



Economic Club of Phoenix

Economic Outlook

May 6, 2021

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of Phoenix



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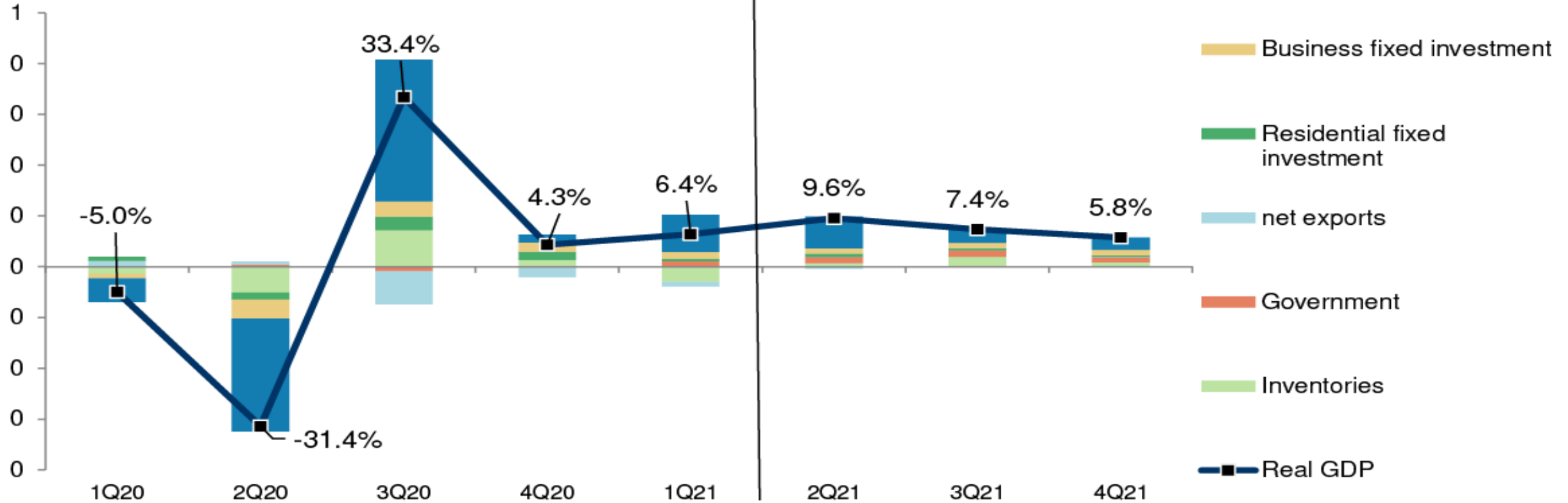
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National Economy.. What a year!!



Contributions to % Change in Real GDP
percentage points

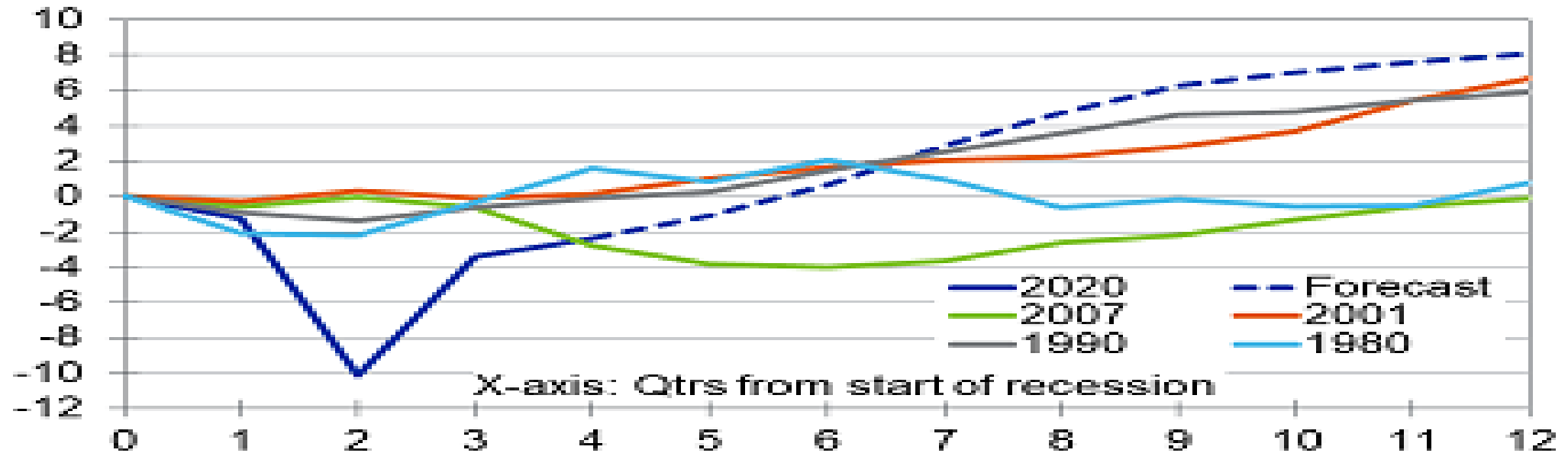


Most agree, deep but short recession



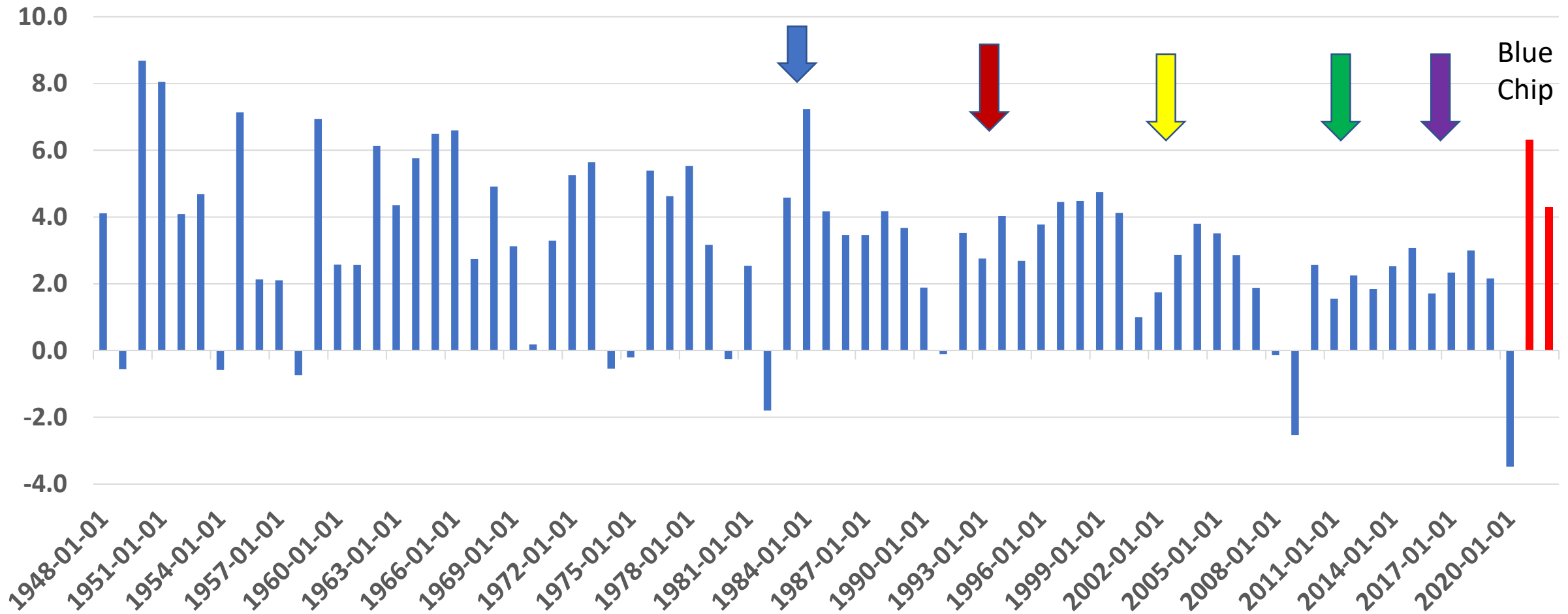
Boom Times Ahead

Real GDP, % change since beginning of recession



Sources: BEA, Moody's Analytics

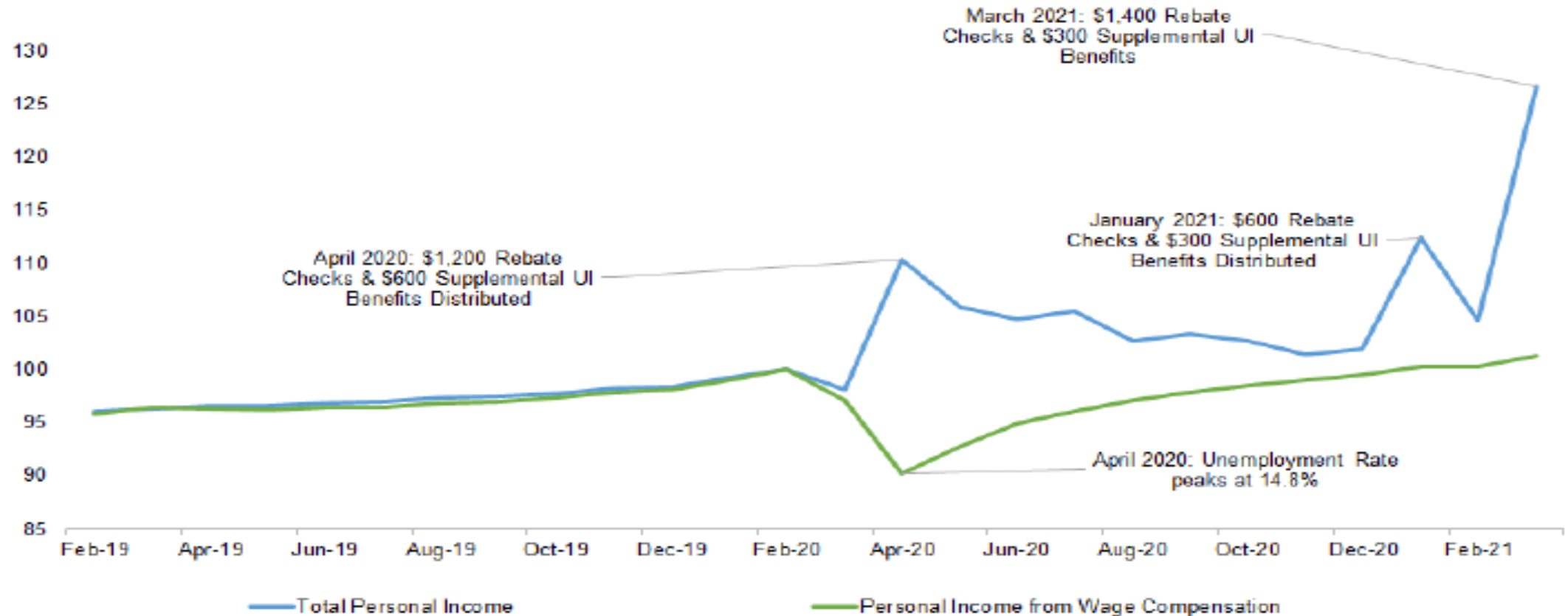
Historical GDP Growth & Blue Chip Forecasts



Impact of Stimulus on Personal Income



Index, February 2020=100



Issues



- Stimulus
- Inflation
- Debt
- Risks and Opportunities

New York Fed Survey



How Households Use Their Stimulus Checks			
Stimulus Round	1	2	3
Reporting month	June	January	March
Average percentage spent	29.2	25.5	24.7
Average percentage saved	36.4	37.1	41.6
Average percentage toward debt	34.5	37.4	33.7

Source: New York Fed Survey of Consumer Expectations (SCE).

