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Global Insights and Analysis

Unacceptably high inflation spells economic weakness ahead…thanks to the Fed

SVB failure and financial stability concerns complicate the Fed’s job

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S&P Global Market Intelligence

May 2023

Hallmarks of the US forecast – it all depends on the stickiness of inflation

- **Inflation** unacceptably high, elicited aggressive Fed response; inflation falls as overshoots reverse and slack expands, commodity prices reverse, and supply issues resolve

- Unsustainably **tight labor markets**, boosted wage growth; rise in the unemployment rate will help to slow wage gains

- Fed aims to **tighten financial conditions** in effort to end unacceptably high inflation
  - Fed funds rate rising sharply – to reach **5% - 5¼%**; + 25 bps in May, possibly again in June
  - Term Treasury yields, corporate yields, mortgage rates, consumer loan rates need to head higher
  - Weakening equities will lessen support to consumer spending via wealth effect
  - Financial stability concerns following SVB failure; could imply worse financial conditions going forward

- US enters/skirts mild **recession** as: 1) fiscal support wanes 2) pent-up demand wanes, 3) financial conditions worsen, 4) inflation erodes real income & wealth, and 5) foreign growth sags

- Key risks: credit pullback, debt debacle, conflict in Ukraine intensifies, new COVID variants, etc.

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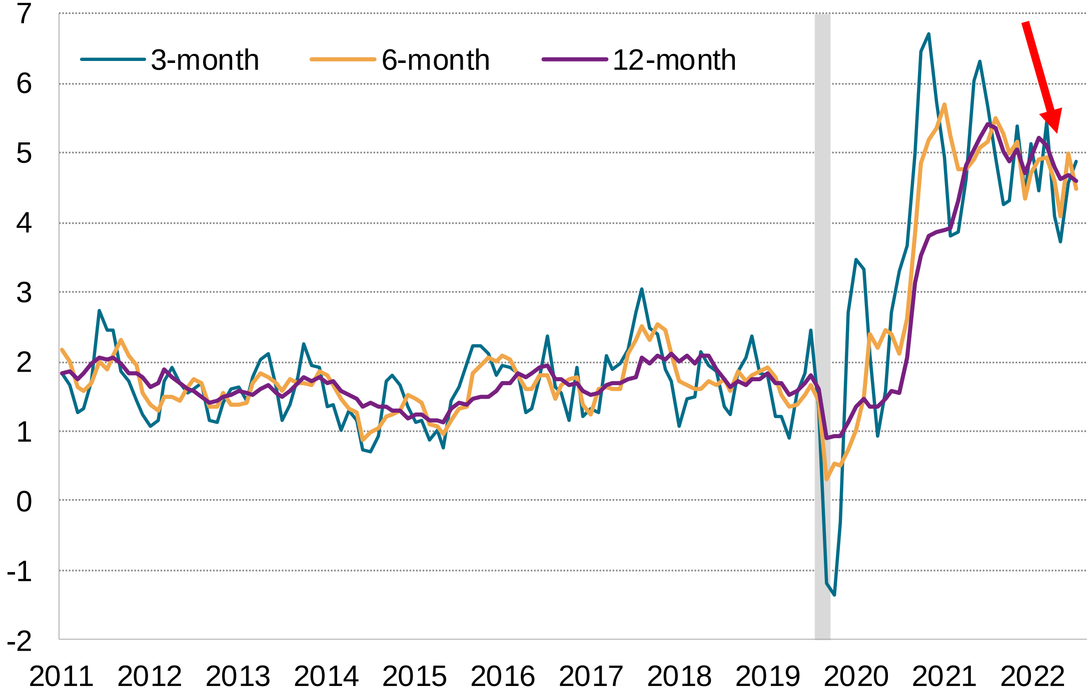
Unacceptably high inflation and unsustainably tight labor market

Core PCE inflation: alternative horizons

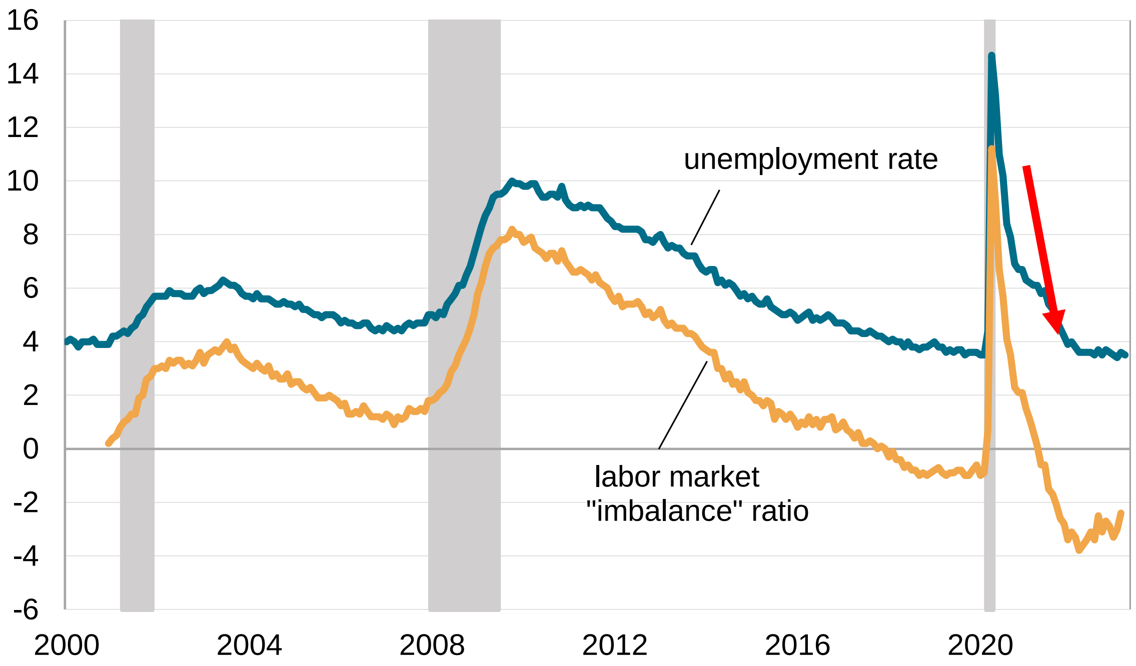
Annualized percent change



Data accessed on April 24, 2023.
Source: BEA, Last data plotted for Feb-23

Labor market "imbalance" and the unemployment rate

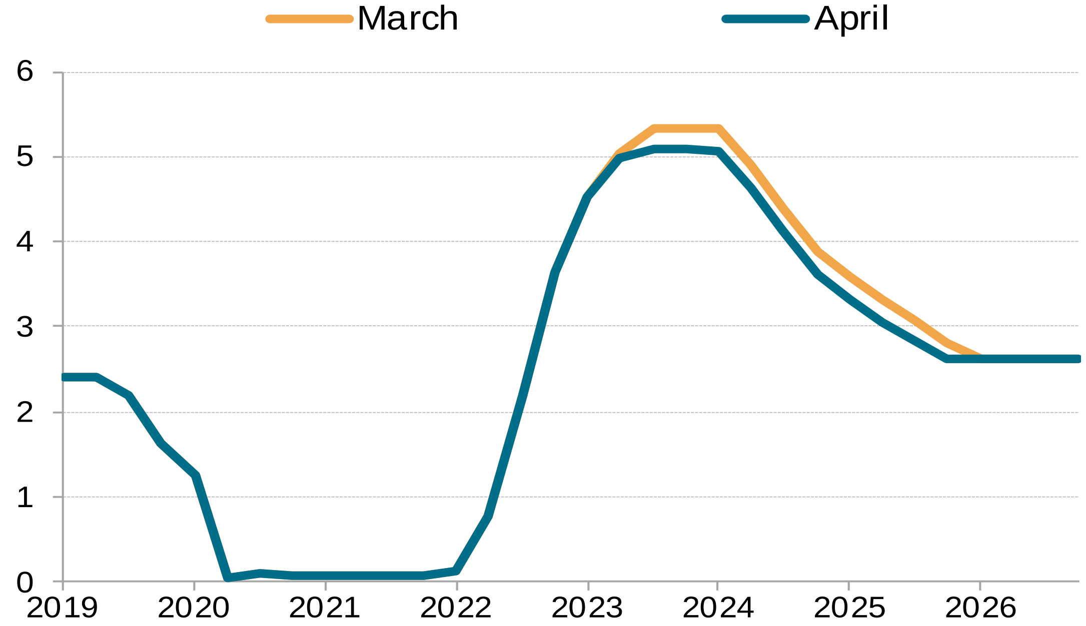
Percent of labor force



As of Apr. 21, 2023.
Sources: Bureau of Labor Statistics, S&P Global Market Intelligence.

…elicits aggressive Fed policy response; market yields respond…enough?

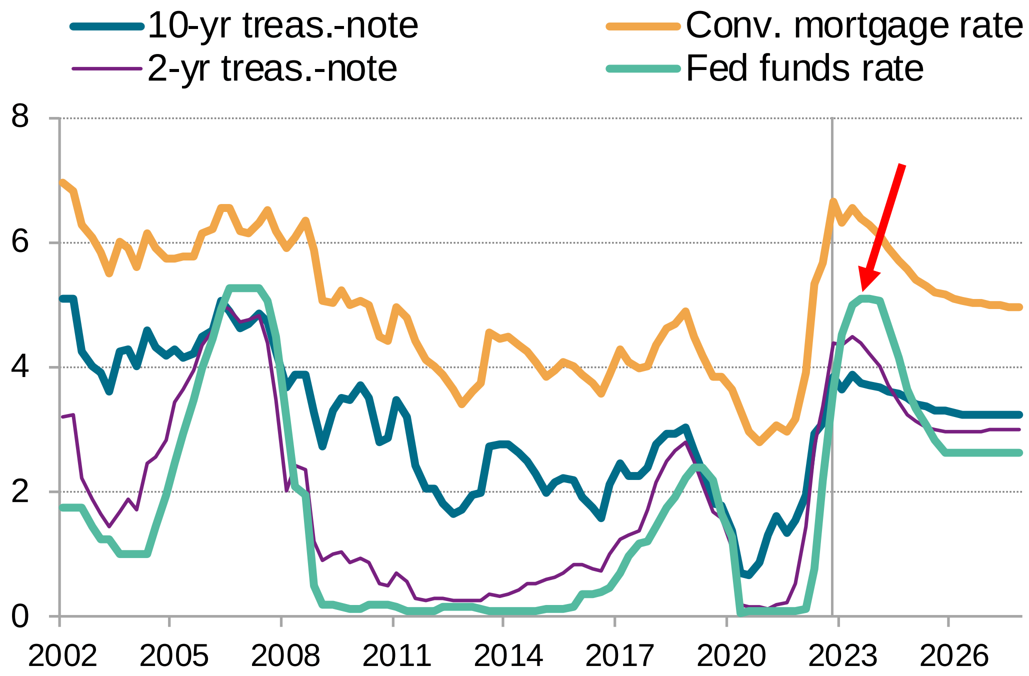
Federal funds rate
Percent



As of April 6, 2023

Sources: S&P Global Market Intelligence; Federal Reserve Board.

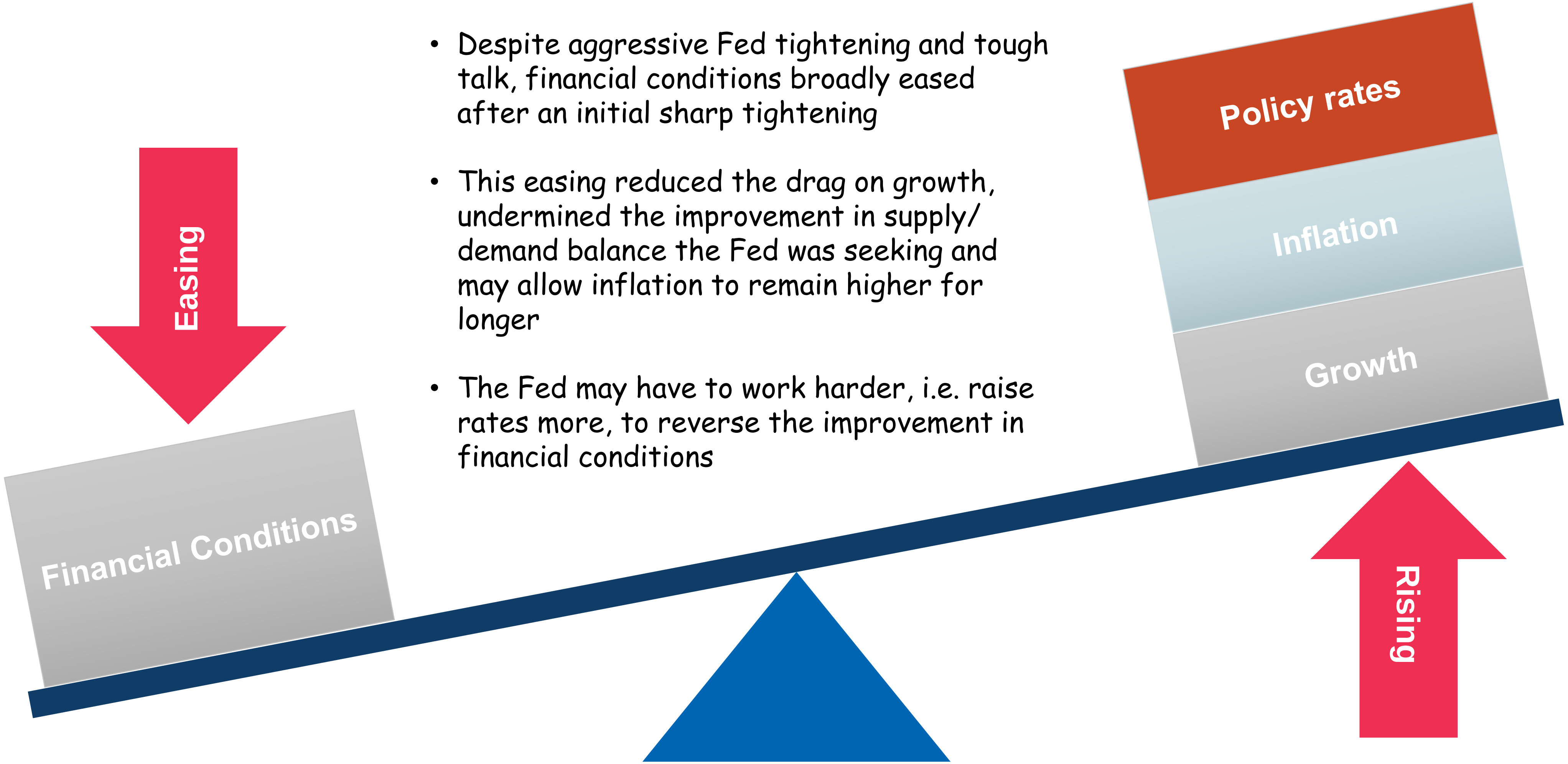
Fed to increase the funds rate to 5¼% in May
Percent



As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence, FRB.

