INTERNATIONAL MONETARY FUND

IMF Country Report No. 17/239

UNITED STATES

2017 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT

July 2017

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 2017 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 24, 2017 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 24, 2017, following discussions that ended on June 16, 2017, 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 July 7, 2017.
- An **Informational Annex** prepared by the IMF staff.

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
COMMUNICATIONS DEPARTMENT

Press Release No. 17/301
FOR IMMEDIATE RELEASE
July 27, 2017

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2017 Article IV Consultation with the United States

On July 24, 2017, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with the United States.[1]

The United States is in the longest expansion since 1850. The unemployment rate has fallen to 4.4 percent and job growth continues to be strong. The economy has gone through a temporary growth dip in the early part of this year but momentum has picked up and the economy is expected to grow at 2.1 percent this year and next, modestly above potential, supported by solid consumption growth and a rebound in investment.

Labor market indicators suggest that the economy could be effectively at full employment. Inflation has remained subdued and, indeed, has weakened moderately in recent months. Wage indicators have shown a modest acceleration. Over the next 12–18 months personal consumer expenditure (PCE) inflation is expected to slowly rise above 2 percent, before returning to the Federal Reserve's medium-term target of 2 percent.

There are two-sided risks to the growth outlook. A medium-term path of fiscal consolidation, such as the expenditure based consolidation proposed in the budget, would address medium-term fiscal imbalances but result in a growth rate that is below staff's baseline. On the upside, spending reductions could be less ambitious and tax reforms could lower federal revenues, providing stimulus to the economy and raising near-term growth.

Over the longer term and despite the ongoing expansion, the United States faces a confluence of forces that may weigh on the prospects for continued gains in economic wellbeing. Secular structural shifts are occurring on multiple fronts including technological change that is reshaping the labor market, low productivity growth, rising skills premia, and an aging population. If left unchecked, these forces will continue to drag down both potential and actual growth, diminish gains in living standards, and worsen poverty.

[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.

The consultation focused on the policies needed to raise productivity and labor force participation, reduce poverty and income polarization, and help restore the economy's adaptability and dynamism.

Executive Board Assessment[2]

Executive Directors agreed with the thrust of the staff appraisal. They commended the strong performance of the U.S. economy, including a rebound in growth, improved consumer confidence, low unemployment, and steady job increases. At the same time, they noted that the favorable near-term outlook is clouded by important medium-term challenges, including rising public debt, potential growth below historical averages, declining labor force participation, and income growth that is not broadly shared. Against this background, Directors welcomed the authorities' goal to raise productivity and competitiveness, and underscored the importance of further clarity regarding the authorities' policy plans.

Directors noted that the economy is close to full employment and inflation is near the Federal Reserve's price stability mandate of 2 percent. They agreed that policy rates should continue to rise gradually, and the increases should continue to be data-dependent. Directors noted that well-communicated plans for unwinding the Federal Reserve's holdings of securities have been important in ensuring a smooth normalization of U.S. monetary policy, and welcomed the recent addendum to the policy normalization principles and plans. In this context, Directors highlighted the need to be mindful of potential global spillovers as normalization proceeds.

Directors agreed that addressing the medium-term challenges will require measures on various fronts. Reforms should include building a more efficient tax system; establishing a more effective regulatory system; raising infrastructure spending; improving education and developing skills; strengthening healthcare coverage while containing costs; offering family-friendly benefits; maintaining a free, fair, and mutually beneficial trade and investment regime; and reforming the immigration and welfare systems. Directors noted that the authorities' objectives are broadly aligned with these priorities.

Directors considered that such a reform package could raise productivity, labor supply, and investment, and ultimately improve living standards. While such a plan requires changes in fiscal spending and revenue priorities, measures need to be subsumed under a gradual but steady fiscal consolidation path, in view of elevated public debt and deficit levels, and public spending pressures from population aging and rising interest rates. Many Directors urged the authorities to ensure that tax reform leads to an increase in the revenue-to-GDP ratio and that the burden of fiscal adjustment does not fall disproportionately on low- and middle-income households.

[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 observed that the financial system is generally healthy. They urged the authorities to monitor closely the rising vulnerabilities in corporate and household credit markets, and implement the remaining recommendations of the 2015 Financial Sector Assessment Program. Directors noted that important gains have been made since the global financial crisis in strengthening the financial oversight structure. They concurred that some aspects of the system can be finetuned and the regulatory structure simplified, as has been proposed by the authorities. Directors emphasized, however, that the thrust of the current risk-based approach to regulation, supervision, and resolution should be preserved to safeguard financial stability while facilitating economic growth. In this connection, they welcomed the authorities' commitment to maintain a leading role in financial regulatory discussions in international forums

United States: Selected Economic Indicators 1/

(percentage change from previous period, unless otherwise indicated)

		Projections					
	2016	2017	2018	2019	2020	2021	2022
National production and income							
Real GDP	1.6	2.1	2.1	1.9	1.8	1.7	1.7
Net exports 2/	-0.1	-0.3	-0.2	-0.2	-0.2	-0.1	0.0
Total domestic demand	1.7	2.3	2.3	2.0	1.8	1.7	1.7
Private final consumption	2.7	2.2	1.9	2.0	2.0	1.9	1.8
Public consumption expenditure	0.8	0.5	1.4	1.4	0.8	0.7	0.3
Gross fixed domestic investment	0.7	4.3	4.0	2.9	2.4	2.6	2.4
Private fixed investment	0.7	4.7	3.9	2.8	2.3	2.5	2.6
Equipment and software	-2.9	3.6	4.9	3.2	2.3	2.6	2.5
Intellectual property products	4.7	4.1	3.8	3.6	4.0	4.0	4.6
Nonresidential structures	-2.9	6.4	2.5	1.2	0.3	0.6	0.5
Residential structures	4.9	5.5	3.6	2.3	2.0	2.0	2.0
Public fixed investment	0.8	2.9	4.0	3.4	2.7	2.9	1.8
Change in private inventories 2/	-0.4	0.0	0.0	-0.1	0.0	-0.1	-0.1
Nominal GDP	3.0	3.9	3.9	4.1	3.9	3.8	3.7
Personal saving rate (% of disposable income)	5.7	5.1	5.3	5.2	4.9	4.8	4.7
Private investment rate (% of GDP)	16.3	16.7	17.0	17.0	17.0	17.0	17.1
Unemployment and potential output							
Unemployment rate	4.9	4.3	4.3	4.4	4.7	4.9	5.0
Labor force participation rate	62.8	62.9	62.9	62.7	62.4	62.2	61.9
Potential GDP	1.6	1.8	1.9	1.8	1.8	1.8	1.7
Output gap (% of potential GDP)	-0.4	-0.1	0.1	0.2	0.2	0.1	0.0
Inflation							
CPI inflation (q4/q4)	1.8	2.1	2.5	2.6	2.1	2.2	2.3
Core CPI Inflation (q4/q4)	2.2	2.0	2.3	2.5	2.3	2.3	2.3
PCE Inflation (q4/q4)	1.4	1.7	2.2	2.3	1.8	1.9	2.0
Core PCE Inflation (q4/q4)	1.7	1.7	2.0	2.2	2.0	2.0	2.0
GDP deflator	1.3	1.8	1.8	2.1	2.1	2.0	1.9
Interest rates (percent)							
Fed funds rate	0.4	1.0	1.6	2.5	2.9	2.9	2.9
Three-month Treasury bill rate	0.3	1.0	1.5	2.4	2.7	2.7	2.7
Ten-year government bond rate	1.8	2.4	2.9	3.5	3.5	3.5	3.5
Balance of payments							
Current account balance (% of GDP)	-2.4	-2.5	-2.9	-3.0	-3.0	-2.9	-2.8
Merchandise trade balance (% of GDP)	-4.1	-4.4	-4.6	-4.8	-4.9	-4.9	-5.1
Export volume (NIPA basis, goods)	0.6	4.1	3.2	4.2	2.8	3.1	4.0
Import volume (NIPA basis, goods)	0.7	4.9	4.5	4.7	3.7	3.5	3.7
Net international investment position (% of GDP)	-44.8	-44.5	-45.7	-46.9	-48.2	-49.3	-50.3
Saving and investment (% of GDP)							
Gross national saving	18.5	17.7	17.6	17.4	17.4	17.6	17.8
General government	-1.8	-1.6	-1.3	-1.4	-1.4	-1.5	-1.6
Private	20.2	19.3	18.9	18.8	18.9	19.1	19.4
Personal	4.3	3.8	4.0	3.9	3.6	3.6	3.6
Business	15.9	15.5	14.9	14.9	15.2	15.6	15.9
Gross domestic investment	19.7	20.1	20.4	20.4	20.4	20.5	20.6
Private	16.3	16.7	17.0	17.0	17.0	17.0	17.1
Public	3.3	3.4	3.4	3.4	3.5	3.5	3.5

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

1/ Components may not sum to totals due to rounding.

2/ Contribution to real GDP growth, percentage points.

INTERNATIONAL MONETARY FUND

UNITED STATES

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION

July 7, 2017

KEY ISSUES

Diagnosis. The U.S. is in its third longest expansion since 1850, job growth has been persistently strong, inflation is subdued, and the economy is effectively at full employment. However, like many other advanced economies, the U.S. is confronting secular shifts on multiple fronts. These include technological change that is reshaping labor and product markets, low productivity growth, rising skills premia, and an aging population. Even with high per capita income and one of the most flexible, competitive, and innovative economies in the world, the U.S. model appears to be having difficulties adapting to these changes. Most critically, relative to historical performance, growth has been too low and too unequal. The challenge for the U.S. administration is to realign policies to raise productivity and labor force participation, reduce poverty and income polarization, and help restore the economy's adaptability and dynamism.

Policy recommendations.

- ***Fiscal policy*** should be calibrated to achieve a sustained but gradual reduction in the general government deficit, starting with the upcoming FY2018 budget. Doing so would ensure the public debt-GDP ratio declines through the medium-term.
- ***Monetary policy***. The pace of future increases in the federal funds rate can be gradual, especially when compared with previous tightening cycles, and should certainly be data dependent. The recent addendum to the policy normalization principles and plans provides market participants with a clear path for changes in reinvestment policy that will help avoid undue volatility in fixed income markets.
- ***Tax reform***. The U.S. personal and business tax system needs to be simpler and less distortionary, with lower tax rates and fewer exemptions. The redesign of the tax system should aim to raise labor force participation, mitigate income polarization and support low- and middle-income households. Given the unfavorable debt dynamics and the resources needed to strengthen the supply side, tax reform ought to be designed to be revenue enhancing over the medium term.
- ***Infrastructure***. There is a need for a significant increase in public spending on maintenance, repair and new infrastructure projects.
- ***Trade***. Greater trade integration, particularly in growth areas such as services, offers important gains to the U.S. with positive spillovers for the global economy.

- ***Financial regulation***. Important gains have been made in strengthening the financial oversight structure since the global financial crisis. There is scope to fine-tune some aspects of the system while preserving the current risk-based approach to regulation, supervision, and resolution.
- ***Deregulation***. A simplification and streamlining of federal regulations as well as harmonizing rules across states would likely boost efficiency and could stimulate job creation and growth. Care is needed to avoid negative consequences for the environment, workplace safety, and protections for lower-income workers.
- ***Maintaining a productive and flexible workforce***. Measures should include improving educational opportunities and outcomes, offering childcare support for low- and middle-income families, introducing paid family leave, expanding the earned income tax credit, increasing the federal minimum wage, designing better social assistance programs for the poor, protecting recent gains in healthcare coverage and containing healthcare cost inflation. A skills-based immigration system would enhance labor participation and productivity as well as ameliorate medium-term fiscal imbalances.

Approved By
Nigel Chalk (WHD) and Tam Bayoumi (SPR)

Discussions took place in Minneapolis (March 29–31), New York (April 25–27), and Washington, D.C. (May 23–June 16). Concluding meetings were held with Secretary Mnuchin and Chair Yellen on June 20. The team comprised N. Chalk (Head), Y. Abdih, A. Alichi, S. Danninger, E. Kopp, A. Pescatori, D. Puy (all WHD); K. Eckhold, D. King and C. Wilson (MCM); C. Rochon, S. Lizarazo and E. Van Heuvelen (SPR); T. Matheson and A. Peralta (FAD). The team was supported by P. Delgado Pino, U. Rosenhand, and P. Williams.

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AN ECONOMY THAT IS AT FULL EMPLOYMENT

1. **The U.S. economy is in its third longest expansion since 1850.** Real GDP is now 12 percent higher than its pre-recession peak, and job growth has been persistently strong. The first quarter was weighed down by what appears to be a transitory slowdown in consumer demand. However, business and consumer confidence indicators are strong, and the labor market is healthy, making it likely that both investment and consumption will grow steadily in the coming quarters (Figure 1).

2. **Given the significant policy uncertainty, staff's macroeconomic forecast uses a baseline assumption of unchanged policies**. The forecast neither builds in the effect of tax reform nor the expenditure reductions proposed in the administration's budget. Under this forecast, growth is expected to rise modestly above 2 percent this year and next, driven by continued consumption growth and a cyclical rebound in private investment. Growth is forecast to subsequently converge to the underlying potential growth rate.

Key Macroeconomic Aggregates

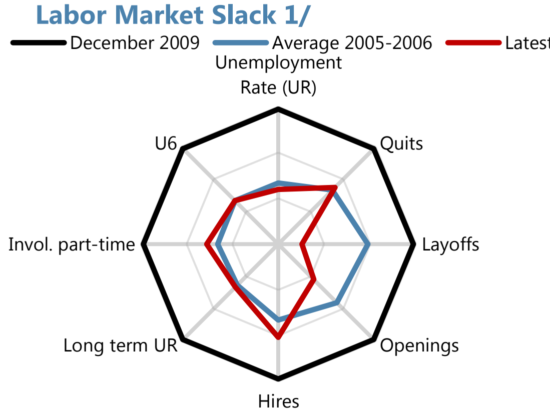
	2016	2017	2018	2019	2020
GDP growth	1.6	2.1	2.1	1.9	1.8
Consumption	2.7	2.2	1.9	2.0	2.0
Investment	0.7	4.3	4.0	2.9	2.4
Net exports[1]	-0.1	-0.3	-0.2	-0.2	-0.2
PCE inflation (eop)	1.4	1.7	2.2	2.3	1.8
Core PCE inflation (eop)	1.7	1.7	2.0	2.2	2.0
Unemployment rate	4.9	4.3	4.3	4.4	4.7
Current Account (% of GDP)	-2.4	-2.5	-2.9	-3.0	-3.0

[1] Contribution to GDP growth

3. **Financial conditions remain very supportive of growth**. Term premia are negative (around the same levels as 12 months ago), the dollar is moderately stronger, corporate bond spreads have compressed, and equity markets have registered significant gains with a very low pricing of volatility. Survey indicators suggest that there is a relatively abundant supply of credit to both households and corporates.

4. **While there are measurement uncertainties, the U.S. economy appears to be back at full employment**. The unemployment rate has been at, or below, 5 percent for the past 18 months. The tightening labor market is drawing detached workers back into the labor market and starting to put upward pressure on wages (particularly for those that are switching jobs). Labor force participation has improved modestly, and measures of capacity utilization have returned to pre-crisis levels. Although there are sizable measurement uncertainties, it appears that economic slack has been virtually exhausted, and GDP is expected to rise above potential in 2017Q3.

Labor Market Slack 1/

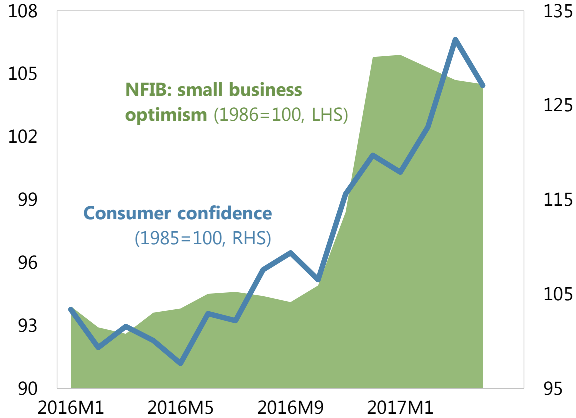


Sources: Haver Analytics; and IMF staff calculations
1/ Closer to the center signifies less labor market slack

Figure 1. Recent Developments

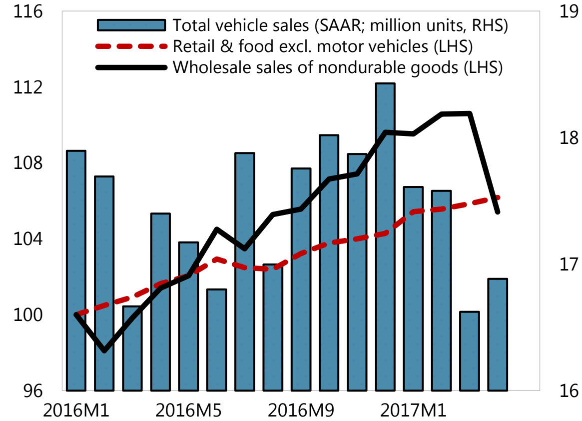
Consumer confidence and small business optimism increased after the election…

Sentiment (index, 1986=100)



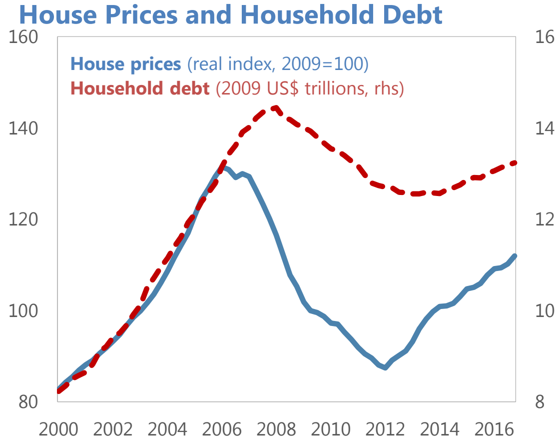
…suggesting robust consumption growth ahead, despite a weak outturn in Q1.

Retail and Wholesale Sales (2016M1=100)



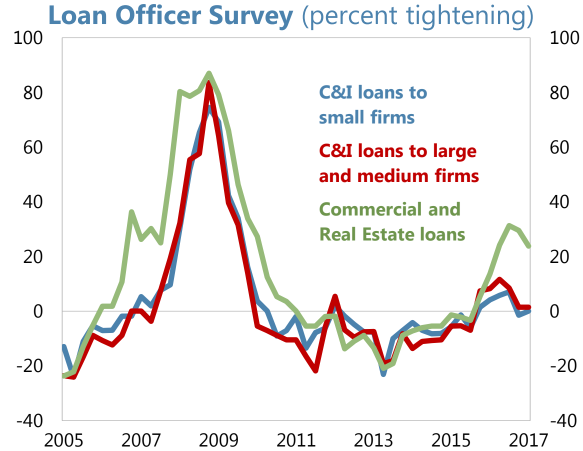
After a prolonged deleveraging, the housing sector is showing healthy growth.

House Prices and Household Debt



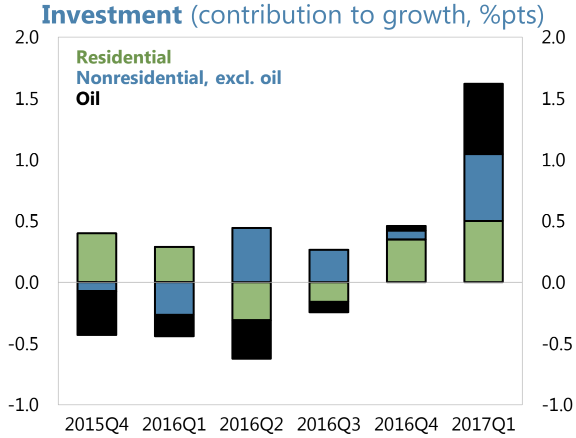
Financial conditions are looser than in 2016 and are supportive of investment.

Loan Officer Survey (percent tightening)



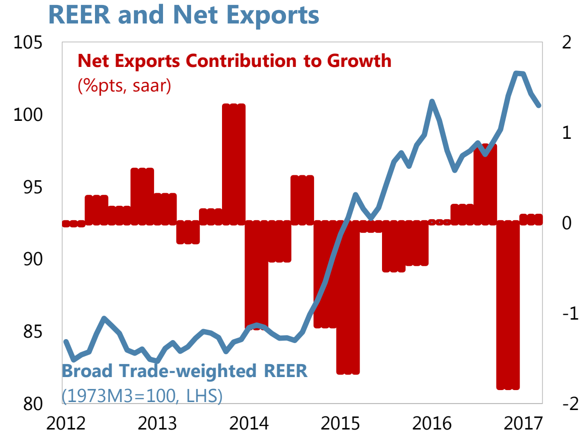
Business fixed investment is strengthening including with a rebound in energy sector capital spending.

Investment (contribution to growth, %pts)



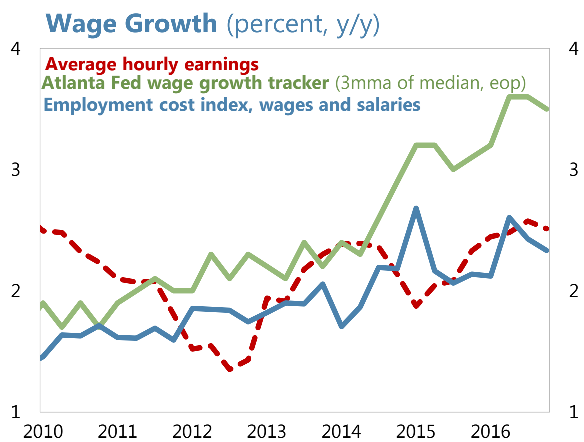
Notwithstanding U.S. dollar strength, trade has been a relatively minor drag on growth.

REER and Net Exports

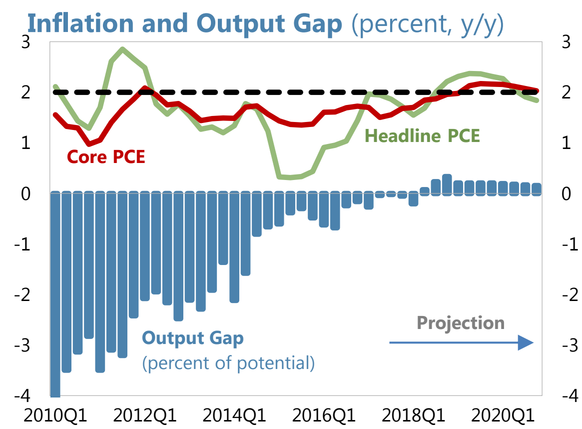


Sources: Autodata; BEA; Census; Conference Board; FRB; ISM; NFIB; Haver Analytics; and IMF staff calculations.

5. Inflation is gradually heading toward the Federal Reserve's medium-term objective. However, sizable negative shocks to core inflation occurred over the past few months—linked to cell phone prices and prescription drugs—which may be transitory but still give rise to downside risks to the inflation outlook. Survey expectations of medium-term inflation are reasonably well anchored but market-based measures of inflation expectations have drifted down. Under staff's baseline, core inflation is expected to rise modestly above 2 percent in 2019 and subsequently approach the Fed's medium-term target from above.

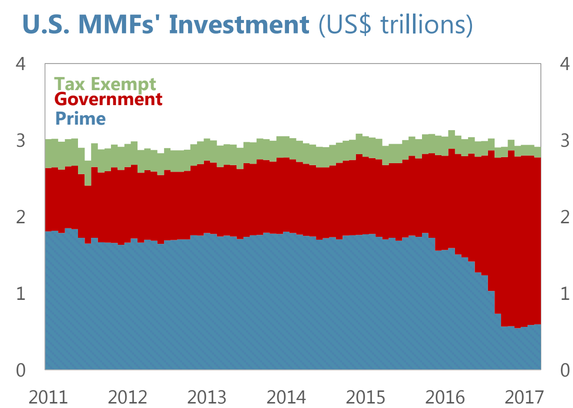


Sources: BLS; FRB; and Haver Analytics



Sources: BEA; Haver Analytics; and IMF staff estimates

6. The financial system appears generally healthy but there are rising vulnerabilities in some areas. The capital position of U.S. banks is strong, and bank asset quality continues to be good as evidenced by the results of the Federal Reserve's most recent Comprehensive Capital Analysis and Review. Over the past year, money market fund reform—that required institutional funds to have a floating net asset value and allowed them to impose liquidity fees and redemption gates—led investors to smoothly rotate more than US$1 trillion out of prime funds (holding commercial paper) and into government bond funds. Strains in the energy sector from lower oil prices have been absorbed (despite defaults on around US$50 billion in energy debt in 2016) although deleveraging and reorganization in the sector is still ongoing. However, there are areas of concern:



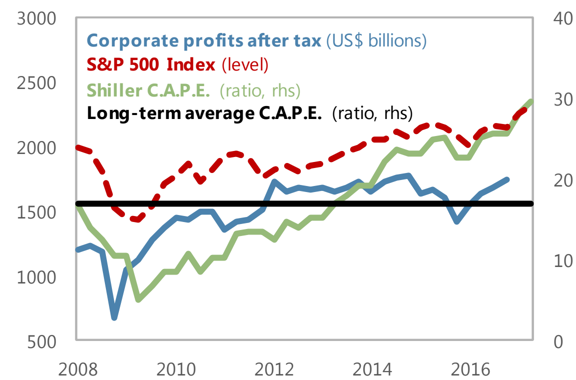
Sources: SEC, OFR.

- ***Corporate credit***. Leverage is rising in parts of the non-energy corporate sector, and there is some evidence of a steady erosion of underwriting standards in the corporate bond market (Figure 2). In addition, structural shifts in bricks-and-mortar retail are leaving some companies struggling to adjust, with knock-on implications for parts of retail real estate.

- ***Household credit***. Potential risks that warrant increased attention include those embedded in the rapid growth in auto lending (particularly to higher risk borrowers) and in student loans.

- ***Equity markets***. Equity valuations remain high, and the price-earnings ratio is well above its long-term average**.** A significant equity price decline would feed through balance sheets and have significant wealth effects.

