ECONOMIC REVIEW & OUTLOOK

Kentucky Joint Committee on Banking & Insurance

June 2022

Stock Yards Bank & Trust
SINCE 1904

Agenda

- **YTD Market Review**
- **2022 Economic Outlook**
  - Headwinds
  - Tailwinds
  - Summary
- **Market Outlook**

2022 YTD MARKET REVIEW

- **Fed Moves from Taper to Aggressive Rate Hikes**
- **Russia Invades Ukraine**
- **2022 YTD Markets:**
  - **All asset classes lose money (except commodities & Alternatives)**
  - **Bond Bear Market**
- **All Eyes on Inflation & the Fed**
- **Reminder: The Stock Market is not the Economy!**

Fed Increasingly Hawkish

Bonds lose -9% YTD22

Fed September 2021 Meeting
- Conditions likely met to begin taper (December)

Fed November Meeting
- Taper immediately, end in June

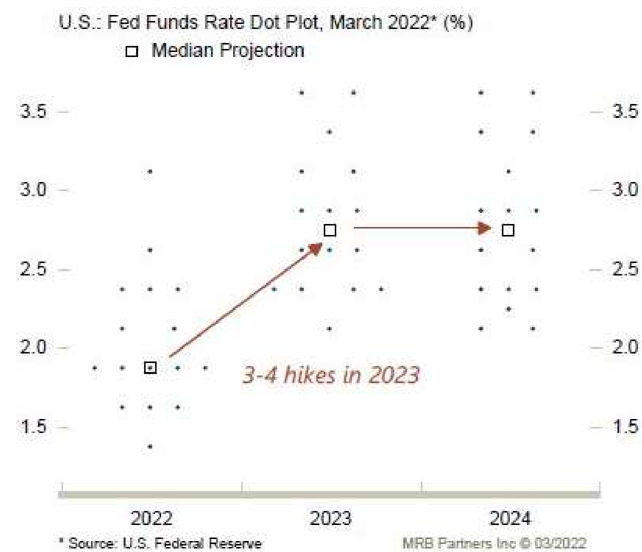
December Meeting
- Inflation not transitory
- Taper ends in March
- FOMC dot plots: 3 rate hikes in 2022

January-February 2022 Bond Markets
- Inflation continues to rise
- Market starts pricing in 6-7 rate hikes
- Investors expect 0.50% March rate increase

March Congressional Testimony & Fed Meeting
- Fed raises 0.25% in March (backed off 0.50% because of Ukraine)

May Meeting
- Raises 0.50% in May
- 0.50% hikes likely for June & July meetings
- Market pricing in 2.25% in 2022, 3.50% in 2023

March 2022 FOMC Member Projections of Fed Funds Rate



50bps in May June; 9 Hikes by Year End

Source: T: Federal Reserve & MRB, B: Goldman Sachs

Russia Invades Ukraine

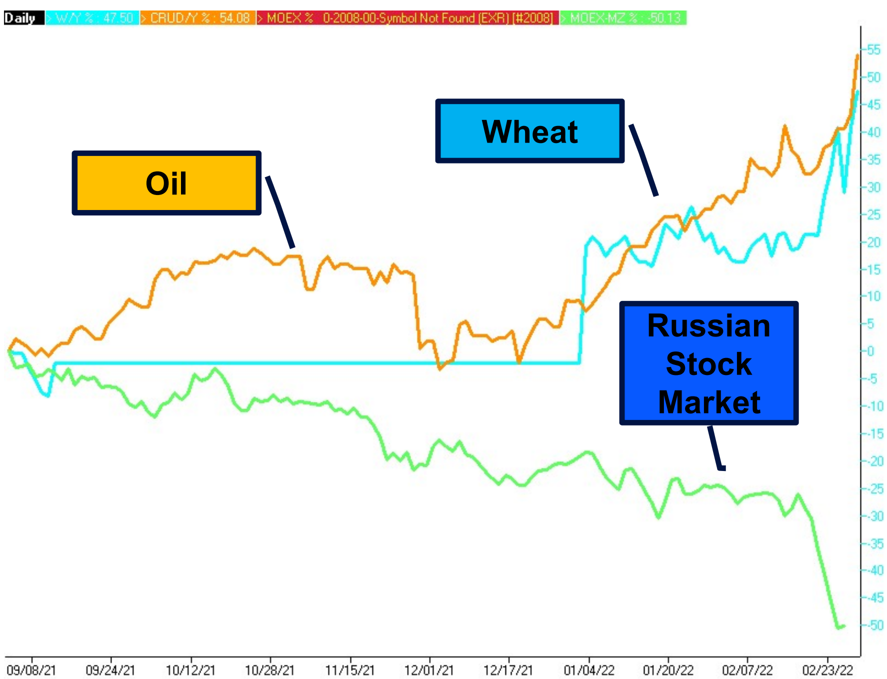
Russia launches attacks on February 23

Markets Abhor Uncertainty

Market falls 15% from highs on February 24; now believes conflict contained to Ukraine

Expected Outcomes

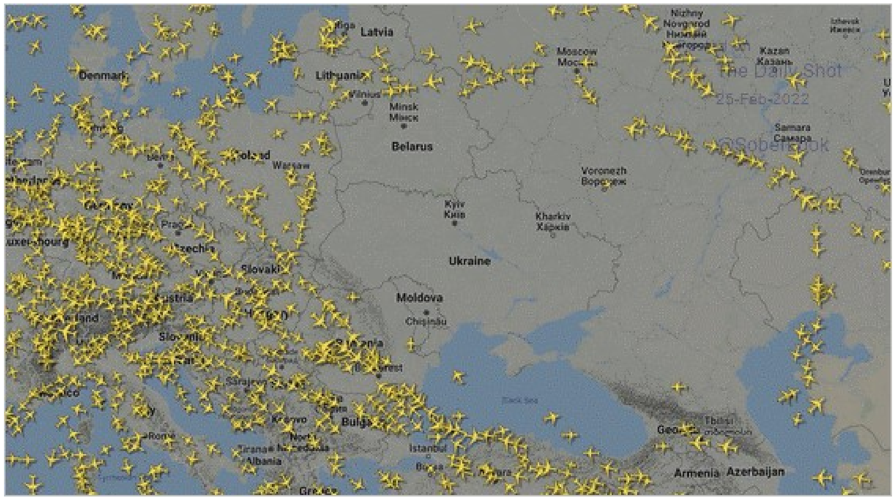
- **Early 2022 Expectation:** Russia seizes Kyiv and major cities, knocks out military, installs pro-Russia government, Ukraine becomes vassal state
- **Now:** Russia seize separatist areas (Donetsk, Luhansk); Ukraine agrees to stay out of NATO



Source: L: SYB Thomson Reuters; R: The Daily Shot

Will Russia be Satisfied with Donbas?

Air Traffic Around Ukraine



May YTD: Sell-off over Fed & Ukraine

- ***After rebound, May returns with April month end***
- ***All major asset classes lose money***
- ***Bond Bear Market:*** Worst bond market since 1980
- ***Growth vs. Value:*** Value ahead of growth YTD
- **International:** EU lower on energy inflation, supply chain
- **Emerging Markets:** positive returns until Ukraine escalation; dollar +9%

As of 4/30/2022	April 2022	YTD 2022	Last 12 Months	Last 3 Years	Last 5 Years	Last 10 Years
S&P 500	-8.72%	-12.92%	0.20%	13.83%	13.63%	13.65%
Russell 1000 Value	-5.64%	-6.34%	1.29%	9.55%	9.03%	11.15%
Russell 1000 Growth	-12.08%	-20.03%	-5.35%	16.68%	17.26%	15.56%
Russell 2000 (Small Cap)	-9.91%	-16.70%	-16.90%	6.70%	7.21%	10.04%
MSCI EAFE (International)	-6.40%	-11.79%	-7.64%	5.02%	5.35%	6.37%
MSCI EME (Emerging Markets)	-5.55%	-12.13%	-18.09%	2.57%	4.66%	3.25%
Bloomberg Aggregate Bond	-3.79%	-9.50%	-8.51%	0.38%	1.20%	1.73%
Bloomberg Municipal Bond Index	-2.77%	-8.82%	-7.88%	0.46%	1.80%	2.47%
Bloomberg US Corp High Yield Index	-3.56%	-8.22%	-5.22%	2.84%	3.69%	5.26%
Bloomberg Global Aggregate Bond	-5.48%	-11.30%	-12.63%	-1.09%	0.33%	0.35%
Bloomberg Emerging Markets Bond	-5.49%	-11.53%	-16.08%	-3.31%	-1.67%	-1.23%

**Source: Bloomberg*

$3T+ ?

