

EMMEC, 22 March 2023

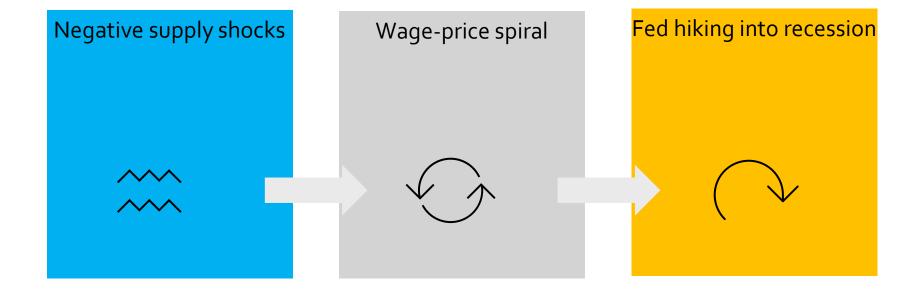
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The rise and fall of inflation





Causes of inflation



Supply: Negative Shocks

- Supply chain bottlenecks
 - Restart after COVID lockdowns
 - Restructuring of global supply chains
- Labor shortages: temporary or permanent?
- Negative supply shock from Russian invasion of Ukraine

Demand: Too Much Stimulus?

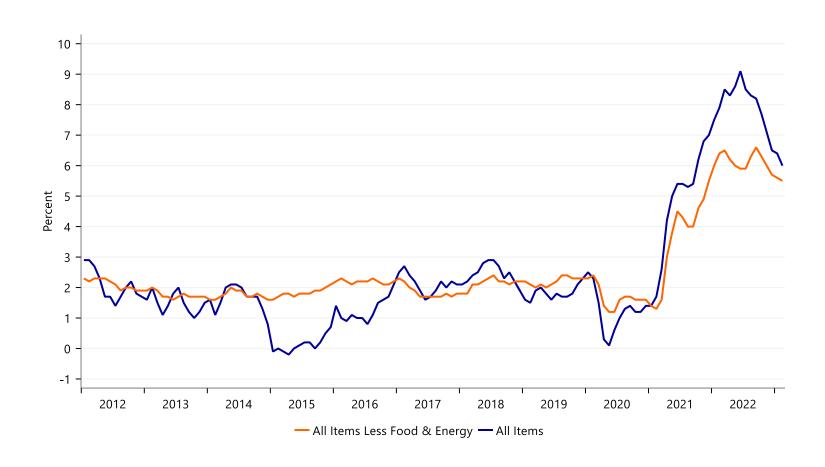
- Pent-up demand released when businesses reopen
- Demand impulse from fiscal policy
- Demand impulse from monetary policy

Base effects

Low base after COVID outbreak

Peak inflation, but also persistent





Three categories of inflation

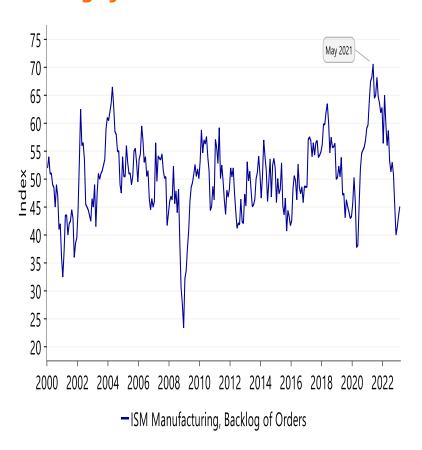


- Goods inflation: has fallen
- Housing inflation: rising, but expected to fall
- Core services ex housing: uncertain and related to nominal wage growth