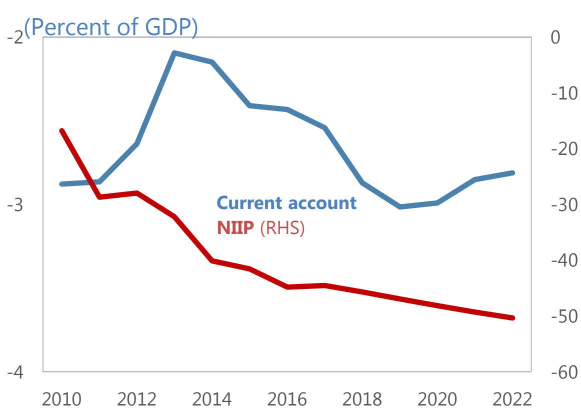
Equity Market Valuation



Sources: FRED, Robert Shiller

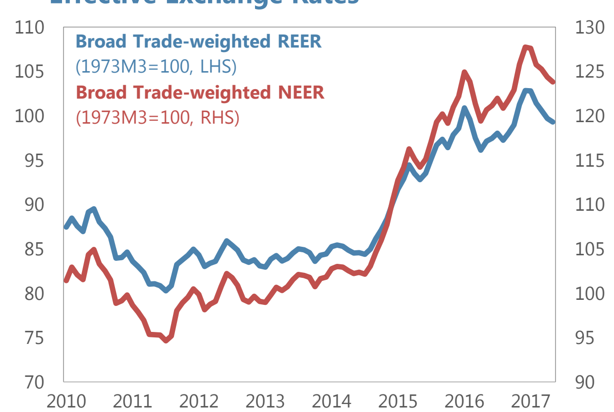
7. While progress has been made in some areas, a number of the shortcomings in financial stability oversight that were highlighted in the 2015 FSAP remain unaddressed (see Annex III). These include data blind spots (especially for nonbanks) that preclude a full understanding of the nature of financial system risks, residual vulnerabilities in repo markets and money market funds, the absence of harmonized national standards or consolidated supervision for insurance companies, the complex institutional structure for financial regulation, a housing finance system that remains in limbo with little progress in reforming the government sponsored enterprises, and an incomplete picture of financial interlinkages and interconnections within the financial system. There is also a continuing need to remove impediments to data sharing among regulatory agencies.

International Imbalances



Source: IMF staff estimates.

Effective Exchange Rates

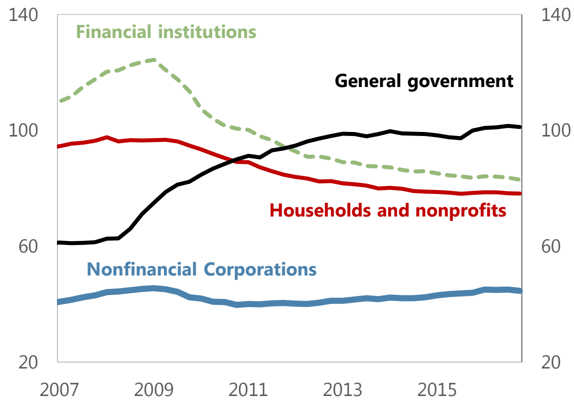


8. The U.S. external position is moderately weaker than implied by medium-term fundamentals and desirable policies (see Annex I). The current account deficit has narrowed from its pre-crisis levels owing to higher private saving and lower investment in the aftermath of the

Figure 2. Corporate Leverage

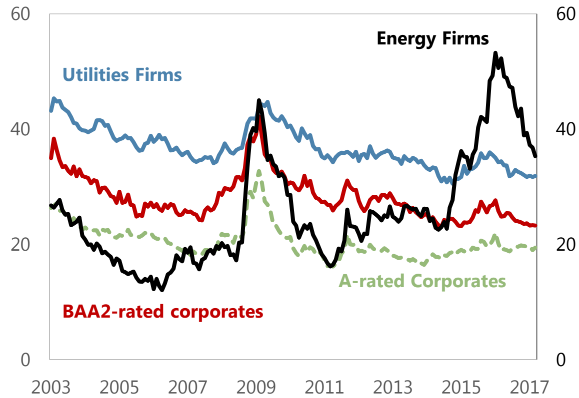
Nonfinancial corporate leverage has risen slowly…

Debt Outstanding (Percent of SAAR GDP)



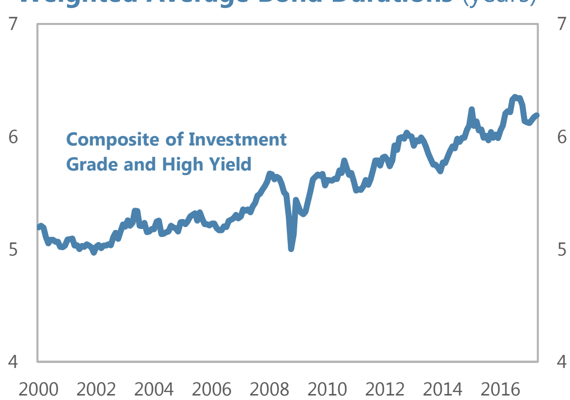
…driven largely by energy firms.

Market Leverage (Debt to Market Value, percent)



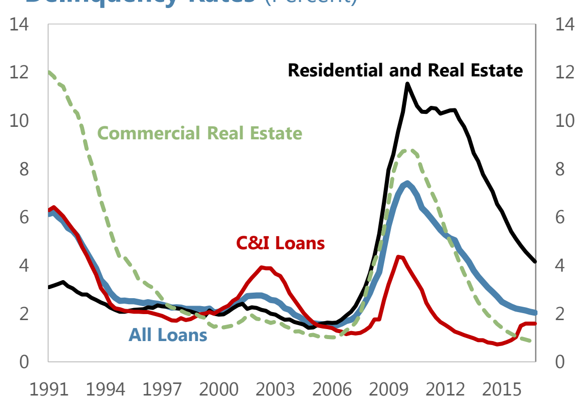
Borrowing has been at low cost and longer durations.

Weighted Average Bond Durations (years)



Delinquencies remain very low. Recent C&I loan delinquency increases were largely energy related.

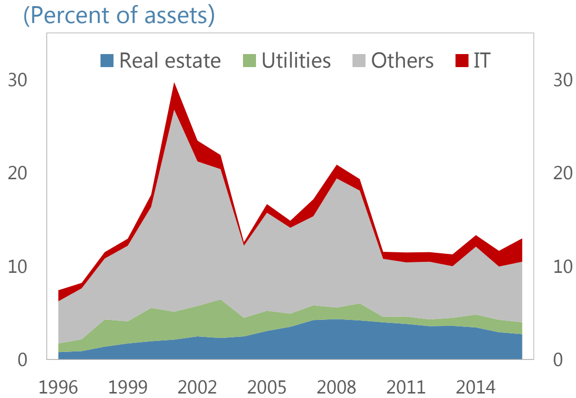
Delinquency Rates (Percent)



Source: Federal Reserve.

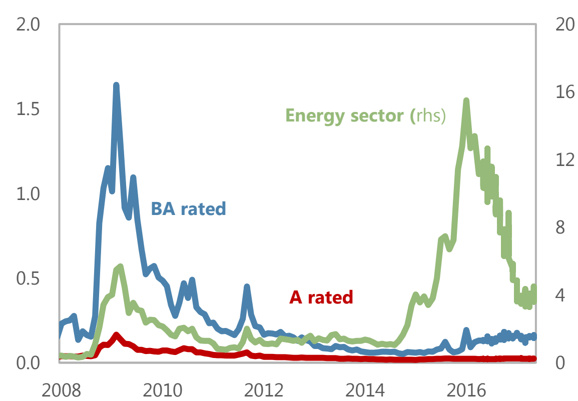
The share of vulnerable non-energy firms is below historical averages.

Non-energy Firms with ICR<2
(Percent of assets)



Forward-looking default probabilities are generally low with a significant fall in the energy sector.

Expected Default Probabilities (Percent)



Sources: Federal Reserve Board, Moody's KMV, GFSR, BAML, Haver.

financial crisis and is expected to remain close to 3 percent of GDP over the medium term. The international investment position shows a growing net liability that currently amounts to 43 percent of GDP, reflecting sustained current account deficits and valuation differentials between U.S. and overseas assets (including those linked to the recent appreciation of the U.S. dollar). The real effective exchange rate has appreciated 4 percent over the past 12 months but is up by around 20 percent since end-2013. This leaves the U.S. dollar moderately overvalued, by around 10–20 percent.

A WIDE RANGE OF RISKS AROUND THE BASELINE

9. Significant policy uncertainties imply larger-than-usual, two-sided risks to near-term growth. On the one hand, a medium-term path of fiscal consolidation, such as the expenditure based consolidation proposed in the budget, would address medium-term fiscal imbalances but result in a growth rate that is below staff's baseline. Such an adjustment is likely to also have negative implications for the income distribution. On the other hand, spending reductions could be less ambitious, and tax reforms could lower federal revenues, provide stimulus to the economy, and raise near-term growth (and possibly potential growth). However, the latter policy mix would have negative implications for debt sustainability, worsen the overvaluation of the U.S. dollar, and increase current account and NIIP imbalances (see Risk Assessment Matrix).

10. Over the medium-term, a broader retreat from cross-border integration represents an important downside risk to trade, sentiment, and growth. Such an evolution of policy may manifest itself in a more contentious or inward-looking approach to trade and investment. Alternatively, restraining inward immigration could exacerbate labor force constraints implied by an aging demographic. There is also a risk that a very divided political system may stall the administration's agenda and/or create increased policy uncertainty, impeding progress on the policy changes needed to strengthen productivity, labor force participation, and investment.

11. There are negative risks to the inflation outlook. To date, progress toward the Fed's medium-term inflation goal has been slow, with previous upswings in core inflation having stalled. Further, bottom-up estimates of core inflation (see Abdih et al. 2016) suggest it will be a challenge to break inflation out of its post-crisis range. Finally, changing dynamics in the U.S. labor market and in technology, that are at this point not fully understood, may mean that the expected pick-up in nominal wages and prices could prove elusive. Recent inflation outturns raise the risk that there may be a more-than-transitory headwind to the upward path of core inflation. There is a risk that there are nonlinearities in the Phillips curve that could push inflation higher if unemployment falls further below the natural rate. However, there is, at best, weak empirical evidence of nonlinearities in either aggregate or disaggregated versions of the wage or price Phillips curve.

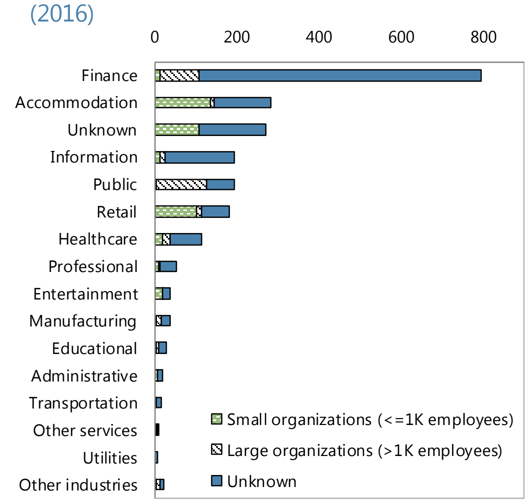
12. Cyber risks to the financial system are on the rise and potentially systemic. Risks to financial stability from cyber-crimes are a growing concern and have been flagged several times in the annual reports of the Financial Stability Oversight Council (FSOC). Market solutions to limit risks are hampered by information asymmetries and externalities (Box 1). The U.S. is steadily improving its regulatory framework to strengthen the resilience of the financial system. Nevertheless, the lack of a comprehensive picture and the fast-evolving nature of these vulnerabilities make any assessment of the size of systemic risks and their potential economic costs highly uncertain.

13. Authorities' views. There are significant upside risks to the outlook driven by the planned changes in policies. Sustainably increasing growth to 3 percent is a challenging but feasible objective and will help draw in more workers to quality employment who have been left detached from the labor market. The right combination of tax reform, deregulation, and a fairer global trading system would encourage business investment, job creation, and allow the U.S. to remain a world leader in technology and productivity. Further, a significant reduction in federal non-defense spending would allow the burden of a high and rising public debt to be lifted off the economy. Valuations in financial markets are at high levels, the market pricing of volatility is low, and the term premium remains compressed. Nonetheless, financial stability risks are manageable, a reflection of the stronger regulation and supervisory structure that had been built in the past several years. Cyber risks constitute one of the largest and most pervasive risks facing the U.S. Efforts will be increased to protect federal networks and critical infrastructure as well as strengthen public private partnerships to enhance resiliency through the promotion of information sharing, best practices, and effective response and recovery efforts. The administration is also working on an international engagement strategy for cybersecurity to enhance coordination with partners in protecting against malicious actors, promoting a secure and resilient financial system, and safeguarding an open and secure global internet.

Box 1. Cyber Risks to Financial Stability[1]

In the U.S., the finance industry has seen by far the most cyber incidents with confirmed data losses. In 2016 alone, cyber incidents have disrupted the provision of financial services (e.g., *DarkSeoul* malware), resulted in significant loss of assets (e.g. Bangladesh Bank), and damaged the integrity of financial data (e.g., *Corkow* malware). Financial market infrastructure (e.g. payments systems and clearing platforms) tend to have little redundancy and concentrate risk, potentially causing attacks to transmit quickly across large parts of the financial system. Increased digitalization and network interconnectivity mean that cyber-attacks are likely to occur with greater frequency and sophistication.

Incidents with Confirmed Data Loss, Per Industry (2016)



Source: Verizon, IMF staff illustration.

Cyber risk is potentially systemic but difficult to assess and quantify. Cyber risk exposures are common across firms and are highly correlated under stress. However, the rarity of large cyber events, unknown patterns of shock transmission, the lack of data about events, complex risk aggregation, and the uncertainties around the long-term effects of cyber events all hamper the measurement, modeling, and pricing of cyber risk.

The popularity of cyber liability insurance has grown rapidly as financial institutions view it as a convenient way to transfer cyber risk. However, actuarial modeling techniques are underdeveloped making it difficult to price risk, leaving insurance markets incomplete and with large gaps in coverage. There have also been concerns that risk exposures in the insurance market are concentrated, and a large cyberattack could exceed providers' ability to withstand such correlated losses.

The U.S. financial oversight framework has increased supervisory intensity and enhanced regulatory requirements related to cyber vulnerabilities. Regulators are developing and enforcing standards for cyber risk-related vulnerabilities. Standards are tiered by size and risk, processes for information sharing are being enhanced, and regulators are undertaking thematic examinations of cybersecurity preparedness. There are efforts also to define the scope of critical financial sector infrastructure and institutions.

Nevertheless, further policy action is needed. The largely sectoral approach to cyber has created gaps in the framework and a lack of consistency. Action is needed to build resilience including:

- ***Reducing information asymmetries through data and information sharing***. Systematic collection and sharing of cyber data, including on the costs of cyber events, would help improve the understanding of the size and nature of the risk and facilitate better risk management and modeling (by both the public and private sector).
- ***Undertaking forward-looking scenario analysis and simulations***. Such "war gaming" exercises can help improve thinking about future risks in a structured manner: how they might materialize, how much they could cost, and how they could be contained. This information would help improve financial and contingency planning both at a firm level and for the system as a whole.
- ***Pursuing public-private partnerships between industry, governments, and academia***. This could help improve systemic risk management by combining policymaking on the one hand and technical and subject matter expertise on the other hand.
- ***Refining the regulatory architecture.*** To encourage cyber-resilient financial systems, high level regulatory principles should be complemented with more specific guidance at the firm level.

[1] Emanuel Kopp, Lincoln Kaffenberger, and Christopher Wilson, 2017, "Cyber Risk, Market Failures, and Financial Stability," IMF Working Paper, forthcoming (Washington: International Monetary Fund).

Risk Assessment Matrix

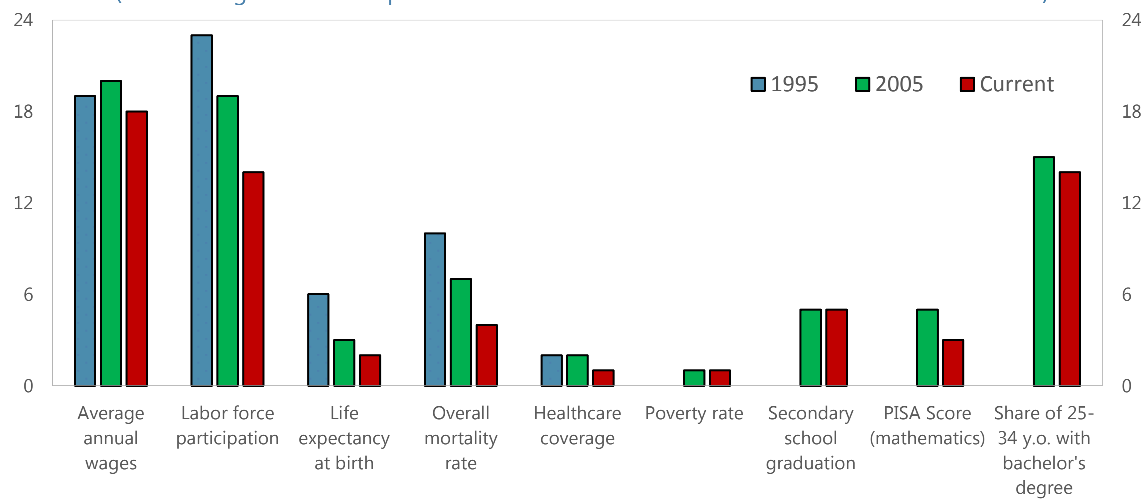
Nature/Source of Risk	Overall Level of Concern	
	Medium-term Likelihood of Realization	**Expected Impact if Risk Materializes**
Retreat from cross-border integration	**High** Changing perceptions on the benefits of globalization could lead to trade barriers or reduced international policy coordination.	**Medium** A retreat from cross-border integration would have wide-ranging negative effects for both the U.S. and others on trade, capital flows, growth, confidence, and global cooperation on financial regulation.
Policy and geopolitical uncertainties	**High** Policy uncertainty about U.S. policies creates risks around baseline expectations, while security issues in the Middle East and parts of Africa and Europe intensify political, social, and economic risks.	**Medium** Policy shifts could fuel global imbalances as well as FX and capital flow volatility. Adapting to changes to migration flows could create negative spillovers to other countries.
Significant further strengthening of the U.S. dollar and/or higher rates	**High** Improving U.S. economic prospects relative to the rest of the world and/or higher interest rates (as the Federal Reserve accelerates normalization) could lead to further dollar appreciation.	**Medium** A 10 percent dollar appreciation is estimated to reduce GDP by around 0.5 percentage points in the first year and 0.5-0.8 percentage points in the second year. The current account deficit would also widen by around 1 percent of GDP.
Weaker-than-expected global growth: Significant slowdown in China and other large EMs	**Medium** A slowdown in China triggered by distress in the corporate sector or a disruptive dry-up of interbank markets, pressures on the Renminbi, or a turning credit cycle could lead to sudden overcorrection. Disorderly deleveraging could then spill over to other EMs and AEs.	**Medium** A 1-percentage point decline in growth in advanced and emerging economies could subtract about 0.1 percentage points of U.S. GDP after two years. If disruption feeds into global financial markets or risk aversion the effect would be larger.
Lower energy prices	**Medium** Production cuts agreed by OPEC members are not realized and/or other sources of supply increase production.	**Low/ Medium** With the level of U.S. oil investment already cut in half over the past 3 years, renewed price declines are unlikely to have strong effects on aggregate U.S. growth. However, solvency risk in the oil sector would rise. There could be offsetting positive effects on consumer demand from lower oil prices.
Cyber-attacks on financial market infrastructure or key financial institutions that trigger systemic effects	**Low** A successful cyber-attack on one or more critical FMIs or systemically important financial institutions gives rise to systemic risk in the U.S. and/or global financial system.	**High** Shock to critical infrastructure causes delay, denial, disruption, breakdown or loss of services, affecting many institutions that rely on the attacked hub. This could also lead to a loss of confidence in the functioning of the financial system.

AN ECONOMY THAT IS FAILING TO RAISE LIVING STANDARDS

14. The U.S. economy is delivering better living standards for only the few. The recent national election demonstrated a broad dissatisfaction with economic outcomes and prospects. For some time now there has been a general sense that household incomes are stagnating for a large share of the population, job opportunities are deteriorating, prospects for upward mobility are waning, and economic gains are increasingly accruing to those that1 are already wealthy. This sense is generally borne out by economic data and when comparing the U.S. with other advanced economies.

Living Standards Indicators

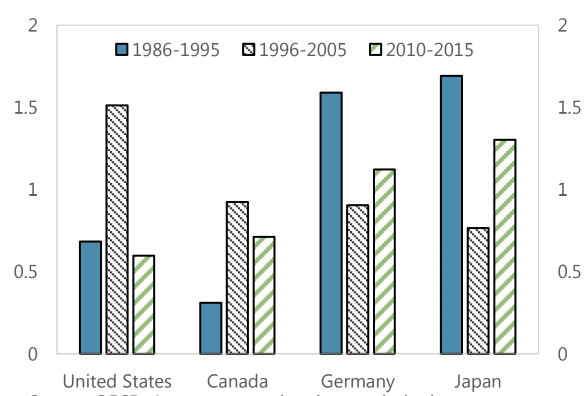
(U.S. ranking out of a sample of 24 OECD countries. Lower rank denotes worse outcome)



Sources: OECD, World Bank. Sample is the 24 OECD countries for which wage data is available in 1995. For healthcare coverage the "1995" observation is for 1997. PISA scores are for 2003 and current. Average annual wages are in 2015 US$ at market exchange rates. Due to data limitatons, secondary school graduation rates rankings as well as poverty rate rankings for 2005 are for a 16 country subsample.

15. Weak productivity is a significant headwind to better living standards. Throughout the current expansion, there has been little meaningful sign of a pick-up in productivity. While evidence is mixed, there are various candidate explanations: low business investment, declining dynamism in the labor market, lower churn in business formation and destruction, and an aging population (see Box 2). Regardless of the cause, low productivity has been associated with a stagnation in household incomes for a large share of the population. Indeed, in inflation-adjusted terms, more than half of the U.S. population has lower incomes today than they did in 2000.

Total Factor Productivity Growth (Percent y/y)



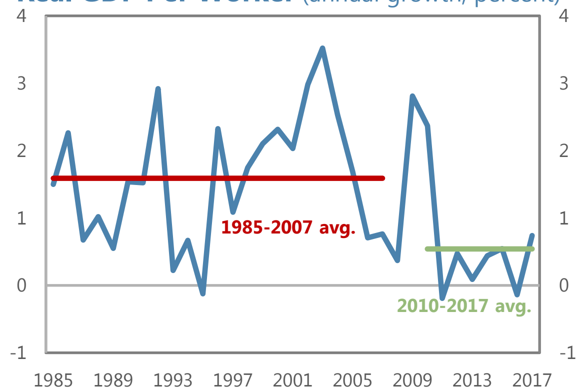
Source: OECD. Averages over the given periods shown

Box 2. Understanding the U.S. Labor Productivity Decline: A State-Level Perspective[1]

Labor productivity growth in the United States has slowed down markedly since the mid-2000s. The slowdown has been visible at the state level with a decline in the entire distribution of productivity outcomes across states. This state-level variation in labor productivity can help shed some light on the potential drivers of falling productivity. A panel regression was estimated across states that examined the variables that may help explain the decline in productivity during the most recent economic expansions. The analysis finds that:

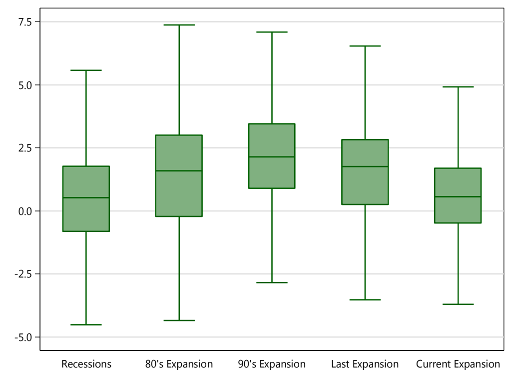
- ***Capital investment***. States with a higher initial capital stock per worker have higher productivity growth. This is a robust feature of *all* the past episodes of economic expansion. Encouraging an increase in investment appears critical to fostering higher productivity at the national level.
- ***Taxation***. The level of state income taxation (as a share of state-level GDP) is negatively correlated with productivity both during the current expansion and in the 2000s. This is in contrast with previous expansions where labor productivity growth was not associated with cross-state differences in the tax regime.
- ***Demographics***. A rising dependency ratio is found to put downward pressure on output per worker. At the national level, an aging population is likely to continue to compress productivity outturns.

Real GDP Per Worker (annual growth, percent)



Sources: BEA, IMF staff calculations.

Real GDP per Worker by State (annual growth, percent)



Sources: Bureau of Economic Analysis and IMF staff calculations.
Note: whiskers show highest (lower) value excluding outliers; boxes show lower and upper quantiles, 25th and 75th respectively; horizontal line shows the median.

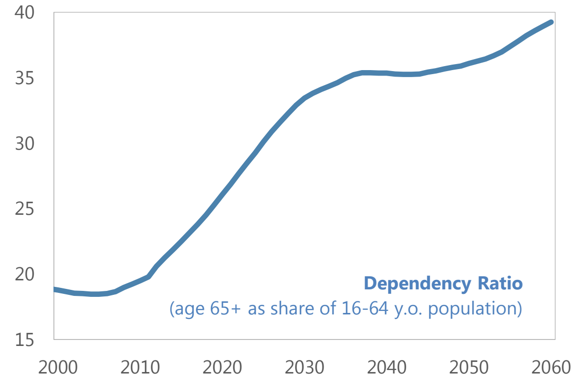
- ***Dynamism***. There is no evidence from state level data that the rate of churn either in the creation/destruction of establishments or in the labor market is correlated with labor productivity. This is true both for the recent expansion and in the 2000s.
- ***Manufacturing***. State-level differences in the size of the manufacturing sector also do not appear to be correlated with productivity outturns.