2022 ECONOMIC OUTLOOK

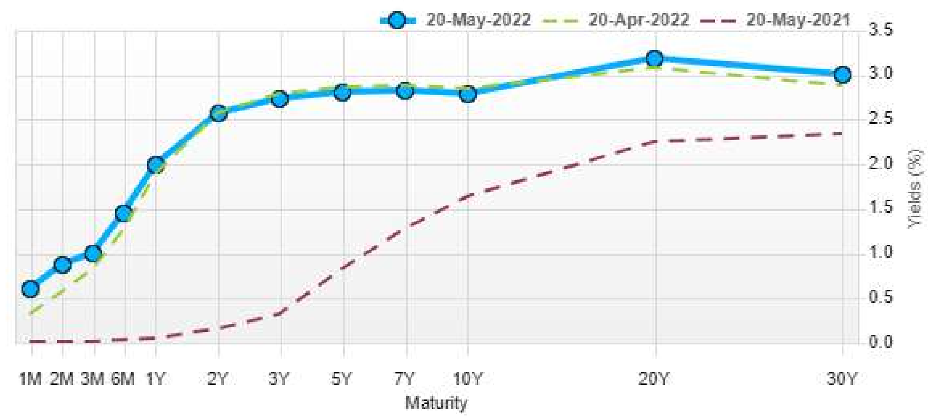
Financial Conditions Are Tightening

- **Markets rapidly priced in *__expected__* Fed Policy as Fed became more hawkish**
  - 2022 Fed Funds currently priced in between 2.25% - 2.75%
  - Markets expect 3.00% - 3.25% by mid-2023
  - Prime rate could go to 5.50% to 6.00% by year end; 6.50% to 6.75% by mid-2023
  - Mortgage rates near 6.00%

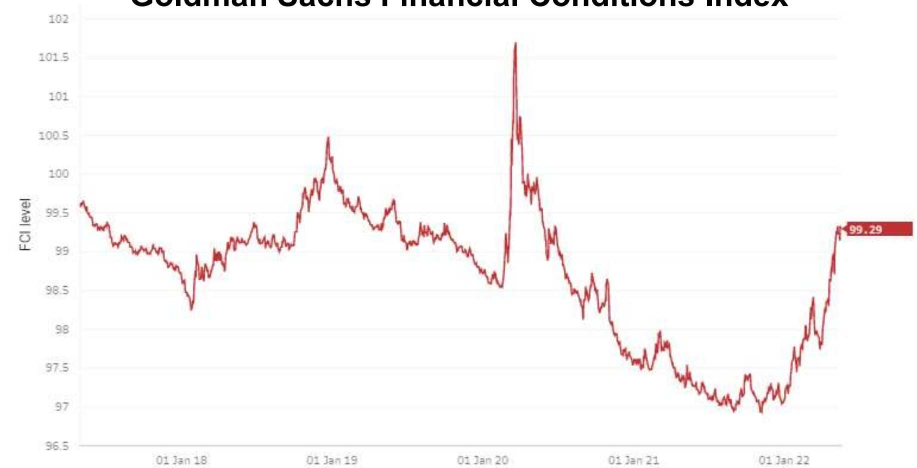
- **Financial conditions have become much tighter**
  - Growth forecasts have been downgraded
  - Fed has only raised Fed Funds by 0.75%
  - ***BUT*** markets have anticipated higher rates, doing much of the Fed's work ahead of time

- **KY Muni rates are rising**
  - 4% Par rate 10-Year school bond issued in early May
  - Will they reach 5%?
  - Muni yield curves do not invert

Treasury Yield Curve



Goldman Sachs Financial Conditions Index



Source: T: FactSet; B: Goldman Sachs

Economic Forecast Rapidly Downgraded

- 2022 GDP forecasts slashed by 25%
- Unemployment forecasts upgraded for 2022, but begin to rise in 2023
- Inflation raised significantly
- Forecasts do not anticipate a recession

	Beginning of Year Forecast		Updated Forecast	
	U.S.	KY	U.S.	KY
GDP Growth % 2022	3.3%	3.1%	2.6%	2.4%
GDP Growth % 2023	2.4%	2.2%	2.2%	2.0%
Unemployment 2022	3.5%	3.7%	3.4%	3.6%
Unemployment 2023	3.5%	3.7%	3.6%	3.8%
Inflation 2022	3.1%	3.1%	5.5%	5.5%
Inflation 2023	2.5%	2.5%	2.9%	2.9%

Source: U.S. - WSJ Economic Survey;
KY - Implied trends from CBER 2022 KY Annual Report

HEADWINDS

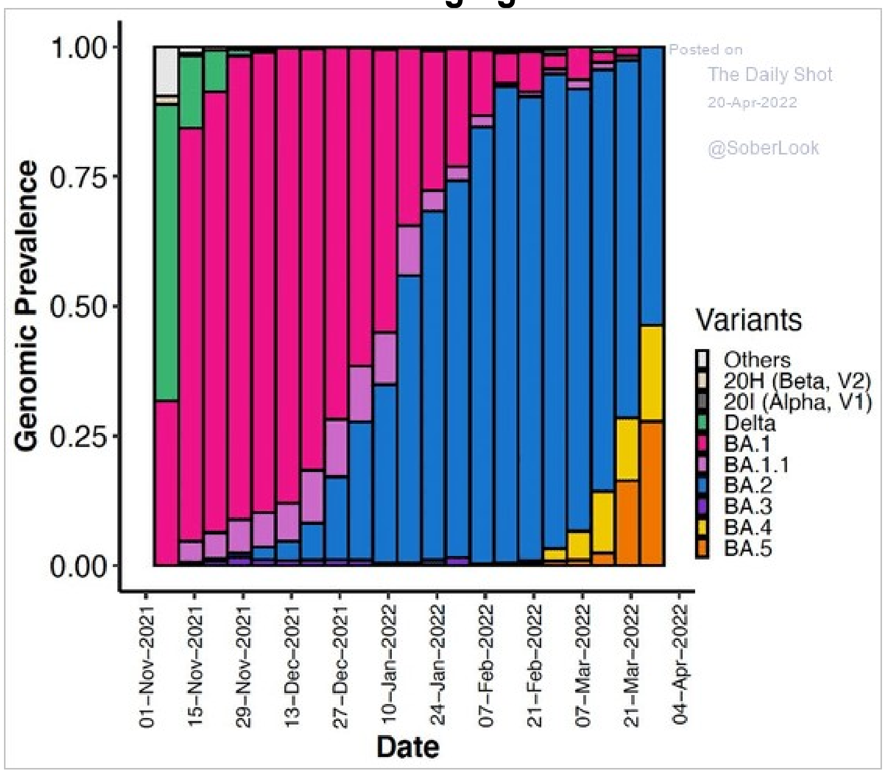
Some headwinds are abating, but…

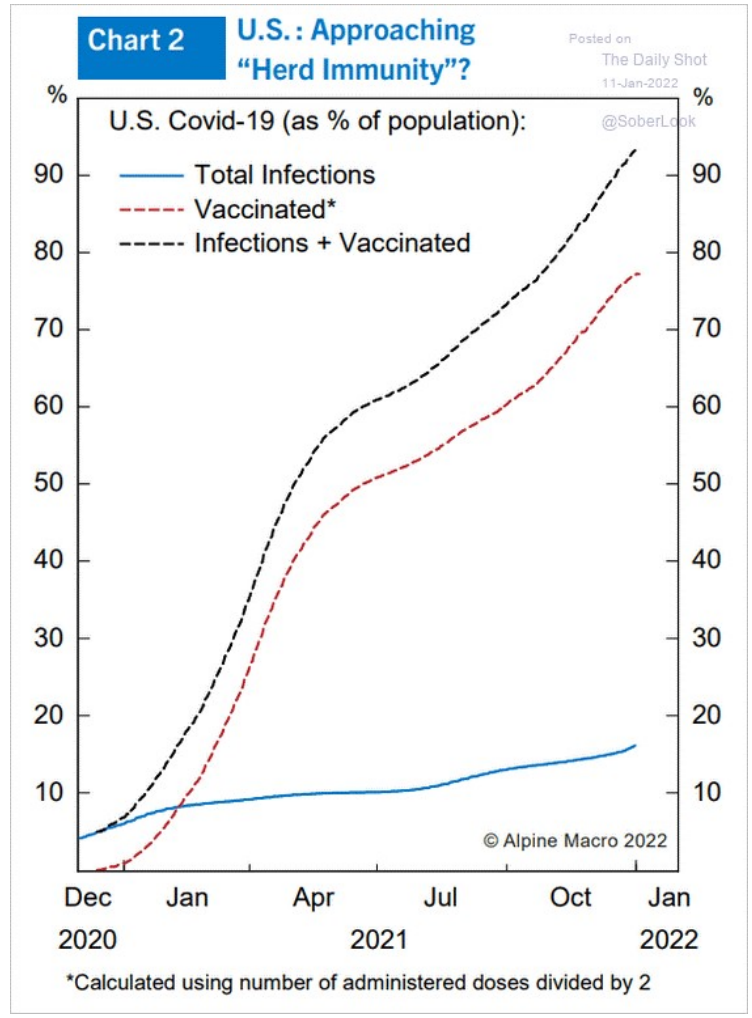
- **Inflation remains high**
- **Fed leaving Volker Option on the table**

