INTERNATIONAL MONETARY FUND

IMF Country Report No. 22/220

UNITED STATES

July 2022

2022 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR THE UNITED STATES

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2022 Article IV consultation with the United States, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its July 11, 2022 consideration of the staff report that concluded the Article IV consultation with the United States.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on July 11, 2022, following discussions that ended on June 15, 2022, with the officials of the United States on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 24, 2022.
- An **Informational Annex** prepared by the IMF staff.
- A **Staff Supplement** updating information on recent developments.
- A **Statement by the Executive Director** for the United States

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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International Monetary Fund
Washington, D.C.

IMF Executive Board Concludes 2022 Article IV Consultation with the United States

FOR IMMEDIATE RELEASE

Washington, DC – July 11, 2022: The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with the United States.

The United States (U.S.) has recovered quickly from the pandemic shock. The positive effects of unprecedented policy stimulus, combined with the advantages of a highly flexible economy, have resulted in an unemployment rate that is back at end-2019 levels, output that is now close to its pre-pandemic trend, wages have increased rapidly for lower income workers, poverty has fallen, and 8.5 million jobs have been created since the end of 2020.

However, the rapid recovery of demand and associated depletion of slack, rising energy prices, and ongoing global supply disruptions have led to a significant acceleration in inflation. Wage and price pressures are broad based had have spread quickly across the economy. Longer-run measures of inflation expectations have started to drift higher and shorter horizon measures of inflation expectations have increased significantly.

During the pandemic, the overall general government deficit rose by close to 9 percent of GDP with the US$1.9 trillion American Rescue Plan—passed in March 2021—slowing the pace of fiscal contraction in 2021–22 but not forestalling it. The fiscal deficit is now declining rapidly but, despite this, public debt is markedly higher than its pre-pandemic levels and is expected to continue to rise as a share of GDP over the medium term (as aging-related expenditures on healthcare and social security feed into the debt dynamics).

Finally, monetary policy has begun an assertive tightening cycle with interest rates rising by 150bps so far this year and expected to continue to increase at a fast pace in the coming months. At the same time, the process of shrinking the Federal Reserve's balance sheet has begun.

Executive Board Assessment[2]

Executive Directors agreed with the thrust of the staff appraisal. They welcomed the strong economic recovery from the COVID-19 shock as a result of the unprecedented monetary and fiscal policy support. Directors noted, however, that the rapid rebound is accompanied by a broad-based surge in inflation, posing systemic risks to both the United States and the global economy. In this context, they stressed that the policy priority must be to expeditiously slow price growth without precipitating a recession.

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[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

Directors welcomed the June monetary policy tightening and the decision to provide forward guidance on the path for the federal funds rate, which should create the necessary up-front tightening of financial conditions to quickly bring inflation back to target. Directors stressed the need to telegraph, well in advance, clear guidance on the path for the policy rate to ensure that the withdrawal of monetary accommodation is orderly and transparent. As part of the policy mix, a number of Directors also saw merit in implementing a medium-term strategy for fiscal deficit reduction, which would help place public debt on a downward path and support anchoring inflation expectations.

Directors recognized that calibrating the response to inflation comes with high stakes and that misjudging the policy mix—in either direction—will result in sizable costs at home and negative spillovers to the global economy. They concurred that avoiding a recession in the United States is becoming increasingly challenging and that the Russian invasion of Ukraine, the lingering COVID-19 pandemic, and supply side constraints create additional challenges.

Directors welcomed the resilience of the financial system despite the adverse shocks of the past two years and the establishment by the Federal Reserve of two new facilities to maintain the smooth functioning of financial markets. In this context, Directors encouraged the authorities to implement the remaining FSAP recommendations to further strengthen the financial system.

Directors welcomed the passage of the Infrastructure, Investment, and Jobs Act but emphasized that passing the rest of the administration's reform agenda is crucial to foster the supply side of the economy and contribute to reduce inflation. They called on the authorities to continue making the case for strengthening the social safety net and for changes to tax, spending, and immigration policies that would foster labor force participation, investment, and innovation. Directors also recommended rolling back the trade restrictions and tariff increases that were introduced over the past five years. More generally, they called on the authorities to work actively with trading partners to strengthen the rules-based multilateral trading system centered around the WTO.

Directors called for more determined action to facilitate a smooth transition to a low carbon economy and achieve the climate goals. They recommended broad-based pricing of carbon and other pollutants, sectoral feebates, regulatory restraints on emissions, the elimination of subsidies for fossil fuels and carbon-intensive agriculture, and a reprioritization of public spending toward mitigation and adaptation goals. Directors stressed the importance of meaningfully supporting those who bear a disproportionate share of the burden of adjustment.

It is expected that the next Article IV consultation with the United States will be held on the standard 12-month cycle.

United States: Selected Economic Indicators

(Percentage change from previous period, unless otherwise indicated)

				Projections					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
National Production and Income									
Real GDP	2.3	-3.4	5.7	2.3	1.0	1.2	1.8	2.1	1.9
Real GDP (q4/q4)	2.6	-2.3	5.5	1.0	0.6	1.4	1.9	2.1	1.7
Net exports 1/	-0.2	-0.3	-1.4	-0.9	0.4	0.3	0.1	0.0	0.0
Total domestic demand	2.4	-3.0	6.9	3.0	0.6	0.8	1.6	2.0	1.8
Final domestic demand	2.4	-2.5	6.5	2.0	0.8	1.1	1.6	2.0	1.8
Private final consumption	2.2	-3.8	7.9	2.2	0.5	1.0	1.4	1.8	1.8
Public consumption expenditure	2.0	2.0	1.0	-0.5	1.1	1.2	1.3	1.3	1.3
Gross fixed domestic investment	3.1	-1.5	6.1	3.0	1.4	1.1	2.5	2.9	2.4
Private fixed investment	3.2	-2.7	7.8	3.7	0.9	0.6	2.3	2.8	2.8
Public fixed investment	2.9	4.2	-1.8	-1.1	4.4	4.1	3.9	3.4	0.5
Change in private inventories 1/	0.1	-0.5	0.3	1.1	-0.2	-0.2	-0.1	0.0	0.0
Nominal GDP	4.1	-2.2	10.1	9.0	4.1	3.2	3.7	4.0	3.8
Personal saving rate (% of disposable income)	7.7	16.4	12.2	5.0	6.8	8.0	8.6	8.4	8.4
Private investment rate (% of GDP)	17.9	17.4	17.9	19.2	18.8	18.4	18.4	18.5	18.7
Unemployment and Potential Output									
Unemployment rate	3.7	8.1	5.4	3.7	4.6	5.2	5.0	4.6	4.5
Labor force participation rate	63.1	61.8	61.7	62.3	62.4	62.5	62.4	62.2	62.0
Potential GDP	1.6	0.4	1.8	2.2	2.0	1.9	1.8	1.7	1.7
Output gap (% of potential GDP)	0.7	-3.2	0.5	0.6	-0.4	-1.1	-1.2	-0.8	-0.7
Inflation									
CPI inflation (q4/q4)	2.0	1.2	6.7	6.6	1.9	1.9	1.9	2.0	2.1
Core CPI Inflation (q4/q4)	2.3	1.6	5.0	5.4	2.4	2.2	2.2	2.3	2.3
PCE Inflation (q4/q4)	1.5	1.2	5.5	5.2	2.0	1.8	1.8	1.9	1.9
Core PCE Inflation (q4/q4)	1.6	1.4	4.6	4.4	2.2	2.0	2.0	2.0	2.0
GDP deflator	1.8	1.2	4.1	6.6	3.0	2.0	1.9	1.9	1.9
Government Finances									
Federal balance (% of GDP) 2/	-4.7	-15.0	-12.4	-4.6	-4.7	-5.3	-6.1	-6.0	-5.8
Federal debt held by the public (% of GDP)	79.4	100.3	99.6	98.4	98.5	100.7	103.5	105.6	107.4
General government budget balance (% of GDP) 2/	-5.7	-14.5	-10.9	-4.8	-5.4	-6.2	-6.9	-6.8	-6.7
General government gross debt (% of GDP)	108.8	134.5	128.1	122.8	123.8	126.6	129.6	131.8	133.8
Interest Rates (percent; period average)									
Fed funds rate	2.2	0.4	0.1	1.5	3.8	3.5	2.7	2.4	2.4
Three-month Treasury bill rate	2.1	0.4	0.0	1.8	3.8	3.5	2.7	2.3	2.3
Ten-year government bond rate	2.1	0.9	1.4	3.1	4.1	3.9	3.5	3.2	3.1
Balance of Payments									
Current account balance (% of GDP)	-2.1	-3.0	-3.7	-3.8	-3.1	-2.7	-2.4	-2.3	-2.3
Merchandise trade balance (% of GDP)	-4.0	-4.4	-4.7	-5.2	-4.7	-4.3	-4.2	-4.1	-4.0
Export volume (NIPA basis, goods)	-0.1	-10.2	7.6	2.0	0.8	0.9	2.3	2.4	2.1
Import volume (NIPA basis, goods)	0.5	-5.6	14.6	8.1	-1.2	-0.9	0.8	1.6	1.6
Net International Investment Position (% of GDP)	-54.5	-70.4	-78.8	-76.1	-76.2	-76.5	-76.2	-75.6	-75.0

Saving and Investment (% of GDP)									
Gross national saving	19.4	19.2	20.1	21.5	21.8	21.9	22.1	22.4	22.4
General government	-2.9	-11.6	-8.1	-1.3	-1.8	-2.7	-3.5	-3.9	-4.0
Private	22.3	30.8	28.2	22.9	23.7	24.6	25.6	26.2	26.4
Personal	5.8	13.8	9.9	3.7	5.1	6.0	6.5	6.4	6.3
Business	16.5	17.0	18.3	19.2	18.6	18.6	19.1	19.9	20.1
Gross domestic investment	21.4	21.2	21.4	22.5	22.3	22.0	22.1	22.3	22.4
Private	17.9	17.4	17.9	19.2	18.8	18.4	18.4	18.5	18.7
Public	3.5	3.7	3.5	3.4	3.5	3.6	3.7	3.7	3.7

Sources: BEA; BLS; FRB; Haver Analytics; and IMF staff estimates.

1/ Contribution to real GDP growth, percentage points.

2/ Includes staff's adjustments for one-off items, including costs of financial sector support.

INTERNATIONAL MONETARY FUND

UNITED STATES

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION

June 24, 2022

KEY ISSUES

The U.S. economy has staged a strong recovery from the COVID-19 shock. The positive effects of unprecedented policy stimulus, combined with the advantages of a highly flexible economy, have been clear. Just over two years after the COVID-19 shock, the unemployment rate and other measures of labor force underutilization have returned to end-2019 levels and output is close to its pre-pandemic trend. Rapid wage increases for lower income workers have reduced income polarization and poverty fell in 2020. On net, 8.5 million jobs have been created since the end of 2020. In addition, the swift policy response was able to maintain the smooth functioning of U.S. financial markets and prevent the surge of bankruptcies that many had feared.

The rapid rebound has, though, been accompanied by a sharp increase in nominal wages and prices. Inflation was initially concentrated in a subset of durable goods as strong demand confronted binding supply constraints. However, toward the end of the summer, price pressures became broad based, affecting a significant slice of the consumption basket. Similarly, labor shortages were initially apparent in low skill occupations, driving up wages for that segment of the labor force. By the fourth quarter, though, wage pressures were quickly spreading across the economy as firms struggled to fill vacancies and workers switched jobs at an increasing frequency.

The policy priority must now be to expeditiously slow wage and price growth without precipitating a recession. This will be a tricky task. Global supply constraints and domestic labor shortages are likely to persist and the Russian invasion of Ukraine is creating additional uncertainties. Although fiscal support is being withdrawn, the size and timing of the effects of past stimulus—which is expected to continue feeding into activity and inflation through a drawdown of household savings—are highly uncertain.

Returning to price stability will require an assertive withdrawal of monetary accommodation. Over the past six months, the Federal Reserve has reacted to shifts in incoming data by signaling its intent to pursue a much tighter policy stance. To decisively bring inflation back to the Federal Reserve's 2 percent goal by late 2023/early 2024 will require both raising the policy rate above neutral, in ex ante real terms, and keeping it there for some time. The FOMC's decision at its June meeting—to raise rates by 75 basis points and provide forward guidance around a path for the federal funds rate that peaks at close to 4 percent—strikes the right balance. This policy path should serve to create the up-front tightening of financial conditions that will be necessary to quickly bring inflation back to target.

The FOMC will need to telegraph, well in advance, clear guidance on the path for the policy rate to ensure that the withdrawal of monetary accommodation is orderly, methodical, and transparent. Communications should continue to underscore that the FOMC's policy guidance is not set in stone but will depend critically on future developments. Changes to strengthen the Federal Reserve's communication tools would carry a high payoff in the current conjuncture, helping to ensure that policymakers' expectations about the likely future path of the policy rate are clearly conveyed.

The difficult task of calibrating the response to inflation comes with high stakes. Misjudging the policy mix—in either direction—will result in sizable economic costs at home and negative spillovers to the global economy. An overly forceful policy response runs the risk of triggering an abrupt tightening in financial conditions and a U.S. recession, creating negative spillovers to the global economy. An insufficient shift in policies, though, would risk creating a prolonged period of high inflation that will necessitate even stronger—and more economically costly—measures in the future. In the baseline forecast, the U.S. is expected to slow but to narrowly avoid a recession. However, there are material risks that the economy again gets hit by a negative shock which would likely turn the slowdown into a short-lived recession.

The inability to pass much of the administration's reform agenda represents a missed opportunity to energize the supply side of the U.S. economy. The economy urgently needs lasting changes to release supply-side constraints, raise productivity, support labor force participation, and incentivize investment and innovation. The slowing economy and rising inflation also further strengthen the longstanding case for a better social safety net. Policymakers should continue to make the case for changes to tax, spending, and other areas (including immigration policy) to boost aggregate supply and support the poor. Policy proposals should be pragmatically adapted, as needed, to garner political support.

More determined action is needed to achieve the administration's climate goals and to facilitate a smooth, speedy transition to a low carbon economy. In the absence of legislative approval of the climate provisions in the Build Back Better plan, the current reliance on regulatory and executive actions appears insufficient to incentivize the transition to a low carbon economic model. A more effective strategy would include broad-based pricing of carbon and other pollutants, sectoral feebates, regulatory restraints on emissions, the elimination of subsidies for fossil fuels and carbon-intensive agriculture, and a reprioritization of public spending toward mitigation and adaptation goals. Past experience with large scale structural changes in the U.S. economy has made clear that, while such changes can generate aggregate benefits, they can also impose costs on a large part of the population. If the shift to a low carbon economic model is to be successful and receive societal support, it will need to embed—right from the start—policies that help lessen rigidities in reallocating factors of production across sectors and regions; ensure the right human capital is available to meet the demands of a low carbon economy; and meaningfully support those who bear a disproportionate share of the burden of adjustment.

Approved By
Nigel Chalk (WHD) and Jeromin Zettelmeyer (SPR)

Discussions were held with non-government counterparts in Texas, New York, and Washington during April and May 2022 and with government agencies from May 31–June 15, 2022. The team comprised Nigel Chalk (head), Laila Azoor, Katharina Bergant, Moya Chin, Andrew Hodge, Li Lin, Rui Mano, Andrea Medici, Anke Weber (WHD), Martin Stuermer (RES), Mico Mrkaic and Elizabeth Van Heuvelen (SPR). Concluding meetings were held with Chair Powell and Secretary Yellen on June 23–24, 2022.

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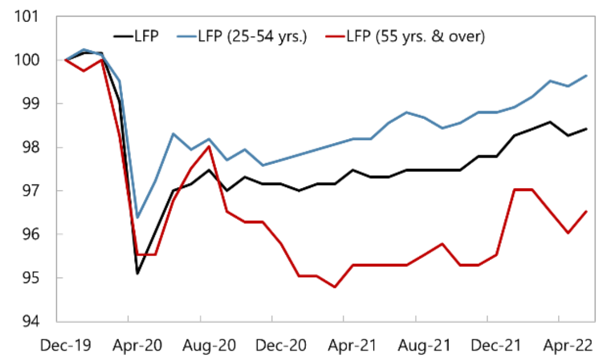
APPENDICES

ACHIEVEMENTS AND CHALLENGES

1. **The U.S. vaccination campaign was rolled out quickly and has secured broad coverage**. Of the eligible population, 71 percent have been fully vaccinated and around one half have received a booster shot. Vaccination coverage for the elderly has been significantly higher. As a result, COVID-19 hospitalization and mortality have fallen markedly. This, in turn, has allowed a rollback of many of the public health interventions that were put in place to protect the population. Nonetheless, the U.S. has now passed a tragic landmark of 1 million dead from COVID-19 and daily deaths remain in the hundreds, concentrated among older, unvaccinated or unboosted Americans.

2. **Supported by extraordinary monetary and fiscal stimulus, there has been a strong recovery in activity**. Within 24 months of the COVID-19 shock, the unemployment rate and other measures of labor force underutilization have returned to end-2019 levels and output is close to its pre-pandemic trend. However, there has been a slower recovery of labor force participation, mainly reflecting the secular, demographic downtrend to participation and early retirements catalyzed by the pandemic. There are also important concerns around the potential longer run impacts of the pandemic on education outcomes (that have been borne disproportionately by lower income families).

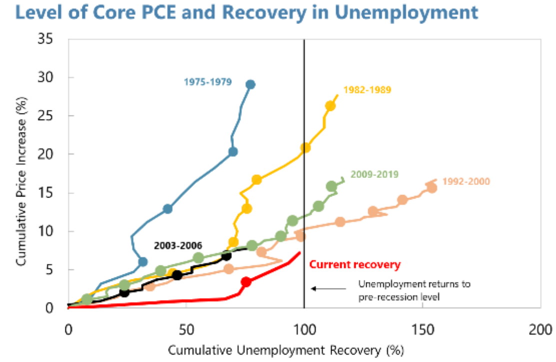
Labor Force Participation Rate
(2019 Dec.=100)



Sources: BLS.

3. **After more than a decade of below-target inflation, the rapid depletion of slack and ongoing global supply disruptions have led to a significant acceleration in wage and price inflation**. In the early part of 2021, inflation was driven by large price increases in a relatively narrow set of durable goods. This supported a conclusion at the time that inflation would dissipate once consumer demand patterns normalized and supply problems were overcome. However, during the last few months of 2021, the U.S. economy appeared to hit a "speed limit" and price pressures both intensified and broadened. While the cumulative price increase seen in this recovery has been less than in past expansions, the reduction in unemployment and the upswing in inflation have both happened at a far faster pace than in previous cycles.

Level of Core PCE and Recovery in Unemployment

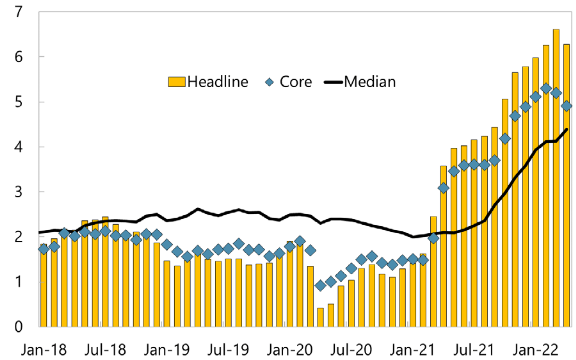


Sources: BLS, BEA, and IMF staff calculations.
Note: Each marker represents one year.

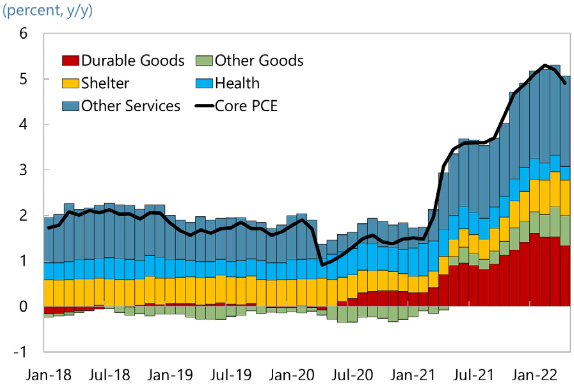
4. **Median PCE inflation continues to rise, underlining the broad-based nature of price pressures.** Over the past few months, the dynamics of inflation has changed with declining durable goods inflation largely offset by an acceleration in shelter, healthcare and other services inflation.

This has mirrored the gradual shift back in consumer demand from durable goods toward services. Rapidly rising food and energy prices—fueled by the Russian invasion of Ukraine—have further added to headline inflation. Longer-run measures of inflation expectations have started to drift higher, although generally remain close to the Federal Reserve's medium-term goal. Over a shorter horizon, inflation expectations have increased significantly.

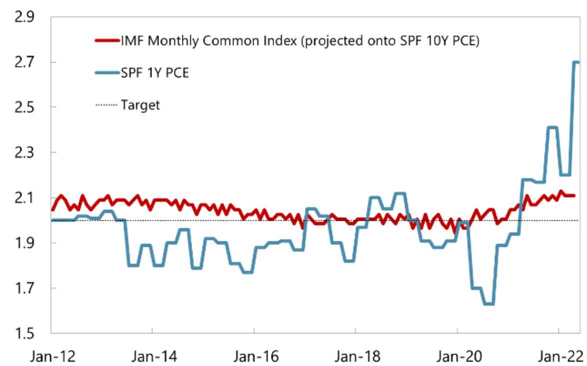
PCE
(percent, y/y)



Contributions to Core PCE
(percent, y/y)



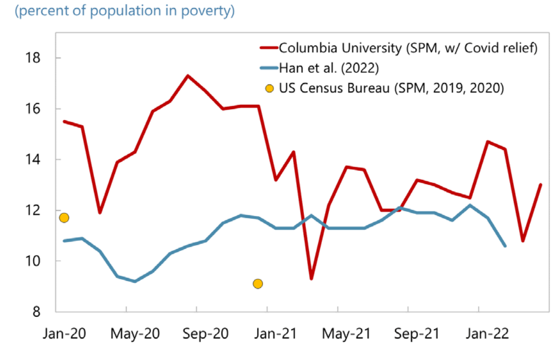
PCE Inflation Expectations
(percent)



Sources: BEA, Federal Reserve, Haver Analytics, University of Michigan, Consensus Economics, Blue Chip, and IMF staff calculations.

5. **As the pandemic unfolded, policy interventions were successful in temporarily offsetting the pandemic's impact on poorer households**. Despite the dislocations associated with the pandemic, poverty—as measured by the Census Bureau's supplemental poverty measure (SPM)—fell to 9.1 percent in 2020 (from 11.8 percent in 2019). There were even larger poverty reductions for female-headed households, children, African Americans, and Hispanics. This outturn demonstrates the effectiveness of the initial policy response—stimulus checks, tax credits, unemployment benefits, loan, rent and eviction moratoria, and food assistance—in alleviating poverty. However, the poor targeting of some of these support measures added to household savings. The drawdown of those savings is now bolstering very strong domestic demand, making disinflation more challenging. Also, the expiration of policy interventions and acceleration of inflation likely mean that much of the reduction in poverty in 2020 has now been reversed.

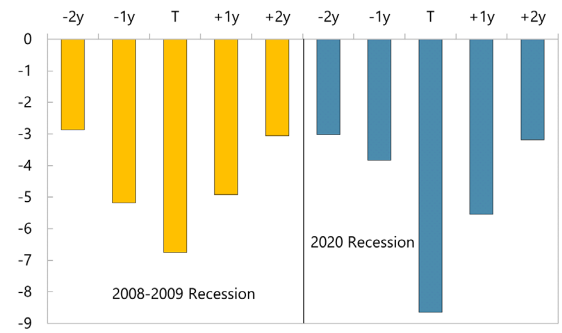
COVID Impact on Poverty
(percent of population in poverty)



Sources: Han et al. (2022), Columbia University, and U.S. Census Bureau.

6. Fiscal consolidation is underway as pandemic support is wound down. During the pandemic the overall general government deficit rose by close to 9 percent of GDP. The US$1.9 trillion American Rescue Plan—passed in March 2021—slowed the pace of fiscal contraction in 2021-22 but did not forestall it.[1] Public debt increased markedly as a result of the pandemic and is expected to continue to rise as a share of GDP over the medium term (as aging-related expenditures on healthcare and social security feed into the debt dynamics).

General Government Primary Structural Balance
(percent of GDP)

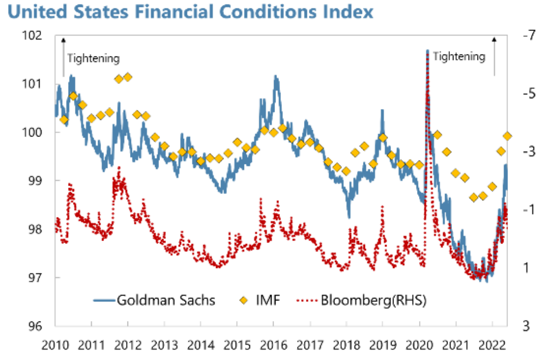


Sources: BEA, CBO, and IMF staff calculations.

