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Monetary Policy: Rates, Guidance, and Balance Sheets—Price Stability Versus Financial Stability

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Economics

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Outline of Presentation

- How forward guidance, asset purchases, and zero-rate interest policy depressed volatility, boosted asset prices, and increased the fragility of the financial system.
- This is not just a U.S. phenomenon—event study of the U.K. gilt market.
- Renormalizing the Fed’s holdings of MBS potentially poses a systemic threat to U.S. fixed income markets. Event study of February-March 2020. What policies might increase this risk? What might reduce it? I examine some possibilities.
- Broader issue of conflict between returning to price stability versus minimizing financial instability. Does this threaten higher inflation for a prolonged period? Impact on the yield curve and net interest margins of the banking system.
- Discussion.

Monetary Policy Versus Financial Stability

- The use of nonconventional monetary policy tools of forward guidance and large scale asset purchases has created the potential for an adverse policy feedback loop by encouraging the buildup of leveraged bond positions. I first explored the idea in *A Short Antifragile Critique of the Fed* (Ryding and DeQuadros 2012).
- The zero lower bound on interest rates & forward guidance to signal ZIRP was in place for a prolonged period combined with rising long-term bond prices resulting from asset purchases encouraged a build up in levered positions. These levered positions pose an obstacle to unwinding the Fed's portfolio & hiking interest rates.
- The Fed (and other central banks) may face a choice between attempting to stabilize financial markets or fighting inflation (as discussed, for example, in the New York Fed's *The Financial (In)Stability Real Interest Rate*, R** 2022). If $r^{**} < r^*$ financial instability risks may result in entrenched inflation risks. Missing from the NY Fed's paper is the role of monetary policy in lowering r^{**} over time and the buildup of leverage outside the banking system.

Incentives to Leverage

- Expected returns on a leveraged Treasury bond portfolio over a one-year horizon equal $L(r_a - r_f(1 - 1/L) + p_a)$ where r_a is the yield of the assets, r_f is the expected interest rate on funding, p_a is the expected price appreciation of the asset and L is the leverage ratio (defined as assets divided by equity).
- The disincentives to leverage are the expected cost of funding and the risk that the price change of the asset turns negative. ZIRP and forward guidance depress r_f virtually eliminating the expected cost of funding risk and QE seeks to lower yields of longer-dated assets (i.e. produce price appreciation) and thus increase the incentive to leverage. In a world of perfect certainty if $r_a > r_f$ and $p_a \geq 0$ the optimal degree of leverage from the investor perspective is infinitely high.
- If a portfolio manager seeks an average target return of r_t (e.g. a pension fund) then a policy that depresses r_a below r_t adds to the incentive to leverage up the portfolio (for example, U.K. pension funds adopting LDI strategies).

