This competition may lead to decreased profitability in the oil industry, which could make it less attractive to investors.
 4. **Political risks:** There is always the risk of political instability in countries that are major oil producers. This risk can create uncertainty and make it more difficult for investors to predict the future of the industry.
- **Overall, the reasons for reduced investment in oil production are complex and multifaceted, but environmental concerns, economic factors, increased competition, and political risks all play a role.**

Investment In The Oil Patch Remains Low



60 Month Average Retail Price Chart



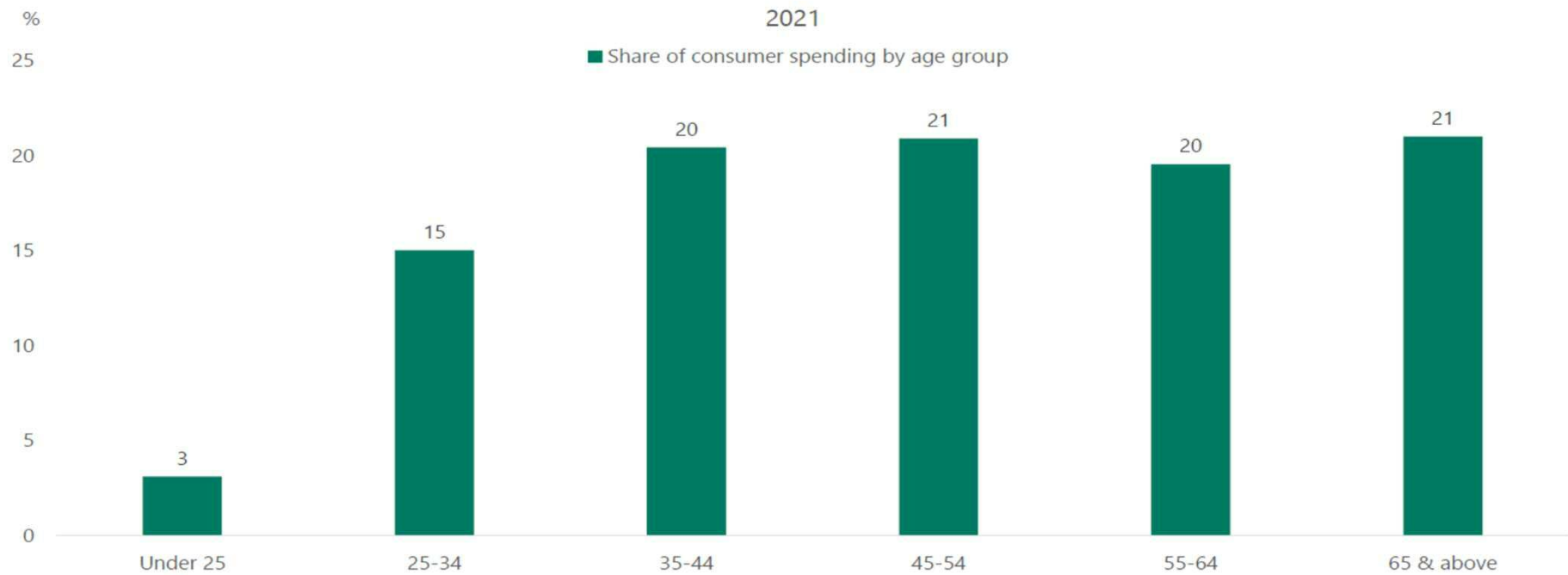
What are the implications of SVB Failure

- Disintermediation from Community Banks
- More Bank Regulation
- Less lending especially in the Commercial Real Estate Sector
- Credit Crunch?
- More Likely slowdown in the next few months as lending slows for autos, homes, commercial real estate