Ride my seesaw: financial conditions vs growth, inflation and rates

- Despite aggressive Fed tightening and tough talk, financial conditions broadly eased after an initial sharp tightening
- This easing reduced the drag on growth, undermined the improvement in supply/ demand balance the Fed was seeking and may allow inflation to remain higher for longer
- The Fed may have to work harder, i.e. raise rates more, to reverse the improvement in financial conditions



Typical Fed tightening cycle … go until something breaks … SVB

- Sharp rise in “safe” Treasury note yields imposed big losses on mark-to-market portfolios across the economy, not just for banks; higher the duration, the larger the losses
- Somewhat unique to “tech” and VC supported startups, slowing economy over 2022 implied faster rate of cash burn
- In recent weeks SVB experienced increasingly rapid deposit draw downs given its concentration in this area and sold Treasuries to replenish cash reserves, suffering a large realized loss
- Attempt to raise capital signaled problems
- Holders of uninsured deposits rushed for the exits…a classic bank run
- Bank became insolvent and unable to meet the withdrawals
- Big duration mismatch between assets and liabilities and poor risk management!

Contagion fear as other banks also had uninsured deposits and book losses

- Normally the FDIC or other regulator comes in and finds a stronger bank into which it merges the failing institution, often with some guarantees. This assures depositors they will have access to their funds and short-circuits the run. In this case no buyer was found.

- Three key features of the rescue plan from Treasury, FDIC and Federal Reserve:

- Declared SVB (and Signature) as systemically important financial institutions (SIFI), allowing it to extend deposit insurance above the $250,000 limit to all deposits and fire-stopping the run

- Established the Bank Term Funding Program (BTFP) to allow depository institutions to borrow from the Fed at “low” interest rates with standard collateral used in open market operations

- Importantly, allowed that collateral to be valued at par rather than current market value as would be the case with other Fed liquidity facilities; both negates the need to sell securities at a loss to raise cash and raises the borrowing power of the Treasury portfolio

Residual “risk-off” sentiment implies some drag of growth ahead

- Treasury yields plunged in flight to safety… 2-year note yield dropped from 4.90% to 4.03% in two days! 10-year note yield fell from 4.93% to 3.55%; back to 3.64% (as of Tuesday)

- Nevertheless, share prices and credit spreads are unlikely to fully recovery; implying worsened financial conditions from just ahead of SVB failure;

1) Bank share declines imply less credit extension, hampering small, medium firm growth

2) Negative wealth effects restrain consumer spending

3) Wider credit spreads imply losses to bond holders and more expensive cost of funds to firms

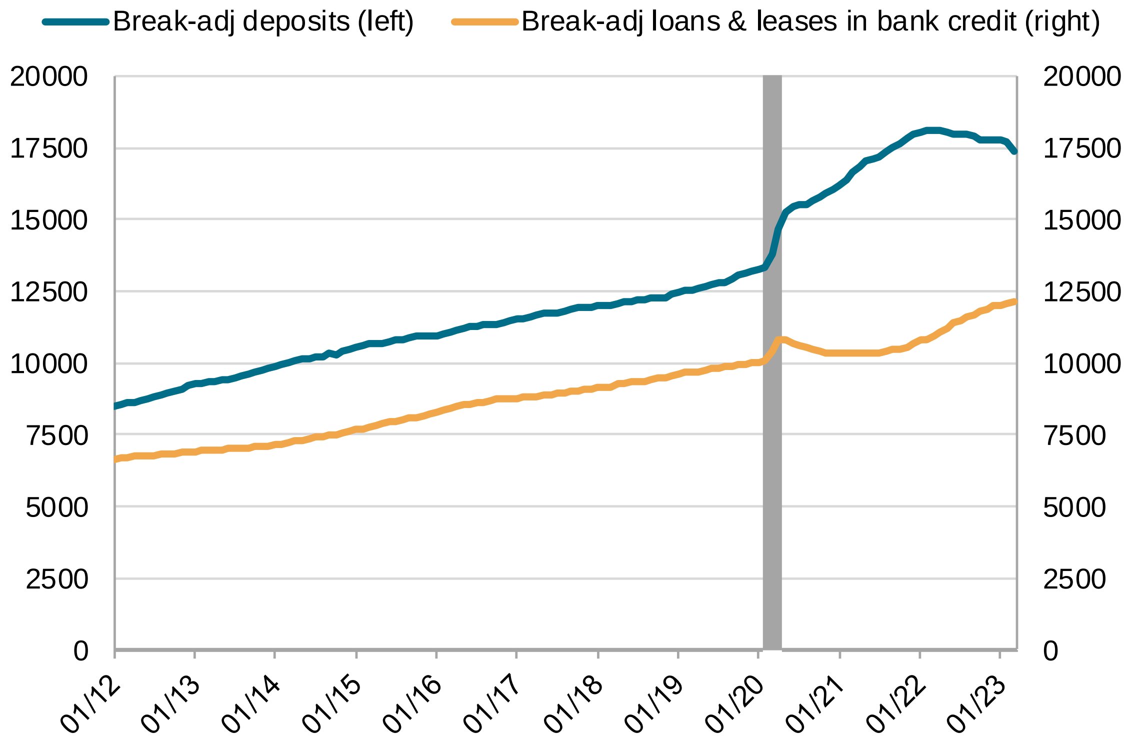
4) Need to see how mortgage rates fare in all this; wider spread, but lower Treasury yields

On balance, modestly negative for growth … but could get worse … risks to CRE!

Are we headed for a credit crunch?

All commercial banks

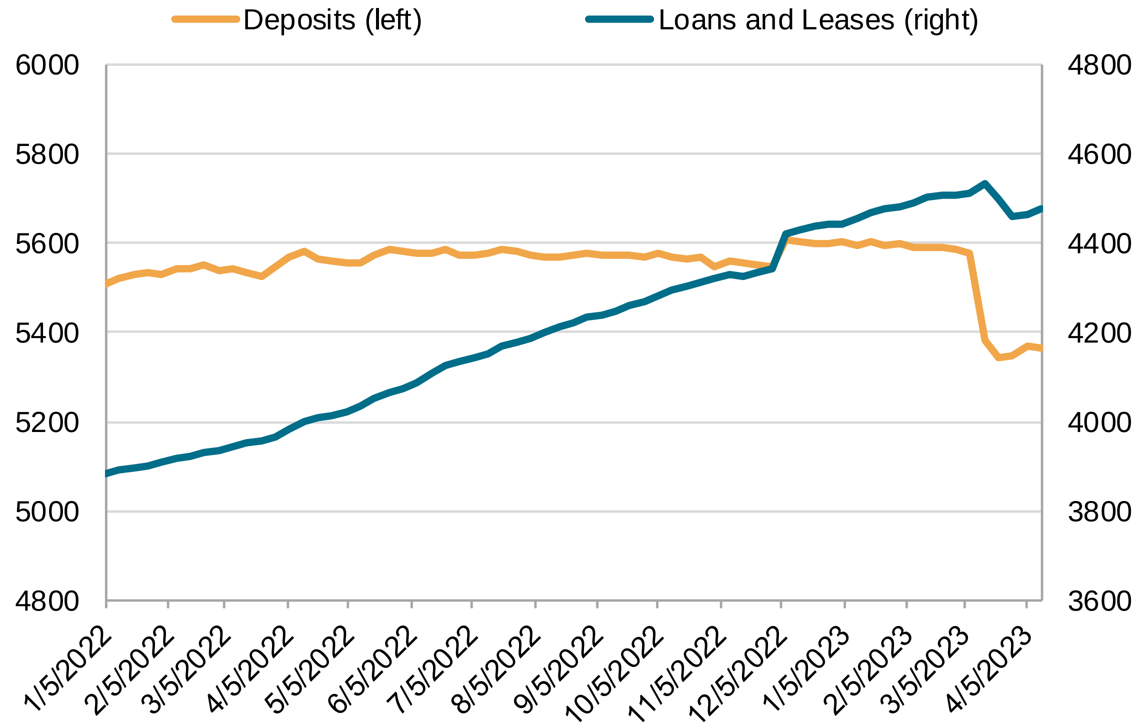
Billions of dollars, seasonally adjusted



Data compiled April 24, 2023.
Sources: Federal Reserve; S&P Global Market Intelligence.

US small commercial banks

Billions of dollars



Data as of April. 12, 2023.
Sources: Federal Reserve; S&P Global Market Intelligence.

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So, what's it mean for the Fed?

- If, as it appears, financial stability concerns can be set aside, Fed should account for residual drag (per the prior slide) but continue on its course to squelch inflation

- February/March CPI's were not good reports; core CPI up 0.5% and 0.4% m-o-m

- The BTFP effectively negates future (1-2 years) realized losses on bank bond portfolios; reducing somewhat the potential adverse impact on bank balance sheets from increases in term rates

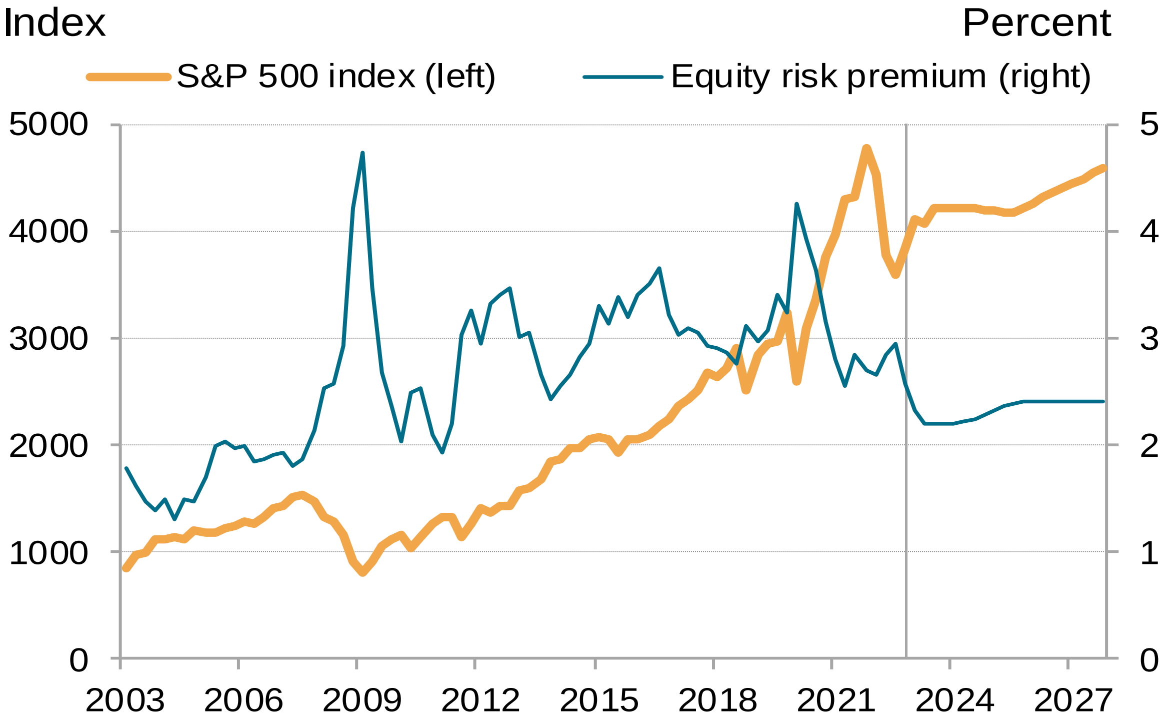
- Fed can demonstrate that it can use its macroprudential tools to deal with financial stability issues and still operate monetary policy to achieve its policy goals; **enhances credibility!**

- Went ahead with 25 bps in March; reassess going forward; tighten 25 bps again in May

- Odds are that the course of the economy and inflation are not all that different versus pre-SVB failure, so expect pretty much what you expected before…maybe a bit less if credit tightening means financial conditions are somewhat worse for any given Fed funds rate path

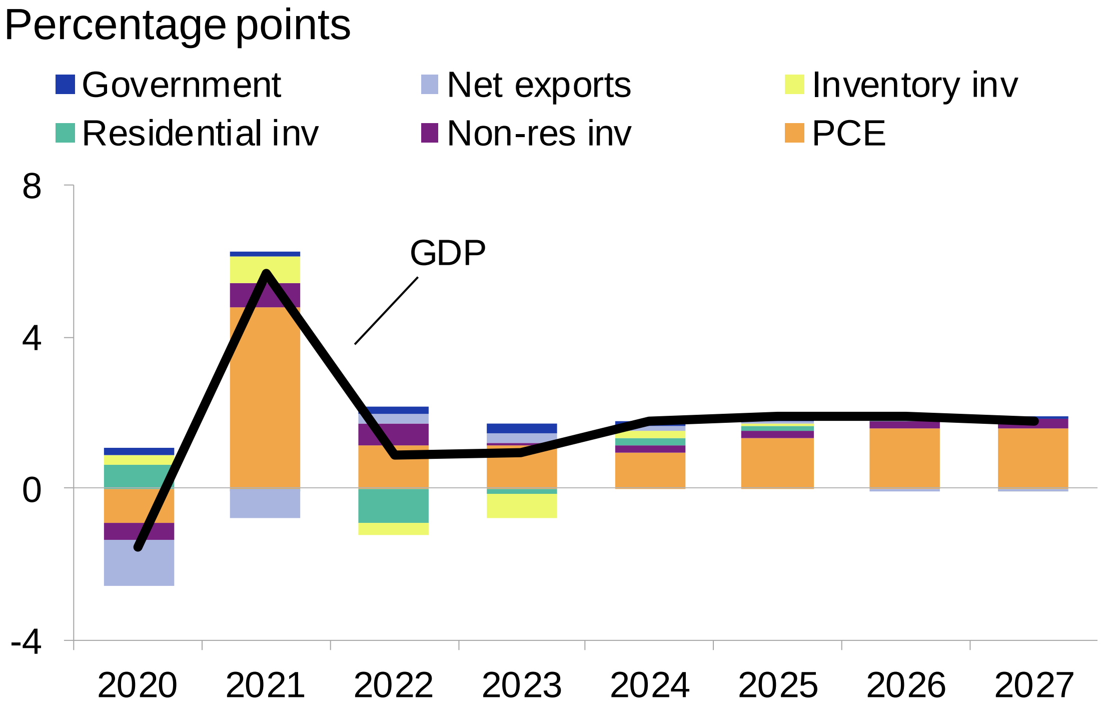
Worsened financial conditions may tip US into recession in 2023

Equities flatten over balance of 2023 - 2025



As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence, S&P.

