

# The Fed's Monetary Policy Exit Once Again Behind the Curve

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# Historical Perspectives on Fed Exits

- The Fed's current delayed exit from extended monetary ease is studied through the lens of history
- This study assesses the timing, underlying factors and implications of Fed exits since World War I
- We find the Fed's tendency to overstay its easing and delay its exits as a key flaw in its cyclical policies
- The Fed's exits from monetary accommodation have generated some economic soft-landings, but more frequently they result in recession
- The current situation is unfortunate: the Fed has never been so far behind, and the risks of recession are high

# Outline of Study

- Section II. Description of Fed exits during every cycle since WW I
  - Includes measures of Fed timing of Fed exits
- Section III. Comparison of current situation and 1970s
  - Includes detailed historical comparisons of dispersion of inflation
- Section IV. Factors explain why the Fed has been constantly behind
- Section V. Lessons from history and suggestions for policy reset

# Measuring the Fed Exits in the Early Years

- Table 1 on page 5 shows the measured timing of the Fed's exits in each cycle 1920-1960, based on Bordo and John Landon-Lane (2013)
- The trough of each business cycle is used as the base of measurement
- The timing of changes in the **general price level** (Col 2) and changes in the **unemployment rate** (Col 3) are measured from the trough
- Columns 4-7 measure the timing of **Fed monetary policy moves** (the Fed's discount rate and monetary base growth in real and nominal terms) relative to the trough
- Column 8 describes the economic outcome: the Fed's miss-timing most frequently led to recessions

# Cyclical Turning Points in Monetary Policy, 1920-1960

(1) Cycle Peak to Trough (Trough)	(2) Price Level: <u>CPI<sup>c</sup></u> (Inflation)	(3) <u>Unemployment<sup>d</sup></u>	(4) Discount Rate <sup>e</sup> (Fed Funds Rate)	(5) Real Discount Rate (Real Fed Funds Rate)	(6) Monetary Base <u>Growth<sup>f</sup></u>	(7) Real Monetary Base Growth	(8) Comments and Result
1. 1920Q1 – 1923Q2 (1921Q3) <sup>g</sup>	1922Q1	1921Q1	3, 7 <sup>e</sup>	-	3, 7	-1, 3	Too late, serious recession
2. 1923Q2 – 1926Q3 (1924Q3)	1924Q1	1924Q1	3, 3	4, 4	2, 2	4, 4	Too late, mild recession
3. 1926Q3 – 1929Q3 (1927Q4)	1928Q1	1928Q1	-1, -1	-1, -1	0, 0	-1, -1	On time, mild recession
4. 1929Q3 – 1937Q2 (1933Q1)	1933Q1	1932Q1	-6, -5	-6, -5	3, 4	3, 4	Too soon, real bills mistake, Great Contraction
5. 1948Q4 – 1953Q2 (1949Q4)	1950Q1	1949Q4	1, 2	4, 5	-3, -2	-3, -2	Too late, mild recession
6. 1953Q2 – 1957Q3 (1954Q2)	1954Q4	1954Q3	(0, 1)	(-1, 0)	-1, 0	-1, 0	On time, mild recession
7. 1957Q3 – 1960Q2 (1958Q2)	(1958Q2)	1958Q2	(0, 0)	(0, 0)	-1, -1	-1, -1	On time, mild recession

Source: Bordo and Landon-Lane (2013). Tables 1a, 1b, 2a, 2b. <sup>a</sup>  
NBER trough dates for each cycle.

# 1920s and 1930s

- Fed policy anchored by price stability and the Gold Standard; fiscal policy anchored by longer-run balanced budget
- Mid-1920s timely responses termed “The High Tide of the Federal Reserve” by Friedman and Schwartz
- 1930s: Fed’s egregious policy mistakes based on adherence to real bills doctrine, irresponsible responses to banking panics & collapse of money generated Great Depression; in 1936-1937 premature tightening of bank reserve requirements resulted in deep recession

# World War II, Aftermath and 1950s

- Under the Treasury's dominance, the Fed helped finance WW II with artificially low rates and rapid money growth
- Post-WW II: ongoing monetary accommodation stemming from sustained Treasury dominance; unanticipated surge in pent up demand generates 3 years of double-digit inflation
  - Ends in recession of 1949
- 1950s: relatively timely Fed exits result in moderate fluctuations in aggregate demand and smoothed business cycles
- Low and stable inflation from end of Korean War (1953) to 1965