Notes: Round 1 results are based on 1,423 respondents to the June 2020 special SCE survey who reported receiving a stimulus check. Rounds 2 and 3 results are based on 1,062 and 1,007 respondents to the January and March 2021 Core SCE surveys, respectively, who received or expected to receive second- and third-round stimulus checks.



Figure 1: What was bigger? FDR's New Deal; The 2008 Recovery Act; and Trump 1&2 CARES/COVID plus Biden COVID

	New Deal	2008 Recovery Act	Trump 1&2 CARES/COVID + Biden COVID 1
Total cost (USDbn - 2020 dollars)	788	1013	4100
Per capita cost (2020 dollars)	6311	3303	12390
Cost compared to nation's output	40% of 1929 output	5.7% of 2008 output	19% of 2020 output
Increase in federal debt (as a fraction of gross national product)	30.3% 1931 to 1939	32% 2008 to 2011	24% debt held by public 2019 to 2022
Negative output gap 1y after start of crisis	-30% of GDP	-5.5% of GDP	-3% of GDP
Equities 1 yr after crisis relative to peak	-37%	-30%	+22%

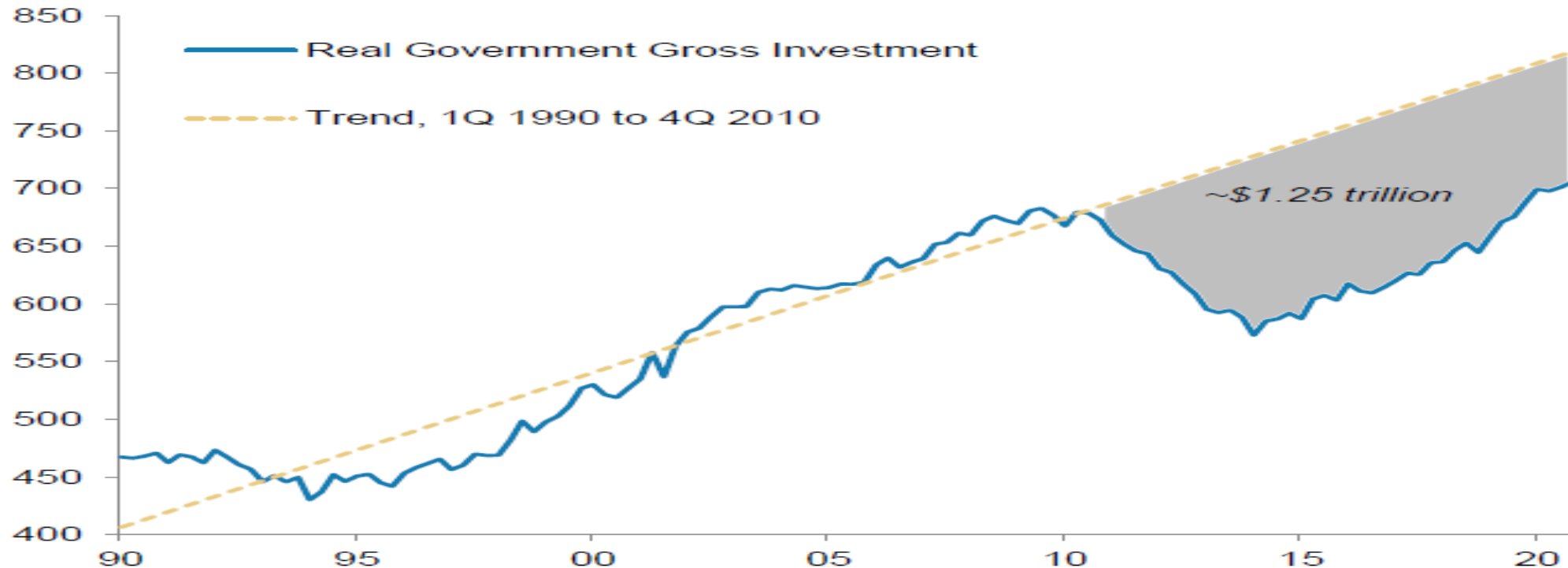
Evidence that Infrastructure needed



The Shortfall in Infrastructure Spending

Government Investment Has Been Running Below Trend Since 2010

Real Government Gross Investment
Bil. Chn. 2009\$



Source: Bureau of Economic Analysis, Morgan Stanley Research

Recent History of Inflation



FRED — Consumer Price Index for All Urban Consumers: All Items Less Food and Energy in U.S. City Average



U.S. recessions are shaded; the most recent end date is undecided.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

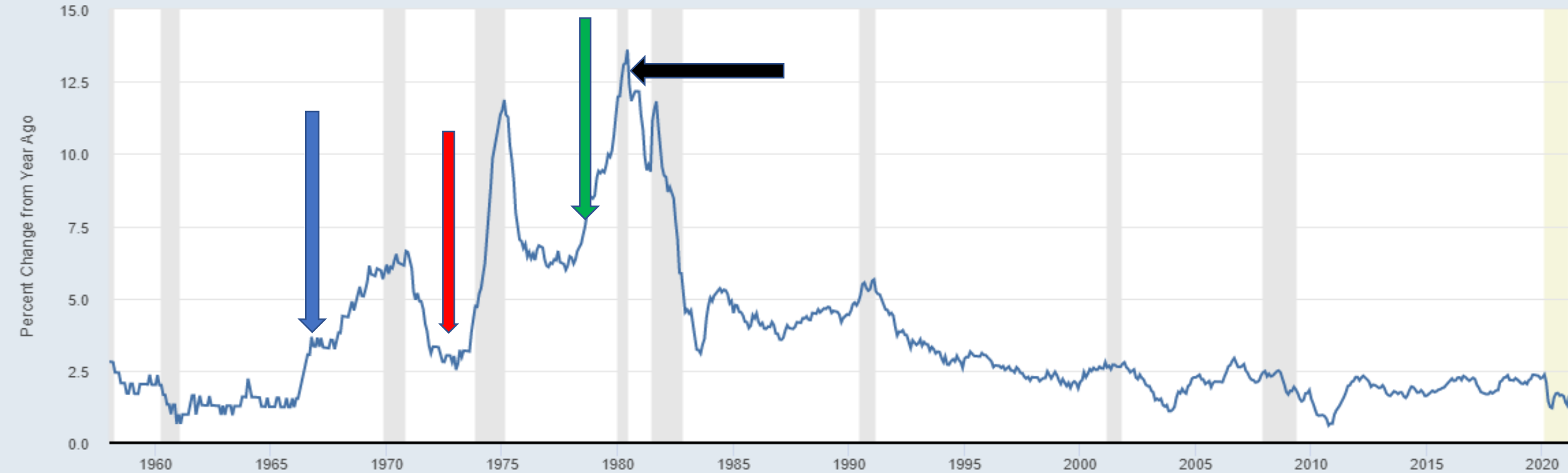
Alternative Bell Bottom Theory



Recent History of Inflation



FRED — Consumer Price Index for All Urban Consumers: All Items Less Food and Energy in U.S. City Average



U.S. recessions are shaded; the most recent end date is undecided.

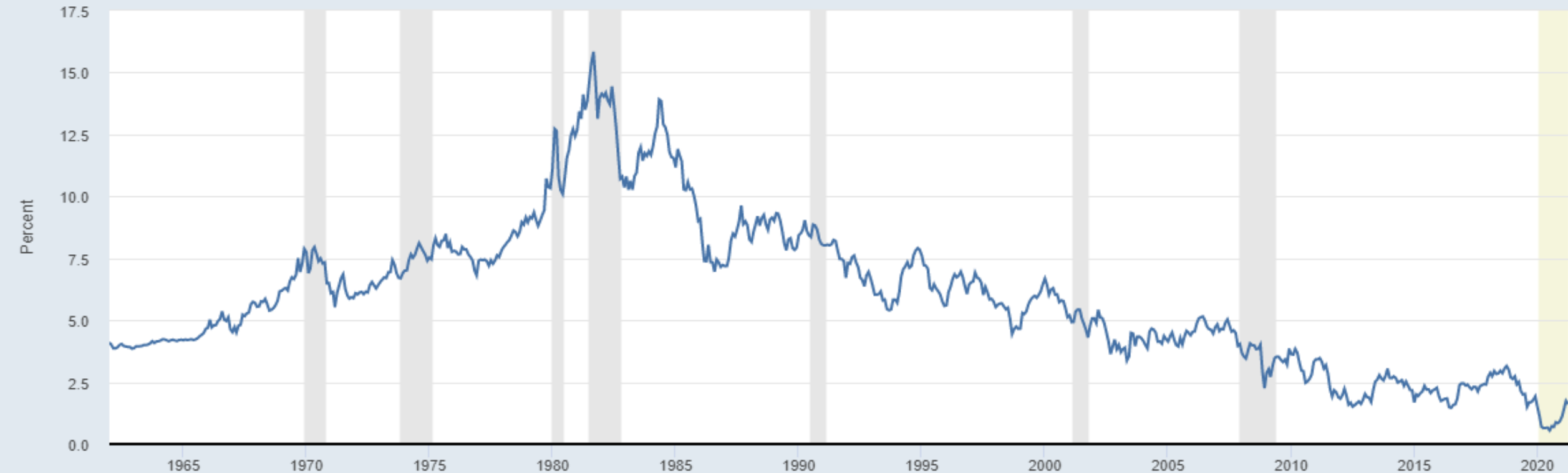
Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

Inflation Explains Interest Rates



FRED — 10-Year Treasury Constant Maturity Rate



U.S. recessions are shaded; the most recent end date is undecided.