7. Over the past two years, financial institutions and corporates have been resilient, albeit with the aid of significant policy support. Efforts to provide breathing space to small businesses (notably through the paycheck protection program), to stabilize funding markets, and to inject liquidity into the financial system were effective in sustaining intermediation and preventing bankruptcies. Stress tests show the banks to be very liquid and highly capitalized, even in the face of a severe combination of shocks. The extraordinary policy support of the past few years has, though, created financial stability side-effects. The main vulnerabilities arise from:

- A substantial shift in the monetary stance and the uncertainties generated by the Russian invasion of Ukraine have caused financial conditions to rapidly tighten over the past several months. Despite this tightening, financial conditions remain fairly accommodative.

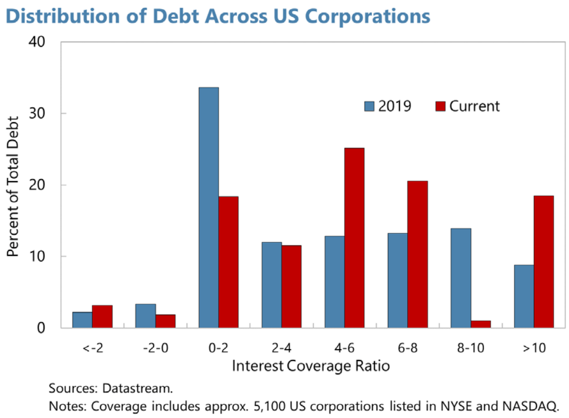
United States Financial Conditions Index

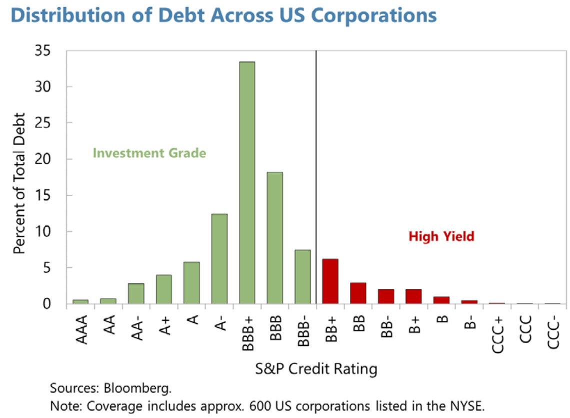


Sources: Goldman Sachs, Bloomberg, and IMF staff calculations.

- Corporate leverage remains close to the high levels seen prior to the pandemic. Risks are, though, somewhat mitigated by sizable (and increasing) corporate cash buffers, a lengthening in the duration of corporate debt, and generally healthy interest coverage ratios. There is, though, significant heterogeneity across both sectors and firms which could mean that pockets of corporate stress will be revealed in the event that financial conditions tighten by more than is currently expected. Also, available data is predominantly focused on publicly traded firms so there is less of a clear picture for privately-held companies (although indicators of credit quality for smaller firms have improved).

[1] For an assessment of the American Rescue Plan, see the 2021 Article IV Consultation.





- At various conjunctures over the last few years fixed income markets have proven insufficiently resilient under stress.[2] Standing repo facilities have been established to support liquidity for both primary dealers and foreign reserve managers. However, there is an ongoing risk that the smooth functioning of key money, repo, and Treasury markets is overly reliant on the unprecedented level of liquidity currently sitting in the system. In addition, prime and tax-exempt money market funds (as well as dollar-denominated offshore funds) remain subject to runs. In addition, some bond funds maintain significant holdings of illiquid assets. The interaction between these market and institutional fragilities has the potential to exacerbate market functioning problems, if the system were to come under stress.

- Leverage among hedge funds and life insurance companies is high, life insurers have decreased their holdings of liquid assets and are more reliant on short term funding, and the issuance of securitized instruments—particularly those linked to auto loans—has risen.

- The digital assets sector has grown rapidly. The recent bout of selling pressures highlights the fragility, and in some cases, opacity of this asset class. Several prominent stablecoins are marketed as being convertible to U.S. dollars even though they are backed by assets that are illiquid or may lose value during market stress. Such par value claims are, therefore, vulnerable to run risk. Indeed, some stablecoin providers have recently seen large redemptions which have prevented them from maintaining their peg to the U.S. dollar. Furthermore, other crypto-assets have been experiencing significant price volatility, creating uncertain ripple effects through the financial system (although these are not, at this stage, viewed as systemic).[3]

- The housing market has been on a steep upward trajectory. Nationwide, average prices are 38 percent above where they were at end-2019 and prices are relatively high as a share of both rents and household income. Leverage, though, has been contained by relatively low loan-to-value ratios and conservative underwriting standards (a legacy of the post-financial crisis

[2] Notably during the diminished liquidity of Treasury markets in February 2021, the market dysfunction in the initial weeks of the pandemic, the September 2019 surge in money market rates, and the 2014 bond market flash rally.

[3] See GFSR, "The Crypto Ecosystem and Financial Stability Challenges", October 2021.

reforms). In addition, refinancing activity over the past few years has reduced average mortgage payments to all-time lows as a share of disposable income. As such, financial stability risks emanating from the housing market appear to be contained. However, there are important social concerns linked to the worsening in housing affordability, particularly for lower income households.

Despite the proven resilience of the U.S. system over the past several years, the financial stability vulnerabilities described may become more salient in the context of the ongoing tightening of financial conditions alongside slowing activity.

8. A range of FSAP recommendations remain unaddressed. These include: (i) ensuring each Financial Stability Oversight Council member has an explicit financial stability objective in their mandate; (ii) closing a range of data gaps; (iii) finalizing the arrangements for market-wide circuit breakers and providing greater budgetary autonomy for the SEC and CFTC; (iv) reviewing prudential requirements for non-internationally active banks (category III and IV) to ensure they remain consistent with the Basel framework; (v) strengthening the consistency of risk management practices by central counterparties; (vi) subjecting mutual funds to SEC-led liquidity stress tests; and (vii) developing a consolidated group capital requirement for insurance companies. There is scope, also, to deploy a range of macroprudential tools to improve financial system resilience.[4]

9. Authorities' views. Alongside the increase in economic uncertainty associated with the Russian invasion of Ukraine, the past several months have seen large fluctuations in asset prices and a tightening of financial conditions. On the whole, measures of market liquidity have worsened during this period, in line with the increased volatility in the price of the underlying assets. However, under the circumstances, markets have generally functioned well and key funding markets have been resilient. Households and businesses have decreased their borrowing as a share of GDP and interest coverage ratios have improved. Nonetheless, a slowing economy and more costly financing may reveal strains in the ability of some entities to service their debt. Banks have maintained capital ratios well above regulatory minima and are very liquid, with less reliance on wholesale funding. Some "stablecoins" remain prone to run risk. Substantial work is underway to strengthen the collection of data in a range of areas (including on the activities of hedge funds, uncleared bilateral repos, and the liquidity and redemption features of open-end funds) and to improve the resilience of money market funds.

10. In response to Russia's invasion of Ukraine, and in coordination with a number of other countries, the U.S. has imposed a range of sanctions on Russia and Belarus (Box 1). As noted in the April WEO, the ongoing Russian invasion of Ukraine and the sanctions on Russia and Belarus are expected to reduce global growth in 2022, increase commodity prices, and disrupt trade and financial linkages. Also, as indicated in the April GFSR, the war and related sanctions will test the resilience of the financial system, including through direct and indirect exposures of banks and nonbanks, market disruptions in commodity markets, increases in counterparty risk, the acceleration of cryptoization, and possible cyber-related events.

[4] https://www.elibrary-areaer.imf.org/Macroprudential/Pages/Home.aspx

Box 1. U.S. Sanctions on Russia and Belarus

Since February, the U.S. and over 30 other countries have imposed economic sanctions and export-controls on a large number of Russian and Belarussian individuals, companies, and financial institutions.[1] Measures include:

- **Asset freezes/financing restrictions for designated entities**. U.S. persons are prohibited from engaging in transactions with the Central Bank, the National Wealth Fund, and the Ministry of Finance of the Russian Federation. The U.S. has also imposed a prohibition of transactions by U.S. persons new debt with a maturity of greater than 14 days or new equity of certain Russian state-owned enterprises and entities that operate in the financial services sector of the Russian Federation. .
- **New additions to specially designated nationals (SDNs) and Blocked Persons list**. U.S. persons are prohibited from dealing with SDNs or assets belonging to SDNs. Accordingly, any assets belonging to SDNs within the U.S. or that come within the possession of a U.S. person must be blocked. Targeted Russian and Belarusian entities include major financial institutions, state owned entities in the bitcoin mining industry, companies in key Russian or Belarusian sectors, and key Russian or Belarusian government officials and individuals that have close ties to the government. Entities owned directly or indirectly, 50 percent or more, by one or more blocked persons are also blocked.
- **Import restrictions**. Imports to the U.S. of Russian petroleum, natural gas and coal products and certain other Russian-origin goods (seafood, alcoholic beverages, non-industrial diamonds) are prohibited.
- **Export restrictions**. Restrictions on U.S. exports to Russia or Belarus apply to a wide range of goods, software and technology (with some limited license exceptions available). These restrictions apply to re-exports to Russia or Belarus of U.S. items from third countries, exports to Russia and Belarus of foreign-made items containing more than de minimis levels of U.S. content, and exports to Russia or Belarus of certain foreign-made items that are the "direct product" of U.S. technology. U.S. persons are prohibited from exporting, re-exporting, selling, or supplying, directly or indirectly, accounting, management consulting, or trust and corporate formation services. There is a ban on the export, sale, supply (directly or indirectly) of U.S. dollar denominated banknotes to the Russian government or any person located in Russia.
- **Investment restrictions**. New investments from the U.S. or by a U.S. person, wherever located, in any sector of the Russian economy are prohibited.
- **Airspace and port closures**. All Russian air carriers, commercial operators and Russian-owned aircraft are banned from operating to, from, or within the U.S. territorial airspace (with some exceptions, e.g., for emergencies, certain diplomatic operations). Russian-affiliated vessels are prohibited from entering U.S. ports.

The U.S. has also issued General Licenses authorizing U.S. persons to engage in certain activities that would otherwise be prohibited by these sanctions (such as the export or re-export of agricultural commodities, medicine, or medical devices).

Some of these measures constitute capital flow management measures introduced for reasons of national or international security.

[1] Executive Orders (EO) 14024, 14038, 14066, 14068, 14071. Directives 1–4 issued under EO 13662 in response to Russia's invasion and occupation of Crimea in 2014 are still in force. Department of Commerce (Bureau of Industry and Security), 15 CFR Part 744.

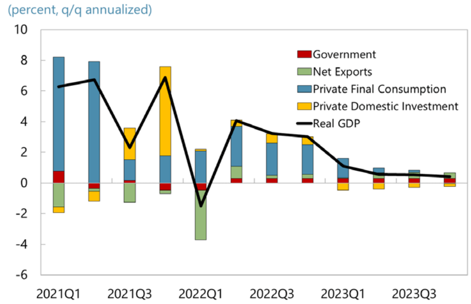
11. The 2021 external position remains moderately weaker than the level implied by medium-term fundamentals and desirable policies. The current account deficit rose over the past two years as the composition of consumer demand shifted away from services to tradeable goods, a huge fiscal stimulus was put in place, and the U.S. recovered faster than its trading partners. This left the current account deficit below its medium-term norm. The current account in 2022 is expected to be broadly similar to 2021 levels but the real exchange rate is now around 5 percent more appreciated than in 2021 (potentially adding to future imbalances in the U.S. external position).

OUTLOOK AND RISKS

12. Despite a range of positive outcomes, many of the downside risks highlighted at the time of the 2021 Article IV have now been realized. Congress did find common ground to pass an infrastructure package in November but was unable to legislate the broader tax and spending package that was proposed by the administration. This will modestly lower near-term growth prospects but, more saliently, will forego the positive supply-side benefits that many of these measures were expected to generate. Supply chain constraints have been more persistent than had been expected a year ago and there are now new concerns linked to the Russian invasion of Ukraine and Chinese lockdowns. Most saliently though, a broad-based surge in inflation—that was viewed as *the* leading economic risk at the time of the 2021 Article IV—has become a reality, posing systemic risks to both the U.S. and the global economy.

13. The strong underlying momentum in the U.S. economy is expected to wane over the next two years. In the near-term, consumption will remain the driver of growth as household savings are drawn down and the effects of the pandemic dissipate.[5] In addition, binding capacity constraints and the ongoing reshaping of the U.S. economy are expected to support continued capital formation, particularly in intellectual property. There is, though, considerable uncertainty over the net impact of higher oil prices on consumption and investment (Box 2). In addition, the withdrawal of fiscal and monetary support is expected to increasingly weigh on activity. All in all, growth is expected to fall to 0.7 percent q4/q4 by end-2023 and then pick up gradually into 2024. The U.S. is expected to narrowly avoid a recession. Nonetheless, the risk of the economy "stalling" and tipping into a short-lived downturn are significant. In particular, if the economy again gets hit by a negative shock, the predicted slowdown will likely turn into a short-lived recession. PCE inflation is expected to fall steadily as activity decelerates and supply-demand imbalances are resolved, reaching 2 percent on a year-on-year basis by end-2023.

Contributions to Real GDP Growth
(percent, q/q annualized)



Sources: BEA, Haver Analytics, and IMF staff calculations.

14. The main downside risk is an abrupt tightening in financial conditions (Appendix I). The most likely source of such a tightening would be if there were continued upside surprises to inflation. This could arise from an escalation of the Ukraine war, China shutdowns, a shift in inflation

[5] The overhang of household savings accumulated during the pandemic is estimated to be equivalent to around 14 percent of annual consumption.

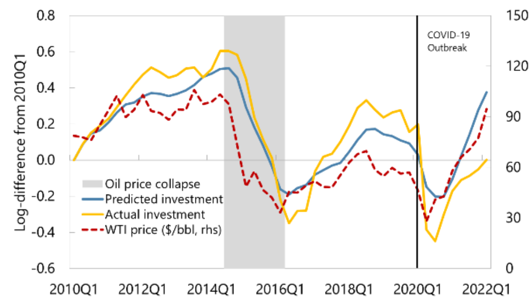
expectations (a risk that becomes larger the longer that realized inflation stays high), an acceleration in nominal wage demands, and/or greater-than-expected inertia in realized inflation. If inflation does surprise to the upside, this would shift market views on the likely path for the federal funds rate (i.e., to a path that is well above that signaled by the FOMC in its June meeting) which would have implications for a range of asset valuations. Such a tightening of financial conditions would impose a larger drag on U.S. activity but also have important global spillovers. A resurgence of COVID-19 at home or abroad represents an additional, salient downside risk to the outlook.

Box 2. The U.S. Oil Sector's Reaction to the Global Price Shock

Increased private investment in U.S. oil and gas has the potential to provide some relief to tight energy markets. The dominant type of production in the U.S. (hydraulic fracturing) can be ramped up faster than elsewhere. Typically, a 10 percent increase in oil and gas prices adds around 2.5 percent to U.S. oil and gas investment in the first year and a cumulative 5 percent after two years. Since the lead time from investment to production is roughly 6 months for shale oil and gas, these investments have the potential to quickly translate into higher energy output.

However, capital expenditure is lagging past responses to higher prices. Industry contacts expect capital spending to grow around 5–10 percent in 2022 and 2023 (an increase that has been largely unchanged after the Russian invasion of Ukraine). There are similarly modest changes in oil production forecasts.

Capital expenditure remains tepid despite higher oil prices.

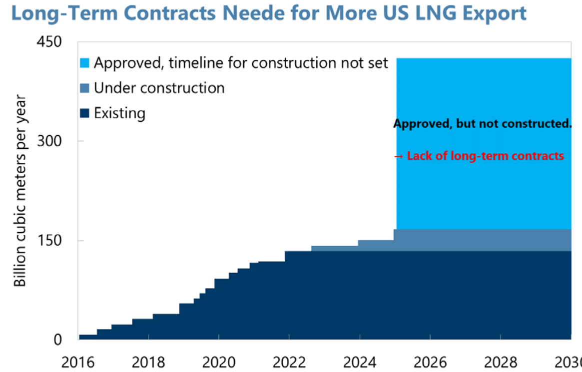


Sources: Haver Analysis, U.S. Energy Information Administration, and IMF staff calculations.
Note: The predicted investment is from the regression of real oil and gas investment on WTI real price, ratio of tight oil over total crude oil production, inflation, and long run interest rates. The real oil and gas investment is calculated as nominal weighted structure and equipment non-residential investment in oil and gas fields.

Having gone through several booms and busts, the industry's business plans are constrained by investors' unwillingness to increase leverage or scale back dividend payouts to fund new projects. This is despite current prices being well above break-even costs for most wells. As a result, public companies are typically re-investing only 30–50 percent of their free cash flow into new projects. Shortages of labor and equipment (e.g., steel pipes) have exacerbated cost inflation and delayed some projects. Constraints on the availability of capital due to Environmental, Social, and Governance standards may also play a role.

Natural gas exports are especially capacity constrained. LNG terminal projects require long-term take-or-pay commitments from buyers. However, European buyers are reluctant to make such commitments due to cost considerations and the uncertain pace of the transition to low carbon energy sources. Even with contracts in place, and with expedited approval and construction, it would take 2 or more years for a new terminal to come online. Insufficient gas pipeline capacity may be a further binding constraint over the short term (especially in the Appalachian Basin). Despite these challenges, LNG export capacity is expected to grow by 18 percent this year and could possibly double by 2030 (based on already-approved terminal projects).

Long-Term Contracts Neede for More US LNG Export



Source: U.S. Energy Information Administration
Note: Status as of April 15, 2022.

15. Authorities' views. In part thanks to the administration's strong response to the COVID shock, the U.S. recovery has been remarkably fast with a quick return to full employment. However, inflation has surprised on the upside over the past year and is expected to remain high in the near future. A dissipation of supply chain constraints, a steady increase in labor force participation, and a slowdown in demand (as financial conditions tighten and monetary and fiscal support are withdrawn) should facilitate a steady reduction in price pressures. Healthy balance sheets and the strong growth momentum already in place are expected to help maintain a strong labor market during this period of disinflation. Key risks include a slower decline in inflationary pressures, uncertainties related to the Russian invasion of Ukraine, and a possible resurgence of new COVID variants.

REDUCING WAGE AND PRICE PRESSURES

16. Taking the steam out of wage and price inflation without precipitating a recession is the principal near-term challenge facing U.S. policymakers. The latest data on inflation reveals sustained and broad-based pressures. More worryingly, shelter, healthcare and other service inflation have picked up and are likely to take time to bring down. The last time that policy had to contend with a material acceleration in inflation was in the 1980s, a period when both the structure of the U.S. economy and the framework for monetary policy were markedly different. As a result, past episodes may not provide a useful guide in navigating the current conjuncture. The uncertain and ongoing structural shifts in labor markets and the broader economy that were catalyzed by COVID-19 further complicate the situation.

17. The speed at which nominal wages took off in the last few months of 2021 has been impressive. At the forefront was a rapid expansion in the demand for workers which far outpaced the bounce back in labor supply. This led to an acceleration in wages that was faster than had been seen since the early-1980s and exceeded the wage increases seen in many other advanced economies. Part of the slow recovery in the labor supply reflects a demographic trend (as the share of older workers—who tend to participate less in the labor force—rises). The increase in wages and the broad availability of jobs should help boost labor supply. Despite this, the continuing recovery in participation is expected to be a protracted process, especially when compared to other advanced economies.[6]

18. In contrast to past U.S. recoveries, the most rapid wage increases have been incident on lower income workers. Prior to the pandemic, wage growth was consistently higher for those with a college education. However, since 2020, this differential is no longer apparent in the data.[7] Similarly, the nominal wages of the lowest two deciles of the income distribution are now 12 percent above pre-pandemic levels (the wage for the median worker is only 10 percent higher). This

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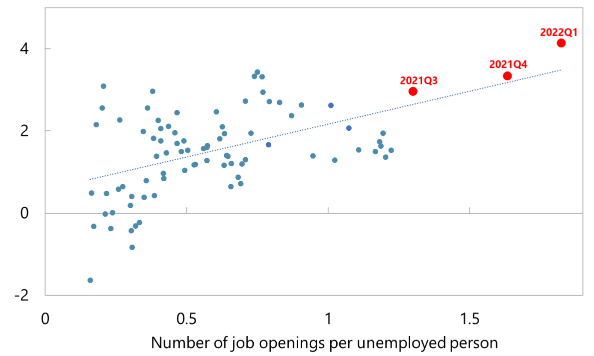
[6] See R. Duval, Y. Ji, L. Li, M. Oikonomou, C. Pizzinellli, I. Shibata, A. Sozzi and M. Tavares "Labor Market Tightness in Advanced Economies", International Monetary Fund Staff Discussion Note, 2022.

[7] A panel regression drawing on household data and controlling for demographics, region, industry, and union membership shows education to no longer being a significant determinant of real wage growth after 2020.

reduction in wage polarization has been seen also in a significant decline in the share of households earning less than half the median wage. It is, unclear, though, to what extent this reduction in wage polarization will be sustained.

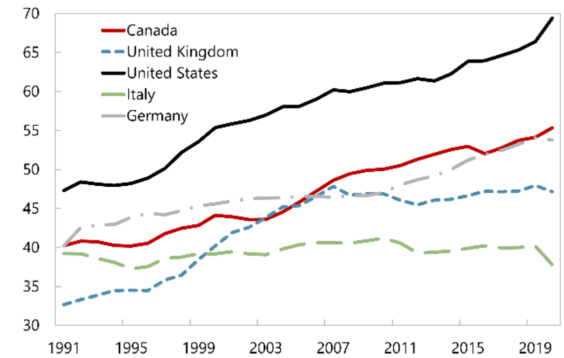
Real Median Wage Growth[1]
(y/y percent change, 2001-22)



[1] Nominal median wage growth deflated by one-year lagged PCE inflation

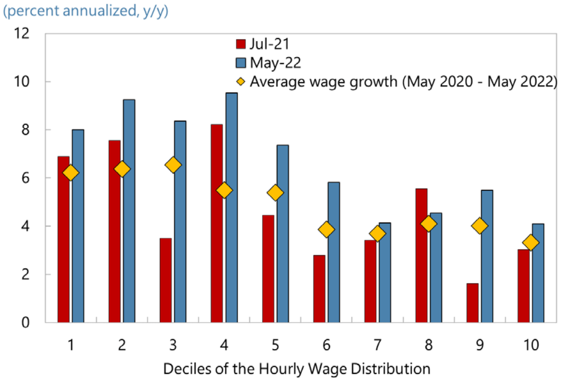
Sources: BLS and Federal Reserve Bank of Atlanta.

Average Annual Wages
(2020 US dollars, thousand)

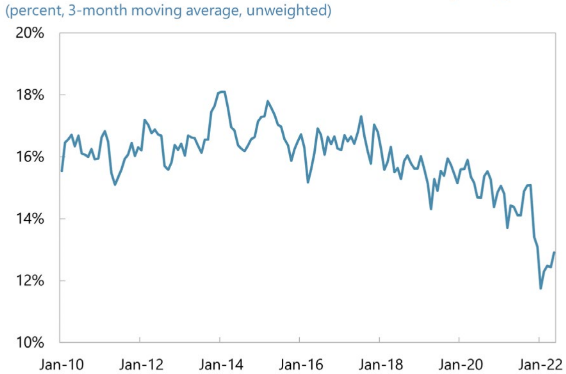


Source: OECD.

Wage Growth Across Deciles
(percent annualized, y/y)



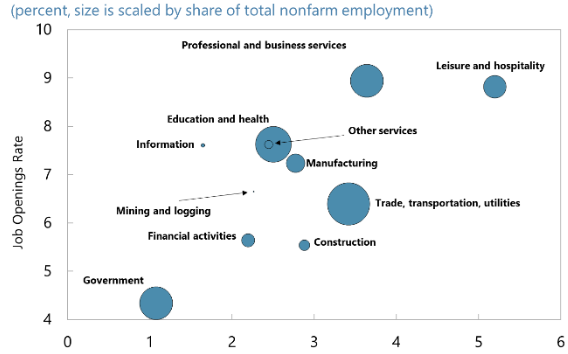
Share of Households Below 50% Median Hourly Wage
(percent, 3-month moving average, unweighted)



Sources: Current Population Survey, Federal Reserve of Atlanta, and IMF staff calculations.