Need to monitor Senior Consumption Trends

APOLLO

People age 55 and above account for 41% of total consumer spending





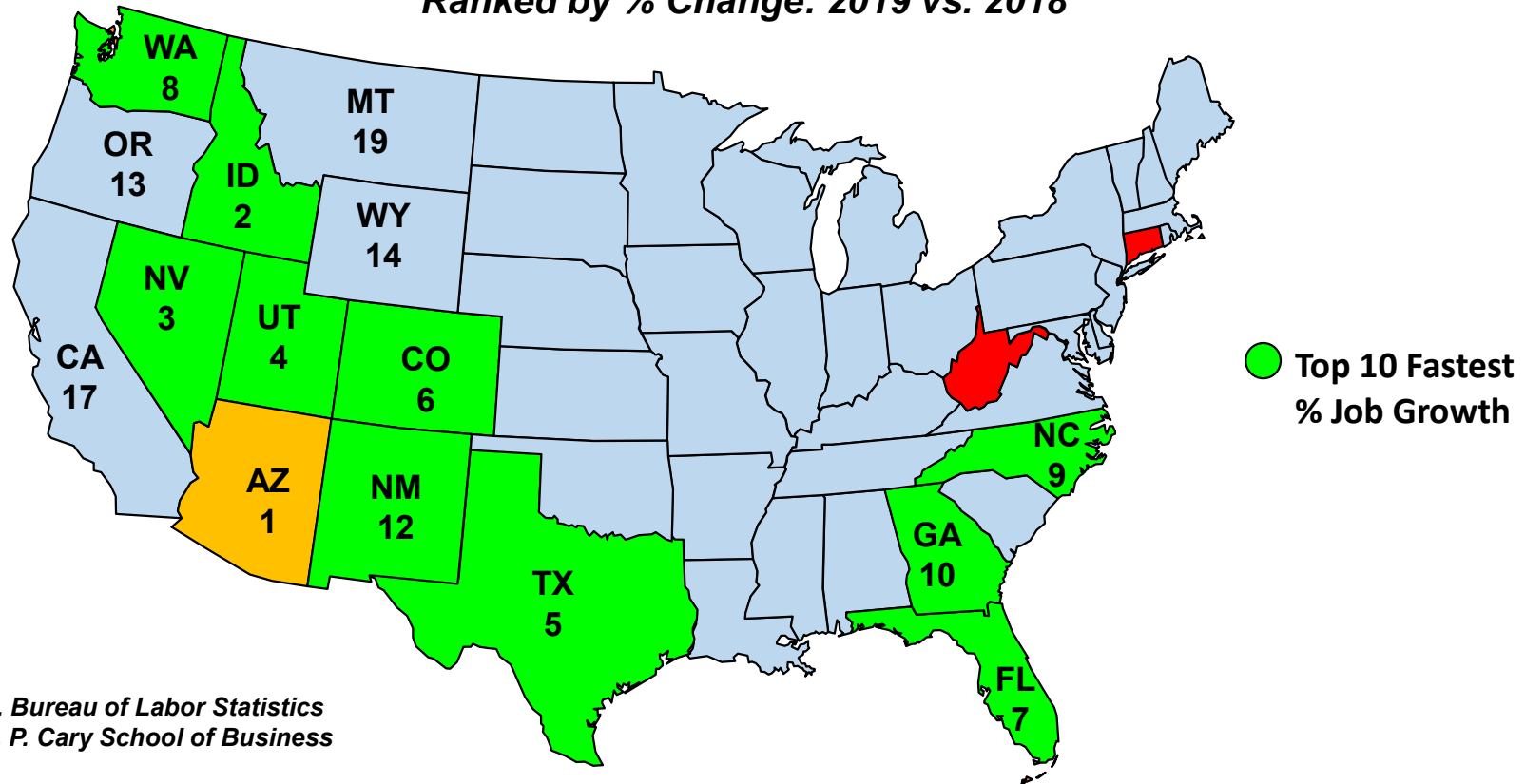
Arizona Economic Outlook

Indicators	2021	2022	2023
Employment Growth	3.6%	3.7%	1.6%
Job Creation	104,100	109,630	50,500
Unemployment (<i>Dec.</i>)	2.9%	4.0%	6.0%
Population Increase	98,330	123,819	125,733
Single Family Permits	46,561	37,326	35,600

Source: W. P. Carey School of Business, based on data available November 10, 2022

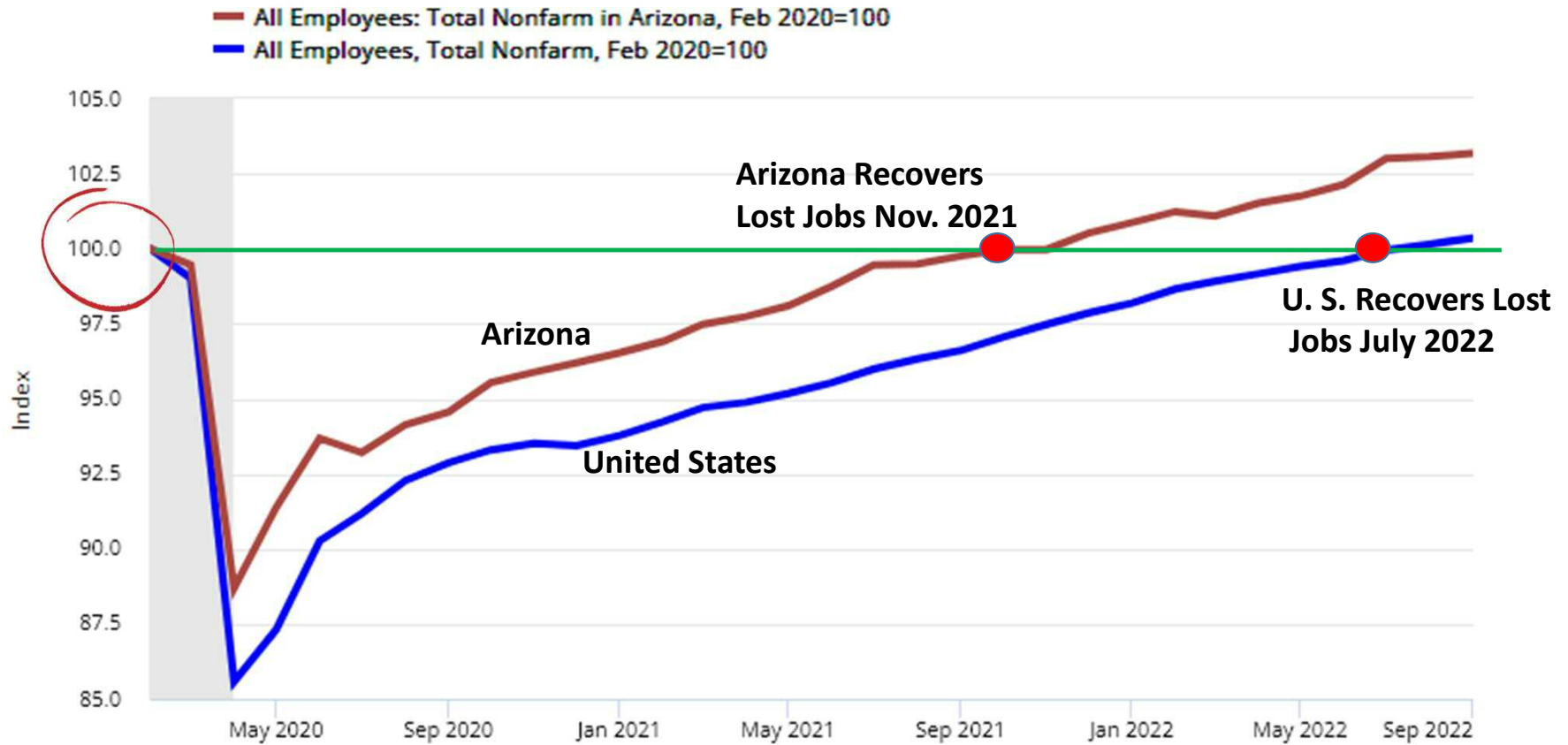
Pre-Covid (2019) Arizona Outpaced All U.S. States in Job Creation