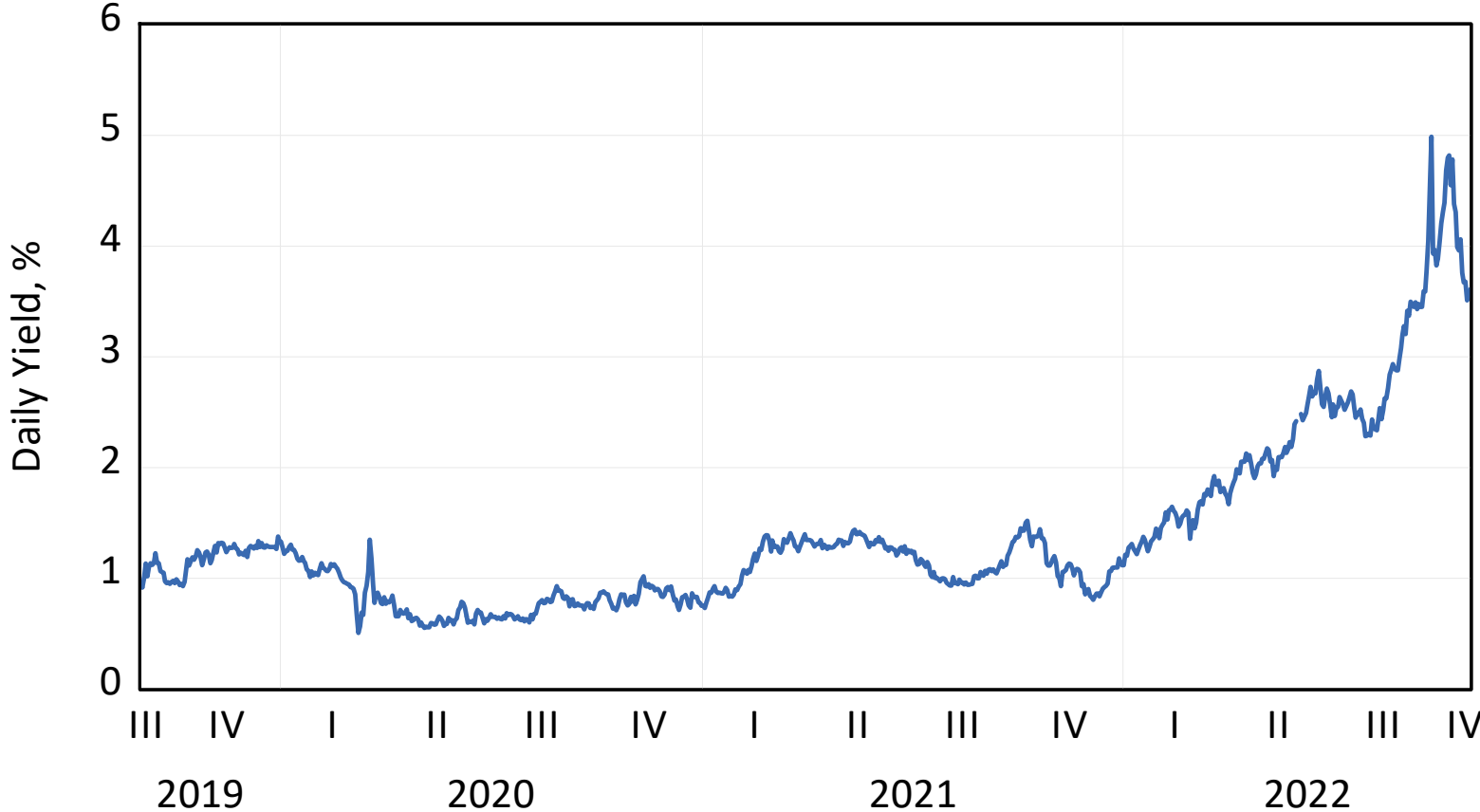
Depressing Volatility

- Zero-rate interest policy, forward guidance, and asset purchases tend to reduce interest-rate volatility. However, low volatility encourages the leveraging of financial portfolios (for example, Minsky (1986) “our economy oscillates between robust and fragile financial structures, and financial crises require the prior existence of a fragile financial structure.”) What promotes fragile financial structures? I think monetary policy has played an important role and macroprudential regulation has failed to monitor and control the risks from rising leverage outside of the banking sector.
- Minsky’s observation long preceded ZIRP, forward guidance, and QE. However, I would argue that the Fed has now promoted fragility in the financial structure and will face tremendous difficulty in exiting its SOMA MBS positions.