19. The ongoing reallocation of workers has added to the upswing in nominal wages. The pandemic prompted a massive reshuffling of workers across industries, occupations and geographies, which is still playing out. The "churn" is most clearly captured by the continuing increase in the number of job-to-job transitions (which now exceed pre-pandemic levels). One of the side effects of this worker reallocation has been very high rates of quits, openings, and hiring. Notably, the vacancies to unemployment ratio is at the highest level since 2000 when the JOLTS data was first compiled. This increase in openings and quits has been most visible for leisure and hospitality services but other sectors have also seen a

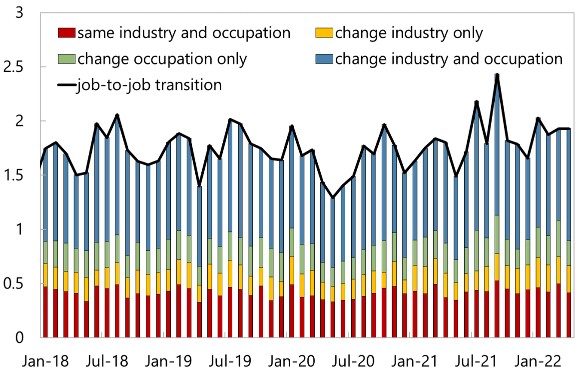
Job Openings and Quits
(percent, size is scaled by share of total nonfarm employment)



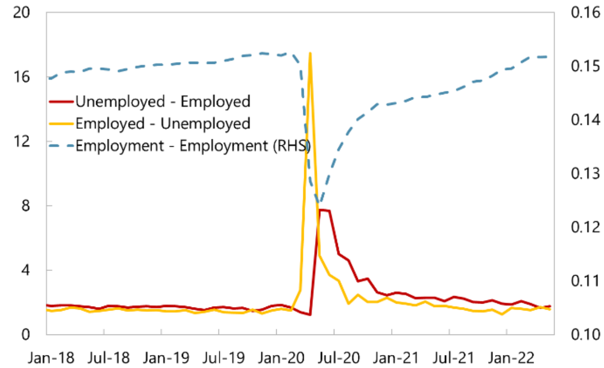
Sources: BLS, JOLTS (April 2022).

meaningful increase. The greater labor market dynamism that followed the pandemic has strengthened worker bargaining power and put upward pressure on wages (both for those who remain in the same job and, especially, for those workers who choose to switch employers).

Job-to-Job Transitions
(Share of employed in month t-1 who changed employer in month t, percent,3mma)



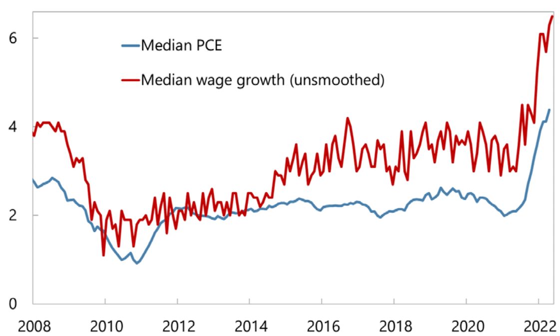
Labor Market Flows
(number of persons, million)



Sources: Current Population Survey, BLS, Haver Analytics, and IMF staff calculations.

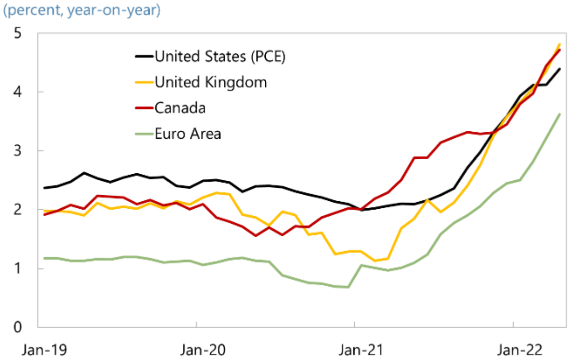
20. The acceleration in nominal wages was accompanied by a broadening of price pressures. This is most clearly highlighted by the growth of median PCE inflation that overlapped with the rise in median wages at the end of 2021. Despite these moves being contemporaneous, the regional and sectoral data suggests that the two-way feedback between wages and prices has been relatively weak and is likely to unfold over a longer horizon (Box 3). It is also worth noting that the rise in median inflation in other advanced economies has followed a broadly similar path to that in the U.S.

Median Wage Growth and PCE
(percent, y/y)



Sources: BEA and Federal Reserve of Atlanta.

Median Inflation
(percent, year-on-year)



Sources: Haver Analytics and IMF staff calculations.

21. Contending with these wage and price pressures will require a rapid withdrawal of monetary accommodation. Given the broad-based nature of wage and price inflation, a range of model simulations indicate that quickly bringing inflation back to 2 percent requires an increase in the ex-ante real policy rate to above neutral (Box 4). There is also some evidence to suggest that a secular increase in market concentration among U.S. corporates may dampen the transmission of monetary tightening, requiring a more decisive cooling of labor markets to stabilize the system (Box

5). Staff's baseline forecast is predicated on the median projection for the federal funds rate published at the June FOMC meeting. That rate path would push the ex ante real policy rate above zero by late-2022 and is expected to bring inflation back to 2 percent by late 2023/early 2024. However, if there is more inertia in wage and price inflation than is currently envisaged, a tighter policy stance will be needed to bring inflation back to target. This would lead to a more pronounced increase in unemployment and a short recession (Figure 1).

22. **In addition to adopting a more front-loaded rate path, the Federal Reserve's balance sheet should be quickly pared back (as was communicated in the May FOMC meeting)**. However, the empirical evidence suggests that balance sheet run-off is likely to have a relatively small impact on monetary conditions (Box 6). As such, changes in the federal funds rate will need to continue to be the primary tool for policy.

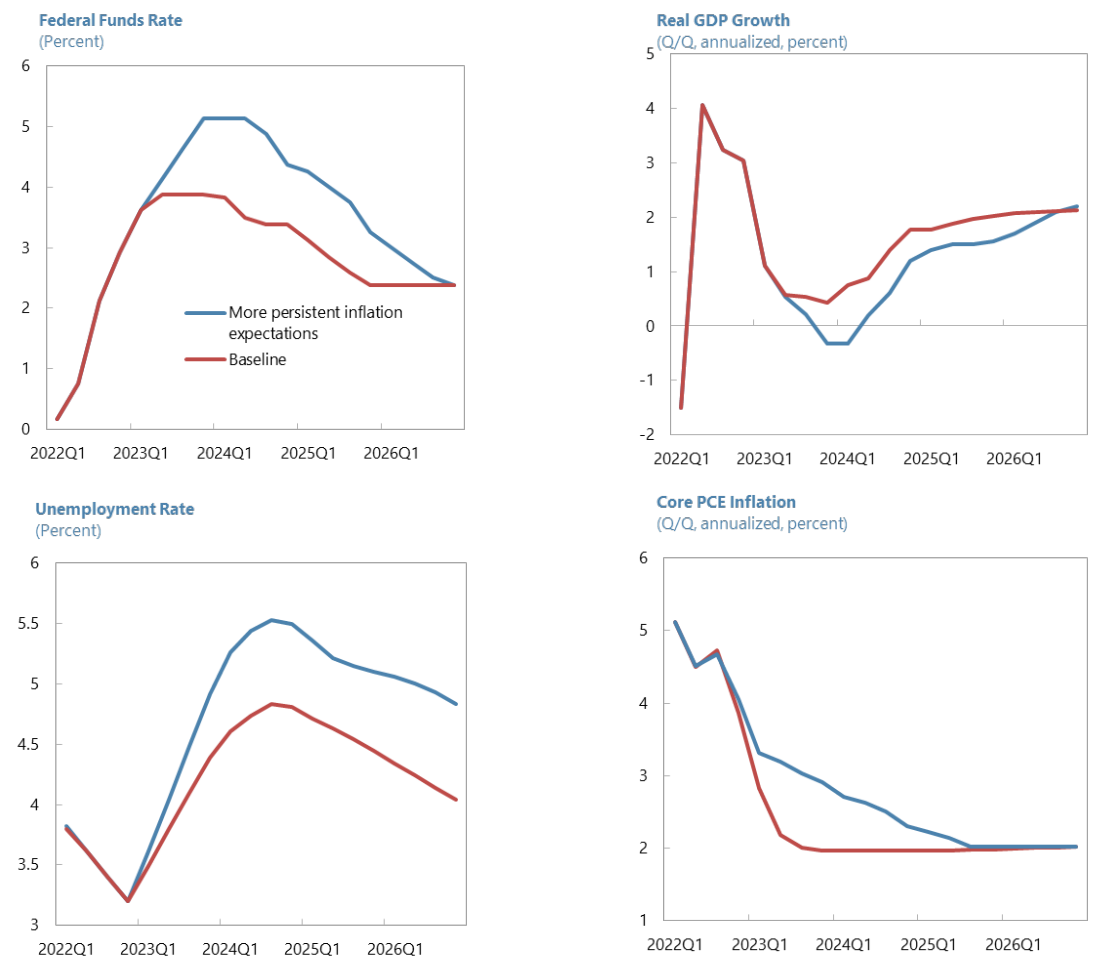
23. **The effective communication of policy intentions will help keep medium-term inflation expectations anchored and bring inflation back to target**. To strengthen the communications toolkit, the Federal Reserve could begin publishing, at each policy meeting, an internally-consistent economic projection and rate path—produced by Fed staff and potentially endorsed (or otherwise recognized) by the FOMC. This central forecast should be supplemented with a few alternate, quantified scenarios to show the range of views on the FOMC and the distribution of risks around the baseline. This would be preferable to the current reliance on the quarterly Summary of Economic Projections to convey FOMC members' policy expectations. Putting in place such a communications device would help ensure that policymakers' expectations about the likely future path for the policy rate are clearly conveyed and, in so doing, would strengthen the impact of forward guidance. The Federal Reserve could also usefully clarify in its Statement on Longer-Run Goals and Monetary Policy Strategy how the policy framework applies in an environment where inflation has moved well above two percent.

24. **Bringing down inflation poses important macro and financial stability risks**. Coupled with the pullback of fiscal stimulus, the envisioned withdrawal of monetary accommodation will further tighten financial conditions and restrain demand. A clear communication of policy intentions—particularly by the Federal Reserve—will help reduce the possibility that this shift in financial conditions is abrupt or disruptive. However, even with effective communications, a smooth transition back to lower inflation is by no means assured. Monetary policy will have to contend with a complex transmission of policy to financial and macroeconomic outcomes, including through the nonbanks (Box 7). Policymakers also face significant ongoing uncertainties related to the pandemic, China lockdowns, and the Russian invasion of Ukraine. This means there is a material chance that the needed shift in monetary policy will trigger a contraction in activity and a sizable increase in unemployment. Such a scenario would evidently have important negative outward spillovers—both through a drop in U.S. demand and a tightening of global financial conditions—that could side-swipe countries, individuals and firms that are leveraged in U.S. dollars and/or that face sizable near-term funding needs.

25. **Authorities' views**. Inflation remains unacceptably high and bringing down inflation is a top priority of the Federal Reserve and the administration. The FOMC has increased its policy rate at its

meetings since March and clearly indicated its expectation of ongoing increases in the target range for the federal funds rate in the coming FOMC meetings. There is also clarity about the strong commitment and determination of policymakers to restore price stability. Given the high degree of uncertainty in the pace and timing of disinflation, the Federal Reserve is being data dependent and is following an approach that involves expediting the return of the policy rate to neutral or modestly restrictive settings and then assessing, later this year, the effects of these policy changes and whether or not further policy adjustments are then required. The plan to reduce the Federal Reserve's balance sheet is underway and will help firm the stance of monetary policy. The Federal Reserve considers its existing suite of communication tools—including the FOMC statement, press conferences after each meeting, the Summary of Economic Projections, minutes of FOMC meetings, and periodic speeches by senior officials—as being well understood by market participants and effective in aligning market expectations of the policy outlook with the FOMC's own assessment.

Figure 1. Two Scenarios for the Path of the Federal Funds Rate



Source: IMF staff calculations.

26. Beyond the downside macro risks, it is possible that markets may not smoothly absorb higher interest rates and the shrinking of the Fed's balance sheet. As discussed earlier, there are known shortcomings in the “plumbing” of key Treasury and money markets and certain asset management vehicles pose run risks. If such systemic vulnerabilities in market functioning were to materialize, the Federal Reserve would face a tricky dilemma in deciding whether or not to inject liquidity to restore market functioning at the same time as interest rates are moving higher to contain inflation. The introduction of standing facilities for primary dealers and foreign and international monetary authorities should help mitigate potential volatility in short-term interest rates but more needs to be done (including to reduce the possible stigma associated with the use of these facilities). Future changes that should be considered include the introduction of central clearing for the Treasury market, modifying the design of the supplementary leverage ratio (to allow for an increase in dealer intermediation capacity), moving all money market funds to a floating net asset value, considering more binding (and possibly countercyclical) liquid asset requirements, subjecting asset management vehicles to an annual liquidity stress test, instituting pre-determined arrangements to lock-in a proportion of an investor’s shares in the event of unusual outflows, providing for in-kind redemptions to meet withdrawals by institutional investors, and allowing for swing pricing or temporary gates on outflows.

27. Authorities’ views. Recent years have seen episodes during which some markets were under stress. At the same time, the overall size and flows through key markets have grown significantly and are increasingly influenced by the activities of automated trading strategies. During the course of 2022, measures of liquidity and market depth in many markets have declined—notably in the Treasury market. On the whole, U.S. markets have functioned well in 2022. Furthermore, work is underway in hedge funds, open-ended mutual funds, and Treasury and related markets to close data gaps and increase the resilience-under-stress of these entities and markets.

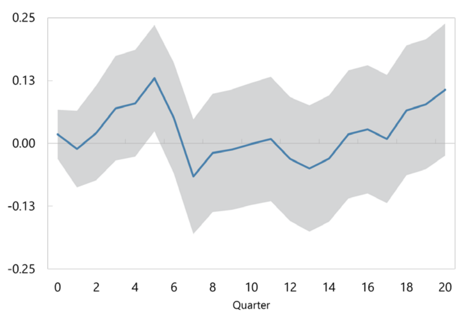
Box 3. Prospects for a Wage-Price Spiral

The evidence suggests a relatively weak feedback loop between wages and retail prices in the U.S. The pass-through from wages to prices has tended to be low and concentrated in services. Furthermore, higher prices only partially feed into nominal wage growth, and even then do so with a considerable lag.

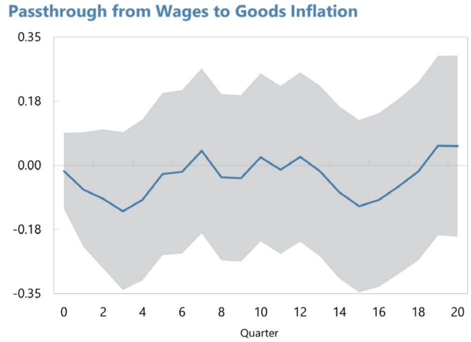
The empirical literature offers limited evidence on the wage and price feedback loop. At the macro level, the link between labor cost and price inflation has been declining over the past three decades.[1] Analysis using disaggregated data has, however, been relatively scant. Rissman[2] finds a weak passthrough of wages to inflation and only in the manufacturing and retail sectors. Heise et al.[3] find some evidence of passthrough from wage growth to producer price inflation in the services sector (but do not examine whether this translates also to retail price inflation).

Sectoral data suggests the acceleration of nominal wages has likely added only modestly to services inflation. Input-output matrices were used to construct industry wage costs across 73 sectors and these were matched with the same sectoral prices from the personal consumption expenditure index. Following the empirical strategy in Heise et al. (2021), panel estimates were then used to estimate the impact of wages on consumer prices (controlling for sectoral productivity growth and incorporating time and industry fixed effects). The results suggest that the passthrough from higher wages to services inflation is only around 13 percent after five quarters and there is no material passthrough to goods inflation. Restricting the sample to the post-COVID period suggests, if anything, that the passthrough to services has been smaller over the past two years than the historic average.

Passthrough from Wages to Services Inflation

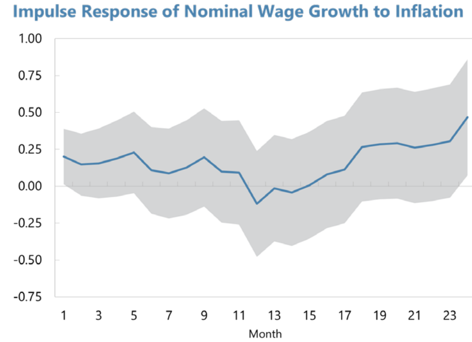


Passthrough from Wages to Goods Inflation



A panel regression using monthly data from 23 metropolitan areas was used to estimate the historical passthrough of local-level inflation to local nominal wage growth. The regressions control for labor market slack, unionization, the share of part-time workers, the share of the self-employed, and the share of those being paid on an hourly basis. Impulse responses suggest that the reaction of nominal wage growth to a shock in prices in the same metropolitan area is close to zero even after a year. It rises slowly to around one-half after 24 months.

Impulse Response of Nominal Wage Growth to Inflation



[1] Bobeica, E., Ciccarelli, M. and Vansteenkiste, I., 2021, "The Changing Link Between Labor Cost and Price Inflation in the United States". European Central Bank Working Paper, No 2583, August 2021.

[2] Rissman, E., 1995, "Sectoral Wage Growth and Inflation", Economic Perspectives, Federal Reserve Bank of Chicago.

[3] Heise S., Karahan F., and Sahin A. , 2021, "The Missing Inflation Puzzle: The Role of the Wage-Price Passthrough", Journal of Money, Credit and Banking.

Box 4. Monetary Policy Paths to Return Inflation to Target

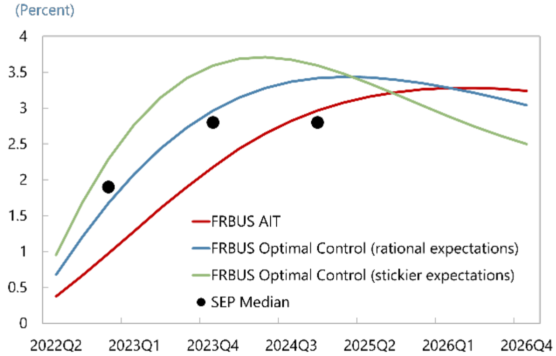
Three different policy paths were simulated in the Fed's semi-structural FRBUS model. The broader message is, to expeditiously return PCE inflation to target, the federal funds rate would need to rise above its neutral level (calibrated here as 0.5 percent in real ex ante terms) and remain above neutral for at least one year.

- **Average inflation targeting.**[1] Under this policy rule, the rate path is a function of the deviation of the three-year trailing average of inflation from 2 percent and the deviation of output from potential. As such, the backward-looking averaging implies a more gradualist approach to bringing down inflation. Conditioned on current circumstances, this policy rule would increase the federal funds rate by around 100bp each year in 2022–24 leading to a relatively slow decline of inflation (reaching two percent in 2026). Ex ante real rates would remain below neutral until 2024.

- **Optimal control.** This policy response maximizes intertemporal welfare (defined as squared deviations of unemployment from NAIRU and squared deviations of inflation from the 2 percent target). Also, to prevent disruptive jumps in the policy rate, policymakers are assumed to smooth the adjustment in the federal funds rate. The optimal path from such a simulation increases policy rates around 300bp by end-2023 and a further ½ percent in 2024. Ex ante real rates rise above the neutral level in 2023 H1, which brings inflation back to target in 2024. Such a rate path would lower growth to 1.5 percent in 2025, causing unemployment to rise marginally above 4 percent.

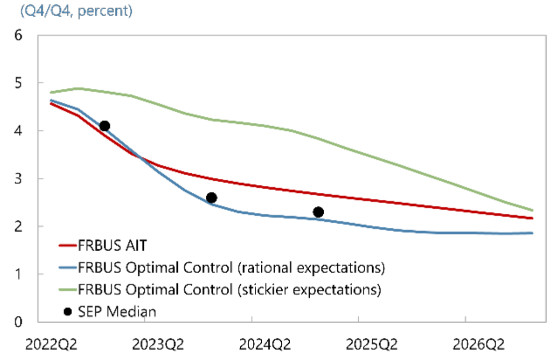
- **Stickier expectations formation.** With inflation having run very high for the past year or more, near-term inflation expectations may have already become entrenched at higher levels. To examine the implications of this possibility, the optimal policy response is computed after modifying the expectations formation process to be more inertial (i.e., that agents expect above-target inflation will persist for longer). A more front-loaded path for the federal funds rate is needed, peaking at close to 4 percent. This returns inflation to target but over a longer timeframe. Unemployment rises above 4 percent in early 2024, remaining at 4–4¼ percent over the medium term. This implies a higher sacrifice ratio to disinflate. The simulations also indicate that the pace of disinflation and optimal rate path depend critically on assumed model parameters and, particularly, assumptions about expectations formation.

Fed Funds Rate
(Percent)



Sources: Federal Reserve Board and IMF staff calculations.

Core PCE Inflation
(Q4/Q4, percent)



Sources: Federal Reserve Board and IMF staff calculations.

[1] It is worth noting that the average inflation targeting rule in this box is an IMF staff assumption and does not represent the Federal Reserve's current policy framework. The longer-term goal of the Federal Reserve is to achieve inflation that averages 2 percent over time but aims to have inflation moderately above 2 percent only after periods when inflation has been running persistently below 2 percent. In addition, policy is designed to react only to shortfalls of employment from its maximum level (the policy rule here reacts symmetrically to the output gap).

Box 5. Monetary Policy and Labor Market Power[1]

A large panel dataset of 250 million online posting of vacancies was used to capture how employers respond to monetary policy shocks[2] and whether that reaction depends on the degree of labor market monopsony power of the employer (as measured by the vacancies a firm posts relative to the total number posted within a specific commuting zone).

After controlling for commuting zone, firm and time fixed effects, a firm's degree of market power is found to amplify the impact on the number of vacancies posted from changes in monetary policy.[3] To give a sense of magnitudes, a firm in the top 5 percent of monopsony power is found, in response to a monetary tightening, to decrease its vacancy postings by 30 percent more than a similar firm without such labor market power. This amplification effect is found to be even larger for vacancies that do not require a college degree or specific technological skills.

Using the same panel dataset to look at the impact of a monetary policy shock on wages finds there to be no significant difference in wage offers based on the firm's degree of monopsony power. This would suggest that the trade-off between labor market tightness and wages is flatter for firms that have more purchasing power in local labor markets. The implication is that, all else equal, at higher levels of monopsony power a surprise tightening of monetary policy leads to a sharper increase in unemployment and more modest effects on wages.

Estimating a wage Phillips curve (at the commuting zone level) and allowing the slope of the curve to be based on the degree of monopsony power corroborates the idea that wages at firms with labor market power are less reactive to the degree of slack in local labor markets. In commuting zones where employers are smaller and more competitive, there appears to be a much steeper relationship between wages and unemployment. Wage offers by firms with high labor market power, on the other hand, are not statistically related to the level of unemployment. From a longitudinal perspective, the secular increase in the concentration of U.S. corporate system may partially explain the flattening trade-off between wage growth and unemployment.[4]

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[1] Burya, A., R. Mano, T. Yannick and A. Weber, 2022, "Monetary Policy Under Labor Market Power," IMF WP/22/128.

[2] We use monetary policy surprise shocks derived by Jarocinski, M. and P. Karadi, 2020, "Deconstructing monetary policy surprises—the role of information shocks", American Economic Journal: Macroeconomics, 12 (2), pp. 1–43.

[3] While the panel dataset provides information on vacancies, matching it with data from Compustat on employment finds a strong empirical relationship between the two.

[4] Galí, J. and L. Gambetti, 2019, "Has the U.S. Wage Phillips Curve Flattened? A Semi-structural Exploration," NBER Working Paper 25476, and Leduc, S. and D. Wilson, 2019, "From NY to LA: A Look at the Wage Phillips Curve Using Cross Geographical Data," 2018 Meeting Papers 1290, Society for Economic Dynamics.

Box 6. Evidence on the Effects of Balance Sheet Reduction

While there have been extensive studies on the effects of quantitative easing in the U.S., the literature on the impact of *reducing* the central bank's balance sheets is much less exhaustive.[1] Empirical analysis does suggest, though, that the impact of balance sheet policies is likely to be asymmetric (which would preclude assuming that the effects of balance sheet run-off is the inverse of effects measured during the expansion of the balance sheet).

Event studies assess that Federal Reserve *announcements* relating to balance sheet reduction during 2014–19 had no measurable impact on financial conditions.[2] This could be because the pace of balance sheet reduction in the last cycle was more gradual than the expansion, because announced policy changes were already built into market expectations, and/or because—unlike during the balance sheet expansion—there was no implied forward guidance on the rate path being attributed to the timing of run-off (Fed officials even characterized it as "like watching paint dry").