Ranked by % Change: 2019 vs. 2018

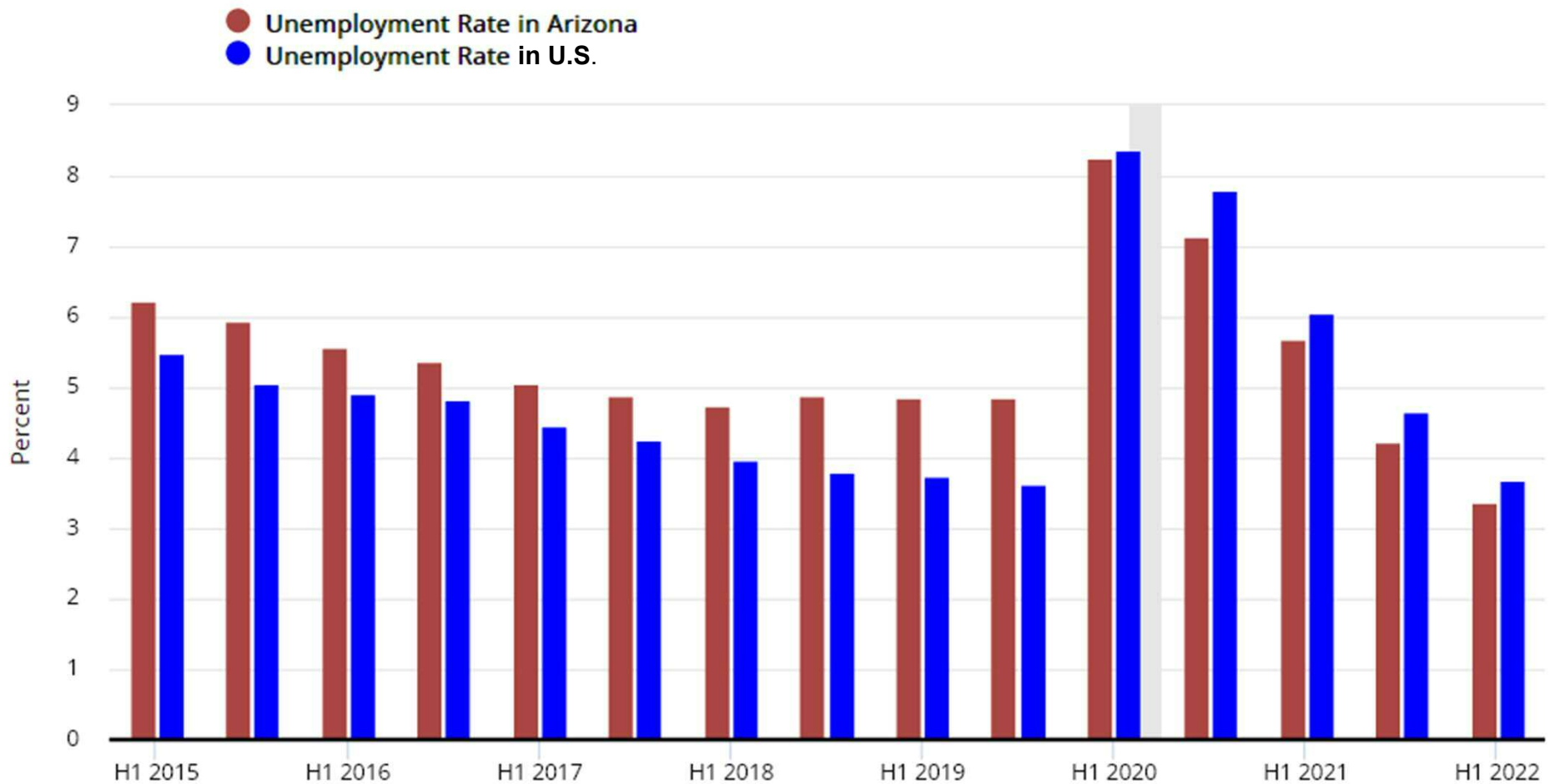


U. S. Bureau of Labor Statistics
& W. P. Cary School of Business

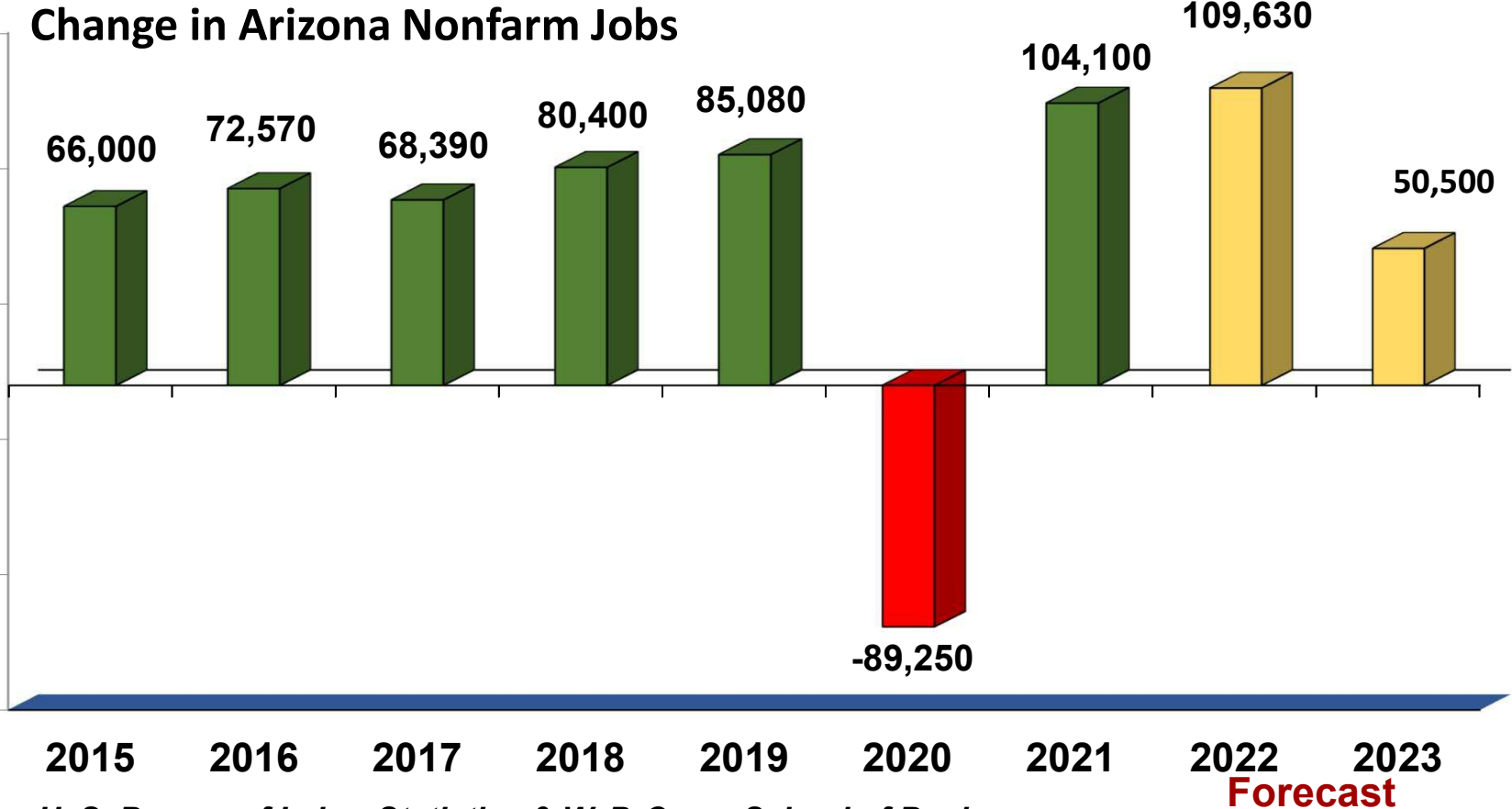
Arizona Recovered Lost Jobs Before U.S.