# Significant Shifts in the 1960s

- Dramatic transition in policy doctrine toward policy activism
  - Price stability anchor replaced by focus on reducing unemployment
  - Constraints imposed by Gold Standard eased
  - Keynesian revolution popularized by Phillips Curve goes mainstream
- Surge in government spending (Vietnam War spending + Great Society spending) accommodated by Fed under pressure from LBJ
- Inflation rises from 1.5% to 6% during 1965-1970, and inflationary expectations and bond yields rise
- Sets stage for Arthur Burns-led Fed and disastrous 1970s

# Assessment of Fed Exits 1960s to Present

- Table 2 on page 8 provides a summary assessment of the Fed's exits
- In each cycle and some intra-cycle periods, it shows the trends in inflation (Col 2) and unemployment (Col 3), the pattern of the real Federal funds rate and real money (Col 4)
- Column 5 measures deviations of the Fed funds rate from estimates of the Taylor Rule
- The right Column 6 describes the economic result
- There were some episodes when the Fed tightened policy and orchestrated economic soft-landings
- But more frequently, the Fed's exits resulted in recessions

# Cyclical Exits of Fed Exits from Policy Ease (1)

## *Cyclical Episodes of Federal Reserve Exits from Monetary Ease, 1961 to Present*

1 Cyclical Expansion	(2) Inflation <sup>1</sup>		(3) Unemployment rate <sup>2</sup>		(4) Fed Policy		(5)	(6)
	Start	→ End	Start	→ End	Real FFR <sup>3</sup>	Money	Fed Funds Rate minus Taylor Rate <sup>4</sup>	Result
1961 Q2 - 1969 Q4	1.2%	→ 5.5%	6.4%	→ 3.5%	0.9%- 3.7%	↓ real MB & M2	1966 - 1969: -2.4pp	<b>1970 recession</b>
Note: 1965 Q4 - 1967 Q1	1.6%	→ 3.2%	4.5%	→ 3.8%	Credit tightening (Reg Q ceilings)			sharp slowdown, sustained expansion
1971 Q1- 1973 Q4	5.6%	→ 6.2%	5.4%	→ 4.9%	1.5%- 3.4%	↓ real MB & M2	1971 - 1973: -1.6pp	<b>Oil price shock &amp; deep recession</b>
1975 Q2 - 1980 Q1	11.1%	→ 12.4%	7.3%	→ 6.0%	-2.1%- 2.8%	↓ real MB & M2	1975 - 1979: -4.0pp	<b>oil price spike &amp; recession</b>
1980 Q4 - 1981 Q3	13.6%	→ 11.1%	7.2%	→ 7.4%	2.6%- 7.2%	↓ real MB, M2 unchanged		<b>recession</b>
1983 Q1 - 1990 Q3	5.2%	→ 5.0%	10.1%	→ 5.4%	5.7%- 4.2%	↓ real MB & M2	1983 - 1987: +2.3pp 1988 - 1989: +1.1pp	<b>mild recession</b>
Note: 1987 Q1 - 1987 Q4	1.7%	→ 3.7%	6.9%	→ 6.2%	Fed hikes until Oct '87 stock market crash then eases (↑ MB & M2)			extended expansion

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Federal Reserve Board, Haver Analytics, author's calculations

1. CPI before 1991, PCE after 1991, 4-Quarter average of yr/yr inflation

2. 4-Quarter average unemployment rate

3. 4-Quarter average of Real Fed Funds rate

4. Fed Funds Rate minus Taylor Rule estimate, average measured in percentage points.

Taylor Rule:  $r^* + \pi^* + 15(\pi_t - \pi^*) + 0.5 \text{CBO GDP Gap}_t$ , where  $r^* = 2\%$ ,  $\pi^* = 2\%$  and  $\pi$  is core PCE. See Chart 1.