The state-level regressions point to various policy areas that could help raise productivity: a reduction in distortions in the tax system and a lowering of marginal rates; regulatory changes to incentivize private investment; infrastructure investment; and skills-based immigration reform that improves the dependency ratio.

[1] Authored by Ali Alichi, Ravi Balakrishnan, and Rodrigo Mariscal.

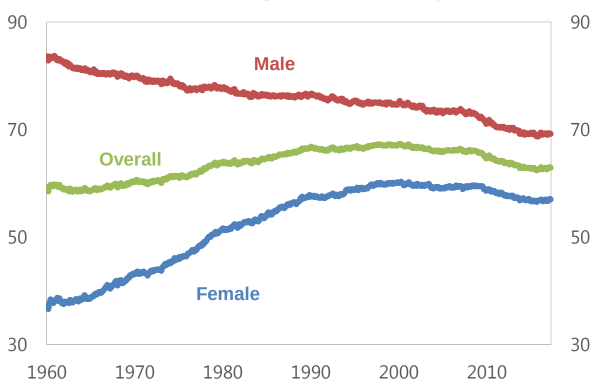
16. Labor force growth has been on a structural decline. Labor force participation peaked in 2000 at 67 percent and has fallen to below 63 percent today. This has been a result of an aging population and the partial reversal of the post-war gains made in female participation. The aggregate figures, though, hide a concerning decline in prime-age male labor force participation, a trend that has been especially acute for those without college education. Further, over one-third of prime-age men that are not in the labor force are now living in poverty. Beyond demographics, studies link falling U.S. labor force participation to institutional factors (limited subsidies for childcare and the lack of paid family leave) and to declining work opportunities (particularly for the low-skilled). Together, weak productivity and a slower growth of the labor force account for three-quarters of the decline in potential growth since 2000.

Rapidly shifting demographics



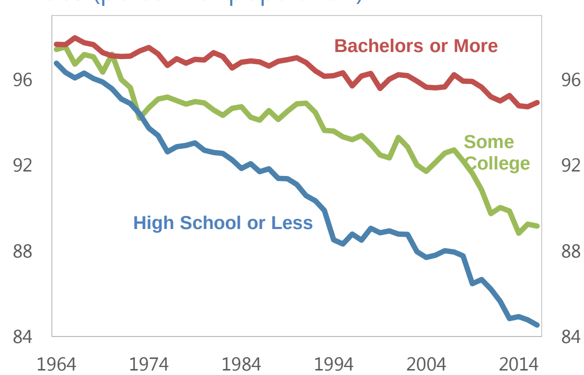
Source: Haver Analytics, U.S. Census Bureau

Labor Force Participation Rates (percent)



Sources: BLS, Have Analytics.

Prime Age Male Labor Force Participation Rate (percent of population)

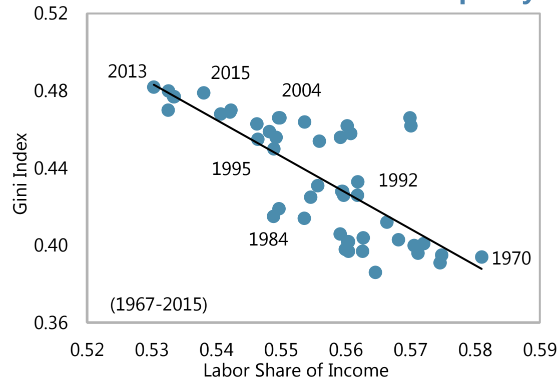


Sources: BLS Current Population Survey, and IMF staff calculations.

17. The slowdown in potential growth has been associated with several secular dimensions of the deterioration in living standards:

- **A decline of the labor share of income**. Since 2000, the U.S. labor share has fallen by 3.5 percent. The decline in the labor share has been a common pattern across states and within most industries. There are multiple factors at work but at the core is an increase in competitive pressures facing U.S. workers including from an erosion of unionization, greater concentration among employers, and higher substitutability between labor and capital arising from technological change and routinization (see Box 3). This declining labor share in intimately linked to an increase in income polarization.

U.S. Labor Share and Income Inequality

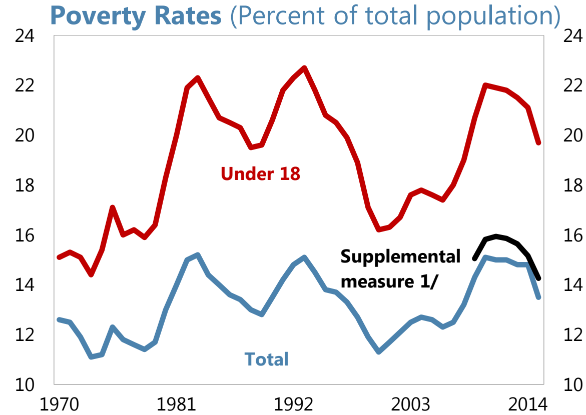


Sources: BEA, US Census Bureau, and Haver Analytics

- **Rising income polarization**. Real median household income increased by more than 5 percent in 2015 but is still 1½ percent below its pre-crisis level. Post-crisis gains in real per capita GDP have accrued almost exclusively to higher income groups. Perhaps more disconcerting, "hollowing out" has meant a shrinking share of the population is taking home earnings that are close to this stagnant median income. Since 2000, around 3½ percent of the population has left the middle-income group. The bulk have moved into that segment of the population earning less than one-half of the median income (see Box 4).

- **High rates of poverty**. Poverty has been falling slowly since 2012 but, despite this, one in seven Americans is currently living in poverty. The problem is persistent. One half of those that were in the lowest quintile of the income distribution 20 years ago are still in the lowest quintile today. In addition, the children of poor households are more likely to have significantly lower earnings as adults (compared to those who did not grow up in poverty).

Poverty Rates (Percent of total population)



Sources: Census Bureau; Haver Analytics; and IMF staff calculations
1/ Takes account of government programs designed to assist low income families

18. These adverse developments are feeding back into growth outturns. For example, income polarization is suppressing consumption (see Alichi et al., 2016), weighing on labor supply and reducing the ability of households to adapt to shocks. High levels of poverty are creating disparities in the education system, hampering human capital formation and eating into future productivity. While many of these symptoms are interconnected, the diagnostics of the nature and size of the connections, and the feedback loops between the various forces are difficult to disentangle.

Box 3. Explaining the Declining Labor Share of Income in the U.S.[1]

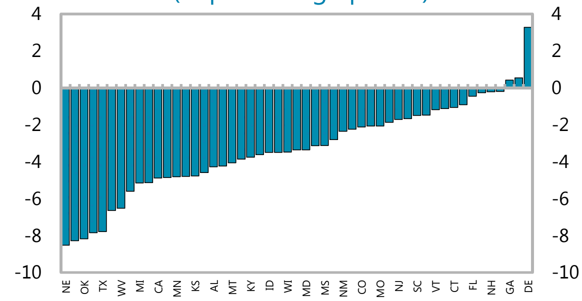
The Facts. Since the early 2000s, the labor share of income has fallen by 3.5 percent. Breaking the data down by state and industry shows the decline is broad based although with significant variation in the pace across states and industries. 90 percent of the aggregate decline has been driven by a fall in the labor share *within* industries and states. Thus, the falling labor share does *not* appear to be the result of compositional changes either in industrial structure (e.g., the decline in manufacturing) or the regional distribution of production.

The Drivers. Exploiting cross state variation of the labor share data at the industry level, and matching that with new data on the task characteristics of occupations, reveals that the decline in labor share was highest for those industries that:

- Had a high initial intensity of "routinizable" occupations;[2]
- Experienced the steepest declines in unionization;
- Faced the greatest increase in competition from imports; and
- Had the highest intensity of foreign input usage.
- The exposure to task offshoring or the intensity of labor market regulations appears *not* to have had a significant impact on the labor share.

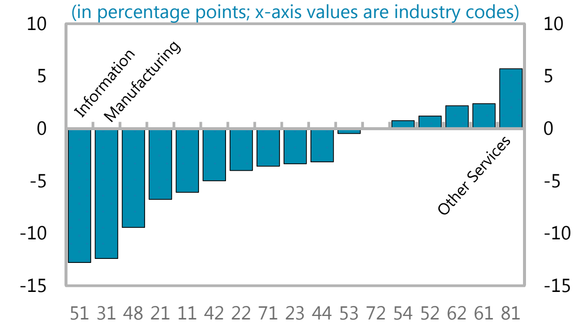
Bottom line. The results suggest that technological change, exposure to trade, and the changing structure of labor institutions all contributed to the fall in the U.S. labor share of income. Since 2000, the bulk of the effect appears to come from changes in technology linked to the routinization of tasks, followed by trade globalization.

Labor Share by State: Change 2001-2014
(in percentage points)



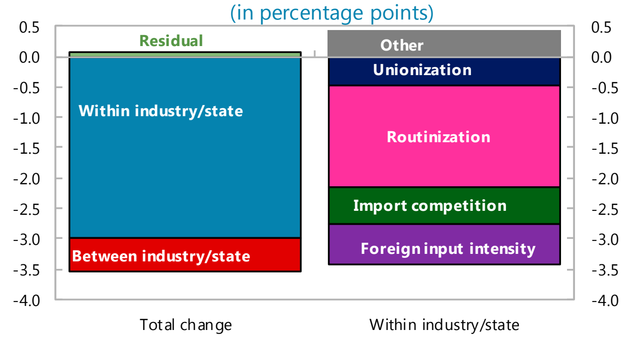
Sources: BEA and Haver Analytics

Labor Share by Industry: Median Change Over 2001-14
(in percentage points; x-axis values are industry codes)



Source: BEA, Haver Analytics, IMF staff calculations

Drivers of Labor Share Decline: 2001-14
(in percentage points)



Sources: IMF staff estimates.

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[1] See Y. Abdih and S. Danninger, "What Explains the Decline of the U.S. Labor Share of Income?", IMF working paper WP/17/167. *World Economic Outlook (2017)* provides an international perspective on the same issue.

[2] The study relies on characterizing the tasks of different occupations at the 3-digit level along two dimensions: *routinization* and *offshorabilty.* These characterizations draw on the Occupational Information Network of the Department of Labor that uses survey-based occupation features to measure, among other things, the repeated nature of job tasks, the ability to perform a job off-site, and the need for person-to-person interactions.

Box 4. Drivers of U.S. Income Polarization—Evidence from the States[1]

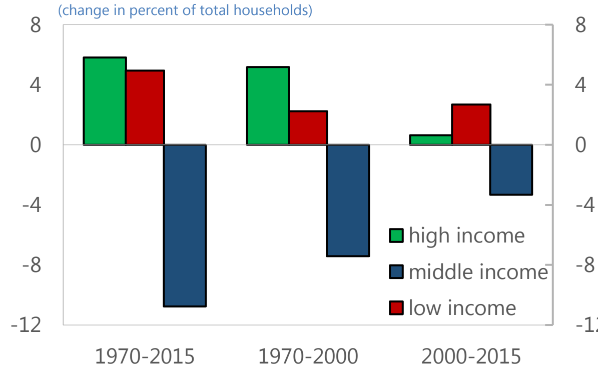
The Facts. For the past 45 years, the U.S. has faced a secular increase in income polarization. Since 2000, about 3½ percent of total households have moved out of the middle-income group (that earns between 50–150 percent of the median income), with most of those households ending up in the low-income group (earning less than 50 percent of the median).

State-Level Patterns. The degree of "hollowing out" is variable across the U.S. states. To give a sense of variation, since 2000, the increase in income polarization was among the largest in Kentucky and North Dakota. In Kentucky, more than 7 percent of households moved from the middle- to low-income ranks. In North Dakota, largely due to the oil boom, more than 10 percent of households moved from the middle- to the higher-income group. Idaho and Oregon, on the other hand, experienced very little change in income polarization during this period.

Sectoral Moves. Alongside this increase in polarization, there has been a secular shift in the structure of U.S. production. Since 2000, most of the workers moving out of the middle-income group have lost jobs in manufacturing and construction. Around 1 percent of those households have moved into service sector jobs earning more than 150 percent of the median, but 2½ percent of households have moved into low skilled service jobs that earn less than 50 percent of the median income.

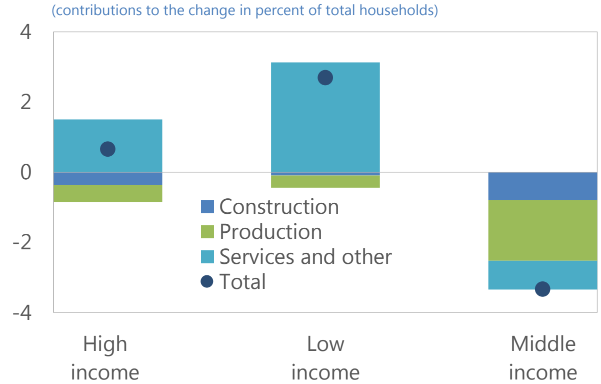
Regression analysis. Using state-level data, we find that the bulk of move from the middle- to low-income group can be explained by a structural shift in industrial composition (i.e., the decline in manufacturing and rise of services), an increase in the share of (low income) immigrant households, and an aging of the workforce. Increases in education attainment have been a countervailing force.

Income distribution 1/
(change in percent of total households)



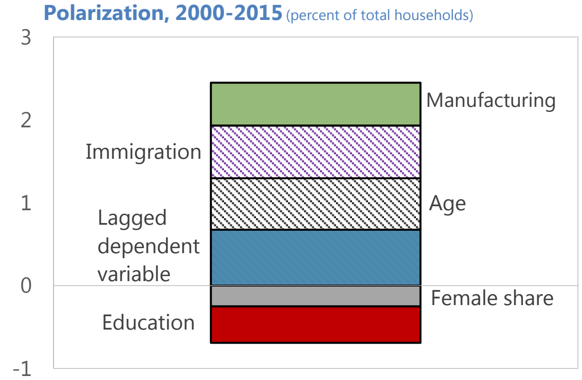
Source: Current Population Survey.
1/ Income is adjusted for household size using OECD's equivalence scale. Middle income (class) consists of households falling within 50-150 percent of median income.

Income Polarization by Sector, 2000-15
(contributions to the change in percent of total households)



Source: Current Population Survey; and IMF staff calculations.

Contributions to the Change in "Downward" Income Polarization, 2000-2015 (percent of total households)



Source: Current Population Survey; and IMF staff calculations.

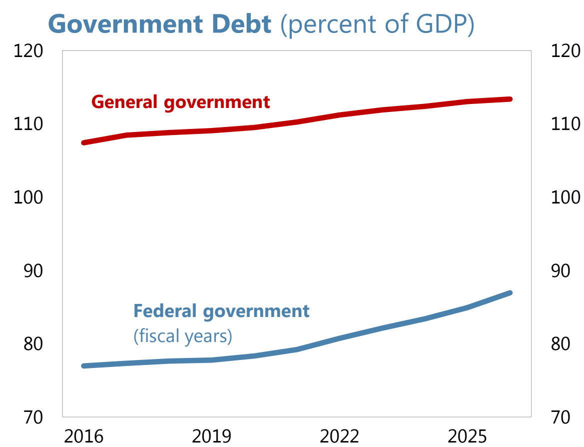
[1] See A. Alichi, R. Mariscal, and D. Muhaj, "Hollowing Out: The Channels of Income Polarization in the United States", IMF working paper (forthcoming).

THE RIGHT MACROECONOMIC POLICY MIX

With the economy at full employment, it is important that the U.S. puts in place the right policy mix for this stage in the cycle. That would involve gradually removing both fiscal and monetary support and refocusing efforts on expanding potential growth, raising competitiveness, and strengthening the supply side. Doing so will lower the current account deficit and improve the net international investment position, reduce the overvaluation of the U.S. dollar, and have positive spillovers to other countries. There are two parts to this policy shift:

A. A Sustained and Balanced Medium-Term Fiscal Consolidation

19. Under unchanged policies, demographic trends and rising interest rates will lead to a steady increase in fiscal deficits and public debt over the medium term. To prevent this, the U.S. should put in place a plan for fiscal consolidation that raises the federal primary surplus by 2½ percent of GDP over the next several years (to around 1 percent of GDP or a general government primary surplus of around ¾ percent of GDP). This adjustment can be phased in gradually but ought to begin in 2018 to ensure that the federal debt-GDP ratio falls over the medium term.



Source: IMF staff estimates

20. The administration's budget proposes an expenditure-based medium-term fiscal consolidation. Under the authorities' budget, the federal primary balance is forecast to go from a 1.9 percent of GDP deficit to a 2.1 percent of GDP surplus over the next 10 years. This includes:

- A reduction in both non-defense spending and defense outlays as a share of GDP. The non-defense spending reductions are concentrated in two broad areas: a downsizing of line agencies (outside of defense and security) and reductions in spending on safety net programs (including funding for Medicaid and food stamps as well as tightening eligibility for earned income and child tax credits and disability insurance).

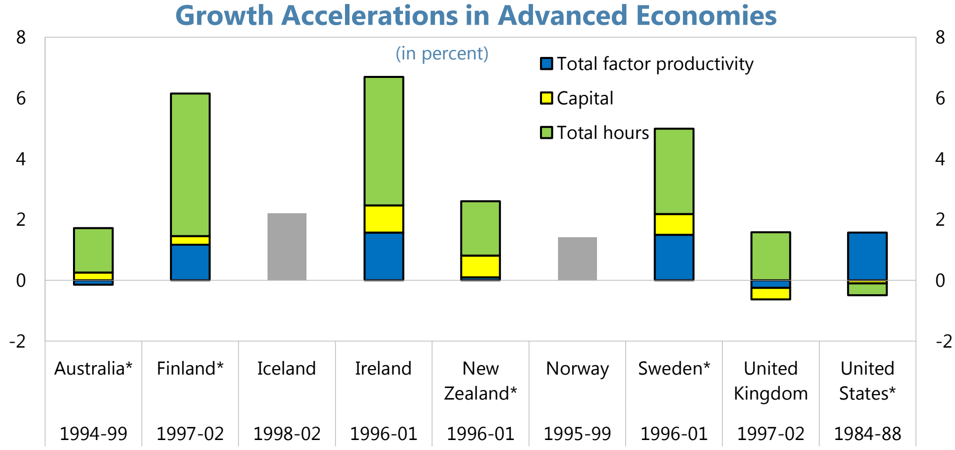
- A tax reform that is designed to improve efficiency, lower marginal rates, and broaden the base while leaving the federal revenue-GDP ratio broadly unchanged.

- An extremely optimistic real GDP growth assumption, that rises to 3 percent by 2021 and remains at that level over the medium term.

21. Even with an ideal constellation of pro-growth policies, the potential growth dividend is likely to be less than that projected in the budget and will take longer to materialize. The U.S. is effectively at full employment. For policy changes to be successful in achieving sustained, higher growth, they would need to raise the U.S. potential growth path. The international experience and U.S. history would suggest that a sustained acceleration in annual growth of more than 1 percentage point is unlikely. Indeed, since the 1980s, there are only a few identified cases among the advanced economies where this has happened. These episodes mostly took place in the mid to late 1990s against a backdrop of strong global demand, and many of them were associated with recoveries from recessions. The U.S. itself experienced one comparable growth acceleration as it recovered from the deep recession of the early 1980s. However, this event occurred during a period of favorable demographics, rising labor force participation, a significant expansion of the federal fiscal deficit, and an acceleration in trading partner growth. These tailwinds are unlikely to recur today.

Growth Accelerations in Advanced Economies

(in percent)



Sources: CBO, OECD, and IMF staff calculations
*Denotes countries coming from recession and explains large growth acceleration.
Chart shows those years in which the growth in potential GDP per working-age adult increased on average by one percent for at least 5 years.

22. The U.S. has some fiscal space but an expansionary fiscal policy would be counterproductive at this stage of the cycle. The U.S faces low financing costs and benefits from strong demand for high quality liquid assets and the U.S. dollar's status as a reserve currency. Over a longer horizon, if the fiscal costs associated with an aging demographic remain unaddressed, the debt-GDP ratio will continue to rise which may call into question the creditworthiness of the federal government. However, with the economy so close to full employment any fiscal impulse at this juncture is unadvisable and will almost certainly lead to a steepening of an already-unsustainable federal debt-GDP path (see Annex II), an even more overvalued U.S. dollar, a more accelerated path of monetary policy normalization, and growing global current account imbalances.

23. Instead, a gradual fiscal consolidation should be pursued. As currently framed, the budget implies significant cuts to discretionary spending that places a disproportionate share of the adjustment burden on low- and middle-income households. This would appear counter to the budget's goals of promoting safety and prosperity for all Americans. Instead, a different composition of adjustment—with higher revenues and expenditures—could be put in place based on:

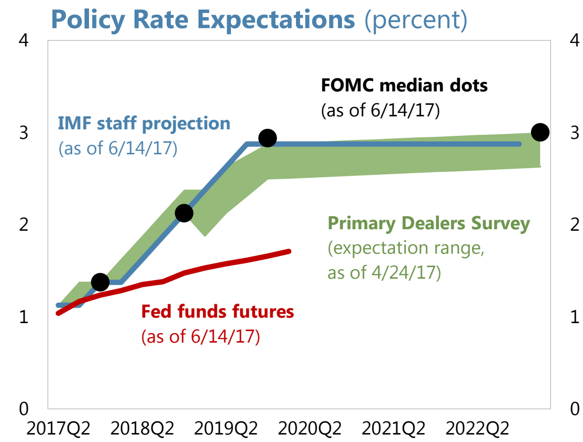
- A tax reform that simplifies the tax system, improves efficiency, supports low- and middle-income households and, importantly, increases the federal revenue-GDP ratio (see below).
- More balanced expenditure restraint that strengthens the effectiveness and efficiency of the safety net and reprioritizes appropriations, increasing spending on those programs that encourage labor force participation, improve infrastructure, and raise productivity and human capital.
- Measures to reform the social security system, including raising the income ceiling for social security contributions, indexing benefits to chained CPI or PCE inflation, increasing the retirement age, and instituting greater progressivity in the benefit structure. This could reduce the imbalances in the social security system by around 0.5 percent of GDP per year.
- Policy action to contain healthcare cost inflation, including through technological solutions that increase efficiency, encourage greater cost sharing with beneficiaries, and shift incentives toward remunerating providers for health outcomes (rather than per procedure).
- Avoiding self-inflicted wounds from political brinkmanship over appropriations and the debt ceiling. As has been argued in past consultations, consideration could be given to replacing the debt ceiling with a clear, simple medium-term fiscal objective or automatically adjusting the debt ceiling in a way that is consistent with whatever agreement is struck on the broader budget parameters.

Such a policy approach would lower the public debt-GDP ratio over time and would do so with better distributional outcomes. Supporting low- and middle-income households and promoting investments in human and physical capital formation, would feed back into better growth and lead to more broad-based improvements in living standards over the medium-term.

24. Authorities' views. The administration is committed to increasing defense, infrastructure and security spending in the upcoming fiscal year and to lower most other spending items, outside of social security and Medicare. There is scope to reduce or eliminate programs with limited effect on outcomes since there is significant inefficiency and duplication in existing federal spending. As part of this re-examination of spending, efforts were being made to devolve responsibilities and provide states with greater flexibility in a range of areas (including Medicaid, social assistance programs, and infrastructure provision). This would allow states to innovate, find more efficient solutions, and ultimately yield better outcomes at a lower cost. The proposed reductions in federal spending will encourage a return to productive work and, as a result, have positive implications for the income distribution.

B. A Gradual and Well Communicated Monetary Normalization

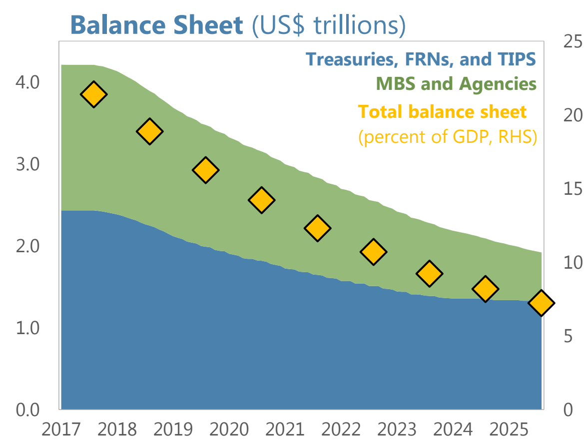
25. With the Federal Reserve on track to achieving its dual mandate of price stability and maximum employment, policy rates should continue to rise. The pace of rate increases can be gradual, especially when compared with previous tightening cycles, and should certainly be data dependent. Given the downside risks to inflation and the asymmetries posed by the effective lower bound, the Federal Reserve should be ready to accept some modest, temporary overshooting of its inflation goal that allows inflation to approach the 2 percent medium-term target from above. Doing so would provide valuable insurance against the risks of disinflation and having to bring the federal funds rate back down to zero. Presuming fiscal policy and other developments evolve in line with staff's forecasts, to ensure that inflation rises only modestly above 2 percent will require an increase in the federal funds rate of a further 25 basis points in 2017 and 75 basis points in 2018. Policy rates should level off at the neutral rate by end-2019 (which is judged to be in the 2.5–3 percent range). As in the past, futures markets are pricing in a much flatter path for the federal funds rate in 2017–19 (although it is worth noting this measure does not represent the modal forecast of the market).



Sources: Federal Reserve; Bloomberg; and IMF staff estimates

26. Alongside the ongoing normalization in policy rates, it is appropriate that the Federal Reserve looks to unwind the post-crisis increase in its holdings of treasury and mortgage-backed securities. Given the risk of triggering an unexpected steepening of the yield curve or a rise in MBS spreads, plans for the Fed's balance sheet should be well-telegraphed at an early stage. The recent addendum to the policy normalization principles and plans provides market participants with a clear path for changes in reinvestment policy that will help avoid undue volatility in fixed-income markets. Specifically, the addendum indicates:

- There will be a gradual reduction in the Federal Reserve's securities holdings as reinvestments of maturing issues are scaled back over time. Initially, only maturing principal above US$6 billion per month for treasuries and US$4 billion per month for MBS would be reinvested. These caps would be gradually raised to US$30 billion and US$20 billion per month, respectively, during the first year that reinvestments are being reduced.