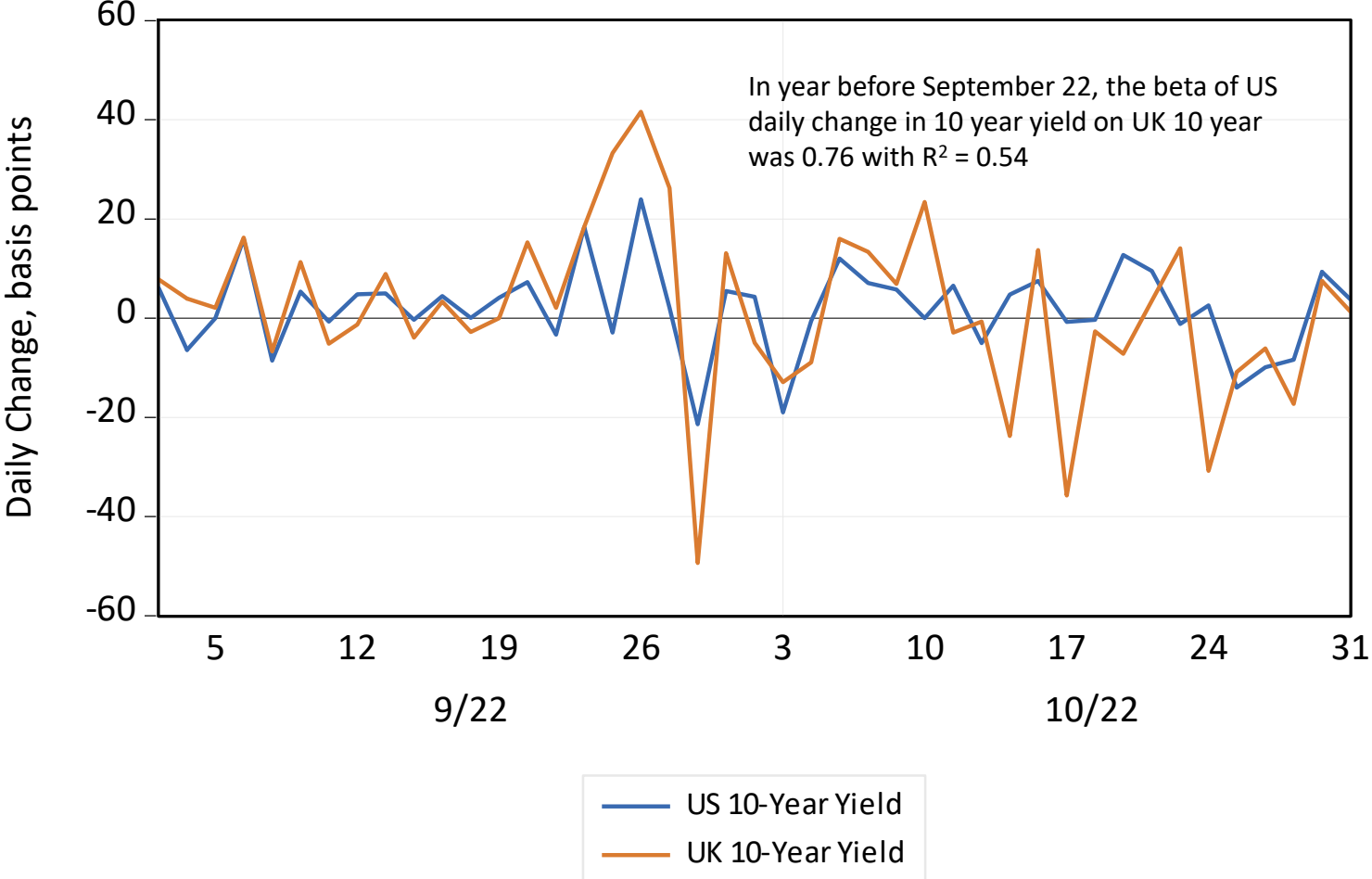
Event Study: UK September-October 2022

- On September 22, the Bank of England only hiked by 50 bps to 2¼%, 10-year gilts were 3.31% before meeting and the next day Chancellor Kwarteng announces largest tax cut since 1972, 10-year yields jump to 3.83% and rise to 4.05% on September 26. Bank of England affirms plans to begin asset sales. Pension fund LDI-driven liquidation drives 10-year yields to 4.51% by September 27.
- September 28, Bank of England delays start of gilt sales until Halloween and announces temporary but unlimited asset purchases.
- October 14 Chancellor Kwarteng fired and Jeremy Hunt replaces him and cancels tax cuts. October 20 Liz Truss resigns as Prime Minister after 45 days—shortest in history. 10-year yields at 4.05%. Sunak made PM, yields fall to 3.40%. QT begins November 1 but sales restricted to short- and medium-term gilts.
- Unwinding of hidden leverage forced new round of QE, fiscal policy change, and change in U.K. government. Correlation with U.S. market had effects spill over into U.S.