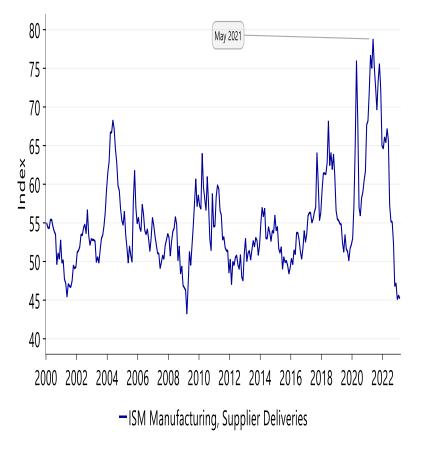
Easing supply chain issues



Backlog of orders

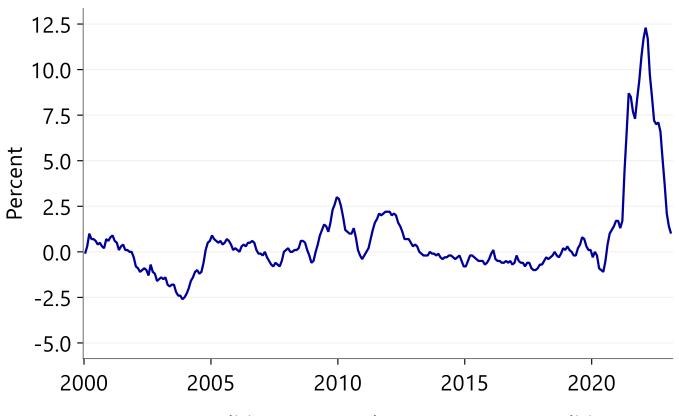


Lead time for suppliers to deliver orders



Goods inflation has fallen

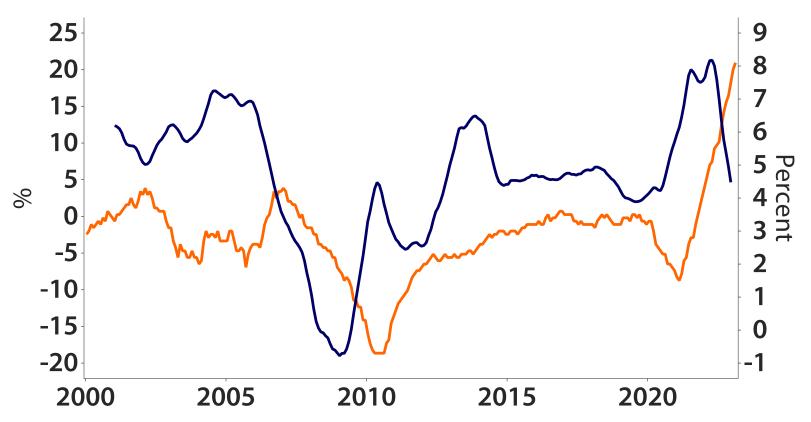




—CPI Commodities Less Food & Energy Commodities

Housing inflation expected to fall

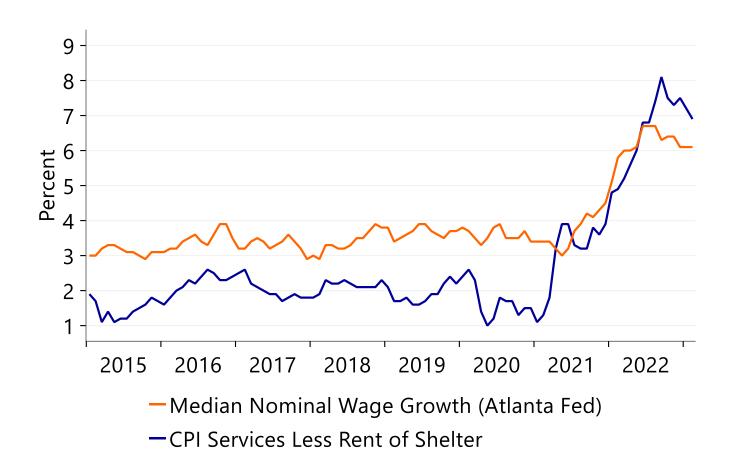




- -S&P/Case-Shiller Composite-20 Home Price Index, lhs [c.o.p. 1 year]
- -CPI, Shelter, Change Y/Y, rhs

Core services ex housing inflation = wildcard





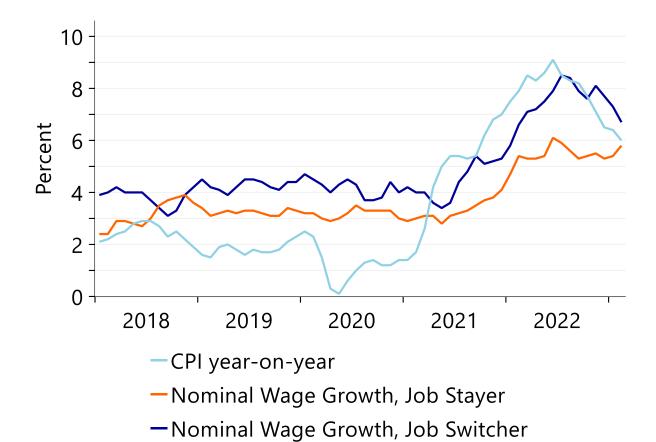
Wage-price dynamics: theory



- Prices -> Wages: Inflation expectations + Wage bargaining power
- Wages -> Prices: Mark-up pricing (pricing power)
- If causality occurs in both directions, then there is a positive feedback loop (wage-price spiral)
- The wage-price spiral can be
 - Decelerating: inflation falls back to 2% target
 - Accelerating: inflation continues to rise