There is some evidence that the actual *implementation* of the reduction of the balance sheet leads to a tightening in financial conditions. This may suggest there is a measurable liquidity effect that increases the spread between the fed funds rate and the interest paid on excess reserves, and tightens financial conditions, as excess reserves decline.

Extrapolating from the effects of balance sheet reduction in 2017-2019 would suggest potentially modest effects on financial markets and macro outcomes as the caps on reinvestments are increased. However, there are important differences in the current episode relative to the last balance sheet run-off: the monthly pace of balance sheet reduction is much faster; the balance sheet is being reduced from a much higher level; the run-off is occurring much sooner in the tightening cycle (only 2 months after the first increase in the federal funds rate whereas in the previous cycle it was 2 years after); it is being accompanied by a much faster increase in policy rates; and there have been important changes in the Federal Reserve's monetary policy strategy since outcomes-based forward guidance more tightly embedded into the new framework (i.e., that the federal funds rate would remain at the effective lower bound until inflation rises to 2 percent and is on track to moderately exceed 2 percent for some time). These factors could either increase or reduce the effects of balance sheet policy and its impact on financial conditions.

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[1] See Kuttner, K. (2018). "Outside the Box: Unconventional Monetary Policy in the Great Recession and Beyond," *Journal of Economic Perspectives, 32(4), 121-46*; Dell'Ariccia, G., Rabanal, P. and Sandri, D. (2018). "Unconventional Monetary Policies in the Euro Area, Japan, and the United Kingdom," *Journal of Economic Perspectives*, 32(4), 147-72.

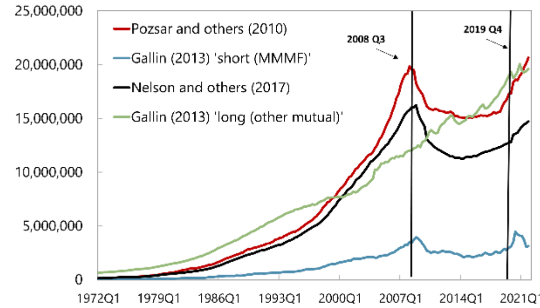
[2] Smith, A. and Valcarcel, V. (2021). "The Financial Market Effects of Unwinding the Federal Reserve's Balance Sheet" Federal Reserve Bank of Kansas City Research Working Paper 20-23.

Box 7. Monetary Policy and the Growth of Non-Bank Finance[1]

Non-Bank Financial Institutions have grown rapidly in recent years. A functional definition of market-based finance[2] derived from flow of funds data shows substantial growth in short and longer-term market-based finance (even as securitization activity fell markedly after the 2008-09 financial crisis and important structural shifts took place following reforms to the money market industry).

Size of US Market-Based Finance

(US$ millions)

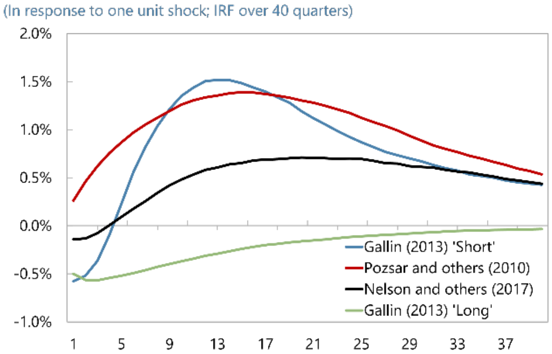


Sources: Pozsar and others (2010); Gallin (2013), Nelson and others (2017)

Based on historical experience, tighter monetary policy should be expected to contract credit but also lead to a shift in the composition of how that credit is intermediated through the non-banks. A Bayesian VAR analysis shows that a contractionary monetary policy shock[3] initially tends to reduce the growth rate of short duration market-based finance. However, after around a year, flows shift back into those nonbank vehicles, potentially in order to benefit from lower funding costs and less burdensome regulatory constraints (especially relative to banks). On the other hand, credit intermediation by longer term mutual funds, insurance and pension funds are found to permanently decline in response to tighter monetary policy. Data on flows into long-term mutual funds from the Investment Company Institute corroborates these findings, showing that a contractionary monetary policy shock leads to outflows from longer duration nonbank finance and reduces the returns earned on both bond and, especially, equity funds.

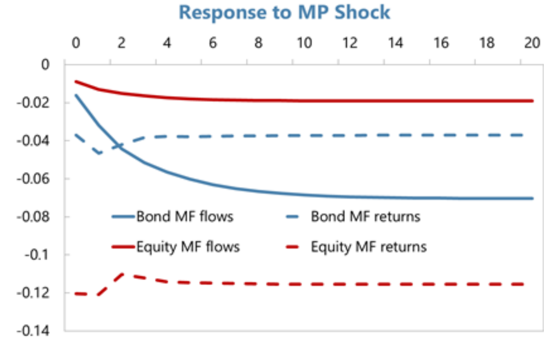
Impact of Monetary Policy on Non-Bank Asset Growth

(In response to one unit shock; IRF over 40 quarters)



Sources: Authors' calculations.

Total Bond and Equity Mutual Fund Flows and Returns in Response to MP Shock



Note: Significant at the 5 percent level throughout simulation period.

[1] See A. Hodge and A. Weber, "Non-Bank Finance and the Transmission of Monetary Policy", IMF Working Paper (forthcoming).

[2] See Gallin (2013), "Shadow Banking and the Funding of the Nonfinancial Sector," Finance and Economics Discussion Series 50, Board of Governors of the Federal Reserve System. One potential caveat to these measures relates to potential data gaps in flow-of funds statistics (see IMF WP18/62).

[3] Monetary shocks are from Jarocinski and Karadi, (2020), "Deconstructing Monetary Policy Surprises—the Role of Information Shocks", *American Economic Journal: Macroeconomics*, 12 (2), pp. 1–43.

ENERGIZING SUPPLY SIDE SOLUTIONS

28. The Infrastructure Investment and Jobs Act, which was signed into law in November, was an important step forward in addressing supply-side constraints to growth. The legislation increased public capital spending by 2.3 percent of 2022 GDP, spread over the next 10 years. The appropriation included resources to improve roads, public transit, ports, airports and waterways; expand access to clean water and broadband; improve the electricity grid; and start to build out an electric vehicle charging network. By removing bottlenecks and expanding capacity, these investments are expected, over the medium term, to add to the productive capacity of the economy. However, more infrastructure spending will likely be needed in the coming years to fill the infrastructure gap (which was estimated in 2021 by the American Society of Civil Engineers at over 10 percent of 2022 GDP), bring the overall quality of U.S. public infrastructure to the level of other industrialized economies, and ensure the existing public capital stock is well maintained and resilient to the effects of climate change.

29. Despite progress on infrastructure, the inability to pass the rest of the administration's reform agenda represents a missed opportunity to energize the supply side of the U.S. economy. In particular, policies that are able to release supply side constraints, raise productivity, and incentivize labor force participation would command a particular premium at this juncture. The U.S. has the fiscal space to make these changes and they would represent multi-year commitments that have relatively small implications for total spending (less than 0.5 percent of GDP per year). The near-term implications for the fiscal deficit and debt should, nonetheless, be offset through tax measures in order to avoid adding to near-term demand pressures. Such policies include:

- Subsidies or tax credits to defray the cost of childcare and allow parents with young children to return to the workforce.[8]

- Increasing the generosity, and expanding the coverage, of the earned income tax credit which creates an important incentive to work for lower income households.[9]

- Providing paid family leave to help increase female attachment to the labor force and raise participation.[10] The evidence also suggests such leave can lead to better health outcomes, less poverty, and improved economic security.

- Removing "cliffs" in social benefits so as not to disincentivize labor supply as a result of the loss of social assistance as incomes rise.[11]

[8] See G. Whitehurst, "Why the Federal Government Should Subsidize Childcare and How to Pay for It", Brookings Economic Studies, 2017.

[9] See B. Meyer, "The Effects of the Earned Income Tax Credit and Recent Reforms", Tax Policy and the Economy, 2010.

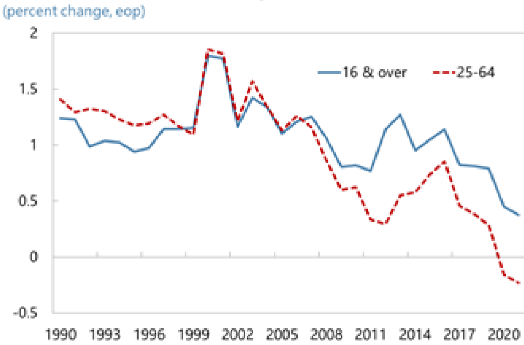
[10] For a survey of the literature, see Congressional Research Service, "Paid Family and Medical Leave in the United States", February 2020.

[11] See "Reframing Benefits Cliffs: Solutions for an Inclusive Recovery", Federal Reserve Bank of Atlanta, 2020 or "Addressing Benefits Cliffs", National Conference of State Legislatures, 2019.

- Increase access to healthcare, higher education, and vocational training—particularly for lower income groups—in order to raise human capital, close skills gaps, and improve productivity.

- Reforming the existing immigration system to increase the net inflow of workers and ensure the right supply of skills in the U.S. labor force, particularly given ongoing shifts in the structure of the economy. Since 2016, the inflow of permanent residents has fallen markedly, contributing to a decline in the growth of both the population and labor force. This fall was further deepened by the onset of the pandemic.

Civilian Noninstitutional Population
(percent change, eop)



Sources: BLS.

30. As discussed in the 2021 Article IV, there is scope to increase the corporate tax rate and raise the tax burden on higher income households and pass-throughs. There are also significant loopholes in the tax code that are both inequitable and distortionary (including "step-up basis" that allows the wealthy to avoid capital gains tax and "carried interest" that incentivizes high earners to recharacterize their labor income to obtain a lower tax rate). Reducing the minimum threshold for the estate tax (from the current US$23.4 million for a married couple) is warranted. Finally, it will be important to legislate the globally coordinated agreement on a minimum corporate tax so as to counter profit shifting and base erosion. Doing so will be beneficial to the U.S. but will also have positive spillovers to the global system as a whole. Unfortunately, there appears to currently be little appetite in Congress to legislate such improvements in the U.S. tax code.

31. Authorities' views. The administration's priorities remain to rebuild U.S. infrastructure, combat the climate crisis, and lay a new foundation for longer run growth. The Infrastructure Investment and Jobs Act represents a once-in-a-generation investment to build a better America, create well-paid union jobs, and underpin sustainable growth. In implementing the law, a particular focus has been on ensuring traditionally underserved communities have equitable access to the benefits that these investments generate. The administration remains committed to expanding the productive capacity of the economy while at the same time reducing the fiscal deficit. Priorities include cutting prescription drug costs, investing in child and elderly care, expanding access to higher education including by providing tuition-free community college, providing health coverage to the uninsured, and instituting paid family and medical leave. These initiatives could be fully paid for through an increase in the corporate income tax and by ensuring the wealthiest Americans pay their fair share in taxes (including by increasing taxes on their capital income and closing a range of loopholes). The administration is fully committed to implementing the global agreement on new international corporate tax rules that included a global minimum tax. The administration is also committed to modernizing the U.S. immigration system while strengthening border controls through technology and better infrastructure at the ports of entry.

32. The administration should institute permanent improvements in the safety net to help poor families who are currently facing rising energy, transport, shelter, and food costs. This could include permanently expanding the availability of food assistance for poorer households (e.g., through the Supplemental Nutrition Assistance Program and other federal food programs targeted at families with children). At the state level, consideration could be given to deploying some of the un-used federal transfers from the American Rescue Plan to improve safety net programs (like Temporary Assistance for Needy Families and Medicaid). Also, given the demonstrated positive effects on low-income households from the policies in the American Rescue Plan, a more narrowly targeted (i.e., available to the bottom 2 or 3 deciles of the income distribution), refundable Child Tax Credit[12] should be made permanent. The now-expired expansion of the Earned Income Tax Credit should also be reinstated and made permanent.

33. Authorities' views. The policies of the American Rescue Plan made important in-roads into reducing poverty in the U.S. In particular, the refundable child tax credit and the earned income tax credit have had a demonstrated, powerful effect in supporting the poor, particularly families with children. Furthermore, the rapid repair from the pandemic—helped by significant policy support—had increased employment opportunities for lower income workers and raised their wages. Executive authority has been used to prevent work requirements being applied by states to Medicaid support and to fix the "family glitch" in the Affordable Care Act (whereby the qualification threshold for health insurance subsidies is based on the cost of the employer-provided plan for the individual only, excluding their dependents).

34. A strategy for deficit reduction will be needed to increase the general government primary balance to a modest surplus. A 1 percent of GDP general government primary surplus would be sufficient to put the public debt-GDP ratio on a downward path by the end of this decade (although the debt-GDP ratio would remain well above pre-pandemic levels for decades to come). As articulated in past Article IV consultations, there are a range of possibilities to achieve this medium-term goal. These could include scaling back poorly targeted tax expenditures (such as exemptions for employer-provided health care, for individuals selling their principal residence, for mortgage interest, and for state and local taxes), phasing in a federal consumption tax and/or a carbon tax (alongside well-designed assistance to protect the poor), reducing imbalances in the social security system, and containing health care costs.[13]

35. Open trade policies, at home and abroad, remain vital to boosting economic performance and easing supply constraints. As a first step, the administration should roll back tariffs and other trade distortions that were introduced over the past 5 years (including the tariffs on steel, aluminum, and a range of products imported from China). Doing so would support growth and help reduce inflation. At the same time, the administration's "worker-centered" trade policy could be bolstered by domestic policies—such as worker training, apprenticeship programs, and infrastructure development—to increase the productivity of U.S. firms and workers and increase their ability to compete in global markets. The U.S. should actively engage with all major trading

[12] K. Bergant, A. Medici, and A. Weber, "Winning the War? New Evidence on the Measurement and the Determinants of Poverty in the United States", IMF WP 2022/004, find that the refundable child tax credit alone was able to halve child poverty.

[13] See A. Weber, L. Lin, and M. Mrkaic, "U.S. Healthcare: A Story of Rising Market Power, Barriers to Entry, and Supply Constraints", IMF WP 2021/180.

partners to address the core issues that risk fragmenting the global trade and investment system, trying to find common ground in areas such as tariffs, farm and industrial subsidies, and services trade. Strengthening U.S. engagement at the WTO—including by supporting a functioning dispute settlement system—would foster cooperation and help to promote the trade policy certainty that is so important to investment and growth.

36. Authorities' views. The administration's approach to trade is grounded in its worker-centered trade policy and is designed to build a more equitable and inclusive economy, while protecting American workers. An example of the administration's approach toward meaningful trade engagement includes the recently launched Indo-Pacific Economic Framework for Prosperity that the administration initiated with 13 countries seeking to fuel economic activity and investment, promote sustainable and inclusive economic growth, and benefit workers, consumers, and businesses across the region. The administration is seeking to make the WTO's negotiating arm more effective, to promote transparency, and to improve compliance and enforcement of WTO commitments. It is also seeking to effectively address non-market policies and practices such as subsidies and excess capacity, and is working together with partners (including the EU and Japan through the Trilateral partnership) to identify gaps in existing trade policy tools and where further work is needed to develop new tools. Clarification of WTO rules, as they apply to border carbon adjustments, would be helpful in avoiding future tensions. Finally, the administration sees tariffs as a valid tool for addressing the consequences of unfair competition, has begun a mandatory four-year review of Section 301 tariffs on China, and has maintained Section 232 national security tariffs on steel and aluminum, especially given distortions arising from global, non-market excess capacity. With the arrangements announced with the European Union, Japan, and the United Kingdom, the administration is working with partners to jointly take actions to address non-market excess capacity and to preserve the U.S. steel and aluminum industries.

37. There is a need to increase the resilience of U.S. supply chains. The administration has established an interagency Supply Chain Disruptions Task Force to improve the functioning of supply chains, address bottlenecks, and promote economic and national security. Legislation is also being considered to support domestic investment in specific products and technologies. A more resilient global production system would be beneficial to both the U.S. and the global economy. As the U.S. undertakes these efforts, it should incorporate best practices such as greater diversification of input sourcing across countries; improving infrastructure, logistics and information systems; and reducing trade costs. It will be important that the pursuit of supply chain resilience is not used as a motivation to favor domestic over foreign producers or to create incentives that fragment the global trading system.

38. Authorities' views. The COVID-19 pandemic and subsequent recovery had highlighted the fragility of some global supply chains and these concerns were further fueled by the Russian invasion of Ukraine. A presidential task force has been established across multiple agencies to identify the source of disruptions and develop policy responses to ameliorate them. A particular emphasis was being placed on both economic and national security considerations and having in place a diverse and healthy ecosystem of suppliers. Policies are being developed on a sector-by-sector basis that would incentivize greater reliance on strategic allies and, in some cases, stockpiling certain commodities and products. The administration is currently prioritizing critical supply chains in semiconductors, large capacity batteries, critical mineral and materials, and pharmaceuticals. Policies include federal support for domestic manufacturing, deploying the Defense Production Act to expand capacity in critical industries, increasing public investments in research and development, building strategic stockpiles of critical products, and focusing federal procurement on domestically made products. Efforts are also underway with allies to strengthen collective supply chain resilience and improve information on the structure of supply chains.

TRANSITIONING TO A LOW CARBON MODEL

39. Over the past year, steps have been taken to reduce emissions and transition to cleaner sources of energy. The Infrastructure Investment and Jobs Act included various provisions to expand public transit, build electric vehicle chargers, weatherize homes, and increase the resilience of roads, bridges, and the power grid. In addition, other changes have been made including raising fuel economy standards for passenger vehicles and putting in place an action plan to reduce methane emissions.

40. The authorities' ambitious climate goals cannot be achieved without more determined action. The setback in passing the Build Back Better Act endangers the achievement of the administration's emission reduction goals. Regulatory and executive actions are unlikely to be sufficient to incentivize the needed transition to a low carbon economic model.[14] A more effective strategy would be one that combines broad-based carbon pricing, sectoral feebates, regulatory actions, and the elimination of subsidies for fossil fuel and carbon-intensive agriculture.[15] If the share of electricity generation from renewables can be significantly increased, including through instituting a national clean energy standard, policies should be put in place to incentivize a rapid switch to electric vehicles (e.g., by expanding federal tax credits, switching the federal fleet to electric vehicles, and accelerating the national build out of a comprehensive charging infrastructure). Policies could usefully also focus on incentivizing improvements in the energy efficiency of existing and new buildings (including by retrofitting federally owned buildings) and reducing greenhouse gas emissions from agriculture.

41. The shift away from fossil fuels will be challenging. This transition will involve a significant reallocation of factors of production across sectors and skills (Box 8). Achieving this, while overcoming rigidities and preserving living standards, will require a concerted policy effort. The redeployment of workers will need to overcome a sizable skills mismatch, particularly for older workers. The country's very flexible labor markets will be an advantage, but training and financial support for the most affected workers would facilitate a faster reallocation with lower societal costs.

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[14] See P. Barrett, K. Bergant, J. Chateau, and R. Mano, "Modeling the U.S. Climate Agenda: Macro-Climate Trade-offs and Considerations", IMF WP 2021/290.

[15] See 2021 Article IV Staff Report for an analysis of the policies necessary to achieve the administration's emissions goals.

Such policies should be put in place well ahead of time, to ensure decarbonization garners broad societal support and does not leave behind those communities that are currently reliant on fossil fuels for jobs, activity, and local tax revenue.

42. The recent spike in global energy prices, as well as concerns about the reliability and security of energy supply, should create a powerful incentive to accelerate the transition to a carbon-neutral economy. National security concerns strengthen the already-strong case to reduce the reliance on fossil fuels and prioritize renewables. The increased costs of fossil fuels relative to renewables should create an additional, market-based incentive to accelerate progress toward the U.S. national emission goals. In this regard, subnational decisions to lower the taxation of gasoline and other products go in the wrong direction; targeted support to vulnerable households would have been a preferred approach.

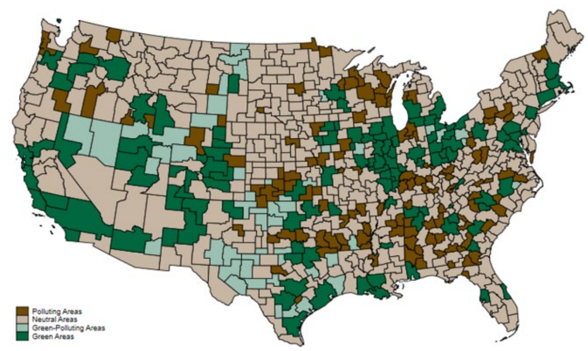
43. The administration's climate objectives should continue to be focused on reducing the carbon intensity of domestic consumption. However, even as U.S. fossil fuel consumption is reduced, a private sector-led expansion in U.S. export capacity (including through an acceleration in the construction of LNG terminals and pipelines) would have positive outward spillovers, helping trading partners increase the reliability of their energy mix as they too decarbonize**.** It will be critical, though, that such an expansion of domestic oil and gas production is coupled with strict regulations to ensure those resources are developed cleanly (e.g., by introducing high penalties for methane leaks or flaring).

44. Authorities' views. Important investments are already being made in infrastructure that will help facilitate a shift to a low carbon economic model. The Infrastructure, Investment and Jobs Act had provided resources for building out a nationwide electric vehicle charging network, increasing building energy efficiency, investing in zero emission transit, upgrading the power grid and transmission lines, and spending on R&D for carbon storage and clean hydrogen. These investments are projected to crowd in significant funding from the private sector. Fuel economy standards for passenger vehicles had been made more stringent and efforts were being made to reduce methane emissions from a range of sources (including pipelines, cattle, and orphaned oil and gas wells). The set of climate policies outlined in the Build Back Better plan remain under active consideration. There are multiple pathways by which the U.S. goals for a reduction in emissions could be achieved and, while the full array of policies has not yet been established, progress over the past eighteen months had been considerable. A centerpiece of the administration's plans is to ensure the transition to a low carbon future provides tangible benefits to disadvantaged communities (including through the Justice40 Initiative). This involves adopting place-based policies to facilitate the diversification of fossil fuel-dependent regional and local economies.

Box 8. From Polluting to Green Jobs—A Seamless Transition?[1]

Green and pollution-intensive jobs tend to be located geographically close together. U.S. geographic labor mobility has declined over the years which could create an impediment for the green transition. However, using detailed data on job types across commuting zones suggests that areas that have a significant share of green-intensive employment also tend to be adjacent to areas with a high number of pollution-intensive jobs (72 percent of commuting zones that are rich in pollution intensive jobs are either also rich in green jobs or border a commuting zone that is). This suggests that geographic mobility alone may not be a meaningful friction that prevents workers in pollution-intensive industries from shifting to more environmentally friendly jobs.

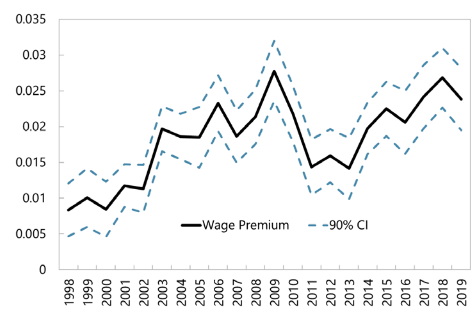
Green and Polluting-Intensive Jobs Across the U.S.



Note: "Green": share of green >75th pctl and a share of polluting <75th pctl; "Green-Polluting": shares of green and polluting >75th pctls; "Neutral": shares of green and polluting employment <75th pctls; "Polluting": share of polluting >75th pctl and share of green <75th pctl.

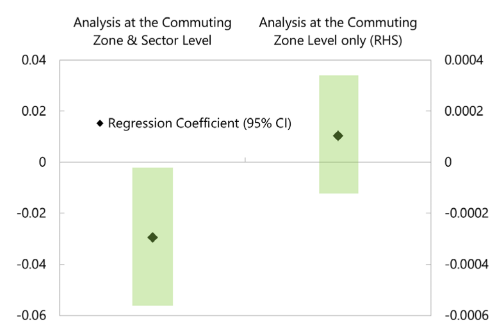
However, green- and pollution-intensive jobs appear to differ across a range of features which may signal more meaningful challenges in transitioning to a low carbon economy. Green jobs tend to be more skilled, more urban, and relatively less vulnerable to automation. As a result, workers in green jobs command a wage premium (even after controlling for skill levels, age, gender, and geography). This would suggest that the nature of work in low carbon professions is different from that in polluting jobs. An illustration of the difficulty of switching into green industries is that the probability of transitioning into a green job is only around 15 percent for workers in polluting jobs but is around 45 percent for workers already employed in a green job. Workers in neutral jobs also face a low rate of transition into green jobs.