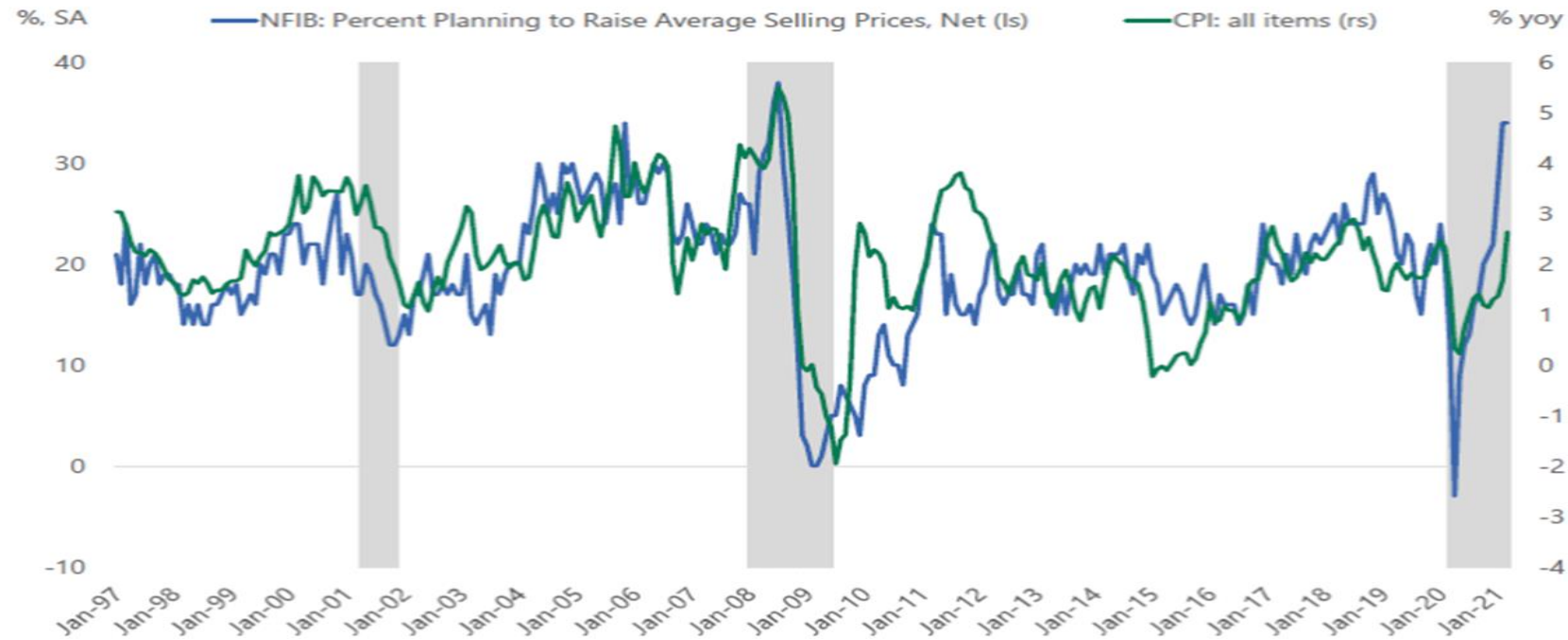
Source: Board of Governors of the Federal Reserve System (US)

fred.stlouisfed.org

So is Inflation in our Future



More than a base effect: Many companies are planning to raise prices



Source: NFIB, BLS, Apollo Chief Economist

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160

Food Prices Surging



Figure 1: Bloomberg Agriculture Spot Index

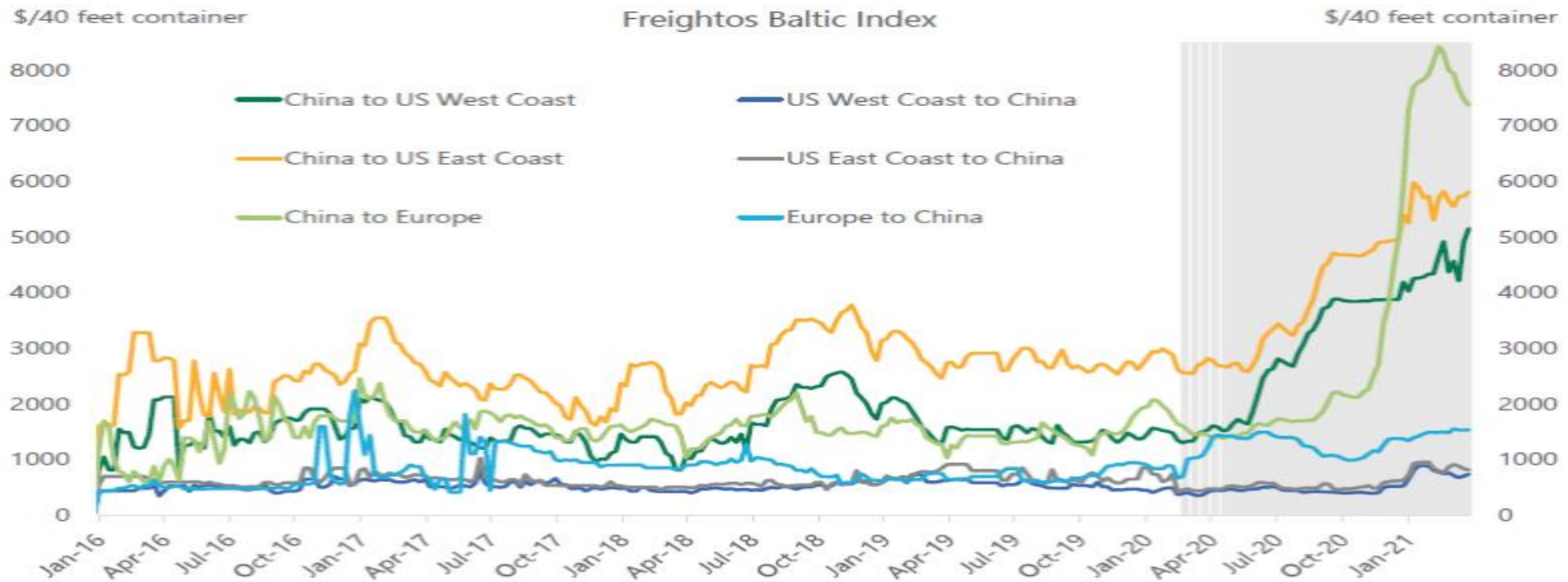


Source : Bloomberg Finance LP, Deutsche Bank

Transportation Costs Surging



Transportation costs very elevated



Source: Freightos Baltic Index, Bloomberg, Apollo Chief Economist

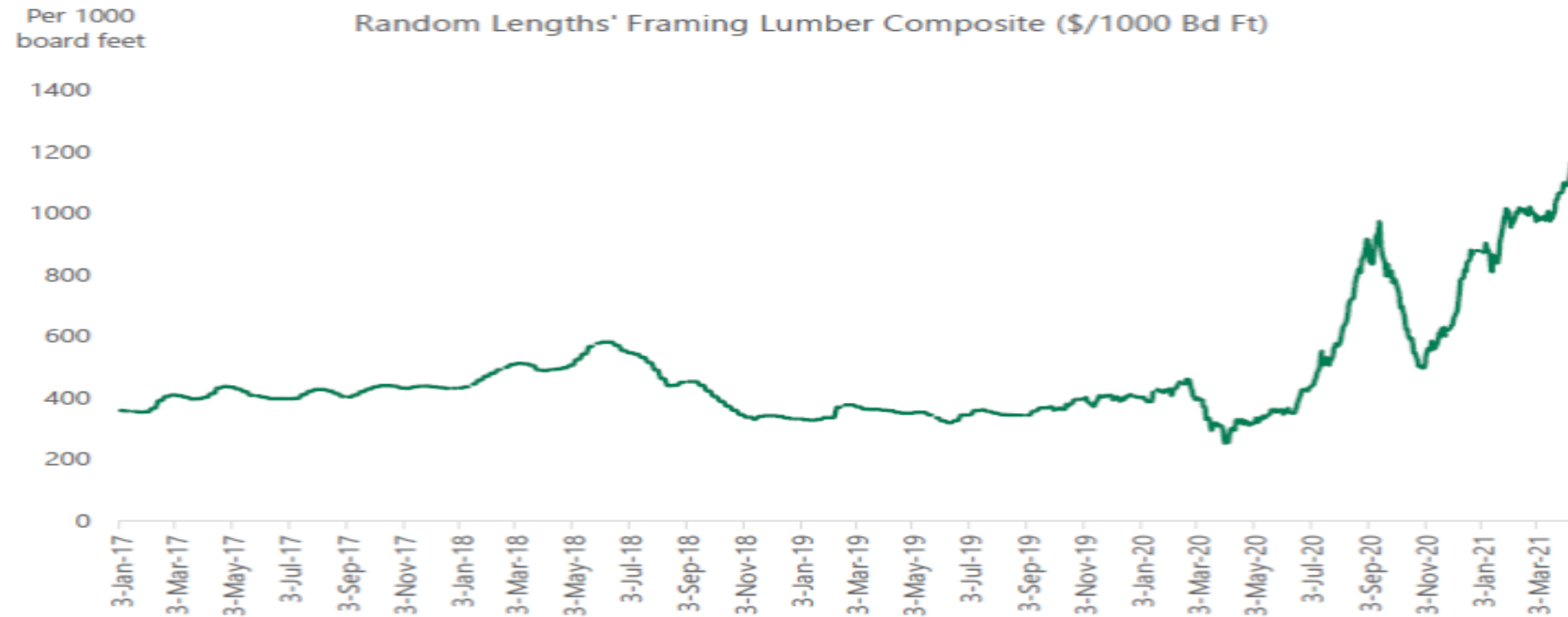
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137

Lumber Prices Surging



Lumber prices have tripled during the pandemic



Source: Foundation for Int'l Business & Economic Research, Apollo Chief Economist