Sources: FRB; and IMF staff estimates

- The US$30 and US$20 billion caps would remain in place over the medium term allowing for a gradual decline in the balance sheet.

- The FOMC would be prepared to resume reinvestment of principal payments if there were a material deterioration in the economic outlook that warrants a sizable reduction in the target for the federal funds rate.

The expectation of FOMC members is that this plan would begin to be implemented later this year.

27. The monetary policy effects of balance sheet roll-off are expected to be small. Under the announced plan, if normalization were to begin at end-2017, the balance sheet would decline by US$318 billion in 2018 and by US$409 billion in 2019. Such a reduction could have a monetary policy impact equivalent to a 22 basis point increase in the federal funds rate over the next two years (based on Davig and Smith, 2017). Even this relatively small effect may, though, be overstated since market pricing already incorporates an expectation of balance sheet reduction over the medium-term. This seems to be borne out by the modest market impact from the publication of the addendum to the policy normalization principles and plans. Given the small monetary effects, unless the U.S. economy is hit by a significant negative shock, it is appropriate that the normalization of the balance sheet proceeds independently of changes in the federal funds rate and in inflation and employment outcomes. Decisions on the balance sheet should, instead, be geared toward minimizing market volatility.

28. As balance sheet normalization proceeds, the FOMC could provide a broad indication of what the eventual monetary policy operating framework may look like over a longer horizon. Further, given the long duration of the Fed's holdings of MBS securities, consideration could be given to either selling or swapping MBS for treasuries to ensure that, over the longer run, the balance sheet is only made up of treasury securities. Continued clear communication of such prospective changes will maintain the Federal Reserve's estimable track record of smoothly normalizing U.S. monetary policy.

29. Authorities' views. Recent declines in inflation are viewed as likely to be transitory and idiosyncratic. It was expected that inflation would remain somewhat below 2 percent in the near term but would rise to the 2 percent objective over the medium term. However, the FOMC is conscious of the potential downside risks to inflation following recent data outturns and would be watching incoming data carefully for signs that there may be more sustained headwinds that would prevent the Fed from reaching its medium-term inflation goals. Fed holdings of securities are expected to decline in a gradual and predictable manner and the federal funds rate would be the primary means for adjusting the stance of monetary policy. A material reduction in the economic outlook that warranted a sizable reduction in the federal funds rate could be accompanied by a resumption of reinvestment of principal payments. However, under the baseline outlook, the intention is for changes to the balance sheet to be quietly operating in the background over the next several years with minimal effects on financial conditions. The future level of reserves in the banking system would be appreciably below that seen in recent years but larger than before the financial crisis. Details about the longer-term operating framework would be decided and communicated to the public in due course.

STRENGTHENING THE FOUNDATIONS FOR GROWTH AND RESILIENCE

As was highlighted in the 2016 Article IV, the U.S. faces serious constraints on its medium-term growth prospects. These include weak productivity, falling labor force participation, an increasingly polarized income distribution, an aging population, and high levels of poverty. These pernicious secular trends have led to a labor share of income that is around 5 percent lower today than it was 15 years ago, a middle class that is smaller today than at any point in the last 30 years, and—aside from the immediate aftermath of the financial crisis—the lowest potential growth rate since the 1940s. Finding solutions to alleviate these long-running supply-side issues and mitigate the associated unfavorable trends in the income distribution will be key to the health of both the U.S. and the global economy. It will require action in multiple areas—tax, infrastructure, trade, regulation, education, healthcare, immigration, and support for low-and middle income households—which should be front-loaded as much as is possible.

A. Tax Policy

30. There is broad agreement on the objectives of tax reform. These include simplifying the system and scaling back the extensive network of tax preferences; lowering marginal rates; incentivizing labor force participation, business investment, and productivity-enhancing innovation; mitigating income polarization; and supporting low- and middle-income households.

31. However, the consultation revealed differences of views on the policies to achieve these objectives. The limited details that are available on the administration's tax reform suggest it is likely to generate a fall in the revenue-GDP ratio over the medium-term and that tax relief is likely to disproportionately benefit the wealthy. In staff's view, to provide resources for fiscal outlays that would strengthen potential growth and to contribute to the needed reduction in the public debt, the tax reform should be designed to be revenue enhancing over the medium-term. Such a reform could include:

- ***Business tax***. The U.S. corporate income tax could move to a rent tax (either a cashflow tax or an allowance for corporate capital tax) with a somewhat lower marginal rate. This would incentivize business investment and lessen the existing bias toward debt finance. Such a reform could be combined with an elimination of the various corporate tax preferences that currently complicate the system, making the tax code more equitable and efficient. Naturally, such a change would have important domestic effects (on activity and investment) and sizable international spillovers (including effects on both international investment location and changing incentives for profit shifting).

- ***Taxing offshore profits***. Transitioning to a territorial system, as has been proposed by the administration, merits consideration but ought to be combined with a minimum tax for profits earned in low tax jurisdictions to limit the scope of profit-shifting. The administration's proposal to enact a one-time tax on the stock of unrepatriated profits of multinationals deserves support as part of a comprehensive tax reform package. Such profits could be taxed at a rate that is modestly lower than the current corporate tax rate. Providing only moderate tax relief would be efficient (since it is a tax on *past* profits) particularly given that the existing system of tax deferral has already conveyed significant benefits to those taxpayers that have chosen not to repatriate profits. Such a policy would generate a temporary, front-loaded uplift in fiscal revenues, which can help fund near-term expenditure needs (e.g. infrastructure, paid family leave, healthcare) before the full tax reform is in effect. Payment of the resulting tax liability could be spread over several years to address liquidity concerns of affected corporations.

- ***Individual income tax***. Providing tax relief for low- and middle-income groups, as has been proposed by the administration, would help alleviate income polarization and encourage labor force participation. The bulk of itemized deductions can be eliminated alongside an increase in the standard deduction. Any remaining deductions (e.g., for mortgage interest and charitable contributions) should be capped. Consideration could also be given to limiting the tax preference that is given to employer-provided health insurance plans. The authorities should expand eligibility and increase the generosity of the earned income tax credit (EITC) to support lower-income households and incentivize work. To lessen the risk that an expanded EITC leads to a decline in pre-tax wages at the bottom of the income distribution, the EITC expansion ought to be combined with an increase in the federal minimum wage.

- ***Pass-through entities***. Any tax rate reductions for pass-throughs need to take revenue implications into account. Setting the effective rate on pass-throughs below the effective rate on distributed corporate profits and/or the top marginal personal income tax rate creates important incentives for some firms to become pass-throughs and for high income employees to become independent contractors in order to lessen their tax burden. Putting in place anti-avoidance provisions could help limit such a recharacterization of income but would add significantly to administration burdens with uncertain implications for revenues.

- ***Consumption taxes***. To ensure the overall tax reform is revenue-gaining, the U.S. has the scope to rely more on other revenue sources, including a federal level consumption tax, a broad-based carbon tax, and a higher federal gas tax. To give a sense of what is feasible, a broad-based, 5 percent consumption tax would generate around 1½ percent of GDP per year in revenues, a carbon tax of around US$45 per ton of CO_2 would generate 0.5 percent of GDP per year, and each 50 cents increase in the gas tax would raise revenues by around 0.3 percent of GDP per year. Such a move from direct to indirect taxes is likely to be positive for long-run growth. If the reductions in personal income tax are designed to be progressive and targeted toward low- and middle-income households, they will also help lessen income polarization (Box 5).

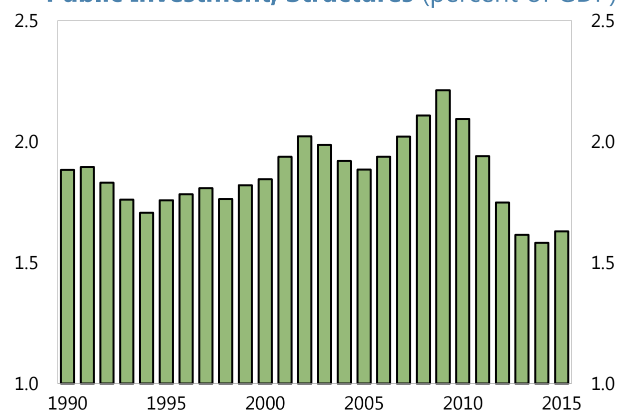
32. Authorities views. The administration continues to work to craft a tax reform that reduces distortions and provides tax relief for middle-income families, consulting with both Congress and the public. The administration is committed to lowering individual income tax rates, eliminating a range of exemptions and deductions, expanding the standard deduction and providing help for child and dependent care expenses. The intention is to eliminate the alternative minimum tax, the

3.8 percent surcharge on capital gains and dividends, and the estate tax. On the business side, the goal would be to lower the corporate tax rate to 15 percent (including for pass-throughs), eliminate most tax expenditures and special regimes, and transition to a territorial system with a one-time repatriation tax on already accumulated overseas income. The dynamic effect of this combination of reforms is expected to maintain the federal revenue-GDP ratio at close to current levels. The proposal to put in place either a carbon tax or consumption tax is not politically feasible at this time.

B. Improving Infrastructure

33. Underinvestment in infrastructure has become a growing constraint on private sector productivity and long-term growth and job creation. Investment in public infrastructure has declined significantly in the post-recession period. A permanent increase in federal, state, and local infrastructure spending of at least 0.5 percent of GDP per year is needed (based on the American Society of Civil Engineers estimates of the U.S. infrastructure gap). This should be achieved by an increase in federal, state, local and private funding of infrastructure projects. Priorities include improving the quality and reliability of surface transportation and upgrading infrastructure technologies (e.g., in high speed rail, ports, and telecommunications). It will be important to ensure the right mix is achieved between the public funding of maintenance and repair versus new projects. The US$200 billion appropriation in the budget aimed at catalyzing US$1 trillion in private and public infrastructure investment would, if realized, support long-term growth.

Public Investment, Structures (percent of GDP)



Sources: BEA; Haver Analytics; and IMF staff calculations

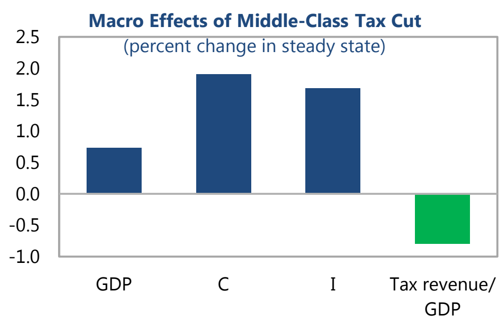
34. Authorities' views. U.S. infrastructure needs to be rebuilt and modernized to create jobs, maintain economic competitiveness, and connect communities and people to opportunities. The administration is targeting an increase of US$1 trillion in infrastructure investment through a combination of new federal spending and incentives for greater private, state and local funding. The federal government is prepared to offer loans, loan guarantees, and lines of credit to support infrastructure projects with federal outlays concentrated on only the most transformative projects (priorities include motorways, roads, aviation, airports, and air traffic control systems). Efforts will be made, where feasible, to transfer responsibilities to state and local governments. The private provision of infrastructure will be leveraged to achieve better procurement methods, more market discipline, and a long-term focus on maintaining assets. The environmental review and permitting process is fragmented, inefficient, and unpredictable making the delivery of infrastructure more costly and time-consuming while offering little environmental protection. The intent is to significantly streamline these processes, reducing the time taken to approve pending projects and increasing both the certainty of project completion and the return on investment.

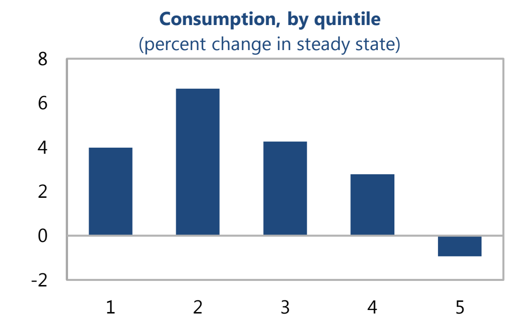
Box 5. The Dynamic Distributional Effects of Tax Reform: A Heterogenous Agent Model[1]

The U.S. authorities plan to reduce personal income tax rates and to simplify the existing system (by eliminating deductions and consolidating the marginal rate structure). To jointly assess the dynamic effects on income distribution and the macroeconomy of lowering effective personal income tax rates, a multi-sector, general equilibrium, heterogenous agent model, calibrated to the U.S., was deployed.

A middle-class tax cut. A simple reform was simulated that reduces the effective tax rates for those earning between 0.5 to 4 times the median income, paid for by a cut in (wasteful) government spending.

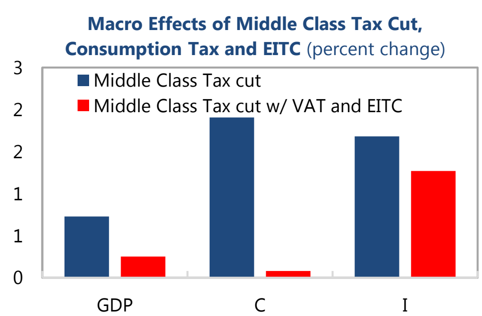
- There is a positive effect on output from an increase in the labor supply and higher savings (which in turn lowers the cost of capital). Higher after-tax incomes stimulate consumption, raising the demand for both capital and labor. The supply side effects are not large enough, however, to prevent the tax cuts from being revenue losing.
- The tax cut results in a loss of revenues of 0.8 percent of GDP but raises steady state GDP by just under 1 percent. This implies a personal income tax multiplier of 1.1. [2]
- Both middle- *and* low-income households profit from the cut. Even though the lowest quintile does not receive a tax cut, the increased demand for non-tradable services by middle income households raises the demand for—and the wages of—low-skilled labor helping to support their income and consumption.

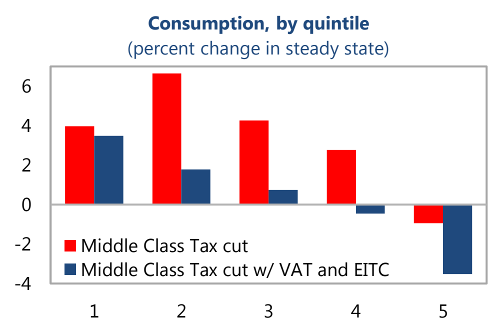




Adding in a consumption tax and an EITC expansion. To ensure the reform is revenue neutral, consumption taxes are increased. To mitigate the regressive effects of the consumption tax on the poor, the EITC is expanded for households earning less than one-half of the median income.

- As expected, the shift from direct to indirect tax has a small but positive impact on growth.
- The tax cuts and EITC expansion leave the bottom 60 percent of the income distribution better off. However, the increased after-tax cost of non-tradables makes highest earners worse off in terms of steady state consumption.





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[1] See S. Lizarazo, A. Peralta-Alva, and D. Puy, "Do Tax Cuts Trickle Down: A Heterogenous Agent Model Approach for the U.S.", IMF Working Paper (forthcoming).

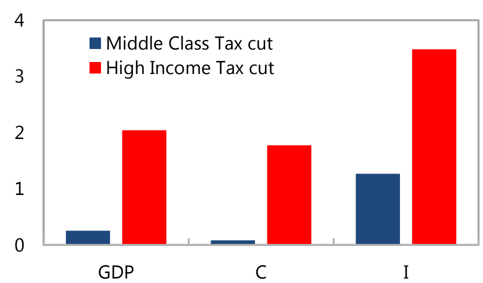
[2] Magnitudes all correspond to the % change from the baseline steady state. The new steady state is reached after 5 years.

Box 5. The Dynamic Distributional Effects of Tax Reform: A Heterogenous Agent Model[1] (concluded)

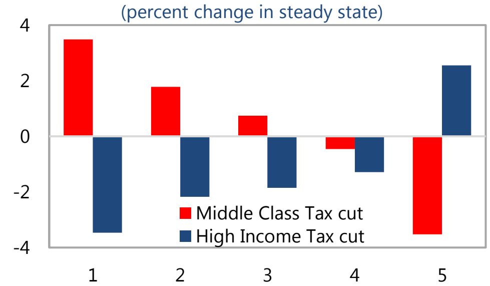
The impact of tax cuts for higher income groups. Instead of targeting tax cuts at the middle class, the same experiment was run (with consumption tax and EITC expansion) but with the tax reductions accruing, instead, to those in the top quintile.

- Relative to the middle-class tax cut, there are larger growth effects when the tax cut is incident on the higher income groups. The top quintile responds to lower taxes by saving more[3] and supplying more high-skilled labor. This feeds through into a bigger growth effect. The increased after-tax income of higher income households translates into higher demand for non-tradables which, in turn, are produced by low- and middle-income groups.
- Despite the larger growth impact, there is an important trade-off with the effects of such a reform on the income distribution. Even with the EITC expansion and a higher demand for those services that are produced by low- and middle-income groups, the share of total consumption that goes to low and middle- income households would fall under such a policy. Not surprisingly, the tax cut for the wealthy significantly worsens the polarization of income and the model's embedded "trickle-down" effects are insufficient to raise welfare for the bulk of the population.

Middle Class vs High Income Tax Cuts (% change)



Consumption, by quintile
(percent change in steady state)



[3] For the same model in an open economy setting, increased saving by higher income groups would lower the current account deficit but not increase investment. This would diminish the growth effect (by around half) but would still leave tax cuts for the top quintile having a larger GDP impact than if the tax cuts were targeted at the middle-class.

C. Financial Regulation

35. Important gains have been made in strengthening the financial oversight structure since the global financial crisis (see the 2015 Financial Sector Assessment Program). Over the past several years a series of decisive measures was put in place to lessen the potential for financial stability risks, including enhanced capital and liquidity requirements, better underwriting standards in the housing sector, greater transparency to mitigate counterparty risks, and limits on proprietary trading. The Dodd-Frank Act requirements have stimulated supervisory intensity, with increased emphasis on banks' capital planning, stress testing, and corporate governance. While it has raised compliance costs for financial institutions, the Federal Reserve's Comprehensive Capital Analysis and Review (CCAR) process has proven to be particularly valuable. Further important regulatory measures have been, or are being, implemented including liquidity risk requirements for money market and mutual funds; standardization of derivatives products and markets; measures that reduce banks' medium-term asset-liability mismatch (through the net stable funding ratio); and a framework for bank recovery and resolution (i.e., rules on "living wills" and bail-in-able debt).

36. The Treasury has proposed a range of reforms to the financial oversight of depository institutions. These include:

Refocusing existing standards

- ***Changes to regulatory thresholds***. The total asset threshold (currently at US$50 billion) above which banks are subject to Fed stress testing would be increased and the set of bank holding companies subject to enhanced supervision and prudential standards would become smaller.
- ***Liquidity Coverage Ratio (LCR)***. The LCR would only apply to GSIBs and a lower liquidity standard would be applied to non-GSIBs that are internationally active. Non-internationally active banks would not face a LCR requirement. The definition of High Quality Liquid Assets (HQLA) in calculating the LCR would be expanded to include high-grade municipal bonds. In addition, a less conservative calculation would be used in determining future net cash outflows (the denominator of the LCR).
- ***Supplemental Leverage Ratio (SLR)***. The calculation of the ratio would be made less binding by allowing for deductions in the denominator (for cash, Treasury securities, and margin held for centrally cleared derivatives).
- ***Risk-based capital surcharges***. The application of international standards for the enhanced SLR, and the calculation of Total Loss Absorbing Capacity for GSIBs would be revisited. There would also be a delay in the implementation of trading book capital rules and the Net Stable Funding Ratio to give time to reexamine these proposed rules.
- ***Volcker Rule***. Banks with less than US$10 billion in assets would be exempt from the Volcker rule. The definition of what constitutes proprietary trading would be narrowed, and banks would be given more leeway to maintain a market-making inventory of assets.

- ***Residential Mortgages***. Some of the regulations would be relaxed, including loosening the minimum requirements for loans to be eligible for securitization by the government sponsored entities, revising limits on fees for mortgage lending, scaling back the mortgage risk retention rules, and simplifying reporting requirements.

Procedural and organizational changes

- ***Comprehensive Capital Analysis and Review (CCAR)***. In order to lessen the regulatory burden, the Treasury report proposes moving the Fed's stress testing process to a two-year frequency; requiring publication of the Fed's stress testing models; giving banks more leeway in using their internal models; and limiting the stress tests to a more narrowly defined and less conservative set of scenarios. In addition, qualitative considerations (e.g., on a bank's risk management systems and capital planning process) would no longer be the sole basis in objecting to capital plans for banks subject to stress testing. The existing countercyclical capital buffer would be eliminated, and countercyclical tools would be implemented, if needed, as part of the Fed's stress testing exercise.

- ***Financial Sector Oversight Council (FSOC) powers***. The FSOC would be allowed to assign a lead regulator in cases where multiple regulators have jurisdiction. A separate report will be released in the coming months examining the process by which the FSOC can designate financial institutions as systemic and subject them to enhanced supervision.

- ***Resolution***. The living wills submission schedule would move to a two-year frequency and the FDIC would be removed from the process (with the Fed being the sole authority). Greater clarity would be given on the assessment framework which would be subject to public comment. Further recommendations on orderly liquidation authority will be released in the coming months in a separate report.

- ***Institutional changes to the Office of Financial Research (OFR) and the Consumer Financial Protection Bureau***. It would be possible to remove the directors of these agencies at will, and their budgets would be subject to annual appropriations (with the OFR budget under the control of Treasury).

- ***A simplification of the regulatory regime***. The report recommends action to reduce fragmentation, overlap, and duplication in the U.S. regulatory structure, including by consolidating regulators and more clearly defining regulatory mandates.

- ***A regulatory off-ramp***. The Treasury proposal recommends allowing institutions that maintain a 10 percent leverage ratio to be exempt from risk-based capital, liquidity, and stress testing requirements as well as not to be bound by the Volcker rule.

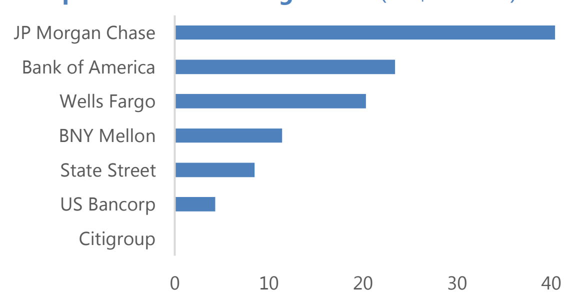
37. There is broad-based support for simplifying the regulatory structure and fine-tuning various regulatory requirements for smaller, non-systemic institutions. The 2015 FSAP found significant scope to reduce regulatory overlaps and consolidate regulatory agencies to encourage better coordination and reduce duplication. There is also a case to put in place a simpler regime for small and community banks, that is backed by risk-based supervision. Finally, there is a need to revisit the thresholds for institutions to be subject to stress tests or to be considered systemic.

38. Nevertheless, the thrust of the current approach to regulation, supervision and resolution should be preserved. The FSOC should be supported in its efforts to identify risks and respond to emerging threats to financial stability. There is scope and need to extend the analytical work of the OFR. The Fed should continue to refine and strengthen its CCAR exercise and maintain the rigorous requirements currently in place for passing the stress testing exercise. The current designation framework could be improved to be more expeditious, transparent, and accountable. The exemption of Treasury securities from the calculated leverage ratio is problematic and could lead to efforts to exempt other low-risk weighted assets from the calculation (which would erode its effectiveness as a supplemental tool). Finally, efforts to dilute liquidity and counterparty risk requirements should be avoided, especially if doing so creates inconsistencies with the minimum standards determined by international regulatory bodies.

39. The U.S. ought to maintain its special resolution regime for systemic financial entities as a backstop to resolution under the bankruptcy code. This would help facilitate orderly resolution and prevent any contagion that could put system-wide stability at risk (see 2015 FSAP). A court-based bankruptcy regime may prove insufficiently nimble, lack the authority to provide needed temporary public financial support, lead to a dilution of regulators' powers, and give rise to stability and contagion risks. To ensure adequate preparation for potential resolution cases, the FDIC should remain responsible, jointly with the Fed, for the adequacy and review of "living wills".

40. The current risk-based capital framework should not be replaced with a simple leverage ratio. On a system-wide basis, the incremental capital needed to meet a 10 percent leverage ratio is estimated to be close to US$200 billion (see Chami et al, 2017). While this may be unduly costly for many banks, the existence of such an "off ramp" may give banks counterproductive incentives to increase capital but place more capital into risky activities. It would be particularly problematic to allow banks to self-select into a less demanding regulatory and supervisory regime, regardless of the underlying systemic risk of their operations.

Incremental Tier-1 Capital Needed to Meet A 10 percent U.S. Leverage Ratio (US$ billions)



Sources: SNL data; and IMF staff calculations. U.S. leverage ratio defined as tier 1 capital / banks total assets excluding off-balance sheet assets.

41. The maintenance of a robust financial regulatory regime in the U.S. has positive spillovers to other economies. These have manifested both through reducing financial stability risks in the U.S. and the knock-on effects from encouraging progress to strengthen the global regulatory framework. As such, the U.S. should remain engaged in the international discussions and reaffirm its commitment to agreed international standards. Delayed implementation of trading book capital rules, the Net Stable Funding Ratio, and Total Loss Absorbing Capital rules runs the risk of eroding efforts to complete this and other areas of the international reform agenda.

42. Authorities' views. The administration is committed to the core principles of preventing taxpayer-funded bailouts; focusing regulations to address systemic risk and market failures; making financial regulation efficient, effective, and appropriately tailored to the size of the institutions; and strengthening the public accountability of financial regulatory agencies. The Secretary of the Treasury has published the findings and recommendations following a thorough review of existing laws and financial regulations insofar as they relate to depository institutions. The proposed changes are driven by a desire to more carefully customize and tailor the regulatory regime to the size and risk of the depository institutions and to reduce regulatory burdens. A broader use of cost-benefit analysis by financial regulators should be required, regulators should face stronger transparency and accountability requirements, and there is a need to provide regulatory relief for small and community based financial institutions. The U.S. Treasury Department will continue to participate in the full range of international meetings on financial regulations and will continue to advocate for a level playing field for U.S. financial institutions. The institutional changes proposed for the CFPB and OFR are geared toward making the agencies more accountable with a more focused mandate.

