The Fed: Bad Forecasts and Misguided Monetary Policy

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Introduction and Summary

- In this paper I analyze the Fed's inflation projections in its quarterly Summary of Economic Projections (SEPs) since 2020
- The key finding is the Fed made large errors that resulted in misguided monetary policies
- As inflation rose higher and higher, the Fed persistently projected inflation would quickly fall toward 2% while dramatically underestimating the rise in interest rates required to achieve its inflation projections
- I analyze three general sources of the Fed's errors: modeling and analytical, and human (bad judgment) and institutional errors, including not heeding important lessons from history

Summary and Introduction, continued

- The Fed’s poor projections resulted in a costly extension of excessive monetary accommodation and contributed to misleading forward guidance and confusing communications
- This enabled higher inflation and inflationary expectations
- The banks’ poor risk management is to blame for the bank failures and financial stresses, but the Feds actions were complicit
- The Fed’s monetary policy missteps (followed by its lapses in bank supervision) have weakened the Fed’s credibility
- The nature and magnitude of the Fed’s errors call for a major review that addresses flaws and recommends corrective actions

The Quarterly SEPs

- The quarterly SEPs were introduced during the Financial Crisis in 2009
- They were intended to improve the Fed's monetary policy deliberations, enhance transparency and improve communications
- They are closely scrutinized and used as forward guidance
- The SEPs have not met their expectations and have become a headache
- The magnitude and persistence of the Fed's recent projection errors have proved very costly and highlight many problems