U.S. Wage Premium of Green Jobs



Past transitions tied to changes in environmental regulation suggest that employment from affected sectors is able to smoothly reallocate within the same local region. Regression analysis shows that in commuting zones where regulations under the Clean Air Act (which regulates emissions from stationary sources) become more binding, there is a significant employment shift out of the polluting industry. However, overall employment in that commuting zone does not appear to be affected by the regulation. This suggests that workers are able to successfully reallocate—within the same commuting zone and without needing to relocate—to jobs that are not constrained by the environmental regulation. However, the data is unable to determine if those new, non-polluting jobs are at similar levels of wages, benefits and job security.

Environmental Regulation and Employment after 5 years



[1] K. Bergant, R. Mano, and I. Shibata, 2022, "From Polluting to Green Jobs—A Seamless Transition in the U.S.?" IMF WP/22/129.

GOVERNANCE AND TRANSPARENCY

45. The U.S. continues to be substantially effective at investigating and prosecuting money laundering and cooperating with other jurisdictions over corruption proceeds located in the U.S. The U.S. has been confiscating assets related to foreign corruption that are located in the U.S. and has returned part of those assets to the affected countries. Nonetheless, some serious shortcomings—related to entity transparency and the content and coverage of preventive measures (including in relation to identifying politically exposed persons)—makes it easier for foreign corrupt officials to hide their proceeds in the U.S. The U.S. still needs to subject gatekeepers—such as lawyers, accountants, and trust and company service providers—to customer due diligence and suspicious transaction reporting obligations. Action is also needed to address money laundering risks in high-end real estate. In particular, real estate agents are not subject to comprehensive AML/CFT requirements and non-bank mortgage lenders and originators have limited awareness of their AML/CFT obligations (especially regarding politically exposed persons).

46. The U.S. authorities are advancing various initiatives to address these shortcomings, including as part of their *strategy on countering corruption*.[16] The U.S. is working to improve the availability of beneficial information about companies following the enactment of the Corporate Transparency Act. When fully operational, the U.S. will have a government-maintained national registry of beneficial owners for certain U.S. companies.[17] Although the adoption of this Act is a positive step, implementation is expected to be incremental.[18] The U.S. Treasury has continued to

[16] Issued on December 6, 2021, in the context of a Summit for Democracy. The strategy lays out how the U.S. will work domestically and internationally, with governmental and non-governmental partners, to address corruption and related crimes. The strategy places special emphasis on the transnational dimensions of the challenges posed by corruption, including by recognizing the ways in which corrupt actors have used the U.S. financial system and broader economy (e.g., role of enablers, real estate) and other rule-of-law based systems to launder their ill-gotten gains. It particularly calls to curb illicit finance, including by strengthening anti-money laundering frameworks in the U.S. and abroad.

[17] On January 1, 2021, the U.S. Congress passed the William M. (Mac) Thornberry National Defense Authorization Act (NDAA) for Fiscal Year 2021 which includes the Corporate Transparency Act (CTA). The CTA, which will come into legal effect when implementing regulations are made, requires companies operating in the U.S. to provide 'beneficial ownership' information to the U.S. Department of Treasury's Financial Crimes Enforcement Network (FinCEN), the U.S.' financial intelligence unit. The CTA requires the registration of the beneficial owner of U.S. and non-U.S. companies doing business in the United States, including the obligation to update changes to the beneficial ownership information. The detailed rules about implementing this aspect of the CTA are being developed following a period of public consultation which closed in February 2022. Another rule will be developed to establish who may access the information in the registry. Beneficial ownership information in the U.S. is unlikely to be fully available to the public, but it will be available to FinCEN (the national financial intelligence unit) which will then be able to share the information with relevant federal and state agencies and competent authorities from other countries, and, with the consent of the company, financial institutions to facilitate compliance with due diligence obligations. FinCEN has also signaled that it will need to revise its customer due diligence rule before the CTA comes into effect. FinCEN also has to develop the infrastructure to administer the CTA requirements.

[18] Tens of millions of companies operate in the U.S. and beneficial ownership of those established in the U.S. and often abroad was not collected during the registration process and when changes occurred. The proposed rules provide that companies created or registered after the requirements become effective would have 14 days after their formation to file their beneficial ownership information whereas companies formed before the effective date will have a year to file their initial reports.

use Geographic Targeting Orders to collect certain information for high-end real estate purchases and the Treasury has issued a notice of its intention to impose AML/CFT obligations on the real estate sector.[19] Consideration is also being given to applying AML/CFT obligations to gatekeepers. Finally, the U.S. is advancing legislation to improve transparency in government procurement as a means of combatting corruption.[20]

STAFF APPRAISAL

47. The U.S. economy has staged a strong recovery from the COVID-19 shock. The positive effects of unprecedented policy stimulus, combined with the advantages of a highly flexible economy, have been clear. Just over two years after the COVID-19 shock, the unemployment rate and other measures of labor force underutilization have returned to end-2019 levels and output is close to its pre-pandemic trend. Rapid wage increases for lower income workers have reduced income polarization and poverty fell in 2020. On net, 8.5 million jobs have been created since the end of 2020. In addition, the swift policy response maintained the smooth functioning of U.S. financial markets and prevented a surge of bankruptcies (that many had feared).

48. The rapid rebound has, though, been accompanied by a sharp increase in nominal wages and prices. Inflation was initially concentrated in a subset of durable goods as strong demand confronted binding supply constraints. However, toward the end of the summer, price pressures became broad based, affecting a significant slice of the consumption basket. Similarly, labor shortages were initially apparent in low skill occupations driving up wages for that segment. By the fourth quarter, wage pressures were quickly spreading across the economy as firms struggled to fill vacancies and workers switched jobs at an increasing frequency.

49. The policy priority must now be to expeditiously slow wage and price growth without precipitating a recession. This will be a tricky task. Global supply constraints and domestic labor shortages are likely to persist and the Russian invasion of Ukraine is creating additional uncertainties. Although fiscal support is being withdrawn, the size and timing of the effects of past stimulus—which is expected to continue feed into activity and inflation through a drawdown of household savings—are highly uncertain.

50. Returning to price stability will require an assertive withdrawal of monetary accommodation. Over the past six months, the Federal Reserve has reacted to shifts in incoming data by signaling its intent to pursue a much tighter policy stance. To decisively bring inflation back to the Federal Reserve's 2 percent goal by late 2023/early 2024 will require both raising the policy rate above neutral, in ex ante real terms, and keeping it there for some time. The FOMC's decision at its June meeting—to raise rates by 75 basis points and provide forward guidance around a path for

[19] See Federal Register: Anti-Money Laundering Regulations for Real Estate Transactions, issued December 8, 2021 open for public comments until February 7, 2022.

[20] Section 885 of the FY21 National Defense Authorization Act (NDAA) requires prospective Federal contractors and grantees to disclose their beneficial ownership.

the federal funds rate that peaks at close to 4 percent—strikes the right balance. This policy path should serve to create the up-front tightening of financial conditions that will be necessary to quickly bring inflation back to target.

51. **The FOMC will need to telegraph, well in advance, clear guidance on the path for the policy rate to ensure that the withdrawal of monetary accommodation is orderly, methodical, and transparent.** Communications should continue to underscore that the FOMC's policy guidance is not set in stone but will depend critically on future developments. Changes to strengthen the Federal Reserve's communication tools would carry a high payoff in the current conjuncture, helping to ensure that policymakers' expectations about the likely future path of the policy rate are clearly conveyed.

52. **The difficult task of calibrating disinflationary policies comes with high stakes**. Misjudging the policy mix—in either direction—will result in sizable economic costs at home and negative spillovers to the global economy. An overly forceful policy response runs the risk of triggering an abrupt tightening in financial conditions and a U.S. recession, creating negative spillovers to the global economy. An insufficient shift in policies, though, would frisk creating a prolonged period of high inflation that will necessitate even stronger—and more economically costly—measures in the future. In the baseline forecast, the U.S. is expected to slow but to narrowly avoid a recession. However, there are material risks that the economy again gets hit by a negative shock which could turn the slowdown into a short-lived recession.

53. **The inability to pass much of the administration's reform agenda represents a missed opportunity to energize the supply side of the U.S. economy**. The economy urgently needs lasting changes to release supply-side constraints, raise productivity, support labor force participation, and incentivize investment and innovation. The slowing economy and rising inflation further strengthen the longstanding case for a better social safety net. Policymakers should continue to make the case for changes to tax, spending, and other areas (including immigration policy) to boost aggregate supply. Policy proposals should be pragmatically adapted, as needed, to garner political support.

54. **The 2021 external position remains moderately weaker than the level implied by medium-term fundamentals and desirable policies**. The current account deficit is well below its medium-term norm and the recent real exchange rate appreciation may have further the degree of overvaluation. Open trade policies at home and abroad remain vital to U.S. economic performance. The U.S. should, therefore, roll back trade restrictions and tariffs that were introduced over the past 5 years, work actively with trading partners to strengthen the rules-based multilateral trading system, and incorporate best practices to build supply resilience (such as greater diversification in input sourcing across countries, improved infrastructure and access to information, and reduced trade costs).

55. **More determined action is needed to achieve the administration's climate goals and to facilitate a smooth, speedy transition to a low carbon economy**. In the absence of legislative approval of the climate provisions in the Build Back Better plan, the current reliance on regulatory

and executive actions appears insufficient to incentivize the transition to a low carbon economic model. A significant shift in market incentives will be required and this could be achieved most effective by a broad-based pricing of carbon and other pollutants, sectoral feebates, regulatory restraints on emissions, the elimination of subsidies for fossil fuels and carbon-intensive agriculture, and a reprioritization of public spending toward mitigation and adaptation goals. Past experience with large scale structural changes in the U.S. economy has made clear that, while such changes can generate aggregate benefits, they can also impose costs on a large part of the population. If the shift to a low carbon economic model is to be successful and receive societal support, it will need to embed—right from the start—policies that help lessen rigidities in reallocating factors of production across sectors and regions; ensure the right human capital is available to meet the demands of a low carbon economy; and meaningfully support those who bear a disproportionate share of the burden of adjustment.

56. It is recommended that the next Article IV consultation take place on the standard 12-month cycle.

Table 1. United States: Selected Economic Indicators

(Percentage change from previous period, unless otherwise indicated)

				Projections					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
National Production and Income									
Real GDP	2.3	-3.4	5.7	2.9	1.7	0.8	1.7	2.1	1.9
Real GDP (q4/q4)	2.6	-2.3	5.5	2.2	0.7	1.2	1.9	2.1	1.7
Net exports 1/	-0.2	-0.3	-1.4	-0.9	0.3	0.4	0.2	0.0	0.0
Total domestic demand	2.4	-3.0	6.9	3.6	1.4	0.5	1.5	2.0	1.8
Final domestic demand	2.4	-2.5	6.5	2.8	1.6	0.7	1.6	2.0	1.8
Private final consumption	2.2	-3.8	7.9	3.5	1.7	0.4	1.4	1.8	1.7
Public consumption expenditure	2.0	2.0	1.0	-0.5	1.1	1.2	1.3	1.3	1.3
Gross fixed domestic investment	3.1	-1.5	6.1	2.6	1.3	1.1	2.6	2.9	2.4
Private fixed investment	3.2	-2.7	7.8	3.2	0.8	0.6	2.3	2.8	2.8
Public fixed investment	2.9	4.2	-1.8	-0.8	4.4	4.1	3.9	3.4	0.5
Change in private inventories 1/	0.1	-0.5	0.3	0.9	-0.2	-0.2	-0.1	0.0	0.0
Nominal GDP	4.1	-2.2	10.1	9.8	4.8	2.8	3.6	4.0	3.9
Personal saving rate (% of disposable income)	7.7	16.4	12.2	4.3	5.2	6.7	7.5	7.4	7.3
Private investment rate (% of GDP)	17.9	17.4	17.9	18.8	18.3	18.0	18.0	18.1	18.3
Unemployment and Potential Output									
Unemployment rate	3.7	8.1	5.4	3.5	3.9	4.7	4.6	4.2	4.0
Labor force participation rate	63.1	61.8	61.7	62.3	62.4	62.5	62.4	62.2	62.0
Potential GDP	1.6	0.4	1.8	2.2	2.0	1.9	1.8	1.7	1.7
Output gap (% of potential GDP)	0.7	-3.2	0.5	1.3	0.9	-0.2	-0.2	0.1	0.2
Inflation									
CPI inflation (q4/q4)	2.0	1.2	6.7	6.8	1.9	1.9	1.9	2.0	2.1
Core CPI Inflation (q4/q4)	2.3	1.6	5.0	5.6	2.4	2.2	2.2	2.3	2.3
PCE Inflation (q4/q4)	1.5	1.2	5.5	5.4	2.0	1.8	1.8	1.9	1.9
Core PCE Inflation (q4/q4)	1.6	1.4	4.6	4.6	2.2	2.0	2.0	2.0	2.0
GDP deflator	1.8	1.2	4.1	6.7	3.1	2.0	1.9	1.9	2.0
Government Finances									
Federal balance (% of GDP) 2/	-4.7	-15.0	-12.4	-4.5	-4.3	-4.9	-5.8	-5.7	-5.4
Federal debt held by the public (% of GDP)	79.4	100.3	99.6	97.9	96.6	98.9	101.4	103.2	104.7
General government budget balance (% of GDP) 2/	-5.7	-14.5	-10.9	-4.6	-4.8	-5.7	-6.4	-6.3	-6.2
General government gross debt (% of GDP)	108.8	134.3	127.8	121.3	121.0	123.8	126.3	128.1	129.8
Interest Rates (percent; period average)									
Fed funds rate	2.2	0.4	0.1	1.5	3.8	3.5	2.7	2.4	2.4
Three-month Treasury bill rate	2.1	0.4	0.0	1.6	3.8	3.5	2.7	2.3	2.3
Ten-year government bond rate	2.1	0.9	1.4	3.0	4.0	3.9	3.5	3.2	3.1
Balance of Payments									
Current account balance (% of GDP)	-2.2	-2.9	-3.6	-3.7	-3.1	-2.6	-2.4	-2.2	-2.1
Merchandise trade balance (% of GDP)	-4.0	-4.4	-4.7	-5.1	-4.7	-4.3	-4.1	-4.0	-3.9
Export volume (NIPA basis, goods)	-0.1	-10.2	7.6	3.1	1.7	0.9	2.1	2.3	2.2
Import volume (NIPA basis, goods)	0.5	-5.6	14.6	8.9	0.1	-1.3	0.4	1.5	1.6
Net International Investment Position (% of GDP)	-52.6	-67.1	-78.7	-75.4	-75.1	-75.7	-75.4	-74.7	-74.0
Saving and Investment (% of GDP)									
Gross national saving	19.4	19.2	20.1	21.2	21.2	21.4	21.7	21.9	22.0
General government	-2.9	-11.6	-8.1	-1.2	-1.3	-2.2	-3.0	-3.4	-3.5
Private	22.3	30.8	28.2	22.3	22.5	23.6	24.7	25.3	25.5
Personal	5.8	13.8	9.9	3.2	3.9	5.1	5.7	5.5	5.5
Business	16.5	17.0	18.3	19.2	18.6	18.5	19.0	19.8	20.0
Gross domestic investment	21.4	21.2	21.4	22.2	21.8	21.6	21.7	21.8	21.9
Private	17.9	17.4	17.9	18.8	18.3	18.0	18.0	18.1	18.3
Public	3.5	3.7	3.5	3.4	3.5	3.6	3.7	3.7	3.7

Sources: BEA; BLS; FRB; Haver Analytics; and IMF staff estimates.

1/ Contribution to real GDP growth, percentage points.

2/ Includes staff's adjustments for one-off items, including costs of financial sector support.

Table 2. United States: Balance of Payments
(Annual percent change unless otherwise indicated)

	2019	2020	2021	Projections 2022	2023	2024	2025	2026	2027
Real Exports Growth									
Goods and services	-0.1	-13.6	4.5	4.8	3.8	2.2	2.5	2.5	2.3
Goods	-0.1	-10.2	7.6	3.1	1.7	0.9	2.1	2.3	2.2
Services	-0.1	-19.8	-1.6	9.1	8.8	4.9	3.5	2.9	2.7
Real Imports Growth									
Goods and services	1.1	-8.9	14.0	9.3	1.0	-0.6	0.9	1.9	1.9
Goods	0.5	-5.6	14.6	8.9	0.1	-1.3	0.4	1.5	1.6
Nonpetroleum goods	1.2	-5.1	15.0	8.4	-0.1	-1.2	0.7	1.8	1.8
Petroleum goods	-5.8	-12.4	5.5	12.2	1.7	-2.5	-3.0	-1.7	-1.6
Services	3.9	-22.6	11.5	11.5	5.4	2.7	2.8	3.4	3.4
Net Exports (contribution to real GDP growth)	-0.2	-0.3	-1.4	-0.9	0.3	0.4	0.2	0.0	0.0
Nominal Exports									
Goods and services	11.8	10.2	10.8	11.5	11.7	11.8	11.9	11.9	11.9
Nominal Imports									
Goods and services	14.6	13.3	14.8	15.9	15.5	15.1	14.9	14.7	14.7
Current Account									
Current account balance	-2.2	-2.9	-3.6	-3.7	-3.1	-2.6	-2.4	-2.2	-2.1
Balance on trade in goods and services	-2.7	-3.2	-3.7	-4.1	-3.5	-3.0	-2.7	-2.6	-2.5
Balance on income	0.5	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.4
Capital and Financial Account									
Capital account balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial account balance	-2.2	-3.1	-3.0	-3.7	-3.1	-2.7	-2.4	-2.2	-2.1
Direct investment, net	-0.8	0.5	0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Portfolio investment, net	-0.9	-2.3	0.1	-1.3	-1.0	-0.5	-0.1	-0.2	-0.2
Financial derivatives, net	-0.2	0.0	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Other investment, net	-0.3	-1.3	-3.6	-2.0	-1.7	-1.8	-1.8	-1.7	-1.6
Reserve assets, net	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Errors and Omissions	0.0	-0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Net International Investment Position	-52.6	-67.1	-78.7	-75.4	-75.1	-75.7	-75.4	-74.7	-74.0
Direct investment, net	-8.3	-12.3	-16.5	-15.4	-15.0	-15.0	-14.8	-14.5	-14.3
Portfolio investment, net	-38.4	-48.0	-52.9	-49.6	-48.4	-47.6	-46.1	-44.6	-43.1
Financial derivatives, net	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other investment, net	-8.3	-9.7	-12.5	-13.4	-14.5	-15.8	-17.1	-18.1	-19.0
Reserve assets, net	2.4	3.0	3.1	2.8	2.7	2.6	2.5	2.4	2.3
Memorandum Items									
Current account balance (US$ billions)	-472	-616	-822	-944	-831	-720	-667	-650	-648
Non-oil trade balance (% of GDP)	-2.7	-3.1	-3.9	-4.3	-3.7	-3.3	-3.1	-2.9	-2.9
Foreign real GDP growth	1.7	-5.0	5.5	3.2	3.0	2.5	2.4	2.4	2.3
U.S. real GDP growth	2.3	-3.4	5.7	2.9	1.7	0.8	1.7	2.1	1.9
U.S. real total domestic demand growth	2.4	-3.0	6.9	3.6	1.4	0.5	1.5	2.0	1.8

Sources: BEA; FRB; Haver Analytics; and IMF staff estimates.

Table 3. United States: Federal and General Government Finances
(Percent of GDP)

				Projections									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Federal Government													
Revenue	16.4	16.3	18.1	19.6	18.6	18.0	17.6	18.0	18.3	18.1	18.1	18.1	18.1
Expenditure	21.0	31.3	30.5	24.1	22.9	22.9	23.4	23.7	23.7	24.1	23.3	23.7	23.8
Non-interest	19.3	29.7	28.9	22.4	20.9	20.4	20.6	20.7	20.7	21.1	20.5	20.9	20.9
Interest	1.8	1.6	1.6	1.7	2.0	2.5	2.8	3.0	3.0	2.9	2.8	2.8	2.9
Budget balance 1/	-4.7	-15.0	-12.4	-4.5	-4.3	-4.9	-5.8	-5.7	-5.4	-5.9	-5.2	-5.6	-5.7
Primary balance 2/	-2.9	-13.3	-10.8	-2.8	-2.3	-2.4	-3.0	-2.7	-2.4	-3.0	-2.4	-2.8	-2.8
Primary structural balance 3/ 4/	-3.0	-10.4	-7.6	-3.0	-2.5	-2.4	-2.9	-2.6	-2.4	-2.9	-2.3	-2.7	-2.7
Change	-0.8	-7.4	2.8	4.5	0.5	0.2	-0.5	0.3	0.2	-0.6	0.6	-0.4	0.0
Federal debt held by the public	79.4	100.3	99.6	97.9	96.6	98.9	101.4	103.2	104.7	106.7	107.8	109.6	111.2
General Government													
Revenue	30.1	30.8	31.4	33.0	32.1	31.5	31.3	31.7	31.9	31.8	31.8	31.7	31.7
Expenditure	35.8	45.3	42.4	37.6	37.0	37.3	37.7	38.0	38.1	38.1	37.5	37.8	37.8
Net interest	2.2	2.1	2.5	1.8	2.1	2.8	3.1	3.3	3.3	3.1	3.0	3.0	3.1
Net lending 1/	-5.7	-14.5	-10.9	-4.6	-4.8	-5.7	-6.4	-6.3	-6.2	-6.3	-5.8	-6.1	-6.1
Primary balance 2/	-3.5	-12.4	-8.4	-2.8	-2.7	-3.0	-3.3	-3.0	-2.9	-3.2	-2.8	-3.1	-3.0
Primary structural balance 3/ 4/	-3.9	-8.4	-5.6	-3.2	-3.1	-2.9	-3.2	-2.9	-2.9	-3.1	-2.8	-3.1	-1.6
Change	-0.8	-4.5	2.8	2.4	0.1	0.3	-0.3	0.3	0.0	-0.3	0.4	-0.3	1.5
Gross debt	108.8	134.3	127.8	121.3	121.0	123.8	126.3	128.1	129.8	131.5	132.6	134.0	135.3
incl. unfunded pension liab.	136.3	161.5	150.5	144.0	143.5	146.3	148.8	150.5	152.1	153.7	154.7	156.0	157.3

Sources: Congressional Budget Office; Office of Management and Budget; and IMF staff estimates.
Note: Fiscal projections are based on Congressional Budget Office forecast adjusted for the IMF staff's policy and macroeconomic assumptions. Projections incorporate the effects of enacted legislation at the time of the publication of this table and also potential legislation to be passed under the American Jobs Plan and the American Families Plan. Fiscal projections are adjusted to reflect the IMF staff's forecasts for key macroeconomic and financial variables and different accounting treatment of financial sector support and of defined-benefit pension plans and are converted to a general government basis. Data are compiled using SNA 2008, and when translated into GFS this is in accordance with GFSM 2014.
1/ Includes staff's adjustments for one-off items, including costs of financial sector support.
2/ Excludes net interest.
3/ Excludes net interest, effects of economic cycle, and costs of financial sector support.
4/ Percent of potential GDP.

Table 4. United States: Core Financial Soundness Indicators for Deposit Takers

(Percent unless otherwise indicated, eop)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Regulatory Capital to Risk-Weighted Assets	14.5	14.4	14.4	14.1	14.2	14.5	14.8	14.7	16.3	16.4
Regulatory Tier 1 Capital to Risk-Weighted Assets	12.7	12.8	13.1	13.1	13.2	13.5	13.8	13.7	14.5	14.8
Non-Performing Loans Net of Provisions to Capital	15.7	11.7	8.8	7.2	6.6	5.7	4.7	4.3	5.2	4.4
Non-Performing Loans to Total Gross Loans	3.3	2.5	1.9	1.5	1.3	1.1	0.9	0.9	1.1	0.8
Sectoral Distribution of Total Loans: Residents 1/	95.5	95.2	95.6	95.8	96.1	96.0	96.3	96.3	96.7	96.7
Sectoral distribution of total loans: deposit-takers	6.0	5.0	4.1	3.6	3.8	3.9	5.5	4.6	6.1	6.1
Sectoral distribution of total loans: other financial corporations	4.4	5.2	6.2	6.7	6.7	6.9	7.3	7.8	8.5	8.5
Sectoral distribution of total loans: general government	1.1	1.2	1.3	1.4	1.5	1.6	1.5	1.4	1.4	1.4
Sectoral distribution of total loans: nonfinancial corporations	32.1	33.3	34.2	35.0	35.5	35.4	35.3	35.4	36.4	36.4
Sectoral distribution of total loans: other domestic sectors	51.9	50.5	49.8	49.1	48.5	48.2	46.7	47.1	44.2	44.2
Sectoral Distribution of Total Loans: Nonresidents 1/	4.5	4.8	4.4	4.2	3.9	4.0	3.7	3.7	3.3	3.3
Return on Assets	0.3	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	1.4
Return on Equity	2.7	3.3	2.8	3.0	3.2	2.9	3.4	2.9	3.0	11.6
Interest Margin to Gross Income	60.8	63.5	63.7	63.4	65.1	67.0	68.3	66.9	64.3	64.6
Non-Interest Expenses to Gross Income	63.6	61.7	64.7	60.7	59.6	61.6	58.4	60.4	62.7	63.3
Liquid Assets to Total Assets (liquid asset ratio)	13.4	14.5	14.5	13.2	12.8	13.2	12.7	11.8	17.7	34.4
Liquid Assets to Short Term Liabilities	74.1	88.3	90.0	91.2	98.2	97.7	89.3	84.3	183.6	436.3

Source: Haver Analytics, FDIC.