Arizona Unemployment Below U.S. Rate in Recovery



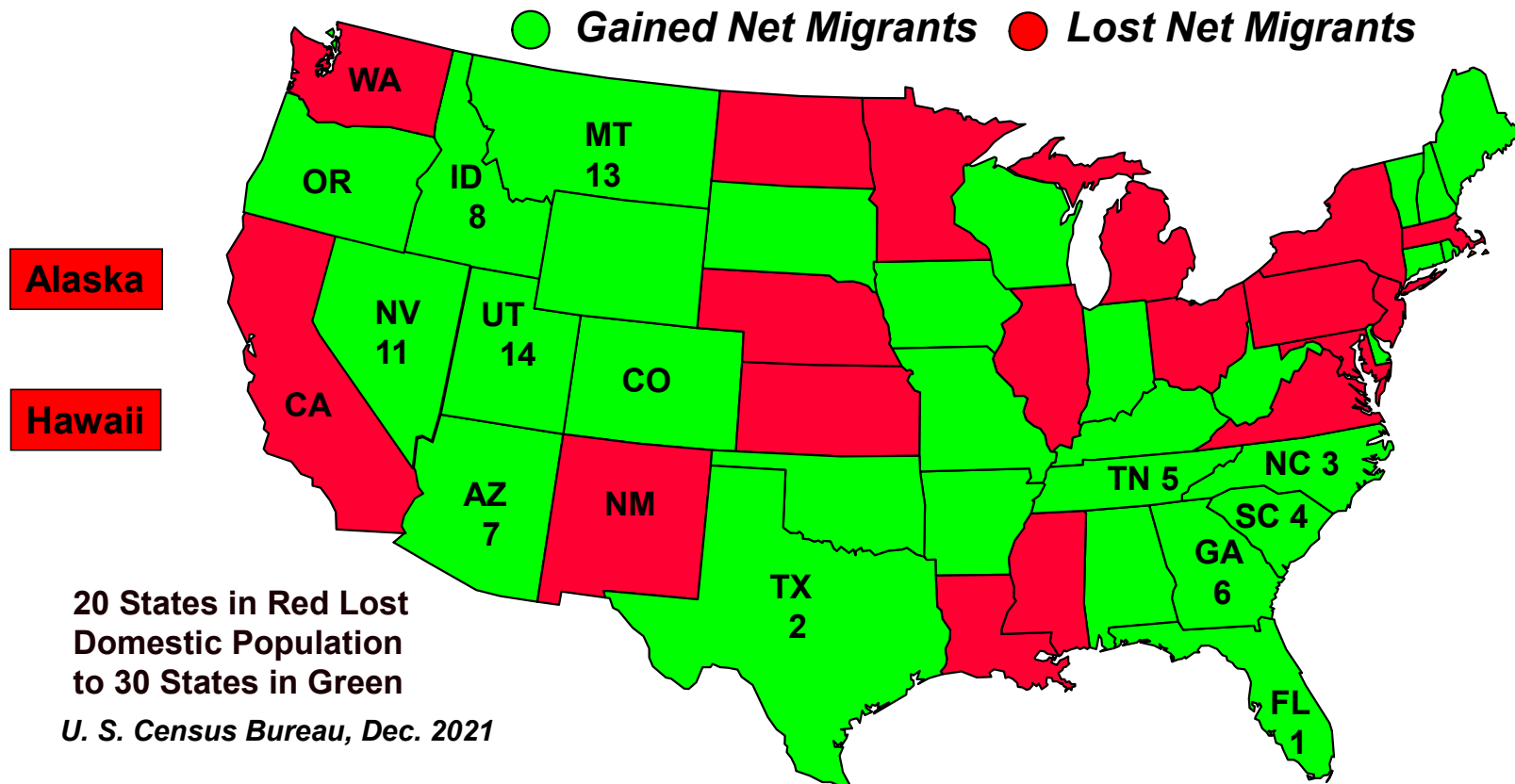
Arizona Job Growth To Dip Sharply in 2023