Wage-price dynamics: reality

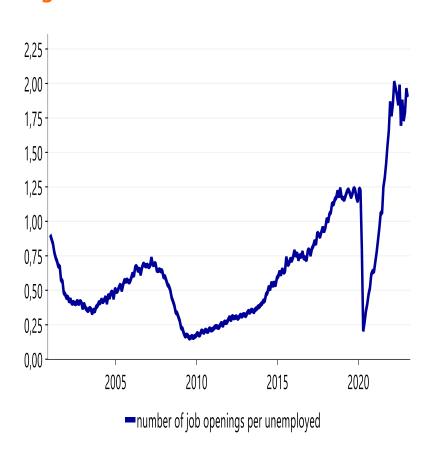




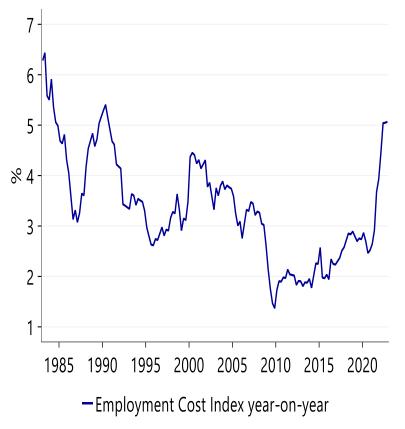
Labor shortages and rising costs



Tight labor market

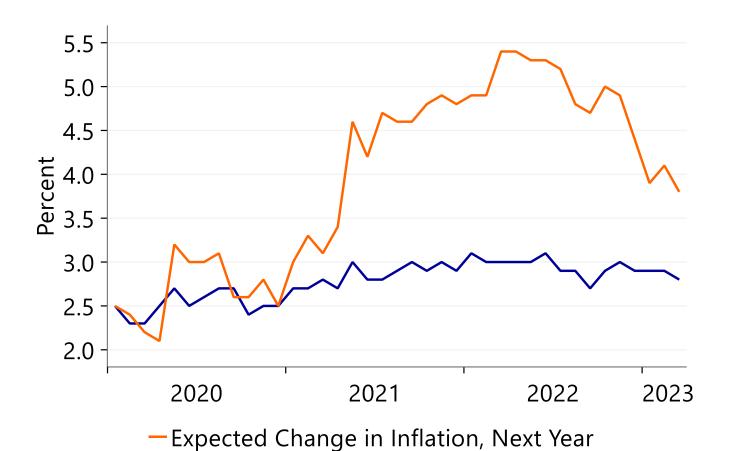


Rising labor costs



Receding fear of entrenchment





Expected Change in Inflation, 5 Years

RaboResearch – Global Economics & Markets

Inflationbusters



- Inflation may have peaked, but remains persistent and well above the 2% target
- Nominal wage growth is the key remaining inflation risk
- Terminating/preventing a wage-price spiral requires an increase in labor market slack (unemployment)
- Hence the Fed is likely to hike the economy into recession, a soft landing is difficult to achieve

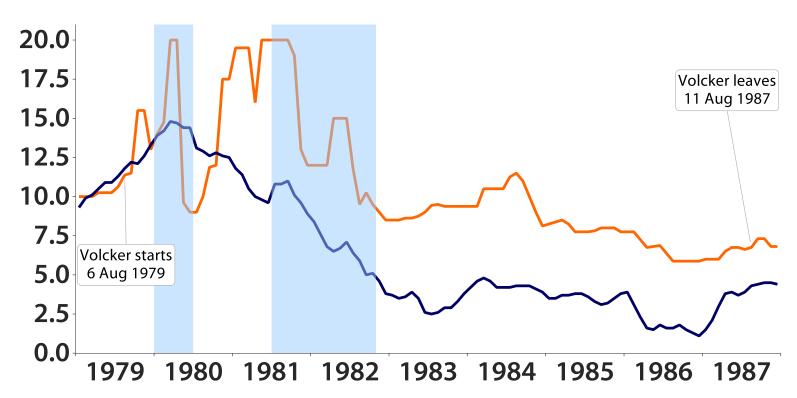
Fed's change in priorities



- Fed has dual mandate: price stability and full employment
- However, FOMC prioritized price stability over full employment at June 2022 meeting
- The FOMC fears that elevated inflation could become entrenched if the public began to question the resolve of the Committee
- Powell: price stability is a pre-condition for sustainable full employment
- In other words: first get inflation under control, then take care of the real economy

