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2022 is the Year of the Water Tiger
A year of all types of Extremes

What **EXTREMES** are confronting CRE?
Where can you **OUTRUN** Inflation?



- Inflation / LIBOR to SOFR Transition
- FOMC Monetary Policy
- COVID Variants & Vaccination Mandates
- Supply-Chain Disruption
- Mid-Term Congressional Elections
- CRE Values under DSCR Debt Strain

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The **RED SHOE**
ECONOMIST



<https://www.thechinesezodiac.org/chinese-horoscope-2022/>

Any Doubt about a Year of Extremes for 2022: FL this past weekend

Florida forecast Jan 28, 2022: – Iguanas falling from trees

USA Today



It's a bird! It's a plane! **It's an iguana falling out of a tree?**

The forecast for parts of Florida is warning that iguanas can slow down and become immobile when temperatures drop below 40 degrees. **As they slow down, the animals can fall from trees onto the ground.** This isn't the first time that the reptiles getting too chilly and tumbling down from trees has been in the forecast.



Disclaimer: Not in the fine print...

2022 Colliers Houston Trends CRE Market Update

“The Year of the TIGER” (Extremes) – Where can you Out-Run Inflation?

February 1, 2022: In-Person, YEAH!!!

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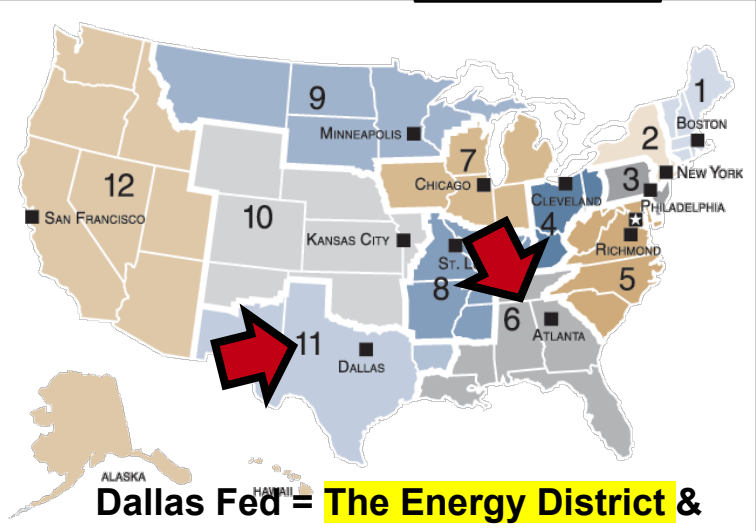
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2022 Economic Influences: FOMC/FED, Inflation, Logistics & Black Swans



2022 FOMC Meetings	
January	25-26
No FEB Mtg	
March	15-16*
May	3-4
June	14-15*
July	26-27
September	20-21*
November	1-2
December	13-14*

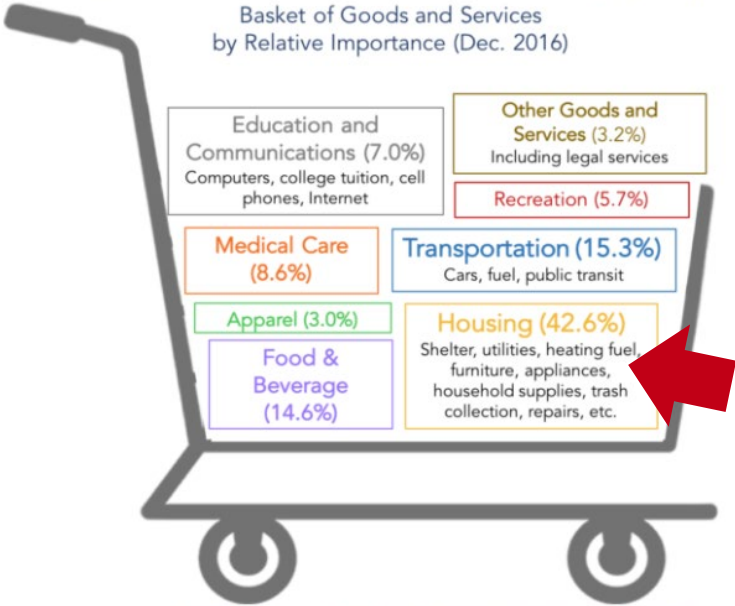


Dallas Fed = **The Energy District** &
Atlanta FED has the most Ports (20), yet
NO Supply-Chain or Ports Research



Consumer Price Index (CPI)

Basket of Goods and Services
by Relative Importance (Dec. 2016)



Source: Data from U.S. Bureau of Labor Statistics, graphic by Legal Evolution PBC



Black Swan Events like Russia invading Ukraine, Volatile Jobs Reports, natural disasters (Fires, Tornadoes, Hurricanes), US Refiners Strike or Cyber Attack on Infrastructure – like that for Energy - Colonial Pipeline impacting entire East coast.

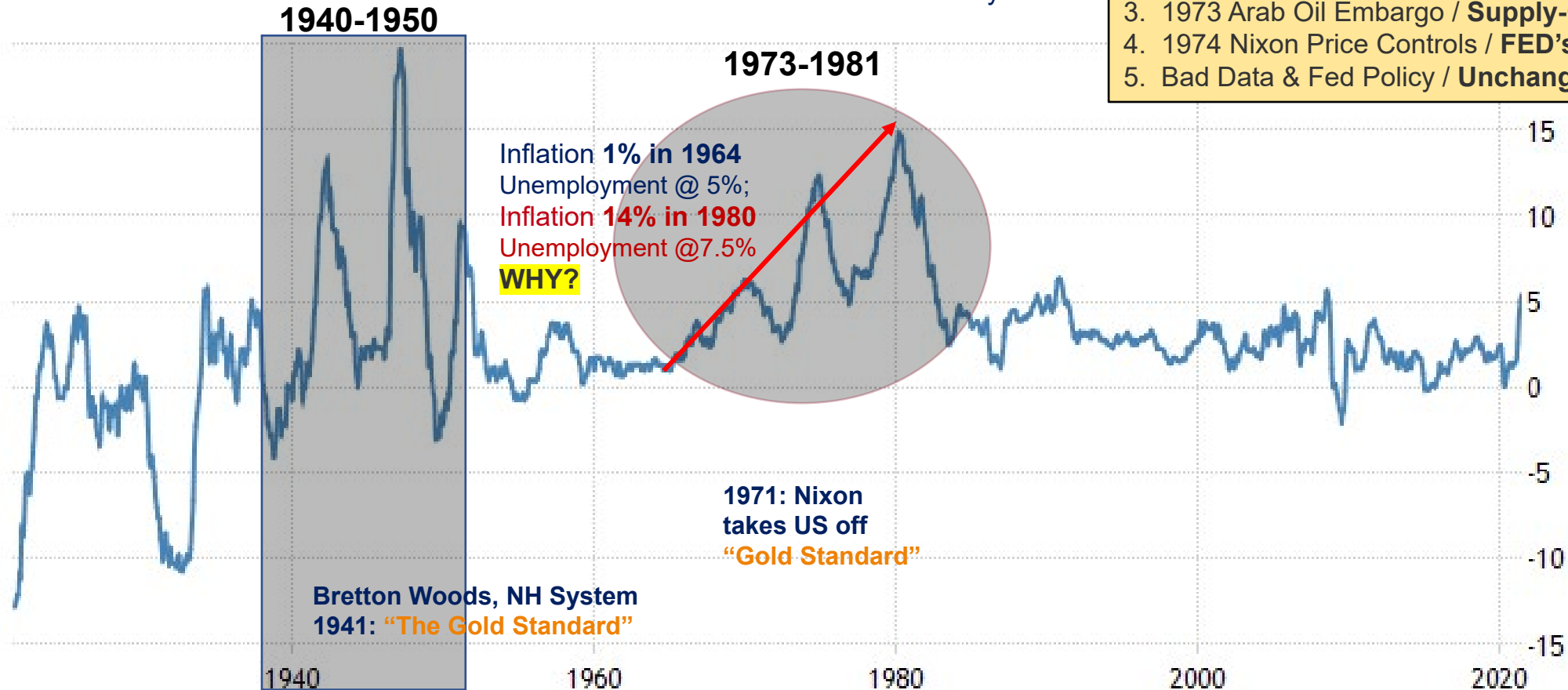
INFLATION: A Historical Perspective – *Can 1977 to 1981 be Repeated?*

WW II War-Time & then
Peace-Time Economy

The Great Inflation (1965-1982) was the defining macroeconomic period of the second half of the twentieth century.

What caused 1% to 14%?