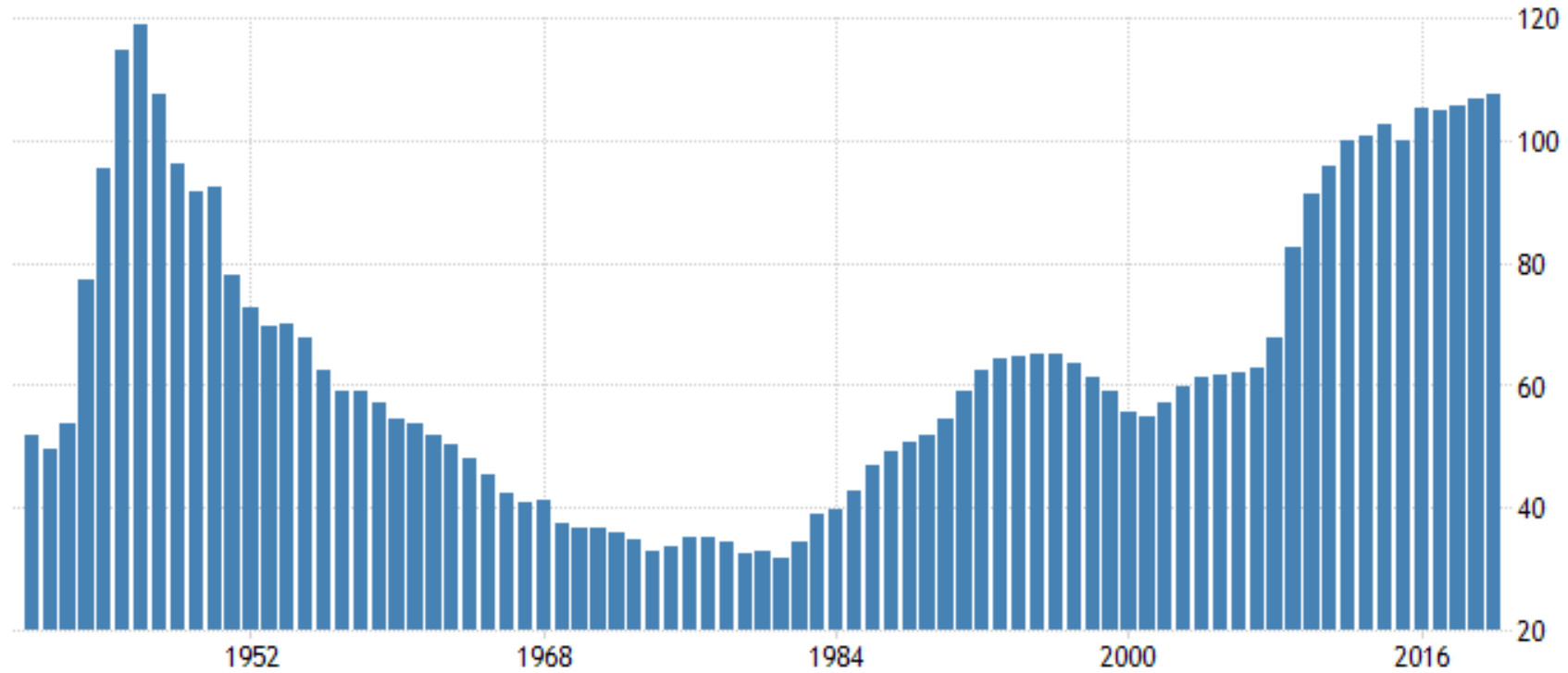
APOLLO

Fed sees only temporary Price pressure



- Don't worry about this too much until you see folks wearing Bell Bottoms
- But What about the Level of the Federal Debt?

Debt to GDP Ratio 1940-2019 (in public hands)



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF PUBLIC DEBT

Debt/GDP by President (Gross Debt)



	yr1	yr end	Diff
Hoover	16	34	+18
FDR*(33-41)	40	38	-2
Truman	103	71	-32
IKE	68	53	-15
Ken/John	51	37	-14
Nixon/FD	35	33	-2
Carter	34	32	-2
Reg/Bush	31	62	+31
Clinton	64	55	-9
GWBush	55	68	+13
Obama	82	104	+22
Trump	104	129	+25

War Years Excluded

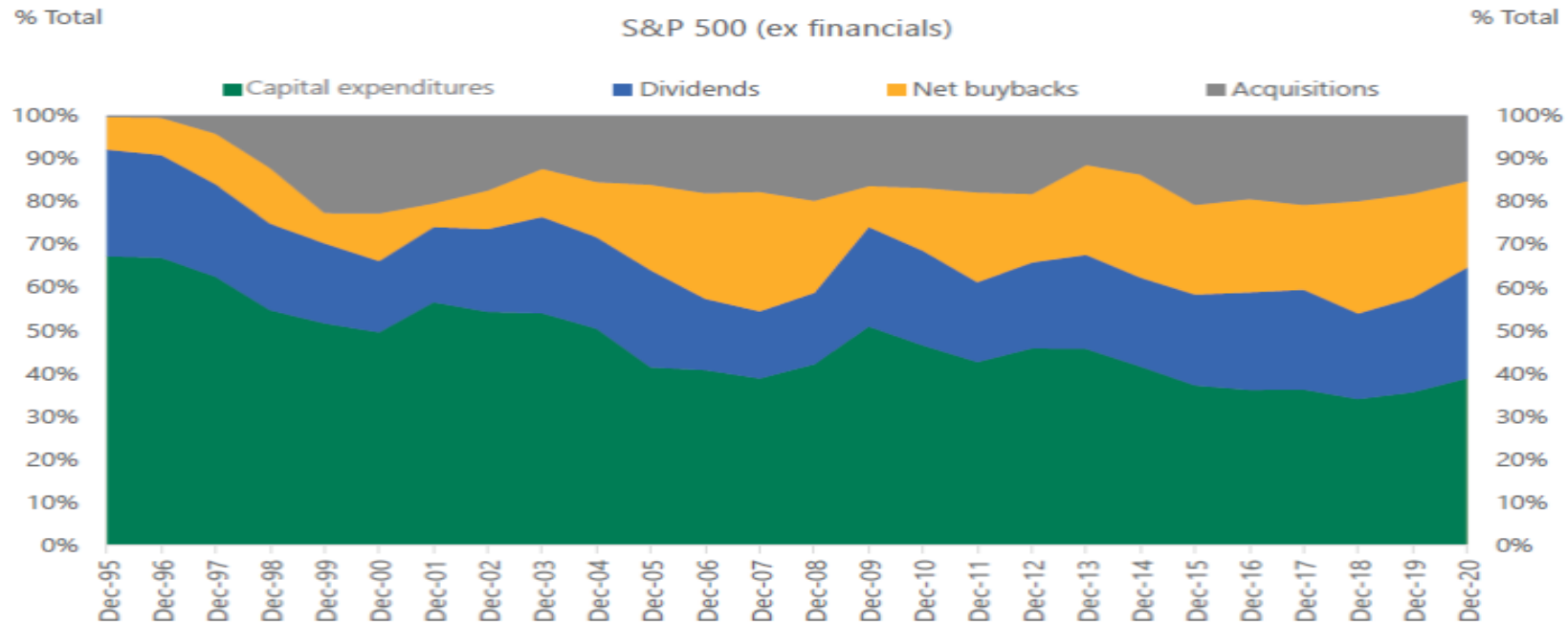
Risks



- Too little investment, public and private
- Demographic Headwinds
- Income Inequality breeds unrest



Smaller share of corporate spending going to capex



Source: Bloomberg, Apollo Chief Economist

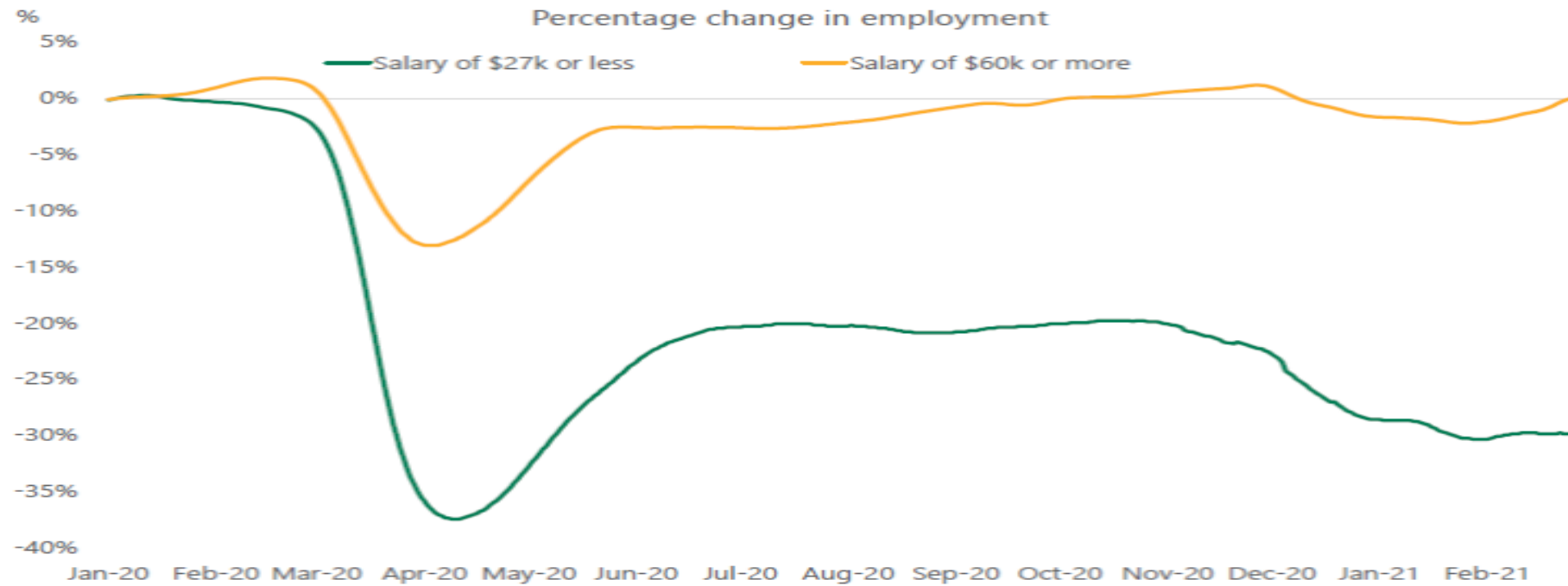
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156