The Volcker years





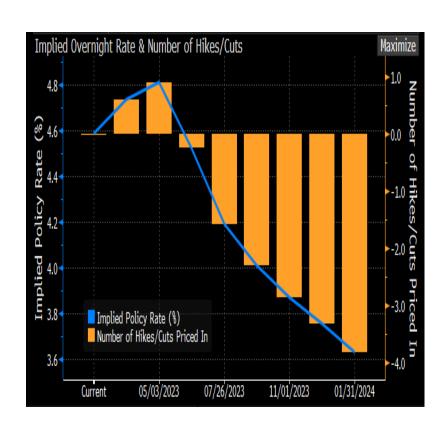
- Recession (NBER)
- -CPI year-on-year
- -Federal Funds Target Rate

Anti-pivot code words



Regarding a pivot (rate cuts) in 2023, Powell has repeated:

- It is likely that restoring price stability will require holding policy at a restrictive level for some time.
- History cautions strongly against prematurely loosening policy.
- We will stay the course until the job is done.



Fed's change in reaction function



Greenspan, Bernanke, Yellen, Powell 1

Recession

↓ "Fed put"

Slash policy rates

Volcker, Powell 2

Inflation

 \downarrow

Raise rates until recession causes inflation to fall back to 2%

 \downarrow

If inflation is under control then cut rates

Recessions reconsidered



Greenspan, Bernanke, Yellen, Powell 1

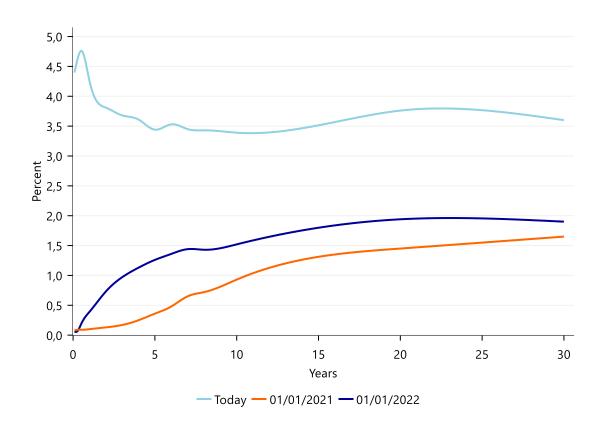
 Recession is something to be averted by rate cuts

Volcker, Powell 2

- Recession is the necessary evil that will squeeze inflation out of the economy
- Recession is a means to an end (of elevated inflation)
- Recession is collateral damage in the fight against inflation

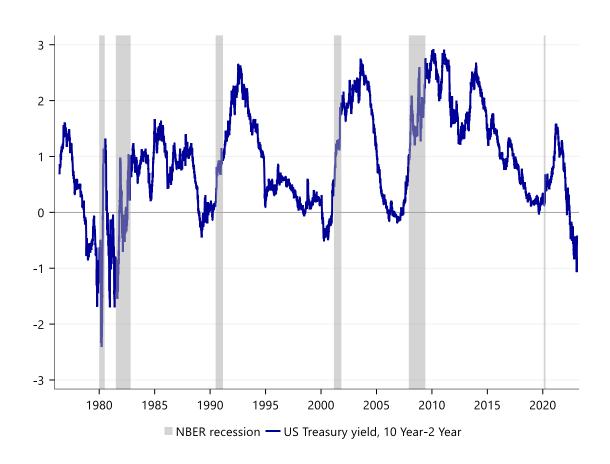
Yield curve inversion: (NBER-approved) recession on horizon





Inversions precede recessions

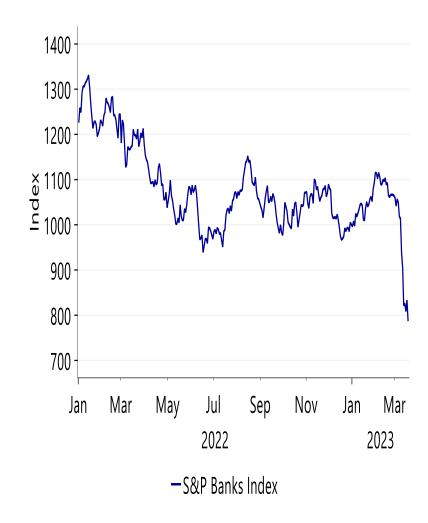




Banking turmoil



- Runs on midsize US banks:
 - Silicon Valley Bank
 - Signature Bank
 - First Republic
- Fed's response:
 - Bank term funding program
 - More frequent dollar swap operations
- Impact:
 - Adds to recession risk
 - Complicates Fed's monetary policy