D. Trade

43. Open international trade has long supported U.S. growth and job creation with positive spillovers for other countries. A slower pace of global trade reform since the early 2000s has left in place trade barriers, subsidies, and other trade-distorting measures. There is a need, therefore, to revitalize the process for further trade integration. The promotion of a level playing field in international trade, particularly in growth areas such as services, would offer important gains to the U.S. (in terms of productivity, competitiveness and economic growth, markets for exports, and job creation) while also promoting global economic growth. In this regard, the administration's commitment to free, fair and mutually beneficial trade and investment and to improving the rules-based international trading system is welcome.

44. Several trade policy reviews are underway. The administration has initiated several policy reviews that are expected to conclude with specific recommendations. These include examining the forces underlying bilateral goods trade deficits, whether steel or aluminum imports should be restricted on national security grounds, analyzing the effect that free trade arrangements have had on the U.S. economy, and reviewing government procurement practices (linked to existing "Buy American" provisions). As these reviews proceed, the U.S. has reiterated publicly that it intends to keep its markets open and fight protectionism, while standing firm against all unfair trade practices. In its deployment of Section 232 of the Trade Expansion Act of 1962, the U.S should be judicious in its use of import restrictions on national security grounds.

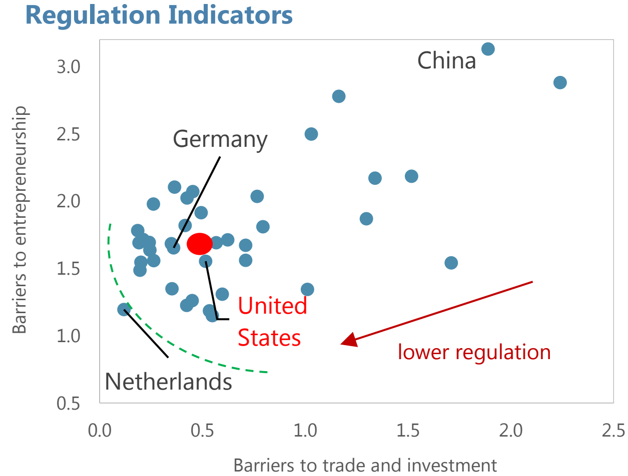
45. The administration is focused on reshaping existing U.S. trade agreements. The administration has withdrawn from the Trans-Pacific Partnership and notified Congress of its intent to renegotiate NAFTA. Pursuing new and updated trade agreements could provide the administration an opportunity to address existing trade barriers while unlocking new sources of growth. There are important gains to be had for all negotiating parties in securing more ambitious agreements with trading partners, in areas such as transparency, e-commerce, services, as well as labor, environmental and safety standards. The U.S. would benefit by remaining open as it pursues new or amended trade agreements and should avoid new import restrictions.

46. Authorities' views. Free, fair and reciprocal trade and international investment can lead to economic growth and job creation but unfair trade practices have disadvantaged U.S. workers and businesses, leading to large and persistent trade imbalances. Trade-distorting practices—such as dumping, non-tariff barriers, forced technology transfer, non-economic capacity, subsidies and other non-market behavior and government support—should be eliminated to foster evenhanded competition. At the same time, existing agreements—written decades ago—need to be assessed as to their continued adequacy for promoting free and fair trade. The administration is seeking to ensure that trade and investment agreements with the U.S. serve to enhance economic growth, break down barriers to exports, contribute favorably to its trade balance, and strengthen its manufacturing base. Efforts are planned to improve the functioning of the WTO dispute settlement system and to ensure full and transparent implementation and timely enforcement of WTO agreements, as originally written. The administration intends to focus more on bilateral negotiations with trading partners to ensure more rapid progress toward new and revised trade agreements that focus on reciprocity.

E. Deregulation

47. A central plank of the new administration's economic plan is to revisit federal regulations in a range of areas. In international comparisons, the U.S. already scores favorably on regulatory barriers to entrepreneurship, trade, and investment. In addition, U.S.-specific research on the evidence of negative economic implications of regulations is scant. Nonetheless, a simplification and streamlining of federal regulations as well as an effort to harmonize rules across states would likely boost efficiency and could stimulate job creation, productivity, and growth. There may also be scope to achieve desired outcomes through means other than regulation (e.g., to replace regulatory limits on carbon with a broad-based carbon tax). However, in reforming the current regulatory system, care is needed to avoid negative consequences for the environment, workplace safety, and protections for lower-income workers.

Regulation Indicators



Source: OECD. Higher values denote greater levels of regulation.

48. Authorities' views. The current regulatory system is both ineffective and inefficient, imposing significant dead-weight costs on businesses, states, and local governments. Federal permitting practices—including those for new infrastructure projects—are unnecessarily burdensome. Work is already underway to identify those regulations that eliminate jobs, inhibit job creation, or are outdated or ineffective. For every new regulation that is introduced, two will be eliminated and the net cost of all new regulations will be zero. The effect of these efforts will have a large positive effect on growth and investment with minimal side effects on environmental, safety, or worker protections.

MAINTAINING A PRODUCTIVE AND FLEXIBLE WORKFORCE

A range of measures could be taken to increase the adaptability of households and businesses, mitigate secular trends in income polarization and poverty, raise labor force participation, create the environment to increase investments in human capital, and boost productivity. Many of these macro-critical areas would both raise potential growth and help ensure that gains in income and opportunities improve the living standards of the majority of the population.

A. Education

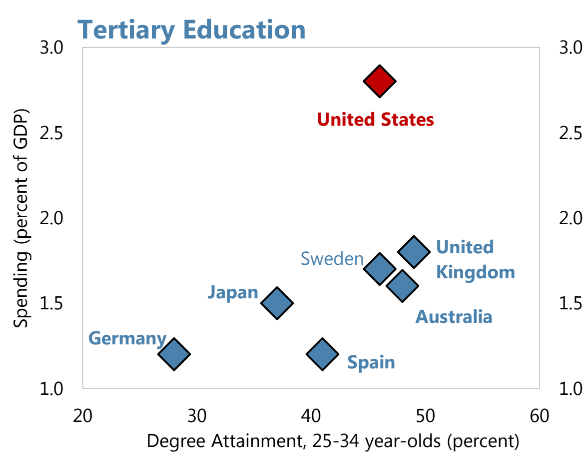
49. Access to better and more cost-effective education can raise productivity and increase the flexibility of U.S. workers to adjust to structural shifts in labor demand or displacement by technology or trade. There is also broad evidence that investments in education can lessen the intergenerational persistence of poverty. There is a significant lifetime income premium to completing a college degree, which points to both the strong demand for skills and to the adaptability premium that higher education can offer. It is encouraging, therefore, that 70 percent of U.S. high school graduates enroll in college. However, outcomes are less encouraging: only 60 percent of enrollees graduate within 6 years, those graduating have significant debt (median of around US$20,000 for those with a bachelor's degree), and delinquency rates are rising. In addition, the aggregate data hides significant disparities in outcomes across both race and family income level. This has implications for long-term growth, inequality, and for near-term demand (with growing evidence that the high level of student debt is constraining consumption and household formation).

50. Policy solutions would need to focus on a range of areas. In particular:

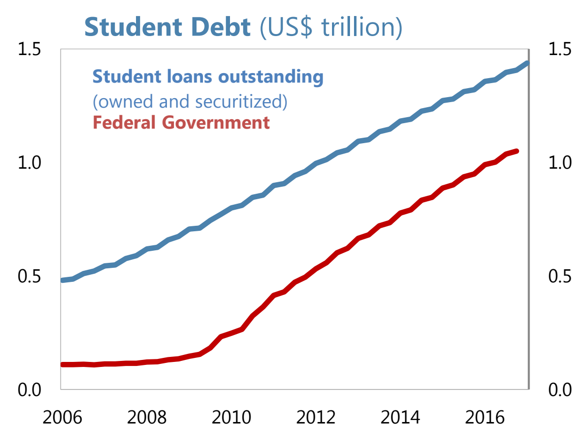
- ***K-12 education***. Funding can be better prioritized toward early childhood education (including instituting universal pre-K) and to support science, technology, engineering, and mathematics programs. There is also a strong case to redesign the financing model for public schools to reduce funding differences across districts and provide more resources to schools with high concentrations of students from low-income households.

- ***Vocational education***. The administration's support for federal, state, and local efforts to offer attractive, non-college career paths (e.g., through apprenticeship and vocational programs) is welcome and there is significant scope to expand these programs.

- ***Tertiary education***. The high levels of private and public expenditure on higher education, alongside relatively unimpressive attainment statistics, suggest the need for a greater focus on preparing students for college and fostering retention once they are enrolled. Alternative state and federal financing options for tertiary education—such as expanding the programs for, and lowering the payment caps on, income contingent repayment loans or increasing needs-based grant programs—may help increase access for students from lower- and middle-income households. Such financing options are proposed in the budget but they are, unfortunately, accompanied by significant cuts to overall student loan programs and an intention to increase the monthly payment cap for income contingent loans.



Source: OECD latest available data



Source: Federal Reserve.

51. Authorities' views. The administration is committed to expanding school choice through greater federal funding for charter schools and vouchers for private and religious schools. This will be financed, in part, by consolidating and streamlining a range of federal programs that co-fund state and local after-school, teacher training, student support, and academic enrichment programs. Existing income dependent repayment programs for student loans would be consolidated into one standardized program and the cap on monthly payment would be increased to 12.5 percent of discretionary income (with forgiveness of the loan after 15 years of payment). Overall federal funding of student loans would, however, be reduced in part through the elimination of subsidized loan programs.

B. Family-Friendly Benefits

52. The cost and availability of childcare is a constraint to labor force participation. As one example, the labor force participation rate for women with children under 6 years old is 66 percent (around 8 percent below that of similar aged cohorts without young children). It is also of concern that one-in-four single parent households are living in poverty. The administration recognizes that family-friendly benefits can be an important policy lever to slow the downward trend in labor force participation and support low- and middle-income families. In this regard, the budget's intention to create a program that offers six weeks of paid leave to new parents and provide help for families struggling with child and dependent care expenses are positive steps.

C. Supporting Low- and Middle-Income Households

53. Mitigating the ongoing hollowing out of middle-income earners and reducing the currently high levels of poverty would raise labor supply, boost human capital and productivity, and improve living standards. In addition to the reforms discussed above—education, family-friendly benefits, and expanding the EITC—other policies that could help include:

- ***Disability insurance***. As proposed in the budget, there is scope to strengthen the design of the disability insurance program to provide incentives for beneficiaries to work part time or eventually return to full time work (rather than drop out of the labor force). Such a reform ought to be undertaken carefully, however, to prevent legitimate recipients being excluded from this important safety net.

- ***Social assistance***. There is significant scope to upgrade federal and state-level social programs to better help the most vulnerable. "Cliffs" in social benefits—such as Medicaid, the Supplemental Nutrition Assistance Program, the Child Health Insurance Program, Temporary Assistance for Needy Families, and housing assistance—could be reassessed with a view to smoothing the phase-out for the near-poor. This would not only reduce disparities but also encourage labor force participation for those earning above, but close to, the federal poverty line. There is scope to simplify and unify the various programs underlying the safety net, increase the generosity of direct transfer programs, learn from the diversity of experiences at the state-level to identify the most effective approaches, and better-target federal payments to program outcomes. These improvements to social programs could be undertaken with a relatively small budgetary cost.

54. Authorities' views. There is no rationale to expand existing safety net programs. Welfare reform should be geared toward encouraging those individuals that rely on government programs to return to the workforce. This could be achieved by tightening eligibility for programs (including SNAP, EITC, and the child tax credit) and requiring able-bodied adults to work in order to receive benefits. The administration has, however, proposed putting in place six weeks of paid parental leave funded partially by savings that are generated in the federal unemployment insurance system.

D. Immigration

55. A skills-based immigration system would enhance labor force participation and productivity. Demographic changes will lead to a steady decline in participation in the coming years, slowing labor force growth from an annual average of over 1 percent over the last 25 years to less than ½ percent in the coming decade. The dependency ratio—the share of the old and young population as percent of the working age population—is expected to rise from about 60 percent today to 75 percent by 2037. This is even with around 0.6 million new immigrants entering the labor force each year. A comprehensive, skills-based reform of the immigration system has the potential to expand the labor force, improve the dependency ratio, and raise the average level of human capital. This could have significant positive effects on long-term potential growth and help ease the medium-term fiscal challenges.

56. Authorities' views. The immigration system should be reformed to encourage merit-based admissions for legal immigrants, prohibit the entry of illegal immigrants, and substantially reduce the number of refugees that are permitted to resettle in the U.S. The administration will increase spending on border security and law enforcement. Efforts are underway to examine inefficiencies in the admission of skilled immigrants under the H1B visa program to avoid undercutting local wages and reducing the employment prospects for U.S. citizens.

E. Healthcare

57. Following the significant changes to the U.S. health care system under the previous administration, efforts are underway to reshape policies and scale back federal government involvement in the health system. Proposed changes include removing the individual and employer mandates, eliminating various taxes and subsidies, reversing the Medicaid expansion, and giving states greater flexibility and control over health care policy. The balance of evidence—including the independent analysis of the Congressional Budget Office—suggests that eliminating penalties for those who choose not to purchase health insurance will either lead to a loss in coverage (with likely adverse selection effects as better risks drop out of the insurance markets) or necessitate an increase in federal subsidies (to maintain similar levels of coverage). There are also important distributional implications with the proposed changes implying a significant increase in costs for older and poorer individuals whereas the embedded tax relief would be mostly incident on higher income households. There are polarized societal views over the appropriate way forward which makes reaching a consensus on policy difficult to achieve.

58. Health care policies should protect those gains in coverage that have been achieved since the financial crisis (particularly for those at the lower end of the income distribution). Doing so will have positive implications for well-being, productivity, and labor force participation. This, in turn, will strengthen growth and job creation, reduce economic insecurity associated with the lack of health coverage, and have positive effects for the medium-term fiscal position. Such changes ought to be undertaken carefully to avoid compromising the pooling of risks (an essential foundation for a well-functioning health insurance system) or excluding those with limited incomes from the healthcare system.

59. Mechanisms to contain inflation in the cost of healthcare services need to be examined. This could include an evaluation of existing pilot programs that are being undertaken as well as an application of new technologies to increase efficiencies and pricing transparency.

Reducing the growth in healthcare costs will have important implications for the general government fiscal position. There also ought to be some assessment of the scope for anti-trust actions where the market concentration of providers or insurers has risen and where premiums for non-group policies have been rising rapidly.

60. Authorities' views. In the administration's view, the Affordable Care Act is fundamentally flawed and a new approach is required to improve Medicaid sustainability, target scarce federal resources to those most in need, eliminate taxes on investment income and the penalties that underpin the individual mandate, and stabilize and reform the individual insurance market. Proposed reforms will help families purchase coverage through tax credits and health savings accounts. In addition, regulatory oversight will be devolved to the states to make decisions that work best for their local markets. In the administration's assessment, the Congressional Budget Office estimate of the loss of coverage under this new legislation attributes an overly large impact of the individual mandate on coverage decisions and uses an outdated baseline that projects a far healthier market under the status quo than is likely to occur.

STAFF APPRAISAL

61. The favorable near-term outlook is clouded by important medium-term imbalances. The U.S. economic model is not working as well as it could in generating broadly shared income growth. It is burdened by a rising public debt. The U.S. dollar is moderately overvalued (by around 10–20 percent) and the external position is moderately weaker than implied by medium-term fundamentals and desirable policies. The current account deficit is expected to be close to 3 percent of GDP over the medium-term, and the net international investment position has deteriorated markedly in the past several years. Most critically, relative to historical performance, post-crisis growth has been too low and too unequal.

62. Addressing these issues requires taking steps to spark faster economic and productivity growth, stimulate job creation, incentivize business investment, balance the budget, bring down the public debt, and create the room to finance priorities such as infrastructure. The administration's objectives are broadly aligned with these priorities but the consultation revealed differences in a range of policy areas and left open questions as to whether the administration's proposed policy strategies are best suited to achieve their intended purpose.

63. Strengthening growth outcomes and ensuring a more broad-based improvement in living standards will require a transformation of the U.S. economic model. Such policies should include building a more efficient tax system, reprioritizing federal spending, a more effective regulatory system, labor market reforms, increasing infrastructure spending, improving education and developing skills, strengthening healthcare coverage while containing costs, offering family-friendly benefits, maintaining a free, fair, and mutually beneficial trade regime, and reforming the immigration and welfare systems.

64. The right policy package represents an upside to productivity, labor force growth, and capital formation as well as to overall living standards. In many cases, these efforts will require incremental federal resources (e.g., to finance infrastructure, better education and health systems, improved social assistance, and family friendly benefits), which should be accommodated within an overall budget envelope that shrinks the federal deficit starting in FY2018 and steadily reduces the public debt-GDP ratio. This can be achieved by reprioritizing existing spending, addressing entitlements, and ensuring tax reform generates a front-loaded increase in the revenue-GDP ratio.

65. Important gains have been made in strengthening the financial oversight structure since the global financial crisis. There is scope to fine-tune some aspects of the system as has been proposed by the U.S. Treasury. However, the current risk-based approach to regulation, supervision, and resolution should be preserved.

66. The Federal Reserve should continue to raise policy rates gradually. Given the downside risks to inflation and the constraints of the effective lower bound, policymakers should be ready to accept some modest, temporary overshooting of its inflation goal that allows inflation to approach the 2 percent medium-term target from above. The recent addendum to the policy normalization principles and plans provides market participants with a clear path for changes in reinvestment policy that will help avoid undue volatility in fixed-income markets.

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

Table 1. United States: Selected Economic Indicators 1/

(percentage change from previous period, unless otherwise indicated)

		Projections					
	2016	2017	2018	2019	2020	2021	2022
National production and income							
Real GDP	1.6	2.1	2.1	1.9	1.8	1.7	1.7
Net exports 2/	-0.1	-0.3	-0.2	-0.2	-0.2	-0.1	0.0
Total domestic demand	1.7	2.3	2.3	2.0	1.8	1.7	1.7
Private final consumption	2.7	2.2	1.9	2.0	2.0	1.9	1.8
Public consumption expenditure	0.8	0.5	1.4	1.4	0.8	0.7	0.3
Gross fixed domestic investment	0.7	4.3	4.0	2.9	2.4	2.6	2.4
Private fixed investment	0.7	4.7	3.9	2.8	2.3	2.5	2.6
Equipment and software	-2.9	3.6	4.9	3.2	2.3	2.6	2.5
Intellectual property products	4.7	4.1	3.8	3.6	4.0	4.0	4.6
Nonresidential structures	-2.9	6.4	2.5	1.2	0.3	0.6	0.5
Residential structures	4.9	5.5	3.6	2.3	2.0	2.0	2.0
Public fixed investment	0.8	2.9	4.0	3.4	2.7	2.9	1.8
Change in private inventories 2/	-0.4	0.0	0.0	-0.1	0.0	-0.1	-0.1
Nominal GDP	3.0	3.9	3.9	4.1	3.9	3.8	3.7
Personal saving rate (% of disposable income)	5.7	5.1	5.3	5.2	4.9	4.8	4.7
Private investment rate (% of GDP)	16.3	16.7	17.0	17.0	17.0	17.0	17.1
Unemployment and potential output							
Unemployment rate	4.9	4.3	4.3	4.4	4.7	4.9	5.0
Labor force participation rate	62.8	62.9	62.9	62.7	62.4	62.2	61.9
Potential GDP	1.6	1.8	1.9	1.8	1.8	1.8	1.7
Output gap (% of potential GDP)	-0.4	-0.1	0.1	0.2	0.2	0.1	0.0
Inflation							
CPI inflation (q4/q4)	1.8	2.1	2.5	2.6	2.1	2.2	2.3
Core CPI Inflation (q4/q4)	2.2	2.0	2.3	2.5	2.3	2.3	2.3
PCE Inflation (q4/q4)	1.4	1.7	2.2	2.3	1.8	1.9	2.0
Core PCE Inflation (q4/q4)	1.7	1.7	2.0	2.2	2.0	2.0	2.0
GDP deflator	1.3	1.8	1.8	2.1	2.1	2.0	1.9
Interest rates (percent)							
Fed funds rate	0.4	1.0	1.6	2.5	2.9	2.9	2.9
Three-month Treasury bill rate	0.3	1.0	1.5	2.4	2.7	2.7	2.7
Ten-year government bond rate	1.8	2.4	2.9	3.5	3.5	3.5	3.5
Balance of payments							
Current account balance (% of GDP)	-2.4	-2.5	-2.9	-3.0	-3.0	-2.9	-2.8
Merchandise trade balance (% of GDP)	-4.1	-4.4	-4.6	-4.8	-4.9	-4.9	-5.1
Export volume (NIPA basis, goods)	0.6	4.1	3.2	4.2	2.8	3.1	4.0
Import volume (NIPA basis, goods)	0.7	4.9	4.5	4.7	3.7	3.5	3.7
Net international investment position (% of GDP)	-44.8	-44.5	-45.7	-46.9	-48.2	-49.3	-50.3
Saving and investment (% of GDP)							
Gross national saving	18.5	17.7	17.6	17.4	17.4	17.6	17.8
General government	-1.8	-1.6	-1.3	-1.4	-1.4	-1.5	-1.6
Private	20.2	19.3	18.9	18.8	18.9	19.1	19.4
Personal	4.3	3.8	4.0	3.9	3.6	3.6	3.6
Business	15.9	15.5	14.9	14.9	15.2	15.6	15.9
Gross domestic investment	19.7	20.1	20.4	20.4	20.4	20.5	20.6
Private	16.3	16.7	17.0	17.0	17.0	17.0	17.1
Public	3.3	3.4	3.4	3.4	3.5	3.5	3.5

Sources: BEA; BLS; FRB; Haver Analytics; and IMF staff estimates
1/ Components may not sum to totals due to rounding
2/ Contribution to real GDP growth, percentage points

Table 2. United States: Balance of Payments

(annual percent change unless otherwise indicated)

	2016	2017	2018	2019	2020	2021	2022
		Projections					
Real exports growth							
Goods and services	0.4	3.3	3.1	3.8	2.9	3.4	4.0
Goods	0.6	4.1	3.2	4.2	2.8	3.1	4.0
Services	-0.1	1.8	2.8	3.0	3.1	3.9	4.0
Real imports growth							
Goods and services	1.1	4.4	3.9	4.1	3.2	3.2	3.4
Goods	0.7	4.9	4.5	4.7	3.7	3.5	3.7
Nonpetroleum goods	0.3	4.8	5.0	5.4	4.2	3.9	4.0
Petroleum goods	6.9	5.8	-0.1	-2.2	-2.9	-1.2	0.0
Services	3.1	2.3	1.1	1.3	1.3	1.5	2.1
Net exports (contribution to real GDP growth)	-0.1	-0.3	-0.2	-0.2	-0.2	-0.1	0.0
Nominal exports							
Goods and services	12.0	12.2	12.2	12.3	12.5	12.7	12.8
Nominal imports							
Goods and services	14.7	15.2	15.5	15.7	15.8	15.9	16.0
Current account							
Current account balance	-2.4	-2.5	-2.9	-3.0	-3.0	-2.9	-2.8
Balance on trade in goods and services	-2.7	-3.0	-3.2	-3.3	-3.2	-3.2	-3.2
Balance on income	0.3	0.5	0.3	0.3	0.3	0.3	0.4
Capital and Financial Account							
Capital account balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial account balance	-2.0	-2.9	-2.9	-3.0	-3.0	-2.9	-2.8
Direct investment, net	-0.9	-0.1	-0.5	-0.5	-0.4	-0.4	-0.5
Potrfolio investment, net	-1.1	-2.2	-2.3	-2.4	-2.0	-1.4	-1.4
Financial derivatives, net	0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
Other investment, net	-0.2	-0.6	0.1	-0.1	-0.5	-0.9	-0.9
Reserve assets, net	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Errors and Omissions	0.4	-0.4	0.0	0.0	0.0	0.0	0.0
Net International Investment Position	-44.8	-44.5	-45.7	-46.9	-48.2	-49.3	-50.3
Direct investment, net	-1.0	-0.8	-1.3	-1.7	-2.1	-2.4	-2.8
Potrfolio investment, net	-40.2	-39.9	-40.9	-41.7	-42.2	-42.2	-42.2
Financial derivatives, net	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Other investment, net	-6.0	-6.4	-6.0	-5.8	-6.1	-6.8	-7.4
Reserve assets, net	2.2	2.2	2.2	2.1	2.0	1.9	1.9
Memorandum items							
Current account balance (US$ billions)	-452	-490	-576	-629	-649	-641	-656
Non-oil trade balance (% of GDP)	-2.3	-2.5	-2.7	-2.9	-2.9	-2.8	-2.9
Foreign real GDP growth (%, ar)	2.1	2.5	2.6	2.8	2.7	2.7	2.7
U.S. real GDP growth (%, saar)	1.6	2.1	2.1	1.9	1.8	1.7	1.7
U.S. real total domestic demand growth (saar)	1.7	2.3	2.3	2.0	1.8	1.7	1.7

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

Table 3. United States: Federal and General Government Finances

			Projections									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Federal government	(fiscal years; budget basis)											
Revenue	18.2	17.8	17.3	17.7	17.8	18.0	18.1	18.1	18.2	18.2	18.3	18.4
Expenditure	20.7	20.9	20.7	20.7	21.2	21.6	21.9	22.5	22.5	22.4	22.8	23.4
Non-interest	19.5	19.6	19.2	19.1	19.4	19.5	19.7	20.1	20.0	19.9	20.3	20.8
Interest	1.2	1.3	1.4	1.6	1.8	2.0	2.2	2.4	2.5	2.5	2.5	2.6
Budget balance 1/	-2.6	-3.2	-3.4	-3.0	-3.4	-3.5	-3.8	-4.4	-4.3	-4.2	-4.5	-5.0
Primary balance 2/	-1.3	-1.9	-1.9	-1.4	-1.6	-1.5	-1.6	-2.0	-1.8	-1.7	-2.0	-2.4
Primary structural balance 3/ 4/	-1.2	-1.7	-1.9	-1.4	-1.6	-1.5	-1.6	-2.0	-1.8	-1.7	-2.0	-2.4
Change	1.4	-0.5	-0.2	0.5	-0.2	0.1	-0.1	-0.4	0.2	0.1	-0.3	-0.4
Federal debt held by the public	73.3	77.0	77.3	77.6	77.8	78.3	79.2	80.7	82.1	83.4	84.9	86.9
General government	(calendar years; GFSM2001 basis)											
Revenue	31.8	31.4	31.4	31.8	32.0	32.2	32.3	32.4	32.5	32.6	32.7	32.6
Expenditure	35.3	35.7	35.7	35.7	36.0	36.3	36.6	36.9	36.7	36.6	36.9	36.9
Net interest	1.9	2.0	2.1	2.2	2.4	2.6	2.8	3.0	3.0	3.1	3.1	3.2
Net lending 1/	-3.5	-4.3	-4.3	-3.9	-4.0	-4.1	-4.3	-4.5	-4.2	-4.0	-4.2	-4.3
Primary balance 2/	-1.6	-2.3	-2.2	-1.7	-1.6	-1.5	-1.5	-1.5	-1.1	-0.9	-1.1	-1.2
Primary structural balance 3/ 4/	-1.5	-1.9	-2.1	-1.7	-1.7	-1.5	-1.5	-1.5	-1.1	-0.9	-1.1	-1.1
Change	0.9	-0.4	-0.2	0.4	0.0	0.2	0.0	0.0	0.4	0.2	-0.2	
Gross debt	105.7	107.4	108.5	108.8	109.1	109.5	110.2	111.2	111.9	112.4	113.0	113.4
incl. unfunded pension liab.	125.9	127.7	129.5	130.0	130.4	130.9	131.7	132.8	133.7	134.3	135.0	135.5
Memorandum items	(from authorities)											
Federal government deficit												
President's latest budget	-2.4	-3.2	-3.1	-2.2	-2.5	-2.2	-2.0	-1.8	-1.3	-0.8	-0.6	-0.4
CBO budget assessment	-2.5	-2.9	-2.2	-1.9	-2.5	-2.7	-2.9	-3.4	-3.4	-3.2	-3.5	-3.5
CBO baseline (current law)	-2.5	-3.2	-2.9	-2.4	-2.9	-3.2	-3.6	-4.2	-4.2	-4.1	-4.5	-4.8
Federal government debt												
President's latest budget	73.3	77.0	77.4	76.7	76.2	75.1	73.7	72.2	70.2	67.8	65.3	62.7
CBO budget assessment	73.6	75.4	74.9	74.1	74.1	74.3	74.4	75.0	75.7	76.1	76.7	77.4
CBO baseline (current law)	73.6	77.0	77.5	77.4	77.9	78.8	79.9	81.3	82.6	83.8	85.3	87.0

Sources: Congressional Budget Office; Office of Management and Budget; and IMF staff estimates

Note: Fiscal projections are based on the March 2016 Congressional Budget Office baseline adjusted for the IMF staff's policy and macroeconomic assumptions. The baseline incorporates the key provisions of the Bipartisan Budget Act of 2015, including a partial rollback of the Sequester spending cuts in fiscal year 2016. In fiscal years 2017 through 2021, the IMF staff assumes that the sequester cuts will continue to be partially replaced, in proportions similar to those already implemented in fiscal years 2014 and 2015, with back-loaded measures generating savings in mandatory programs and additional revenues. Projections also incorporate the Protecting American From Tax Hikes Act of 2015, which extended some existing tax cuts for the short term and some permanently. Finally, 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.