U. S. Bureau of Labor Statistics & W. P. Carey School of Business

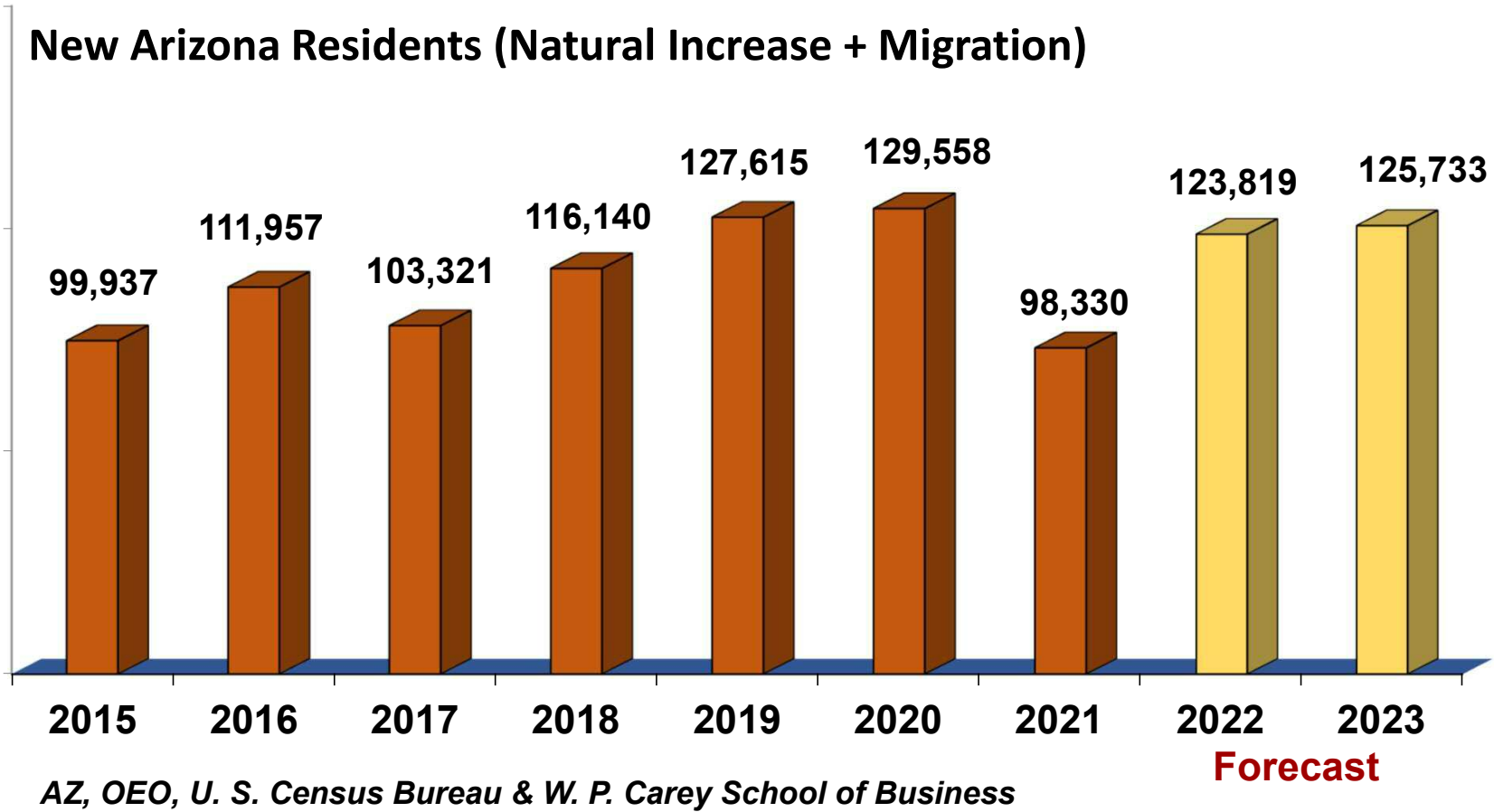
Forecast

Florida, Texas, Arizona are Top Three Destinations for Domestic Movers



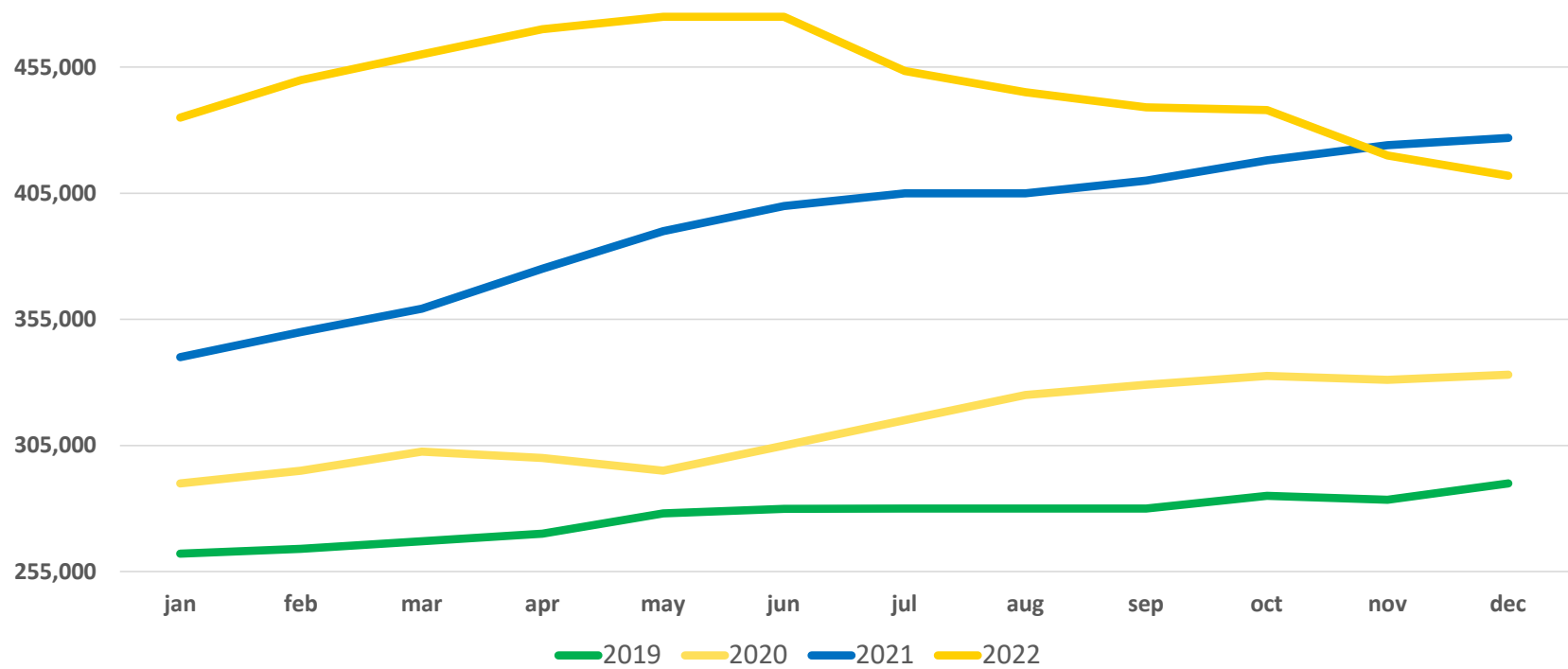
Will Arizona Population Continue to Grow?