5. March 2022 unemployment rate

6: As of February 2022

7: Based on Q1 core PCE inflation of 5.2% and Q1 effective Fed funds rate of 0.12%

See Chart 1 for modified Taylor Rule equations and assumptions

# Cyclical Exits of Fed Exits from Policy Ease (2)

## *Cyclical Episodes of Federal Reserve Exits from Monetary Ease, 1961 to Present*

1 Cyclical Expansion	(2) Inflation <sup>1</sup>	(3) Unemployment rate <sup>2</sup>	(4) Fed Policy		(5) Comments	(6)
	Start → End	Start → End	Real FFR <sup>3</sup>	Money	Fed Funds Rate minus Taylor Rate <sup>4</sup>	Result
1991 Q2 - 2001 Q1	4.3% → 2.5%	6.3% → 4.0%	2.7% - 3.7%	↓ real MB, ↑ M2	1991 - 1993: -0.3pp 1994 - 1999: +14pp	<b>recession in 2001</b>
Note: 1994 Q1 - 1995 Q1	2.4% → 2.1%	6.8% → 5.8%	0.7% - 2.7%	↓ real MB & M2		extended expansion
2002 Q1 - 2007 Q4	1.6% → 2.6%	5.1% → 4.6%	1.3% - 2.5%	↑ real MB & M2	2001 - 2006: -0.9pp 2007 - 2008: -0.7pp	<b>GFC recession</b>
2009 Q3 - 2019 Q4	-0.3% → 1.5%	8.5% → 3.7%	0.5% - 0.7%	decline in 2018-19	2009 - 2019: -1.7pp	<b>pandemic recession</b>
Note: 2015 Q4 - 2018 Q4	0.2% → 2.1%	5.3% → 3.9%	-0.1% to -0.3%	↓ real MB, ↑ M2	2015 - 2018: -2.0pp	extended expansion
2020 Q1 - present	1.6% → 6.3%	3.7% → 3.6% <sup>5</sup>	0.3% to -6.3% <sup>6</sup>	surge in MB & M2	2022 Q1 <sup>7</sup> : - 8.1pp; Modified TR = -6.5pp	<b>?</b>

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Federal Reserve Board, Haver Analytics, author's calculations

1. CPI before 1991, PCE after 1991, 4-Quarter average of yr/yr inflation

2. 4-Quarter average unemployment rate

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4. Fed Funds Rate minus Taylor Rule estimate, average measured in percentage points.

Taylor Rule:  $r^* + \pi^* + 15(\pi_t - \pi^*) + 0.5^* \text{CBO GDP Gap}_t$ , where  $r^* = 2\%$ ,  $\pi^* = 2\%$  and  $\pi$  is core PCE. See Chart 1.

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# Monetary Policy Highlights, 1970s and Volcker

- **1970s.** Inflation and inflationary expectations ratcheted upwards: negative supply shocks & monetary policy accommodation, wage & price controls, Burns-led Fed complicity with White House
- Sharp rise in inflation and inflationary expectations in 1977-1979
- Fed and government lose credibility; US dollar crisis in 1978
- **Volcker's** aggressive anti-inflationary policies regain credibility, but doing so generates back-to-back recessions