1/ Data available until 2021Q2.

Appendix I. Risk Assessment Matrix

Risks	Likelihood	Expected Impact	Policy Response
Global Risks			
Russia's invasion of Ukraine leads to escalation of sanctions and other disruptions. Sanctions on Russia are broadened to include oil, gas, and food sectors. Russia is disconnected almost completely from the global financial system and large parts of the trading system. This, combined with Russian countersanctions and secondary sanctions on countries and companies that continue business with Russia, leads to even higher commodity prices, refugee migration, tighter financial conditions, and other adverse spillovers, which particularly affect LICs and commodity-importing EMs.	High	**Medium.** Slower growth by trading partner reduces external demand for U.S. exports. Tighter financial conditions and weaker consumer confidence weigh on domestic activity.	Make investments to increase resilience of financial intermediation. Adjust the pace of planned monetary tightening commensurately according to the assessed downturn in activity.
Rising and volatile food and energy prices. Commodity prices are volatile and trend up amid supply constraints, war in Ukraine, export restrictions, and currency depreciations. This leads to short-run disruptions in the green transition, bouts of price and real sector volatility, food insecurity, social unrest, and acute food and energy crises (especially in EMDEs with lack of fiscal space).	High	**Medium.** Rising commodity prices from current high levels further reduce corporate profit margins, weaken household consumption, increase poverty, further raise inflation and inflation expectations from current elevated levels.	Facilitate the expansion of domestic production of food and fuel. Increase the provision of food assistance to lower income households. Accelerate the transition to a low carbon economic model. Monetary policy responds assertively to any de-anchoring of inflation expectations.
Abrupt growth slowdown in China. A combination of extended COVID-19 lockdowns, rising geopolitical tensions, a sharper-than-expected slowdown in the property sector, and/or inadequate policy responses result in a sharp slowdown of economic activity, with spillovers affecting other countries through supply chain disruptions, trade, commodity-price, and financial channels.	Medium	**Medium.** A large decline of imports from a significant trading partner leads to further shortages in industry supplies and consumer goods, weighing on growth and further raising inflation.	Diversify sources of supply and recalibrate the pace of withdrawal of monetary and fiscal support in event of significant impact on activity.
Outbreaks of lethal and highly contagious COVID-19 variants. Rapidly increasing hospitalizations and deaths due to low vaccine protection or vaccine-resistant variants force more social distancing and/or new lockdowns. This results in extended supply chain disruptions and a reassessment of growth prospects, triggering capital outflows, financial tightening,	Medium	**High.** Renewed economic disruptions and higher unemployment result in subdued consumption and longer-term damage to labor force participation and human capital. Financial institutions' losses impair the availability of credit, with further adverse implications for growth.	Increase coverage of booster shots and establish a "standing army" for public health to create idle capacity in testing and medical supplies. Build a rapid-response unit that could be deployed for testing, tracking and treatment of viruses. Policies should support the public health response, minimize undue balance sheet dislocations, and

Risks	Likelihood	Expected Impact	Policy Response
		Global Risks	
currency depreciations, and debt distress in some EMDEs.			provide targeted support to households.
De-anchoring of inflation expectations. Worsening supply-demand imbalances, higher commodity prices (in part due to war in Ukraine), and higher nominal wage growth lead to persistently higher inflation and/or inflation expectations, prompting central banks to tighten policies faster than anticipated. The resulting sharp tightening of global financial conditions and spiking risk premia lead to lower global demand, currency depreciations, asset market selloffs, bankruptcies, sovereign defaults, and contagion across EMDEs.	**Medium**	**High.** High realized wage and price inflation, resulting from a sustained mismatch in supply and demand, proves persistent and causes a de-anchoring of inflation expectations.	Expeditiously raise policy rates and clearly signal that the ex-ante real rate will need to go above neutral, and remain there for some time. Improve the Federal Reserve's communications toolkit.
Cyberthreats. Cyberattacks on critical physical or digital infrastructure (including digital currency platforms) trigger financial instability or widespread disruptions in socio-economic activities.	**Medium**	**High.** Disruption is widespread including to supply of essential goods, payments systems, and financial market infrastructure.	Further build resilience in physical and digital infrastructure using the full range of fiscal and regulatory tools.
		Domestic Risks	
A more abrupt tightening of financial conditions. Continued upside surprises to inflation could shift market views on the likely path for the federal funds rate and, more broadly, on asset valuations.	**Medium**	**High.** Abruptly tighter financing conditions could cause stress in leveraged corporates, non-bank financial institutions, and treasury markets. Higher financing costs and lower credit availability may constrain investment and employment growth, slowing activity with negative outward spillovers.	Tighter financial conditions will be necessary for the monetary transmission but if market functioning is compromised then targeted measures (such as providing liquidity in specific markets) could be considered.
Persistently slow recovery in labor force participation. Higher wages fail to boost labor supply and/or renewed health concern leads to a decline in labor participation.	**Medium**	**High.** Wage growth would continue to rise, putting pressure on corporate margins, and potentially further fueling inflation. Also, supply constraints would slow activity.	The withdrawal of fiscal and monetary accommodation should help rebalance supply and demand in labor markets. Supply side policies (such as paid family leave, childcare, EITC, immigration reform) would help boost labor supply.

Appendix II. Sovereign Risk and Debt Sustainability Assessment

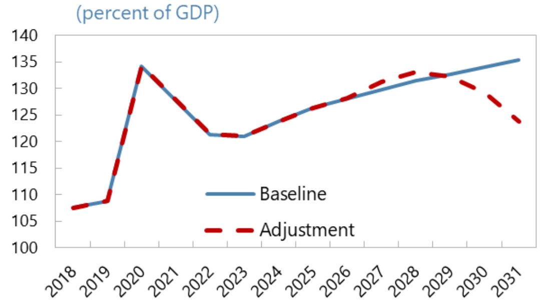
Following the unprecedented fiscal response to the COVID-19 outbreak, the U.S. budget deficit contracted in 2021 and is expected to return to pre-pandemic levels, in percent of GDP, by 2022. Under the baseline scenario, public debt is projected to rise as a share of GDP over the medium term as aging-related expenditures on health and social security feed into the debt dynamics. Gross financing needs are large, albeit manageable given the global reserve currency status of the U.S. dollar. A credible medium-term fiscal adjustment featuring reprioritization of budget programs and revenue-gaining tax reform is needed to put public debt on a downward path. Nonetheless, the risks of debt distress are low, and debt is viewed as sustainable.

1. **Background.** An unprecedented scale of fiscal expansion was introduced in response to the COVID-19 pandemic increasing the fiscal deficit by over 9 percent of GDP. The American Rescue Plan (passed in March 2021) slowed the pace of fiscal contraction in 2021–22 but did not forestall it. A large fiscal consolidation is now underway and pandemic-related extraordinary measures are expiring.

2. **Baseline.** The staff's baseline is based on current and likely-to-be-passed laws. Under this baseline, public debt is expected to rise over the medium term as age-related spending pressures on entitlement programs assert themselves. Federal debt held by the public is projected to increase from about 100 percent of GDP in FY2021 to around 113 percent of GDP by 2031, with general government gross debt rising from about 128 percent of GDP to 135 percent of GDP over the same period.

3. **Adjustment Scenario.** The general government primary deficit was 8.4 percent of GDP in 2021 and is projected at 2.8 percent of GDP in 2022. Gradually raising the primary general government surplus over the medium-term to around 1 percent of GDP (1.1 percent of GDP for the federal government) would put the debt-to-GDP ratio on a declining path. The target primary surplus would have to be larger to bring the debt ratio closer to pre-Great Recession levels.

General government debt
(percent of GDP)



Source: IMF staff calculations.

4. **Debt servicing costs.** The debt projections benefit from the current favorable interest rate–growth differential, reflecting accommodative monetary policy and the safe-haven status of the United States. Under staff's baseline, the effective nominal interest rate is projected to rise gradually from the projected level of 1.9 percent in 2022 to 2.7 percent by 2031 (which is close to the 2010–18 average level). As a result, real interest rates will continue to act as a debt-reducing flow over the medium-term.

5. **Realism.** Baseline economic assumptions are generally within the error band observed for all countries. The baseline fiscal projections and implied near-term adjustment are outliers compared with historical and cross-country experience but are nevertheless realistic given the large but temporary fiscal expansion put in place in response to the pandemic.

6. **Mitigating factors.** The depth and liquidity of the U.S. Treasury market, as well as its safe-haven status, represents a mitigating factor for the high external and gross financing requirements.

Appendix II. Figure 1. United States: Risk of Sovereign Stress

Horizon	Mechanical Signal	Final Assessment	Comments
Overall	...	Low	Staff's assessment of the overall risk of sovereign stress is low. Mitigating factors include the strength of institutions, the depth of the investor pool, the role of the U.S. dollar in the international system, and the Fed's stabilizing role.
Near Term 1/			
Medium Term	Moderate	Moderate	Staff's assessment on the medium-term risk is "moderate", which is aligned with the mechanical signal. The mechanical medium-term signal for the fan chart indicates a "high" risk, largely driven by the probability of debt non-stabilization.
Fanchart	High	...	
GFN	Moderate	...	
Stress test	...	...	
Long Term	...	Moderate	Long-term risks are moderate as aging-related expenditures on health and social security feed into debt dynamics.
Sustainability Assessment 2/	...		Not required for surveillance-only countries.
Debt Stabilization in the Baseline			No

DSA Summary Assessment

Staff commentary: United States is at a low overall risk of sovereign stress and debt is sustainable. Most indicators have started to normalize as the recovery from the COVID-19 shock has proceeded. However, debt is expected to rise for several years before stabilizing. Medium-term liquidity risks as analyzed by the GFN Financeability Module are moderate. Over the longer run, United States should continue with reforms to tackle risks arising from population aging on the social security fund. However, the long time horizon at which these risks would materialize and the authorities' planned measures will help contain risks.

Source: Fund staff.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

2/ A debt sustainability assessment is optional for surveillance-only cases and mandatory in cases where there is a Fund arrangement. The mechanical signal of the debt sustainability assessment is deleted before publication. In surveillance-only cases or cases with IMF arrangements with normal access, the qualifier indicating probability of sustainable debt ("with high probability" or "but not with high probability") is deleted before publication.

Appendix II. Figure 2. United States: Debt Coverage and Disclosures

						Comments
1. Debt coverage in the DSA: 1/	CG	GG	NFPS	CPS	Other	
1a. If central government, are non-central government entities insignificant?					n.a.	
2. Subsectors included in the chosen coverage in (1) above:						

Sector	No.	Subsectors captured in the baseline	Inclusion	Comments
CPS / NFPS / GG: expected / CG	1	Budgetary central government	Yes	
CPS / NFPS / GG: expected / CG	2	Extra budgetary funds (EBFs)	No	Not applicable
CPS / NFPS / GG: expected	3	Social security funds (SSFs)	Yes	
CPS / NFPS / GG: expected	4	State governments	Yes	
CPS / NFPS / GG: expected	5	Local governments	Yes	
CPS / NFPS	6	Public nonfinancial corporations	Yes	
CPS	7	Central bank	Yes	
CPS	8	Other public financial corporations	Yes	

3. Instrument coverage:	Currency & deposits	Loans	Debt securities	Oth acct. payable 2/	IPSGSs 3/

4. Accounting principles:	Basis of recording		Valuation of debt stock		
	Non-cash basis 4/	Cash basis	Nominal value 5/	Face value 6/	Market value 7/

5. Debt consolidation across sectors:	Consolidated	Non-consolidated

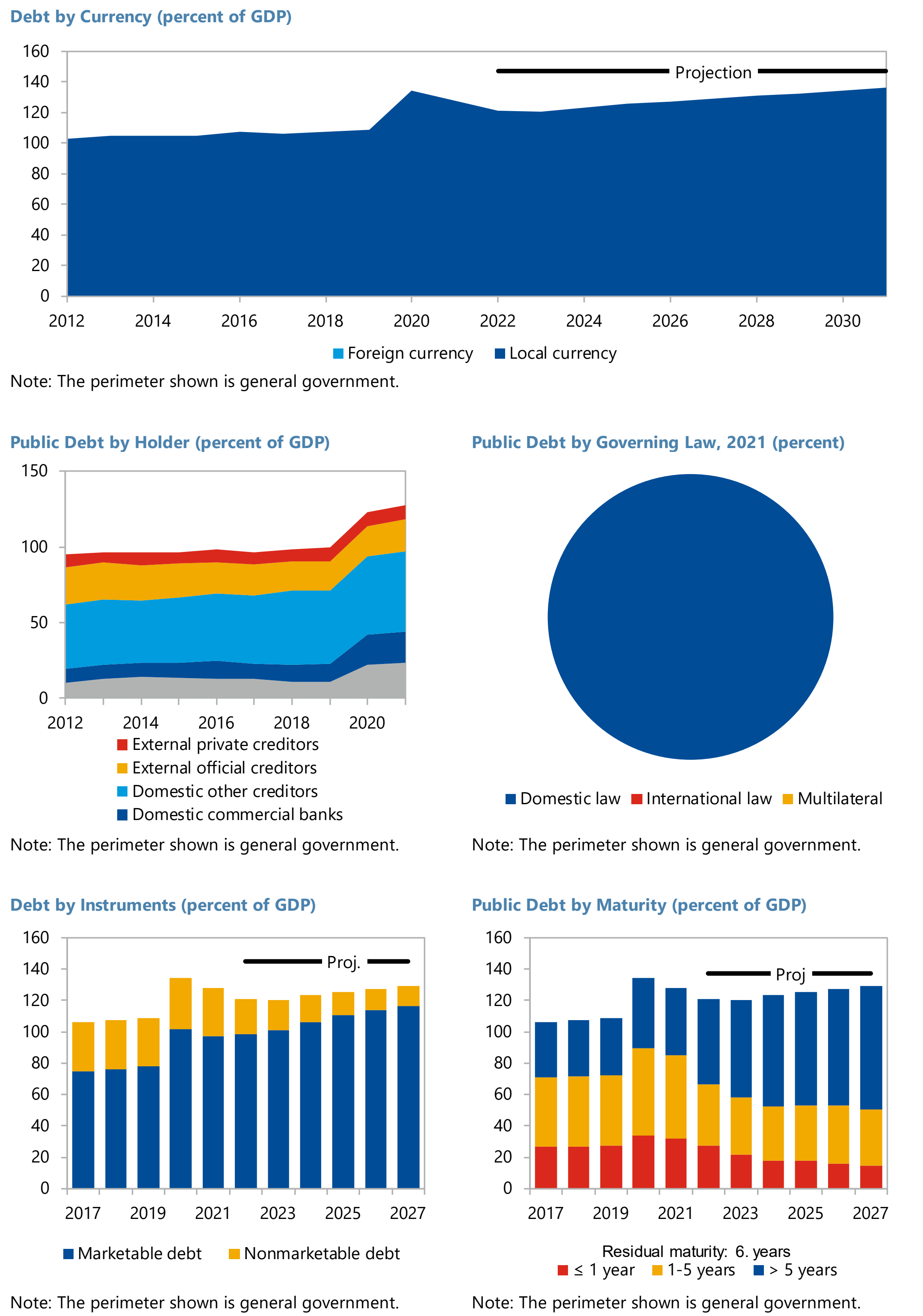
Color code: chosen coverage; Missing from recommended coverage; Not applicable

Reporting on Intra-Government Debt Holdings

Issuer \ Holder		Budget. central govt	Extra-budget. funds	Social security funds	State govt.	Local govt.	Nonfin. pub. corp.	Central bank	Oth. pub. fin corp	Total
1	Budget. central govt				22.6					22.6
2	Extra-budget. funds									0
3	Social security funds									0
4	State govt.	1451.4								1451.4
5	Local govt.									0
6	Nonfin pub. corp.									0
7	Central bank									0
8	Oth. pub. fin. corp									0
	Total	1451.4	0	0	22.6	0	0	0	0	1474

1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.
4/ Includes accrual recording, commitment basis, due for payment, etc.
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.
7/ Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.

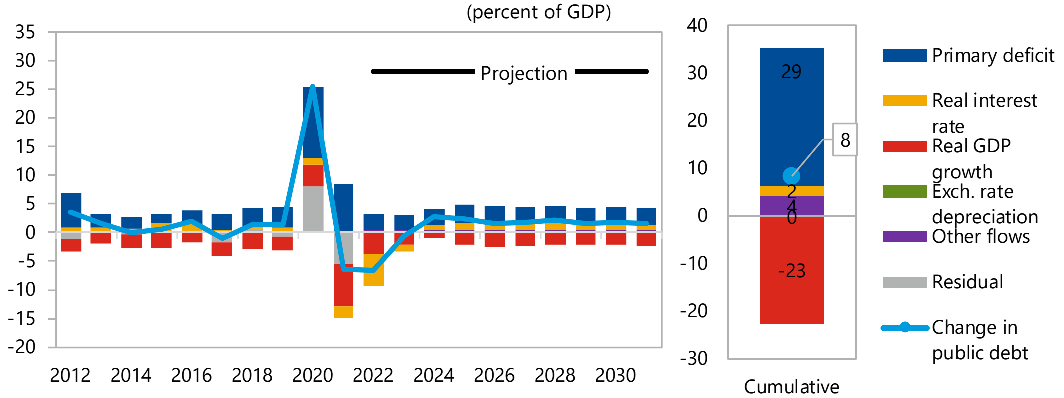
Appendix II. Figure 3. United States: Public Debt Structure Indicators



Appendix II. Figure 4. United States: Baseline Scenario
(Percent of GDP unless indicated otherwise)

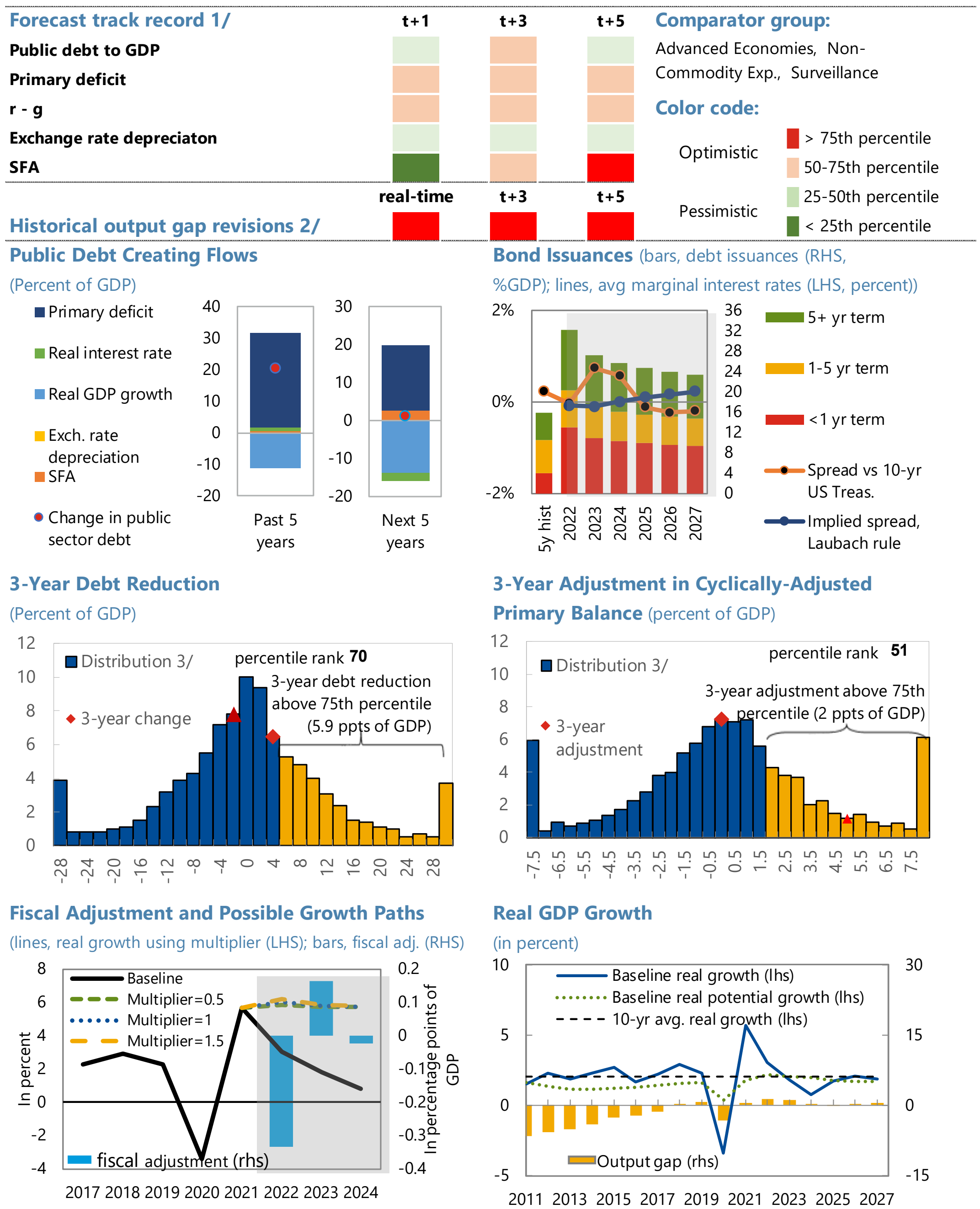
	Actual	Medium-term projection						Extended projection			
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Public debt	127.8	121.2	120.5	123.3	125.7	127.3	129.0	131.1	132.7	134.5	136.2
Change in public debt	-6.5	-6.6	-0.6	2.8	2.4	1.6	1.7	2.1	1.6	1.8	1.6
Contribution of identified flow	-0.9	-6.6	-0.6	2.8	2.4	1.6	1.7	2.1	1.6	1.8	1.6
Primary deficit	8.4	2.7	2.6	2.9	3.2	2.9	2.8	3.1	2.8	3.0	3.0
Noninterest revenues	31.0	32.6	31.7	31.1	30.9	31.3	31.5	31.5	31.6	31.7	31.8
Noninterest expenditures	39.4	35.3	34.4	34.0	34.1	34.2	34.3	34.6	34.3	34.7	34.7
Automatic debt dynamics	-9.3	-9.3	-3.3	-0.1	-0.9	-1.3	-1.1	-1.0	-1.2	-1.2	-1.4
Int. rate-growth differenti	-9.3	-9.3	-3.3	-0.1	-0.9	-1.3	-1.1	-1.0	-1.2	-1.2	-1.4
Real interest rate	-2.1	-5.6	-1.1	0.8	1.2	1.3	1.2	1.2	1.0	1.0	0.9
Real growth rate	-7.2	-3.8	-2.1	-0.9	-2.1	-2.5	-2.3	-2.2	-2.2	-2.2	-2.2
Real exchange rate	0.0	…	…	…	…	…	…	…	…	…	…
Relative inflation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other identified flows	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other transactions	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Contribution of residual	-5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross financing needs	57.2	36.5	30.9	28.9	27.9	27.0	26.4	26.5	26.0	26.5	26.0
of which: debt service	49.2	34.2	28.6	26.4	25.1	24.6	24.0	23.8	23.7	23.9	23.5
Local currency	49.2	34.2	28.6	26.4	25.1	24.6	24.0	23.8	23.7	23.9	23.5
Foreign currency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Memo:											
Real GDP growth (percent)	5.7	3.0	1.8	0.8	1.8	2.1	1.9	1.7	1.7	1.7	1.7
Inflation (GDP deflator; percer	4.1	6.7	3.1	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0
Nominal GDP growth (percent	10.1	9.9	4.9	2.8	3.7	4.0	3.9	3.7	3.7	3.7	3.7
Effective interest rate (percent	2.4	1.9	2.1	2.7	2.9	3.0	3.0	2.9	2.8	2.7	2.7

Contribution to Change in Public Debt
(percent of GDP)



Staff commentary: Public debt will rise a bit but then stablize, reflecting expectations of a narrowing of primary deficits and stable economic conditions.

Appendix II. Figure 5. United States: Realism of Baseline Assumptions



Commentary: The recovery from COVID-19 will impart complicated effects on the growth path. However, realism analysis does not point to major concerns. Although the historical output gap forecast has been consistently optimistic, past forecast errors do not reveal any systematic biases and the projected fiscal adjustment and debt reduction are well within norms.