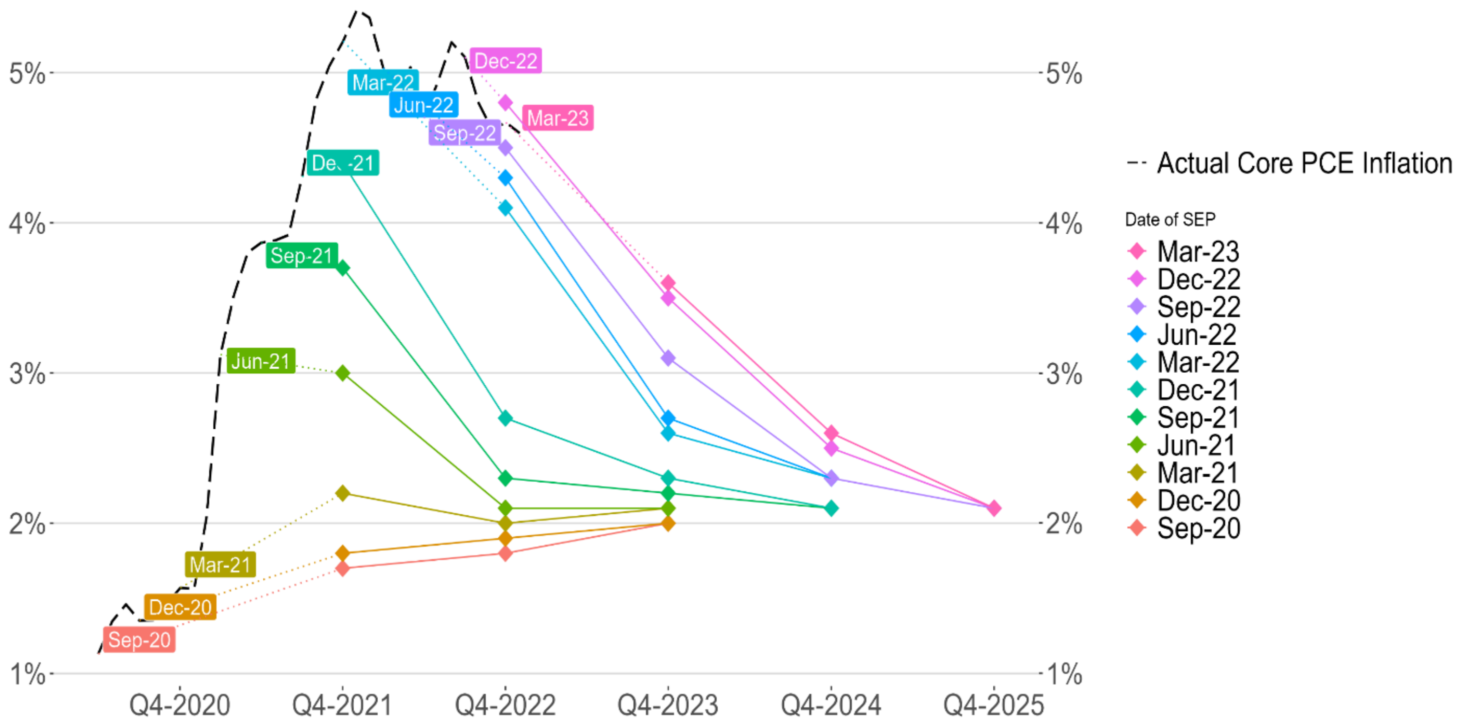
Conditional Aspects of the Fed's SEPs

- FOMC members ("participants") submit quarterly projections of real GDP (Q4/Q4), unemployment rate (Q4) and PCE inflation (headline and core, Q4/Q4) based on what they perceive to be appropriate monetary policy
- Year-end Fed funds rate estimates are supposed to be the monetary policy that participants expect would achieve their inflation projections
- The conditional aspects of the SEPs are frequently overlooked
- The "Dot Plot"—the participants' estimates of FFR--does not link participant dots to their inflation projections and the median dot involves an aggregation problem, but is instructive and closely followed

FOMC's SEPs of Inflation

	Col 1 & 2		*Col 3 & 4*		*Col 5 & 6*		*Col 7 & 8*		*Col 9 & 10*	
SEP Projection	***Actual Inflation***		***2021***		***2022***		***2023***		***2024***	
Made in:	***PCE***	***Core PCE***	***PCE***	***Core PCE***	***PCE***	***Core PCE***	***PCE***	***Core PCE***	***PCE***	***Core PCE***
September 2020	*1.0*	*1.3*	*1.7*	*1.7*	1.8	***1.8***	*2.0*	*2.0*	-	-
December 2020	*1.2*	*1.4*	*1.8*	*1.8*	1.9	***1.9***	*2.0*	*2.0*	-	-
March 2021	*1.5*	*1.5*	*2.4*	*2.2*	2.0	***2.0***	*2.1*	*2.1*	-	-
June 2021	*3.6*	*3.1*	*3.4*	*3.0*	2.1	***2.1***	*2.2*	*2.1*	-	-
September 2021	*4.2*	*3.6*	*4.2*	*3.7*	2.2	***2.3***	*2.2*	*2.2*	*2.1*	*2.1*
December 2021	*5.0*	*4.1*	*5.3*	*4.4*	2.6	***2.7***	*2.3*	*2.3*	*2.1*	*2.1*
March 2022	*6.1*	*5.2*	-	-	*4.3*	*4.1*	*2.7*	***2.6***	*2.3*	*2.3*
June 2022	*6.3*	*4.9*	-	-	*5.2*	*4.3*	*2.6*	***2.7***	*2.2*	*2.3*
September 2022	*6.3*	*4.6*	-	-	*5.4*	*4.5*	*2.8*	***3.1***	*2.3*	*2.3*
December 2022	*6.0*	*5.0*	-	-	*5.6*	*4.8*	*3.1*	***3.5***	*2.5*	*2.5*
March 2023	*5.3*	*4.7*	-	-	-	-	*3.3*	***3.6***	*2.5*	*2.6*