# The Great Moderation and Modern Cycles

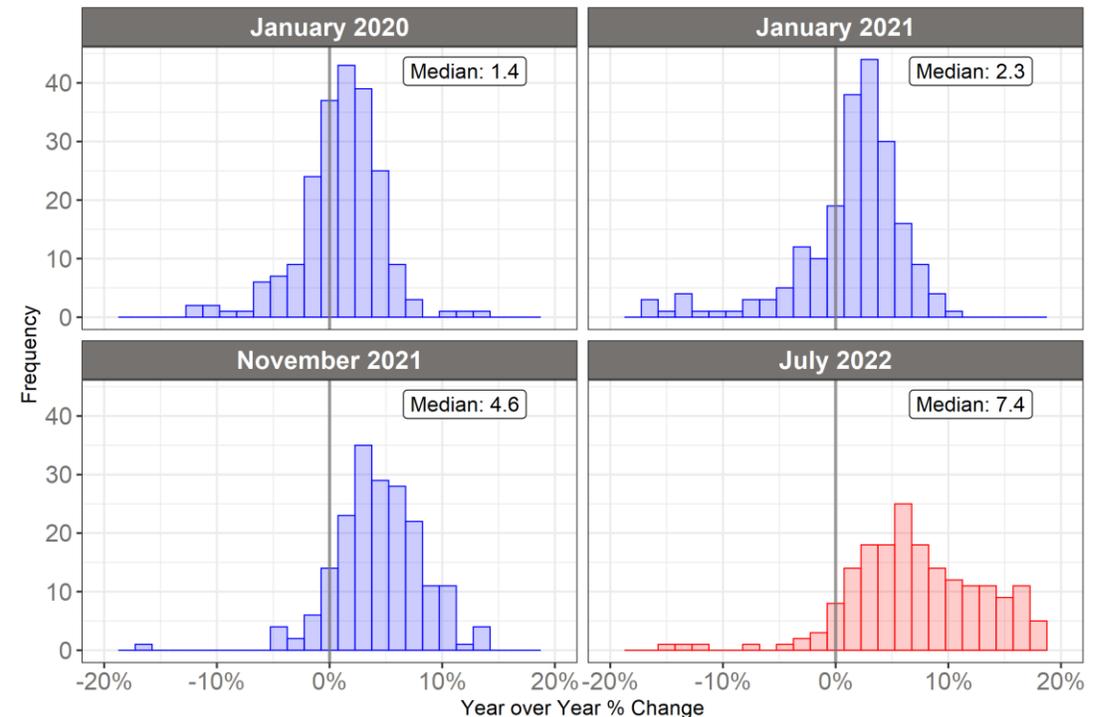
- **Great Moderation:** vastly improved economic performance, better timed Fed exits and mostly economic soft-landings (1987, 1994)
- **Early 2000s:** Fed's too-low-too-long interest rate policy facilitates debt-financed housing bubble and eventual financial instability
- **Post-GFC:** Fed extends zero rates and conducts QE aimed at lowering unemployment rate well after self-sustaining recovery was in place
  - Fed's delayed and gradual exit 2015-2018 followed by continued expansion
- **Pandemic:** expansive monetary policy response, delayed exit and soaring inflation

# Comparisons Between Current Situation and the Great Inflation 1965-1982

- **Similarities**. current inflation driven by fiscal profligacy and accommodative monetary policy, like late-1960s & early 1970s
- Burns blamed inflation on everything but monetary policy; in much of 2021, Fed blamed inflation on transitory supply shortages
- Burns prioritized employment and tolerated higher inflation
- Fed misread data in 2021 as did Burns in 1970s
- Magnitude and pervasiveness of inflation similar to late-1960s and early 1970s

# The Spreading Pervasiveness of Inflation

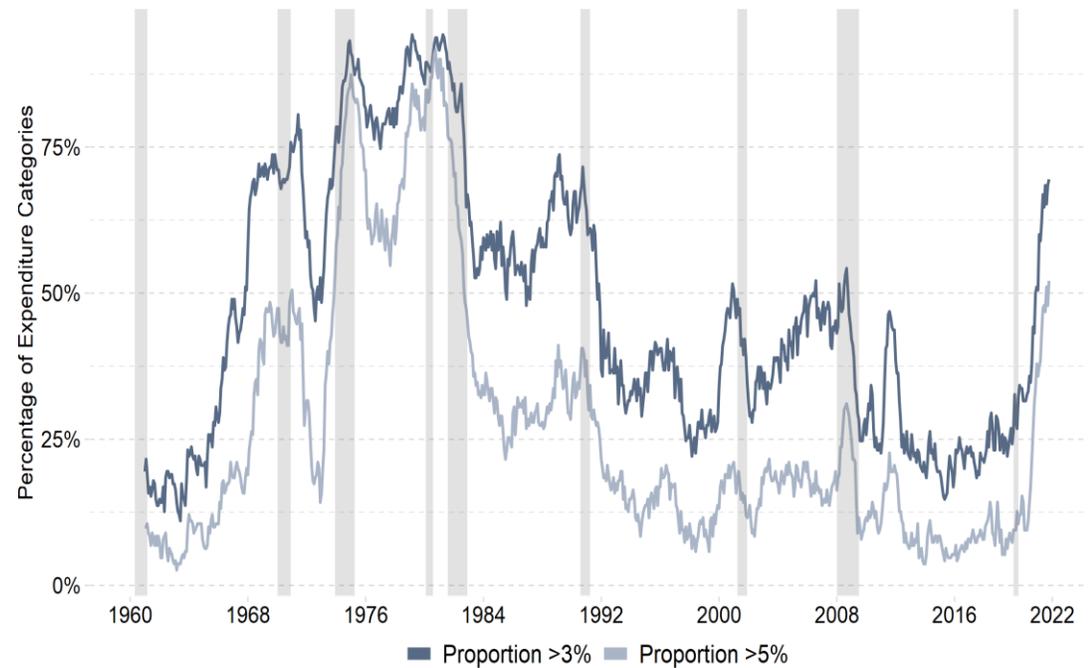
- This shows the frequency distribution of inflation of 200+ components of the CPI since January 2020
- Rightward movement shows spreading of inflation
- CPI measures out-of-pocket costs and is not weighted by shares of spending
- PCE pattern similar