Contributions to GDP growth (Q4/Q4)



As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence; BEA.

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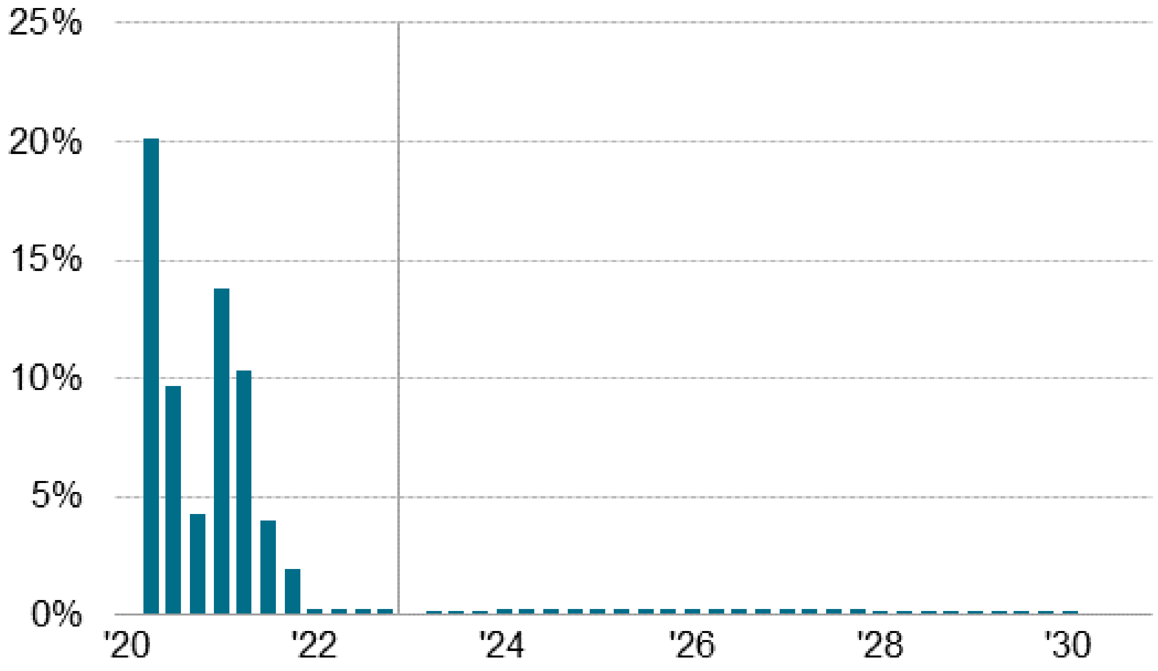
Waning fiscal stimulus; IRA is not a macro event

Federal outlays for COVID relief and IIJA

Percent of GDP

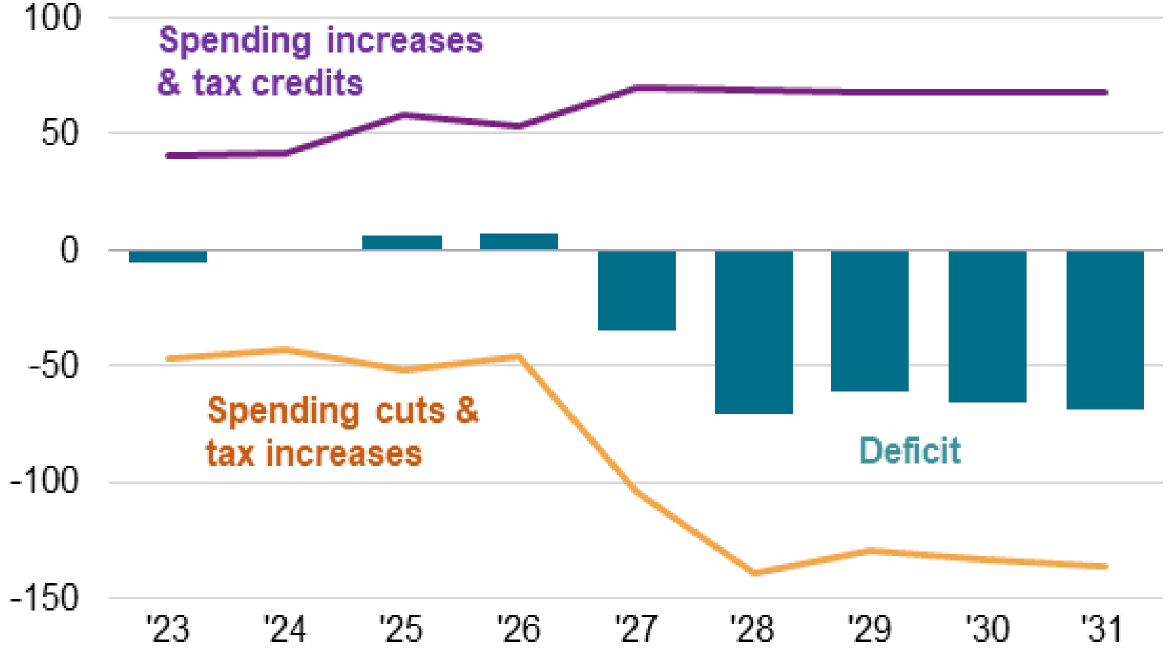


Data compiled Feb. 27, 2023.

Sources: S&P Global Market Intelligence; Congressional Budget Office.

Budget effects of the Inflation Reduction Act

Billions of dollars, fiscal years



Data compiled Feb. 27, 2023.

Sources: S&P Global Market Intelligence; Congressional Busdget Office.

GDP growth rebounded in 2022 H2; mild recession in 2023?

Recession, pause, soft landing?
Percent change, annual rate

As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence; BEA; BLS.

Pause, recession or growth recession?

- Reversing fiscal **stimulus** restrained growth of both **income** and profits
- Surging **prices** are eroding real income
- Tightening **financial conditions** restraining (more or less) growth of demand
- **Foreign growth** slowed, restrained by similar forces as in the US and Russian invasion
- **GDP growth pauses, could turn negative**;
- **Unemployment rate** rises roughly 1 percentage point to 4.6%

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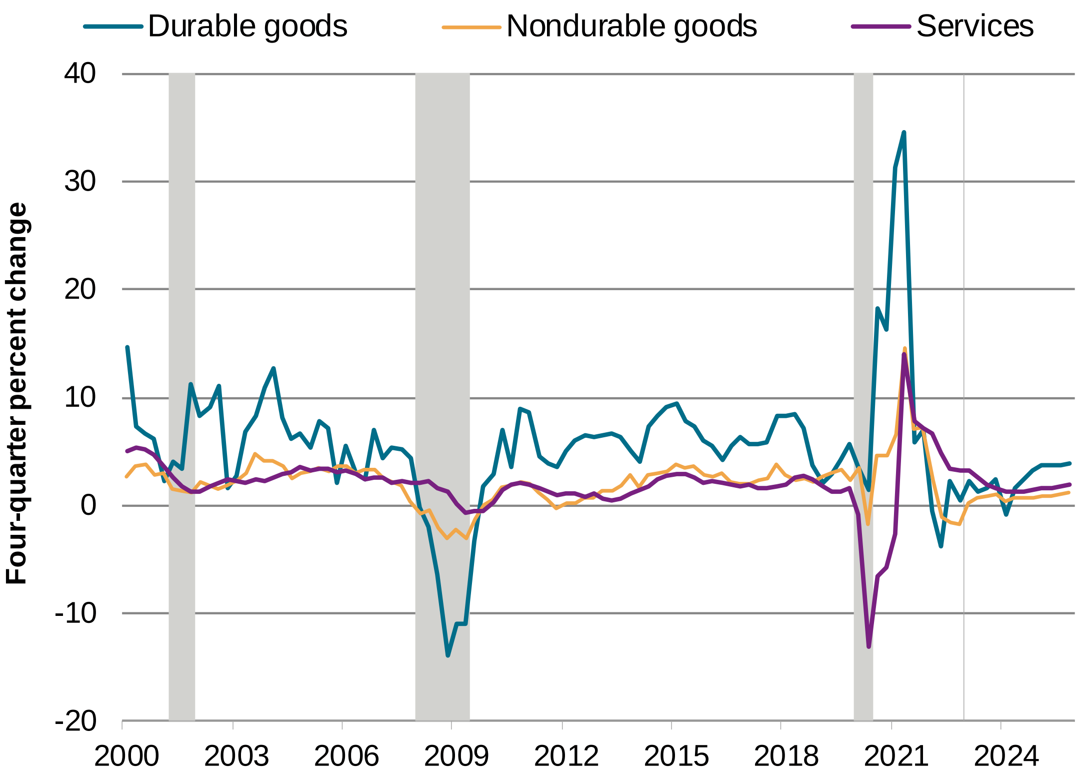
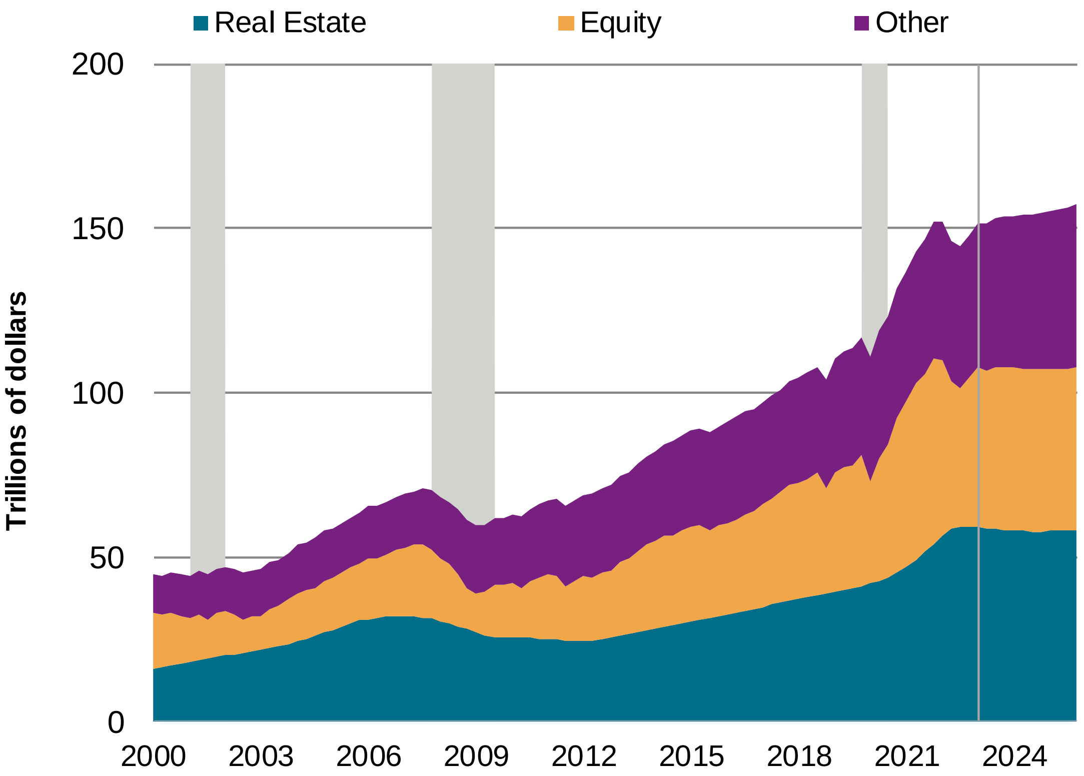
Consumer spending slows, but growth stays positive despite higher rates, fading wealth gains, weakening employment

Real personal consumption expenditures



Forecast published on Apr. 6, 2023.
Sources: Bureau of Economic Analysis; S&P Global Market Intelligence.

Household net worth

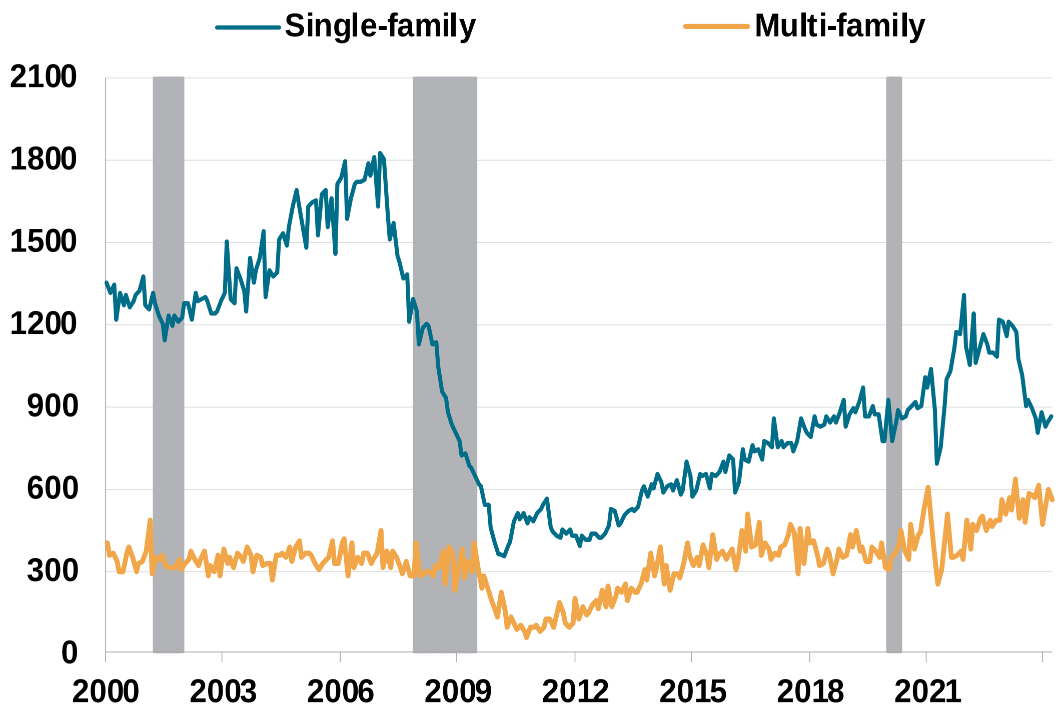


Forecast published on Apr. 6, 2023.
Sources: Federal Reserve; S&P Global Market Intelligence.