U.K. 30-Year Gilt Yield



U.S. and U.K. 10-Year Yields



The Current Stance of U.S. Monetary Policy

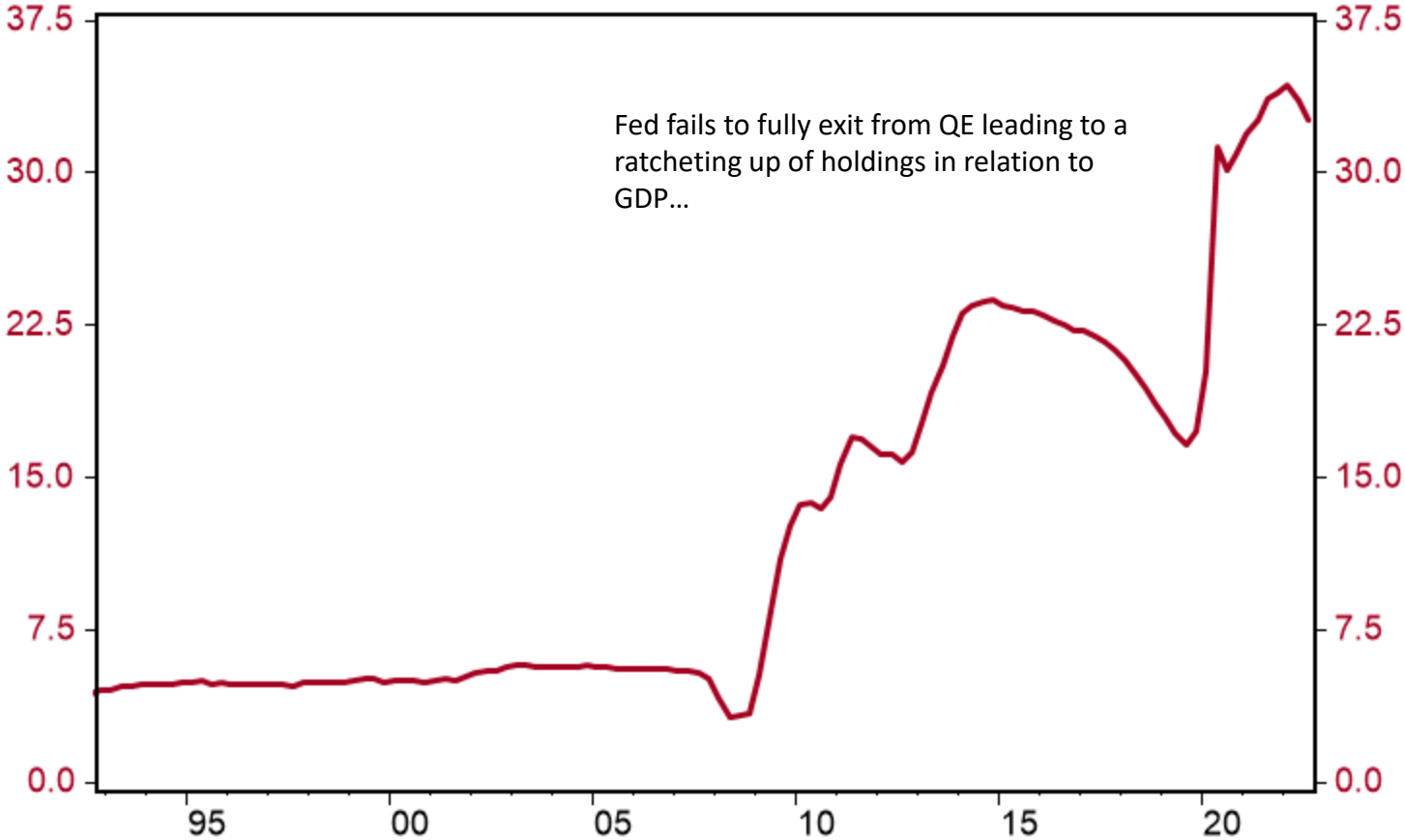
- The Fed is aggressively raising interest rates with four consecutive 75-bp hikes since mid-June, putting the policy rate at 3¾%-4%, and a 50-bp hike is expected on December 14. Chair Powell signals higher terminal rate in latest press conference.
- The Fed is running down its SOMA bond holdings at a pace of up to \$95 billion per month by not reinvesting \$60 billion per month of maturing Treasury securities and up to \$35 billion per month of MBS. SOMA holds \$5.5 trillion of UST and \$2.7 trillion of MBS.
- Fed has a stated objective of “In the longer run, the Committee intends to hold primarily Treasury securities in the SOMA, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy.” Problem current mortgage rates point to mortgage prepaids of less than \$20 billion per month pointing to need for Fed sales.

The MBS Portfolio

- The Fed owns \$2.7 trillion of mortgage-backed securities in an \$8.3 trillion bond portfolio (32.4%). The monthly Treasury runoff is set at \$60 billion per month and if MBS prepayments fall below \$29 billion per month, mortgages will rise as a share of portfolio but prepays will likely to fall to \$15-\$20 billion. Either the Fed has to alter its monetary-policy principles or plan to sell MBS.
- Biggest coupon the Fed owns is 2%, which has a current dollar price of \$78. Who are the natural buyers of such heavily discounted bonds? Banks would have cash flow issues owning heavily discounted MBS and have been net sellers but currently own \$2.8 trillion. REITs have been sellers and owned only \$147 billion as of end second quarter. Fed has said it has not yet begun to discuss sales but would give the market plenty of notice.
- What happens to mortgage spreads if the Fed sells? Could selling trigger an adverse feedback loop? Mortgage rate-10 years spread is at the widest levels since the financial crisis (January 2009) reflecting poor market liquidity.