Source: Bureau of Labor Statistics, Berenberg Capital Markets  
Note: expenditure categories with yr/yr changes greater than 20% in magnitude dropped from chart

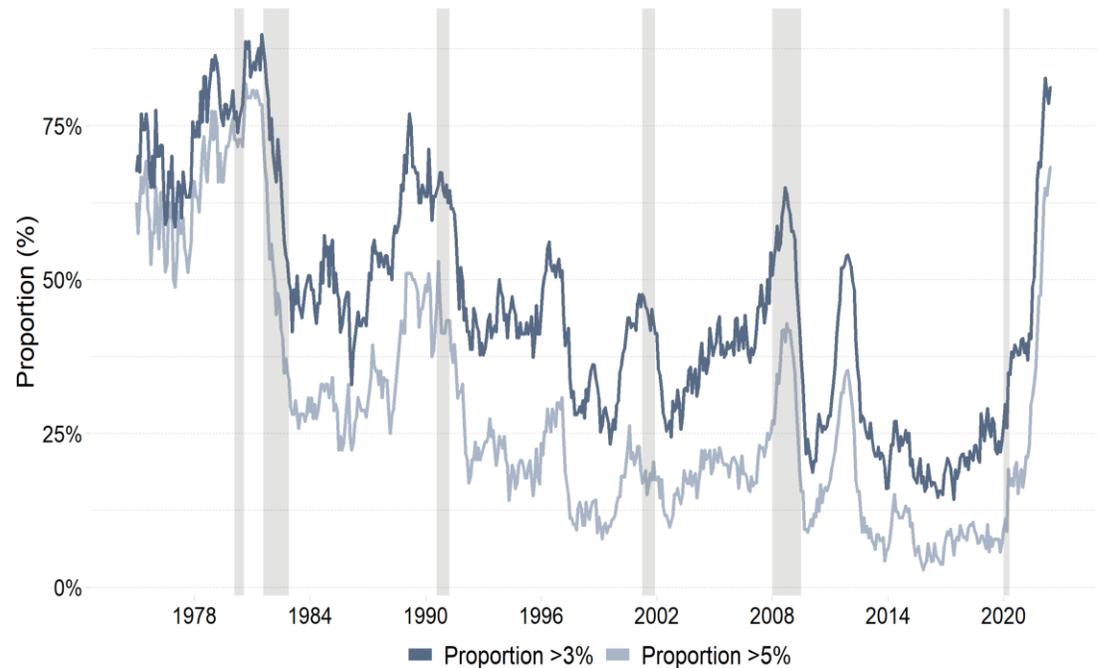
# Portions of PCE & CPI with High Inflation

## % of PCE Components >3% & >5%



Source: Bureau of Economic Analysis, Haver Analytics, authors' calculations

## % of CPI Components >3% & >5%



Source: Bureau of Labor Statistics, Berenberg Capital Markets

# Differences between Current Inflation and 1970s (So far)

- Shorter time span; Fed now expressing anti-inflation resolve
- 1970s: abandon Gold Standard, disastrous wage and price controls
- Inflationary expectations have risen, but not nearly as high as 1970s (Levin and Taylor 2013)
- Interest rates and bond yields sky-high in 1970s; rates currently negative in real terms
- Nominal GDP growth double-digit in late-1970s involved persistent excess demand
- 1970s: weak US dollar & currency crisis; dollar currently firm