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 FSIs for Deposit Takers

Percent unless stated otherwise

	2010	2011	2012	2013	2014	2015	2016
Regulatory Capital to Risk-Weighted Assets	14.8	14.7	14.5	14.4	14.4	14.1	14.2
Regulatory Tier 1 Capital to Risk-Weighted Assets	12.5	12.6	12.7	12.8	13.1	13.1	13.2
Capital to Assets	12.7	12.2	12.0	11.8	11.7	11.7	11.6
Non-performing Loans Net of Provisions to Capital	20.0	17.6	15.7	11.7	8.8	7.2	6.6
Non-performing Loans to Total Gross Loans	4.4	3.8	3.3	2.5	1.9	1.5	1.3
Sectoral Distribution of Total Loans: Residents	96.6	95.6	95.5	95.2	95.6	95.8	96.1
Sectoral Distribution of Total Loans: Deposit-takers	6.0	6.0	6.0	5.0	4.1	3.6	3.8
Sectoral Distribution of Total Loans: Other financial corporations	3.2	3.8	4.4	5.2	6.2	6.7	6.7
Sectoral Distribution of Total Loans: General government	0.8	0.9	1.1	1.2	1.3	1.4	1.5
Sectoral Distribution of Total Loans: Nonfinancial corporations	32.5	31.8	32.1	33.3	34.2	35.0	35.5
Sectoral Distribution of Total Loans: Other domestic sectors	54.2	53.1	51.9	50.5	49.8	49.1	48.5
Sectoral Distribution of Total Loans: Nonresidents	3.4	4.4	4.5	4.8	4.4	4.2	3.9
Return on Assets	0.2	0.3	0.3	0.4	0.3	0.4	0.4
Return on Equity	1.8	2.3	2.7	3.3	2.8	3.0	3.2
Interest Margin to Gross Income	63.6	65.2	60.8	63.5	63.7	63.4	65.1
Non-interest Expenses to Gross Income	62.5	64.5	63.6	61.7	64.7	60.7	59.6
Liquid Assets to Total Assets (Liquid Asset Ratio)	10.8	12.7	13.4	14.5	14.5	13.2	12.8
Liquid Assets to Short Term Liabilities	47.3	66.1	74.1	88.3	90.0	91.2	98.2
Other Financial Corporations							
Assets to Total Financial System Assets	37.7	37.1	37.2	36.0	35.4	34.7	34.6
Assets to Gross Domestic Product (GDP)	362.1	350.8	362.7	367.5	366.2	355.2	359.9
Non-financial Corporations Sector							
Total Debt to Equity	62.2	61.8	62.6	58.2	58.9	57.2	54.6
Return on Equity	7.7	7.9	7.9	7.1	7.3	6.3	5.8
Market Liquidity							
Average Bid-Ask Spread in the Securities Market	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Average Daily Turnover Ratio in the Securities Market	5.0	3.8	3.4	3.4	3.1	2.7	3.0
Real Estate Markets							
Residential Real Estate Prices	-3.4	-0.8	7.9	10.2	5.0	5.4	6.1
Commercial Real Estate Prices	11.2	9.1	5.3	15.5	10.4	9.6	5.9
Residential Real Estate Loans to Total Loans	36.5	35.6	34.3	33.0	32.1	31.6	31.0
Commercial Real Estate Loans to Total Loans	17.1	15.8	15.2	15.5	15.7	16.1	16.4

Source: IMF staff estimates.

Unit

	United States	Overall Assessment
Foreign asset and liability position and trajectory	**Background**. The net international investment position (NIIP) declined from -16.8 per cent of GDP in 2010 to -43.7 percent of GDP in 2016. This reflects continuous current account deficits, stronger performance of the U.S. stock market relative to trading partners, and valuation changes of foreign currency denominated assets. 1/ Under staff's baseline scenario, U.S. NIIP would deteriorate by about 10 percentage points of GDP over the next five years, as a consequence of persistent current account deficits. **Assessment**. Financial stability risks could surface due to an unexpected decline in foreign demand for U.S. debt securities, which represent the major component of the country's external liabilities. This could, for example, result from a failure to reestablish long-run fiscal sustainability. Although such risks have risen, they remain moderate given the dominant status of U.S. dollar as a reserve currency (accounting for 60 percent of global reserves). Most U.S. foreign assets are denominated in foreign currency and over 50 percent are in the form of FDI and portfolio equity claims, the value of which tends to decline when global growth and stock markets are weak, and when the U.S. dollar appreciates.	**Overall Assessment**: *The U.S. external position was moderately weaker than implied by medium-term fundamentals and desirable policies in 2016.* The U.S. external position, assessed imbalances, and fiscal policy gaps have improved considerably since the crisis. However, the U.S. economy's performance and the divergence of U.S. growth and monetary policy prospects from key trading partners have led to a strengthening of the U.S. dollar since 2014. There is a risk that a shift in the policy mix toward a larger fiscal deficit could lead to a further weakening of the CA and a strengthening of the currency, away from levels justified by medium term fundamentals and desirable policies. However, the possible adoption of far-reaching policy measures (e.g., a corporate tax overhaul, imposition of tariffs, changes in immigration policies) adds substantial uncertainty to this year's assessment. **Potential policy responses**: Over time, fiscal consolidation will be necessary to lower the debt-GDP ratio and should aim for a general government primary surplus of about ¾ percent of GDP (a federal government primary surplus of about 1 percent of GDP). Structural policies should be implemented, within the budgetary envelope implied by a declining fiscal deficit, to raise productivity. These would include infrastructure investment, tax reform, better schooling and training of workers, measures to support the working poor, and policies to increase growth in the labor force. On net, such policies should, over time, raise efficiency, lift productivity, and reduce the CA deficit.
Current account	**Background**. The U.S. current account (CA) deficit has narrowed from its pre-crisis maximum of 6 percent of GDP to 2.4 percent of GDP in 2016, owing to a reduction in the fiscal deficit, higher private saving, lower investment in the aftermath of the financial crisis, and a stronger energy trade balance (reflecting both lower oil prices and the rapid increase of unconventional energy production). 2/ The CA deficit is expected to increase from 2016 through the medium-term as a consequence of a stronger U.S. economy, the recent appreciation of the U.S. dollar and an assumed fiscal expansion. **Assessment**. The EBA model estimates show a cyclically-adjusted CA gap of -1.0 percent of GDP for 2016, partly reflecting policy gaps, but mainly the result of an unidentified policy residual of -0.6 percent of GDP. There is, however, uncertainty about the magnitude of the gap; for instance, related to the discovery of shale oil, which could entail a wealth effect, likely lowering the CA norm and reducing the CA gap somewhat. 3/ The staff's view is that, on balance, the 2016 cyclically-adjusted CA is between -0.7 and -1.7 percent weaker than the level implied by medium-term fundamentals and desirable policies.	
Real exchange rate	**Background**. The real effective exchange rate (REER) appreciated in 2016 by about 3.1 percent compared to 2015. This is due to stronger U.S. economic performance relative to other countries and divergence of U.S. growth and monetary policy prospects from key trading partners. As of May 2017, the REER has appreciated about 0.7 percent relative to the 2016 average. **Assessment.** Indirect estimates of the REER (based on the EBA current account assessment) imply that the exchange rate was overvalued by between 10 to 20 percent in 2016. The EBA REER index analysis suggests an overvaluation of 15.8 percent. Considering all the estimates and their uncertainties, staff assess the 2016 average REER as moderately overvalued within a range of 10 to 20 percent, compared to the level implied by medium-term fundamentals and desirable policies.	
Capital and financial accounts	**Background**. Net financial inflows were about 3 percent of GDP in 2016 substantially below pre-crisis levels of about 5 percent of GDP. Portfolio inflows increased by about 1 percent, year over year, in 2016 but were offset by weaker direct investment and other inflows. There were also further increases in U.S. portfolio investment overseas, but less such outflows than the previous year. The foreign demand for U.S. Treasury securities is likely to be supported further by the stronger outlook for the U.S. economy compared to key trading partners, the status of the dollar as reserve currency and safe haven motives. **Assessment**. The U.S. has a fully open capital account. Vulnerabilities are limited by the dollar's status as a reserve currency and the U.S. role as a safe haven.	

	United States (concluded)	
FX intervention and reserves	**Assessment**. The dollar has the status of a global reserve currency. Reserves held by the U.S. are typically low relative to standard metrics but the currency is free floating.	
Technical Background Notes	1/ The U.S. has a positive net equity position, with sizable portfolio equity and direct investment abroad, and a negative debt position vis-à-vis the rest of the world, owing to sizeable foreign holdings of U.S. Treasuries and corporate bonds. 2/ The oil and gas portion of the CA had a deficit of 0.4 percent of GDP in 2016, compared to a deficit of 0.6 percent of GDP in 2015. 3/ For instance, at an oil price of $60 price per barrel, the implied wealth gains owing to the shale discovery are estimated to lower the current account norm by about 0.25 percentage points of GDP.	

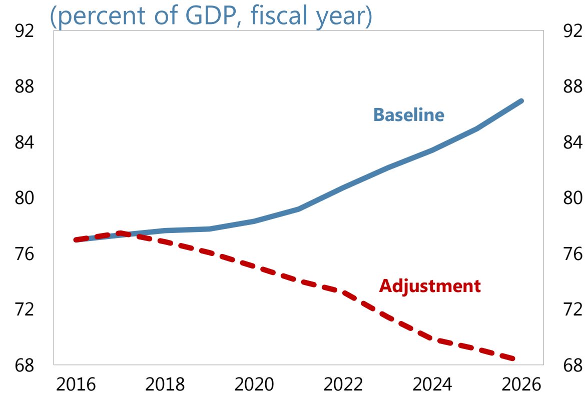
Annex II. Public Debt Sustainability Analysis

The budget deficit in the United States has been reduced significantly over the past few years. Yet, the public debt ratio remains on an unsustainable trajectory over the medium term. Under the baseline scenario, public debt is projected to continue rising as age-related spending pressures on entitlement programs assert themselves and interest rate normalize. Gross financing needs are large, but manageable given the global reserve currency status of the United States. However, a very different composition of adjustment (i.e., with a reprioritization of budget programs, and a revenue-gaining tax reform, both aimed at boosting potential growth) would be more desirable, sustainable and, thus, more credible.

1. **Background**. Significant fiscal consolidation measures were legislated in 2011–13 to tackle the high public debt ratio, which has doubled at the federal government level since 2007 because of the financial crisis and the ensuing recession. The Bipartisan Budget Acts of 2013 and 2015 partially reversed the cuts scheduled to take place in FY2014-2017, replacing them with savings generated through cuts to mandatory spending in later years and, thus, improving the pace and distribution of near-term deficit reduction. On the other hand, the Tax Act of 2015, extended many tax cuts through the medium term and made some permanent, leading to higher deficits in the medium and long term. The President's FY2018 budget suggests a substantial fiscal adjustment in the outer years based on non-defense discretionary spending cuts and curtailment of social assistance programs. Given the significant policy uncertainty, the staff's baseline is based on current laws.

2. **Baseline.** Staff's baseline assumes unchanged policies, except (as in past years) that the automatic spending cuts planned after FY2017 would be partially reversed in a similar way as the deals reached in the Bipartisan Budget Acts of 2013 and 2015. Under the baseline, public debt is projected to continue rising as age-related spending pressures on entitlement programs assert themselves and interest rate normalize. Federal debt held by the public is projected to increase from about 77 percent of GDP in 2016 to around 88 percent of GDP in 2026, with general government gross debt rising from about 107 percent of GDP to around 113 percent of GDP by 2026.

Federal Debt Held by the Public
(percent of GDP, fiscal year)



Source: IMF staff estimates

3. **Adjustment scenario.** The 2016 general government primary deficit was 2.3 percent of GDP. In staff's view, aiming for a medium-term general government primary surplus of about ¾ percent of GDP (a federal government surplus of about 1 percent of GDP) would be appropriate to put the public debt ratio firmly on a downward path. The target primary surplus would have to be higher in the long run to bring the debt ratio closer to pre-crisis levels by 2030.

4. Debt servicing costs. The fiscal projections benefit from the current favorable interest rate-growth differential. Reflecting accommodative monetary policy and the safe-haven status of the United States, real interest rates have fallen well below GDP growth. Under the staff's baseline, the effective interest rate is projected to rise gradually from the current historical lows and reach about 4.3 percent by 2026 (compared to an average of about 3½ percent over 2006–16). Thus, real interest rates will become a major debt-creating flow over the medium-term.

5. Realism. Baseline economic assumptions and fiscal projections are generally within the error band observed for all countries. While ambitious, the projected fiscal adjustment is realistic based on the consolidation episodes observed in 1990–2011.

6. Stress tests. The public debt dynamics are highly sensitive to growth and interest rate assumptions, primarily reflecting the fact that the U.S. public debt ratio already exceeds 100 percent of GDP. An increase of 200 basis points in the sovereign risk premium would mean a debt ratio that is about 10 percentage points above the baseline (i.e., the public debt in 2026 would be around 125 percent of GDP). If real GDP growth turns out to be one standard deviation below the baseline, the public debt would increase by about 10 percentage points above the baseline. A scenario involving a 1 percentage point slippage in the planned consolidation over the next two years would increase public debt by about 5 percentage points above the baseline in 2026. A combined macro-fiscal shock could raise the public debt ratio to as high as 140 percent of GDP by 2026. An exchange rate shock is unlikely to have important implications for debt sustainability in the United States given that all debt is denominated in local currency and the reserve currency status of the dollar.

7. Mitigating factors. The depth and liquidity of the U.S. Treasury market as well as its safe-haven status at times of distress represent a mitigating factor for relatively high external financing requirements.

United States: Public DSA – Baseline Scenario

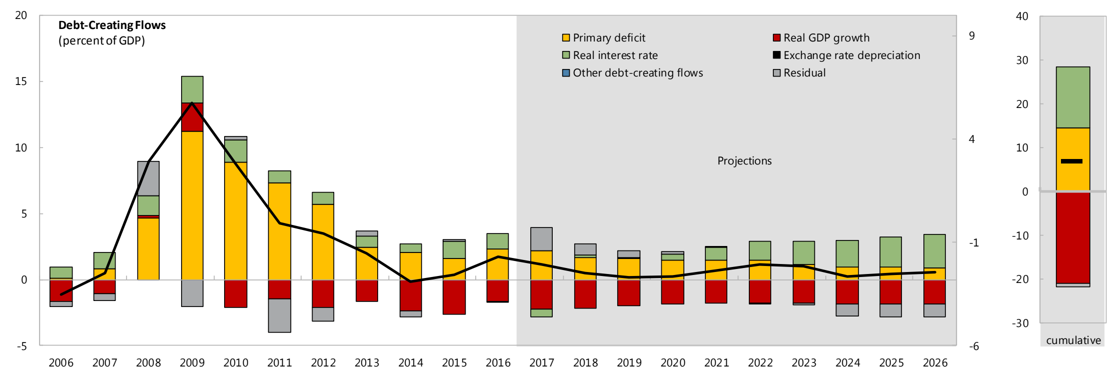
(percent of GDP, unless otherwise indicated)

Debt, Economic and Market Indicators 1/

	Actual			Projections										As of June 30, 2017		
	2006–2014 2/	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Sovereign Spreads		
Nominal gross public debt	88.8	105.6	107.4	108.5	109.0	109.2	109.4	110.1	111.2	112.2	112.4	112.8	113.4	Spread (bp) 3/		184
Public gross financing needs	17.3	13.8	17.2	24.1	20.2	19.4	18.8	20.3	20.0	20.8	20.8	22.0	21.9	CDS (bp)		6
Real GDP growth (percent)	1.3	2.6	1.6	2.1	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	Ratings	Foreign	Local
Inflation (GDP deflator, percent)	1.9	1.1	1.3	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	Moody's	Aaa	Aaa
Nominal GDP growth (percent)	3.2	3.7	3.0	3.9	3.9	4.1	3.9	3.8	3.7	3.7	3.7	3.7	3.7	S&Ps	AA+	AA+
Effective interest rate (percent) 4/	3.5	2.3	2.5	1.2	2.0	2.2	2.6	3.0	3.3	3.6	3.9	4.1	4.3	Fitch	AAA	AAA

Contribution to Changes in Public Debt

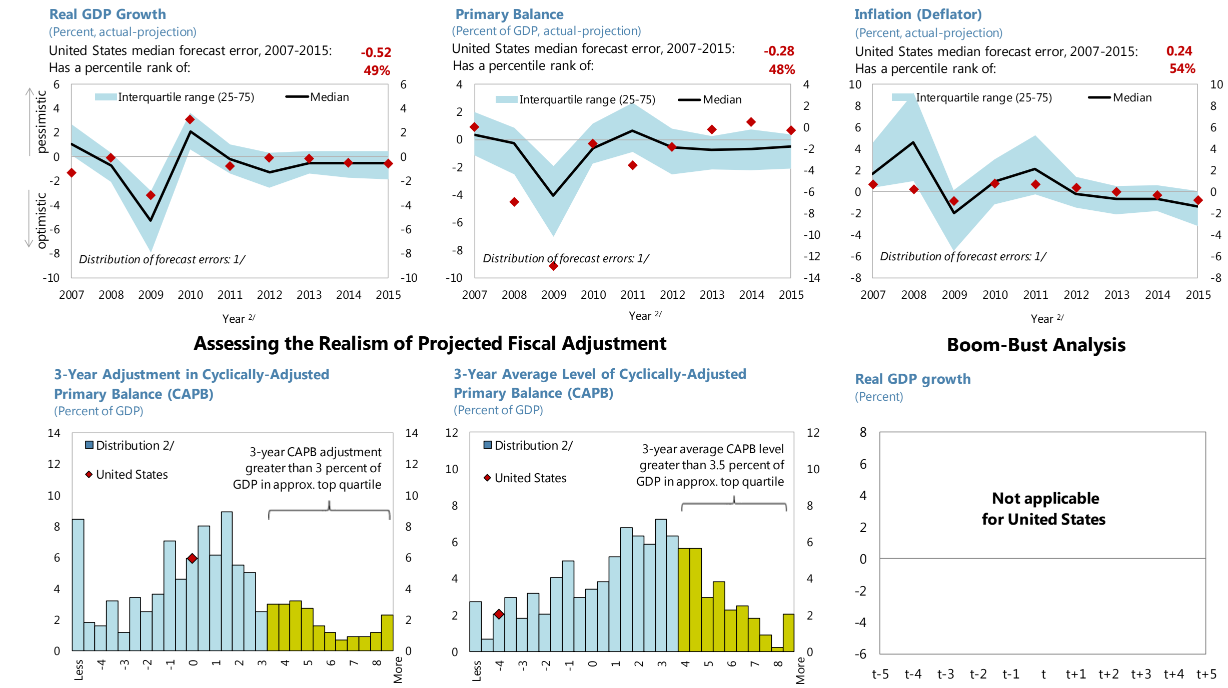
	Actual			Projections											
	2006–2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cumulative	Debt-stabilizing primary balance 9/
Change in gross public sector debt	4.4	0.4	1.7	1.1	0.5	0.2	0.2	0.7	1.1	1.0	0.2	0.4	0.5	6.0	0.7
Identified debt-creating flows	4.8	0.2	1.8	-0.7	-0.4	-0.3	0.1	0.6	1.1	1.1	1.2	1.4	1.6	5.7	
Primary deficit	4.8	1.6	2.3	2.2	1.7	1.6	1.5	1.5	1.5	1.1	0.9	0.9	0.9	13.7	
Primary (noninterest) revenue and grants	29.7	31.3	30.9	30.9	31.2	31.3	31.4	31.5	31.5	31.6	31.6	31.7	31.7	314.4	
Primary (noninterest) expenditure	34.5	32.9	33.2	33.0	32.8	32.9	32.9	32.9	33.0	32.7	32.6	32.6	32.6	328.1	
Automatic debt dynamics 5/	0.0	-1.4	-0.5	-2.8	-2.0	-1.9	-1.4	-0.9	-0.4	0.0	0.2	0.5	0.7	-8.0	
Interest rate/growth differential 6/	0.0	-1.4	-0.5	-2.8	-2.0	-1.9	-1.4	-0.9	-0.4	0.0	0.2	0.5	0.7	-8.0	
Of which: real interest rate	1.2	1.3	1.2	-0.6	0.2	0.1	0.5	0.9	1.4	1.8	2.1	2.3	2.5	11.1	
Of which: real GDP growth	-1.1	-2.6	-1.7	-2.2	-2.2	-2.0	-1.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-19.1	
Exchange rate depreciation 7/	0.0	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net privatization proceeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other liabilities (bank recap. and PSI sweetner)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes 8/	-0.4	0.2	-0.1	1.8	0.9	0.5	0.1	0.1	0.0	-0.1	-1.0	-1.0	-1.0	0.3	



Source: IMF staff
1/ Public sector is defined as general government
2/ Based on available data
3/ Bond Spread over German Bonds
4/ Defined as interest payments divided by debt stock at the end of previous year
5/ Derived as [(r - p(1+g) - g + ae(1+r)]/(1+g+p+gp)) times previous period debt ratio, with r = interest rate; p = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation
6/ The real interest rate contribution is derived from the denominator in footnote 4 as r - π (1+g) and the real growth contribution as -g
7/ The exchange rate contribution is derived from the numerator in footnote 2/ as ae(1+r).
8/ For projections, this line includes exchange rate changes during the projection period. Also includes ESM capital contribution, arrears clearance, SMP and ANFA income, and the effect of deferred interest
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year

United States: Public DSA –Realism of Baseline Assumptions

Forecast Track Record, versus all countries



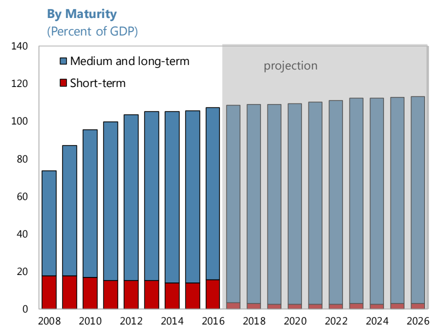
Source : IMF staff

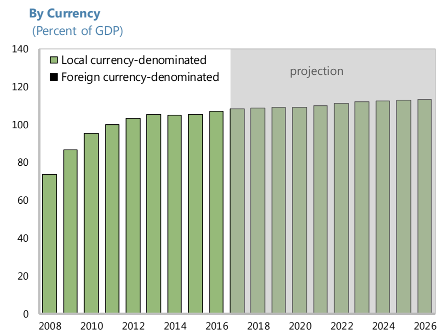
1/ Plotted distribution includes all countries, percentile rank refers to all countries. Projections made in the spring WEO vintage of the preceding year