Fed's SOMA in Relation to GDP

%



Source: Haver Analytics

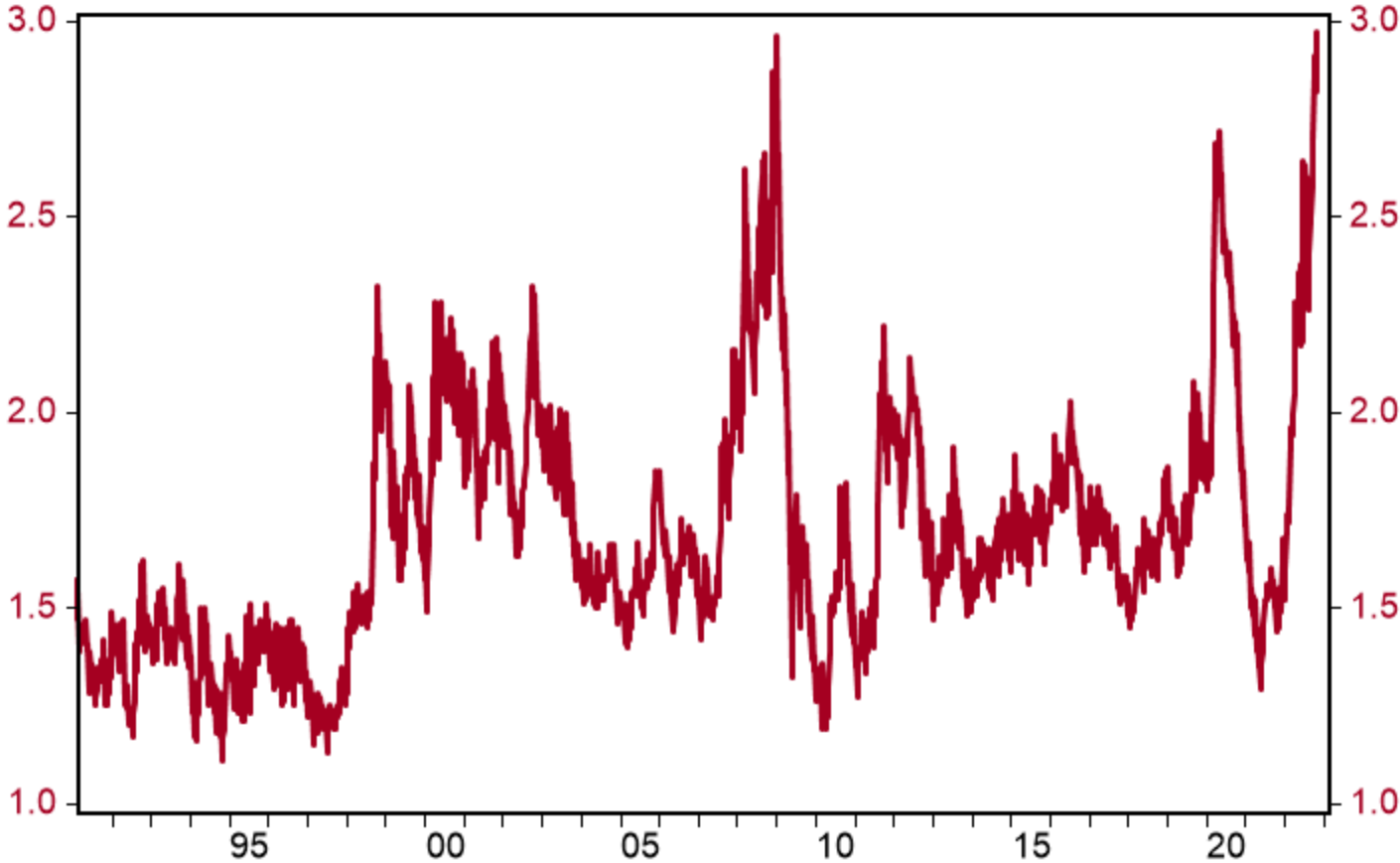
Fed's SOMA MBS Holdings in Relation to Total Residential Mortgages



Source: Haver Analytics

Spread of 30-Year Fixed Rate Mortgage to 10-Year Treasury

Weekly, % points



Source: Haver Analytics

SOMA MBS HOLDINGS BY COUPON		
Coupon	\$ billions	% of MBS
1.5	171.4	6.4%
2	1036.2	38.5%
2.5	746.0	27.7%
3	322.7	12.0%
3.5	211.9	7.9%
4	129.6	4.8%
4.5	53.7	2.0%
5	15.7	0.6%
5.5	2.0	0.1%
6	0.3	0.0%
6.5	0.0	0.0%
Total	2689.5	

Source: New York Fed (as of October 12)

Event Study: Mortgage Market Feb-March 2020

- In early February 2020 the 30-year mortgage spread to 10-year Treasuries was 1.84% points but began to widen. Primary dealer holdings of agency passthroughs were \$26.1 billion. MBS liquidation commences at a time of stressed markets.
- By the first week of March 2020 the mortgage spread had widened to 2.33% points and primary dealer passthrough holdings had risen to \$52.1 billion. By third week, holdings had risen to \$82.5 billion and spreads widened to 2.66% points. Fed announces resumption of QE on March 15 (\$500 billion Treasuries, \$200 billion MBS) and cuts interest rates to 0%.
- Spread widening caused by inability of dealer balance sheets to absorb selling of MBS and required massive intervention from the Fed to stem widening.