Forecast Based on Assumption of Continuing Strong Domestic Migration

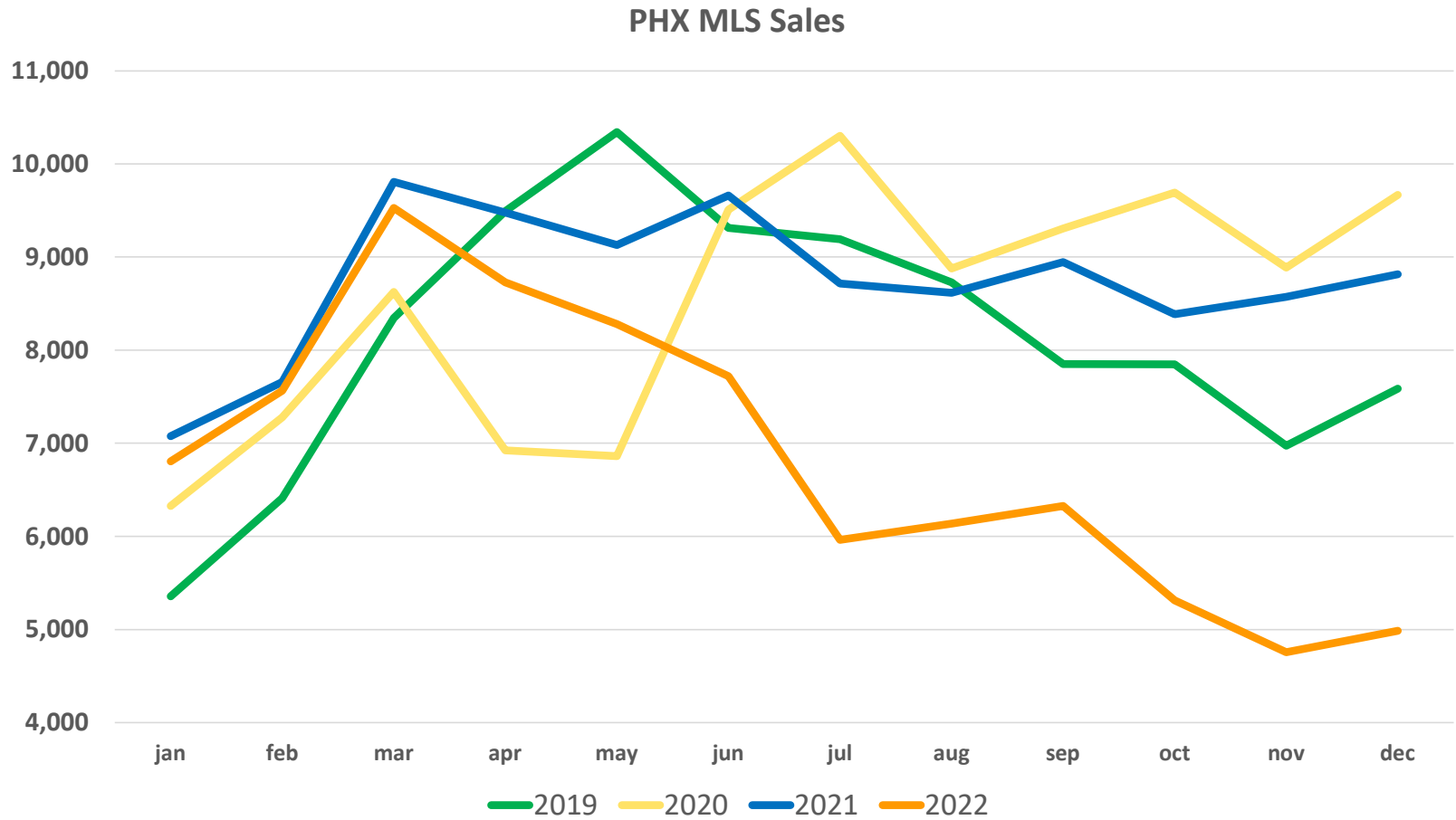


Monthly Statistics from the ARMLS

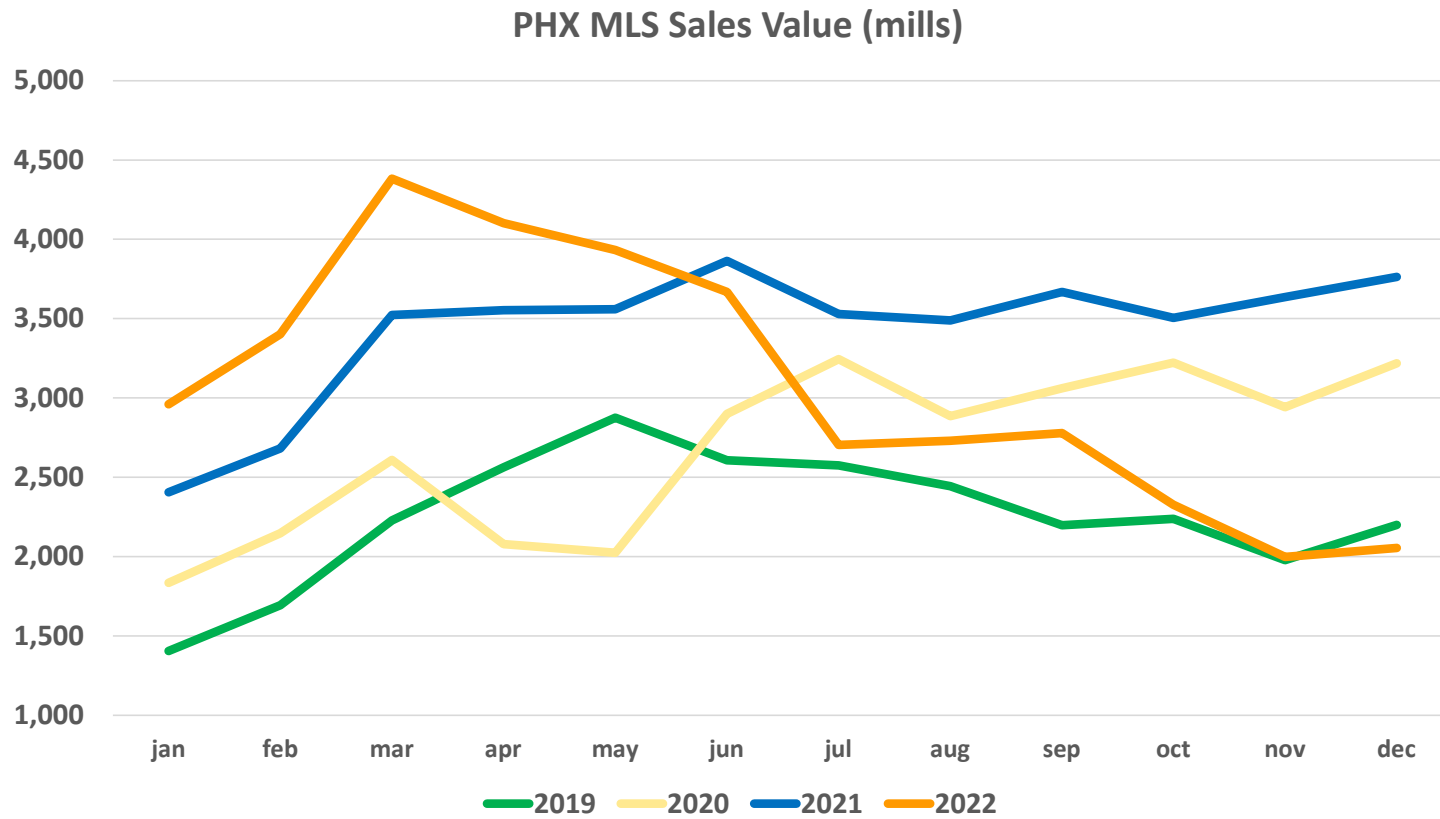
PHX MLS Median Prices



Monthly Statistics from the ARMLS



Monthly Statistics from the ARMLS



Arizona and Economic Development

- Reports from the ACA, autos, batteries, semis
- Business Climate Going Forward
- Threats
- Opportunities
- Is Arizona “openness” a concern
- CNBC best states for Business Ranking