Source : IMF Staff.

1/ Projections made in the October and April WEO vintage.

2/ Calculated as the percentile rank of the country's output gap revisions (defined as the difference between real time/period ahead estimates and final estimates in the latest October WEO) in the total distribution of revisions across the data sample.

3/ Data cover annual obervations from 1990 to 2019 for MAC advanced and emerging economies. Percent of sample on vertical axis.

Appendix II. Figure 6. United States: Medium-term Risk Analysis

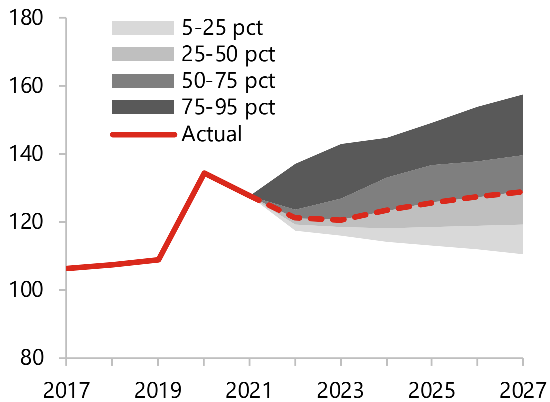
Debt fanchart and GFN financeability indexes

(percent of GDP unless otherwise indicated)

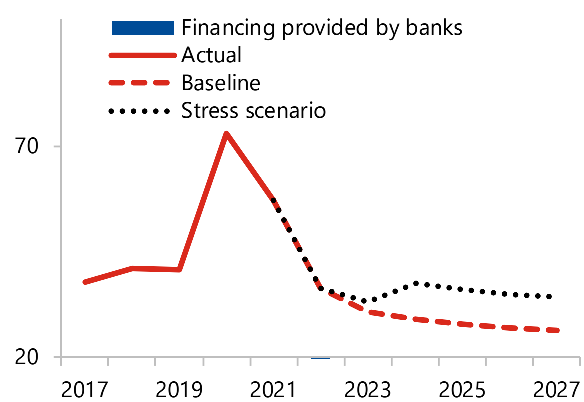
Module	Indicator	Value	Risk index	Risk signal	Adv. Econ., Non-Com. Exp, Program (0 25 50 75 100)
Debt fanchart module	Fanchart width	46.9	0.7	...	
	Probability of debt not stabilizing (pct)	99.7	0.8	...	
	Terminal debt level x institutions index	33.0	0.7	...	
	Debt fanchart index	**...**	**2.2**	**High**	
GFN finance-ability module	Average GFN in baseline	29.6	10.1	...	
	Bank claims on government (pct bank assets)	11.5	3.7	...	
	Chg. in claims on govt. in stress (pct bank assets)	2.1	0.7	...	
	GFN financeability index	**...**	**14.5**	**Moderate**	

Legend: Interquartile range; United States

Final Fanchart (pct of GDP)



Gross Financing Needs (pct of GDP)

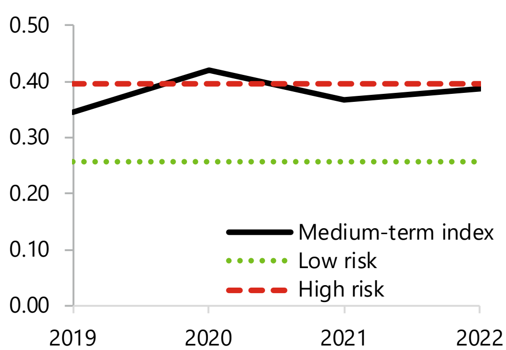


Triggered stress tests (stress tests not activated in gray)

Banking crisis | Commodity prices | Exchange rate | Contingent liab. | Natural disaster

Medium-term Index

(index number)



Medium-term Risk Analysis

	Low risk threshold	High risk thehsold	Weight in MTI	Normalized level
Debt fanchart index	1.1	2.1	0.5	0.5
GFN finaceability index	7.6	17.9	0.5	0.3
Medium-term index (MTI)	0.3	0.4	...	0.4, Moderate

Prob. of missed crisis, 2022-2027 (if stress not predicted): 27.3 pct

Prob. of false alarm, 2022-2027 (if stress predicted): 10.2 pct.

Commentary: Of the two medium-term tools, the Debt Fanchart Module is pointing to high level of risk, while the GFN Financeability Module suggests lower, but still moderate, level of risk.

Appendix III. External Sector Assessment

<table>
<tr><td colspan="7">Overall Assessment: The external position in 2021 was moderately weaker than the level implied by medium-term fundamentals and desirable policies. The decline in the trade balance, led by the increase in imports of goods, widened the CA deficit to 3.4 percent of GDP. Although uncertainty and terms-of-trade changes caused by the war in Ukraine may affect the near term, the CA deficit is projected to decline below 2 percent of GDP over the medium term based on an increase in public saving due to gradual fiscal consolidation, reflected in a lower trade deficit.

Potential Policy Responses: Over the medium term, suggested fiscal consolidation aimed at a medium-term general government structural primary deficit of about 1 percent of GDP should broadly stabilize the debt-to-GDP ratio and address the CA gap. Structural policies to increase competitiveness include upgrading infrastructure; enhancing the schooling, training, and mobility of workers; supporting the working poor; and implementing policies to increase growth in the labor force (including skill-based immigration reform). Tariff barriers should be rolled back, and trade and investment disagreements with other countries should be resolved in a manner that supports an open, stable, and transparent global trading system.</td></tr>
<tr><td>Foreign Asset/ Liability Position and Trajectory</td><td colspan="6">Background. The NIIP, which averaged about –46 percent of GDP during 2016–19, strengthened slightly from –67.1 percent of GDP in 2020 to –64.9 percent of GDP in 2021. Under the IMF staff's baseline scenario, the NIIP is projected to remain broadly unchanged through the medium term on the back of developments in portfolio assets and liabilities as the CA balance reverts to its pre–COVID-19 average.
Assessment. Financial stability risks could surface in the form of an unexpected decline in foreign demand for U.S. fixed income securities, which is a main component of the country's external liabilities. This risk, which could materialize e.g., due to a failure to re-establish fiscal sustainability, remains moderate given the dominant status of the U.S. dollar as a reserve currency. Around 60 percent of U.S. assets are in the form of FDI and portfolio equity claims.</td></tr>
<tr><td>2021 (% GDP)</td><td>NIIP: -64.9</td><td>Gross Assets: 65.5</td><td>Debt Assets: 17.7</td><td>Gross Liab.: 110.1</td><td colspan="2">Debt Liab.: 56.0</td></tr>
<tr><td>Current Account</td><td colspan="6">Background. The US CA deficit increased from 2.9 percent of GDP in 2020 to 3.4 percent in 2021 (from 2.7 to 3 percent in cyclically adjusted terms), compared with a deficit of 2.1 percent of GDP in 2016. On the trade side, its evolution since 2016 is explained mostly by deterioration in the non-oil and income balances. In 2021, the trade balance declined moderately from 2020 (–3.2 versus –3.7 percent GDP), mostly due to the changes in imports of goods, while the income account remained unchanged. Both national saving and investment increased as a percentage of GDP from 2016 to 2021 (with a massive increase in public dissaving due to the pandemic), resulting in the stated increase in the CA deficit. The CA deficit is expected to decline slightly below 2 percent of GDP over the medium term.
Assessment. The EBA model estimates a cyclically adjusted CA balance of –3.1 percent of GDP and a cyclically adjusted CA norm of –1.2 percent of GDP. The EBA model CA gap is –1.9 percent of GDP for 2020, reflecting policy gaps (–0.8 percent of GDP, half of which, –0.4 percent, corresponds to fiscal policy) and an unidentified residual (about –1 percent of GDP) that may reflect structural factors not included in the model. On balance, the IMF staff assesses the 2021 cyclically adjusted CA to be 1.1 percent of GDP lower than the level implied by medium-term fundamentals and desirable policies, with a range between –1.7 and –0.5 percent of GDP. This assessment includes an IMF staff adjustor of 0.8 percent GDP to account for the effects of COVID-19 on the travel (0.2 percent of GDP), transport (0.1 percent of GDP), and medical (0.1 percent of GDP) balances, as well as the shift in the composition of household consumption (0.4 percent of GDP). The estimated standard error of the CA norm is 0.6 percent of GDP.</td></tr>
<tr><td>2021 (% GDP)</td><td>CA:
-3.5</td><td>Cycl. Adj. CA:
-3.1</td><td>EBA Norm:
-1.2</td><td>EBA Gap:
-1.9</td><td>COVID-19 Adj.:
0.8</td><td>Other Adj.:
0.0
Staff Gap:
-1.1</td></tr>
<tr><td>Real Exchange Rate</td><td colspan="6">Background. After appreciating by 1.6 percent in 2020 (pa), the real effective exchange rate (REER) depreciated by 3.8 percent in 2021 (pa). The depreciation in 2021 brought the REER to the average level that prevailed in 2016.
Assessment. Indirect estimates of the REER (based on staff's current account assessment) imply that the exchange rate was overvalued by 8.6 percent in 2021 (applying the estimated elasticity of 0.12). The EBA REER index model suggests an overvaluation of 2.4 percent, and the EBA REER level model suggests an overvaluation of 9.9 percent. Considering all the estimates and their uncertainties, staff assesses the 2021 midpoint REER overvaluation to be 8.6 percent, with a range of 3.8-13.5 percent, where the range is obtained from the CA account standard error and the corresponding CA elasticity.</td></tr>
<tr><td>Capital and Financial Accounts: Flows and Policy Measures</td><td colspan="6">Background. The financial account balance was about –3.1 percent of GDP in 2020, compared with –3.5 percent of GDP in 2020. This was due to a decrease in net direct investment from 0.5 to 0.2 percent GDP, with the changes in portfolio investment (–2.3 to –10 percent) and other investments (–1.3 to –2.5 percent) broadly canceling each other out.
Assessment. The US has an open capital account. Vulnerabilities are limited by the dollar's status as a reserve currency, with foreign demand for US Treasury securities supported by the status of the dollar as a reserve currency and, possibly, by safe haven flows.</td></tr>
<tr><td>FXI and Reserves</td><td colspan="6">Assessment. The dollar has the status of a global reserve currency. Reserves held by the United States are typically low relative to standard metrics. The currency is free floating.</td></tr>
</table>

Appendix IV. Implementation of 2020 FSAP Recommendations

FSAP Recommendations	Developments	Status
Systemic Risk Oversight and Macroprudential Framework		
Provide an explicit financial stability mandate to all federal FSOC members.	This legislative recommendation has not been implemented.	Not Implemented
Prioritize the development of macroprudential tools to address risks and vulnerabilities in the nonbank sector.	In 2021, the Council made it a priority to evaluate and address the risks to U.S. financial stability posed by three types of nonbank financial institutions: hedge funds, open-end funds, and money market funds. At its meeting on February 4, 2022, the Council received updates from member agency staff on progress over the past year regarding these three types of NBFIs through working groups and Council member agency rulemaking activity. The Council issued a public statement highlighting its work. The Council will continue to evaluate, monitor, and address these risks to financial stability in 2022.	Partially Implemented
Intensify efforts to close data gaps, including reporting disclosures of holdings of collateralized loan obligations (CLOs) and repo markets, to reinforce market discipline.	In February 2019, the OFR promulgated 12 CFR Part 1610, a rule regarding “Ongoing Data Collection of Centrally Cleared Transactions in the U.S. Repurchase Agreement Market”. Data collection from private entities deemed “covered reporters” began in October 2019. In September 2020, the OFR launched its Short-Term Funding Monitor, which integrates data collected from centrally cleared repo transactions with triparty repo transaction data from the New York Federal Reserve Bank and other existing data sets previously scattered across many sources, into a combined monitor which	Partially Implemented

FSAP Recommendations	Developments	Status
	users can download via a public application programming interface.	
Banking Regulation and Supervision		
Review prudential requirements for non-internationally active banks (Category III and IV) and ensure they are and continue to be broadly consistent with the Basel capital framework and appropriate concentration limits; and consider extending the full liquidity coverage ratio (LCR) to them.	No material developments to report.	Implemented
Streamline regulatory requirements and consider rewriting key prudential guidance as regulation.	The Board, FDIC, and OCC are working on a revised framework that is intended to produce more robust and internationally consistent capital requirements for the largest firms, building on improvements made to the capital framework following the 2007-09 financial crisis. Board staff continues to revise or make inactive previously issued guidance that has become outdated, has been superseded by subsequent guidance or regulations, or is no longer relevant to the supervision program. In some cases, guidance has been made inactive because more comprehensive guidance on the topic is available in the examination manuals.	Not Implemented

FSAP Recommendations	Developments	Status
	Additionally, the Board has published legal interpretations regarding several regulations.	
Introduce heightened standards on the governance of large and complex bank holding companies (BHCs), enhance the related-party framework, introduce rules on concentration risk management, and include more quantitative standards regarding interest rate risk in the banking book.	The Board introduced guidance on the governance of large and complex BHCs (those with total consolidated assets for $100 billion or more). The guidance ("Supervisory Guidance on Board of Directors' Effectiveness") describes the key elements of effective boards at such institutions and provides illustrative examples of effective board practices.	Partially Implemented
Insurance Regulation and Supervision		
Increase independence of state insurance regulators, with appropriate accountability.	It is not substantiated that supervisory independence is undermined if commissioners are appointed and/or elected. Further, recommended reforms at the state government level are beyond the purview of individual state insurance departments. The method of commissioner selection is determined by the legislatures in each state. NAIC has sent this recommendation over to NCOIL, NCSL and to the Legislative Liaisons Bulletin Board for their awareness.	Not implemented
Require all in-force life insurance business be moved to principles-based reserving (PBR) after a five-year transition period, adjust asset valuation approach to	It would require a very significant effort for life insurance companies to set up PBR modeling for their in-force business. PBR applies only to new business for several reasons: (1) formulaic reserves are generally conservative for in-force life insurance products, and under PBR, whole life policies will generally pass exemption tests	Not implemented

FSAP Recommendations	Developments	Status
ensure consistency between assets and liabilities, and recalibrate risk-based capital (RBC) to the revised valuation approach.	and continue to be valued under the old reserve methodology; (2) Term insurance products will move to PBR relatively quickly since they have a limited duration and will expire; and (3) State law prevents new valuations on existing products that have minimum non-forfeiture benefits derived at the date of issue of the contract.	
Develop a consolidated group capital requirement similar to GAAP-Plus insurance capital standard (ICS) for internationally active groups and optionally for domestic groups in parallel with the development of aggregation approaches by the Board and NAIC.	The Federal Reserve Board (the Board) and NAIC continue to develop their aggregation approaches, and the United States—along with other interested jurisdictions—is developing an Aggregation Method at the IAIS. The IAIS has developed high-level principles and is working to develop criteria to assess whether the Aggregation Method provides comparable outcomes to the ICS by the end of the monitoring period. No U.S. regulator intends to adopt the ICS in its current form.	Not implemented
Regulation, Supervision, and Oversight of FMIs		
Increase CFTC resources devoted to CCP supervision and strengthen rule-approval process to an affirmative approval with a public consultation.	On December 28, 2020 and March 15, 2022, Congress approved additional resources to the CFTC.	Implemented
Collaborate to analyze differences in outcomes of CCP risk management practices and adopt an appropriately consistent, conservative	The Board, SEC, and CFTC have implemented regulatory frameworks as mandated by Title VIII of the Dodd-Frank Act and that are consistent with the PFMI. The authorities also continue to actively cooperate, coordinate, consult, and collaborate on oversight of CCPs, including risk management practices. For example,	Partially Implemented

FSAP Recommendations	Developments	Status
implementation of risk conservative management standards across CCPs.	the authorities continue to coordinate and collaborate on examinations of CCP risk management practices as well as on reviews of proposed changes to those frameworks, including rulemaking. While acknowledging that CCPs operate in different markets, which may require different approaches to managing risk, the authorities continue to discuss differences in the outcomes of risk management practices at CCPs, with considerations taken for financial stability and market impact.	
Develop and execute more comprehensive systemwide CCP supervisory stress tests.	Preparatory work to conduct a joint supervisory stress test of CCPs began in 2019. Progress was temporarily delayed to address unprecedented COVID-related developments, and more recently, work related to geopolitical events, but engagement will resume. During the pandemic, the authorities endeavored to address the aggregate effect of COVID-volatility, including CCPs. The SEC developed a COVID-19 Market Monitoring Group to assist in the SEC's efforts to coordinate with and support the COVID-19-related efforts of other federal financial agencies and other bodies, including the President's Working Group on Financial Markets (PWG), Financial Stability Oversight Council (FSOC) and the Financial Stability Board (FSB), among others. The CFTC co-chairs an international working group focused on the effects of margin demands on the financial system during the period of extreme market stress in the early COVID-19 period; the relevant standard-setting bodies published a consultative report in late 2021 and is working towards a final report for the second half of 2022. In addition, the CFTC and the Board participated in an international	Implemented with regard to collaboration and implementation of robust risk management standards. Partially Implemented to reflect continued discussion by authorities.

FSAP Recommendations	Developments	Status
	working group tasked with analyzing whether global CCPs would need additional resources under severe default and non-default scenarios; the results of this analysis were published by the standard setters in March 2022, with further work planned internationally. Finally, the CFTC led a multi-regulator default drill in 2021 that analyzed the preparedness of CCPs for stressed markets resulting from the default of a large global financial institution; the exercise included over a dozen global regulators as well as over a dozen CCP service lines. The CFTC is now starting the process of planning for the next coordinated default drill, which intends to build on the scope of the 2021 exercise. See also U.S. FSAP Technical Note: Supervision of Financial Market Infrastructures, Resilience of Central Counterparties and Innovative Technologies (July 2020) ("FMIs appeared so far sufficiently robust to manage surges in volumes and volatility in financial markets during the COVID-19 crisis.").	
Securities Regulation and Supervision		
Give CFTC and SEC greater independence to determine their own resources, with appropriate accountability.	This legislative recommendation has not been implemented.	Not Implemented
Assess financial stability risks related to mutual funds and stable net asset value (NAV) money market funds (MMFs), including through	On December 15, 2021, SEC proposed amendments to improve the resilience and transparency of money market funds at Proposed rule: Money Market Fund Reforms; Conformed to Federal Register version (sec.gov).	Partially Implemented

FSAP Recommendations	Developments	Status
SEC-led liquidity stress testing.	SEC's Fall 2021 Agency Rule List includes a proposed rulemaking on Open-End Fund Liquidity and Dilution Management at Agency Rule List - Fall 2021 (reginfo.gov).	
Conclude implementation of new broker-dealer capital rules; finalization of market-wide circuit breakers, and delivery of the Consolidated Audit Trail.	Implementation of new broker-dealer capital rules. On June 21, 2019, the SEC adopted final rules addressing the Title VII requirements for, among other things, capital and segregation requirements for broker-dealers; the compliance date for this rulemaking was October 6, 2021 See https://www.sec.gov/news/press-release-2019-105. Finalization of market-wide circuit breakers MWCBs. The MWCBs were triggered four times in March 2020, providing the self-regulatory organizations (SROs) and the SEC with an opportunity to assess its performance. Following completion of an analysis of the MWCBs' operations, the SROs' MWCB rules were made permanent in March and April 2022 without modification to how they operate. The SROs, however, added requirements relating to testing of the MWCBs and identification of circumstances (e.g., a market decline that falls just short of triggering a MWCB) that warrant review by the SROs and reports to the SEC. See, e.g., https://www.sec.gov/rules/sro/nyse/2022/34-94441.pdf. Delivery of the Consolidated Audit Trail. The SEC charged the SROs with developing and building a Consolidated Audit Trail. For information on the SROs' progress, links to the CAT Implementation Plan, which	Fully Implemented Fully Implemented Partially Implemented

FSAP Recommendations	Developments	Status
	was filed with the Commission on July 22, 2020, as well as the quarterly progress reports QPRs see https://www.catnmsplan.com/implementation-plan.	
Increase scrutiny of new registrants and reduce reliance on self-attestations where applicable.	Whether a registered investment adviser is a newly registered firm is one of the risk factors that the SEC Division of Examinations considers in selecting firms for examination. Newly CFTC registered commodity pool operators (CPOs) immediately become eligible for examination by the NFA utilizing NFA's risk assessment/model function. There are a number of factors that, if present, may result in a newly registered CPO being scheduled for examination including background of firm personnel.	Partially Implemented
AML/CFT		
Legislate to collect beneficial ownership information on formation of U.S. corporations, maintain it, and ensure timely access for authorities.	The AML Act of 2020, which includes the Corporate Transparency Act, was enacted on January 1, 2021, and requires that reporting companies disclose their beneficial owners when they are formed (or, for non-U.S. companies, when they register with a State to do business in the U.S.), and when they change beneficial owners.	Implemented
Ensure that investment advisers, lawyers, accountants, and company service providers are effectively regulated and supervised for AML/CFT in line with risks.	The FATF most recently assessed the United States' progress on these action items as a part of the Third Follow-Up to the U.S. Mutual Evaluation. The United States will continue to engage with the FATF on addressing the gaps identified in that assessment. https://www.fatf-gafi.org/media/fatf/documents/reports/fur/Follow-Up-Report-United-States-March-2020.pdf	Partially Implemented

FSAP Recommendations	Developments	Status
Systemic Liquidity		
Promote the fungibility of Treasury Securities and Reserves by adjusting assumptions about firms' access to the Discount Window in liquidity metrics.	No changes have been made since the FSAP was conducted.	Not Implemented
Continue to operate regular fine-tuning OMOs.	In the current operating environment, in which reserves are in excess of $3 trillion, no fine-tuning or reserve management OMOs are needed.	Implemented
Advance arrangements for providing liquidity to systemic nonbanks and CCPs under stress, and reconsider restrictions on bilateral emergency liquidity assistance (ELA) to designated systemically important nonbanks.	No changes have been made since the FSAP was conducted. The Federal Reserve has the ability to provide liquidity to systemic nonbanks under stress through broad-based liquidity facilities under Section 13(3) of the Federal Reserve Act. In addition, for a CCP that the FSOC has designated as systemically important, the Federal Reserve is authorized to provide liquidity on a bilateral basis in unusual or exigent circumstances (among other restrictions). (The recommendation to reconsider restrictions on bilateral emergency liquidity assistance to systemic nonbanks should be directed to Congress.)	Not Implemented
Develop robust and effective backup plans in the event the sole provider, Bank of New York Mellon (BNYM), is not able to settle and clear repo transactions.	The Federal Reserve continues to engage with market participants on the development of robust plans in the event that BNYM is not able to settle and clear repo transactions, including at an industry level. Market participants continue to offer widespread interest and support for this effort. The Federal Reserve continues discussions in order to develop and implement these plans.	Partially Implemented

FSAP Recommendations	Developments	Status
Enhance arrangements to provide liquidity support in foreign currencies to banks and designated systemically important CCPs.	No changes have been made since the FSAP was conducted.	Not Implemented
Crisis Preparedness and Management		
Intensify crisis preparedness.	FSOC plays an important role in promoting information sharing and collaboration to address potential risks to financial stability. When the Council discusses potential responses to mitigate potential risks to financial stability, it seeks to collaborate regarding agencies' crisis-management planning and tools that are relevant to those risks.	Partially Implemented
Continue to use agency discretion actively to subject a wider array of firms to RRP.	Through operation of the revised resolution plan rule issued by the FDIC and Board in 2019, several firms have become subject to the Title I resolution plan requirement since the effective date of the rule.	Partially Implemented
Continue to undertake, at least yearly, Dodd-Frank Act (DFA) Title II plans, resolvability assessments, and crisis management group (CMG) discussions of RRPs and assessments.	The FBAs continue to review RRPs submitted by firms with an increasing focus on testing a range of firms' capabilities that support resiliency, recoverability, and resolvability. The FDIC and the Board also continue to co-chair annual Crisis Management Group (CMG) meetings for U.S. G-SIBs, with the participation of the OCC and SEC, as applicable, and relevant host authorities, to discuss home-and-host resolvability assessments for the firms to facilitate cross-border resolution planning.	Implemented

FSAP Recommendations	Developments	Status
	Further, the FDIC has undertaken institution-specific strategic planning to carry out its orderly liquidation authorities with respect to the largest G-SIBs operating in the United States. The FDIC continues to build out process documents to facilitate the implementation of the framework in a Title II resolution.	
Extend OLA powers to cover FBOs' U.S. branches; ensure equal depositor preference ranking for overseas branch deposits with domestic deposits; introduce powers to give prompt and predictable legal effect to foreign resolution measures.	This legislative recommendation has not been implemented.	Not Implemented

This assessment was prepared by the U.S. authorities for the purposes of the IMF's Article IV review and is non-binding, informal, and summary in nature. The updates contained herein do not represent rules, regulations, interpretations, or official statements of the U.S. authorities.