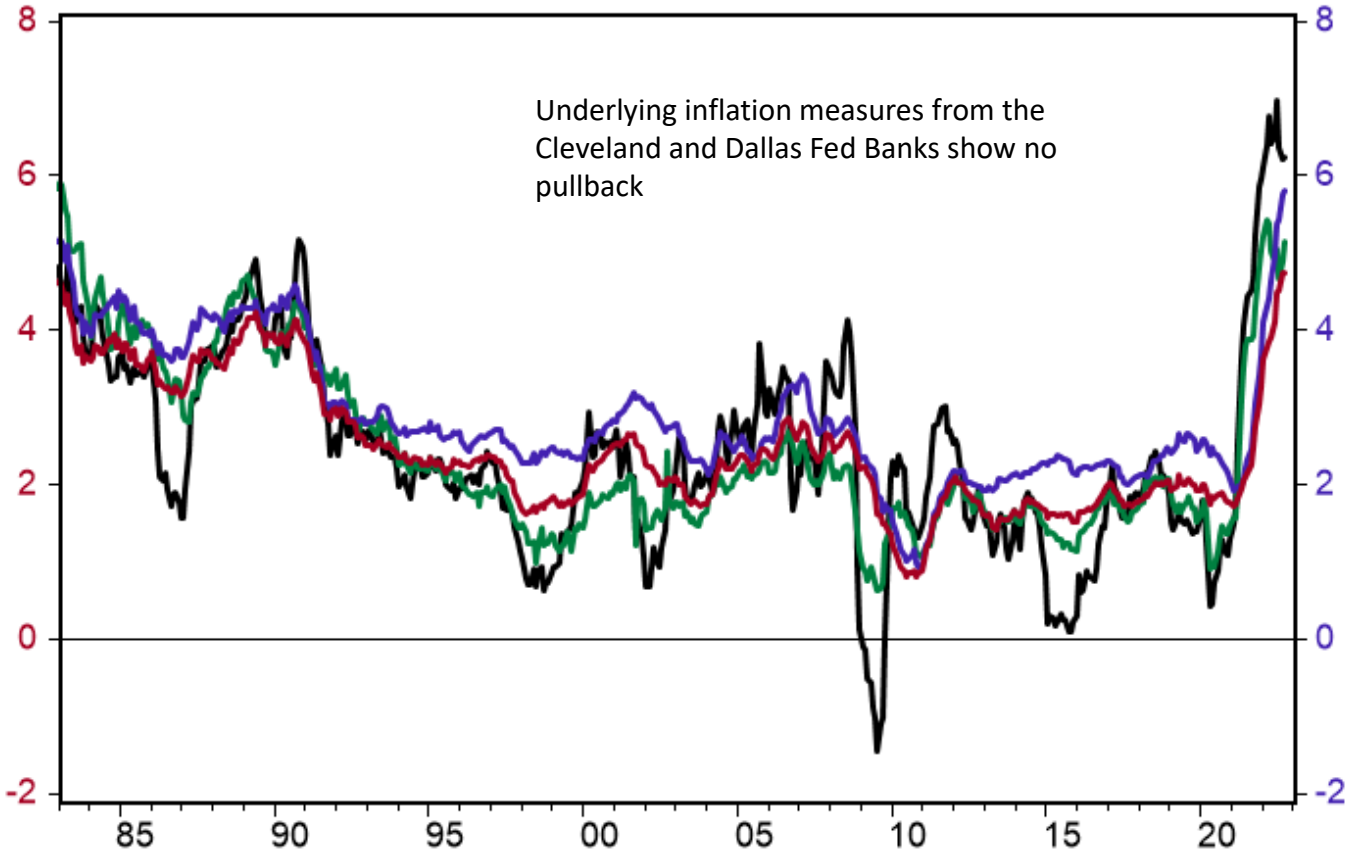
Steps to Ease Systemic Threat from Rates & MBS

- Either the Fed sells or MBS rise as a share of SOMA contrary to Fed's principles. Banks are not natural buyers of heavily discounted MBS but they are the largest holders at \$2.8 trillion.
- Important to avoid policies that would worsen MBS liquidity. For example, if implemented, FINRA Rule 4210 would require substantial increases in capital that needs to be committed to Agency MBS market and would likely drive out many non-primary dealers, worsening the impact of MBS sales on mortgage spreads (for example, under 4210 an introducing broker-dealer C brokering an Agency MBS trade between A and B would have to post margin until settlement, which could be 30 days, but if A is a member of FICC then C would never receive margin from A but would have to post margin to B). A move to central clearing of Agency MBS would improve liquidity and eliminate settlement risk from MBS settlement chains.
- Are there creative solutions that could be reached to reduce the Fed's MBS portfolio to minimize the distress that could be imposed on financial markets? For example, Fannie and Freddie issue current coupon debt to the Fed in exchange for MBS and the Fed sells agency debt rather than MBS. Such a program would likely require Treasury and FHFA approval given the \$250 billion mortgage caps on Fannie and Freddie (reduced to \$225 billion at year-end).