Pandemic Perpetuates Inequality



Diverging employment recovery



Source: Opportunity Insights, Apollo Chief Economist

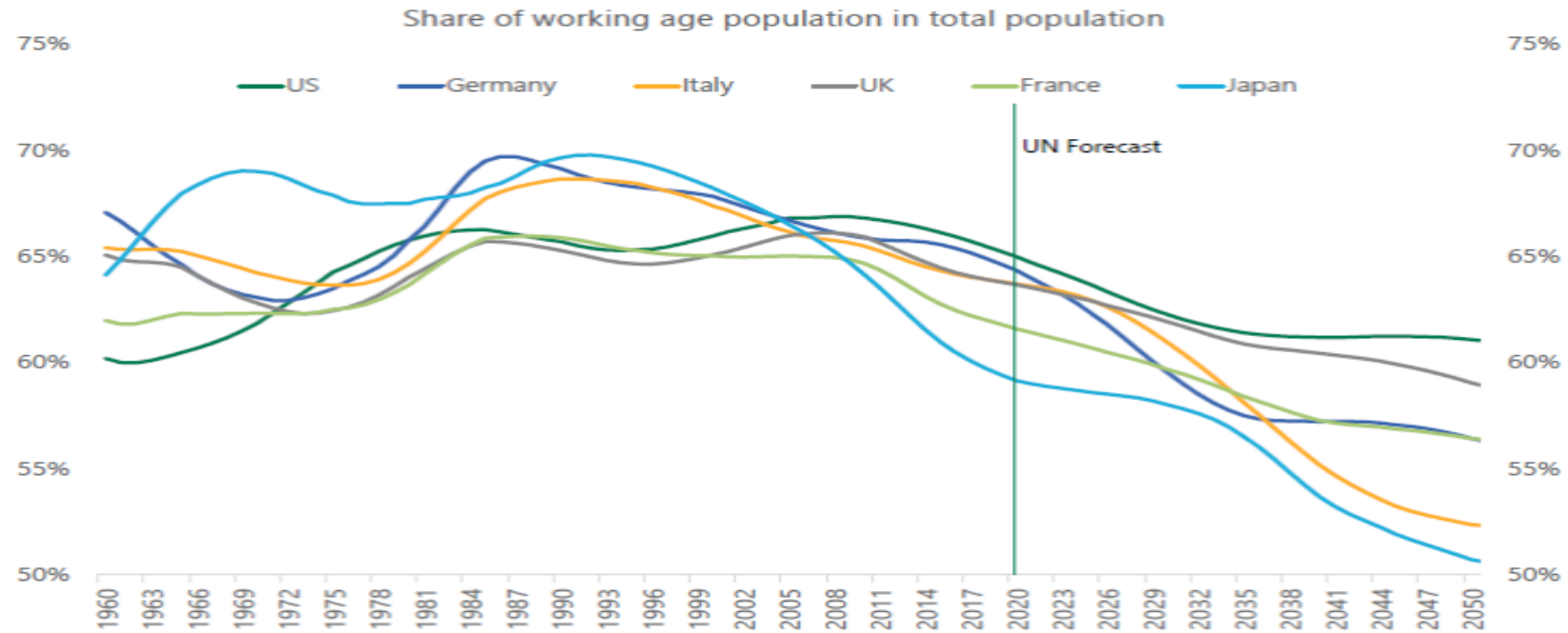
APOLLO

172

Demographic Headwinds: Global Graying



Secular stagnation is still here



Source: UN, Haver Analytics, Apollo Chief Economist

APOLLO

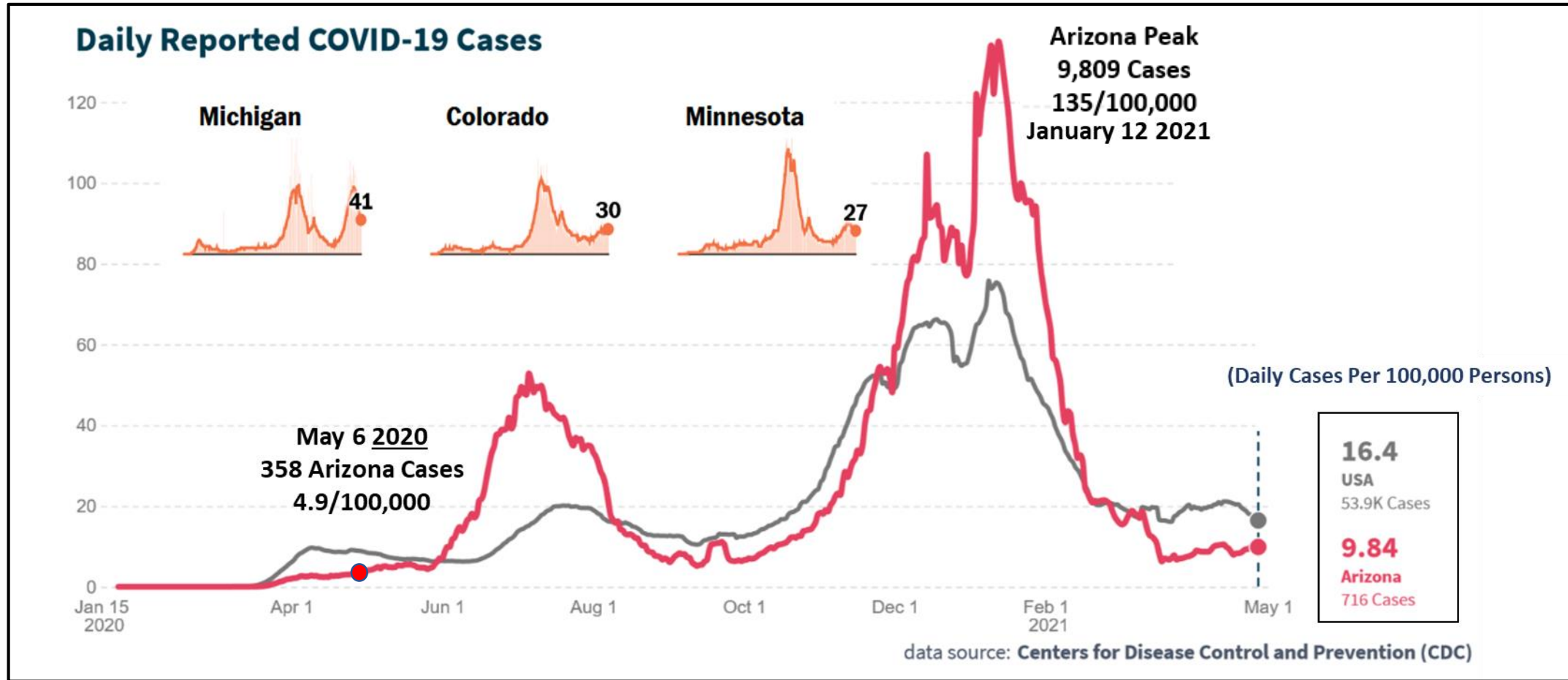
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Opportunities

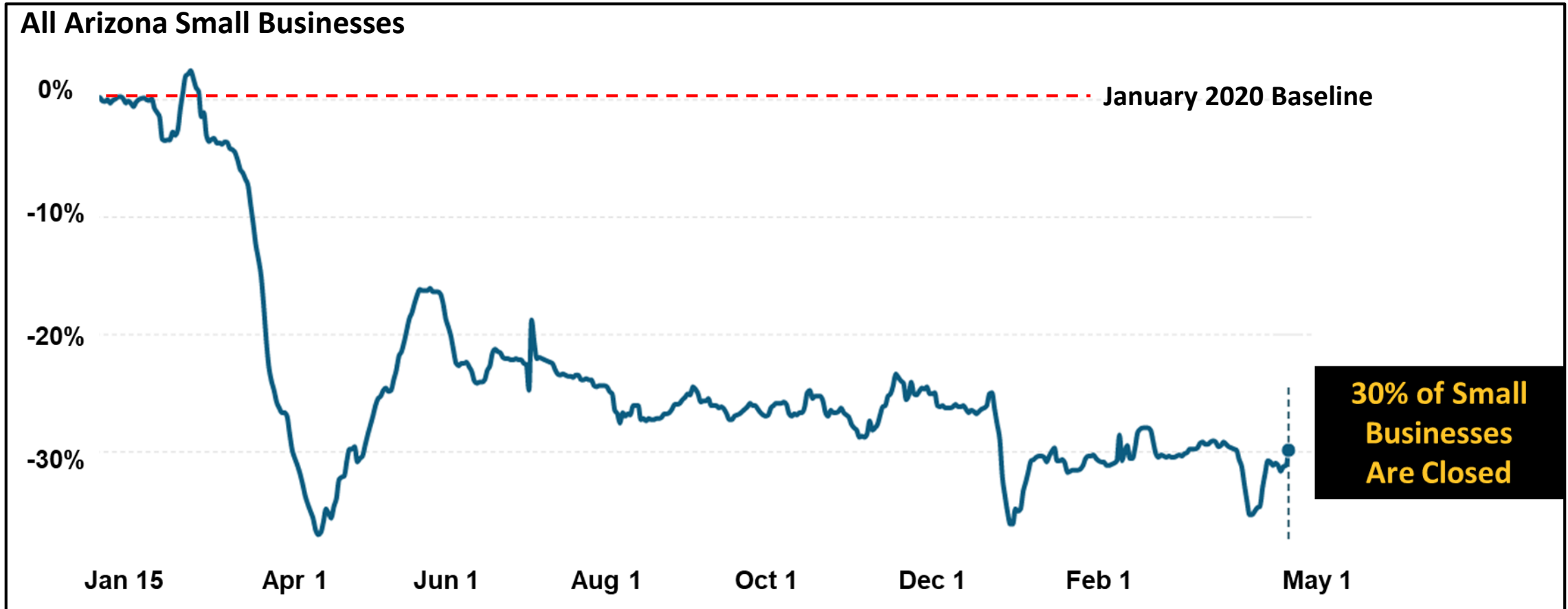


- Public/Private Infrastructure/Investment Initiatives
- Comprehensive Education recommitment: reform and resources
- Comprehensive Immigration Reform can help with demographic challenges

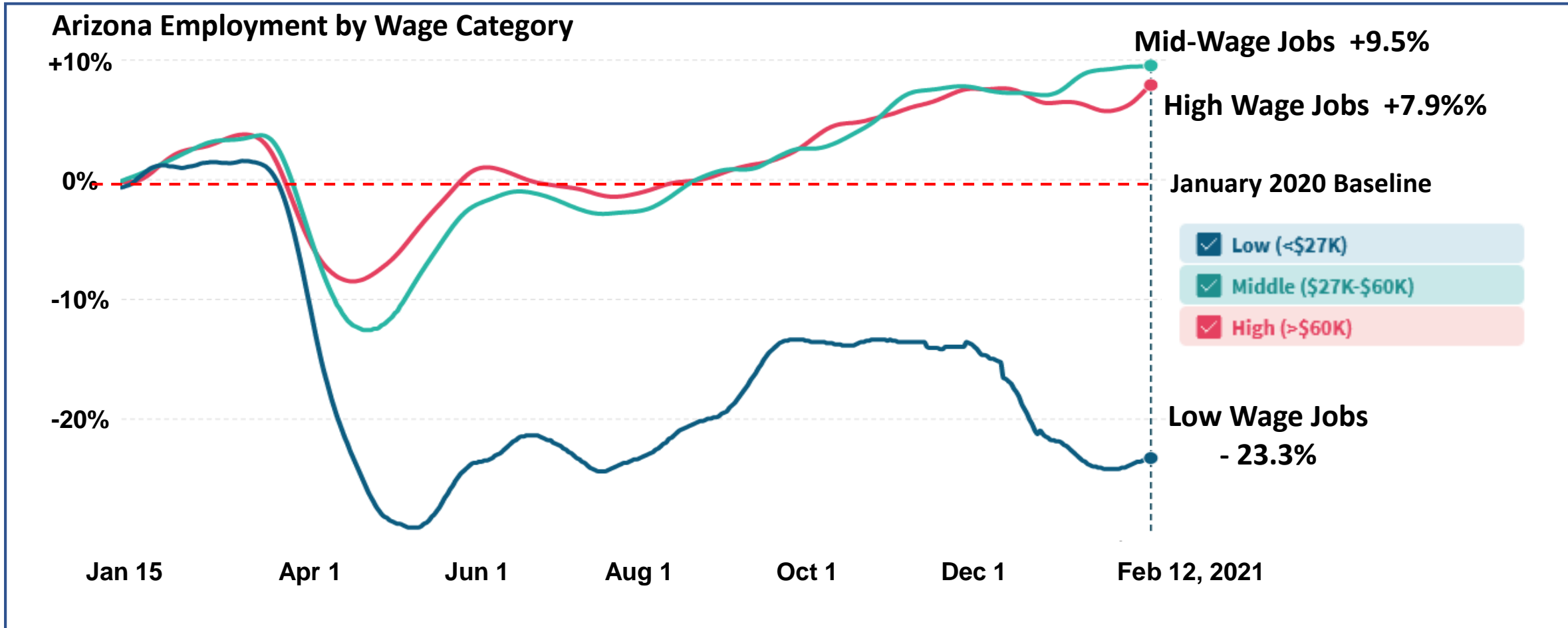
Arizona COVID Cases Below National Average But Still Double The Rate of One Year Ago