INTERNATIONAL MONETARY FUND

UNITED STATES

June 24, 2022

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By

The Western Hemisphere Department (in consultation with other departments)

CONTENTS

FUND RELATIONS

(As of June 13, 2022)

Membership Status: Joined: December 27, 1945; Article VIII

General Resources Account:	**SDR Million**	**Percent of Quota**
Quota	82,994.20	100.00
IMF's Holdings of Currency (Holdings Rate)	58,289.69	70.23
Reserve Tranche Position	24,757.54	29.83
Lending to the Fund		
New Arrangements to Borrow	383.33	

SDR Department:	**SDR Million**	**Percent of Allocation**
Net cumulative allocation	114,861.89	100.00
Holdings	118,342.72	103.03

Outstanding Purchases and Loans: None

Financial Arrangements: None

Projected Payments to Fund 1/

(SDR Million; based on existing use of resources and present holdings of SDRs):

	Forthcoming				
	2022	2023	2024	2025	2026
Principal					
Charges/Interest		1.47	1.47	1.47	1.47
Total		1.47	1.47	1.47	1.47

1/ When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

Exchange Rate Arrangements. The exchange rate of the U.S. dollar floats independently and is determined freely in the foreign exchange market. The United States has accepted the obligations under Article VIII, Sections 2(a), 3 and 4 of the IMF's Articles of Agreement and maintains an exchange system free of multiple currency practices and restrictions on the making of payments and transfers for current international transactions, except for those measures imposed for security reasons. The United States notifies the maintenance of measures imposed for security reasons under Executive Board Decision No. 144–(52/51). The last of these notifications was made on April 21, 2022.

Article IV Consultation. The 2022 Article IV consultation was concluded on July 11, 2022 and the Staff Report was published as IMF Country Report No. [22/xxx]. A fiscal Report of Observance of Standards and Codes was completed in the context of the 2003 consultation. The 2022 Article IV discussions took place during May 31–June 15, 2022. Concluding meetings with Chair Powell of the Board of Governors of the Federal Reserve System, and Treasury Secretary Yellen occurred on June 23-24. The Managing Director, Ms. Georgieva, and Deputy Managing Director Li participated in the concluding meetings. A press conference on the consultation was held on June 27, 2022. The team comprised Nigel Chalk (head), Laila Azoor, Katharina Bergant, Moya Chin, Andrew Hodge, Li Lin, Rui Mano, Andrea Medici, Anke Weber (all WHD), Martin Stuermer (RES), Mico Mrkaic and Elizabeth Van Heuvelen (SPR). Ms. Elizabeth Shortino (Acting Executive Director) and Mr. Logan Sturm (Advisor) attended some of the meetings. Outreach included discussions with the U.S. Chamber of Commerce, private sector representatives, and think tanks. Unless an objection from the authorities of the United States is received prior to the conclusion of the Board's consideration, the document will be published.

STATISTICAL ISSUES

As of June 13, 2022

<table>
<tr><th colspan="2">I. Assessment of Data Adequacy for Surveillance</th></tr>
<tr><td colspan="2">General: Comprehensive economic data are available for the United States on a timely basis. Data provision is adequate for surveillance, including its coverage, periodicity, and timeliness.</td></tr>
<tr><th colspan="2">II. Data Standards and Quality</th></tr>
<tr><td>The United States is an adherent to the Special Data Dissemination Standard Plus (SDDS Plus) since February 18, 2015, and its metadata are posted on the Dissemination Standards Bulletin Board (DSBB). The United States' latest SDDS Plus Annual Observance Report is available on the DSBB.</td><td>No data ROSC has been conducted.</td></tr>
</table>

Table 1. United States: Table of Common Indicators Required for Surveillance
(As of June 27, 2022)

	Date of latest observation	Date received	Frequency of data[1]	Frequency of reporting[1]	Frequency of publication[1]
Exchange rates	Same day	Same day	D	D	D
International reserve assets and reserve liabilities of the monetary authorities[2]	2022 M4	May 31	M	M	M
Reserve/base money	2022 M5	Jun 22	M	M	M
Broad money	2022 M5	Jun 22	M	M	M
Central bank balance sheet	Jun 22	Jun 22	W	W	W
Consolidated balance sheet of the banking system	2022 Q1	Jun 11	Q	Q	Q
Interest rates[3]	Same day	Same day	D	D	D
Consumer price index	2022 M5	Jun 10	M	M	M
Revenue, expenditure, balance and composition of financing[4]—general government[5]	2022 Q1	Jun 24	Q	Q	Q
Revenue, expenditure, balance and composition of financing[4]—central government	2022 M5	Jun 10	M	M	M
Stocks of central government and central government-guaranteed debt	2022 M6	Jun 30	M	M	M
External current account balance	2022 Q1	Jun 23	Q	Q	Q
Exports and imports of goods and services	2022 M4	Jun 7	M	M	M
GDP/GNP (1st release)	2022 Q1	Apr 29	Q	M	M
Gross External Debt	2021 Q4	Mar 31	Q	Q	Q
International Investment Position[6]	2021 Q4	Mar 29	Q	Q	Q

[1] Daily (D), Weekly (W), Biweekly (B), Monthly (M), Quarterly (Q), Annually (A); NA: Not Available.
[2] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[3] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
[4] Foreign, domestic bank, and domestic nonbank financing.
[5] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.
[6] Includes external gross financial asset and liability positions vis-à-vis nonresidents.

INTERNATIONAL MONETARY FUND

UNITED STATES

July 5, 2022

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION —SUPPLEMENTARY INFORMATION

Prepared By Western Hemisphere Department

This statement provides an update on developments since the issuance of the staff report to the Executive Board on June 27, 2022. The update does not change the thrust of the staff appraisal.

1. **Data**. New data was released on June 29–30 to update the estimates of first quarter GDP and to provide new data on personal income and consumption for May. The highlights from the two reports were

- Personal consumption expenditure was considerably weaker in the first few months of the year than previously thought. The level of consumption in April was revised down by 0.8 percent (with a 1.5 percent reduction in durable goods consumption and smaller reductions in demand for services and nondurables). This implied a higher household saving rate during the first four months of the year.

- Personal consumption expenditure contracted in May by 0.4 percent (relative to the revised April outturn). There was a particularly large (3.5 percent) reduction in the demand for durables relative to that in April.

- The composition of first quarter GDP was revised to reflect the lower real growth in consumption (which fell from 3.1 to 1.8 percent) and a smaller decumulation of nonfarm inventories.

- In May, headline PCE inflation was 0.6 percent (6.3 percent year-on-year). Core PCE inflation was 0.3 percent (falling to 4.7 percent year-on-year), somewhat lower than was forecast by staff. Median PCE inflation rose to 0.6 percent (or 4.8 percent year-on-year).

2. **Implications for outlook**. The data revisions and new data for May indicate significantly less momentum in private consumption and a smaller deployment of the household savings that had been accumulated over the past two years. This suggests the economy is experiencing a more front-loaded deceleration with a drawdown of savings less supportive of demand during the remainder of this year. As such, staff have

- Revised down growth for 2022 from 2.2 to 1.0 percent Q4/Q4. This is expected to reduce the annual average growth rate from 2.9 to 2.3 percent in 2022 and from 1.7 to 1.0 percent in 2023.
- Modestly lowered core PCE inflation in 2022 (from 4.6 to 4.4 percent Q4/Q4).

Table 1 summarizes the revisions in the forecast.

Table 1. United States: Selected Economic Indicators
(Percentage change from previous period, unless otherwise indicated)

	2019	2020	2021	Projections 2022	2023	2024	2025	2026	2027
National Production and Income									
Real GDP	2.3	-3.4	5.7	2.3	1.0	1.2	1.8	2.1	1.9
Real GDP (q4/q4)	2.6	-2.3	5.5	1.0	0.6	1.4	1.9	2.1	1.7
Net exports 1/	-0.2	-0.3	-1.4	-0.9	0.4	0.3	0.1	0.0	0.0
Total domestic demand	2.4	-3.0	6.9	3.0	0.6	0.8	1.6	2.0	1.8
Final domestic demand	2.4	-2.5	6.5	2.0	0.8	1.1	1.6	2.0	1.8
Private final consumption	2.2	-3.8	7.9	2.2	0.5	1.0	1.4	1.8	1.8
Public consumption expenditure	2.0	2.0	1.0	-0.5	1.1	1.2	1.3	1.3	1.3
Gross fixed domestic investment	3.1	-1.5	6.1	3.0	1.4	1.1	2.5	2.9	2.4
Private fixed investment	3.2	-2.7	7.8	3.7	0.9	0.6	2.3	2.8	2.8
Public fixed investment	2.9	4.2	-1.8	-1.1	4.4	4.1	3.9	3.4	0.5
Change in private inventories 1/	0.1	-0.5	0.3	1.1	-0.2	-0.2	-0.1	0.0	0.0
Nominal GDP	4.1	-2.2	10.1	9.0	4.1	3.2	3.7	4.0	3.8
Personal saving rate (% of disposable income)	7.7	16.4	12.2	5.0	6.8	8.0	8.6	8.4	8.4
Private investment rate (% of GDP)	17.9	17.4	17.9	19.2	18.8	18.4	18.4	18.5	18.7
Unemployment and Potential Output									
Unemployment rate	3.7	8.1	5.4	3.7	4.6	5.2	5.0	4.6	4.5
Labor force participation rate	63.1	61.8	61.7	62.3	62.4	62.5	62.4	62.2	62.0
Potential GDP	1.6	0.4	1.8	2.2	2.0	1.9	1.8	1.7	1.7
Output gap (% of potential GDP)	0.7	-3.2	0.5	0.6	-0.4	-1.1	-1.2	-0.8	-0.7
Inflation									
CPI inflation (q4/q4)	2.0	1.2	6.7	6.6	1.9	1.9	1.9	2.0	2.1
Core CPI Inflation (q4/q4)	2.3	1.6	5.0	5.4	2.4	2.2	2.2	2.3	2.3
PCE Inflation (q4/q4)	1.5	1.2	5.5	5.2	2.0	1.8	1.8	1.9	1.9
Core PCE Inflation (q4/q4)	1.6	1.4	4.6	4.4	2.2	2.0	2.0	2.0	2.0
GDP deflator	1.8	1.2	4.1	6.6	3.0	2.0	1.9	1.9	1.9
Government Finances									
Federal balance (% of GDP) 2/	-4.7	-15.0	-12.4	-4.6	-4.7	-5.3	-6.1	-6.0	-5.8
Federal debt held by the public (% of GDP)	79.4	100.3	99.6	98.4	98.5	100.7	103.5	105.6	107.4
General government budget balance (% of GDP)	-5.7	-14.5	-10.9	-4.8	-5.4	-6.2	-6.9	-6.8	-6.7
General government gross debt (% of GDP)	108.8	134.5	128.1	122.8	123.8	126.6	129.6	131.8	133.8
Interest Rates (percent; period average)									
Fed funds rate	2.2	0.4	0.1	1.5	3.8	3.5	2.7	2.4	2.4
Three-month Treasury bill rate	2.1	0.4	0.0	1.8	3.8	3.5	2.7	2.3	2.3
Ten-year government bond rate	2.1	0.9	1.4	3.1	4.1	3.9	3.5	3.2	3.1
Balance of Payments									
Current account balance (% of GDP)	-2.1	-3.0	-3.7	-3.8	-3.1	-2.7	-2.4	-2.3	-2.3
Merchandise trade balance (% of GDP)	-4.0	-4.4	-4.7	-5.2	-4.7	-4.3	-4.2	-4.1	-4.0
Export volume (NIPA basis, goods)	-0.1	-10.2	7.6	2.0	0.8	0.9	2.3	2.4	2.1
Import volume (NIPA basis, goods)	0.5	-5.6	14.6	8.1	-1.2	-0.9	0.8	1.6	1.6
Net International Investment Position (% of GDP)	-54.5	-70.4	-78.8	-76.1	-76.2	-76.5	-76.2	-75.6	-75.0
Saving and Investment (% of GDP)									
Gross national saving	19.4	19.2	20.1	21.5	21.8	21.9	22.1	22.4	22.4
General government	-2.9	-11.6	-8.1	-1.3	-1.8	-2.7	-3.5	-3.9	-4.0
Private	22.3	30.8	28.2	22.9	23.7	24.6	25.6	26.2	26.4
Personal	5.8	13.8	9.9	3.7	5.1	6.0	6.5	6.4	6.3
Business	16.5	17.0	18.3	19.2	18.6	18.6	19.1	19.9	20.1
Gross domestic investment	21.4	21.2	21.4	22.5	22.3	22.0	22.1	22.3	22.4
Private	17.9	17.4	17.9	19.2	18.8	18.4	18.4	18.5	18.7
Public	3.5	3.7	3.5	3.4	3.5	3.6	3.7	3.7	3.7

Sources: BEA; BLS; FRB; Haver Analytics; and IMF staff estimates.
1/ Contribution to real GDP growth, percentage points.
2/ Includes staff's adjustments for one-off items, including costs of financial sector support.

Statement by Ms. Shortino, Executive Director, Ms. Medearis, and Mr. Sturm on United States
July 11, 2022

We thank staff for their constructive and deliberate engagement with our authorities at a particularly uncertain time for the global economy. We welcome staff's analysis and policy advice in the staff report.

The United States has experienced a strong economic recovery, supported by historic economic and health measures by the U.S. government, following the shock of COVID-19. A robust U.S. economy has in turn provided a boost to global growth. Notably, the American Rescue Plan (ARP), signed into law in 2021, played a central role in restoring growth, protecting the most vulnerable households, and mitigating potential economic scarring that we saw in previous economic shocks. As a result, the U.S. economy grew by 5.7 percent in 2021, the fastest pace in nearly four decades. Moreover, our national vaccination effort continues with safe and effective vaccines now available for children under 5 years of age. We are continuing to take strides to further improve vaccine efficacy against new strains and to increase the availability of life-saving therapeutics.

The Administration expects growth to be largely in line with the IMF forecast of around 2 percent in 2022, and 1 percent for 2023. Aggregate demand has surprised firms and far outstripped already strained supply chains. While the labor market has recovered, the labor force participation rate has lagged, particularly for those over 55 years of age. Firms added 2.4 million jobs in the first five months of 2022, and the unemployment rate is holding just above the 3.5 percent, five-decade low reached in late 2019 and early 2020. Jobless claims are also hovering near record lows.

The United States is well positioned to respond to unacceptably high inflation, and restoring price stability is a top priority for our authorities. Inflation has risen in the United States and many other economies due to strong demand pressures and various supply constraints, which have been exacerbated by the impact of Russia's war against Ukraine on food and commodity prices. The first and most important defense against inflation is a strong and independent Federal Reserve. Steps to reduce supply side constraints and to make our supply chains more resilient represent an important complement to monetary policy actions by the Federal Reserve. The Administration is pushing forward an energy agenda designed to diminish our reliance on fossil fuels and help energy security through a transition to clean energy sources, which will create greater resilience against global shocks like Russia's war in Ukraine and lower costs for American consumers and businesses. The Administration continues to engage with Congress on its Build Back Better agenda and remains hopeful that a version of the reconciliation bill that has passed the House of Representatives will become law. These measures will help to reduce supply side constraints, including boosting labor supply, at an important juncture and contribute to lower costs for household expenditures like prescription drugs and childcare.

The Administration has also made fighting climate change and reversing longstanding structural racial and economic inequality top priorities. The Bipartisan Infrastructure Law

(BIL) will help improve the country's electric grid, incentivize and accelerate the switch to electric vehicles, and reduce methane emissions. The Administration recognizes the need to do more on climate, including through legislative action. The Administration has taken wide ranging actions to incorporate equity considerations in the recovery and promote further public investment in underserved communities. The ARP reached communities with the most serious challenges, including through rental assistance programs, outreach to raise awareness of benefits, and state and local funds to meet the needs of vulnerable communities.

Fiscal Policy: Preventing scarring, Making growth more equitable and greener

The United States deployed unprecedented fiscal support through the ARP to secure the recovery and protect the most vulnerable households and made historic investments in a greener future through the BIL. U.S. fiscal policy helped not only to insure against tail risks amid high uncertainty but also applied the lessons from past crises against dire baseline projections in 2020. Targeted fiscal measures prevented scarring, foreclosures, bankruptcies, and human suffering. The Administration strove to target the ARP to help low-and-middle- income households, including through the child tax credit. As a result, household balance sheets are healthy, and the support provided a bridge to allow families to secure new employment, pay down debt, and in general enter the post-pandemic workforce with their finances intact. Strong household and business balance sheets will contribute to growth going forward, and the Administration remains focused on sustainable, inclusive, and green growth.

The Administration aims to build a fair and stable tax system that is more equitable and efficient, promotes growth, and raises revenues to both adequately fund investments and to reduce deficits and debt. The Administration is making a strong case for additional resources to modernize the Internal Revenue Service, which will help to enforce existing tax laws and to close the tax gap in the United States. Internationally, the Administration is keenly focused on moving forward on the global agreement on international tax reform, including a global minimum tax that will level the playing field and raise crucial revenues to benefit people around the world. These agreements will ensure that corporations fairly share the burden of financing government and end the global race to the bottom in corporate taxation. The Administration remains committed to tax reforms, including tax credits, that will shift incentives away from fossil fuels toward renewable energy sources and to support higher labor force participation, especially amongst women.

Monetary Policy

In response to the pandemic, the Federal Reserve deployed all its tools to support the U.S. economy, thereby promoting its maximum employment and price stability goals. In less than two years, employment is now rapidly approaching its pre-pandemic level amid ongoing supply side constraints, including lagging labor force participation. With the swift recovery in employment and the sharp increase in inflation, the Federal Reserve is committed to moving expeditiously to keep the anchor of price stability. In recent months, our authorities have significantly tightened financial conditions through a well-choreographed pivot to monetary policy tightening. The initial pivot has been followed by decisive, data-dependent, and historically large policy rate increases, including the 75 basis point hike taken on June 15 as well as the initiation of a rapid reduction in the size of the Federal Reserve's balance sheet.

The Administration expects a pathway to address inflation without a recession. In this regard, we agree with staff's baseline assessment. Despite extraordinarily strong aggregate demand across a range of sectors, aggregate supply in many sectors has been relatively inelastic. Essentially vertical or near vertical supply dynamics continue to interact with very strong demand across many sectors of the economy. It is critical that economic conditions support nascent and potential supply responses. As supply responds with easing supply chain bottlenecks, increased labor supply, and rebalancing of demand between goods and services, inflationary pressures will ease.

The current tightening cycle is clouded by risks, including tail risks, and uncertainty especially regarding resolution of supply side constraints. Staff rightly note the risks from further shocks related to the pandemic, China lockdowns, and Russia's war against Ukraine, which would have an acute impact on supplies of durable goods and commodities. The rapid upswing in inflation is not unique to the United States or other advanced economies, but further complicates policy responses to these risks. With policy tightening occurring in many jurisdictions, we note that the likelihood of negative surprises or spillovers should not be discounted.

The policy shift from pandemic-era accommodation to tightening has been well communicated. Our authorities remain keenly attuned to the public's interest in the pace and trajectory of U.S. monetary policy. The FOMC closely monitors global economic and financial developments and their implications for domestic economic activity, labor markets, and inflation. The Federal Reserve finds its existing communication tools to be effective and will continue to use its extensive communication tools to maximum effect to make sure that its policy intentions, including for the path of the policy rate, are well understood by market participants, the public, and by international counterparts.

Financial Stability

The U.S. financial system has remained resilient in the context of multiple shocks over the past two years. Thus far, our authorities have noted very limited direct exposure to financial spillovers from Russia's war against Ukraine. U.S. banks throughout the pandemic have shown little signs of systemic risks across a range of capital and liquidity metrics. Our authorities are well aware of the risks posed by rising interest rates and ongoing challenges in certain sectors like the commercial real estate market. To date, disciplined underwriting of residential mortgages and still vigorous housing market growth have supported financial sector stability unlike during previous crises.

U.S. authorities are seeking ways to mitigate potential risks associated with nonbank financial institutions (NBFIs) and with digital assets while carefully monitoring market functioning. The Financial Stability Oversight Council (FSOC) continues to take a well- coordinated approach to addressing these financial stability risks. The Federal Reserve established two new facilities that can help to maintain the smooth functioning of financial markets in response to future shocks. The first is the Standing Repurchase Agreement (repo) Facility, which serves as a backstop in money markets to support the effective implementation of monetary policy. The other is the FIMA Repo facility, which is available to approved central banks and monetary authorities with accounts at the Federal Reserve Bank of New York.

Climate Change

Addressing the massive global threat from climate change is an Administration priority. We welcome additional Fund analysis and recommendations on a green jobs transition. We continue to see multiple pathways to achieve our Nationally Determined Contributions through regulatory action, inter-agency initiatives, new standards, and, importantly, Congressional action. The BIL contained key investments for carbon capture, hydrogen energy development, reclaiming abandoned mine lands, and upgrades to the national electricity grid. Additionally, the Administration remains committed to working with Congress to pass legislation that will build on our initial down payment toward a greener future through the BIL and meet our full ambitions on climate change.

The Administration has made extensive progress on our climate agenda through executive actions that will make important contributions to achieving the U.S. NDC. These actions include Defense Production Act authorization for clean energy manufacturing, a Methane Emissions Reduction Action Plan, new lease sales for offshore wind, and strong passenger vehicle fuel economy standards. The Administration's leadership on climate is complemented by voluntary U.S. private sector climate and sustainability commitments that will support further progress.

We note the alignment between Fund analysis on the green transition and the Administration's place-based policies which will support communities adversely affected by globalization and climate change. The Administration is focused on supporting these communities through dozens of pilot projects to tailor assistance to local needs and development aspirations. In this context, we highlight the Commerce Department's $3 billion program under the ARP, which will support workforce development in underserved communities tied to firms' needs while improving infrastructure including broadband internet access. Likewise, the Justice 40 initiative aims to channel additional resources to vulnerable communities with a goal of investing 40 percent of key programs, $29 billion thus far in 2021–22, into these historically marginalized, underserved and/or pollution-burdened communities.

The Administration, through the FSOC, is making strides to improve financial sector climate resiliency. The FSOC published a report last year identifying climate change as an emerging threat to U.S. financial stability. The report included over 30 recommendations to U.S. financial regulators to help assess and address climate-related financial risks. Those recommendations encourage financial regulators to take action to expand capacity, improve data and measurement, enhance disclosure of climate-related risks, assess the scale of climate vulnerabilities, and make appropriate adjustments in regulatory and supervisory tools. The FSOC established a new staff-level committee to provide a venue to help promote information sharing and facilitate efforts to address climate-related financial risks. FSOC members have made important progress since the report was issued. The Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation, for example, each issued principles for climate-related financial risk management for large banking institutions. The U.S. Securities and Exchange Commission also issued a proposal to enhance and standardize climate-related disclosures for investors.

International Context

The U.S. economic recovery has had positive economic spillovers and boosted the global economic recovery from the pandemic. The United States remains committed to supporting developing countries in their fight against the pandemic and the rising threat of food insecurity, exacerbated by Russia's war against Ukraine. To date, the United States has pledged to donate at least 1.1 billion doses of COVID-19 vaccines before 2023 and has already delivered about half of this amount.

The pandemic and the uneven global recovery have had significant effects on the U.S. external position. The U.S. current account deficit has widened in the near term as a result of the strong growth in United States relative to our major trading partners. Going forward, it will be important for the rest of the world to do its part in supporting global aggregate demand while balancing inflation pressures. Countries with persistent, excessive current account surpluses must find ways to support domestic demand. Flexibility in exchange rates and avoidance of excess reserve accumulation will be critical to reducing global imbalances.

The Administration's trade policy aims to ensure inclusive, equitable, and worker-centered growth, while also securing the resilience of supply chains. This is in parallel with our domestic efforts to improve standards of living, ensure full employment, and promote sustainable development. However, unfair competition by other countries, including non- market policies as well as exploitation of workers and the environment, continue to undermine U.S. interests and a fair international trading system. The Administration is committed to defending U.S. citizens, workers, and businesses from unfair practices of non- market economies and resulting global economic distortions. The Administration is also considering a reform agenda at the WTO to address these issues, as well as enhancing compliance and transparency.

Spillovers from Russia's war against Ukraine have had an extraordinary negative impact on the global economy. We remain acutely aware of human suffering from the war and remain committed to limiting the suffering in Ukraine and those affected by spillovers from Russia's war. In response, the United States is working with its allies, partners, and the international financial institutions to respond these additional crises. For example, we are committed to working with partners to address the rising global food insecurity crisis, including through the Administration's Feed the Future initiative. We remain firmly committed to cooperating multilaterally to address these and other pressing global challenges.