Low rates sparked the housing surge, and rising rates killed it, but a bottom may be in sight

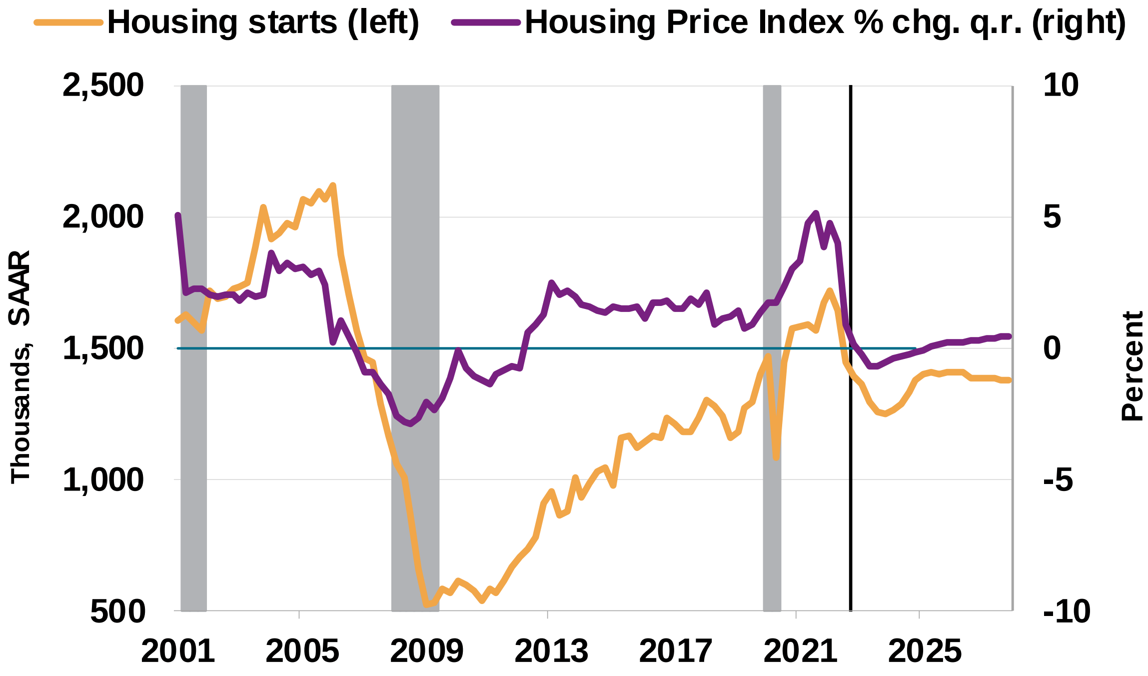
Private residential construction

Thousands of units



Data compiled Apr. 21, 2023.
Source: Census Bureau; Last data plotted for Feb-23

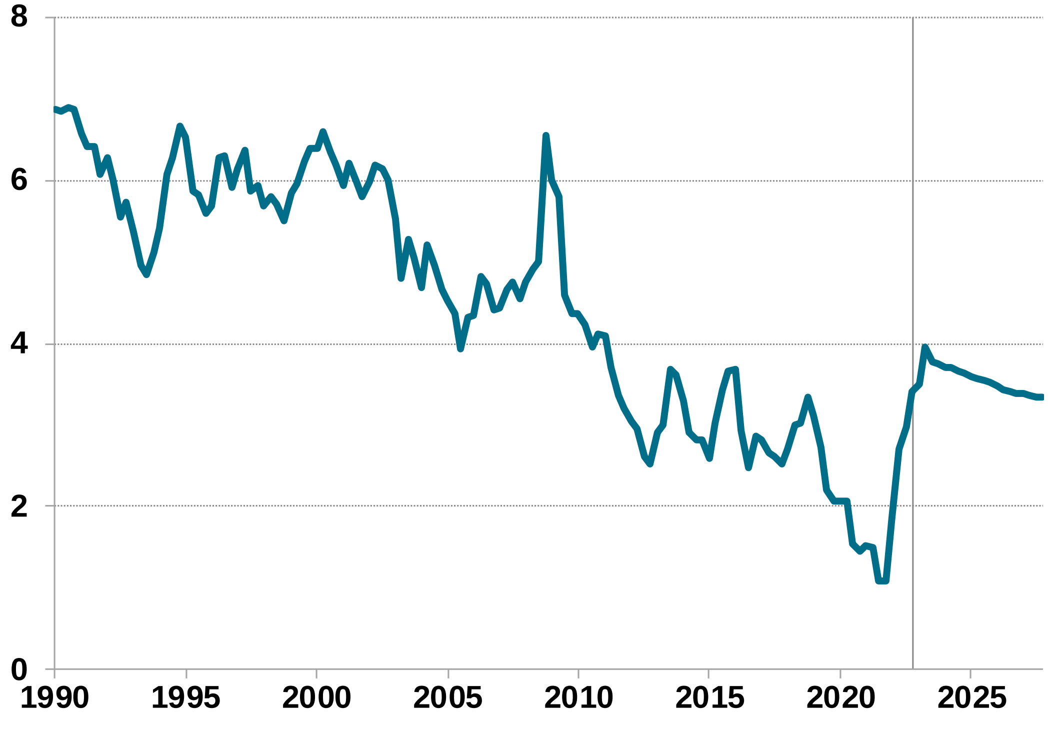
Housing in the aftermath of the pandemic



Data compiled Apr. 21, 2023.
Sources: Census Bureau; BEA; Federal Reserve; S&P Global Market Intelligence;
Last historical data plotted for Q4-22; Forecast published on 6 April 2023

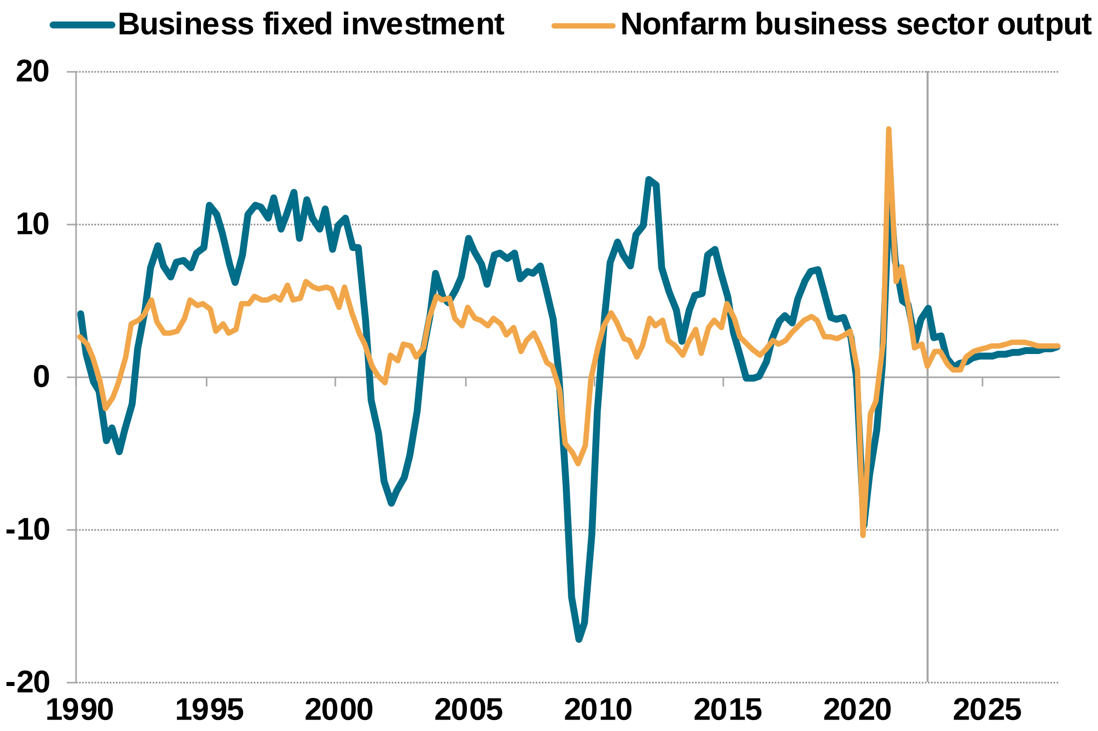
Rate increases slow business fixed investment too

Real corporate borrowing cost
Baa yield less expected inflation, percent



As of April 6, 2023.
Source: S&P Global Market Intelligence.

Nonresidential fixed investment and business output
Four-quarter percent change



As of April 6, 2023.
Sources: Bureau of Economic Analysis; S&P Global Market Intelligence.

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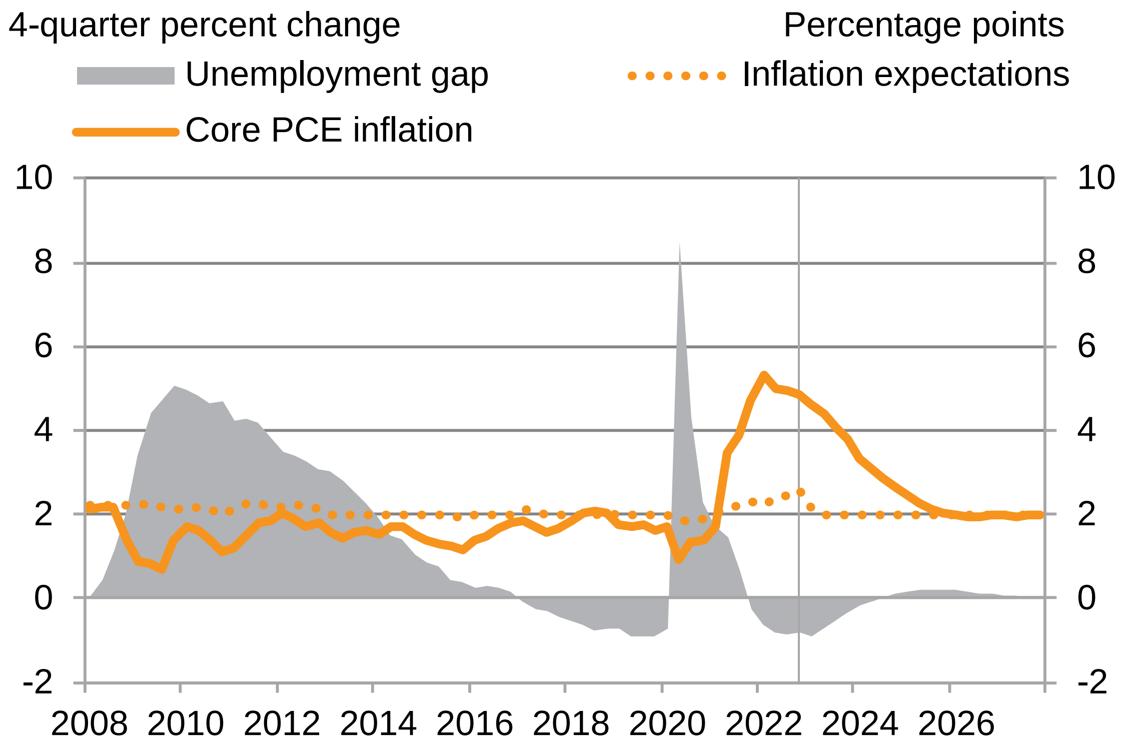
After surge, core PCE inflation is past its peak; multi-year process to get back to 2%

Core PCE inflation declines slowly to 2% after surge



As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence, Philly Fed, BEA, BLS.

Inflation falling but remains stubbornly high

- Idiosyncratic, COVID-related, price jumps due to **mis-match** of recovery in demand versus supply are ending
- Signs of global sustained **excess** of aggregate demand over aggregate supply remain, but easing
- **Supply-chain** issues resolving as demand for goods softens, and logistics get sorted
- Long-term **inflation expectations** drifted up a bit
- Going forward, labor market **mismatches** resolve only after **relative wages** have time to adjust, and as demand for labor softens

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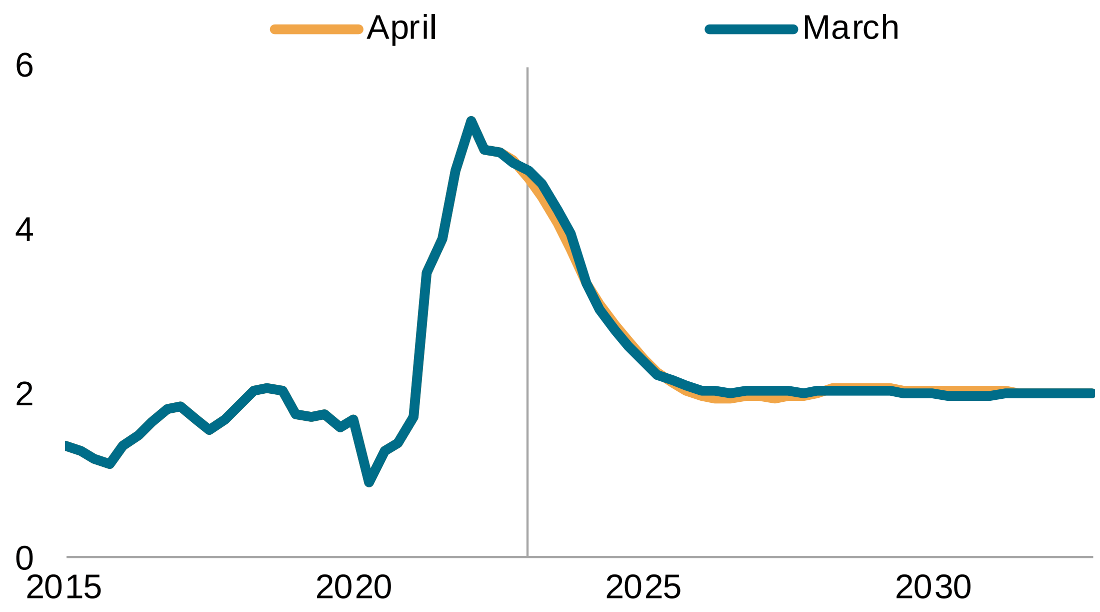
Three phases of disinflation

Our inflation narrative

1. Decline in energy costs, deceleration of food prices push headline inflation below core rate, some passes through to core
2. Core goods prices decelerate as supply chains improve
3. Long lags from current rents to average shelter costs imply persistent upward pressure on core inflation, while reducing non-housing core services price & wage inflation will require an increase in unemployment and take a couple years

Core PCE price index

4-quarter percent change



As of Apr. 6, 2023

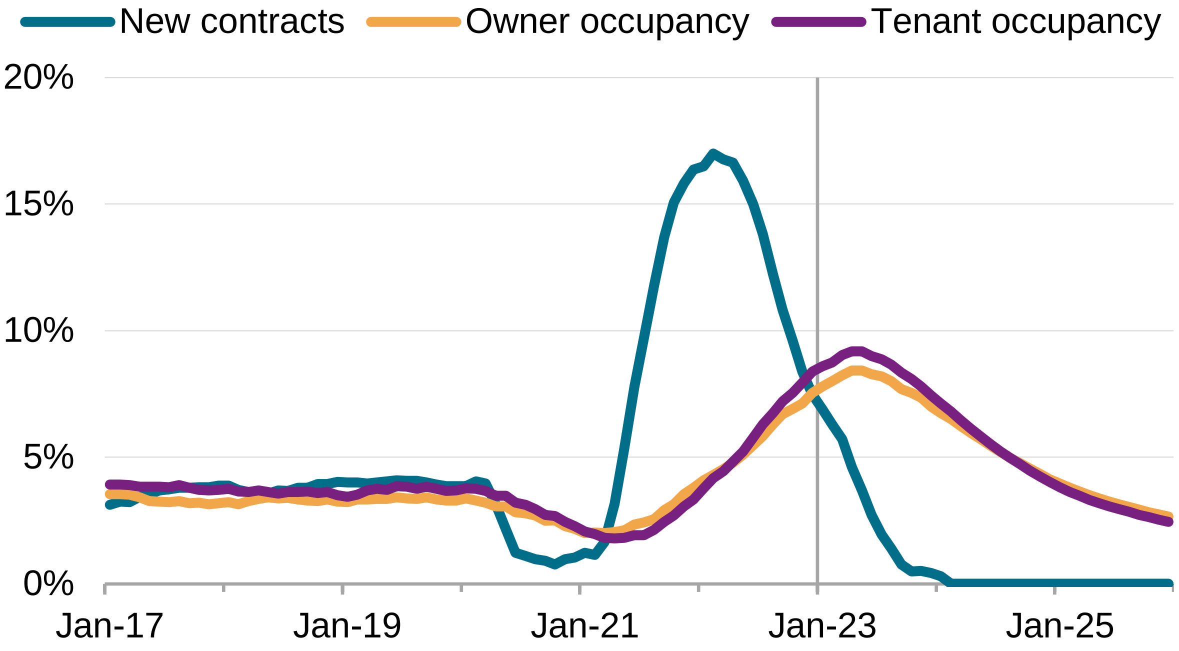
Sources: S&P Global Market Intelligence; Bureau of Economic Analysis.