1. 1960s Vietnam War **Deficit** spending
2. 1971 Off the Gold Standard / **Rise of Bitcoin**
3. 1973 Arab Oil Embargo / **Supply-Chain**
4. 1974 Nixon Price Controls / **FED's Balance Sheet**
5. Bad Data & Fed Policy / **Unchanged – No Supply-Chain**



Mandate #1



Employment Act of 1946 –
Where Fed’s mandate for “**Full Employment**” originated

Mandate #2



Humphrey-Hawkins Act of 1978
gave FED its 2nd Mandate of
“**Price Stability**”

INFLATION: CPI aside – How Does Inflation Impact R.E.; NOLA, ATL & Dallas highest

CONSTRUCTION ECONOMICS

Construction Cost Index		+8.0%		
ANNUAL INFLATION RATE		JAN. 2022		
1913=100	INDEX VALUE	MONTH	YEAR	
CONSTRUCTION COST	12555.55	+0.6%	+8.0%	
COMMON LABOR	24365.52	0.0%	+1.4%	
WAGE \$/HR.	46.82	0.0%	+1.4%	

Building Cost Index		+13.9%		
ANNUAL INFLATION RATE		JAN. 2022		
1913=100	INDEX VALUE	MONTH	YEAR	
BUILDING COST	7359.09	+1.0%	+13.9%	
SKILLED LABOR	11055.72	0.0%	+2.6%	
WAGE \$/HR.	60.99	0.0%	+2.6%	

Construction Cost Index		+8.0%		
ANNUAL INFLATION RATE		OCT. 2021		
1913=100	INDEX VALUE	MONTH	YEAR	
CONSTRUCTION COST	12464.94	0.0%	+8.0%	
COMMON LABOR	24355.78	0.0%	+1.3%	
WAGE \$/HR.	46.80	0.0%	+1.3%	

Building Cost Index		+14.2%		
ANNUAL INFLATION RATE		OCT. 2021		
1913=100	INDEX VALUE	MONTH	YEAR	
BUILDING COST	7244.90	+0.4%	+14.2%	
SKILLED LABOR	10978.76	+0.9%	+2.6%	
WAGE \$/HR.	60.58	+0.9%	+2.6%	

Construction Cost Index		+3.8%		
ANNUAL INFLATION RATE		APR. 2021		
1913=100	INDEX VALUE	MONTH	YEAR	
CONSTRUCTION COST	11849.31	+0.8%	+3.8%	
COMMON LABOR	24253.88	+0.4%	+1.4%	
WAGE \$/HR.	46.59	+0.4%	+1.4%	

Building Cost Index		+6.1%		
ANNUAL INFLATION RATE		APR. 2021		
1913=100	INDEX VALUE	MONTH	YEAR	
BUILDING COST	6612.50	+1.0%	+6.1%	
SKILLED LABOR	10805.01	0.0%	+1.7%	
WAGE \$/HR.	59.73	0.0%	+1.7%	

ENR's Cost Indexes by City

	CONSTRUCTION COST		BUILDING COST	
	JAN '22: 1913	% CHG. YEAR	JAN '22: 1913	% CHG. YEAR
ATLANTA	8066.77	+17.3	5986.91	+24.7
BALTIMORE	9965.04	+6.0	6515.31	+13.9
BIRMINGHAM	8363.01	+11.0	5609.46	+17.8
BOSTON	16962.26	+13.4	9527.56	+16.5
CHICAGO	17977.18	+5.7	9260.51	+13.3
CINCINNATI	11340.56	+9.9	6270.20	+13.1
CLEVELAND	13250.20	+5.0	6903.84	+11.6
DALLAS	7176.09	+16.8	5785.39	+21.7
DENVER	8418.76	+10.2	6021.13	+14.9
DETROIT	12910.01	+5.2	7216.15	+9.8
KANSAS CITY	12623.32	+6.4	7257.26	+10.6
LOS ANGELES	12996.09	+7.6	7293.41	+14.4
MINNEAPOLIS	13811.00	+4.4	7594.45	+13.0
NEW ORLEANS	7545.75	+15.8	6041.18	+35.1
NEW YORK CITY	21335.07	+3.6	10561.93	+6.8
PHILADELPHIA	15013.06	+7.8	8353.08	+7.6
PITTSBURGH	12104.54	+9.4	7095.75	+9.8
ST. LOUIS	13228.25	+5.1	7231.89	+12.0
SAN FRANCISCO	14301.24	+9.2	9007.82	+15.4
SEATTLE	13722.83	+6.8	7648.51	+13.0

Why is Dallas the only TX city in the ENR "Cost Index by City?"

32 • ENR • January 3-17, 2022 enr.com

Banks pay attention to Construction Loans and Cost Overruns?

INFLATION & CRE Values: Are these increases sustainable?

Ask: What are CRE Values with **Expenses growing > Rents** & Higher Interest Rates/Cap Rates?



Green Street CPPI Past 12 Mos (Nov YOY)

Green Street CPPI®: Sector-Level Indexes

	Index Value	Change in Commercial Property Values		
		Past Month	Past 12 Mos	From Pre Covid
All Property	154.8	5%	24%	14%
Core Sector	159.6	6%	26%	18%
Apartment	189.7	3%	29%	22%
Industrial	253.9	9%	41%	53%
Mall	97.6	16%	27%	1%
Office	113.6	2%	6%	-4%
Strip Retail	126.7	6%	30%	13%
Health Care	150.9	0%	10%	6%
Lodging	107.5	3%	32%	-1%
Manufactured Home Park	323.8	2%	24%	34%
Net Lease	115.7	0%	26%	17%
Self-Storage	306.8	18%	66%	66%
Student Housing	168.7	0%	16%	9%

#1 – Self Storage **+66%**

#2 – Industrial **+41%**

#3 #4 TIE – Lodging (+32%) & Strip Retail (+30%)

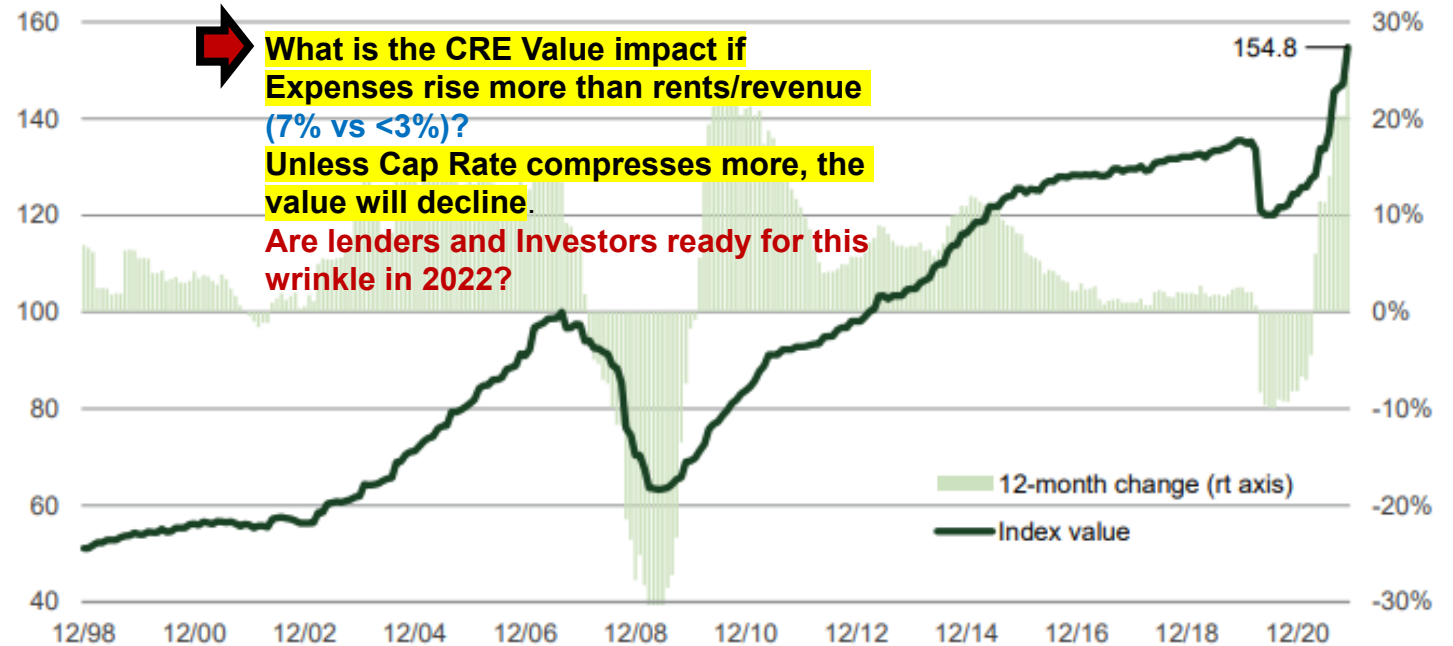
#5 – MF **+29%**

Green Street CPPI®: All-Property Index

Property Values Continue Upward

The Green Street Commercial Property Price Index® increased 5.3% in November. Property price increases were widespread, with self-storage, industrial, and retail registering the largest month-over-month gains. The all-property index has increased 24% this year and is **14% higher than it was before the pandemic began.**

Green Street Commercial Property Price Index®



Volatility (CBOE VIX): It foretells Market Anxiety

< 20 = Market Calm; >30-35 = Market Anxiety & Sell-off

Historical Performance for the VIX Index

https://www.cboe.com/tradable_products/vix/vix_options/?utm_source=bing&utm_medium=cpc&utm_campaign=VIX%20-%20Exact&utm_term=cboe%20vix%20index&utm_content=CBOE%20-%20VIX%20-%20Exact&gclid=60577806bd3a14d9c49519f2a9214c82&gclsrc=3p.ds