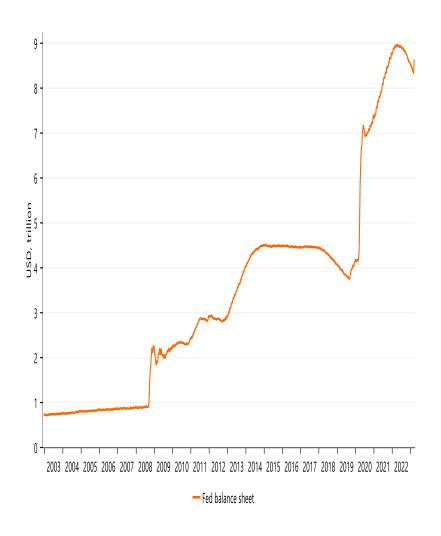
Multiple goals, multiple instruments

Goals: Instruments:	Price stability	Maximum employment	Financial stability
Federal funds rate	√	No priority	
Balance sheet	?	No priority	?
Discount window, Bank term funding (lender of last resort)			√

Balance sheet normalization on auto-pilot

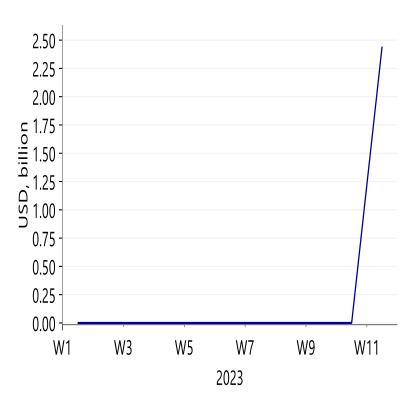


- Fed is fighting inflation primarily by raising the target range for the federal funds rate, but in the background monetary policy tightening is taking place through the balance sheet
- The balance sheet reduction schedule has remained unchanged since September, with the pace of reduction at \$95 billion per month
 - \$60 billion in Treasury securities
 - \$35 billion in agency debt and agency MBS



Liquidity provision reverses balance sheet normalization









-Fed balance sheet

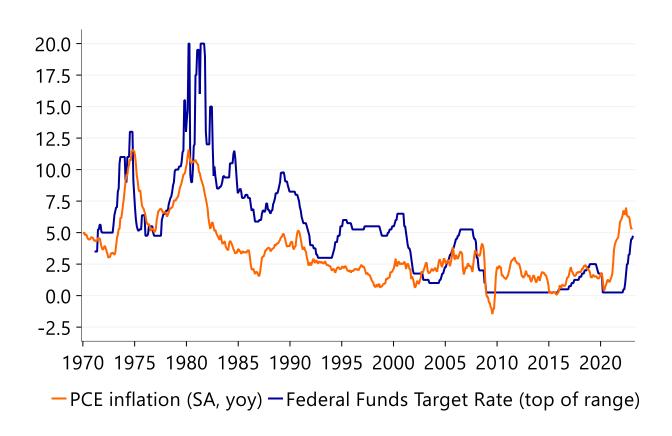
Has monetary policy become ineffective?



- Monetary policy = change real interest rates to steer real aggregate demand:
- Taylor rule (assume unemployment = target or irrelevant):
 - inflation > target -> real policy rate > neutral policy rate
 - Inflation < target -> real policy rate < neutral policy rate
- However, if financial instability prevents Fed from raising real policy rate above the neutral policy rate, then monetary policy is ineffective: central bank cannot use policy rate to control the economy

Real fed funds rate still negative





Conclusion



- Last year, Fed prioritized price stability over maximum employment
- Current financial instability complicates Fed's monetary policy to stamp out inflation
- Fed prefers to use other tools than the policy rate to address financial instability (lender of last resort, balance sheet?)
- However, if financial instability forces Fed to terminate hiking cycle, then monetary policy has become ineffective:
 - either inflation gets out of control
 - or inflation falls because of banking crisis (instead of monetary policy transmission to real economy, but still as a result of Fed's hiking cycle)

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