Shelter costs will continue to be a persistent source of core inflation

- Average shelter costs in CPI lag well behind terms of new contracts
  - Rent contracts typically are for one year, so it takes up to twelve months for all contracts to renew at higher rates
  - Bureau of Labor Statistics rotates through a panel of renters over six months
  - Hence, the entire lag from terms of new contracts to shelter costs can be up to eighteen months!
- Assessing the upside risk
  - Estimate models from new rent contracts to shelter costs
  - Assume lags up to eighteen months are possible, but let regression decide weights / patterns
  - Assume 0% inflation in new rent contracts after February; generous, since (SA) terms on new contracts are still rising

Rents, new contracts and PCE prices

12-month percent change



Data compiled Apr. 24, 2023.

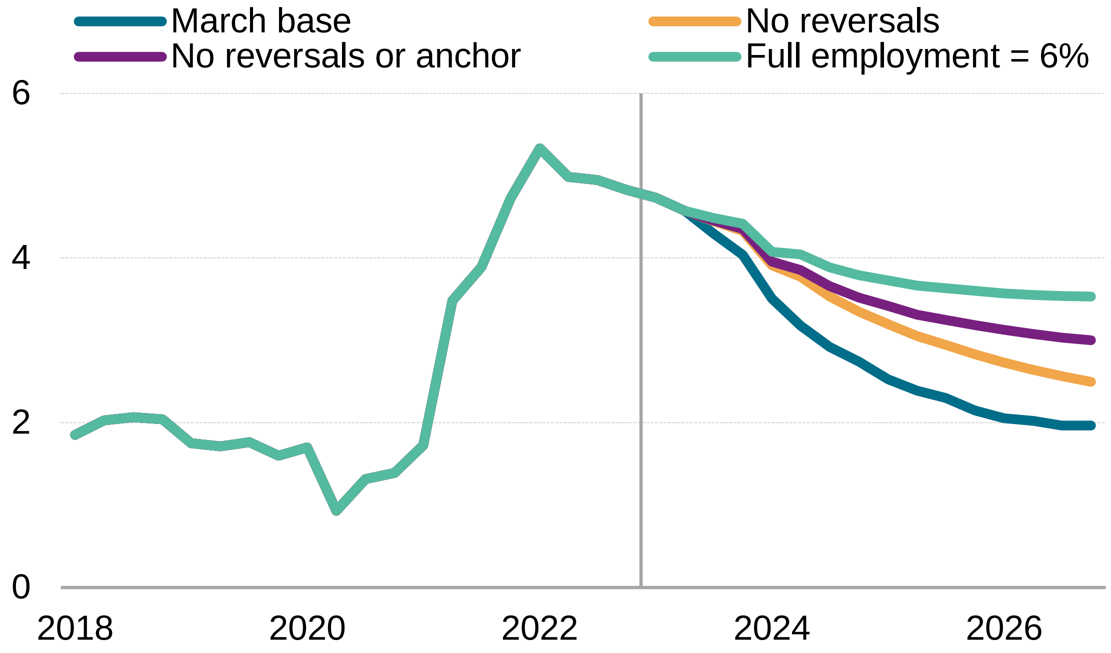
Sources: S&P Global Market Intelligence; Burea of Economic Analysis; Zillow.

Despite upward revision to inflation forecast, model still sees upside risk

- Phillips Curve model, now back on track, includes:
  - Labor market tightness: unemployment “gap”
  - Momentum: recent inflation rates
  - Long-term expectations: an anchor, *if* anchored
  - Shocks: oil prices, USD, other errors
- Our forecast assumes:
  - Abatement / reversal of COVID-era idiosyncratic pressures
    - Manifested as negative shocks (errors) in the model
    - Examples: used, then new car price declines
  - Expectations remain anchored near 2%
  - CBO’s “non-cyclical” unemployment rate of 4%
- But what if:
  - We don’t experience reversals of idiosyncratic shocks?
  - Expectations chase inflation up as in 1970s-80s?
  - The non-cyclical unemployment rate has risen 6%?

Phillips Curve scenarios for core PCE inflation

Four-quarter percent change



Data compiled Apr. 24, 2023.

Source: S&P Global Market Intelligence; Bureau of Economic Analysis.

Take it to the limit…one more time

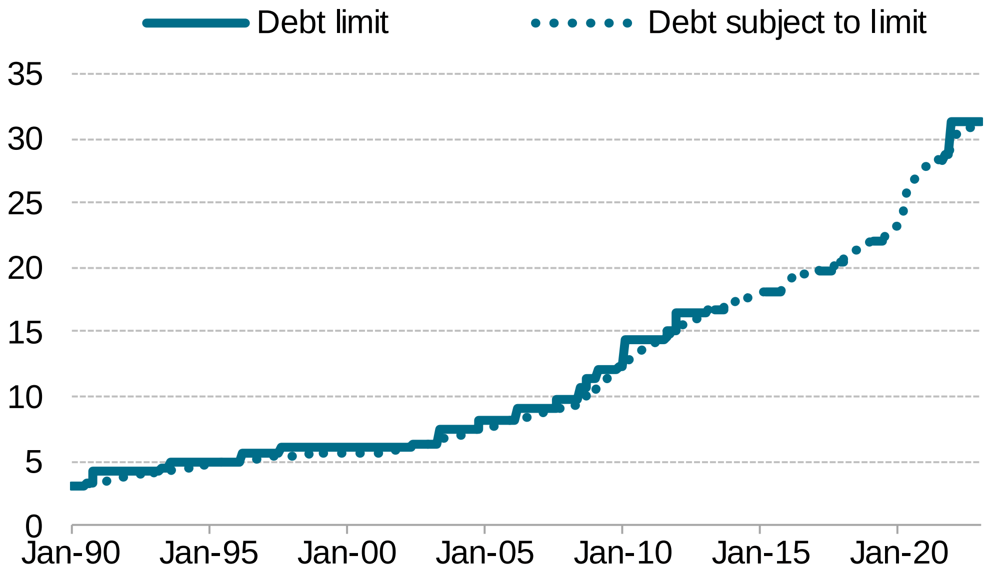
- January 19, Yellen announces debt limit reached
- “Extraordinary measures” begin[1]
  - Temporary re-purposing of funds to be replenished later
  - Drawdown of Treasury cash balances
- “X-day”…the day of reckoning
  - Yellen: extraordinary measures exhausted by July
  - CBO: cash balances could last into Q4
- Lots of uncertainty
  - Major expenditures are predictable[2]
  - Receipts less predictable
  - Mistake in the “fog of war”?

[1] These measures include: suspending investments in the Thrift Saving Plan G fund and the Exchange Stabilization Fund; suspend investments and interest payments in the Civil Service Retirement and Disability Fund (CSRDF) and the Postal Service Retiree Health Benefits Fund; exchange Federal Financial Bank securities for securities held by the CSRDF.

[2] For example, Social Security payments are made on the third day of every month and on three Wednesdays each month; payments for Medicare Advantage and Part D prescription drug plans are made on the first of the month; federal payrolls (civilian and military), retirement benefits, and Supplementary Security Income are made on the first of the month. Interest payment are made around the fifteenth and the last day of the month.

Federal debt

Trillions of dollars



As of March 11, 2023

Sources: S&P Global Market Intelligence; US Department of the Treasury.

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Take it to the limit…one more time

Can debt limit somehow be circumvented?

- The constitutional argument
  - Section 8, Article 1: “The Congress shall have power…to borrow money on the credit of the United States.”
  - Section 4, XIV Amendment: “The validity of the public debt of the United States…shall not be questioned.”
- Gimmicks
  - Treasury sells $1 trillion coin to Fed; or, monetizes gold
  - Treasury borrows from, issues IOUs to, trust funds
- Discharge petition
  - Parliamentary procedure to bring “clean” debt limit bill directly to House floor, circumventing Speaker
  - Requires 49 legislative days (and 6 GOP defections)
  - Subject to procedural roadblocks, delays
  - Dems considered, but abandoned as unworkable

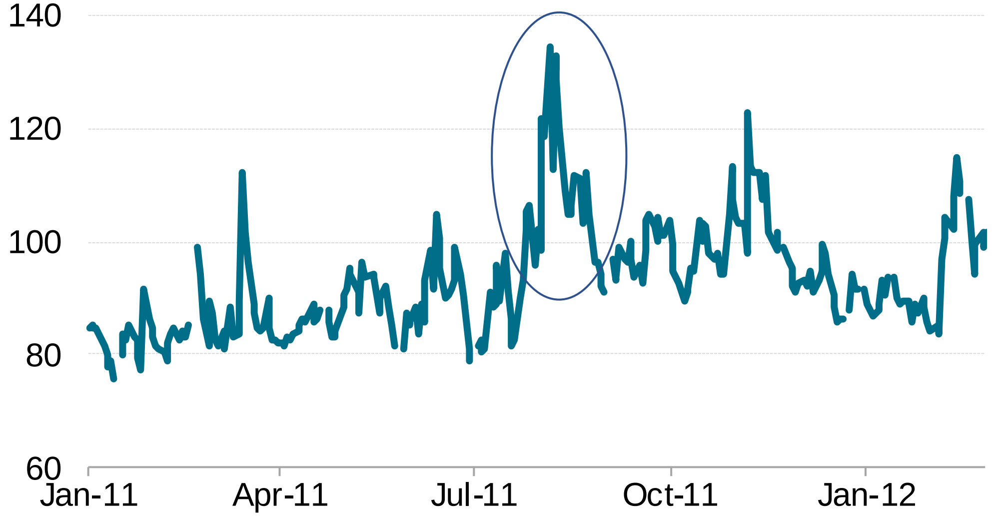
Three scenarios

- Bad: 2011-style brush with the debt limit
  - Financial markets convulse, uncertainty a headwind
  - Negotiated settlement, involving future fiscal restraint (maybe enforceable, maybe not), averts default
- Worse: “technical” default
  - Funds exhausted; Treasury prioritizes spending to service debt (on the Fed wire system) but misses other payments
  - The budget is balanced overnight: huge fiscal contraction if not cured quickly
  - Financial markets convulse
- Worst: true sovereign default
  - Interest payment or debt retirement missed
  - Huge fiscal contraction
  - Global crisis of confidence in US “full faith and credit”

What happened in 2011?

CBOE VIX volatility

Index

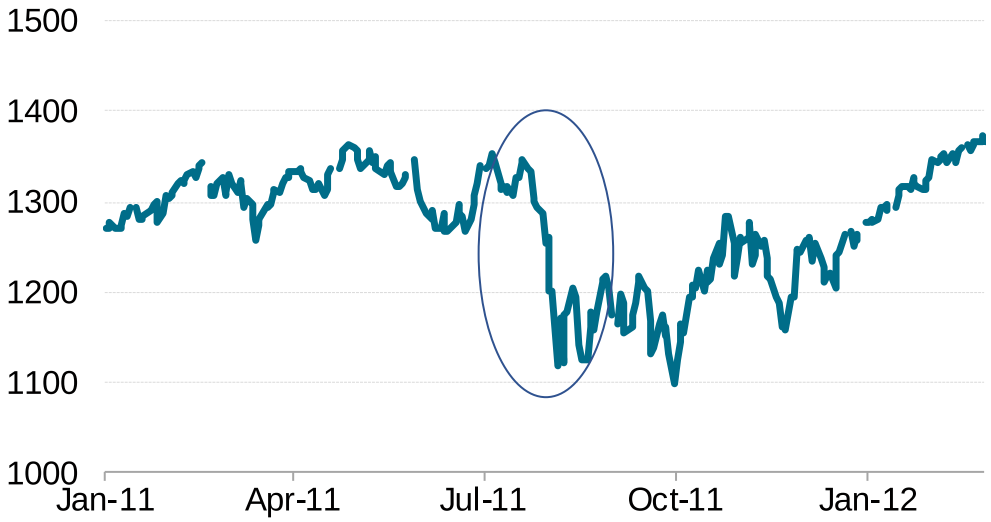


As of March 11, 2023

Sources: S&P Global Market Intelligence; Chicago Board Options Exchange.