VIX Perspective:

VIX Highs:

- **2008-2009 VIX 50 to 80.86** with a high on **Nov 20, 2008**
- **March 2020 VIX rose to all-time high of 82.69 March 16, 2020**
- **VIX >30 Jan 2022** first time since Jan 2021 and June 2020 at depths of Pandemic

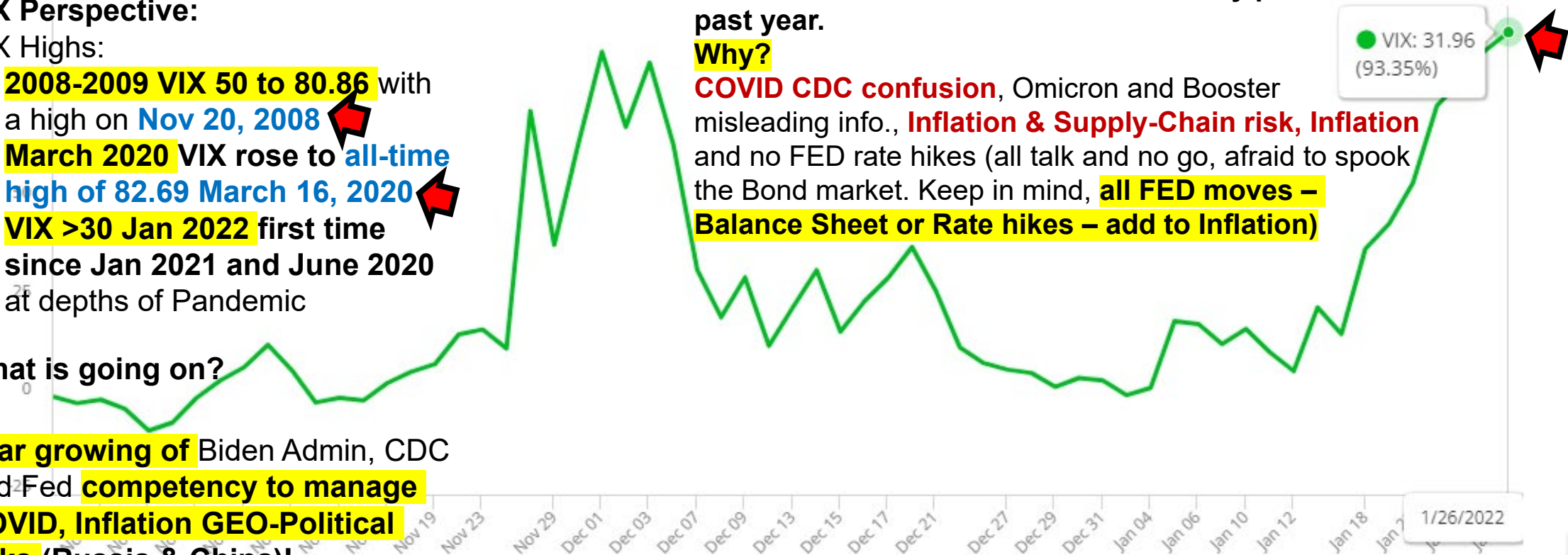
What is going on?

Fear growing of Biden Admin, CDC and Fed **competency to manage COVID, Inflation GEO-Political risks** (Russia & China)!

The VIX in Jan 2022 is as elevated as any point in the past year.

Why?

COVID CDC confusion, Omicron and Booster misleading info., **Inflation & Supply-Chain risk, Inflation** and no FED rate hikes (all talk and no go, afraid to spook the Bond market. Keep in mind, **all FED moves – Balance Sheet or Rate hikes – add to Inflation**)

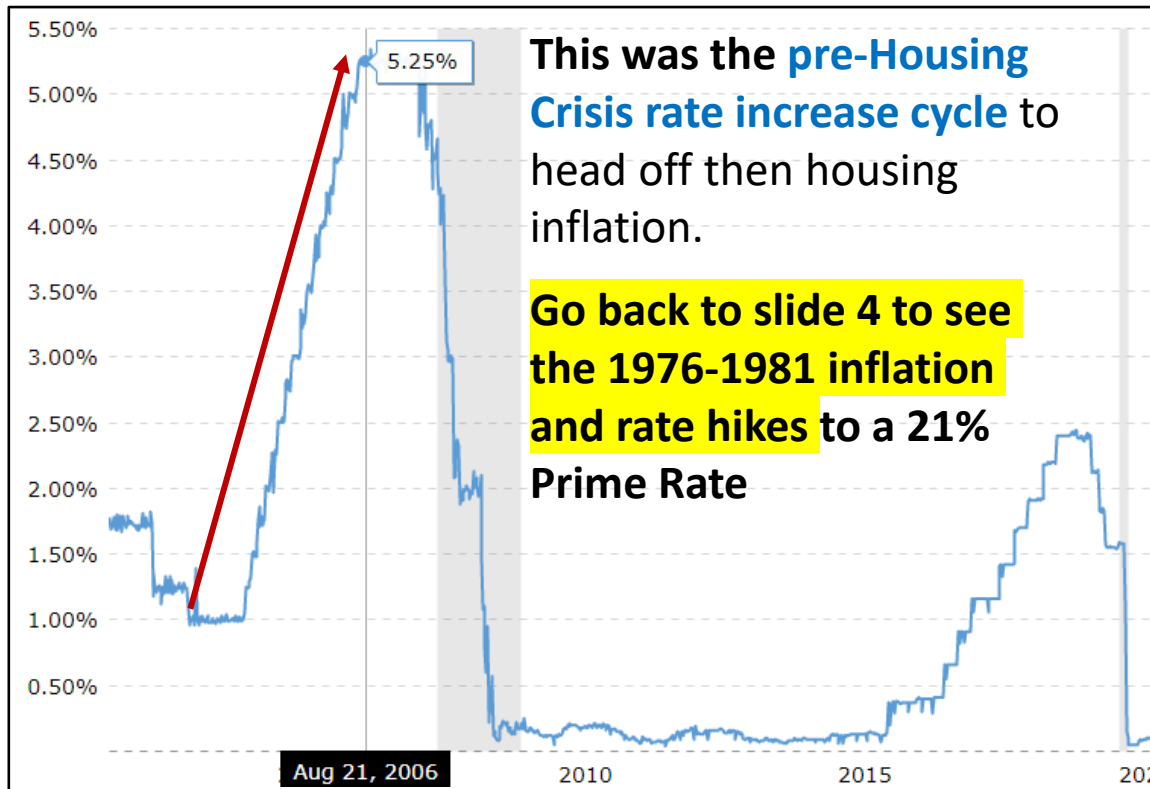


https://www.cboe.com/tradable_products/vix/vix_historical_data/

History of FED Rate Hikes: They don't just hike 3 to 4 times – try 8+

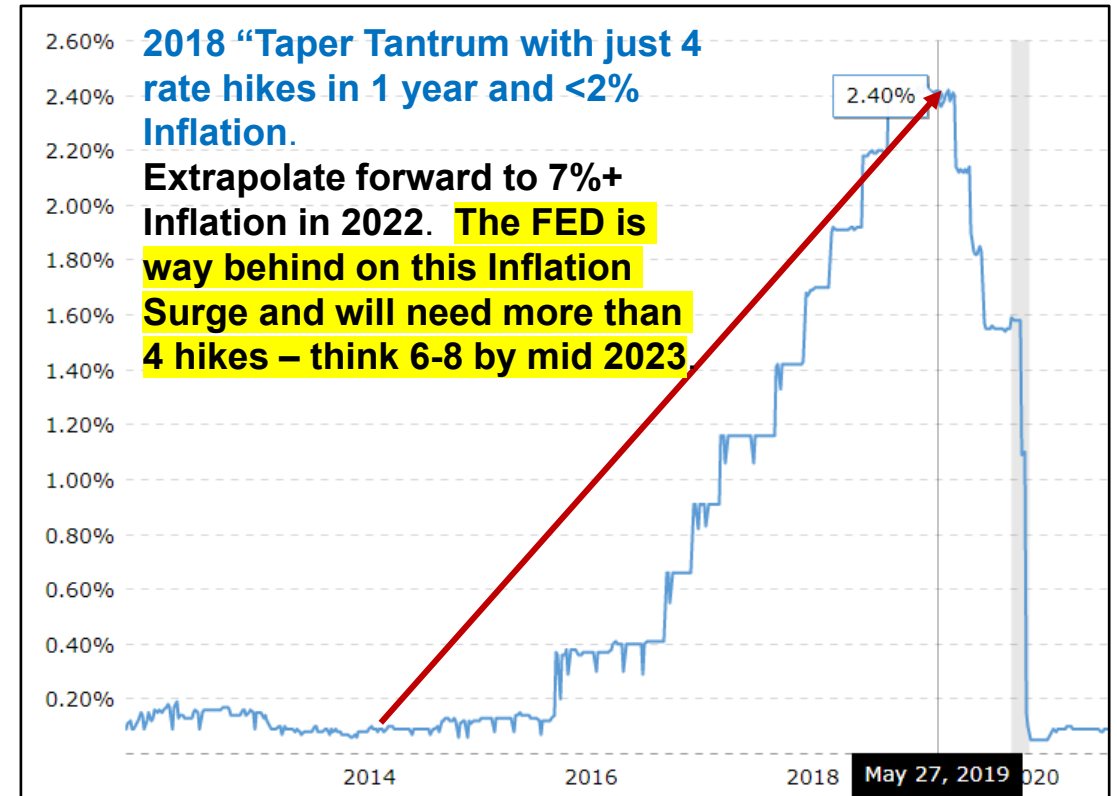
Fed Funds Rate – FOMC Rate Hikes

20-Yr View (1% to 5.25% 2004-Summer 2006)