2/ Data cover annual obervations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis

United States: Public DSA–Composition of Public Debt and Alternative Scenarios

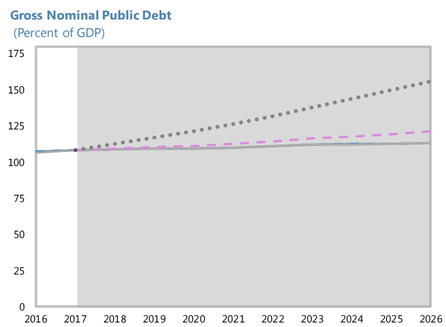
Composition of Public Debt

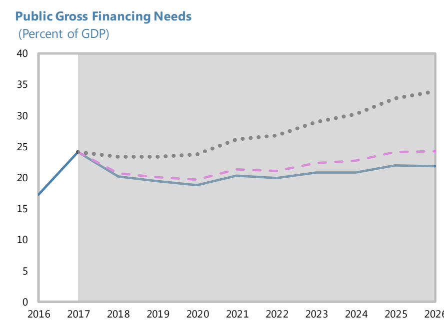




Alternative Scenarios

Baseline Historical Constant Primary Balance





Underlying Assumptions
(Percent)

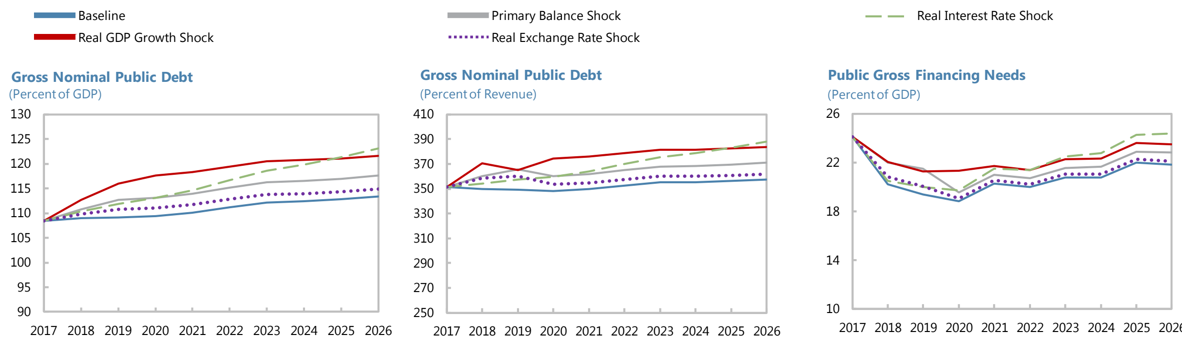
Baseline scenario	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth	2.1	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-1.7	-1.6	-1.5	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.2	2.6	3.0	3.3	3.6	3.9	4.1	4.3
Constant primary balance scenario										
Real GDP growth	2.1	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
Effective interest rate	1.2	2	2	3	3	3	4	4	4	4

Historical scenario	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth	2.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Inflation	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7
Effective interest rate	1.2	2.0	2.5	3.0	3.6	4.1	4.5	4.8	5.0	5.2

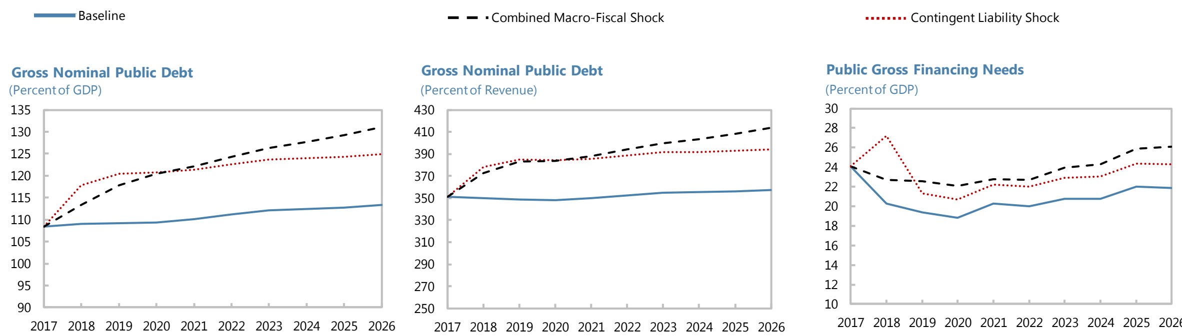
Source: IMF staff

United States: Public DSA–Stress Tests

Macro-Fiscal Stress Tests



Additional Stress Tests



Underlying Assumptions

(Percent)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Primary Balance Shock										
Real GDP growth	2.1	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-3.4	-3.4	-1.5	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.3	2.8	3.1	3.5	3.7	4.0	4.2	4.3
Real Interest Rate Shock										
Real GDP growth	2.1	0.9	0.9	1.2	1.3	1.5	1.5	1.5	1.5	1.5
Inflation	1.8	1.8	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-1.7	-1.6	-1.5	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.4	2.9	3.4	3.9	4.3	4.6	4.9	5.1
Combined Shock										
Real GDP growth	2.1	0.4	0.2	1.2	1.3	1.5	1.5	1.5	1.5	1.5
Inflation	1.8	1.4	1.7	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-3.7	-3.5	-2.8	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.5	3.0	3.5	3.9	4.3	4.6	4.9	5.1

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP Growth Shock										
Real GDP growth	2.1	0.4	0.2	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.4	1.7	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-3.1	-2.5	-2.8	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.3	2.6	3.0	3.4	3.7	3.9	4.1	4.3
Real Exchange Rate Shock										
Real GDP growth	2.1	1.6	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.9	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-2.2	-2.1	-1.5	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.0	2.2	2.6	2.9	3.3	3.6	3.9	4.0	4.2
Contingent Liability Shock										
Real GDP growth	2.1	0.4	0.2	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Inflation	1.8	1.4	1.7	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Primary balance	-2.2	-8.1	-1.6	-1.5	-1.5	-1.5	-1.1	-0.9	-0.9	-0.9
Effective interest rate	1.2	2.1	2.4	2.7	3.1	3.4	3.7	3.9	4.1	4.3

Source: IMF staff

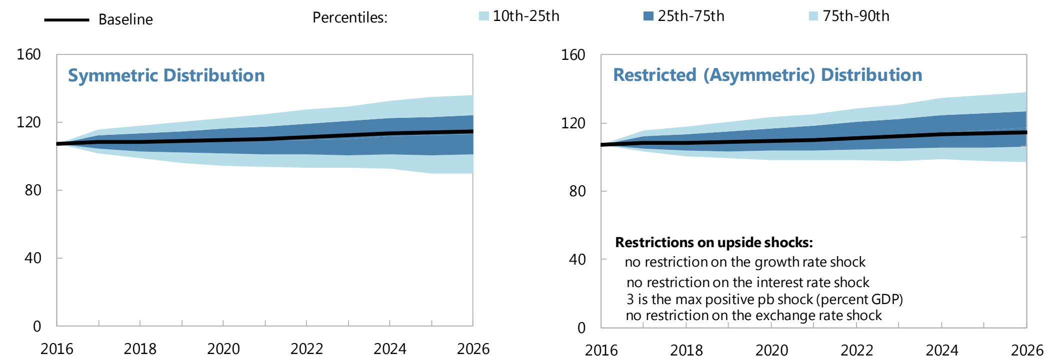
United States: Public DSA–Risk Assessment

Heat Map Baseline (2015-2025)

Debt level 1/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs 2/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile 3/	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

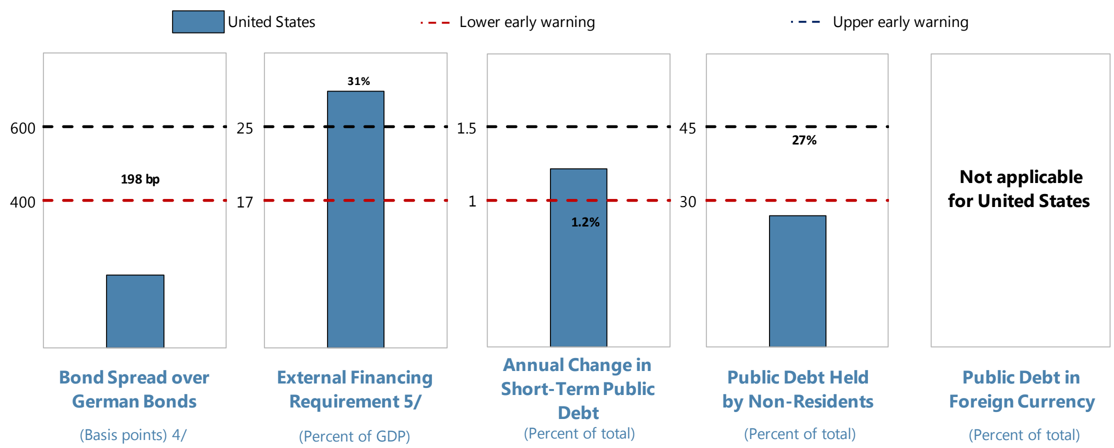
Evolution of Predictive Densities of Gross Nominal Public Debt

(Percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks)



Source: IMF staff

1/ The cell is highlighted in green if debt burden benchmark of 85% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant

2/ The cell is highlighted in green if gross financing needs benchmark of 20% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.

Lower and upper risk-assessment benchmarks are:

400 and 600 basis points for bond spreads; 17 and 25 percent of GDP for external financing requirement; 1 and 1.5 percent for change in the share of short-term debt; 30 and 45 percent for the public debt held by non-residents

4/ An average over the last 3 months, 16-Mar-17 through 14-Jun-17

5/ Includes liabilities to the Eurosystem related to TARGET

Annex III. Implementation of FSAP Recommendations

#	FSAP Recommendation	Developments	Status
	Macroprudential framework and policy		
1	Provide an explicit financial stability mandate to all FSOC member agencies	Several agencies continue to have no explicit legal mandate to support financial stability. As discussed in the 2015 FSAP, this can complicate their input to the Financial Stability Oversight Council (FSOC), and potentially undermines the response to the committee's recommendations and macroprudential coordination. While not all FSOC agencies within their existing authorities have an explicit legal mandate to support financial stability, they all continue to make progress toward financial reforms. Some FSOC agencies, however (including the U.S. federal banking agencies), have, as their responsibilities, key roles in maintaining financial stability.	Not implemented.
2	Include in FSOC Annual Report specific follow-up actions for each material threat identified	The FSOC's 2015 and 2016 Annual Reports discuss in a detailed manner each material threat identified, provides updates on regulations and other measures proposed or implemented in response to each threat, and outlines the research agenda. Specific timelines and responsible agencies are not identified, however	Partially implemented.
3	Publish the current U.S. macroprudential toolkit and prioritize further development	The FSAP recommended that the FSOC should identify when macroprudential tools are needed, and promote the implementation of effective system-wide and time-varying macroprudential tools. The macroprudential toolkit remains to be centrally published, and a prioritization to be made. The FSAP recommended further development and implementation of time-varying macroprudential tools, like the countercyclical capital buffer (CCyB): Necessary final steps on application triggers required to implement the CCyB should be completed; the scope to alter risk-weights on particular types of lending needs to be assessed;	Partially implemented.

		macroprudential tools could be used in the real estate sector (e.g. by varying maximum loan-to-value and debt-to-income ratios). In September 2016, the Federal Reserve (FRB) approved a final policy statement detailing the framework for setting the countercyclical capital buffer (CCyB). The policy statement provides background on the range of financial-system vulnerabilities and other factors the FRB may take into account as it evaluates settings for the buffer, including but not limited to, leverage in the nonfinancial and financial sectors, maturity and liquidity transformation in the financial sector, and asset valuation pressures. Due to the constantly evolving nature of economic and financial risks, the FRB is likely to adapt the range of indicators and models over time.	
4	Expedite heightened prudential standards for designated non-bank systemically important financial institutions (SIFIs)	In 2015, the FRB adopted a comprehensive set of enhanced prudential standards (EPS) for General Electric Capital Corporation, Inc. (GECC), which was designated by the FSOC in July 2013 for Federal Reserve supervision. The EPS included capital and liquidity requirements, capital planning and stress testing requirements, financial risk management requirements, and restrictions on intercompany transactions between GECC and its parent. The FSOC de-designated GECC in June 2016. On June 3, 2016, the FRB approved an advance notice of proposed rulemaking (ANPR) inviting comment on conceptual frameworks for capital standards that could apply to systemically important insurance companies and to insurance companies that own a bank or thrift. The standards would differ for each population of insurance firms supervised by the FRB. In parallel, the FRB approved a notice of proposed rulemaking to apply EPS for the systemically important insurance companies as designated by the FSOC. In line with the Dodd-Frank Act, these proposed standards would apply consistent liquidity, corporate governance, and risk management standards to the firms and require the firms to employ both a chief risk officer and chief actuary.	Partially implemented.

5	Improve data collection, and address impediments to inter-agency data sharing	The Office of Financial Research (OFR) *Interagency Data Inventory* (IDI), which catalogues the data that FSOC member agencies purchase or collect from the industry or derive from other data, had its annual update in March 2017. FSOC member agencies use the inventory for identifying data gaps and for improving research and analysis but, due to specific restrictions to data sharing, the listing of data in the inventory does not necessarily signify that all FSOC member agencies have access to all data sets. In support of FSOC, OFR facilitated a review of data sharing agreements to identify areas for standardization (see OFR 2016 Financial Stability Report) OFR, along with the FRB, New York Federal Reserve, and the Securities Exchange Commission (SEC) have completed pilot data collections about bilateral repurchase agreements (repos) and securities lending activity. The OFR has made the summary of findings publicly available on its website.[1] Steady progress in data collection and sharing is being made, including areas previously identified as those where more work needs to be done: (i) The collection of data on securities lending, and bilateral repos is still at an early stage; (ii) outstanding obstacles to interagency data sharing should be reduced, as recommended in the FSAP. Section 21(c)(7) of the Commodity Exchange Act directs swap data repositories to make swap data available to certain enumerated domestic authorities and any other person the Commodities Futures Exchange Commission (CFTC) determines to be appropriate, which may include certain types of foreign authorities. In 2011, the CFTC adopted rules implementing these statutory swap data access provisions by establishing processes by which various categories of entities could gain access to swap data held by swap data repositories. In January 2017, the CFTC issued a proposed rule to amend the 2011 access requirements such that certain domestic authorities may obtain swap data access efficiently. The domestic authorities include: prudential regulators; the FSOC; the	Partially implemented.

[1] For the summary of the bilateral repo data collection, see https://www.financialresearch.gov/data/repo-data-project/, for the summary of the securities lending data collection, see https://www.financialresearch.gov/data/securities-lending-data-collection-project/.

		S; the Department of Justice; any Federal Reserve Bank; and the OFR. The comment period for the proposed revisions closed in March 2017.	
	Regulation and supervision		
6	Give primacy to safety and soundness in the supervisory objectives of Federal Banking Agencies	The multi-agency framework, which is established by statute, continues to require coordination to avoid duplication of supervision that can potentially result in uncertainty for institutions when rules or guidance appear contradictory. The Federal Financial Institutions Examination Council (FFIEC) is a forum the agencies use to promote consistent approaches to bank supervision, which they also try to achieve through regular informal communication. By statute, consumer protection is the responsibility of the Consumer Financial Protection Bureau (CFPB) and the relevant federal banking agency. To ensure coordination, the federal banking agencies and the CFPB have a memorandum of understanding (MOU) in place that establishes a process to coordinate exam scheduling. The MOU also requires that exam reports be shared and comments considered for those institutions, prior to the report of examination being issued to the institution. The federal banking agencies' mandates are established by statute and have not been redefined since enactment of the DFA, and although safety and soundness have not been given primacy in their supervisory objectives to the exclusion of consumer compliance objectives, federal banking agencies examine for safety and soundness under the Uniform Financial Institutions Rating System.	Partially implemented.
7	Strengthen the banking supervisory framework and limit structures for related party lending and concentration risk; and update guidance for operational and interest rate risk	*Concentration risk:* The FRB issued a final rule in November 2014, Regulation XX, to implement Section 622 of the DFA and establish a financial sector concentration limit. Regulation XX prohibits a financial company from merging or consolidating with, or acquiring control of, another company if the resulting company's liabilities would exceed 10 percent of the aggregate consolidated liabilities of all financial companies. In March 2016, the FRB proposed a rule to address *single-counterparty credit risk*. The proposal would apply credit limits to Bank Holding Companies (BHCs) with total	Partially implemented.

		consolidated assets of $50 billion or more. Specifically: (i) GSIBs would be restricted to a credit exposure of no more than 15 percent of the firm's Tier 1 capital to another systemically important financial firm, and up to 25 percent of the firm's tier 1 capital to another counterparty; (ii) non-GSIB BHCs with $250 billion or more in total consolidated assets, or $10 billion or more in on-balance-sheet foreign exposure, would be restricted to a credit exposure of no more than 25 percent of the firm's tier 1 capital to another counterparty;. (iii) BHCs with $50 billion or more in total consolidated assets would be restricted to a credit exposure of no more than 25 percent of the firm's total regulatory capital to another counterparty; and (iv) BHCs with less than $50 billion in total consolidated assets, including community banks, would not be subject to the proposal. Similarly tailored requirements would also be established for the U.S. operations of foreign banks. However, comparable supervisory guidance on *other risk concentrations* remains to be issued. The separate and additional limits for money market investments and security holdings available to banks (but not federal savings associations) continue to leave open the possibility of excessive risk concentrations. In late 2015, the agencies issued guidance on commercial real estate lending, which includes, among other things, a discussion of the importance of managing concentration risk. *Guidance on operational risk and interest rate risk*: Supervisory guidance and reporting requirements in operational risk have not been updated to reflect FSAP recommendations. The approach to interest rate risk in the banking book does not include specific capital charges or limits being set under Pillar 2. US guidance with respect to IRR instead requires proper oversight of models and analysis of risk under a variety of scenarios. Data is collected at the regulatory level during examinations. *Limit structures for related party lending*: No progress has been made towards implementation of the FSAP recommendation.	

8	Set up an independent insurance regulatory body with nationwide responsibilities and authority	The supervisory and regulatory architecture for insurance firms has not changed.	Not implemented.
9	Implement principle-based valuation standard for life insurers consistently across the states	State insurance regulators' Principle-based Reserving Valuation Manual has become operative on January 1, 2017 for the 45 States and territories that have already adopted the manual (but as of yet some States have not agreed on adopting the standard). Also, this does not automatically mean that standards will be fully harmonized across the States as risk models would still be approved at State level, and legislation leaves some room for interpretation.	Partially implemented.
10	Develop and implement group supervision and group-level capital requirements for insurance companies	In April 2016, the FRB approved proposed consolidated financial reporting requirements for systemically important insurance companies designated by the FSOC. In June 2016, the FRB approved an advance notice of proposed rulemaking (ANPR) inviting comment on conceptual frameworks for capital standards that could apply to systemically important insurance companies and to insurance companies that own a bank or thrift. The standards would differ for each category of insurance firms supervised by the Board. Also in June 2016, the Federal Reserve Board approved a notice of proposed rulemaking to apply enhanced prudential standards for the systemically important insurance companies as designated by the FSOC. As required under the Dodd-Frank Act, these proposed standards would apply consistent liquidity, corporate governance,	Partially implemented.

		and risk management standards to the firms and require the firms to employ both a chief risk officer and chief actuary. State insurance regulators are working through the NAIC to develop a group capital calculation, which would be an additional analysis tool for regulators, but not a quantitative capital requirement. A timeline was developed in late 2016, outlining development work to continue throughout 2017 and 2018. Regarding group supervision, as of June 2017, all 50 states, the District of Columbia and Puerto Rico, have adopted the updated NAIC model holding company act enhancing state insurance regulators' group supervisory authorities.	
11	Provide needed resources to the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) and enhance their funding stability	Publicly available information suggests no progress has been made towards implementation of the FSAP recommendation.	Not implemented.
	Increase examination coverage of asset managers	The FSAP recommended that the SEC needs to be better equipped in order to be able to significantly increase the number of asset manager examinations from the current coverage of only around 10 percent of investment advisers per year. The SEC has continued to take two primary approaches to increasing examination coverage of registered investment advisers. First, the SEC allocated a significant number of new staff to its investment adviser/investment company examination program (IA/IC). Second, the SEC's examination program in fiscal year 2016 transitioned some resources from other parts of the program to IA/IC with a goal of increasing the size of the IA/IC program. SEC staff examined 11% of investment	Partially implemented.

		advisers in fiscal year 2016 and expects to examine 13% of investment advisers in fiscal years 2017 and 2018.	
12	Introduce explicit requirements on risk management and internal controls for asset managers and commodity pool operators	The FSOC has actively reviewed potential risks to financial stability stemming from the asset management industry, and *in April 2016 published an update of its review of asset management products and activities* that expresses FSOC's views on certain matters relating to operational risk in the asset management industry (see further below). The SEC also adopted rules in October 2016 requiring open-end funds to have liquidity risk management programs with certain required elements (see further below).	Partially implemented.
13	Complete the assessment of equity market structure and address regulatory gaps	Since the FSAP, the SEC has issued several significant proposals related to equity market structure that are related to the issues raised in the FSAP recommendations. Specifically, the SEC proposed to enhance operational transparency and regulatory oversight of ATSs. *See* http://www.sec.gov/rules/proposed/2015/34-76474.pdf In addition, the SEC approved the consolidated audit trail, which would enable regulators to efficiently track all trading activity in the U.S. equity and options markets. *See* https://www.sec.gov/rules/sro/nms/2016/34-79318.pdf. The *Equity Market Structure Advisory Committee* is one vehicle by which the SEC gathers data and information about equity market structure and it continues to meet on a quarterly basis. *See* *http://www.sec.gov/spotlight/equity-market-structure-advisory-committee.shtml*. In addition, SEC staff continually evaluates equity market structure. SEC staff analysis is published on the SEC website at http://www.sec.gov/marketstructure/	Partially implemented.
	Stress testing		
14	Conduct liquidity stress testing for banks and nonbanks on a regular basis; run regular network analyses; and	While the Comprehensive Capital Analysis and Review (CCAR) and DFA stress tests continue to take the form of supervisory solvency stress tests in which second-round effects are not explicitly incorporated, they are implicitly captured in a few ways. First, the macro scenarios are based on very severe recessions coupled with significant declines in asset prices. In the past, such recessions have been associated with very weak banking sectors, so the macro dynamics should reflect the amplification effects	Partially implemented.

	link liquidity, solvency, and network analyses	from the banking system. Second, the global market shock is based on the movements of asset prices in the second half of 2008, a period that saw the default of a SIFI and the distress of several systemically important institutions. Thus, market conditions should reflect the "second round" effects of the failure of a major financial company. Third, in implementing the default of the largest counterparty element, participating banks are instructed to compute outcomes if the counterparty whose default would cause the largest losses (under the market conditions described in the market shock) was to default. While this does not capture additional second-round effects beyond those described above, it does guarantee that the first-round effects are as large as possible. Further, as discussed by former Governor Tarullo in his September 2016 speech, the Federal Reserve is undertaking a research program to better understand the quantitative consequences of new risks and business activities, potential amplification channels such as fire sales, and dynamics between capital and liquidity positions. Some of the ideas stemming from that research may inform the evolution of the stress testing regime. Authorities finalized a rule implementing the *Liquidity Coverage Ratio* (LCR), and more recently proposed a *Net Stable Funding Ratio* (NSFR), both for bank holding companies with at least $50 billion in assets. Per definition, the LCR is a short-term liquidity stress test, and banks are expected to pass the underlying stress scenario on a continuous basis. Both required and available stable funding in the NSFR are subject to stress (runoff rates and haircuts on the value of liquid assets). Hence, the NSFR contains elements of a liquidity stress test, as well. However, stress testing exercises, like the DFA stress tests or the CCAR, focus on credit and market risk, not on funding and market liquidity risk. Authorities do not yet conduct, on regular basis, liquidity stress tests on nonbanks. However, the SEC requires MMFs to conduct regular stress tests, including on their liquidity, and certain of the largest broker-dealers are providing additional	

		information regarding their liquidity risk so SEC staff can better monitor the firm’s management of that risk. *Network analysis, and integration with liquidity and solvency stress tests.* The DFA stress tests or the CCAR do not integrate different risk classes beyond credit and market risk. The tests look at banks individually, with contagion and spillover risks entering implicitly though the macro dynamics in the current scenarios rather than explicitly being assessed in the tests. Publicly available information suggests there is no supervisory requirement to integrate in a single framework different risk factors. OFR has conducted research on network models within the context of stress testing and contagion. The Federal Reserve conducts a review of the liquidity stress testing practices, liquidity position, and liquidity risk management practices of systemically important banking organizations through its annual Comprehensive Liquidity Analysis and Review (CLAR) Program. In CLAR, supervisors assess the adequacy of firms' liquidity positions relative to their unique risks and test the reliability of these firms' approaches to managing liquidity risk. CLAR provides a regular opportunity for supervisors to respond to evolving liquidity risks and firm practices over time. CLAR involves evaluations of firms' liquidity positions both through a range of supervisory liquidity metrics and through analysis of firms' internal stress tests. CLAR also includes an examination of the stress tests that each firm uses to make funding decisions and to determine its liquidity needs and an assessment of a range of liquidity risk management practices.	
15	Develop and perform regular insurance stress tests on a consolidated group-level basis	State insurance regulators assess the stress tests performed by insurance companies on a consolidated group-level basis through the Own Risk and Solvency Assessment (ORSA) under the Risk Management and Own Risk Assessment Model Act, which has	Partially implemented.

		been adopted by 47 states and will become an NAIC accreditation requirement on January 1, 2018. Though no macroprudential insurance sector stress testing is performed by regulators, the aforementioned group capital calculation timeline estimates development of a stress testing process could begin in the fall of 2017	
16	Develop and perform regular liquidity stress tests for the asset management industry	The FSOC has actively reviewed potential risks to financial stability stemming from the asset management industry, and *in April 2016 published an update to its review of asset management products and activities*. The update summarized the status of an almost two-year long consultation process with the public, and provided the FSOC's view on areas that require specific attention. The report discussed three proposals issued by the SEC in 2015. The SEC proposals addressed enhanced data reporting for registered investment companies and advisers of separately managed accounts; a strengthening of open-end funds' liquidity risk management and disclosure; and limits to leverage obtained through derivatives transactions by registered investment companies. The FSOC's review focused on five areas: liquidity and redemption risk; leverage; operational functions; securities lending; and firm resolvability and transition planning. As regards liquidity and redemption risks, the FSOC expressed its view regarding certain steps that should be considered to mitigate financial stability risks, including robust liquidity risk management practices for mutual funds, including stress testing; the issuance of guidelines on funds' holdings of less liquid assets; enhanced reporting as well as public disclosure; and the reallocation of redemption costs. In October 2016, the SEC finalized certain of its proposals. The SEC adopted rules requiring that open-end funds have liquidity risk management programs with certain required elements, including an assessment of a fund's liquidity risk that evaluates, among other things, the fund's investment strategy and liquidity of portfolio investments in stressed conditions and the fund's cash flow projections in stressed conditions. The SEC adopted enhanced data reporting provisions_for registered investment companies that requires open-end funds to disclose certain information regarding the liquidity of the funds' holdings and	Partially implemented.

		liquidity risk management practices. The SEC adopted rules permitting open-end funds under certain circumstances to use swing pricing to pass on transaction costs to the shareholders associated with those transactions and to help funds manage liquidity.	
	Market-based finance and systemic liquidity		
17	Change redemption structures for mutual funds (MF) to lessen incentives to run; move all money market mutual funds (MMMFs) to variable net asset value (NAV) approaches	FSOC expressed its views on considering taking steps to allow and facilitate MFs' allocation of redemption costs more directly to investors who redeem shares. Such tools would help reduce first-mover advantage and mitigate the risk that less-liquid asset classes would be subject to fire sales under stressed conditions. It was further stated that regulators should consider assessing which tools could be effective in reducing first-mover advantage and determine the scope of application of such tools. The report welcomed the SEC's September 2015 proposed rule for MFs and ETFs designed to enhance liquidity risk management by funds, provide new disclosures regarding fund liquidity, and allow funds to adopt swing pricing to pass on transaction costs to entering and exiting investors. Regulators should consider issuing guidance on adequate risk management planning, and establish expectations regarding MFs' abilities to meet redemptions under a variety of extreme but plausible stressed market scenarios (stress testing). In October 2016, the SEC adopted rules requiring enhanced data reporting for registered investment companies and advisers of separately managed accounts and mandated that open-end funds have liquidity risk management programs with certain required elements. The SEC also adopted rules permitting open-end funds under certain circumstances to use swing pricing to pass on transaction costs to the shareholders associated with those transactions and to help funds manage liquidity risk. *MMMFs and variable NAV:* IMF staff has long recommended the adoption of floating NAVs for MMMFs, which mandate the daily share prices of these funds to fluctuate with changes in the market-based value of fund assets. The new rules issued by the SEC require floating NAVs for institutional prime MMMFs but allow retail and government	Partially implemented.