COVID Lockdowns, Weak Demand Hit Small Business – Labor Availability Hurts Recovery



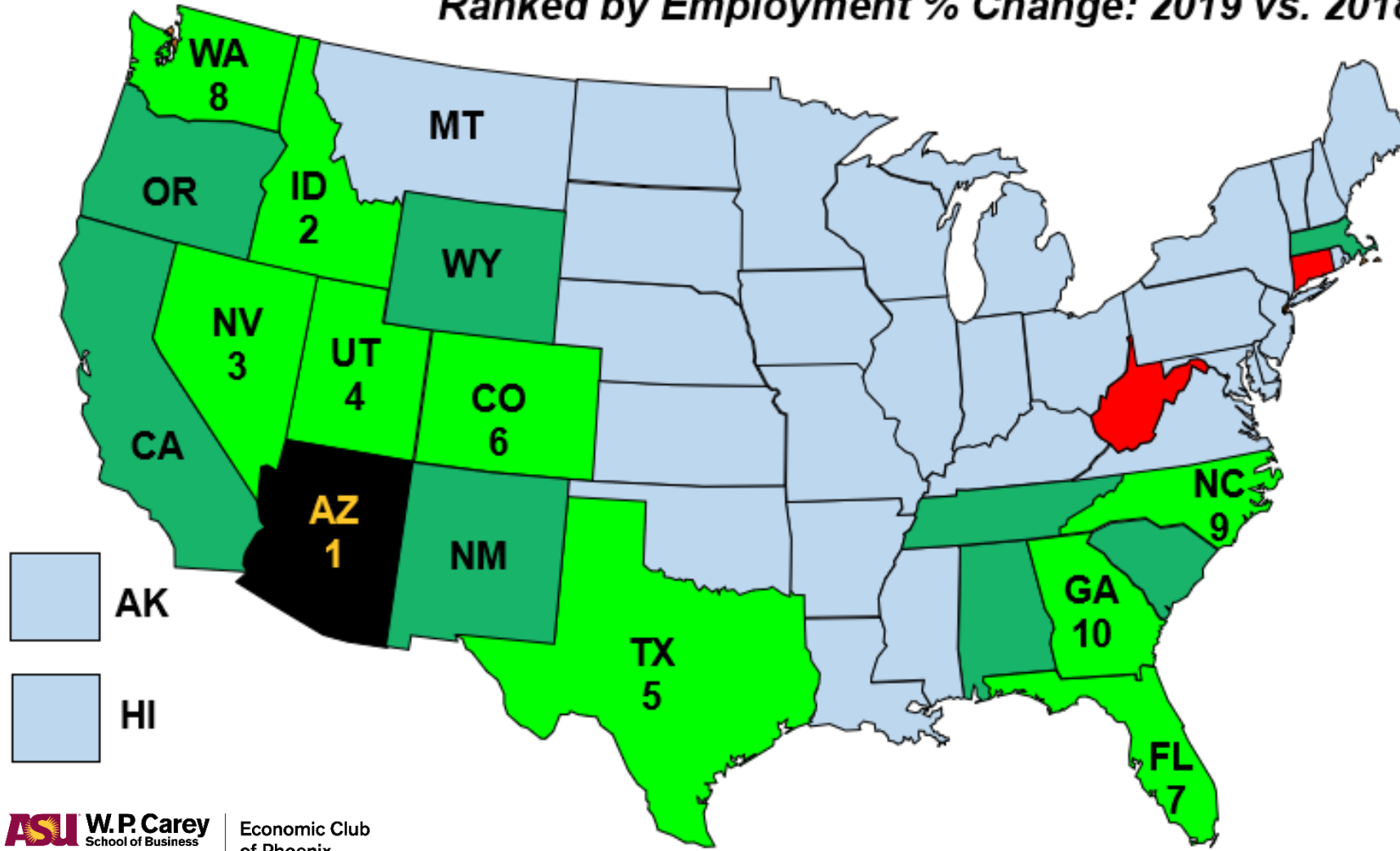
Low Wage Jobs Have Not Recovered While Mid-Wage And High Wage Jobs Increase



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



Ranked by Employment % Change: 2019 vs. 2018



Color Code	
Top 10	10
Others Faster Vs. U.S.	8
Slower Vs. U.S.	30
Lost Jobs	2
US = 1.3%	