CNBC and Arizona's Ranking

- 34th overall slipping 4 slots in 2022
- 50th in life, health and inclusion
- 42nd in education
- 41st in access to capital

Phoenix MSA 1st in Net Domestic Migration

Rank	Metro Area	Migration 2021
1	Phoenix	66,850
2	Dallas	54,319
3	Tampa	42,089
4	Austin	40,264
5	Riverside-San Bernardino	34,859
6	Sarasota-Bradenton	29,186
7	Fort Myers	25,864
8	San Antonio	25,660
9	Lakeland-Winter Haven	24,939
10	Jacksonville	24,815

Source: U. S. Census Bureau, Population Division, March 2022

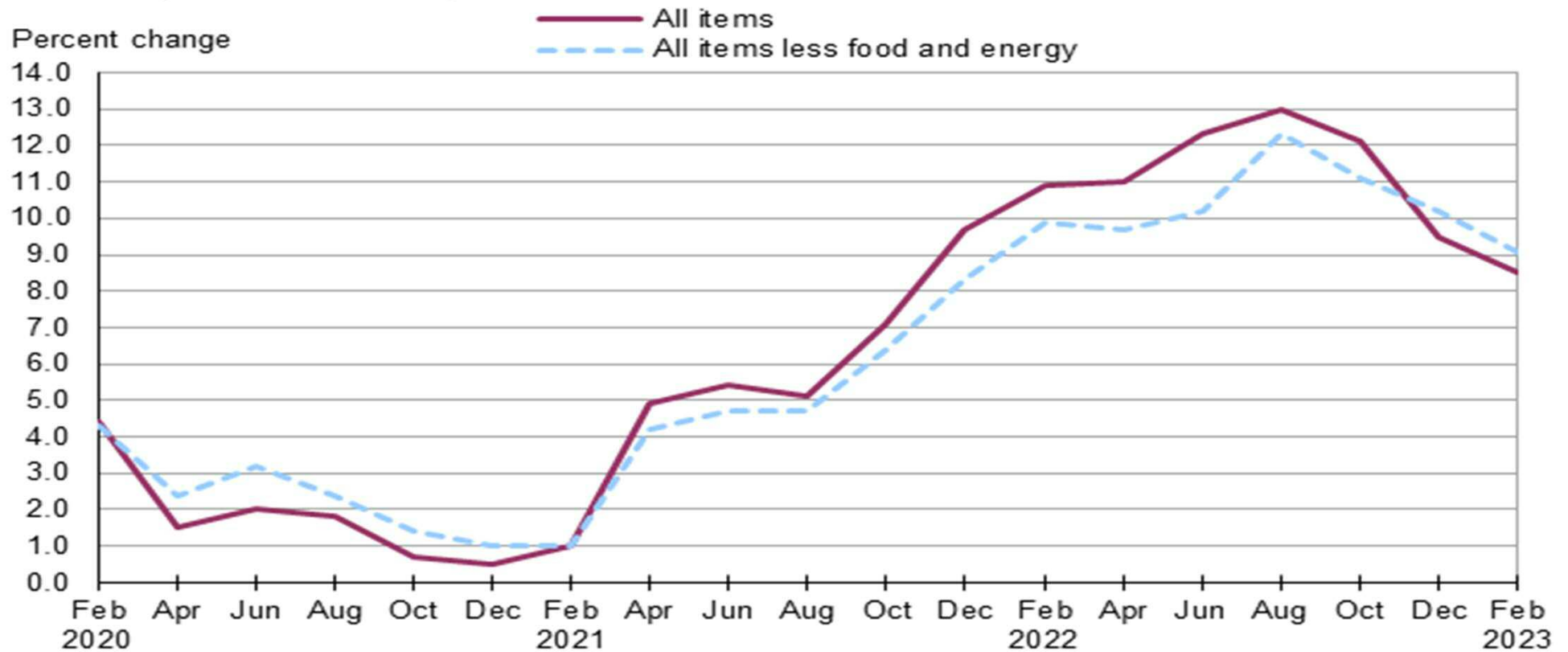


Will Arizona continue to be a “people magnet” for productive innovative workers?

- **Who is coming? Skills?, Age? And what are the attractors?**
- **Will Climate, Water, Women’s rights, or Border Crisis Concerns matter to the young and innovative?**
- **Can the Tech Manufacturing Boom Continue? What will sustain it?**
- **Will Education quality and equity improve? How will we pay for it, and can it help attract and retain workers to the State.**
- **Who is working on viable, enforceable legal immigration reform that increases the supply of productive workers at all skill levels**