FOMC’s SEP Projections of Core PCE Inflation

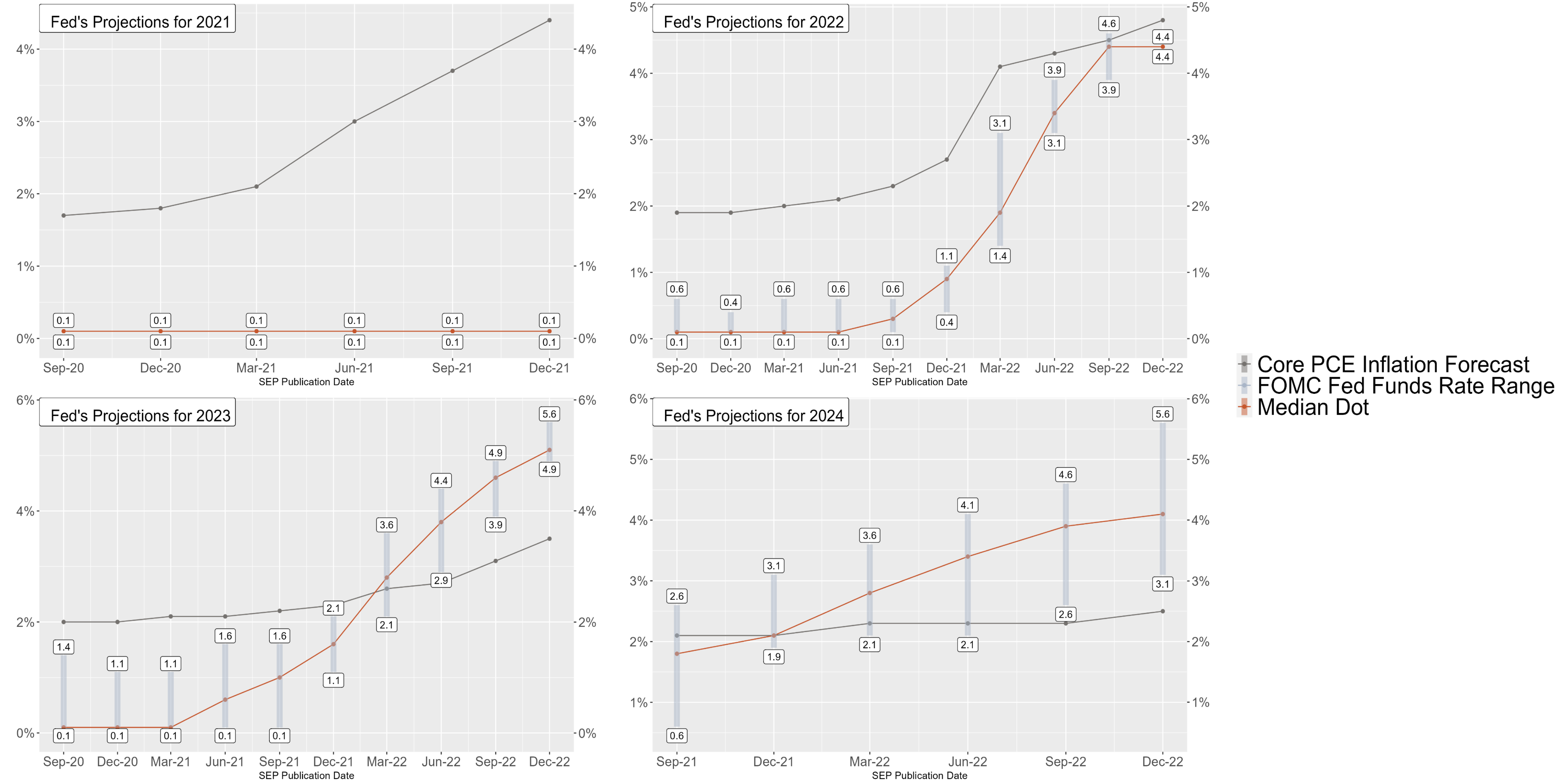


Sources: Board of Governors of Federal Reserve System, Quarterly Summary of Economic Projections
Notes: Forecasts are for Q4/Q4 percentage change in core PCE inflation for years ending 2021, 2022, 2023, 2024, and 2025;
lines between forecasts of annual inflation are for visual convenience and not part of Fed’s forecasts; dotted line is from last inflation observation available to Fed at time of SEP;
full data set available on request