Fed Funds Rate – FOMC Rate Hikes

10-Yr View (0.20% to 2.40% 2014-Spring 2019)



US Debt – The Fed’s Big Problem! Our Debt will drive rates higher w/o FED

Decade	Gross debt at start of decade (USD billions)	Avg. Debt Held By Public Throughout Decade (% of GDP)	Major Events
1900	-	4.8%	-
1910	-	10.0%	World War I
1920	-	22.9%	The Great Depression
1930	\$16	36.4%	President Roosevelt's New Deal
1940	\$40	75.1%	World War II
1950	\$257	56.8%	Korean War
1960	\$286	37.3%	Vietnam War
1970	\$371	26.1%	Stagflation (inflation + high unemployment)
1980	\$908	33.7%	President Reagan's tax cuts
1990	\$3,233	44.7%	Gulf War
2000	\$5,674	36.6%	9/11 attacks & Global Financial Crisis
2010	\$13,562	72.4%	Debt ceiling is raised by Congress
2020	\$27,748	105.6%	COVID-19 pandemic

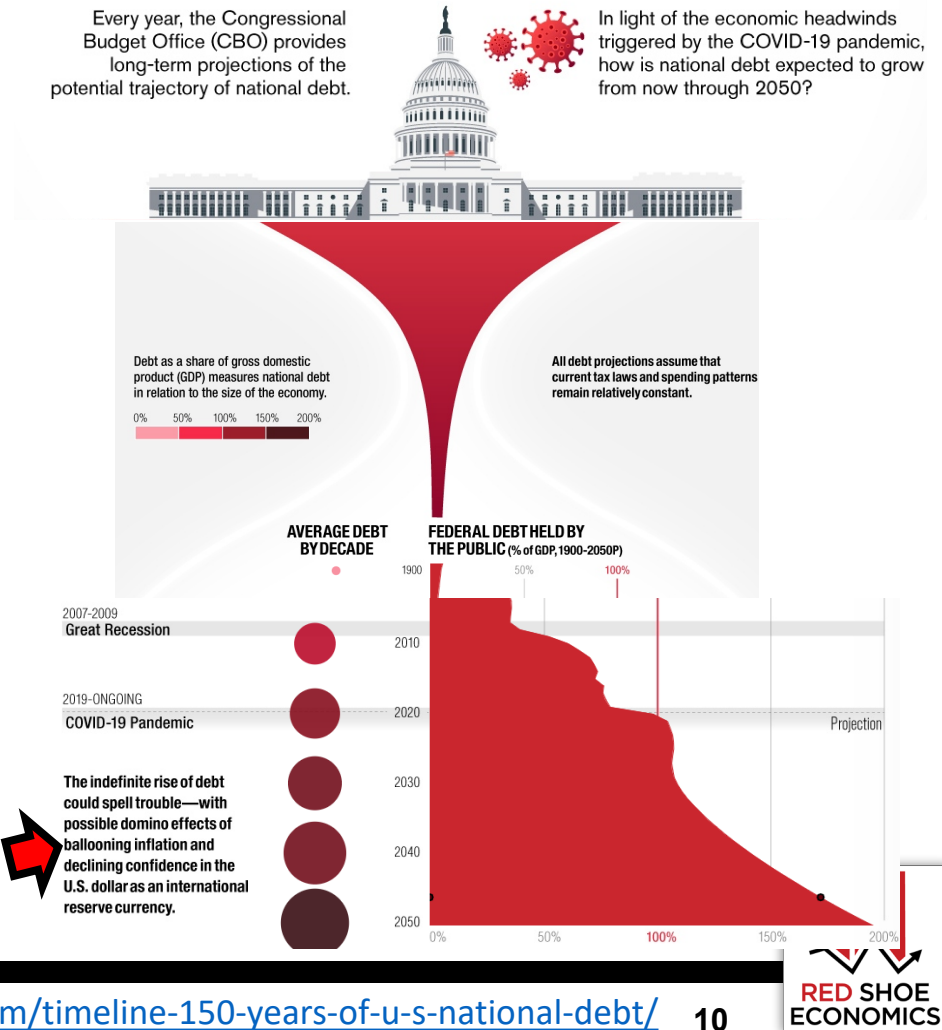
Since 1990, every decade we rack up more than all of previous decades

The FED isn't just battling INFLATION, it's battling FISCAL Deficits that will drive greater Inflation and devalue the US \$

U.S. National Debt

Every year, the Congressional Budget Office (CBO) provides long-term projections of the potential trajectory of national debt.

In light of the economic headwinds triggered by the COVID-19 pandemic, how is national debt expected to grow from now through 2050?



“Zombie CRE Companies: Have earnings, but not enough to pay interest on debt!

Real estate is the most ‘zombified’ sector and rate hikes will be a big risk, says consultancy

PUBLISHED THU, JAN 20 2022 1:59 AM EST

[Abigail Ng@ABIGAILNGWY](#)

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KEY POINTS

- There’s a “big risk” of real estate companies filing for insolvency when interest rates rise, said Nils Kuhlwein of consulting firm Kearney.
- The real estate sector had the highest absolute number of “zombie” companies and the highest share of zombies in 2020, according to a Kearney report — and that number could surge if rates double, said Kuhlwein.
- Zombie companies refer to firms that have been on the market for more than 10 years and earn enough to operate, but not to pay the interest on their debt.

The [Kearney report](#) on listed zombie companies, which analyzed data from 2020, found that the real estate sector had the highest absolute number of zombies and the highest share of zombies.

“The real estate industry is by far the most ‘zombified,’” the report said. **Around 5% of companies in other sectors were classified as zombies, but that figure was 7.4% in the real estate industry**

Jobs: Making sense of ADP, BLS, JOLTS and 10.6M Job Openings & <4% Unemployment



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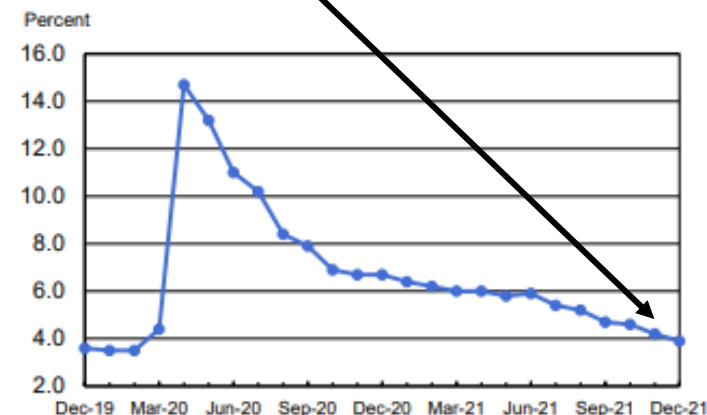
3d •

December' 2021 BLS Jobs report another confusing bust of just 199k jobs after just 210k in November, That is the headline. The context is these numbers are a mess and contradict with a now 3.9% unemployment Rate and 650k more employees in December. The BLS is undercounting jobs - especially the surge in Self-Employed (like me and my Red-Shoe Economics firm). Businesses are not responding to BLS surveys and State Gov data is delayed and inaccurate not picking up subcontractors or new Self-Employed. How can ADP document 800k new private jobs, unemployment drop below 4% near our record 3.5% low, and hourly earnings rising >0.5% per month (+0.6% in December) and BLS report we are only creating 200k jobs a second month in a row. Put this one in the BBQ-Sauce bucket and go with ADP, JOLTS and the reality of wage inflation. The Red-Shoe Economist thinks the FED may have to move with a 1st rate hike in January with no FEB meeting and inflation running hotter and hotter.