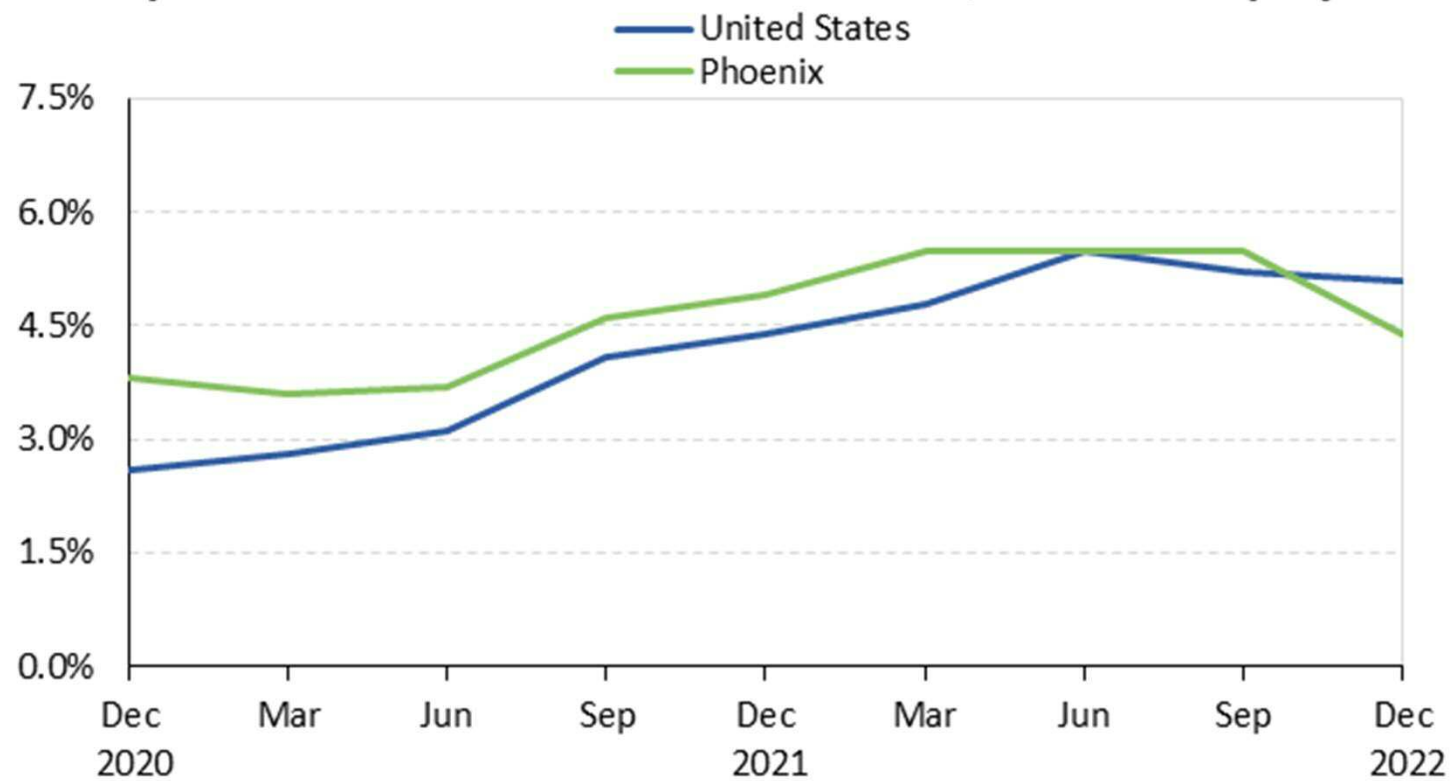
Phoenix CPI among highest Of 23 Metros

Chart 1. Over-the-year percent change in CPI-U, Phoenix-Mesa-Scottsdale, AZ, February 2020–February 2023



Source: U.S. Bureau of Labor Statistics.

Chart 1. Twelve-month percent changes in total compensation for private industry workers in the United States and Phoenix, not seasonally adjusted



Source: U.S. Bureau of Labor Statistics.

Forecast Risks

- **Fed Mis-Steps**
- **Hard Fall for Economy**
- **Credit Crunch SVB fallout**
- **Housing Affordability**
- **Population Growth to Arizona Slows**
- **Real Estate drags state down**

What happens to Arizona if the Risks become Reality?

- **Lags of Fed Policy have harsh and lingering impacts**
- **Slowdown extends through mid 2024**
- **Job Growth in the State and Metro Essentially Stagnates**
- **Major Companies Delay Construction/Expansion Plans**
- **Housing not as bad as 2008-09 but some will say it feels like it**
- **More normal growth returns in late 2024 and 2025**

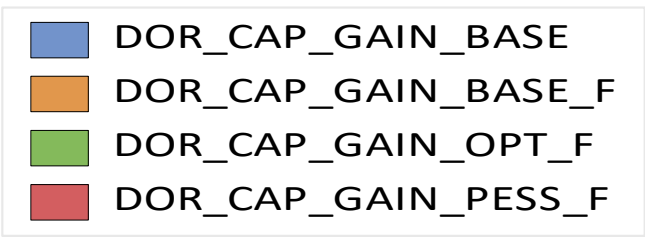
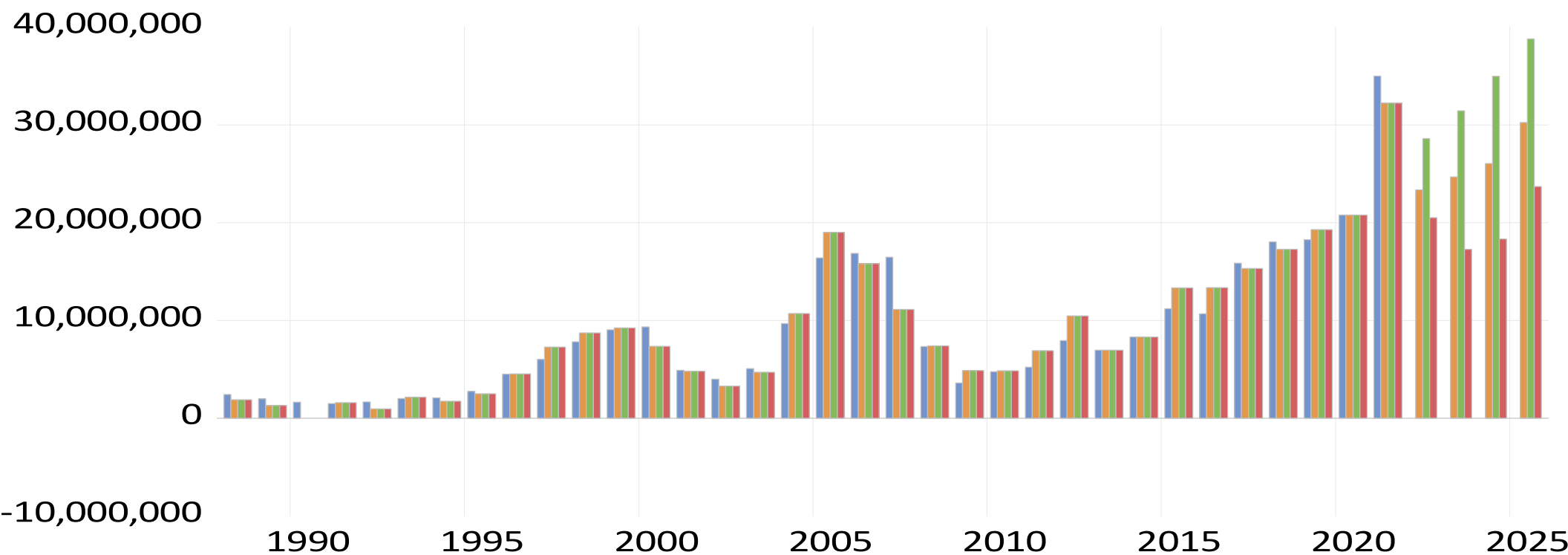
Long-Term Arizona Economic Advantages

- **Pro-Growth Economic Setting**
- **Competitive tax structure**
- **Affordable space, labor, (housing?) but can we sustain this advantage?**
- **Relatively new infrastructure**
- **Beginning to address long-term concerns (education, water) – time to invest ??**

Arizona Fiscal Worries

- As the Economy Weakens and Inflation abates revenue growth will slow
- We don't fully know how much stimulus fueled revenue growth
- We made permanent expenditure obligations
- We made permanent tax cuts
- It is increasingly clear that much of last year's revenue was an illusion because of an unprecedented surge in capital gains.

Taxable Capital Gains Income in Arizona



Capital Gains Revenue in Arizona