Fed Participants’ Median and Range of Dots

	Col 1	*Col 2*	*Col 3*	*Col 4*	*Col 5*	*Col 6*	*Col 7*	*Col 8*	*Col 9*
		2021			***2022***			***2023***	
SEP forecast Made in:	***Fed Infl Project****	***Median "Dot"*****	***FOMC Range*****	***Fed Infl Project***	***Median "Dot"*****	***FOMC Range*****	***Fed Infl Project***	***Median "Dot"*****	***FOMC Range*****
Sept 2020	*1.7*	*0.1*	*0.1-0.1*	*1.8*	*0.1*	*0.1-0.6*	*2.0*	*0.1*	*0.1-1.4*
Dec 2020	*1.8*	*0.1*	*0.1-0.1*	*1.9*	*0.1*	*0.1-0.4*	*2.0*	*0.1*	*0.1-1.1*
March 2021	*2.4*	*0.1*	*0.1-0.1*	*2.0*	*0.1*	*0.1-0.6*	*2.1*	*0.1*	*0.1-1.1*
June 2021	*3.4*	*0.1*	*0.1-0.1*	*2.1*	*0.1*	*0.1-0.6*	*2.2*	*0.6*	*0.1-1.6*
Sept 2021	*4.2*	*0.1*	*0.1-0.1*	*2.2*	*0.3*	*0.1-0.6*	*2.2*	*1.0*	*0.1-1.6*
Dec 2021	*5.3*	*0.1*	*0.1-0.1*	*2.6*	*0.9*	*0.4-1.1*	*2.3*	*1.6*	*1.1-2.1*
Mar 2022	-	-	-	*4.3*	*1.9*	*1.4-3.1*	*2.7*	*2.8*	*2.1-3.6*
June 2022	-	-	-	*5.2*	*3.4*	*3.1-3.9*	*2.6*	*3.8*	*2.9-4.4*
Sept 2022	-	-	-	*5.4*	*4.4*	*3.9-4.6*	*2.8*	*4.6*	*3.9-4.9*
Dec 2022	-	-	-	*5.6*	*4.4*	*4.4*	*3.1*	*5.1*	*4.9-5.6*
Mar 2023	-	-	-	-	-	-	*3.3*	*5.1*	*4.9-5.9*

Fed Inflation Projections and Dots, 2021-2024



Sources: Board of Governors of Federal Reserve System, Quarterly Summary of Economic Projections, Bureau of Economic Analysis
Notes: Projections of inflation are Q4/Q4 percentage change for year indicated while Fed funds rate estimate is for year-end

Basic Observations

- The Fed was overly optimistic that inflation would recede rapidly toward its 2% target and significantly under-estimated the Fed funds rate required to achieve its inflation projections
- These inconsistencies suggest:
  - The Fed relied nearly exclusively on the argument that inflation was due to transitory supply shocks
  - The Fed did not think it was necessary to raise interest rates above inflation as it had in every prior tightening cycle
- The Fed maintained this forecast far after the evidence merited
- The lack of dispersion of FOMC participant projections is striking

Sources of Projection Errors: Modeling and Analytical

- FRB-US model failed to predict the impact on aggregate demand of the unprecedented fiscal stimulus (deficit spending of $5+ trillion or 27% of GDP) and extreme monetary accommodation
  - Biden's $1.9 trillion deficit spending American Rescue Plan of March 2021 had little impact on the June SEP projections
  - Minutes of the June FOMC meeting barely mentioned fiscal policy
- Money supply (M2) is one of the variables that affects financial conditions but is not explicit in the FRB-US model, and its 42% surge had little impact
- Model incorporates Fed's ability to credibly manage inflationary expectations, such that deviations of inflation from 2% regress back to target
- The neo-Keynesian nature of the model incorporates a Phillips Curve