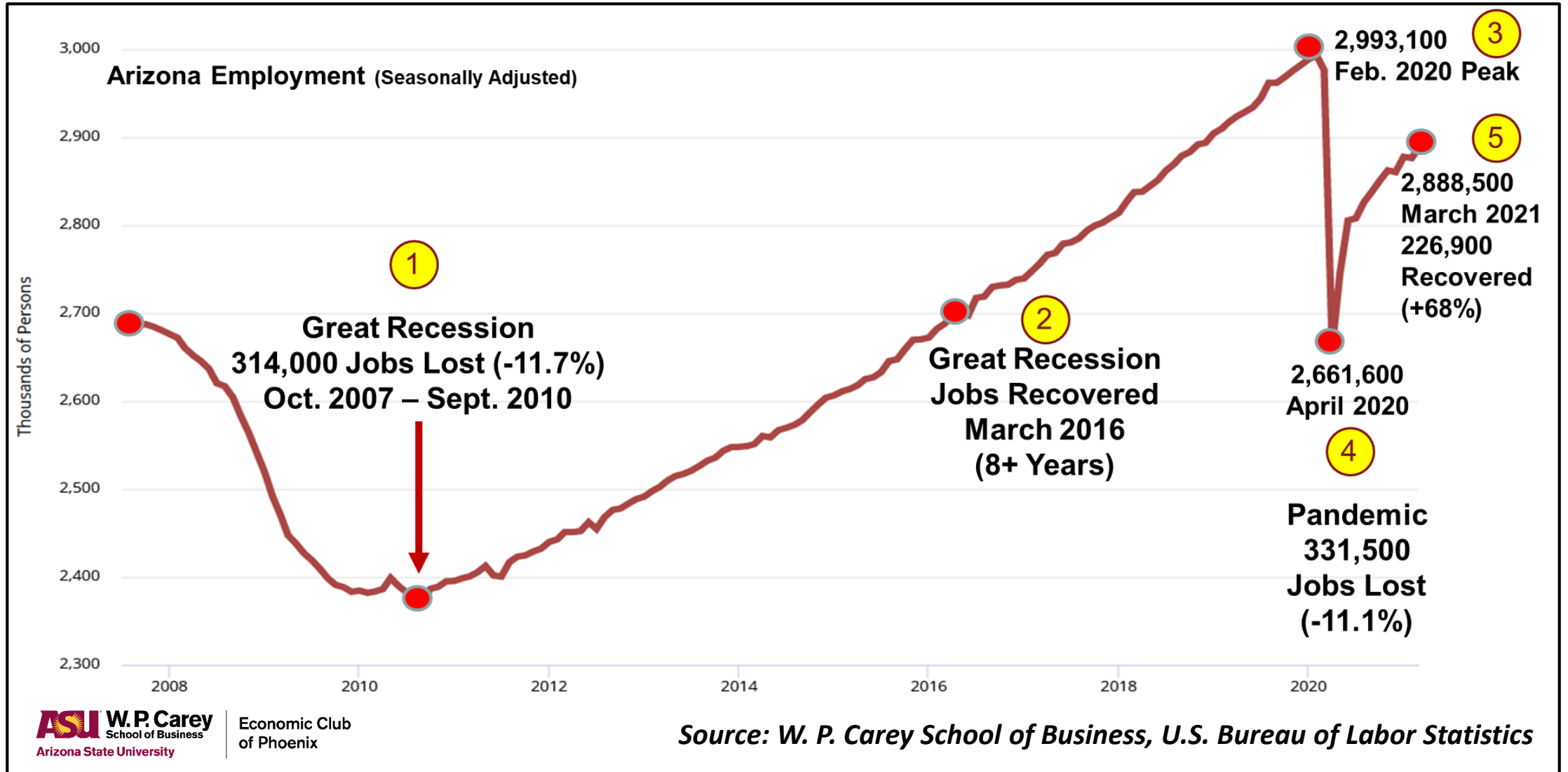
Arizona Economic Outlook



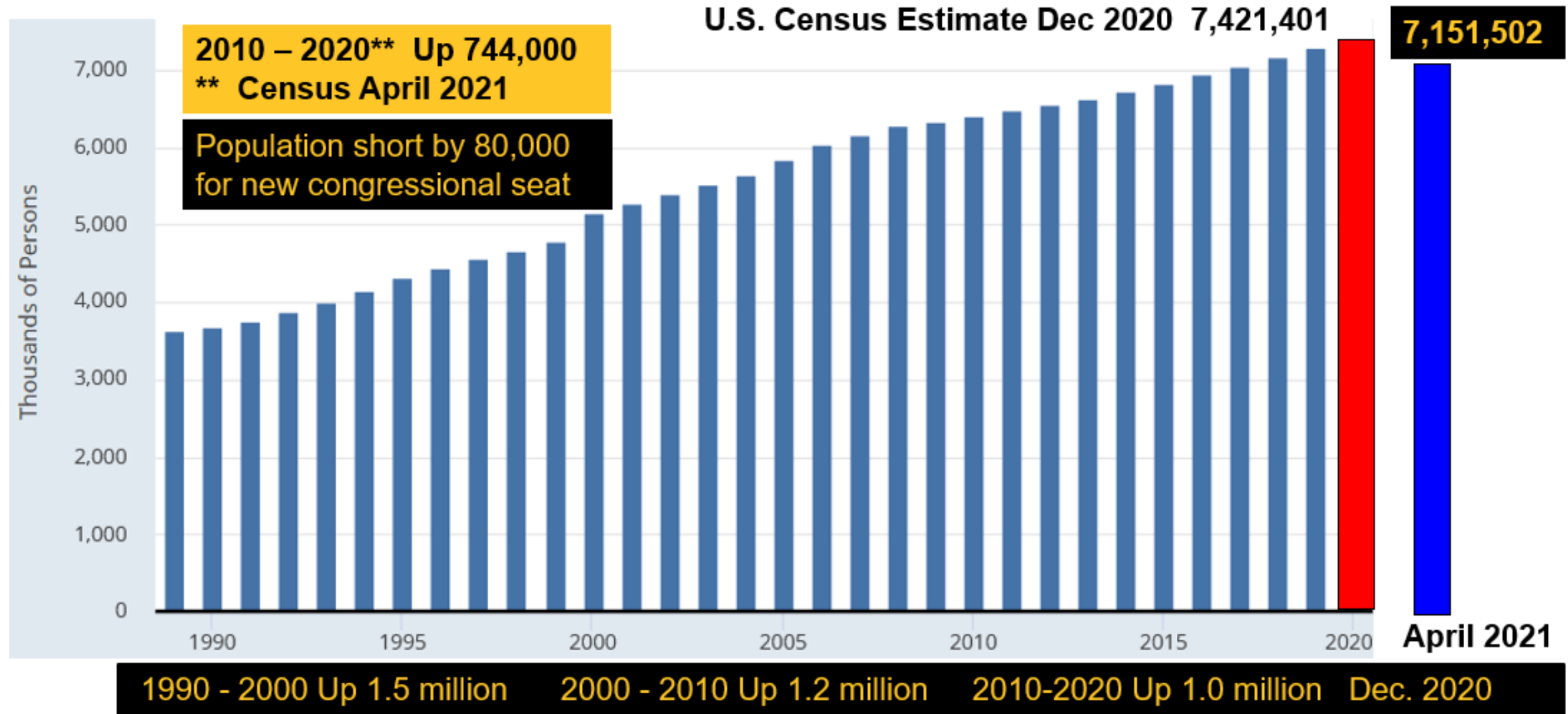
Indicators	2020	2021	2022
Employment (% change)	-3.1	4.1	3.0
Employment Change	-92,450	116,900	89,000
Population (% change)	1.8*	1.5	1.6
New Residents	129,600*	107,300	116,100
Single Family Permits	42,277	46,000	45,000

*Preliminary estimate pending intra-census data

Arizona Has Regained 68% of Lost Jobs (105,000 Still Needed for Full Recovery)



Analysts, Politicians Question Low Arizona 2010-2020 Population Growth





Effects of Low Arizona Population Growth



Aspiring Arizona Congressional Candidates are Disappointed



Billions Fewer Per Capita Federal Dollars Flow to Arizona

Metro Phoenix Economic Outlook: Accounts for 2/3^{rds} Of Arizona Growth



Indicators	2020	2021	2022
Employment (% change)	-2.8	4.0	3.3
Employment Change	-60,780	85,000	73,000
Population (% change)	1.7*	1.6	1.7
New Residents	84,000*	80,000	86,000
Single Family Permits	31,658	40,000	32,000

*Preliminary estimate pending intra-census data

Economic Development Race Heats Up As Cities Pay Out Awards for Relocation



ALABAMA

Value:

\$10,000

Community:
Lauderdale
and Colbert
counties

Offer type:
Cash



KANSAS

Value:

\$11,000

Community:
Topeka

Offer type:
Part of home down
payment, perks
(\$1,000 of free
Jimmy John's
sandwiches)



MICHIGAN

Value:

\$15,000

Community:
Berrien County

Offer type:
Part of home down
payment, perks
(including an
annual pass to
local beaches)



OKLAHOMA

Value:

\$11,000

Community:
Tulsa

Offer type:
Cash (\$10,000),
perks (including
access to
co-working
space)



WEST VIRGINIA

Value:

\$20,000

Community:
Morgantown

Offer type:
Cash (\$12,000),
perks (including a
year's worth of free
recreational activi-
ties such as skiing)

TOPEKA

Jimmy John's Wants You to Choose Topeka

*Freaky Fast sandwich brand adds \$1,000 bonus to city's
relocation incentive.*



Experts Say Relocation Still Depends on Workforce, Infrastructure, Quality of Life



2020 Executive Survey Business Climate Rankings

TOP TEN

- 1 Texas
- T2 North Carolina
- T2 South Carolina
- 4 Georgia
- 5 Tennessee
- 6 Ohio
- 7 California
- T8 Utah
- T8 Virginia
- 10 Arizona

What Matters Most: Site Selectors' Most Important Location Criteria

- 1 Workforce skills
- 2 Workforce development
- 3 Transportation infrastructure
- 4 Ease of permitting and regulatory procedures
- 5 State and local tax scheme
- 6 Right-to-work state
- 7 Utilities (cost, reliability)
- 8 Quality of life
- 9 Incentives
- 10 Legal climate (tort reform)



Semiconductor Capital of the U.S.A?

- 22,000 + semiconductor jobs in Phoenix now
- Intel plans \$20 billion Arizona Expansion
- Taiwan Semiconductor to invest \$38 billion

Source: Site Selection survey of corporate real estate executives, October 2020

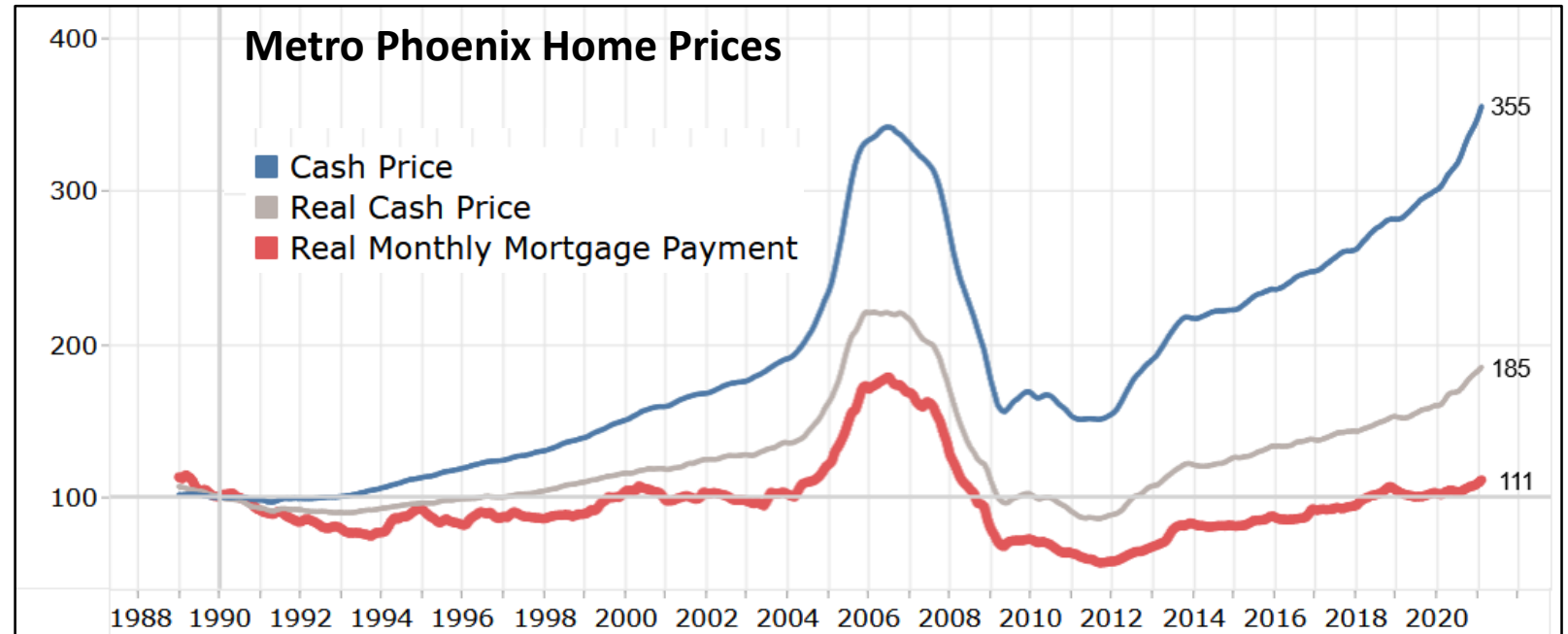
Home Price Bubble? “Real” Payments are Still Affordable Due to Low Mortgage Rates



Maricopa County

Key Metrics	Q1-2021	1-Yr Chg
Median Sales Price	\$365,000	+ 17.7%
Average Sales Price	\$483,663	+ 24.2%
Pct. of List Price Received	100.4%	+ 1.8%
Homes for Sale	6,615	- 46.6%
Closed Sales	21,907	+ 11.4%
Months Supply	0.9	- 49.9%
Days on Market	39	- 32.5%

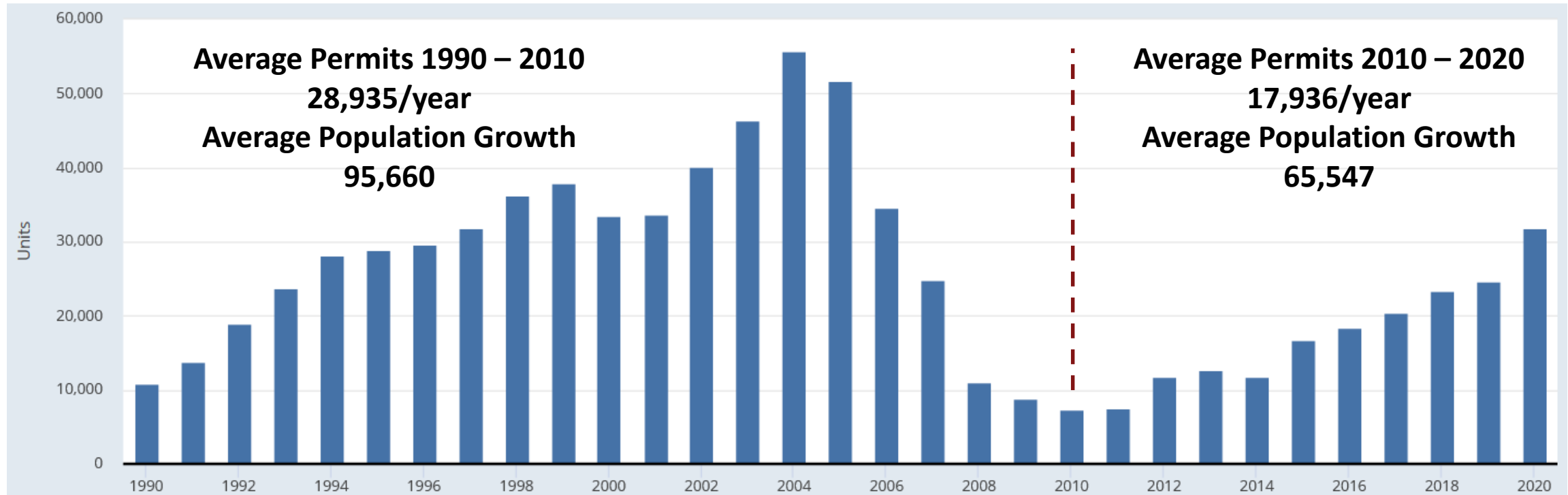
Falling mortgage interest rates have made housing more affordable, increasing demand while reducing monthly payments. The “real” Mortgage Payment Price Index for Phoenix is not in bubble territory. Yet.