# Why Has the Fed Nearly Consistently been Behind?

- **Evolving doctrines** have affected Fed thinking and policies
- **Dual mandate:** the Fed's interpretation has evolved toward prioritizing employment and favoring higher inflation
- **Misreads** of inflation and the economy
- **Political pressures** have always been present; internal political priorities

# Why Has the Fed been Behind?

- **Evolving doctrines**
- 1960s: The Keynesian revolution and Phillips Curve used inflation as policy tool, encouraged activist and discretionary policies
- Volcker: aggressive or incremental tightening? The battle against embedded inflationary expectations
- The Great Moderation
  - Volcker-Greenspan: stable low inflation is best framework for maximum employment
  - Benefits of targeting inflation
  - Benefits of constraining inflationary expectations and maintaining Fed credibility
  - The Taylor Rule and settling on 2% inflation target

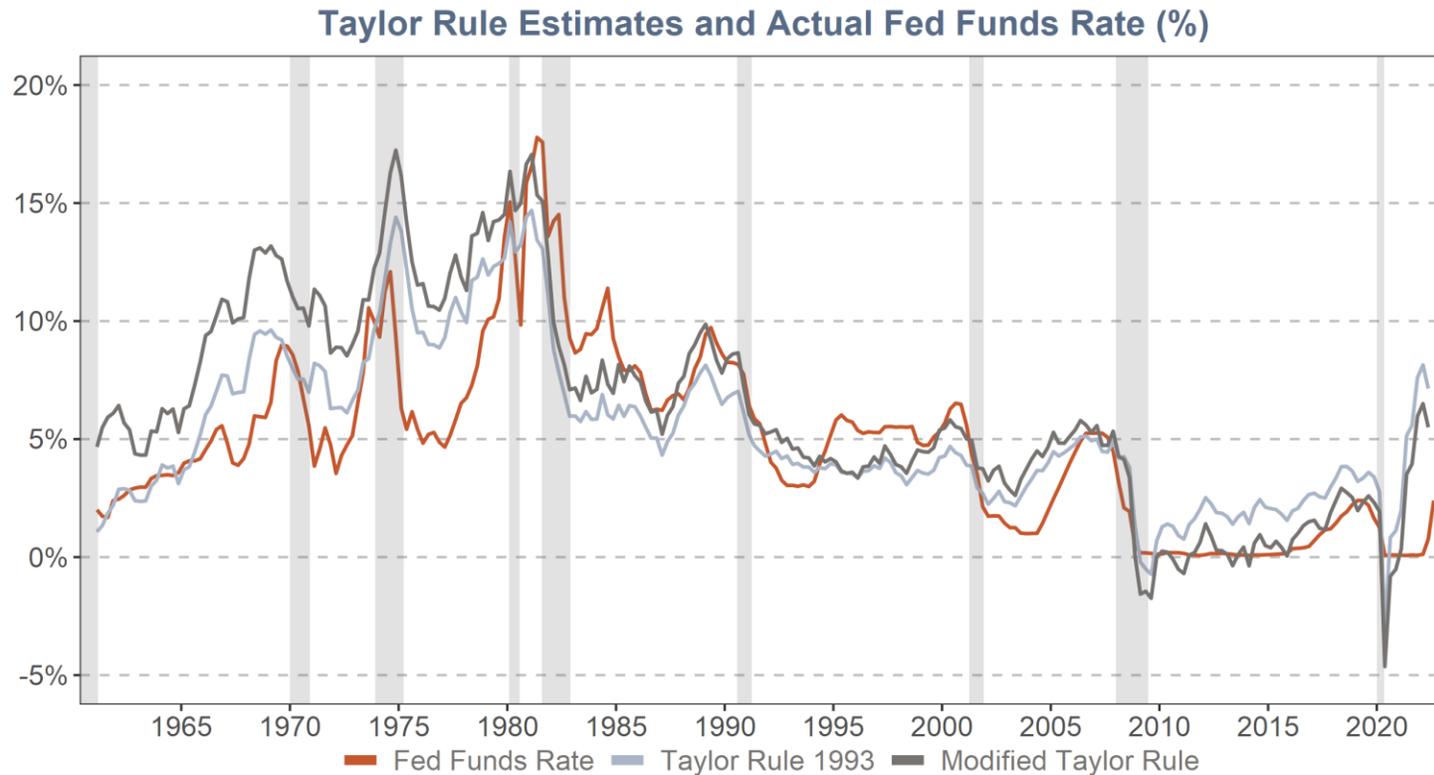
# Evolving Doctrines: Asymmetries Emerge