		MMMFs to continue using an amortized cost method of pricing where constant NAVs are applied. For the latter group of MMMFs, the rules provide new tools—liquidity fees and redemption gates—to address potential runs but structural vulnerabilities remain. The rules were fully implemented in October 2016.	
18	Complete triparty repo (TPR) reforms and measures to reduce run-risk, including the possible use of a central clearing platforms (CCPs)	The underlying infrastructure of the TPR market, a key stress point in the global financial crisis, has been improved. The amount of intra-day credit extended to collateral providers has been reduced by over 95 percent as a result of changes in practice and process made to adhere to the reform roadmap. Also, clearing banks are now limited to funding a maximum of 10 percent of a dealer's notional tri-party book through pre-committed lines (incurring a capital charge). The TPR market remains vulnerable to fire-sale risk. Furthermore, there is full alignment of the general collateral finance (GCF) repo service offered by one U.S. CCP, which allows securities dealers to enter into repo transactions on a blind brokered basis using U.S. government securities as collateral, with the implementation of the changes to the triparty settlement process per the industry task force's recommendation, and with the U.S. CCP offering the GCF service suspending the inter-dealer GCF repo activity as of July 15, 2016. Risk of fire-sales of collateral by a dealer losing access to repo or by a dealer's creditors: Although the risk of collateral fire-sales has reduced through the introduction of capital and liquidity regulations for broker-dealers, it remains a significant risk that warrants attention. Intraday counterparty risk exposure in the tri-party repurchase (repo) market contracted significantly in recent years. The potential for fire sales of collateral by creditors of a defaulted broker-dealer also remains a significant risk. Additionally, data gaps continue to limit regulators' ability to monitor the aggregate repo market and identify interdependencies among firms and market participants. Regulators will need to monitor market responses to new SEC money market mutual fund (MMF) rules, which	Implemented.

		were fully implemented in October 2016, and assess where there may be unforeseen risks. Regulators also should monitor potential regulatory and data gaps associated with other types of cash management vehicles.	
19	Enhance disclosures and regulatory reporting of securities lending	In early 2016, the Office of Financial Research (OFR), FRB, and SEC completed a *joint securities lending data collection pilot*. The purpose of the pilot data collection was to collect information directly from seven securities lending agents that participated in the pilot project voluntarily. In April 2016, the FSOC expressed its view that without comprehensive information on securities lending activities across the financial system, regulators cannot fully assess financial stability risk, and encouraged efforts to propose and adopt a rule for a permanent collection of data on securities lending Relevant agencies continue to consult on these issues. In October 2016, the SEC adopted new reporting requirements for registered investment companies, which include information on their securities lending activities.	Partially implemented.
20	Strengthen broker-dealer regulation, in particular liquidity and leverage regulations	The U.S. authorities are tackling financial leverage through regulating financial products as well as the types of market participants (of which some are not subject to direct regulation): Broker-dealer requirements, like margin rules for securities transactions, central clearing of derivatives (fostering product standardization and increasing liquidity), as well as newly introduced margin requirements for uncleared swaps constitute important examples of regulatory and supervisory efforts. With respect to liquidity, the SEC proposed funding liquidity stress test requirements for broker-dealers approved to use VaR models to compute capital. In addition, certain of the largest broker-dealers are providing additional information regarding their liquidity risk so SEC staff can better monitor the firm's management of that risk. To reduce the financial stability risk potential of derivatives, US bank swap dealers are now required to collect and post margin on (almost) all swaps that cannot be centrally cleared. The use of uncleared derivatives is thereby made less attractive, and the requirements will encourage the use of standard derivatives that go through central	Partially implemented.

clearinghouses. This measure also helps ensure that a default of a major OTC derivatives market participant would not bring down the system. As CCPs take on such a central role in today's financial markets, it is critical that CCPs be both resilient and resolvable.

In December 2015, the SEC *proposed rules on the use of derivatives by registered investment companies*, limiting leverage generated through derivatives, and requiring formalized risk management programs for funds with particularly complex derivatives structures.

In October 2015, FRB, Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC), Farm Credit Administration (FCA), and Federal Housing Finance Agency (FHFA) issued a *final rule on capital and margin requirements for common swap entities* (swap dealers, key swap participants, security-based swap dealers and participants). In parallel, the agencies issued another final rule that specified which non-cleared swaps and security-based swaps are exempted from the general rule. Compliance with the initial margin and variation margin requirements was effective for the largest participants in September 2016. Variation margin became effective for the remaining participants in March 2017. Initial margin is to be phased-in each year through September 2020 for the remaining participants based on declining notional amounts

The European Commission (EC) and the CFTC last year reached agreement on the Common Approach for Transatlantic CCPs OTC Derivatives Reform agenda, which will allow the European Securities and Markets Authority (ESMA) to recognize U.S. CCPs as 'equivalent' to EU CCPs for the purpose of providing their services in the European Union (EU) while complying with CFTC requirements. Reciprocally, EU CCPs will also be permitted to provide services to U.S. clearing members and clients while complying with certain corresponding EU requirements. As a result, derivatives clearing become harmonized across the Atlantic. However, international bodies and supervisory bodies

		should continue to develop standards and rules as market infra- and microstructure evolves. Broader international harmonization of standards, beyond the U.S.-EU, would help reduce the potential for regulatory arbitrage, and further enhance the stability of critical market infrastructure.	
21	Improve data availability across bilateral repo/triparty repo and securities lending markets	The OFR's *Bilateral Repo Data Collection Pilot Project* aims at collecting data about bilateral repos (see above). Data on the triparty and GCF repo markets are published regularly. In October 2016, SEC's adopted new reporting requirements for registered investment companies, which include information about their securities lending activities. Despite these efforts, considerably more work needs to be done with respect to data collection on securities lending where data is scarce. Also, information collection on securities lending and bilateral repos is still at an early stage.	Partially implemented.
	Liquidity backstops, crisis preparedness, and resolution		
22	Revamp the Primary Credit Facility as a monetary instrument	The Federal Reserve is evaluating a number of key elements of its long-run operating framework and this idea is being studied as part of the project.	Not implemented.
23	Enable the Fed to lend to solvent non-banks that are designated as systemically important	In November 2015, the Federal Reserve approved a *final rule specifying its procedures for emergency lending* under Section 13(3) of the Federal Reserve Act. Since the passage of the DFA in 2010, the FRB's emergency lending activity has been limited to programs and facilities with "broad-based eligibility" that have been established with the approval of the Secretary of the Treasury. The rule provides greater clarity regarding the FRB's implementation of limitations to emergency lending, and other statutory requirements. The final rule defines "broad-based" to mean "a program or facility that is not designed for the purpose of aiding any number of failing firms and in which at least five entities would be eligible to participate." These additional limitations are consistent with and provide further support to the revisions made by the DFA that a program should not be for the purpose of aiding specific companies to avoid	

		bankruptcy or resolution. Solvent non-banks that have been designated as systemically important by the FSOC would be able to participate in these programs to the extent they satisfy the applicable facility eligibility requirements.	
24	Assign formal crisis preparedness and management coordinating role to FSOC	Crisis preparedness and management has not been formally assigned to the FSOC. Publicly available information suggests no progress has been made towards implementation of the FSAP recommendation.	Not implemented.
25	Extend the Orderly Liquidation Authority powers to cover systemically-important insurance companies and U.S. branches of foreign-owned banks	Systemically important U.S. insurance holding companies can be resolved using Orderly Liquidation Authority (OLA) powers. The resolution of individual legal entity insurance company subsidiaries, however, falls to the State-based resolution regime, under which States have tools available to address insurance company insolvencies and/or liquidations. The State-based resolution regimes related to the resolution of insurance company subsidiaries, which have tools available to address failed insurance companies through liquidation or runoff, have been successfully used in the past, but have not been tested on insurance company subsidiaries of a systemically important holding company. To the extent a foreign bank has branches in the United States, a Single Point of Entry resolution strategy generally would not affect such branches.	Partially implemented.
26	Adopt powers to support foreign resolution measures; extend preference to overseas depositors	To the extent insured depository institutions enter resolution under the FDI Act, the depositor preference rules applicable to insured depository institutions can complicate effective coordination by potentially increasing the likelihood of ring-fencing of foreign branches by host authorities. However, host authorities could take mitigating action by requiring branches in their jurisdiction to amend deposit agreements to include statutorily required language that would extend preference to depositors of such branches.	Partially implemented.

27	Finalize recovery and resolution plans for SIFIs, agree cooperation agreements with overseas authorities	Important steps have been made towards implementing effective recovery and resolution frameworks. The U.S. supervisory authorities place responsibility for the recovery planning process on the firm's senior management. The board of directors of the firm is responsible for oversight of the firm's recovery planning process. Recovery plans are updated at least annually. On September 29, 2016, OCC issued guidelines that establish enforceable standards for recovery planning by its supervised institutions with average total consolidated assets of $50 billion or more. The final guidelines provide that a covered bank should develop and maintain a recovery plan that identifies triggers, which are quantitative or qualitative indicators of the risk or existence of severe stress, and the breach of a trigger should always be escalated to senior management, the board of directors (board), or an appropriate committee of the board, as appropriate, for purposes of initiating a response. To identify triggers that appropriately reflect the particular vulnerabilities of a covered bank, the bank should design severe stress scenarios that would threaten its critical operations or cause the covered bank to fail if one or more recovery options were not implemented in a timely manner. The plan should identify a wide range of credible options that a covered bank could undertake in response to severe stress to restore its financial strength and viability. A recovery plan should include an assessment and description of how each credible option would affect the covered ban and address escalation procedures, management reports, and communication procedures. To prepare for the implementation of its resolution authority under Title II of the Dodd-Frank Act, the FDIC has developed resolution plans for G-SIFIs and has included in each plan a resolution strategy and an operational plan that meet the requirements of the applicable *Key Attributes* and relevant annexes thereto. Furthermore, the establishment of *living wills* is an essential requirement from the DFA, where SIFIs and certain other firms are asked to design, and submit for review to the	Partially implemented.

		FRB and the FDIC, concise plans explaining their orderly resolution under bankruptcy. The Fed and the FDIC have issued substantial guidance on resolvability, and the Fed and FDIC have reviewed several iterations of plans from U.S. BHCs and foreign banks with at least $50 billion of assets, and substantial progress has been made in improving the resolvability of firms. For certain firms which were advised in April 2016 that more work on their plans was needed the authorities have subsequently determined that all of the identified deficiencies (see 2016 Staff Report) in these firms' plans have been remediated. Progress made includes firms' adherence to the ISDA 2015 Universal Resolution Stay Protocol; maintenance of long-term debt issued from the top-tier parent holding company to potentially absorb losses; steps to ensure operational continuity on both an intra-company and third-party basis; continued legal entity rationalization; and enhanced capability to monitor liquidity needs. Firm-specific cooperation agreements that meet the requirements of the relevant *Key Attributes* and relevant annexes thereto have been executed for all U.S. G-SIBs and for one U.S. G-SII. In December 2016, the Federal Reserve Board approved a final rule that imposes total loss absorbing capacity (TLAC) and long-term debt requirements on the eight U.S. GSIBs and on the U.S. intermediate holding companies (IHCs) of foreign GSIBs. The final rule is consistent with the FSB TLAC standard, but is stricter in a few respects. The final rule also imposes clean holding company requirements on GSIBs.	
	Financial market infrastructures (FMIs)		
28	Identify and manage system-wide risks related to interdependencies among FMIs, banks, and markets	Progress has been made towards implementation of the FSAP recommendation. The Federal Reserve Board of Governors (FRB), the SEC, and the CFTC continue efforts to increase the resilience and recoverability of financial market infrastructures (FMIs), with particular emphasis on central counterparties (CCPs). U.S. authorities advanced domestic efforts and continued to extensively participate and contribute to numerous international work streams.	Implemented.

		Domestically, U.S. authorities have undertaken several important efforts, including the following: • U.S. authorities have adopted risk management standards for systemically important FMIs, including expectations for recovery and orderly wind-down planning. • With respect to recovery, U.S. authorities have implemented regulatory requirements for recovery plans, initial versions of which have been completed. Authorities are examining the viability and comprehensiveness of the completed plans. • The authorities also are actively engaging in resolution planning for systemic CCPs. In 2017, the FDIC, the CFTC, and the SEC co-hosted the inaugural crisis management group (CMGs) meetings for two U.S. systemic CCPs-the Chicago Mercantile Exchange and Ice Clear Credit, LLC. • In October 2016, the FRB, the FDIC, and Office of the Comptroller of the Currency, issued an advance notice of proposed rulemaking (ANPR) regarding enhanced cyber risk management standards for large and interconnected entities under the agencies' respective supervision and those entities' service providers, including FMIs. In September, 2016, the CFTC issued final cybersecurity testing rules for FMIs and markets. International efforts include the following: • The U.S. authorities participated in the Study Group in Central Counterparty Independencies (SGCCI), which was established by the Financial Stability Board (FSB), the International Organization of Securities Commissions (IOSCO), and the Basel Committee on Banking Supervision (BCBS) to identify, quantify and analyze interdependencies between CCPs and major clearing members. The		

		results from the SGCCI's analysis are scheduled to be published in late June of 2017. • The U.S. authorities, as members of CPMI-IOSCO, participated extensively in the drafting of the CPMI-IOSCO's consultative draft on the Framework for Supervisory Stress Testing of CCPs, the consultative and final report on CPMI-IOSCO's Resilience of Central Counterparties (CCPs): Further Guidance on the PFMI, and the consultative and the final report Recovery of FMIs. The consultative versions of the relevant reports were published in August of 2016, and the final versions of the same are scheduled to be published in late June of 2017. U.S. authorities also contributed to CPMI-IOSCO's report on "Guidance on cyber resilience for financial market infrastructures" published in June 2016. • U.S. authorities have also participated in the FSB work streams on resolution of CCPs and the continuity of access to FMIs for members in resolution. Continued work on, stress-testing interdependencies between financial institutions, market infrastructures and financial markets would allow arriving at a holistic view regarding financial stability risks.	
	Offer Fed accounts to designated Financial Market Infrastructures (FMUs) to reduce dependencies on commercial bank services	By October 2016, the Federal Reserve Bank of Chicago authorized three U.S. clearing houses, run by CME Group and Intercontinental Exchange, and the Options Clearing Corporation, to *open accounts at the central bank*. The measure has been possible as clearing houses have been designated as systemically important utilities.	Implemented.

	Housing finance		
29	Reinvigorate the momentum for comprehensive housing market reform	Housing finance and the U.S. housing market have not been reformed comprehensively. To date, no legislative or executive action has been taken to reduce substantially the footprint of Government Sponsored Entities (GSEs). However, as conservator, FHFA has required market-based credit risk transfers from the GSEs to the private sector. Also, since 2015, the GSEs have been directed by their conservator, the Federal Housing Finance Agency (FHFA), to fund the Housing Trust Fund and Capital Magnet Funds (as required by the 2008 Housing and Economic Recovery Act) by transferring a portion of total new acquisitions to the Housing Trust Fund. FHFA has the discretion to suspend the Enterprise allocations to the affordable housing funds, including the Housing Trust Fund, if the allocations are contributing to the Enterprise’s financial instability. Moreover, the Senior Preferred Stock Purchase Agreements (PSPA’s) are sources of strength for the GSE’s. Indeed, the PSPA’s between the Treasury and each Enterprise both ensure the ability of each Enterprise to meet its financial obligations and to ensure that they will have minimal net worth as all profits above the capital reserve amount are transferred to Treasury each quarter. The capital reserve amount has been declining by $600 million per year and is scheduled to decline to $0 on January 1, 2018. That declining capital retention amount is expected to spur momentum for housing finance reform. The *“Qualified Mortgage”* (QM) rule (September 21, 2015) will stimulate the housing market further, as it provides smaller banks with protection against lawsuits under the Ability-to-repay regulation. This could in fact mean a competitive advantage for the smaller banks, as well as broader extension of housing credit in general. Perhaps this advantage can compensate for their low economies of scale in the high fixed-cost mortgage business. Large banks, on the other hand, continue to tighten standards and	Not implemented.

		reduce mortgage exposure, resulting in an increase in nonbanks' market share (see list of risks further below). Policymakers have been evaluating and developing a potential comprehensive overhaul of the mortgage finance system over eight years after the federal government took control of Fannie Mae and Freddie Mac that could shrink or eventually close the two entities and create a system with more private capital. The Congressional Budget Office (CBO) has provided analyses on these issues. One such analysis prepared at the request of the Chairman of the House Committee on Financial Services, analyzed alternatives for attracting more private capital to the secondary mortgage market and alternative structures for that market, including a fully federal agency, a hybrid, public-private market, a market with a government guarantor of last resort, and a largely private secondary market. The Senate Banking Committee is currently working on comprehensive housing finance reform and has started a series of hearings and meetings. In addition, on June 12, 2017, the Department of the Treasury published a comprehensive report containing recommendations for the financial regulation of banks and credit unions ("A Financial System that Creates Economic Opportunities: Banks and Credit Unions"). In 2017, the House passed the Financial Choice Act legislation, which has emphasized providing regulatory relief for small banks and credit unions and replacing the Dodd-Frank Act.	

Annex IV. Response to Past Policy Advice

1. Fiscal policy. Public finances remain on an unsustainable path. Over the last few years, staff has emphasized the importance of fixing long standing fiscal problems and normalize the budget process. The Bipartisan Budget Acts of 2013 and 2015 were welcome steps but these agreements did not address the sustainability of public finances over the medium term. Staff has advocated adopting a medium-term fiscal consolidation plan to restore long-run fiscal sustainability, stressing that early action is needed to slow entitlement spending. Anchored by such a plan, staff called for expanding the near-term budget envelope through specific measures—including front-loaded infrastructure spending, a better tax system, active labor market policies, and improving educational spending, with these measures funded by offsetting savings in future years. As part of the Bipartisan Budget Act and Protecting Americans from Tax Hikes Act, the authorities did expand the near-term deficit and made permanent various tax measures (including improvements to the EITC, the research and experimentation tax credit, and child tax credit advocated by staff).

2. Financial policies. Based on the 2010 and 2015 FSAPs, staff has recommended multiple steps to tackle financial sector risks, particularly those related to activities in nonbank intermediaries. Substantial progress has been made on the national and global financial reform agenda over the last few years, and many of the policy suggestions have been implemented. These include enhanced capital and liquidity buffers, strengthened underwriting standards in the housing sector, greater transparency to mitigate counterparty risks, as well as progress in collecting more comprehensive information to assess risks. Still, several reforms emphasized by staff remain to be completed, such as addressing remaining vulnerabilities of the money market funds and the tri-party repo market, reducing data blind-spots, better risk management and stress testing of asset managers, enhancing the effectiveness of the FSOC, simplifying the institutional structure for financial oversight, and increasing the resilience of the insurance sector.

3. Structural policies. Staff has recommended structural measures to counter the slowdown in potential growth and high poverty rates, including further expanding the EITC, increasing the minimum wage, investing in infrastructure and education, improving the tax system, using active labor market policies, and implementing a broad, skills-based approach to immigration reform. Some states and localities have increased minimum wages and mandated paid family leave. Building political consensus on a reform of the tax system in the direction envisaged by staff (a less complex system with a broader tax base and lower rates) is still very uncertain. Little progress has been made to increase public investment in infrastructure. Support for immigration reform is elusive and there is no plan to raise the gas tax, introduce a VAT or a carbon tax, or to reorient the education system.

4. Housing finance. Staff has stressed policy measures to encourage greater availability of mortgage credit, while clarifying the future role of government in housing finance. Administrative measures have been taken to lessen regulatory uncertainties and to transfer risks from the agencies to private investors through market transactions but more could be done in this direction without legislation (see 2015 Selected Issues Paper). Legislative proposals to more fundamentally reshape housing finance have made little headway.

INTERNATIONAL MONETARY FUND

UNITED STATES

July 6, 2017

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By	The Western Hemisphere Department (in consultation with other departments)

CONTENTS

FUND RELATIONS

(As of May 31, 2017)

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)	75,258.50	90.68
Reserve Tranche Position	7,771.92	9.36
Lending to the Fund		
New Arrangements to Borrow	5,894.59	

SDR Department:	**SDR Million**	**Percent of Allocation**
Net cumulative allocation	35,315.68	100.00
Holdings	36,380.76	103.02

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				
	2017	2018	2019	2020	2021
Principal					
Charges/Interest		1.05	1.05	1.05	1.05
Total		1.05	1.05	1.05	1.05

[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 June 3, 2016.

Article IV Consultation. The 2017 Article IV consultation was concluded on July 24, 2017 and the Staff Report was published as IMF Country Report No. [17/xxx]. A fiscal Report of Observance of Standards and Codes was completed in the context of the 2003 consultation.

The 2017 Article IV discussions took place May 15–June 16, 2017. Concluding meetings with Chair Yellen of the Board of Governors of the Federal Reserve System, and Treasury Secretary Mnuchin occurred on June 20. The Managing Director, Ms. Lagarde, the Deputy Managing Director, Mr. Zhang, and WHD Director, Mr. Werner, participated in the concluding meetings. A press conference on the consultation was held on June 27, 2017. The team comprised Nigel Chalk (head), Yasser Abdih, Ali Alichi, Stephan Danninger, Emanuel Kopp, Andrea Pescatori, Damien Puy (all WHD), Celine Rochon, Sandra Lizarazo and Elizabeth Heuvelen (SPR), Thornton Matheson and Adrian Peralta (FAD). Mr. Sunil Sabharwal (Executive Director), Mr. Mark Sobel (Senior Advisor), and Ms. Mary Svenstrup (Advisor) attended some of the meetings. Outreach included discussions with Congressional staff, U.S. Chamber of Commerce, AFL-CIO, 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

Statistical Issues. Comprehensive economic data are available for the United States on a timely basis. The quality, coverage, periodicity, and timeliness of U.S. economic data are adequate for surveillance. The United States adheres to the Special Data Dissemination Standard Plus and its metadata are posted on the Dissemination Standards Bulletin Board..

United States: Table of Common Indicators Required for Surveillance
(As of June 28, 2017)

	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]	2017 M4	May 26	M	M	M
Reserve/base money	June 22	June 22	W	W	W
Broad money	June 22	June 22	W	W	W
Central bank balance sheet	June 22	June 22	W	W	W
Interest rates[3]	Same day	Same day	D	D	D
Consumer price index	2017 M5	June 14	M	M	M
Revenue, expenditure, balance and composition of financing[4]—general government[5]	2017 Q1	May 30	Q	Q	Q
Revenue, expenditure, balance and composition of financing[4]—central government	2017 M5	June 12	M	M	M
Stocks of central government and central government-guaranteed debt	2017 M5	June 7	M	M	M
External current account balance	2017 Q1	June 20	Q	Q	Q
Exports and imports of goods and services	2017 M4	June 2	M	M	M
GDP/GNP (2nd release)	2017 Q1	May 26	Q	M	M
Gross External Debt	2016 Q4	March 31	Q	Q	Q
International Investment Position[6]	2017 Q1	June 28	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.