The real story wrapped inside all the JOBS data reports is **WAGE Inflation**. It is the stickiest and hardest type inflation to tame. **Monitor corporate earnings reports to note the margin compression in earnings due to wage pressures and supply-chain/shipping cost increases.**

[Read Proctor & Gambel's](#) and [Chevron Energy's Earnings reports here in January for Q4 2021 period.](#)

Chart 1. Unemployment rate, seasonally adjusted, December 2019 – December 2021



Be Careful using FED tools - FED's "CRE Momentum Index"



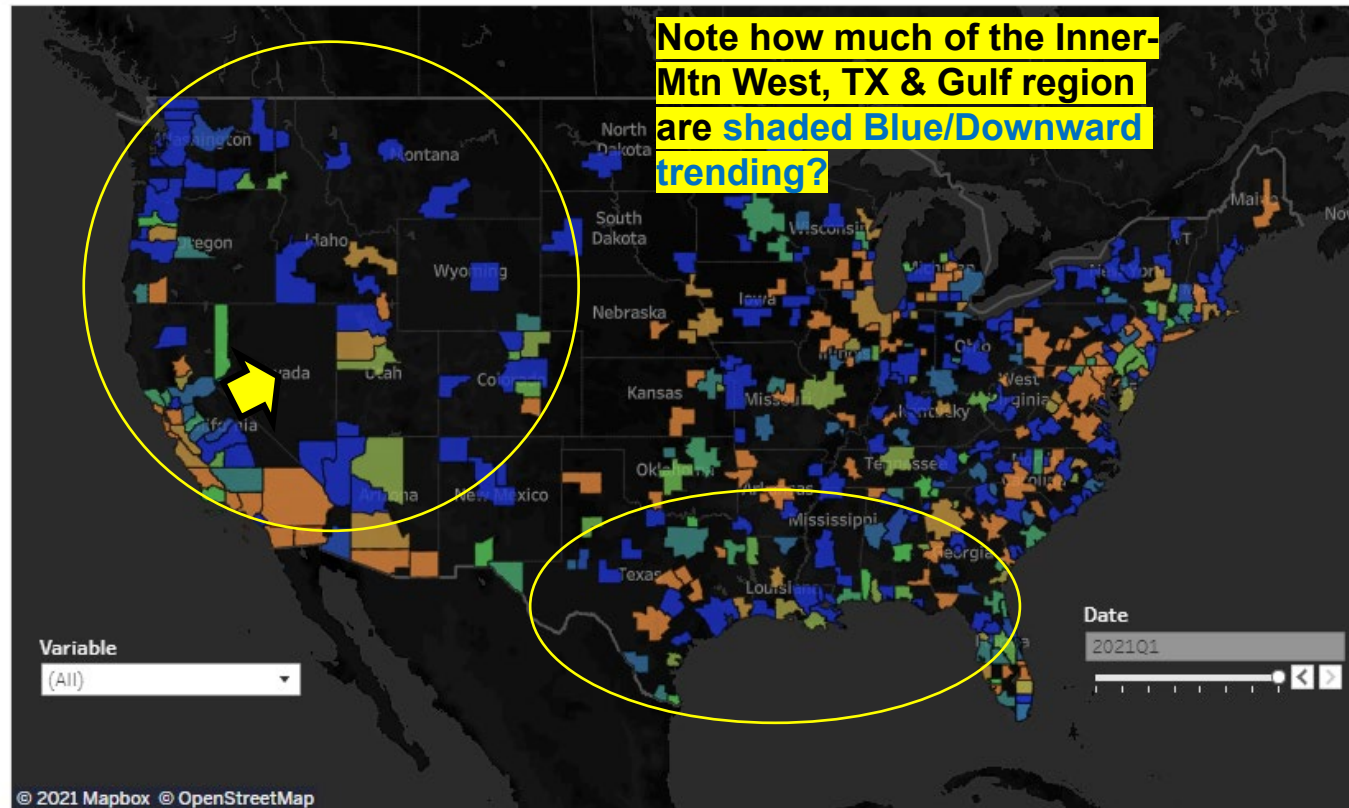
Federal Reserve Bank of Atlanta

CREMI: Commercial Real Estate Momentum Index

CRE Momentum Index - Retail - 2021Q1

Retail

Note how much of the Inner-Mtn West, TX & Gulf region are shaded Blue/Downward trending?



Variable

(All)

Date

2021Q1

Downward Trending Momentum



Upward Trending Momentum

Blue & Green are "Downward Trending / Bad; Orange & Yellow are "Upward/Good?"

CREMI is counter-intuitive to CRE Industry

- **Color:** A color of a particular variable is determined by its relation to the long-term average of that variable. **Orange hues indicate a value above the average ("upward")** and **blue hues indicate a value below the average ("downward")**. Green hues reflect data that are in line with the long-term average. This shows the **direction of momentum**.
- **Shade:** The deepness of the color (darker versus lighter hues of a color) represents the variable's fluctuation, as measured by deviation in the variable over time. **Deeper colors reflect higher deviation and, therefore, greater market volatility**. This shows the **strength of momentum**.

It's a Black-Box: Good luck using in litigation of Bank Appraisal work where you can't explain it.

CREMI FAQ :

Q: What are the numeric values of the data?
Why can't I see them?

A: "Due to contractual obligations with our data providers, we are not able to share the underlying data." It's CoStar & Moody's. Go directly to CoStar & Moody's!

BBQ Sauce is “Southern Polite” for “BS”



Atlanta Federal Reserve's "CREMI" &
GDP NOW win ...

<https://www.atlantafed.org/cqer/research/gdpnow>

Red Shoe Economist's BBQ-Sauce award!

I'm calling BBQ Sauce on this one!

GDPNow™ Q1 GDP estimate of just 0.1% - really?

Latest estimate: 0.1 percent — January 28, 2022

The initial GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the first quarter of 2022 is 0.1 percent on January 28. **The initial estimate of fourth-quarter real GDP growth released by the US Bureau of Economic Analysis on January 27 was 6.9 percent**

POPULATION MIGRATION:

Q: Where can you “Out- Run” Inflation?

A: South (TX, FL, TN, SC) Mtn. Region & MW)



U-Haul Growth Index: Texas is the #1 Growth State of 2021!

- | | |
|--------------------------------|------------------------|
| 1. TEXAS (2) TX Back #1 | 13. WISCONSIN (13) |
| 2. FLORIDA (3) | 14. OREGON (45) |
| 3. TENNESSEE (1) | 15. WASHINGTON (36) |
| 4. SOUTH CAROLINA (15) | 16. ALASKA (34) |
| 5. ARIZONA (5) | 17. MINNESOTA (20) |
| 6. INDIANA (12) | 18. CONNECTICUT (43) |
| 7. COLORADO (6) | 19. NORTH CAROLINA (9) |
| 8. MAINE (29) | 20. NEBRASKA (32) |
| 9. IDAHO (30) | 21. WYOMING (33) |
| 10. NEW MEXICO (39) | 22. MONTANA (19) |
| 11. SOUTH DAKOTA (25) | 23. GEORGIA (10) |
| 12. VERMONT (26) | 24. OHIO (4) |

Top 4 = South / 5 of Top-22 = Mtn-West

California remained the top state for out-migration, but its net loss of U-Haul trucks wasn't as severe as in 2020. That can be partially attributed to the fact that U-Haul simply ran out of inventory to meet customer demand for outbound equipment.

Texas's growth is statewide, although some of its biggest gains occurred in the suburbs around the DFW Metroplex. Florida's gains are equally widespread, with considerable growth south of Orlando and along both coastlines.

U-Haul is the authority on migration trends thanks to its expansive network that blankets all 10 provinces and 50 states. The geographical coverage from more than 23,000 U-Haul truck- and trailer-sharing locations provides a comprehensive overview of where people are moving like no one else in the industry.

➡ Don't ask me to explain AL @ #46.

States with MOST Out-Migration

45. NEW YORK (42)

46. ALABAMA (22)

47. MASSACHUSETTS (47)

48. PENNSYLVANIA (41)

49. ILLINOIS (49)

50. CALIFORNIA (50)

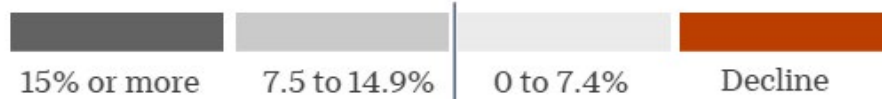
Don't ask me to explain AL as they didn't come out well in 2020 Census either. Maybe a delayed impact from Toyota, Mercedes, Walmart & Airbus hiring. **United Van Lines moving report has AL @ #6 for Most Move-Ins.**

Methodology: Growth states are calculated by the net gain of one-way U-Haul trucks entering a state versus leaving that state in a calendar year. Migration trends data is compiled from more than 2 million one-way U-Haul truck customer transactions that occur annually.