COVID Lockdowns *Transition to Normal*

- **SYB Thesis: Future Variants like Omicron**
  - Highly contagious
  - Less severe: fewer hospitalizations and deaths
  - Vaccines are effective; Combo COVID-Flu shot even
  - Raises likelihood U.S. reaches herd immunity
  - U.S. & EU transition to normal in 2H22
  - Rest of world transitions to normal in 1H23

New Variants Emerging in South Africa





Source: L The Daily Shot; RT – Alpine Macro, The Daily Shot

Russia-Ukraine Impact

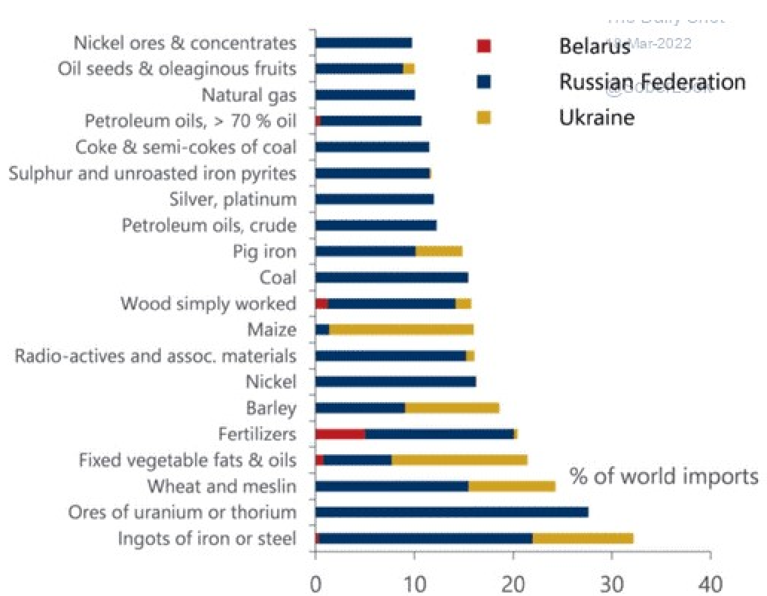
Oil & Food impact greatest for Global Economy

- Russian exports oil and gas: ~60% of $400+ billion exports related to energy
- Ukraine exports agricultural products (Corn, Wheat, etc.): ~40% of $50 billion exports related to agriculture
- If no official sanctions, companies, consumers, countries are "self-sanctioning" by boycotting Russian oil
- Scenarios suggest oil to remain above $100 for 2022 and 2023 (an increase to headline inflation)

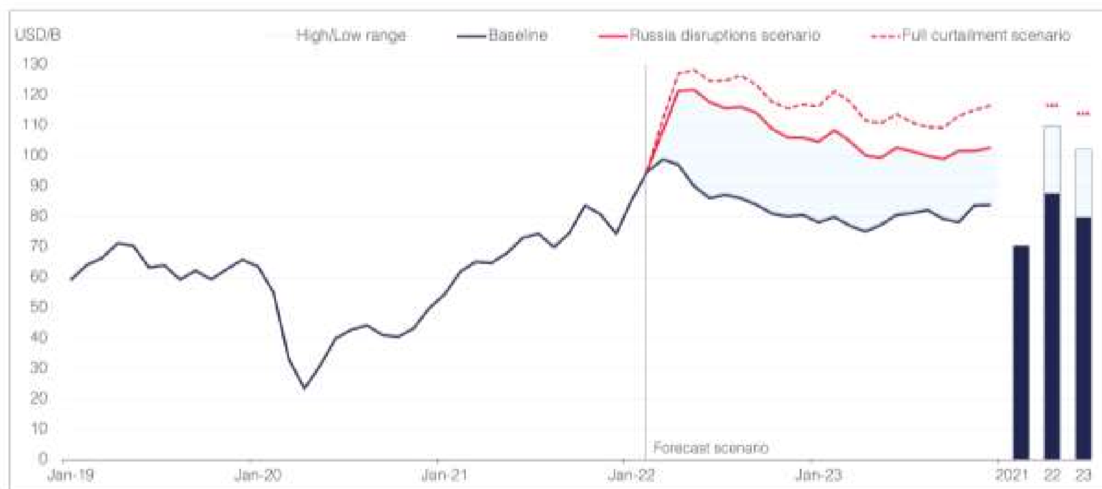
European Market Uncertainty

- *Higher energy inflation squeezing EU consumers*
- *Will inflation send EU into stagflation recession?*
- *Significant impact on S&P 500 – 40% of revenues from international markets*

World Exposure to Russia, Ukraine, Belarus Imports



Russia Oil Disruption Impact on Brent Oil Price



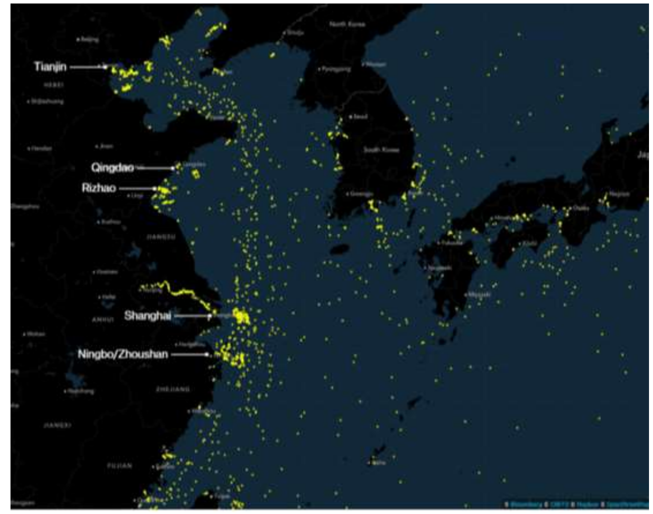
Notes: *Baseline* assumes a de-escalation of the crisis in March 2022. *Russia disruptions scenario* assumes the loss of 3.2 mb/d of Russian production by April 2022. *Full curtailment scenario* assumes the complete halt of Russian crude exports, leading to the loss of 4.2 mb/d of Russian oil production. Analysis of the forecast scenarios is based on the 5-variable structural VAR model of the global oil market due to Economou et al. 2017[1].

Source: L: Oxford Economics; R: Oxford Institute for Energy Studies

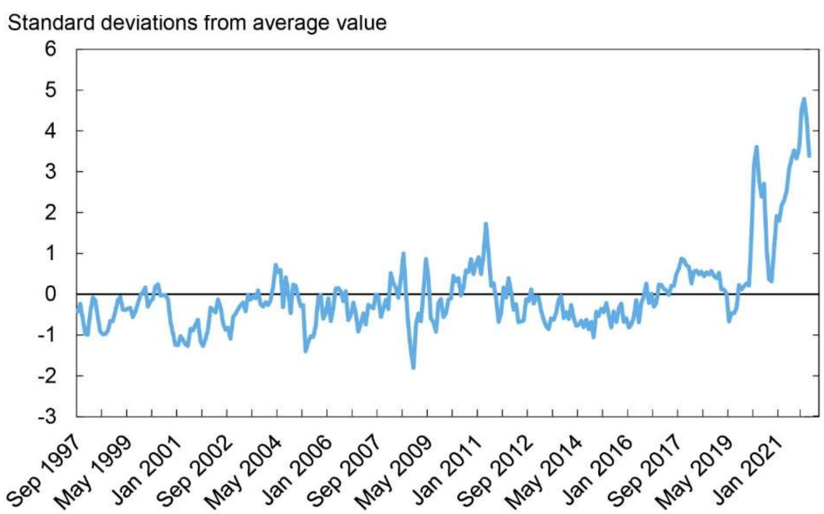
Supply Chain Bottlenecks

- **2021 Bottlenecks increased with Delta Surge; improving slowly**
- **China the problem link in the chain**
- **Experts believe supply chain normalizes 2H22**
  - Will China lockdown prolong normalization?
  - Charts suggest could take until 2H23

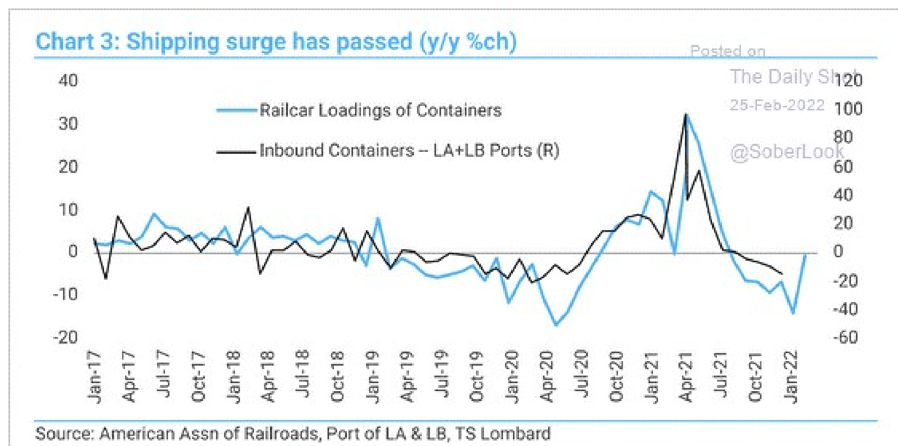
Vessels Piling up in Shanghai / China Ports



Global Supply Chain Pressure Index



Railcar Loadings & Inbound Containers Slowing



Source: L – Liberty Street Economics; RT– Trading Economics; RB - The Daily Shot

Inflation & Rates: Fed History & Forecast

- **Inflation at highest level in ~40 years**
- **Fed fears repeating mistakes of the 1970s, that led to “Volcker Moment”**
- **Key Questions:**
  - Are we at peak inflation in April?
  - How fast will inflation decline? (What rate of decline will satisfy the Fed?)
  - Will inflation moderate without having to reach extreme measures?