Modeling and Analytical Errors: Inflationary Expectations and Forward Guidance

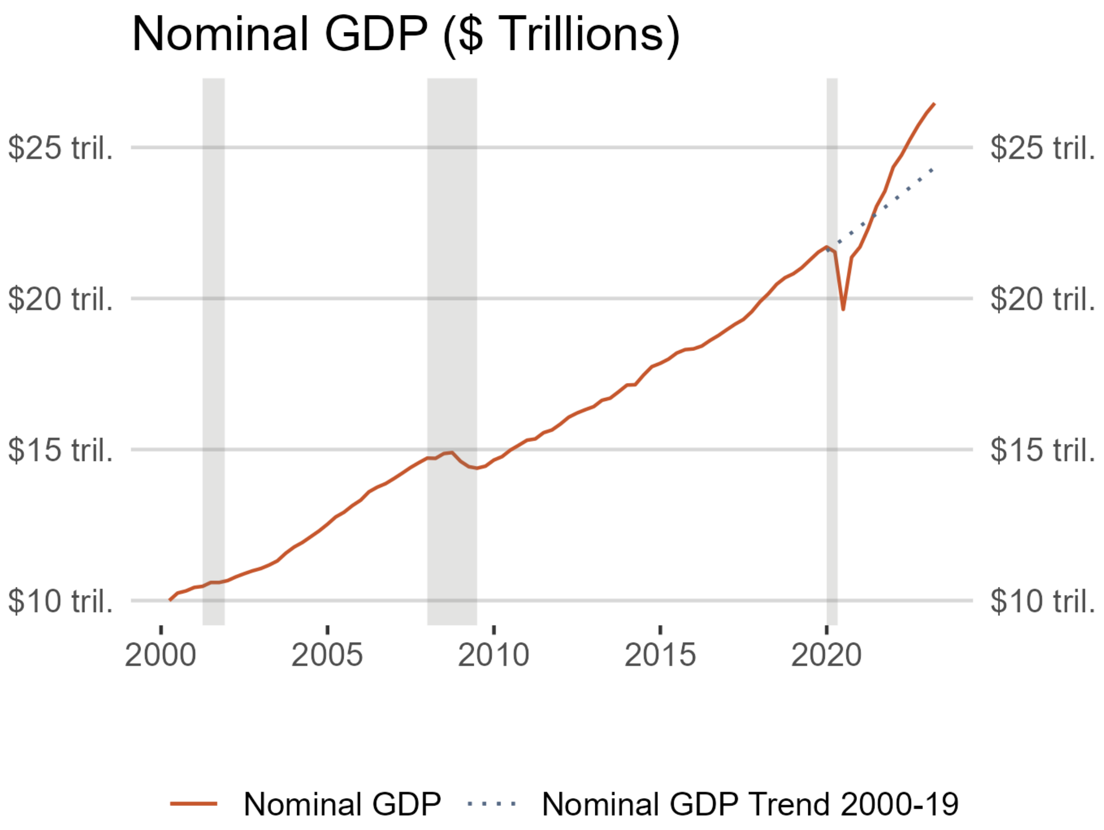
- The Fed relied heavily on managing inflationary expectations to achieve its inflation objective, and presumed it could do so through forward guidance
- This presumed that its model for projecting and achieving its inflation objective works and is credible
- This was challenged and proved incorrect
- When inflationary expectations rose (both market and survey-based) and became unanchored from 2%, the Fed failed to respond and continued to rely on forward guidance
- Inflationary expectations receded in 2022 only when the Fed raised rates aggressively
- Policy actions speak louder than words, revealing the flaws in the Fed's reliance on managing expectations through forward guidance

Human and Analytical Errors

- Fed ***presumed*** that inflation would stay low as it did during the post-financial crisis (GFC) expansion
- This was a short-sighted view of history, but dominated Fed thinking
- Fed attributed low post-GFC inflation to flatter Phillips Curve and did not consider the sharp contrasts between the GFC and pandemic:
  - Much more aggressive post-pandemic fiscal stimulus and open-ended QE
  - Aggregate demand remained slow following GFC but soared post-pandemic
  - GFC crippled banking and housing, and consumer balance sheets were impaired—opposite post-pandemic
  - Impact of Fed operating procedures and IOER on monetary policy channels