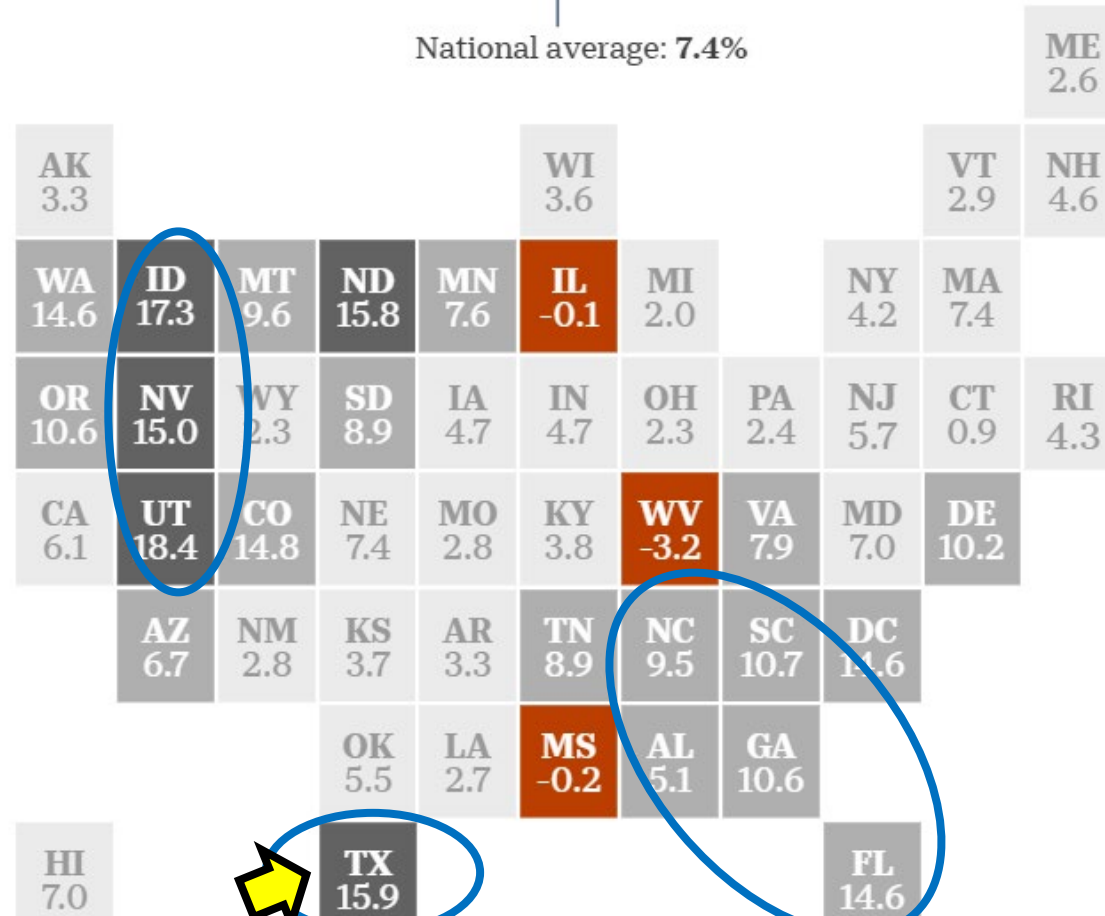
2020 Census Pop. Migration: MTN (UT +18.4%); South (TX +15.9% & FL +14.6%)

Three states declined in population in last 10 years

Percentage change in resident population from 2010 to 2020



National average: 7.4%



Q. Where can you “Outrun Inflation” in 2022?

A. **UT, TX, FL & SE** (Where growth is 2X 7% Inflation)

What’s going on nationally?

The U.S. population increased by 7.4% since the last census **from about 309 million to 331 million – the slowest growth rate the nation has seen since 1940.**

Regionally, the South saw more than 10% increase in population, followed by the West, Northeast and Midwest. Jarmin said the numbers reflect an ongoing trend of growth shifting to the South and West: **Since 1940, there’s been a combined net shift of 84 House seats to the South and West regions.**

2021-22 Top Ten Issues Affecting Real Estate®

LOGISTICS & INDUSTRIAL WAREHOUSES

TOP TEN ISSUES AFFECTING REAL ESTATE®

The Counselors of Real Estate®

10. Bifurcation of Capital Markets

9. Adaptive Reuse 2.0

8. Economic Structural Change

7. Political Polarization

➡ 6. Housing Supply and Affordability

5. Infrastructure: New Imperatives Emerge

➡ 4. Logistics KC Conway, CRE, CCIM, MAI authored this Top-10 Issue

3. ESG at a Tipping Point

2. Technology Acceleration and Innovation

1. Remote Work & Mobility

Where the “bleep” was Energy?

The RSE’s #1 Issue Affecting CRE is Energy!
Let’s start there.

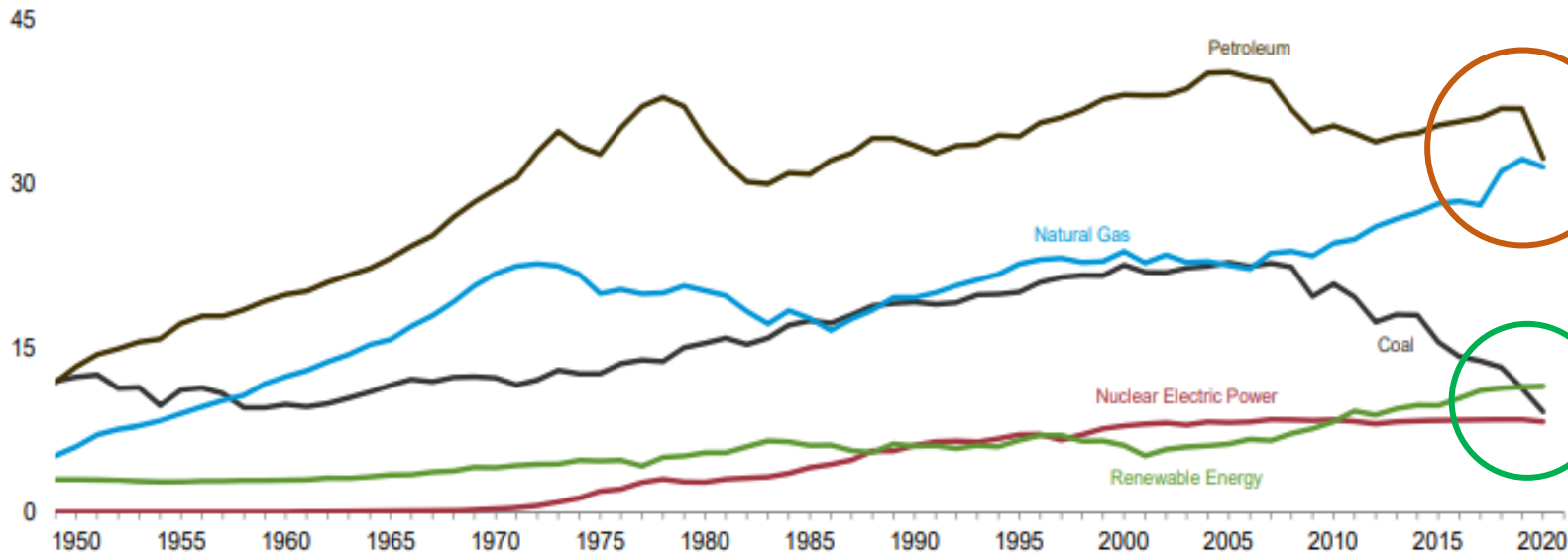
TX Energy: W/O Petroleum & Natural Gas, **Lights-Out for U.S.**

January 2022

Monthly Energy Review

Figure 1.3 Primary Energy Consumption
(Quadrillion Btu)

By Source, [a] 1949–2021



Like it or not, the U.S. is powered by Petroleum & Nat-Gas.

That includes EV vehicles. Where do EV owners think their “Charge-Up” comes from?

TX Energy: W/O TX, It's Lights-Out & no EV Auto Charge-Ups



- ✓ **Petroleum: Texas leads all states in crude oil production as it has in every year but one since at least 1970.** The state accounts for about two-fifths of the nation's crude oil proved reserves and crude oil production. Texas not only produces more crude oil than any other state, but usually also more than all the federal offshore producing areas combined. More than one-fourth of the nation's 100 largest oil fields by reserves are in Texas.
- ✓ **Texas rates** ➡ **1st or 2nd in every energy category EXCEPT hydroelectric power.** The terrain is prohibitive.
- ✓ **Texas also leads the nation in crude oil refining.** The majority of the Texas refineries are clustered near ports along the Gulf Coast, and that region has the largest concentration of oil refineries in the United States. **Texas has almost one-fourth of the nation's operable refineries and nearly one-third of the U.S. total refining capacity.** The state's 31 petroleum refineries can process a combined total of almost 5.9 million barrels of crude oil per day.
- ✓ **Natural Gas:** About one-fourth of the nation's proved dry natural gas reserves and about three-tenths of the 100 largest natural gas fields are located, in whole or in part, in Texas. **In 2020, the state produced one-fourth of the nation's natural gas,** and annual production reached a high of more than 10 trillion cubic feet for the second year in a row.
- ✓ **Electricity:** ➡ **Texas produces more electricity than any other state,** generating almost twice as much as **the second-highest electricity-producing state, FL**



Seeking Alpha α

Energy on watch: Nearly half of Europe's gas supplies are imported from Russia, raising concerns about the willingness of some European nations to take a stand against Moscow. The continent is already dealing with an energy crunch that has resulted in some of the highest heating and electricity bills in the developed world. Looking to stave off such a threat, talks are currently underway with Qatar - the world's largest exporter of LNG - and other nations, in case a Russian incursion was to disrupt energy supplies to Europe.