- **Original Fed Thesis:**
  - Inflation significantly lower by FYE22
  - FYE 22 Core inflation 2%-3%

- **SYB Thesis:**
  - Inflation declines, but above trend through at least 2023
  - FYE 22 Core Inflation 4%-6%

End of Quarter Data - Not Seasonally Adjusted	1973				1974				1975				1976			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CPI Index	43.3	44.2	45.2	46.2	47.2	48.53	50	51.5	52.43	53.23	54.37	55.23	55.77	56.47	57.37	58.03
CPI Inflation Y/Y	4.59%	6.00%	7.36%	8.71%	10.39%	10.86%	11.95%	12.34%	10.25%	9.39%	7.91%	6.94%	6.07%	5.97%	5.49%	4.86%
CPI Inflation M/M	0.93%	0.68%	0.22%	0.65%	1.27%	0.82%	1.20%	0.78%	0.38%	0.75%	0.55%	0.36%	0.18%	0.53%	0.35%	0.34%
CPI Core Inflation Index	45.00	45.40	46.00	46.70	47.60	49.00	50.70	52.00	53.00	53.80	54.50	55.50	56.50	57.20	58.20	58.90
CPI Core Inflation Y/Y	3.21%	3.18%	3.84%	4.71%	5.78%	7.93%	10.22%	11.35%	11.34%	9.80%	7.50%	6.73%	6.60%	6.32%	6.79%	6.13%
CPI Core Inflation M/M	0.45%	0.22%	0.66%	0.43%	0.85%	1.03%	1.00%	0.78%	0.38%	0.56%	0.55%	0.54%	0.53%	0.35%	0.52%	0.34%
Fed Funds Rate	7.38%	8.88%	10.82%	9.83%	9.95%	13.31%	11.11%	8.57%	5.73%	5.97%	6.22%	5.37%	5.07%	5.71%	5.31%	4.75%
10-Yr T Yield	6.73%	6.94%	6.90%	6.90%	7.41%	7.64%	7.94%	7.40%	8.01%	7.96%	8.48%	7.76%	7.66%	7.86%	7.55%	6.81%

End of Quarter Data - Not Seasonally Adjusted	1980				1981				1982				1983			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CPI Index	78.93	81.83	83.33	85.53	87.8	89.83	92.37	93.7	94.47	95.9	97.7	97.93	97.87	99.1	100.27	101.17
CPI Inflation Y/Y	14.76%	14.38%	12.60%	12.52%	10.49%	9.55%	10.95%	8.92%	6.78%	7.06%	5.04%	3.83%	3.60%	2.58%	2.86%	3.79%
CPI Inflation M/M	1.52%	1.10%	0.84%	0.94%	0.68%	0.89%	0.98%	0.32%	-0.11%	1.25%	0.20%	-0.41%	0.00%	0.30%	0.50%	0.10%
CPI Core Inflation Index	78.60	81.00	82.10	84.90	86.40	88.60	91.80	93.00	93.90	96.10	97.20	97.20	98.20	99.20	100.50	101.80
CPI Core Inflation Y/Y	12.61%	13.60%	12.01%	12.15%	9.92%	9.38%	11.81%	9.54%	8.68%	8.47%	5.88%	4.52%	4.58%	3.23%	3.40%	4.73%
CPI Core Inflation M/M	1.42%	1.12%	0.98%	1.19%	0.58%	0.91%	1.21%	0.54%	0.11%	0.73%	0.10%	-0.10%	0.20%	0.30%	0.40%	0.30%
Fed Funds Rate	19.85%	10.44%	13.19%	22.00%	14.63%	18.64%	16.58%	13.13%	16.80%	14.58%	12.17%	11.20%	10.81%	10.06%	10.59%	9.92%
10-Yr T Yield	12.64%	10.09%	11.86%	12.43%	13.13%	13.86%	15.84%	13.98%	14.18%	14.44%	11.73%	10.47%	10.62%	10.90%	11.39%	11.80%

End of Quarter Data - Not Seasonally Adjusted	2021				2022				2023				2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CPI Index	264.877	269.32	273.63	277.78	287.504	291.838	295.354	298.466	301.161	303.879	306.622	308.928	310.785	312.653	314.533	316.112
CPI Inflation Y/Y	2.62%	5.39%	5.39%	7.04%	8.54%	8.36%	7.94%	7.45%	4.75%	4.13%	3.82%	3.51%	3.20%	2.89%	2.58%	2.33%
CPI Inflation M/M	0.71%	0.93%	0.27%	0.31%	1.34%	0.50%	0.40%	0.35%	0.30%	0.30%	0.30%	0.25%	0.20%	0.20%	0.20%	0.17%
CPI Core Inflation Index	271.71	277.90	280.00	284.80	289.31	293.666	297.204	300.336	303.047	305.326	307.621	309.471	311.331	312.894	314.464	316.042
CPI Core Inflation Y/Y	1.80%	4.43%	4.01%	5.48%	6.47%	5.67%	6.14%	5.46%	4.75%	3.97%	3.50%	3.04%	2.73%	2.48%	2.22%	2.12%
CPI Core Inflation M/M	0.45%	0.80%	0.25%	0.56%	0.49%	0.50%	0.40%	0.35%	0.30%	0.25%	0.25%	0.20%	0.20%	0.17%	0.17%	0.17%
Fed Funds Rate	0.06%	0.08%	0.06%	0.07%	0.33%	1.33%	1.83%	2.33%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%
10-Yr T Yield	1.74%	1.47%	1.49%	1.51%	2.34%	3.00%	3.00%	3.00%	3.25%	3.00%	3.00%	2.75%	2.75%	2.50%	2.50%	2.25%

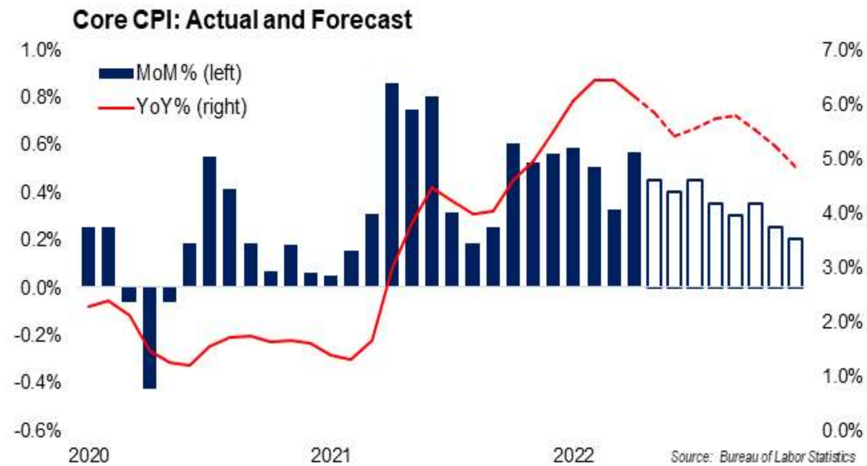
Sources: SYB, FactSet, Federal Reserve, BLS

Fed Policy Outcomes

Fed Accelerates Tightening

- **Policy to date:**
  - Fed has signaled increasing hawkishness, tighter policy every few weeks since the end of September 2021
  - So far: only one 0.25% increase in March, one 0.50% increase in May
- **Current guidance:**
  - $95B per month balance sheet runoff
  - 0.50% increases implied for next 4 meetings (up to election)
  - FYE 2022: Fed Funds at 2.75% (6.0% prime, 5.0-5.5% mortgage rates?); 3.50% by 3Q23?
- **Market waiting for "auto pilot"** (steady 0.25% increases)
  - Fed Soft Landing: Rein in inflation in without increasing unemployment / slowing growth (recession or stagflation)

Inflation Forecast



Fed Policy Outcomes

- **Best Case: Inflation Declines Quickly**
  - Inflation declines significantly during Summer 2022
  - Fed able to signal on "auto-pilot"
- **Inflation Declines Gradually**
  - Inflation declines gradually into the election, end of year
  - Fed can't signal auto-pilot until 4th quarter
  - T-bill yield curve flattens? (prime rate 6%+?)
- **Worst Case: Inflation Remains Stubbornly High**
  - Little change in inflation
  - Fed probably waits until after the mid-terms for Volcker moment: Fed funds rate shock to 6% or higher (Taylor Rule)
  - Yield curve would invert
  - Recession (shallow?) 2H23 or 1H24; Bear market 1H23?