Inflation and Financial Instability

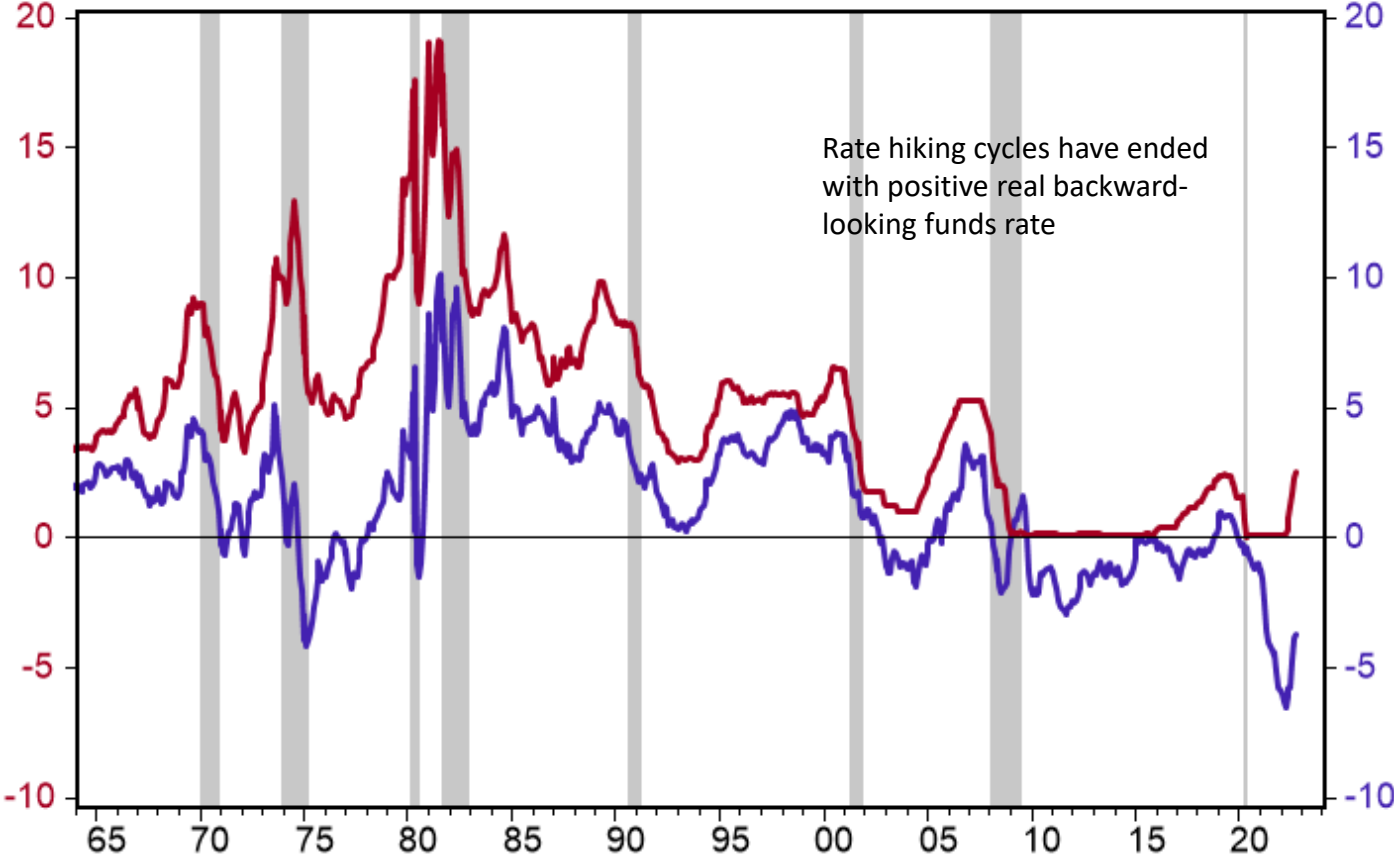
- We warned beginning April 2020 that the price problem to be managed during and after the pandemic would be higher-than-target inflation. This was basic monetary analysis from the Fisher Equation $MV = PT$ with QE massively boosting M (money) and with the pandemic and shutdowns depressing T (economic activity). The monetary authorities failed to recognize this. Moreover, the Fed continued to ease throughout 2021 via QE despite rising inflation pressures.
- PCE price inflation since February 2020 has averaged 4.4% and the rate is 6.2% over the latest 12 months. The latest Dallas trimmed-mean measure of PCE price inflation was 4.7% and the Cleveland Fed's median PCE inflation rate is 5.8%. What degree of policy restraint is needed to return inflation to 2%? Real rates are still negative pointing to need for more rate hikes and balance sheet reduction (rate hikes have always ended at a positive real interest rate). Risk of further and more prolonged inversion of yield curve.