S&P 500 stock price index

Index 1941 - 1943 = 10



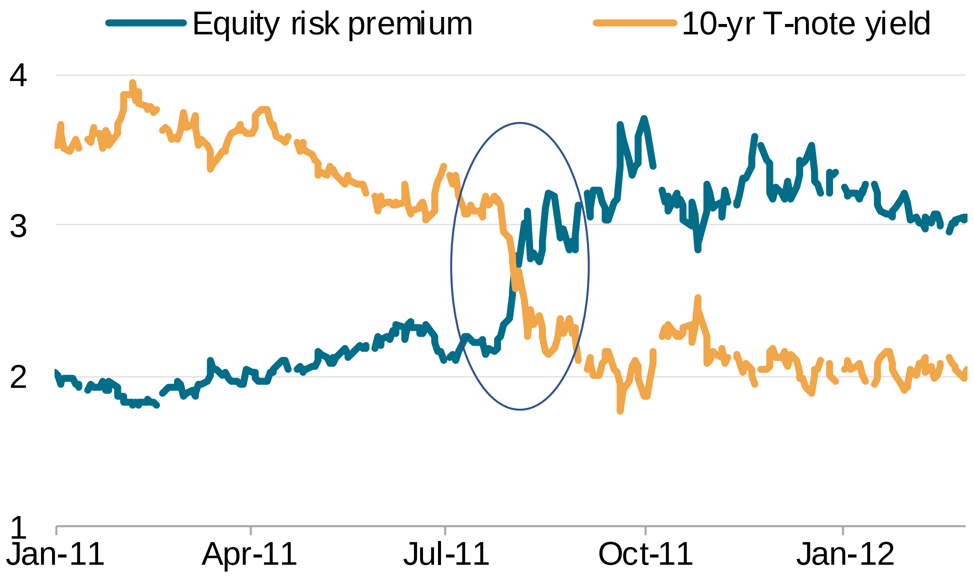
As of March 11, 2023

Sources: S&P Global Market Intelligence; Standard & Poor's.

What happened in 2011?

Flight from risk during 2011 debt limit event

Percent



As of March 11, 2023

Sources: S&P Global Market Intelligence; Federal Reserve Board.

Nominal, broad dollar during 2011 debt limit event

Index, Janaury 2006 = 100

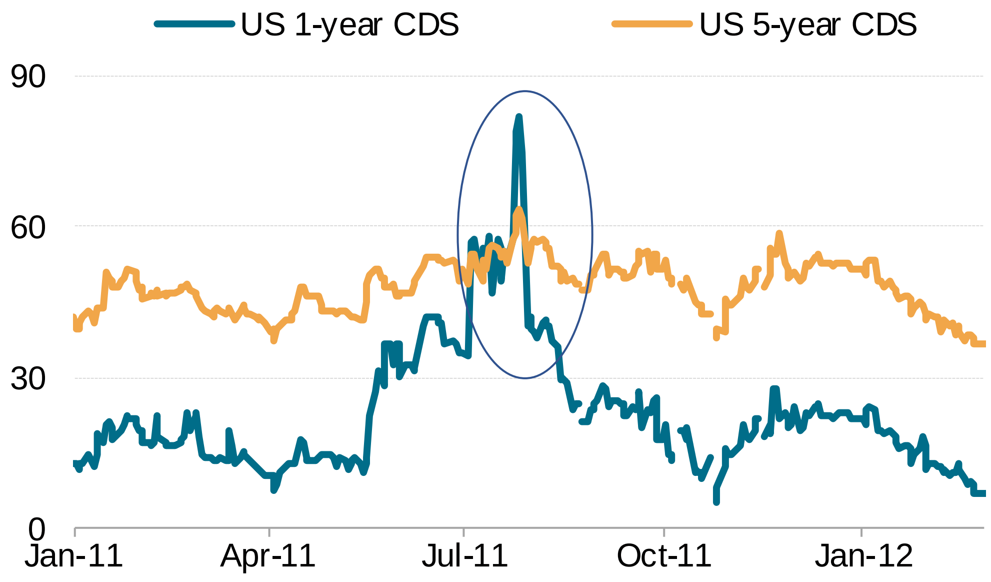
As of March 11, 2023

Sources: S&P Global Market Intelligence; Federal Reserve Board.

What happened in 2011?

Credit default swaps during 2011 debt limit event

Basis points

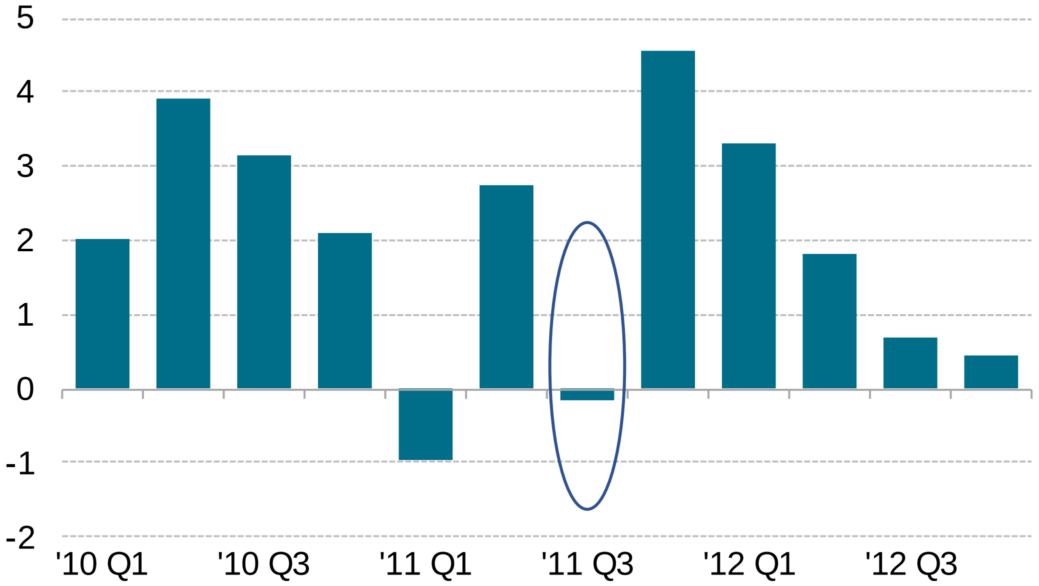


As of March 11, 2023

Sources: S&P Global Market Intelligence; Federal Reserve Board.

Real GDP growth during 2011 debt limit event

Percent change annual rate



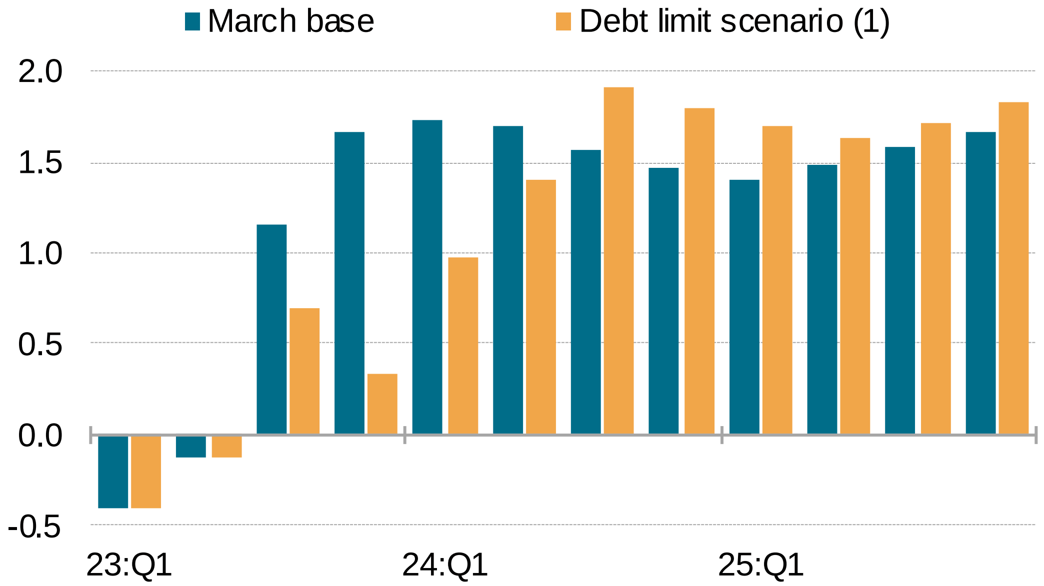
As of March 11, 2023

Sources: S&P Global Market Intelligence; Bureau of Economic Analysis.

Scenario (1), BAD: 2011-style brush with the debt limit

GDP growth and a brush with the debt limit

Percent change annual rate

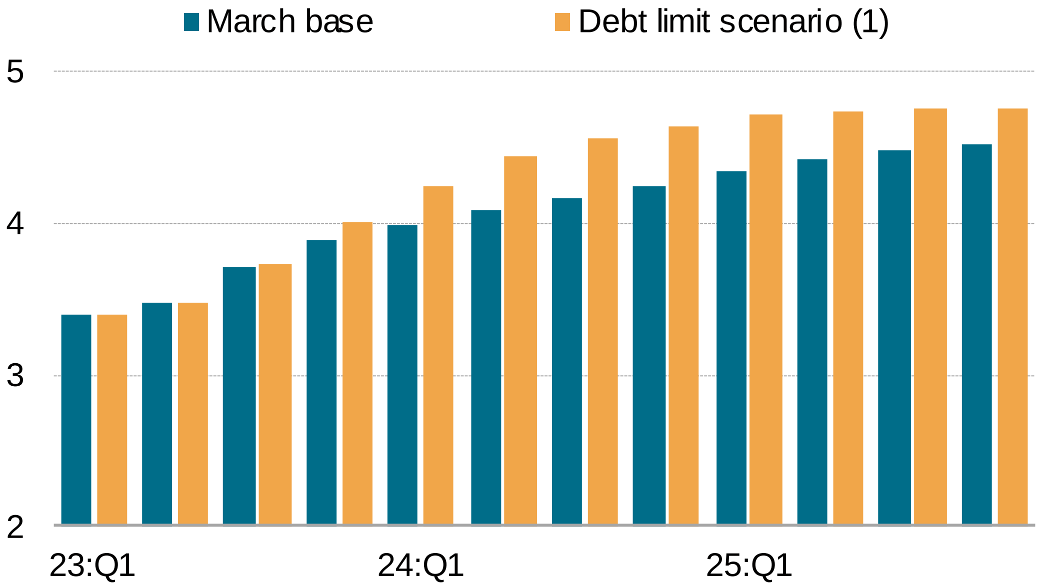


Data compiled Mar. 13, 2023.

Sources: S&P Global Market Intelligence; Bureau of Economic Analysis.

Unemployment and a brush with the debt limit

Percent



Data compiled Mar. 13, 2023.

Sources: S&P Global Market Intelligence; Bureau of Labor Statistics.

Thank you

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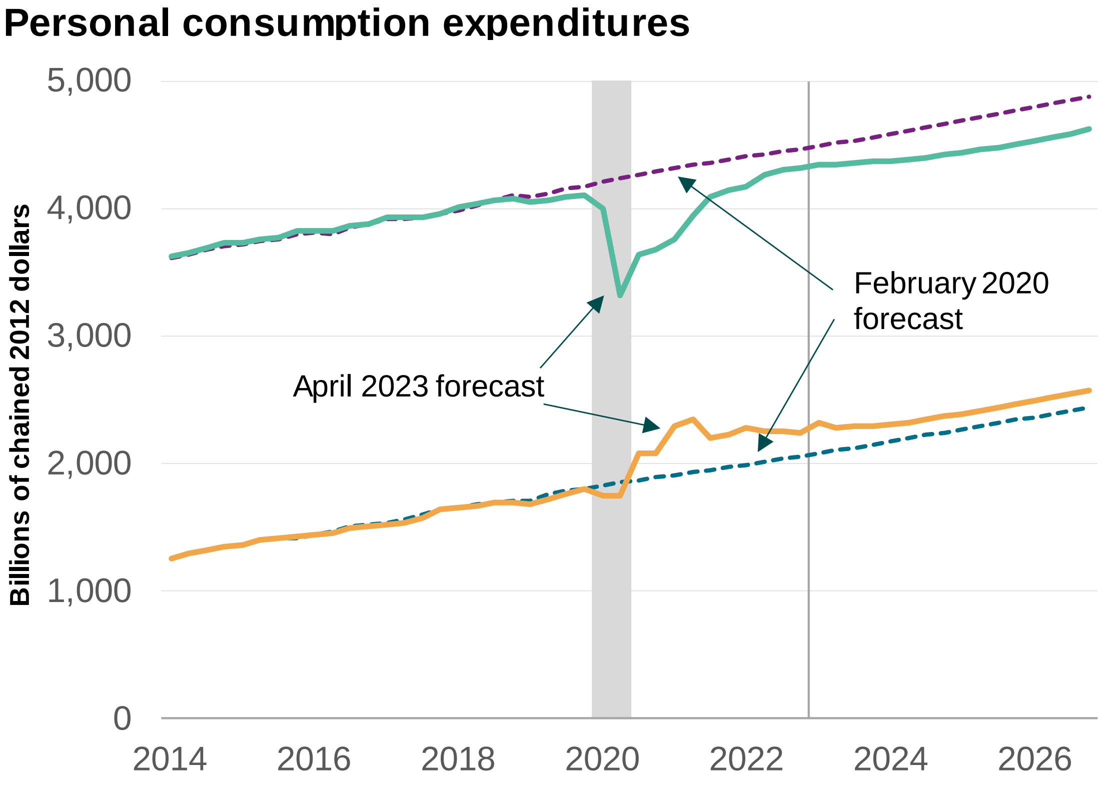
Exhausted pent-up demand and rotation away from expenditures on goods



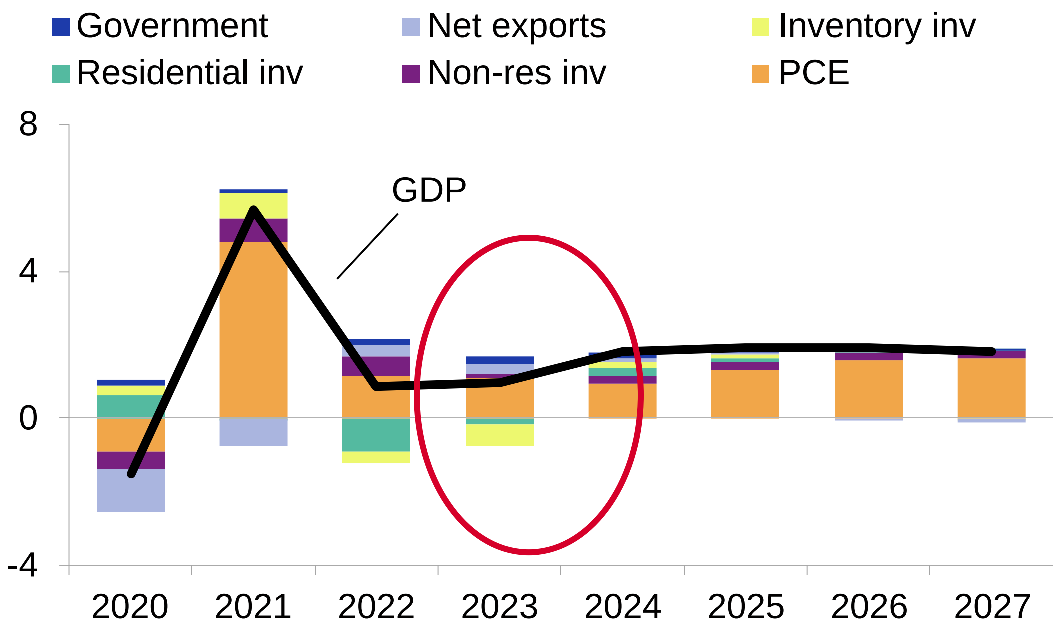
Forecast published on Apr. 6, 2023.
Sources: Bureau of Economic Analysis; S&P Global Market Intelligence.