Fed hiking cycles and recessions

Start of hiking cycle	Start of recession	Gap from start of hiking (# months)
Aug-58	Apr-60	20
Nov-67	Dec-69	25
Mar-72	Nov-73	20
Dec-76	Jan-80	37
Aug-80	Jul-81	11
Mar-83	Jul-90	87
Jan-87	Jul-90	42
Feb-94	Mar-01	85
Jun-99	Mar-01	20
Jun-04	Dec-07	41
Dec-16	Feb-20	38
Average in hard landings		27
Median in hard landings		23

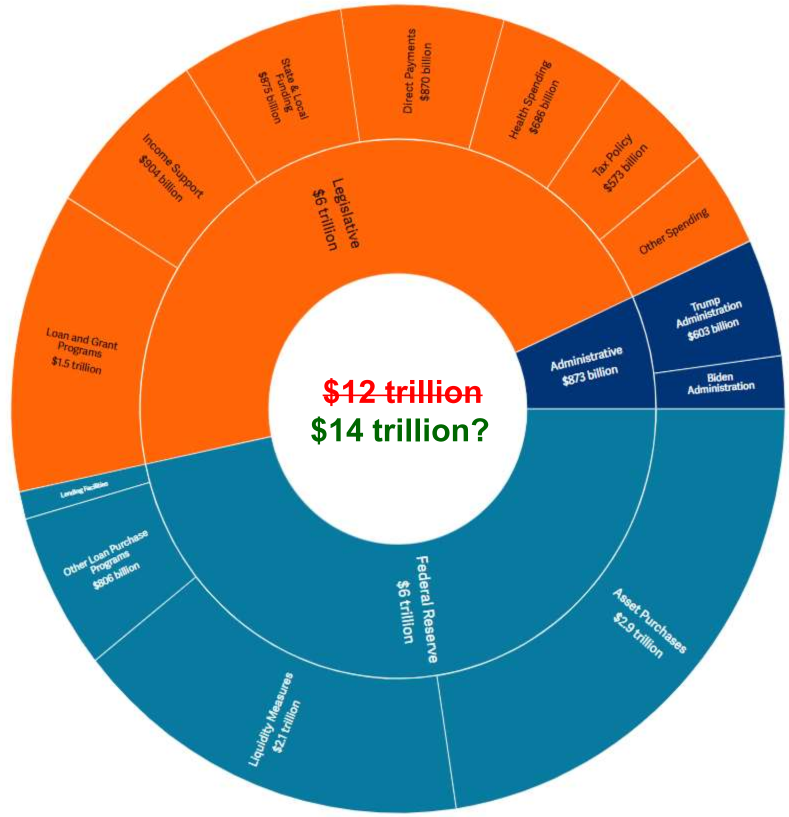
Shortest gap was 11 months

Typical gap was 2 years

* Shaded espisodes are soft landing cycles that avoided a recession

Sources: T: BLS; B: The Daily Shot

2H22 Tailwinds



Labor Issues Normalize by Fall 2022 – new school year

Consumer remains strong

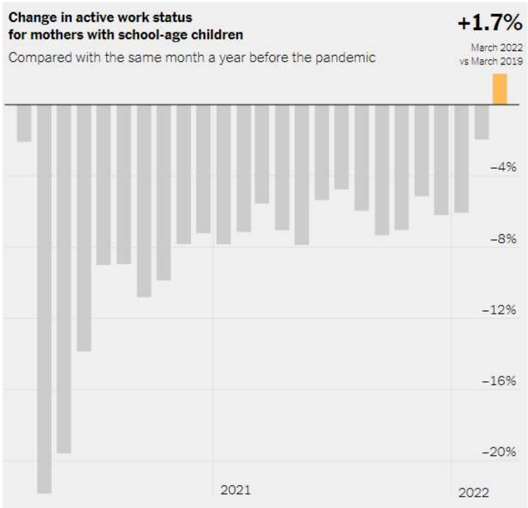
“Follow the Money”: $1T+ new fiscal spending - infrastructure

Source: Committee for a Responsible Federal Budget

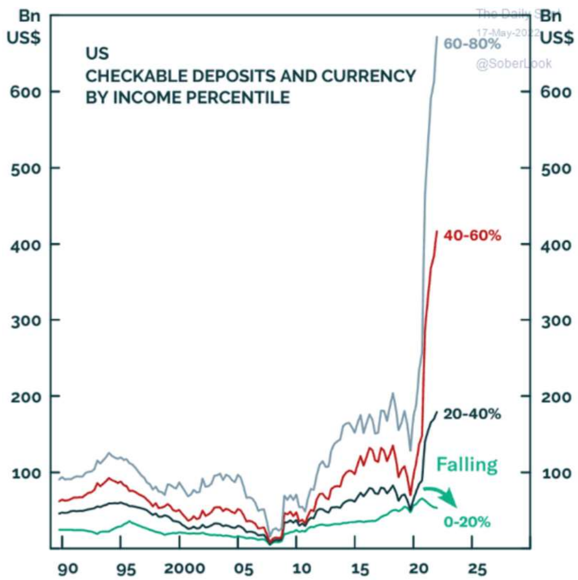
Job Market Normalizes

- **Job recovery strong, but below expectations**
  - 1% below pre-pandemic level, 2.6 million below trend
  - Record job openings gap, but tightening financial conditions closes the gap
- **Reached Full Employment in December**
  - 3.6% in April 2022 vs. 3.5% February 2020
  - Labor participation 62.4% vs. 63.5% pre-COVID
  - High quit rates – 26% of workers quit jobs in 2021
    - 50% of quits over 55 yrs. Old
    - 81.9% participation of prime working age (25-54)
- **Low-Wage Workers are running out of Savings**

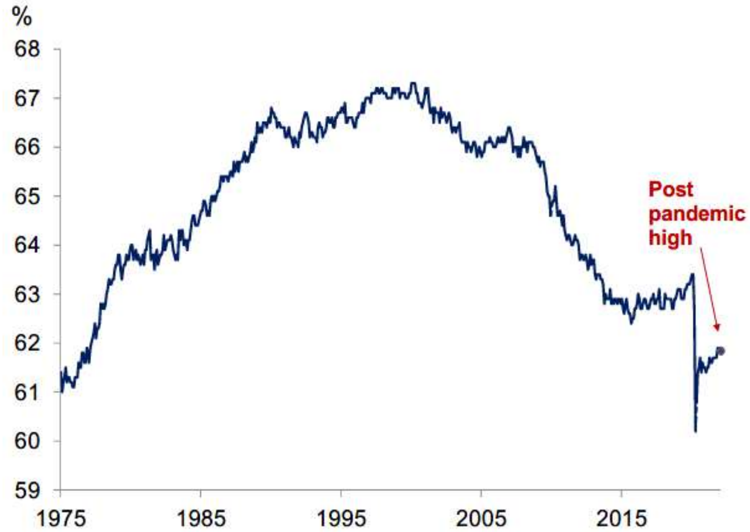
Mothers Returning to Work



Savings of Low-Wage Workers are Running Out



Labor Participation Rate Slowly Recovering



Source: L – BCA, The Daily Shot; RT: NY Times; RB: Oxford Economics

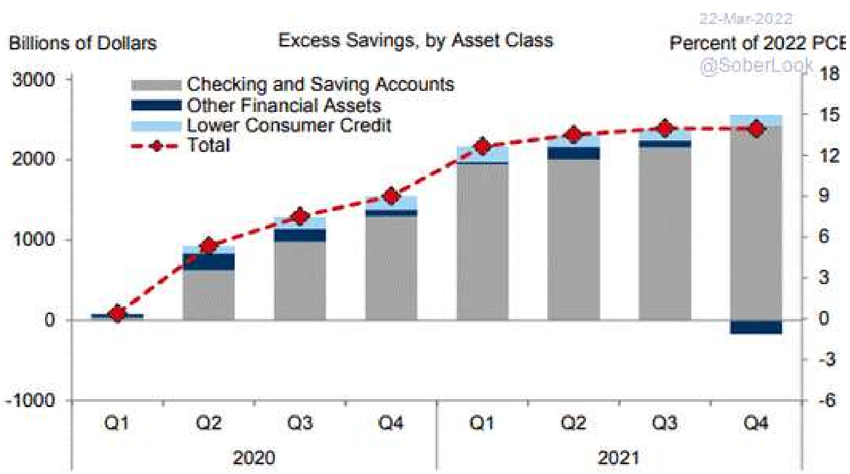
Consumer Remains Strong

Increased Savings, Re-opening Spending above Inflation

- **Stimulus (Helicopter money) led to $2T+ savings**
  - Benefits 50% higher than average
  - Huge surge in savings – 38% of stimulus saved
  - **HOWEVER**, only 14% of annual spending in savings (so eventually they need a job)
- **Consumer Strength**
  - Real consumer spending exceeds inflation
  - More cash than debt
  - Chase data: best consumer loan performance in its history