FRB Dallas: Trimmed-Mean 12-month PCE Inflation Rate (%)
FRB Cleveland Median PCE Inflation (12-Month % chg)
PCE less Food & Energy: Chain Price Index (12-Month % chg)
PCE Prices (SA, 12-Month % chg)



Sources: FRBDAL, FRBCLE, BEA

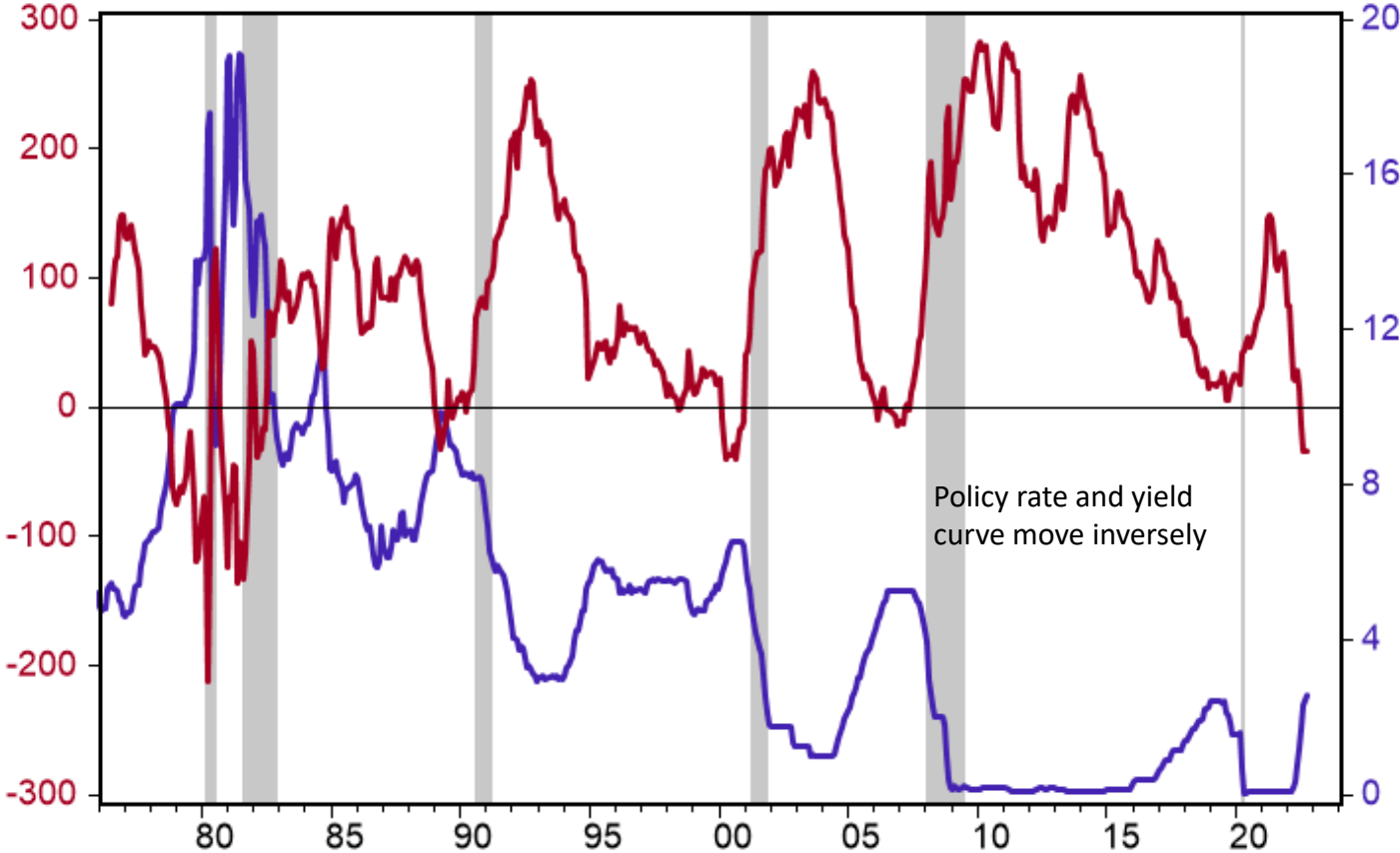
Federal Funds [effective] Rate
% p.a.
Real Fed Funds Rate
Versus 12-month PCE Price Inflation, %



Source: Federal Reserve Board

U.S. Treasury Yield Curve Spread: 2s-10s

Federal Funds [effective] Rate
% p.a.



Source: Federal Reserve Board

Monetary Policy and Financial Stability

- Have the Fed's balance sheet and forward guidance policies (and those of other CBs) encouraged the leveraging of the financial system? In particular, the role of the Fed's inability/lack of desire to fully reverse QE once the crisis has passed? Sims and Wu (2019) argued failure to reverse QE diminishes its effectiveness in the next cycle but r^{**} considerations suggest failing to exit from QE might lower the policy rate the Fed can raise rates to. Does this prevent the Fed from getting inflation down to target?
- Has the Fed's balance sheet become too large relative to the market? There is an asymmetry in that it is easier to buy assets than to sell. Does this lead to ratcheting up of Fed balance sheet over time? How can the Fed exit from its mortgage positions?
- Should the Fed drop forward guidance on rates and balance sheet (policy instruments) and commit to setting instruments to achieve policy goals?

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