- **Early 2000s:** deflation worries stemming from Japan experience introduce asymmetry into Fed's reaction to low inflation
  - Fed introduces focus on constraints of the effective lower bound
- **Post-GFC:** Fed uses unconventional policies (zero rates & QE) to lower unemployment rate
  - Fed attributes low inflation to flatter Phillips Curve and does not explain why inflation remained subdued
  - Heightened importance of managing inflationary expectations
  - Fed learned wrong lessons from the post-GFC expansion
- **Fed's new strategic plan** institutionalizes asymmetrical interpretation of its dual employment and inflation mandate with inflation bias

# Factors Underlying Fed's Delayed Exits

- **Misreads of economic and inflation conditions:**
  - Fed's forecasting track record has been unreliable
  - 2021 presumption that inflation would stay low wrong lesson from GFC
  - Poor risk management and lack of policy contingencies amid uncertainties
- **Political pressures**
  - William McChestney Martin: "Fed is independent within the government"
  - White House and Congress prioritize pumping up economy and jobs
  - Outside influence over regulatory policies (Dodd-Frank); choices of Fed Governors and Federal Reserve Bank Presidents; and much more
  - Pressures encourage Fed to expand scope of monetary policy

# Fed Funds Rate and Taylor Rule Estimate



Source: Federal Reserve Bank of Atlanta, authors' calculations

*Taylor Rule (1993):*

$$\widehat{FFR}_t = r^* + \pi^* + 1.5(\pi_t - \pi^*) + 0.5Gap_t$$

$r^* = 2\%$ ,  $\pi^* = 2\%$ ,  $\pi_t$  is measured using annual Core PCE inflation, and  $Gap_t$  is the CBO's estimate of the real GDP gap

*Modified Taylor Rule:*

$$\widehat{FFR}_t = r_t^* + \pi^* + 1.5(\pi_t - \pi^*) + 0.5Gap_t$$

$r_t^*$  uses Laubach-Williams 1-sided estimate of  $r^*$  (Laubach and Williams, 2003 and Federal Reserve Bank of Atlanta 2022). Note:  $r^*$  from Q3 2020 onward is assumed to be equal to Q2 2020 level (0.36%);  $\pi^* = 2\%$ ,  $\pi_t$  is measured using annual Core PCE inflation, and  $Gap_t$  is the CBO's estimate of the real GDP gap

# The Current Situation in Historical Perspective

- The Fed's delayed exit poses a daunting challenge
- It has exited before and orchestrated an economic soft-landing (1966, 1987, 1994, 2015-2018)
- But inflation is high and real Fed funds rate is deeply negative
- Historically, Fed exits have involved raising policy rate above inflation
- Fed must raise rates above neutral to dampen aggregate demand while being cognizant of impacts of supply constraints on inflation
- Will Fed maintain its anti-inflation resolve if economy weakens and unemployment rate rises? Short-run costs vs longer-run benefits

# The Fed's Current Exit: The Unfinished Task

- Since the Fed began raising rates in March 2022,
  - Headline and core inflation (CPI & PCE) remain very high
  - Inflationary expectations have receded modestly but remain high
  - Wage gains remain high but below rate of inflation
  - Aggregate demand remains rapid and employment has risen
  - Interest rates and bond yields have risen and the US dollar has strengthened
- The Fed's exit is incomplete and the disinflationary process has just begun
- The Fed must continue to raise rates and pursue its 2% target
- It must ignore temporary factors that are lowering headline inflation
- The Fed's message that price stability is the best foundation for economic growth must be clear

# The Path Forward and Suggestions

- Too many unforced errors, particularly current late exit and predicament, call for monetary policy reset
- First, more systematic rules-based guidelines must replace discretion
  - Objective: rely less on judgments and topical themes that influence monetary policy; systematic guidelines would avoid big mistakes and provide flexibility
- Second, correct flaws in new strategic framework: eliminate its asymmetries in inflation and employment mandate and restore a balanced interpretation; restore preemptive tightening
- Pay attention and absorb the appropriate lessons of history, and make sure theoretical underpinnings are consistent with history