- **Transition** from spending on non-auto durable goods toward services has about run its course
- Pent-up **demand** for services nearly **exhausted**, and spending growth expected to slow
- Excess **saving** (roughly) $2½ trillion will not be suddenly exhausted and lead to a collapse in consumer spending; it does not work that way
- Recent **weakness** in equities will restrain spending on both goods and services
- Going forward, **employment** declines and weak **income** growth will also restrain spending

Weakness widespread, but housing, non-res and inventory inv. decline

Contributions to GDP growth (Q4/Q4)

Percentage points



As of Apr. 6, 2023.
Sources: S&P Global Market Intelligence; BEA.

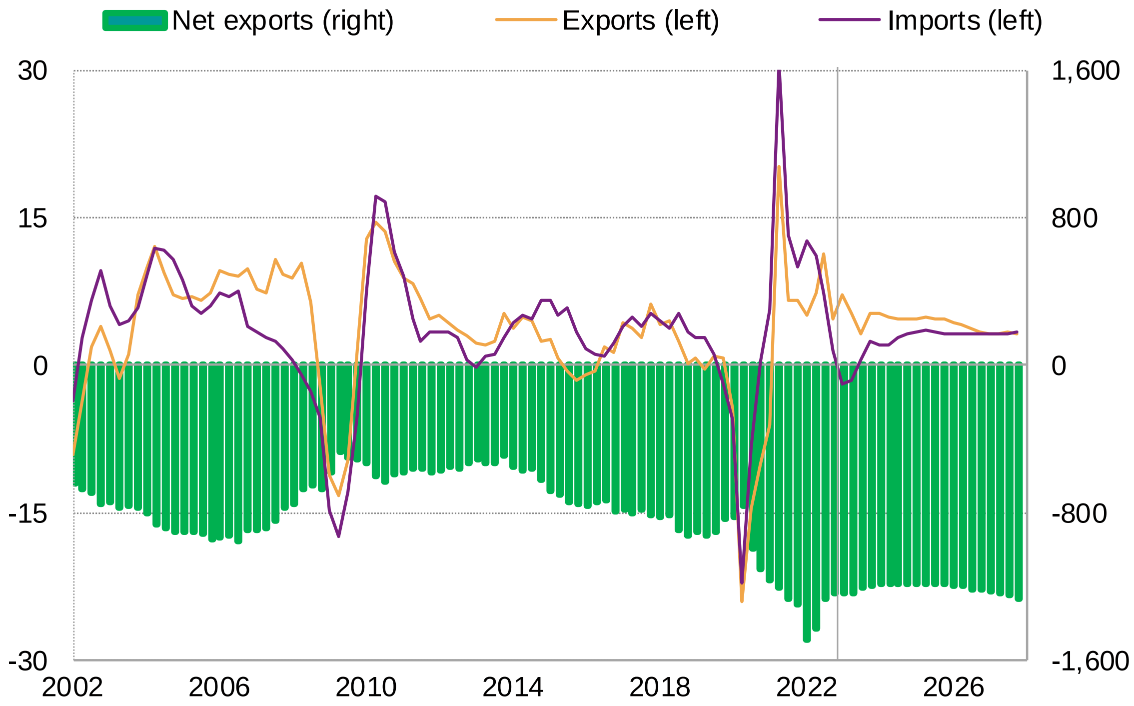
Interest rate sensitive sectors do the worst

- **Housing investment** did “surprisingly” well in 2020-2021; falling fast in 2022; expected to subtract 0.2 ppt from GDP growth this year
- But **business fixed investment** grinds to a virtual halt in H1 2023; adds jus 0.1 ppt to growth in 2023
- **Inventory investment** decline subtracts 0.6 ppt from GDP growth; rising vehicle production a counter-weight
- **PCE outperforms**…barely. Legacy of strong **HH** balance sheets help, wage catch-up and only modest employment losses should keep income growth positive; adds 1.2 ppt
- **Gov’t sector** bucks the cycle as COVID funds support S&L spending

Net exports weakened as dollar rose; dollar reversal will help stabilize

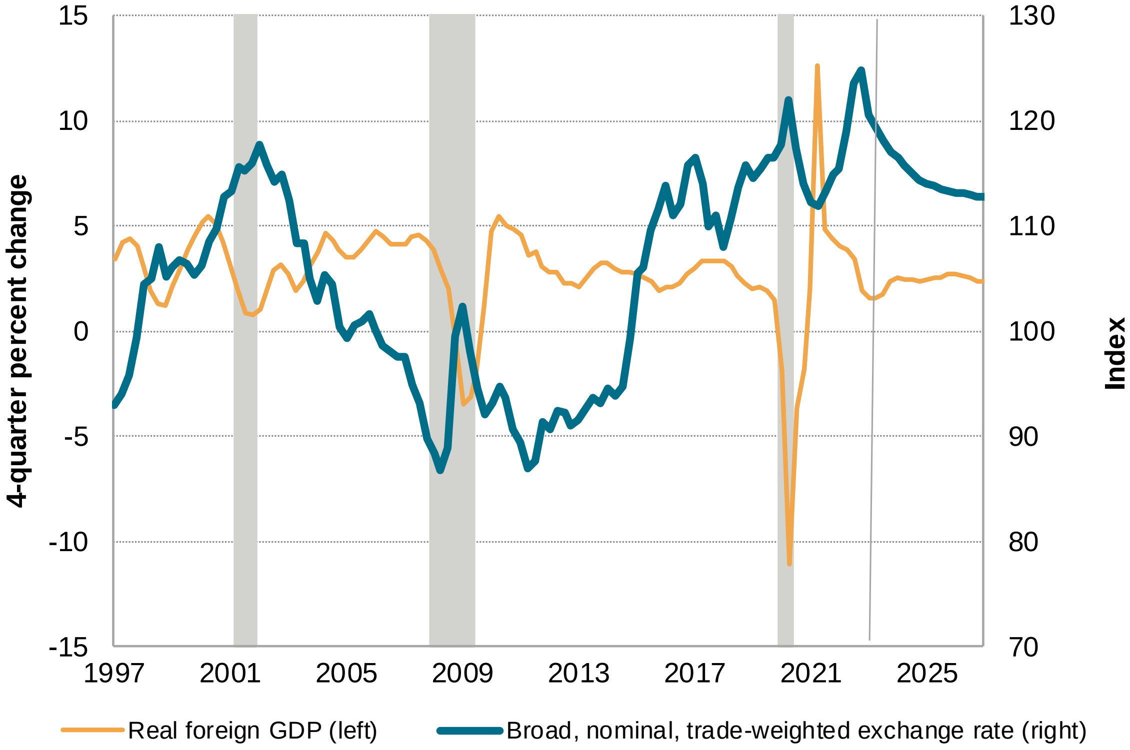
Exports, imports, and net exports

4-quarter percent change
Bill. of chain-type (2012) $



As of Apr. 6, 2023. Last historical data plotted for Q4 2022.
Source: S&P Global Market Intelligence.

Reversal in dollar will help stabilize net exports



Source: S&P Global Market Intelligence.

Key summary variables and differences from previous forecast - quarterly values

	22-Q3	22-Q4	23-Q1	23-Q2	23-Q3	23-Q4	24-Q1	24-Q2	24-Q3	24-Q4	25-Q1	25-Q2
Real Gross Domestic Product*	3.2	2.6	1.9	-0.4	0.8	1.5	1.7	1.8	1.8	2.0	1.9	2.0
		-0.1	2.3	-0.3	-0.4	-0.2		0.1	0.2	0.5	0.5	0.5
Dom. Final Sales Contribution	1.6	0.7	3.3	-0.1	0.9	1.2	1.2	1.5	1.6	1.8	1.7	1.8
		-0.1	1.9	0.6			-0.2		0.1	0.4	0.3	0.4
Net Exports Contribution	2.9	0.4	0.0	0.2	0.6	0.2	0.2	0.1	0.1	0.0	0.0	0.1
		-0.1	-0.1	-0.4	-0.3		0.2	0.2	0.2			
Inventory Invest. Contribution	-1.2	1.5	-1.4	-0.5	-0.6	0.1	0.3	0.2	0.2	0.1	0.1	0.1
			0.5	-0.5		-0.1		-0.1	0.1		0.1	0.1
Real PCE*	2.3	1.0	4.4	0.1	1.1	1.1	1.0	1.4	1.6	1.7	1.7	1.9
		-0.4	2.2	0.2	0.1	0.2		0.2	0.4	0.5	0.4	0.5
Unemployment Rate**	3.5	3.6	3.5	3.7	3.9	4.1	4.2	4.3	4.4	4.5	4.6	4.6
			0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Core PCE Inflation*	4.7	4.4	4.7	3.8	3.4	3.2	3.0	2.7	2.5	2.3	2.2	2.0
		0.1	-0.6	-0.2		0.1	0.1		0.1			-0.1
Federal Funds Rate**	2.19	3.65	4.52	4.99	5.08	5.09	5.07	4.64	4.13	3.62	3.33	3.06
				-0.04	-0.25	-0.25	-0.25	-0.26	-0.26	-0.26	-0.25	-0.25
10-year T-Note Yield**	3.11	3.83	3.65	3.86	3.74	3.72	3.67	3.62	3.56	3.49	3.41	3.35
			-0.15	-0.26	-0.31	-0.23	-0.16	-0.11	-0.11	-0.09	-0.07	-0.06
S&P 500 (period end)***	-5.3	7.1	7.0	-0.9	3.2	0.2	0.2	-0.4	0.0	-0.4	-0.1	-0.1
			3.3	-3.7	2.8	0.4	-0.5		0.3	-0.2	0.1	0.1

Notes: Positive differences from previous forecast shown in teal font, negative differences shown in red font.
* annualized % ch; ** average level; ***simple % change.
Source: S&P Global Market Intelligence

What happened in 2011?

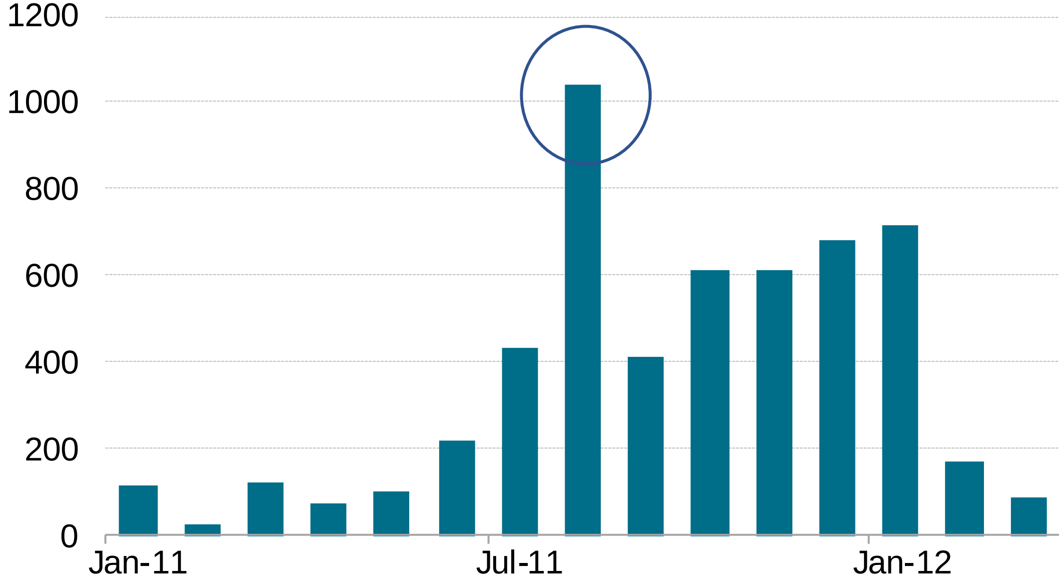
Financial convulsion, (questionable) legacy of fiscal restraint

- January: Department of Treasury determined the debt limit (then $14.3 trillion) would be reached that spring
- Treasury Secretary Geithner sends letter to Senate Majority Leader McConnel requesting an increase in the debt limit
- May: extraordinary measures commence; X-day projected for summer
- Early August: uncertainty rises, financial markets convulse as X-day nears; economy slows
- August 2, Budget Control Act enacted
  - Debt limit raised to $14.7 trillion
  - Agreement reached to cuts deficits by $0.9 trillion over 10 years
  - Select bipartisan committee to recommend another $1 trillion in deficit reduction, or else spending caps / sequestration; fail?!
- August 5: Standard & Poor's downgrades long-term credit rating of US government
  - NOT an inability to pay (and this would distinguish a US default from others)
  - Rather, lack of resolve to address future deficits
  - And some elected officials downplay consequences of default
- Financial markets return to normal over following months
- Economy regathers momentum

What happened in 2011?

Policy uncertainty in 2011: sovereign debt & currency

1985 - 2010 = 100

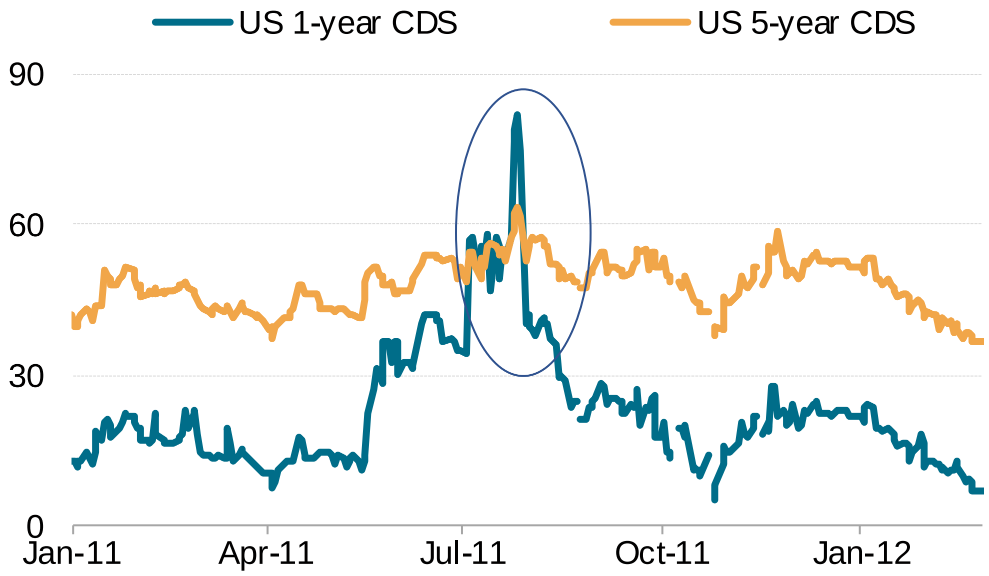


As of March 11, 2023

Sources: S&P Global Market Intelligence; PolicyUncertainty.com.

