

UNITED STATES: 2015 ARTICLE IV
CONSULTATION—PRESS RELEASE; STAFF REPORT



UNITED STATES

2015 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT

July 2015

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 2015 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 6, 2015 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 6, 2015, following discussions that ended on June 3, 2015, with the officials of the United States on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 18, 2015.
- An **Informational Annex** prepared by the IMF staff.
- A **Staff Statement** updating information on recent developments.

The documents listed below have been or will be separately released.

Selected Issues
Financial Stability System Assessment

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



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July 7, 2015

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IMF Executive Board Concludes Article IV Consultation with United States

On July 6, 2015, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with the United States.¹

The U.S. economy's momentum in the first quarter was sapped by unfavorable weather, a sharp contraction in oil sector investment, and the West Coast port strike. But the underpinnings for a continued expansion remain in place. A solid labor market, accommodative financial conditions, and cheaper oil should support a more dynamic path for the remainder of the year. Despite this, the weaker outturn in the first few months of this year will unavoidably pull down 2015 growth, which is now projected at 2.5 percent. Stronger growth over the next few years is expected to return output to potential before it begins steadily declining to 2 percent over the medium term.

Inflation pressures remain muted. In May headline and core personal consumption expenditure (PCE) inflation declined to 0.2 and 1.2 percent year on year, respectively. Long-term unemployment and high levels of part-time work both point to remaining employment slack, and wage indicators on the whole have shown only tepid growth. When combined with the dollar appreciation and cheaper energy costs, inflation is expected to rise slowly starting later in the year, reaching the Federal Reserve's 2 percent medium-term objective by mid 2017.

An important risk to growth is a further U.S. dollar appreciation. The real appreciation of the currency has been rapid, reflecting cyclical growth divergences, different trajectories for monetary policies among the systemically important economies, and a portfolio shift toward U.S. dollar assets. Lower oil prices and increasing energy independence have contained the U.S. current account deficit, despite the cyclical growth divergence with respect to its main trading partners and the rise in the U.S. dollar. Nevertheless, over the medium term, at current levels of

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 real exchange rate, the current account deficit is forecast to widen toward 3.5 percent of GDP.

Despite important policy uncertainties, the near term fiscal outlook has improved, and the federal government deficit is likely to move modestly lower in the current fiscal year. Following a temporary improvement, the federal deficit and debt-to-GDP ratios are, however, expected to begin rising again over the medium term as aging-related pressures assert themselves and interest rates normalize. In the near-term, the potential for disruption from either a government shutdown or a stand-off linked to the federal debt ceiling represent important (and avoidable) downside risks to growth and job creation that could move to the forefront, once again, later in 2015.

Much has been done over the past several years to strengthen the U.S. financial system. However, search for yield during the prolonged period of low interest rates, rapid growth in assets in the nonbank sector, and signs of stretched valuations across a range of asset markets point to emerging pockets of vulnerabilities. The more serious risks are likely to be linked to: (1) the migration of intermediation to the nonbanks; (2) the potential for insufficient liquidity in a range of fixed income markets that could lead to abrupt moves in market pricing; and (3) life-insurance companies that have taken on greater market risk. But several factors mitigate these downsides. In particular, the U.S. banking system has strengthened its capital position (Tier 1 capital as a ratio of risk-weighted assets is at about 13 percent) and appears resilient to a range of extreme market and economic shocks. In addition, overall leverage does not appear excessive, household and corporate balance sheets look generally healthy, and credit growth has been modest.

The consultation focused on the prospects for higher policy rates and the outlook for, and policy response to financial stability risks, integrating the findings of the latest IMF Financial Sector Assessment Program for the U.S.

Executive Board Assessment²

Executive Directors agreed with the thrust of the staff appraisal. They noted that the economic recovery continues to be underpinned by strong fundamentals, despite a temporary setback, while risks remain broadly balanced. Directors observed that considerable uncertainties, both domestic and external, weigh on the U.S. economy, with potential repercussions for the global economy and financial markets elsewhere. These include the timing and pace of interest rate increases, prospects for the dollar, and risks of weaker global growth. Directors stressed that

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>.

managing these challenges, as well as addressing longstanding issues of public finances and structural weaknesses, are important policy priorities in the period ahead.