Jan 24, 2022



Affordable Housing: 4-Rent Subdivisions – Need to Rethink Affordable Housing



AMH At A Glance



Peer-Leading Growth
& Balance Sheet

- 2021 Guidance of 17.2% Core FFO Growth at Midpoint, highest amongst Residential REIT Peers

- Issued \$750 Million in a Dual-Tranche Unsecured Bond Offering, Becoming First BBB-Residential REIT in History to Issue 30-Year Bonds



Industry Leading
Operating Platform

- 56,077 high-quality properties in 22 states with ~ 200,000 residents⁽¹⁾

- Same-Home 3Q21 Average Occupied Days of 97.4%

- Best-in-Class Operating Platform with Proprietary Technology & Call Center



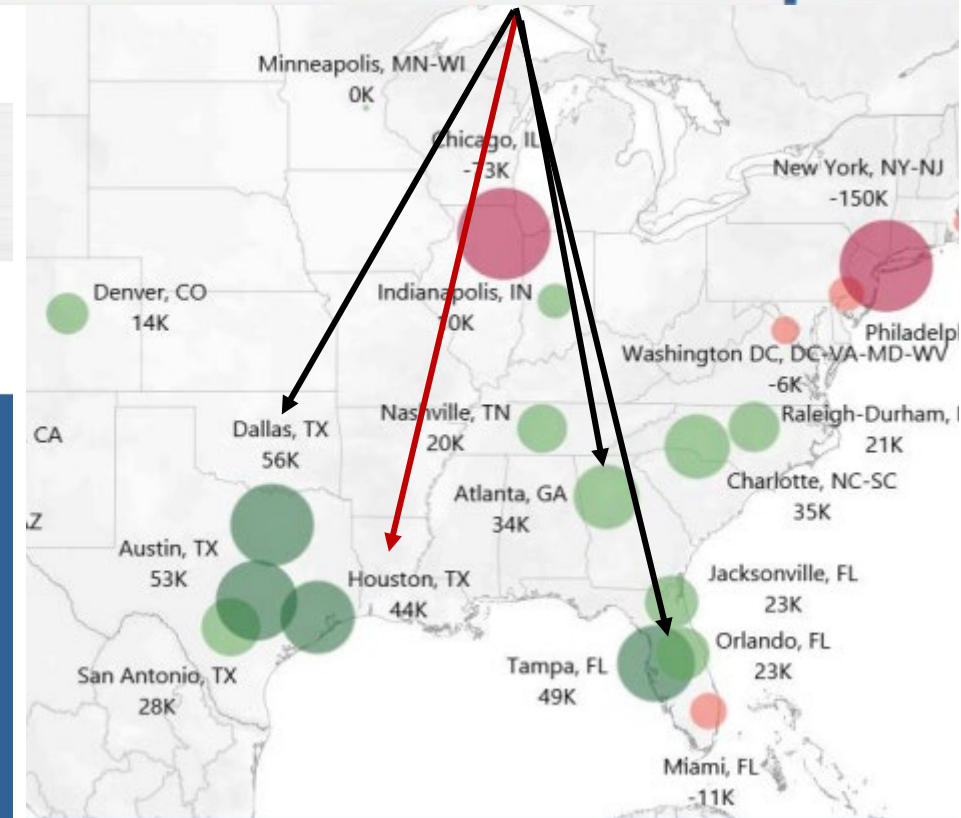
First-of-its-Kind Built-
For-Rent Platform

- Largest Builder of Single-Family Homes For Rent with more than 2,000 Deliveries Expected in 2021⁽¹⁾

- 16,000 Unit Land Pipeline to Fuel Further Acceleration⁽²⁾

- Highest-Quality Product and Superior Investment Returns

Migration Trends Favor AMH Footprint



MF 2022 96% Occupied




KC Conway, MAI, CRE, CCIM


Principal & Co-Founder at Red Shoe Economics

3m •

• •

MF Stats 2021 and heading into 2022 - RealPage via Globe Street piece is worth the read if you touch MF assets. These numbers mean much more housing inflation and may bring some of that capital back over to MF that left for Industrial in 2021. Below are the key stats:

#1 "Nearly 360,000 market-rate apartment units completed in 2021. That's the biggest addition in more than three decades. Another 682,000 units are under construction. Of those, roughly 426,000 are scheduled to complete in 2022—marking the first time since  1987 supply will top the 400,000-unit mark. Parsons said that household formation is likely occurring at a faster clip than official government data sources are reporting."

#2 "The Sun Belt and Mountain/Desert regions combined to account for more than half of the nation's apartment demand in 2021, led by Dallas/Fort Worth's 7.4% share of the US total. Remarkably, occupancy rates hit or top 96% in 148 of the nation's 150 largest metro areas." 

Industrial CRE / Logistics / Supply-Chain: Colliers tells the story



Key Takeaways

- Robust investment activity
- Historical positive net absorption recorded
- Leasing velocity gained momentum, reaches historical high
- Vacancy rate drops on a quarterly and annual basis
- Port Houston sets records

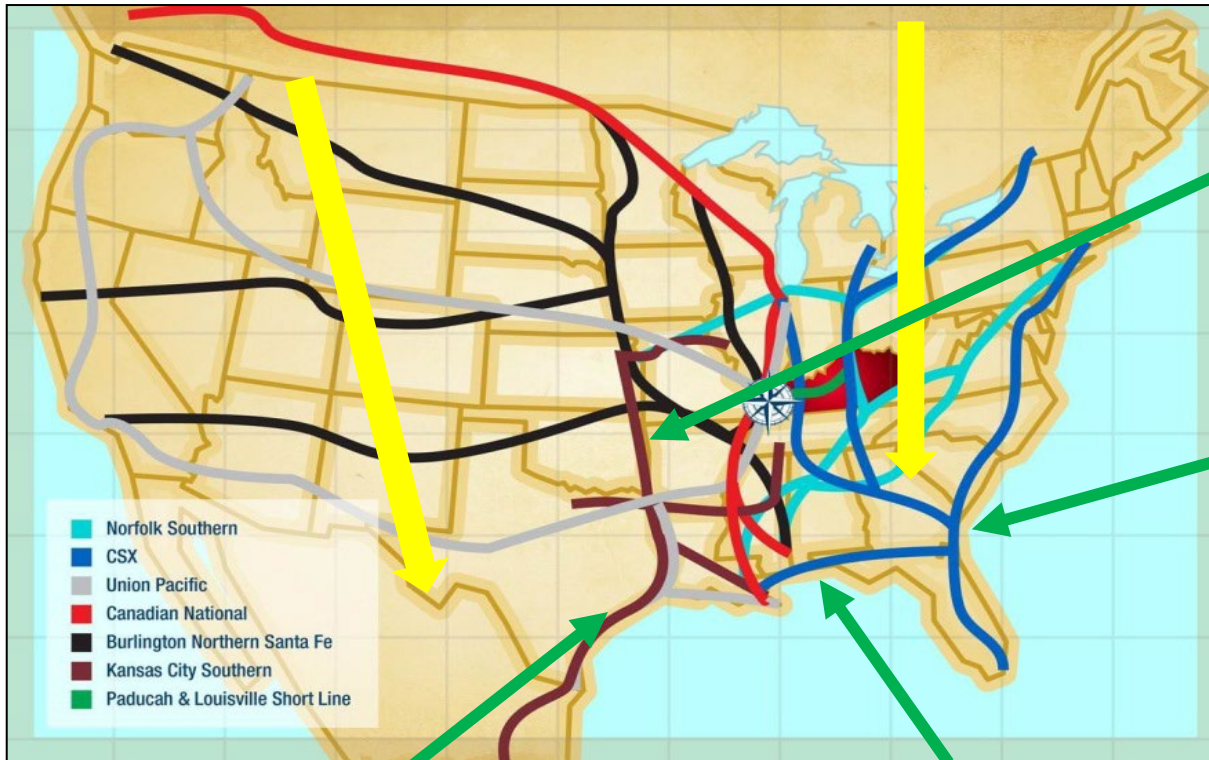
Port Houston (PH)

Houston's port has seen its busiest year ever. In November, the port surpassed its previous high-water mark of 3,001,164 TEUs by nearly 16%. Full year estimates are in excess of 3,400,000 TEUs. Material shortages, increased consumer demand, and labor shortages in other port markets are all contributing factors to the record PH growth. Developers continue to seek viable land positions in Houston's east and southeast submarkets to service this ever expanding port activity.

The Importance of Rail: Rail Connectivity will Remake US Supply-Chain

The 7- Class I RRs

Note: CN (red) KCS (brown) CSX (blue)



KC Southern:

- Only direct route to all of Mexico.
- Link KCS with BNSF or CSX to create a mega RR/E-commerce power!

CSX:

- The East coast RR line serving East coast ports.
- CSX and NFS are to SE & Mid-Atlantic what UP is to CA & West-coast.
- Rail mergers are on the horizon post COVID. (Financially 'weak' merge with 'strong' wanting SE & Gulf reach).

Port Freeport:

- + 3 Class 1 RR connections;
- + 'Saudi Arabia' of Natural Gas;
- + The 'Port of Savannah' for Dallas

Port of Mobile:

- + 5 Class 1 RR connections;
- + Only CN to Gulf RR connection;
- + New WalMart Container Terminal;
- + Airbus + auto mfg. state (Mercedes);
- + New RoRo by 2022 / Rebuild AL Bill to fund

What are Inland Intermodal Ports?