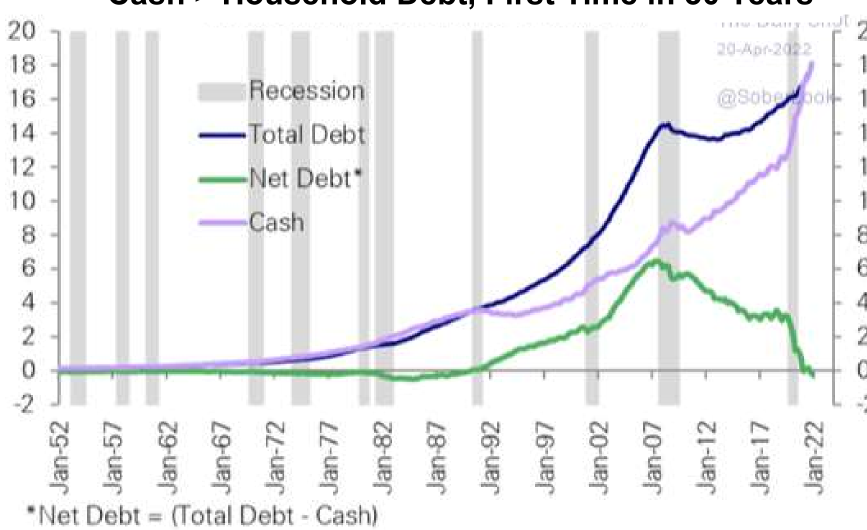
Real Retail Sales Exceed Inflation + Pre-Pandemic Trend

Households Accumulated 14% of Year's Spending



Sources: L: Goldman Sachs; R: T: BofA B: The Daily Shot

Cash > Household Debt, First Time in 30 Years



Infrastructure Spending Supports Growth

Increased Infrastructure Spending Overdue
- Less than 50% of needed spending for a decade?
- Trump wanted to introduce $2T infrastructure plan

$1.2T Infrastructure Spending
- ~$550B direct infrastructure spending
- Over $5B to Kentucky over 5 years

$1.75T Build Back Better Social Infrastructure Looks Unlikely

GDP & Employment Boom Peaks in 2024 (Election Year)

Infrastructure Spending % of GDP

Projected Macroeconomic Impact of the "American Jobs Plan"

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Avg. 2021-30
Real GDP % change												
With AJP	-3.49	7.23	3.86	2.30	3.77	2.85	1.86	1.63	2.02	2.23	2.24	2.99
Without AJP	-3.49	7.23	3.91	1.90	2.23	1.82	1.79	2.01	2.14	2.07	2.06	2.70
Difference	0.00	0.00	-0.04	0.41	1.54	1.03	0.07	-0.38	-0.13	0.16	0.18	0.29
Nonfarm employment mil												
With AJP	142.26	146.37	150.89	152.47	155.14	156.89	157.82	158.60	159.47	160.35	161.24	
Without AJP	142.26	146.37	150.91	152.45	153.67	154.38	155.01	155.73	156.62	157.57	158.55	
Difference (ths)	0	0	(23)	19	1,472	2,514	2,818	2,869	2,843	2,780	2,690	
Unemployment rate %												
With AJP	8.12	5.59	4.44	4.38	3.76	3.63	3.67	3.81	3.83	3.84	3.83	
Without AJP	8.12	5.59	4.44	4.39	4.31	4.36	4.51	4.52	4.47	4.44	4.43	
Difference (tbs)	0	0	0.01	-0.01	-0.55	-0.73	-0.83	-0.71	-0.64	-0.60	-0.59	

Sources: Moody's Analytics, BEA

KY Infrastructure Spending

KY receives $6.8 billion from $1.2T infrastructure and $1.9T ARPA bills for infrastructure over 5 years

- Spending represents ~3.4% of KY GDP *(0.7% per year)*
- 70% of funds for highway aid, but KY highways in better shape than most *(only 3.9% of roads in poor conditions vs. 9.2% for U.S., many roads more narrow than U.S.)*
- $204 million for airport development *(Air Amazon?)*
- $150 million for broadband expansion *(KY better urban, rural deployment than U.S., but a little lower overall)*
- $897 million for water infrastructure improvement *(water infrastructure quality in line with other states)*

Kentucky Infrastructure Allocation
$ millions

$1.2T Infrastructure Investment & Jobs Act	
Highway aid	$4,600
Bridge replacement & repairs	$438
Public transportation improvement	$391
EV charging networks	$69
Broadband infrastructure	$100
Wildfire protection	$19
Cyber security	$18
Water infrastructure improvement	$647
Airport Development	$204
Total IIJA Allocation	**$6,486**
$1.9T American Rescue Plan Act	
Increase Broadband Access	$50
Water infrastructure improvement	$250
Total ARPA Allocation	**$300**
Total KY Infrastructure Allocation	**$6,786**

Sources: KY Annual Economic Report 2022, CBER; SYB

ECONOMIC SUMMARY

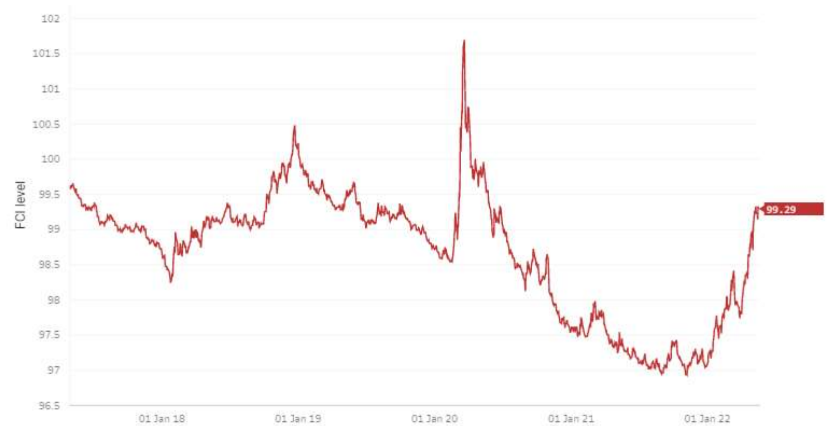
Mixed Picture

Transitioning to “Fed-Induced” Slowdown

Risk inflation could accelerate or remain stubbornly high

- **Fed poised to raise rates by 0.50% until core inflation drops significantly *(6.2% to <4.0%?)***
  - Fed expected to raise Fed Funds to 3.25% - 3.50% in early 2023
  - Could the Fed raise Fed Funds steadily to 6.0%, if Fed Funds remains stubbornly high *(>4.0%)*?
  - Economy, companies, consumers likely can withstand higher rates for a period of time without falling into recession *(another 12 – 18 months?)*
- **If inflation accelerates**
  - Fed initially expected to make incremental 0.75% or 1.00% rate hikes at or between meetings
  - Risk of sudden extreme rate hike *(Volcker moment)*
  - *Could inflation hurt spending and hiring without rate increases?*
- **Financial conditions tightened rapidly**
  - Market completed much of Fed’s work for 2022
- **Economists have significantly adjusted forecasts**

Conditions are Tightening



	U.S. Economic Forecast		Rate of Change
	Oct-21	Apr-22	
GDP Growth % 2022	3.6%	2.6%	-28.4%
GDP Growth % 2023	2.5%	2.2%	-13.8%
Unemployment 2022	3.9%	3.4%	13.7%
Unemployment 2023	3.6%	3.6%	2.2%
Inflation 2022	2.6%	5.5%	109.1%
Inflation 2023	2.5%	2.9%	16.3%

Source: T: Goldman Sachs B: WSJ Economic Survey, SYB

Silver Lining

Strong economy likely makes potential recession shallow & bear market short

U.S. economy is strong with many tailwinds

- **Full employment at 3.6% heading to 3.4%**
  - If short recession, expected to push unemployment to 5.0% - 5.5%
- **Consumer remains strong**
  - Pent-up demand for services – so spending growing faster than inflation
  - More savings than debt
  - Chase reports – best consumer loan performance in history
- **$1.2T Infrastructure stimulus spending (6% of GDP); $6.8B for KY (3% of GDP)**
- **Corporate earnings, profit margins remain healthy, but some sectors showing impact from inflation**