Human and Analytical Errors

- Fed's ***presumption*** that inflation would stay low drove its assessment of 2021 inflation
- Rise in inflation didn't fit Fed's model or preconceived notion
- Fed was quick to blame inflation on "transitory" supply shocks
- ***Data misread***: Fed understated surge in demand and the monetary-fiscal stimulus driving it



Source: Bureau of Economic Analysis, Haver Analytics, Berenberg Capital Markets

Inflation Projections and the Unemployment Rate

- Amid accelerating inflation in June and December 2021, the Fed projected inflation to decline sharply while projecting the unemployment rate below its natural rate...
- and simultaneously estimating the appropriate policy rate below the inflation it projected

June 2021 SEP

	2021	2022	2023	Long Run
Unemployment Rate	4.5	3.8	3.5	4.0
PCE Inflation	3.4	2.1	2.2	2.0
Fed Funds Rate	0.1	0.1	0.6	2.5
Ex-Ante Real Funds Rate*	-3.3	-2.0	-1.6	0.5

December 2021 SEP

	2021	2022	2023	2024	Long Run
Unemployment Rate	4.3	3.5	3.5	3.5	4.0
PCE Inflation	5.3	2.6	2.3	2.1	2.0
Fed Funds Rate	0.1	0.9	1.6	2.1	2.5
Ex-Ante Real Funds Rate*	-5.2	-1.7	-0.7	0.0	2.0

Institutional and Human Errors

- **New strategic plan** prioritized employment, favored higher inflation and eschewed preemptive tightening, and contributed to the Fed's policy errors in 2021-2022
- The Plan was driven by fears of low inflation and effective lower bound and was analytically flawed
- Preemptive tightening was critical to The Great Moderation
- Flexible average inflation targeting (FAIT) favored higher inflation but was overly complex and did not provide any numeric guideline
- Prioritizing maximum inclusive employment led Fed to delay tapering and raising rates until it saw "substantial progress"

Institutional and Human Errors

- Lack of diversity of thinking at Fed
- Narrow dispersion of inflation projections and rate estimates
- No policy dissents in 2021 and only a few in 2022
- Failures of risk management: focus on "best forecasts" without considering alternative scenarios or scenario analysis
  - Governor Waller: "we bet the farm on the transitory story''
- Fed ignored lessons from history: even after it dismissed "transitory", it maintained negative real rates and focused policy on nominal rates
- Fed's discretion ignored guidelines provided by Taylor Rule estimates

Observations on the Banking Crisis

- Banks' poor risk management and risky behavior are to blame for their failures, but the Fed was complicit
- The Fed's delayed exit and misleading projections and forward guidance followed by aggressive rate hikes and higher bond yields shouldn't have been a surprise, but they were
- The FDIC estimated $620 billion in unrealized bank losses at year-end 2022 reflecting asset-liability mismatches
- Similar with the FOMC, the Fed's bank supervisors and stress testers did not consider the impact of higher inflation and interest rates
- The Fed now must reduce inflation and regain damaged credibility

Fed Must Conduct a Review and Address Sources of Its Errors

- FRB-US: must better capture fiscal stimulus and reflect outsized deviations in M2 money supply
- Correct flaws in new strategic plan: re-establish preemptive tightening and reinstitute symmetry around its 2% inflation target with numeric bands
- Improve SEPs: clarify conditionality; use Taylor Rule to establish consistency between inflation and FFR projections; introduce alternative scenarios and provide information on its balance sheet
- Encourage diversity of views within Fed and consider ways to avoid inadvertent institutional dampening of views
- Consider ways to better use anecdotal evidence of District banks
- The goal of a review is to improve monetary policy