Slow Great Recession Home Building Led to Price Pressures as Population Grew



Metro Phoenix Single Family Housing Permits



Note: Average annual population growth declined by 31% in 2010-2020 vs. 1990-2010 but average single-family permits/year declined by 38%, contributing to a single-family housing shortfall over time

The Metro Phoenix Area is Emerging as A Center For Distribution & Warehousing



MARKET TRENDS | PHOENIX

INDUSTRIAL

MARKET DRIVERS

THE COVID 19 PANDEMIC has accelerated e-commerce trends that have fueled demand for warehouse and distribution space in the Phoenix market. Amazon has been aggressively expanding in Phoenix the past year, signing 11 leases last year alone that range from smaller last-mile fulfillment centers to large-scale distribution facilities.

AFTER A RECORD-BREAKING LEVEL OF SUPPLY last year of approximately 18M SF, the construction pipeline is still booming with over 16M SF of space underway at the end of the first quarter. Much of the new supply is in the Southwest Valley, as the region's proximity to California and relative affordability has fueled demand for manufacturing and distribution space.

"The fastest growing industry in the past 12 months in the metro Phoenix economy is transportation and warehousing, up 18% and adding 16,000 new jobs."

Job Growth USA
W. P. Carey School of Business

Real Estate Market



Real Estate Market



Name something that is sticky.

GLUE 33	CANDY 11
GUM 20	SYRUP 10
HONEY 13	TAPE 8
TRIPLE	

Before Pandemic



Downtowns/CBD/Density
Gateway Cities
In-person meetings/conferences
Experiential Retail
Leisure Travel/Tourism
Business Travel
Mass Transit
Apartment Amenity Wars
Live Entertainment
Global Supply Chains

After Pandemic



Suburban Migration
Move to Sun-Belt
Tier 2/3 Cities
Public Open Space
Redundant Supply Chains
Work From Anywhere
Retail Transformation/Fulfillment
Health/Wellness Concerns
Affordable Housing Crises
Proptech Shift – WFA & Building Safety



Is there a housing bubble?

Is there a housing bubble?



NO

Where are we in the cycle?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Expansion	13%	47%	8%	58%	90%	71%	52%	59%	67%	69%	78%	54%	64%	12%	26%	42%	
Recovery	87%	53%	92%	33%	10%	29%	22%	22%	9%	19%	3%	0%	2%	0%	20%	32%	
Correction	0%	0%	0%	9%	0%	0%	3%	7%	3%	2%	2%	0%	0%	36%	24%	14%	
Maturity	0%	0%	0%	0%	0%	0%	22%	12%	21%	11%	17%	46%	34%	7%	15%	10%	
Recession	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	45%	15%	2%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

What direction is market moving?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up	33%	27%	84%	100%	100%	100%	88%	92%	90%	98%	98%	84%	82%	26%	76%	88%	
Down	33%	7%	8%	0%	0%	0%	1%	1%	0%	2%	0%	3%	0%	46%	5%	8%	
Stationary	34%	66%	8%	0%	0%	0%	11%	7%	10%	0%	2%	13%	18%	28%	19%	4%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Is uncertainty in the Federal Government affecting commercial real estate market?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Yes		100%	100%	83%	82%	71%	57%	37%	46%	43%	22%	16%	36%	59%	59%	32%	
No		0%	0%	17%	18%	29%	43%	63%	54%	57%	78%	84%	64%	41%	41%	68%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

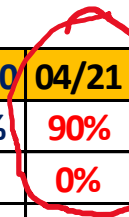
HOW WILL CHANGES IN FEDERAL REGULATIONS RELATED TO COMMERCIAL REAL ESTATE LENDING AFFECT THE MARKET OVER THE NEXT 6 MONTHS?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Positively							6%	56%	31%	35%	37%	40%	26%	61%	61%	4%	
Negatively							53%	18%	24%	30%	22%	14%	22%	16%	16%	50%	
No Change							41%	26%	45%	35%	41%	46%	52%	23%	23%	46%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Will the flow of investment capital into the Phoenix market over the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Increase							29%	60%	46%	67%	70%	100%	69%	14%	76%	90%	
Decrease							6%	0%	8%	0%	0%	0%	0%	72%	6%	0%	
Stay the Same							65%	40%	46%	33%	30%	0%	31%	14%	18%	10%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

What is your overall feeling about the Metro Phoenix commercial real estate market?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Optimistic		100%	100%	100%	100%	100%	94%	97%	98%	98%	98%	100%	96%	68%	98%	96%	
Pessimistic		0%	0%	0%	0%	0%	6%	3%	2%	2%	2%	0%	4%	32%	2%	4%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Retail



Customer Behavior
Health/Wellness
Thoughtful Experiential/Lead with Purpose
Re-Localization
Environment – Net Zero
Fulfillment
Lead with Digital

In what direction is the Metro Phoenix Retail Market Heading?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up															26%	78%	
Down															30%	0%	
Stationary															44%	22%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Where are Retail Vacancy Rates headed in the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up	13%	50%	0%	27%	9%	29%	0%	13%	24%	21%	16%	30%	19%	92%	66%	22%	
Down	61%	7%	64%	46%	55%	42%	75%	56%	64%	36%	58%	41%	31%	4%	17%	30%	
Stationary	13%	43%	36%	27%	36%	29%	25%	31%	12%	43%	26%	29%	50%	4%	17%	48%	
No Response	13%																

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Office



The changing purpose of the office
Going digital - making it streamlined
The transforming role of HR (and all) leaders
Health/Wellness
Touchless technology takeover
Prioritization of data privacy
Agile/Hybrid Work – Flexibility & WFA

In what direction is the Metro Phoenix Office Market Heading?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up															19%	45%	
Down															48%	29%	
Stationary															33%	26%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Where are Office Vacancy Rates headed in the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up	0%	0%	18%	0%	9%	0%	5%	0%	3%	5%	4%	10%	9%	79%	82%	58%	
Down	67%	21%	73%	73%	64%	79%	75%	84%	82%	75%	79%	43%	74%	4%	11%	19%	
Stationary	27%	79%	9%	27%	27%	21%	20%	16%	15%	20%	17%	47%	17%	17%	7%	23%	
No Response	6%																

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Industrial



Fulfillment/Logistics
Automation/Robotics
Retail and Industrial
Supply Chains/On-shoring

In what direction is the Metro Phoenix Industrial Market Heading?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up															91%	100%	
Down															0%	0%	
Stationary															9%	0%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Where are Big Box Industrial Vacancy Rates headed in the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up	33%	14%	0%	0%	0%	21%	14%	10%	17%	30%	20%	26%	36%	35%	22%	7%	
Down	27%	7%	58%	36%	40%	58%	50%	71%	63%	41%	48%	42%	48%	22%	59%	63%	
Stationary	27%	79%	42%	64%	60%	21%	36%	19%	20%	30%	32%	32%	16%	43%	19%	30%	
No Response	13%																

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Housing



Health/Wellness
Suburban – with urban
Affordability – Social Issue
Affordability – Econ Dev Issue
Interest Rates
Millennials
Rentals
Labor
Material Costs
Inventory

In what direction is the Metro Phoenix Multi-Family Market Heading?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up															87%	100%	
Down															0%	0%	
Stationary															13%	0%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Which Multifamily property class will realize the greatest rent growth in the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Class A		33%	25%	9%	0%	36%	0%	0%	12%	17%	0%	0%	10%	67%	13%	14%	
Class B		67%	67%	58%	0%	57%	71%	33%	44%	58%	100%	43%	20%	0%	40%	50%	
Class C		0%	8%	33%	100%	7%	29%	67%	44%	25%	0%	57%	70%	33%	47%	36%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Will Apartment Rent affordability be a concern over the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Yes							57%	55%	67%	75%	67%	71%	60%	67%	67%	65%	
No							43%	45%	33%	25%	33%	29%	40%	33%	33%	35%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Will the availability of labor be an issue in the development of Apartment projects over the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Yes							100%	78%	100%	100%	100%	100%	80%	50%	67%	93%	
No							0%	22%	0%	0%	0%	0%	20%	50%	33%	7%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

In what direction is the Metro Phoenix Land/Housing Market Heading?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Up															94%	95%	
Down															0%	0%	
Stationary															6%	5%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Have land prices reached their peak?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Yes		14%	18%	18%	6%	7%	22%	14%	33%	10%	14%	33%	27%	71%	13%	5%	
No		86%	82%	82%	94%	93%	78%	86%	67%	90%	86%	67%	73%	29%	87%	95%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey



What will have the greatest impact on homebuilding over the next 6 months?



	10/13	04/14	10/14	04/15	10/15	04/16	10/16	04/17	10/17	04/18	10/18	04/19	10/19	04/20	10/20	04/21	Trends
Land Prices							0%	0%	0%	0%	5%	11%	0%	14%	14%	10%	
Labor Costs							33%	21%	17%	19%	23%	11%	37%	0%	0%	5%	
Material Costs							0%	0%	6%	19%	9%	22%	9%	0%	0%	30%	
All of the Above							67%	79%	77%	62%	63%	56%	54%	86%	86%	55%	

Source: W. P. Carey School of Business
Commercial Real Estate Brokers Survey

Community



Diversity
Social Justice
Affordable/Attainable Housing
Health and Wellness
Density
Social Infrastructure
Physical Infrastructure
WFA



**Thank you for attending and have
a great summer!**