Real Retail Sales Exceed Inflation + Pre-Pandemic Trend

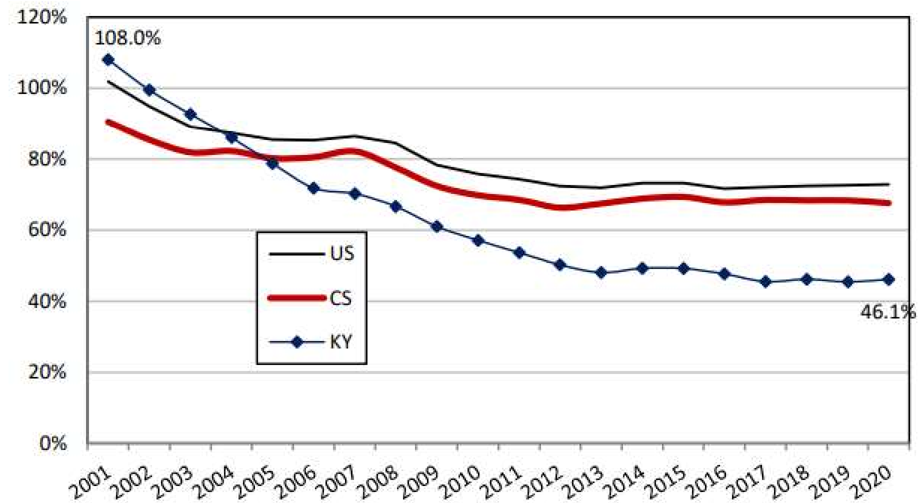
Earnings Growth Continues to be Revised Upwards

Source: T: The Daily Shot; B: LPL, FactSet

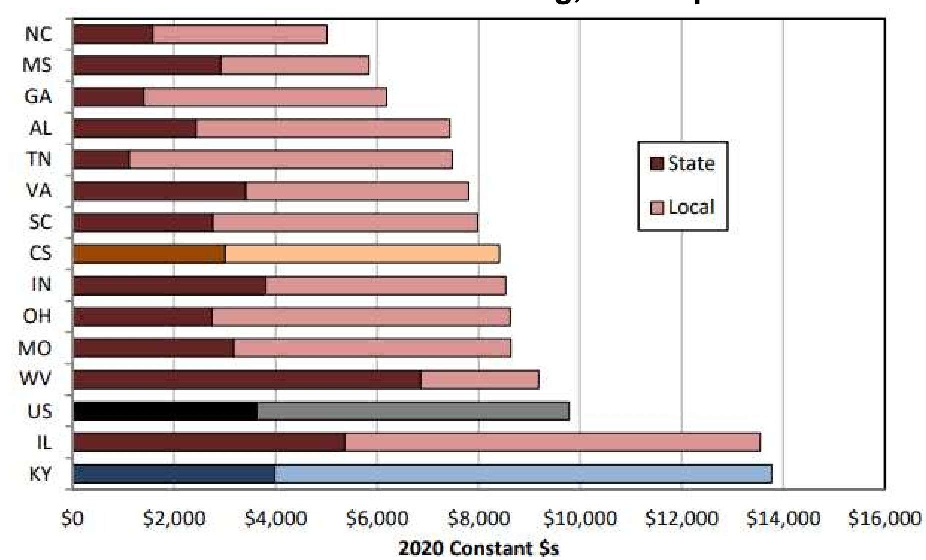
Potential Impacts to Kentucky

- **Growth and employment rates run slightly behind U.S. rates**
- **KY economy likely weathers economic slowdown or recession well**
  - $1.1B 2021 budget surplus; $2.0B in 2022?
  - $6.8B infrastructure stimulus
- **Pension funding gap grows wider**
  - Funding ranks 51st; 10.5% required annual contribution ranks 2nd behind IL
  - Higher inflation = higher COLAs
  - Bond markets down 10%
  - Equity markets down 15%
- **Mixed picture for debt**
  - KY debt per capita is highest in the region
  - Muni interest rates rising to 4% to 5%
  - Inflation resulting in higher wages, revenues and tax receipts to repay debt
- **Municipal issuer cost rising rapidly**
  - Muni yield curves do not invert, so longer term debt can be issued at much higher rates than treasuries

Funded Ratio of Public Sector Pension Plans



Public Sector Debt Outstanding, Per Capital 2019



Source: KY Annual Economic Report 2022, CBER

Financial Institutions are Very Stable

- **Asset valuations are high**
  - Values for stocks and bonds have fallen below averages
  - Housing values remain high, but negative shock not likely to be amplified by the financial system *(stronger underwriting standards, no surge in speculation)*

- **Business & Consumer debt is low and continues to decline**
  - Debt is high in pandemic-effected sectors such as travel & leisure
  - Smaller privately-held firms have higher debt

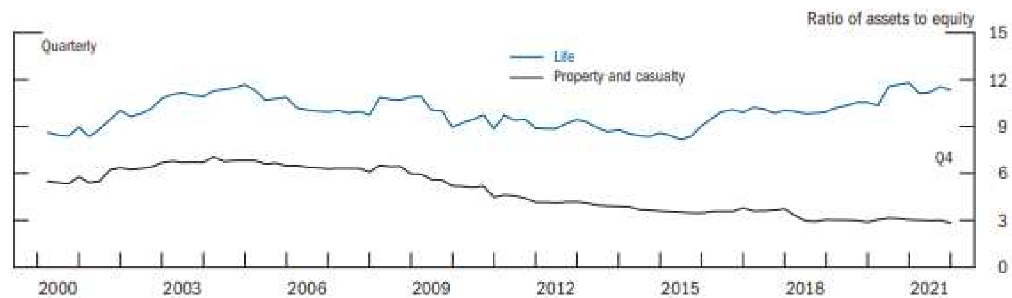
- **Financial sector leverage**
  - Bank leverage is low
  - Life insurance company leverage near highest level in two decades

- **Near-term Risks**
  - Impact of higher rates on business and consumers probably greatest risk for local / community banks
  - Global Systemically Important Banks (G-SIBs) face greater risks
    - Concerns over lending to international and EM institutions due to Russia-Ukraine, inflation
    - Concerns over lending to nonbank financial firms (up ~50% since 2018)

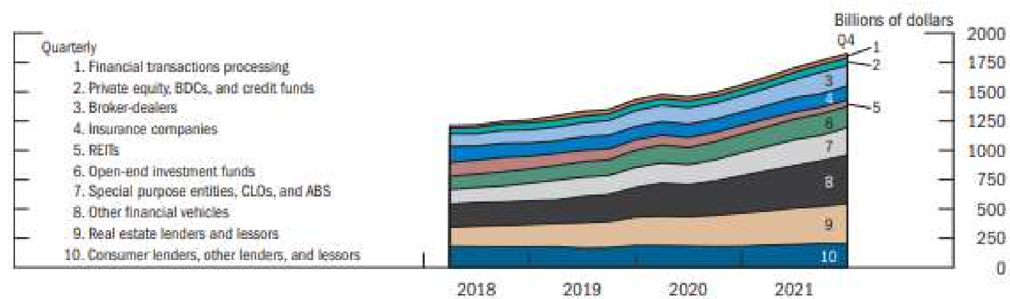
Source: May 2022 Federal Reserve Financial Stability Report

Bank Common Equity Tier 1 Capital Ratio

Leverage at Insurance Companies



Large Bank Lending Commitments to Nonbank Financial Firms

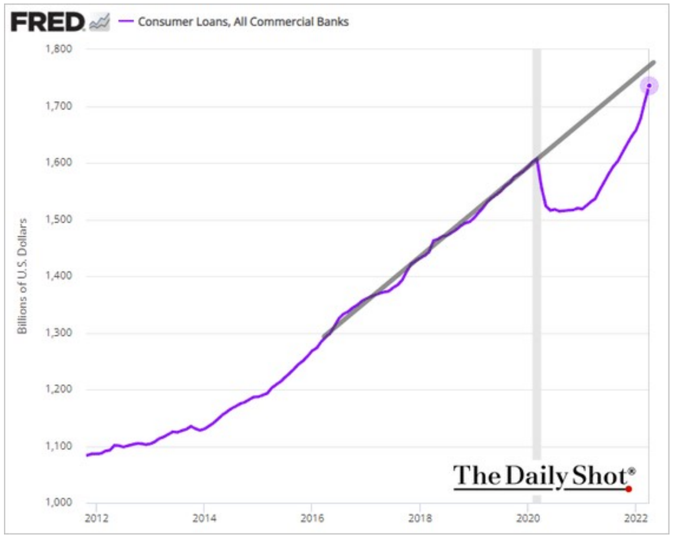


Lending Environment

- **Current Lending Pricing Environment Strong**
  - Steep yield curve
    - Cheap deposit, short-term rates
    - Prime rate rising
  - Net interest margins increasing
- **Credit Quality High**
  - Highest loan performance rates in history
  - Expect reserves to increase an anticipation of slowing economy
  - $2T+ in excess savings
- **Loan Demand Mixed**
  - Consumers spent less and used savings during pandemic
  - Increasing credit card usage, but drew more on savings in April as rates increase
- **Expected problems this cycle: Leveraged Loans**
  - Lending to private equity, Covenant Lite Loans, shadow banking loans, CLOs
  - Mostly originated from larger banks
  - Potentially held in investment portfolios of pensions, insurance companies
  - Participations at smaller banks?