Directors agreed that decisions on interest rate increases should remain data-dependent, considering a broad range of indicators and carefully weighing the trade-offs involved. Specifically, they saw merit in awaiting clear signs of wage and price inflation, and sufficiently strong economic growth before initiating an interest rate increase. Noting the importance of the entire path of future policy rate changes, including in terms of the implications for outward spillovers and for financial markets, Directors were reassured by the Federal Reserve's intention to follow a gradual pace of normalization. They welcomed the Federal Reserve's efforts, and commitment to continue, to communicate its policy intentions clearly and effectively. Directors acknowledged that financial stability risks could arise from a protracted period of low interest rates. In this regard, they underscored the importance of strong regulatory, supervisory, and macroprudential frameworks to mitigate these risks.

Directors commended the authorities for the progress in reinforcing the architecture for financial sector oversight. They concurred with the main findings and recommendations of the Financial Sector Assessment Program assessment. Directors highlighted the need to complete the regulatory reforms under the Dodd-Frank Act and to address emerging pockets of vulnerability in the nonbank financial sector. They encouraged continued efforts to monitor and manage risks in the insurance sector, close data gaps, and improve the effectiveness of the Financial Stability Oversight Council while simplifying the broader institutional structure over time. Directors looked forward to further progress in enhancing cross-border cooperation among national regulators, and the framework for the resolution of cross-jurisdiction financial institutions.

Directors noted that there remain a range of challenges linked to fiscal health, lackluster business investment and productivity growth, and growing inequality. They agreed that reforms to the tax, pension, and health care systems will help create space for supporting near-term growth, including through infrastructure investment. Directors reiterated the need for a credible medium-term fiscal strategy that would anchor ongoing consolidation efforts, underpin debt sustainability, and reduce fiscal uncertainties. They called for renewed efforts to implement structural reforms to boost productivity and labor force participation, tackle poverty, address remaining weaknesses in the housing market, and advance the multilateral trade agenda.