THE IMPORTANCE OF INTERMODAL PORTS TO SOUTHEASTERN US LOGISTICS AND SUPPLY CHAIN

Prepared For:



Jim Wilson & Associates, LLC

Prepared By:



Inland Waterways 2020

- Inland River Ports
- Coastal Ports

What Economic Development Looks Like When a Coastal Port gets Connected to an Inland Intermodal Port: It All Comes Together



UPDATE 2017 - 2018 Added:

- Volvo
- Samsung Appliance Mfg.
- Harbor Freight Tools

The Port is Integral to SC Economic Development



The Changing Industrial Box: ProLogis - an Earnings Proxy to follow!

Q4 2021

PROLOGIS REPORTS FOURTH QUARTER AND FULL YEAR 2021 EARNINGS RESULTS

January 19, 2022 | Corporate News

Wow!!! – EPS doubled in CY 2021 over CY 2020

Net earnings per diluted share was \$1.67 for the quarter and \$3.94 for the year compared with \$0.38 and \$2.01 for the same periods in 2020.

- **Average Occupancy 97.4%**
- **Net Effective Rent Change 33.0%**
- Cash Rent Change 19.6%
- **Cash Same Store NOI 7.5%**
- **Weighted avg stabilized cap rate 4.3%**

<https://www.prologis.com/news-research/press-releases/prologis-reports-fourth-quarter-and-full-year-2021-earnings-results>

Q3 2021

No more room at the logistics warehouse inn, ProLogis says **Space in its markets` effectively sold out,** CEO says



Prologis Inc. ([NYSE:PLD](https://www.nyse.com/quote/NYSE:PLD)) Chairman and CEO Hamid R. Moghadam said in the San Francisco-based third-quarter earnings report that **“space in our markets is effectively sold out.”**

Prologis operates **995 million square feet** of logistics warehouse space in **19 countries**.

Office & Remote Work?

Kastle Back to Work Barometer

City-by-City Views of America's Office Use



KASTLE BACK TO WORK BAROMETER

Weekly Occupancy Report from Kastle Access Control System Data

1.17.22



BAROMETER THIS WEEK

27.9%

10 CITY AVERAGE
OCCUPANCY



	Wed 1/05	Wed 1/12	% Change
Washington D.C. metro	14.7%	23.3%	8.6% ▲
Houston metro	34.4%	41.9%	7.5% ▲
Austin metro	35.6%	41.8%	6.3% ▲
Dallas metro	35.1%	40.0%	4.9% ▲
Average of 10	23.3%	27.9%	4.6% ▲
Chicago metro	19.5%	23.9%	4.5% ▲
New York metro	14.6%	18.1%	3.5% ▲
San Francisco metro	14.7%	17.4%	2.7% ▲
Philadelphia metro	23.9%	26.5%	2.6% ▲
Los Angeles metro	23.4%	26.0%	2.6% ▲
San Jose metro	17.7%	20.1%	2.4% ▲

There are no MSAs
above 42% occupancy.



Houston has highest
“Return-to-Office” ratio
at 41.9%.

Despite vaccinations, &
Boosters <30% of us are
returning to the office!

Office Assets: CBD Declines, SUB Rises

RCA CPPI™ US

Commercial Property Price Indices

August 2021

CRE Asset types had Positive CPPI every period past decade, except Office past 1Yr.

REAL CAPITAL ANALYTICS

Change in RCA CPPI August 2021

	1-mth	3-mth	1-yr	3-yr	5-yr	10-yr
Office	1.3%	2.6%	11.2%	14.1%	29.9%	82.6%
Office - CBD	0.0%	-0.1%	-3.7%	0.6%	10.4%	77.2%
Office - Sub	1.6%	3.3%	14.8%	15.7%	33.9%	85.7%
Industrial	1.3%	2.7%	13.6%	37.7%	60.4%	130.7%
Retail	1.9%	3.7%	12.1%	10.7%	13.9%	58.3%
Commercial	1.3%	2.5%	11.3%	19.8%	32.5%	87.3%
Apartment	1.6%	3.2%	14.7%	33.4%	62.9%	172.0%
All Types	1.5%	3.0%	13.5%	25.0%	43.5%	116.6%
6 Major Metros All Types	1.1%	2.3%	9.9%	19.2%	35.0%	107.3%
Non-Major Metros All Types	1.4%	2.7%	13.9%	26.8%	46.5%	121.5%

CRE Performance & Retail: Strip Retail a Plus Surprise



2022 Emerging Trends

Exhibit 1-19 Change in Share of All CRE Transactions, 1H 2021 versus 1H 2019

Sector	Change
Apartments	-8%
Hotel*	23%
Industrial	12%
Office	-49%
Retail	-33%
Total conventional	-17%
Development sites	-30%
Total alternative**	11%
Total, all sectors	-14%

Source: Real Capital Analytics; compiled by Nelson Economics.

Industrial and Hotel are the only CORE Property Types with **Increasing CRE Transactions** for the period 1H2021 vs 1H2019

Table 1.1: REIT Returns During the Pandemic

Index / Property Sector	Constituents	Market Cap (\$B)	Total Return (%)			
			Feb 21, 2020 - Mar 23 2020	Mar 23, 2020 - Nov 8, 2020	Nov 8, 2020 - May 21, 2021	Feb 21, 2020 - May 21, 2021
All Equity REITs	158	1,319	(41.9)	41.6	24.1	2.2
Equity REITs	150	1,059	(44.4)	40.9	28.3	0.6
Hardest-hit sectors:						
Retail	32	154.8	(54.6)	25.9	63.5	(6.5)
Shopping Centers	18	55.2	(52.0)	11.0	94.3	3.6
Regional Malls	4	42.8	(62.3)	21.8	99.6	(8.2)
Free Standing	10	56.7	(50.3)	41.9	24.9	(12.0)
Diversified	16	51.2	(53.1)	33.0	39.8	(12.8)
Lodging/Resorts	13	37.3	(56.5)	25.2	70.3	(7.2)
Health Care	17	116.6	(50.6)	43.8	25.6	(10.8)
Digital Economy real estate sectors:						
Industrial	13	151.8	(34.5)	58.6	13.8	18.2
Infrastructure	4	223.4	(28.5)	39.7	6.5	6.4
Data Centers	5	123.9	(24.8)	53.5	(2.8)	12.2
Other sectors:						
Office	19	91.7	(43.8)	12.7	39.4	(11.7)
Residential	20	196.1	(44.1)	35.4	31.1	(0.8)
Apartments	15	135.8	(44.7)	27.5	36.2	(4.0)
Manufactured Homes	3	30.4	(40.9)	40.0	17.8	(2.6)
Single Family Homes	2	29.9	(44.4)	75.6	24.2	21.2
Self Storage	5	78.4	(30.9)	52.0	25.8	32.1

Influence Density

Conclusion: COVID's lasting Innovation may not be MASKS



Cupholders in Public Restrooms at Las Vegas Hotel Casinos – and not just single cupholders, but **double cupholders for the 2-for-1 drink specials** in the casinos as they reopen.

Texas's lasting impressions should be:

- **The Energy State – Lights-Out** if the U.S. doesn't get it! **Colonial Pipeline a Big-bleepin-Deal**
- **Most Back to Work State – Kastle System** (Houston #1 @ 42%)
- **U-Haul's #1 state for in-migration in 2021**
- **TX does Ports, Logistics & Supply-Chain. Don't overlook importance of Port Freeport and your 3 Class I Railroads!**

Red Shoe Economics is an independent research firm exclusively serving today's commercial real estate community providing organic research initiatives, reports and insights on the impact of applied Economics on our industry. The company's four pillars include Economics, Forecasting, Valuation and Consulting.

Our promise is to deliver unique content providing the most comprehensive, concise and cutting-edge information on the economic impacts on commercial investments, trends and transactions - eight days a week! As a WOSB, Red Shoe Economics is dedicated to giving back to the industry we serve by furthering the advancement of women in commercial real estate.



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Economics

- Macro and Micro Analysis
- **Rezoning Impact Analysis**
- Corporate Earnings Analysis
- Ports & Logistics Industry Trends
- **Housing Economics**
- Commercial Real Estate Impacts
- State & Local Government Taxation
- Current CRE Conditions

Forecasting

- **Association Presentations**
- Red Shoe Review
- Industry/Corporate Webinars
- Podcasts/Articles/ SME Interviews
- Real Estate Finance reports
- **Special Projects (LIHTC or NIMBY)**

Valuation

- USPAP Appraisal Review
- Bank Regulatory Compliance
- **Valuation Analysis**
- Highest & Best Use Advisory
- **Property Tax Expert Witness**

Consulting

- **Adaptive Reuse Advisory**
- Site Selection Validation
- **Financing Feasibility**
- Market & Feasibility Studies
- **Ports & Logistics Advisory**
- Retail Industry Insights
- ESG / DEI Advisory at CRE level
- **Story-Map Building**