Steep Yield Curve = High Net Interest Margin Spread

Consumer Loans Returning to Pre-Pandemic Demand



Source: T: FactSet; B: The Daily Shot

MARKET OUTLOOK & VALUATION

Valuation: Will Market Lose Patience with Fed?

- ***Healthy Valuation: Multiple currently pricing in 2.50% to 2.75% 10-yr. Treasury rate (16.3x)***
- ***Until inflation is steadily declining, Fed policy certain, market will have difficulty recovering***
- ***Unless quick resolution to Fed policy / Inflation, range-bound (4,000-4,500) or worse (bear market)***
- ***Assuming "auto-pilot" by year end: 4,500-4,800 or -3% to +3% 2022 total return***

	12/31/21	4/30/22	Valuation Range	
- S&P 500 Value 12/31/21:	4,766	4,132	4,000	4,500
- S&P 500 Multiple 20A [1]	26.9x	26.9x	26.9x	26.9x
- S&P 500 Forward Multiple 21E	23.0x	20.0x	19.3x	21.7x
- S&P 500 Forward Multiple 22E	21.0x	18.2x	17.6x	19.8x
- S&P 500 Forward Multiple 23E	19.5x	16.9x	16.3x	18.4x

	Con-sensus	Cons. Growth %
- 2020 Actual:	$140	-14.3%
- 2021 Actual:	$207	48.2%
- 2022 Estimate:	$227	9.6%
- 2023 Estimate:	$245	8.0%

Implied S&P 500 Valuation

	$200	$210	$220	$230	$240	$250	$260
15.0x	3,000	3,150	3,300	3,450	3,600	3,750	3,900
15.5x	3,100	3,255	3,410	3,565	3,720	3,875	4,030
16.0x	3,200	3,360	3,520	3,680	3,840	4,000	4,160
16.5x	3,300	3,465	3,630	3,795	3,960	4,125	4,290
17.0x	3,400	3,570	3,740	3,910	4,080	4,250	4,420
17.5x	3,500	3,675	3,850	4,025	4,200	4,375	4,550
18.0x	3,600	3,780	3,960	4,140	4,320	4,500	4,680
18.5x	3,700	3,885	4,070	4,255	4,440	4,625	4,810
19.0x	3,800	3,990	4,180	4,370	4,560	4,750	4,940
19.5x	3,900	4,095	4,290	4,485	4,680	4,875	5,070
20.0x	4,000	4,200	4,400	4,600	4,800	5,000	5,200
20.5x	4,100	4,305	4,510	4,715	4,920	5,125	5,330
21.0x	4,200	4,410	4,620	4,830	5,040	5,250	5,460
21.5x	4,300	4,515	4,730	4,945	5,160	5,375	5,590

Implied S&P 500 Price Change from Year End

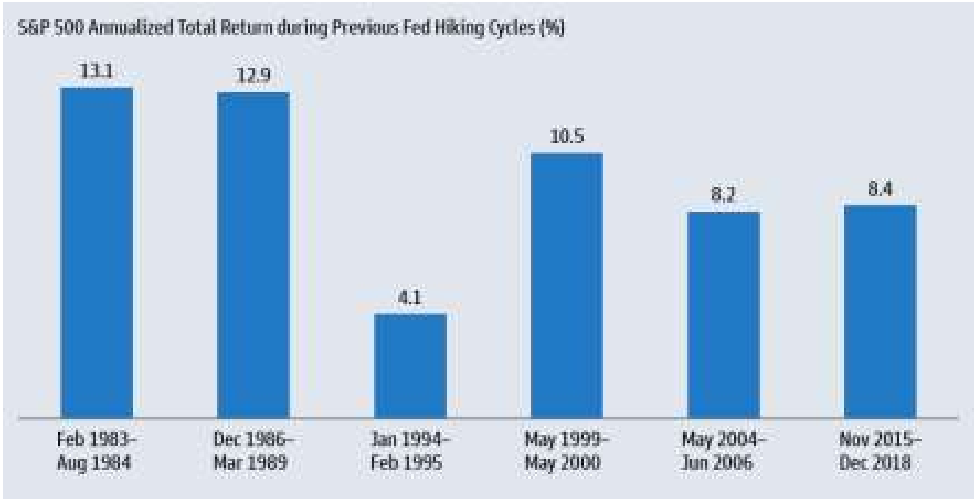
	$200	$210	$220	$230	$240	$250	$260
15.0x	-37%	-34%	-31%	-28%	-24%	-21%	-18%
15.5x	-35%	-32%	-28%	-25%	-22%	-19%	-15%
16.0x	-33%	-30%	-26%	-23%	-19%	-16%	-13%
16.5x	-31%	-27%	-24%	-20%	-17%	-13%	-10%
17.0x	-29%	-25%	-22%	-18%	-14%	-11%	-7%
17.5x	-27%	-23%	-19%	-16%	-12%	-8%	-5%
18.0x	-24%	-21%	-17%	-13%	-9%	-6%	-2%
18.5x	-22%	-18%	-15%	-11%	-7%	-3%	1%
19.0x	-20%	-16%	-12%	-8%	-4%	0%	4%
19.5x	-18%	-14%	-10%	-6%	-2%	2%	6%
20.0x	-16%	-12%	-8%	-3%	1%	5%	9%
20.5x	-14%	-10%	-5%	-1%	3%	8%	12%
21.0x	-12%	-7%	-3%	1%	6%	10%	15%
21.5x	-10%	-5%	-1%	4%	8%	13%	17%

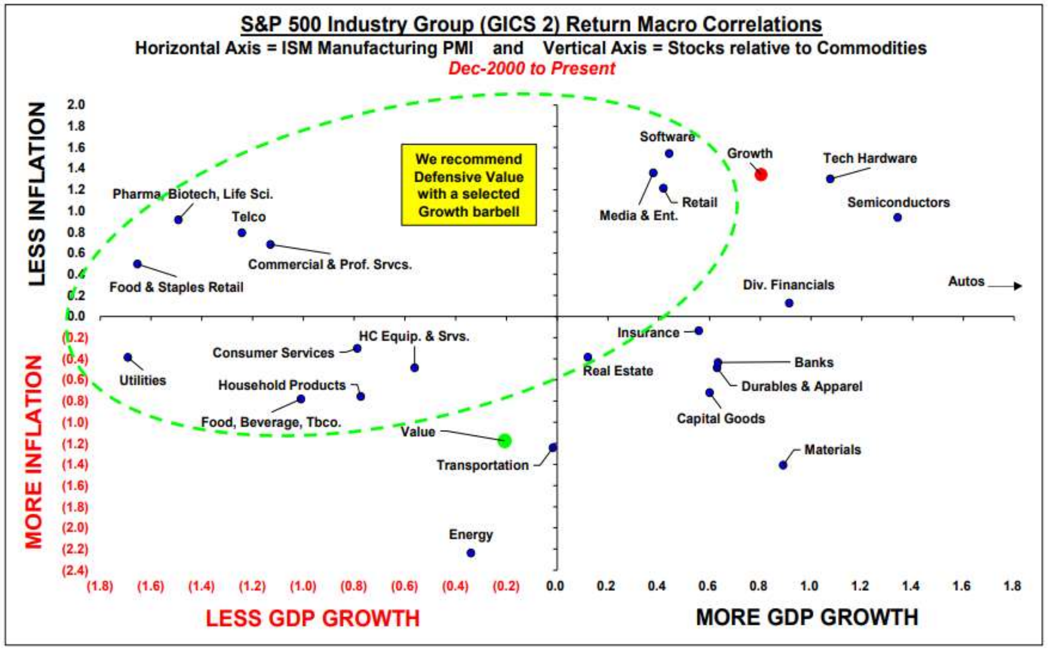
Source: Yardeni Research & SYB. Note add ~1.4% in dividends for S&P 500 total return

Pink Shade - Bear Market from 4,766 level; Yellow Shade - Expected Levels. [1] Multiple at 12/31/20 level of 3,756.

Recommend: Stay Invested, Rotate

- **Remain in equities**
  - U.S. bond bear market for 2022
  - U.S. equities benefiting from stimulus/recovery: higher revenue, profit margin, EPS fundamentals
- **U.S. large cap value favored**
  - Favors value with pricing power; EPS withstands inflation
  - Short run: bond proxies (dividend stocks with safe payout ratios); defensives (value and growth)
  - Higher rates usually favor asset classes that are weighted to cyclicals, but problems
    - Small Cap – EPS growing faster than large cap, **but** difficulty with inflation
    - International – must work through Russia energy supply issues, potential EU recession?
    - EM is cheap, **but**…
      - …China makes up 30%+ of index and starting to stimulate, but lockdowns, new regulations, & real estate cleanup
      - Need active manager to reduce or eliminate Russia exposure (4%), manage China exposure and overweight others (oil, metals economies)
- **After rate hikes:**
  - Rates still likely to remain in lower ranges similar to the 2010s - 2024? later?
  - Low rates disproportionately increase the value of growth stocks (Gordon Growth Model)
  - Quality growth still the best long-term play





Source: T: Goldman Sachs; B: Stifel