Credit default swaps during 2011 debt limit event

Basis points



As of March 11, 2023

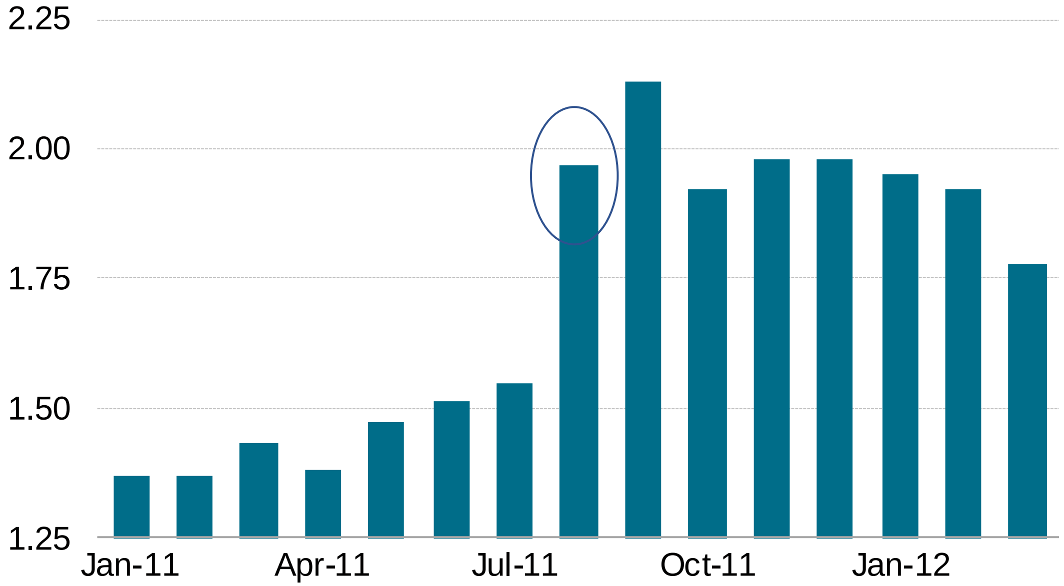
Sources: S&P Global Market Intelligence; Federal Reserve Board.

S&P Global
Market Intelligence

What happened in 2011?

Mortgage rate spread during 2011 debt limit event

Percent

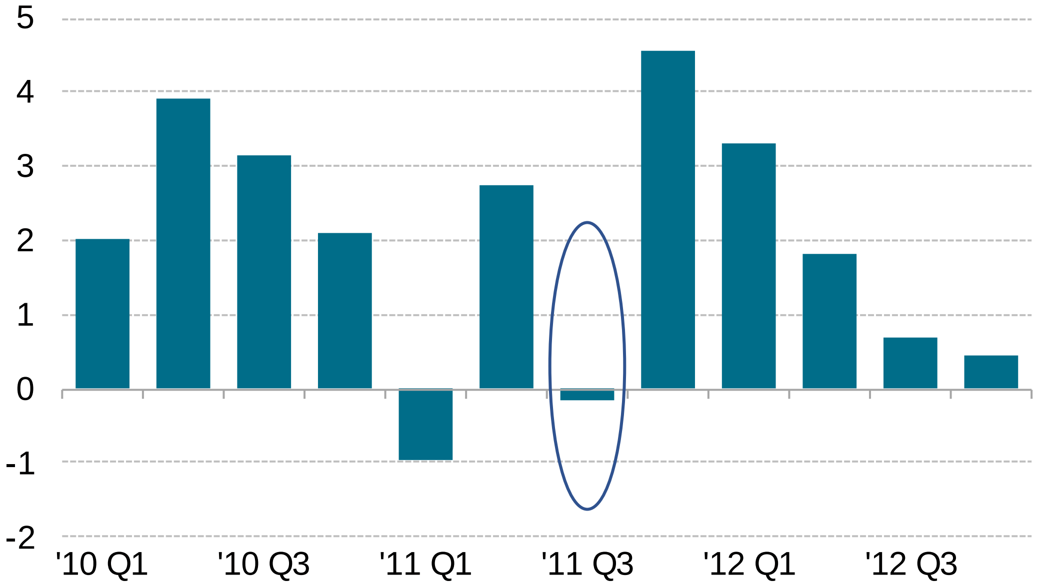


As of March 11, 2023

Sources: S&P Global Market Intelligence; Federal Home Loan Mortgage Corp.

Real GDP growth during 2011 debt limit event

Percent change annual rate



As of March 11, 2023

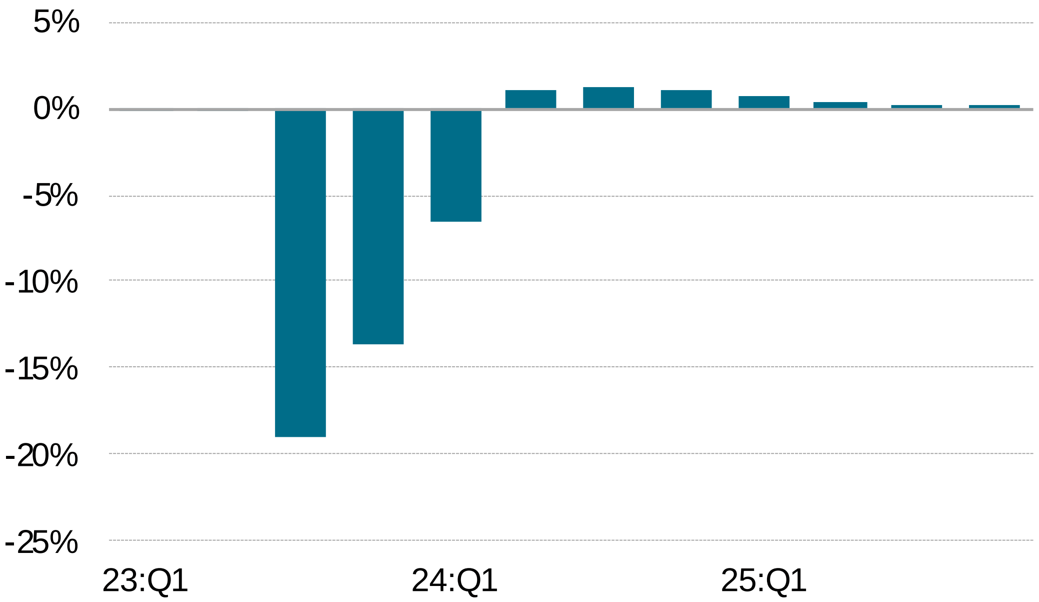
Sources: S&P Global Market Intelligence; Bureau of Economic Analysis.

Scenario (1), BAD: 2011-style brush with debt limit

- Calibrate increase in the equity premium to produce ~20% drop in equity prices, gradual recovery
- The reduction in risk appetite is reflected in:
  - Heightened stock market volatility (VIX)
  - Narrowing of Treasury term premium (flight to quality)
  - Deterioration in financial market liquidity (on / off spread)
  - Heightened bond market volatility (MOVE-type index)
- Household wealth falls, costs of capital rise
- Bank willingness to lend contracts
- Fed doesn't cut its policy rate…
- …but markets temporarily think it might
- Treasury yields temporarily decline…
- ..but spreads to private interest rates widen

S&P share price and a brush with the debt limit

Scenario (1) less March base, percent difference



Data compiled Mar. 13, 2023.

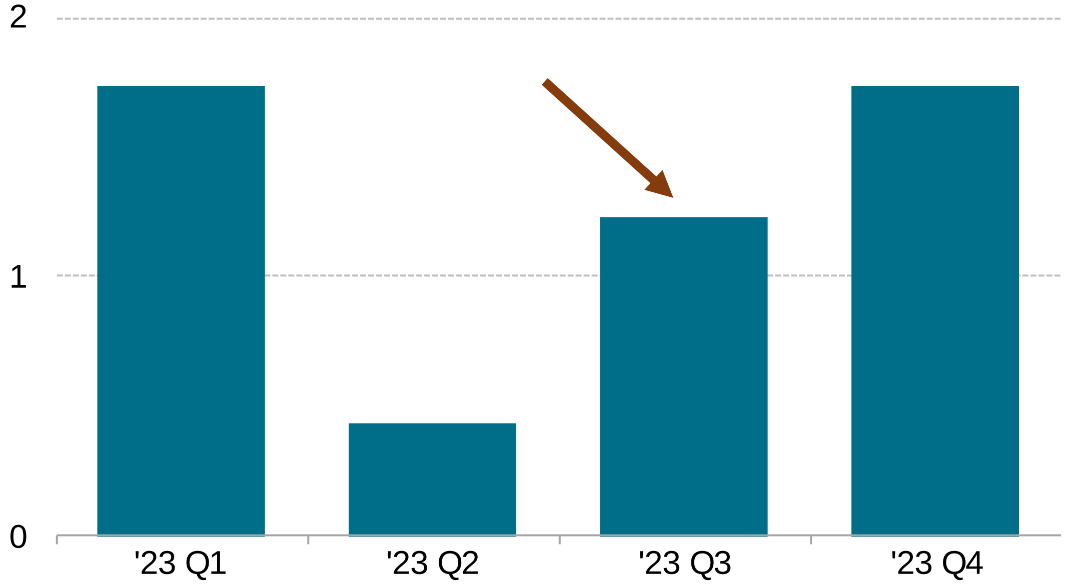
Sources: S&P Global Market Intelligence.

Scenario (2), WORSE: technical default

- Calibrate increase in the equity premium to produce ~30% drop in equity prices, gradual recovery
- $1.2 trillion in “static” spending cuts to eliminate the not seasonally adjusted Q3 federal deficit
  - But larger “dynamic” cuts are required to chase revenues down as economy / tax base weakens
  - Left interest and entitlements untouched…
  - …but then had to zero out *all discretionary spending*, subsidies, and unemployment benefits
  - Spending shortfall cured by 2024:Q1
- Other financial effects prorated except…
- …limited flight to quality as this scenario calls into more serious question the full faith and credit of the US government

Federal deficit

Trillions of dollars, not seaonally adjusted



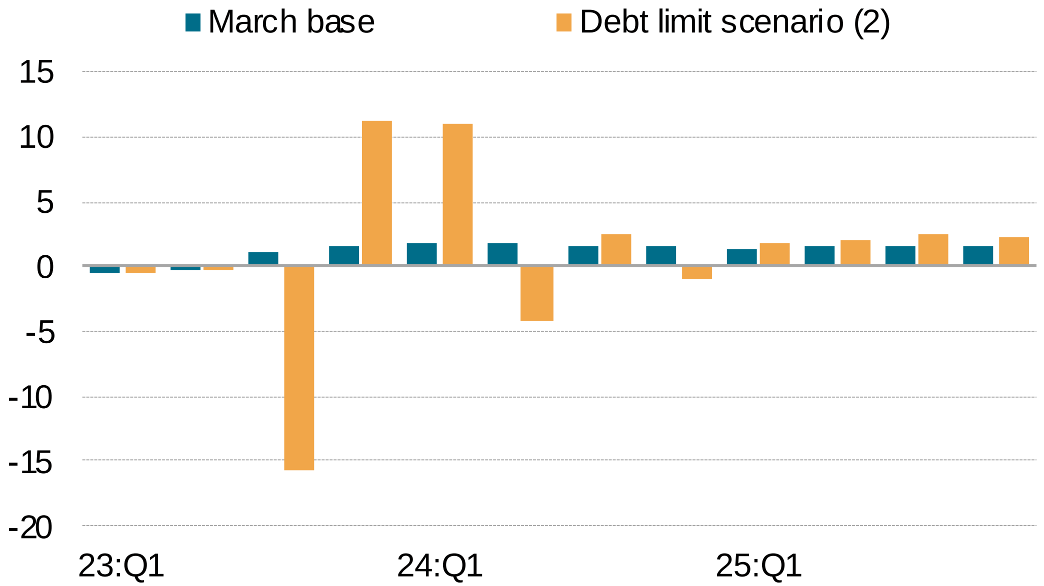
As of March 11, 2023

Source: S&P Global Market Intelligence.

Scenario (2), WORSE: technical default

GDP growth and a technical default

Percent change annual rate

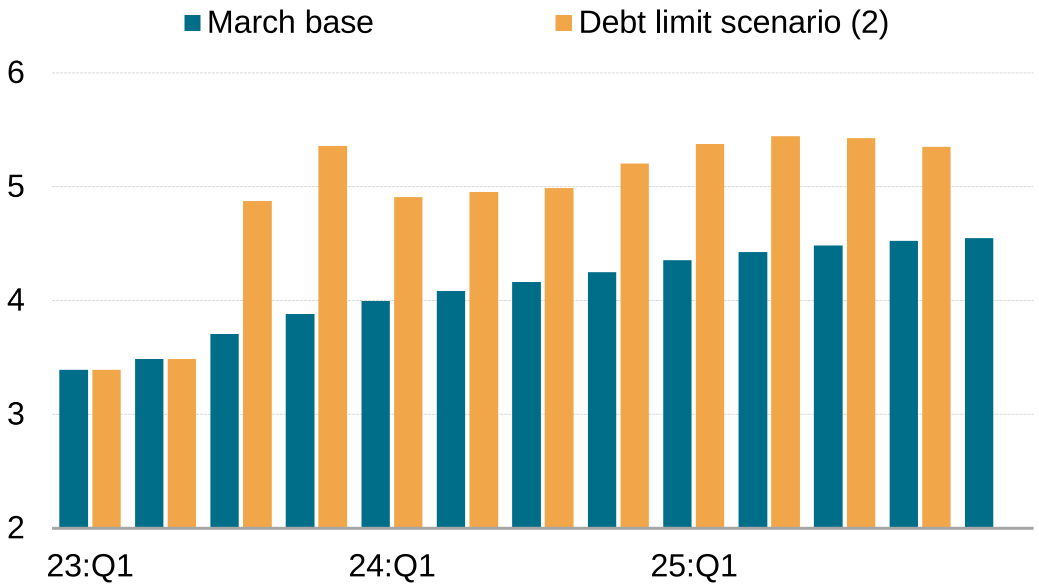


Data compiled Mar. 13, 2023.

Sources: S&P Global Market Intelligence; Bureau of Economic Analysis.

Unemployment and a techical default

Percent



Data compiled Mar. 13, 2023.

Sources: S&P Global Market Intelligence; Bureau of Labor Statistics.