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

| United States: Selected Economic Indicators 1/ (percentage change from previous period, unless otherwise indicated) | | | | | | | |
|--|-----------------------------|-------|-------|-------|-------|-------|-------|
| | Projections | | | | | | |
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| National production and income | | | | | | | |
| Real GDP | 2.4 | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 |
| Net exports 2/ | -0.2 | -0.7 | -0.5 | -0.4 | -0.4 | -0.3 | -0.3 |
| Total domestic demand | 2.5 | 3.0 | 3.5 | 3.0 | 2.7 | 2.5 | 2.2 |
| Final domestic demand | 2.5 | 2.9 | 3.5 | 3.0 | 2.8 | 2.5 | 2.2 |
| Private final consumption | 2.5 | 3.1 | 3.4 | 2.8 | 2.6 | 2.5 | 2.1 |
| Public consumption expenditure | 0.4 | 0.8 | 1.2 | 1.1 | 1.0 | 1.2 | 1.0 |
| Gross fixed domestic investment | 3.9 | 3.8 | 5.6 | 5.2 | 4.4 | 3.5 | 3.4 |
| Private fixed investment | 5.3 | 4.6 | 6.5 | 6.1 | 5.2 | 3.9 | 3.8 |
| Equipment and software | 6.4 | 5.5 | 7.2 | 7.0 | 5.7 | 3.7 | 4.3 |
| Intellectual property products | 3.8 | 4.1 | 4.0 | 3.8 | 3.7 | 3.0 | 2.3 |
| Nonresidential structures | 8.2 | -1.2 | 3.7 | 3.0 | 3.0 | 2.2 | 2.1 |
| Residential structures | 1.6 | 6.5 | 10.4 | 9.3 | 7.4 | 5.7 | 5.0 |
| Public fixed investment | -2.5 | 0.1 | 1.2 | 0.8 | 0.4 | 1.2 | 1.2 |
| Change in private inventories 2/ | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nominal GDP | 3.9 | 3.3 | 4.5 | 4.6 | 4.7 | 4.6 | 4.2 |
| Personal saving rate (% of disposable income) | 4.9 | 5.3 | 5.2 | 5.2 | 5.2 | 5.0 | 4.9 |
| Private investment rate (% of GDP) | 16.4 | 16.8 | 17.3 | 17.7 | 18.1 | 18.2 | 18.4 |
| Unemployment and potential output | | | | | | | |
| Unemployment rate | 6.2 | 5.4 | 5.1 | 5.0 | 4.9 | 4.8 | 5.0 |
| Potential GDP | 1.9 | 2.0 | 2.1 | 2.2 | 2.2 | 2.2 | 2.1 |
| Output gap (% of potential GDP) | -2.0 | -1.6 | -0.7 | -0.2 | 0.0 | 0.2 | 0.0 |
| Inflation | | | | | | | |
| CPI inflation (q4/q4) | 0.6 | 0.0 | 1.7 | 2.2 | 2.4 | 2.4 | 2.3 |
| Core CPI Inflation (q4/q4) | 0.6 | 0.0 | 1.7 | 2.2 | 2.4 | 2.4 | 2.3 |
| PCE Inflation (q4/q4) | 0.7 | 0.7 | 1.4 | 1.9 | 2.2 | 2.2 | 2.0 |
| Core PCE Inflation (q4/q4) | 1.4 | 1.3 | 1.6 | 2.0 | 2.2 | 2.1 | 2.0 |
| GDP deflator | 1.5 | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 |
| Government finances | | | | | | | |
| Federal government | (budget, fiscal years) | | | | | | |
| Federal balance (% of GDP) | -3.2 | -2.8 | -3.0 | -2.6 | -2.5 | -2.9 | -3.2 |
| Debt held by the public (% of GDP) | 74.0 | 74.9 | 75.3 | 75.0 | 74.5 | 74.4 | 74.8 |
| General government | (GFSM 2001, calendar years) | | | | | | |
| Net lending (% of GDP) | -4.9 | -4.4 | -4.2 | -3.8 | -3.7 | -4.0 | -4.2 |
| Primary structural balance (% of potential GDP) | -2.3 | -1.8 | -1.8 | -1.5 | -1.4 | -1.6 | -1.6 |
| Gross debt (% of GDP) | 106.4 | 107.3 | 107.9 | 107.9 | 107.6 | 107.6 | 108.2 |
| Interest rates (percent) | | | | | | | |
| Fed funds rate | 0.1 | 0.1 | 0.8 | 1.9 | 2.9 | 3.5 | 3.5 |
| Three-month Treasury bill rate | 0.0 | 0.0 | 0.7 | 1.8 | 2.8 | 3.4 | 3.4 |
| Ten-year government bond rate | 2.5 | 2.3 | 3.0 | 3.6 | 4.1 | 4.6 | 4.8 |
| Balance of payments | | | | | | | |
| Current account balance (% of GDP) | -2.4 | -2.7 | -2.9 | -3.1 | -3.2 | -3.3 | -3.4 |
| Merchandise trade balance (% of GDP) | -4.2 | -4.1 | -4.2 | -4.4 | -4.5 | -4.6 | -4.8 |
| Export volume (NIPA basis, goods) | 4.0 | 0.3 | 3.8 | 3.0 | 3.5 | 4.2 | 4.5 |
| Import volume (NIPA basis, goods) | 4.1 | 5.3 | 5.8 | 5.5 | 5.7 | 5.6 | 5.7 |
| Net international investment position (% of GDP) | | | | | | | |
| | -39.7 | -41.3 | -42.9 | -45.8 | -49.1 | -53.0 | -59.0 |
| Saving and investment (% of GDP) | | | | | | | |
| Gross national saving | 18.1 | 17.8 | 17.6 | 17.8 | 18.0 | 18.0 | 18.0 |
| General government | -1.6 | -1.5 | -1.3 | -1.0 | -1.0 | -1.3 | -1.6 |
| Private | 19.8 | 19.2 | 19.0 | 18.8 | 19.0 | 19.3 | 19.6 |
| Personal | 3.6 | 4.0 | 3.9 | 3.9 | 3.9 | 3.7 | 3.6 |
| Business | 16.1 | 15.2 | 15.1 | 15.0 | 15.1 | 15.6 | 15.9 |
| Gross domestic investment | 19.8 | 20.1 | 20.5 | 20.9 | 21.1 | 21.2 | 21.4 |
| Private | 16.4 | 16.8 | 17.3 | 17.7 | 18.1 | 18.2 | 18.4 |
| Public | 3.4 | 3.3 | 3.2 | 3.2 | 3.1 | 3.0 | 3.0 |
| Sources: Haver Analytics; and IMF staff estimates | | | | | | | |
| 1/ Components may not sum to totals due to rounding | | | | | | | |
| 2/ Contribution to real GDP growth, percentage points | | | | | | | |



UNITED STATES

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION

June 18, 2015

KEY ISSUES

Strategy: The 2015 U.S. Article IV consultation centered on the prospects for higher policy rates and the outlook for, and policy response to, financial stability risks, integrating the findings of the Financial Sector Assessment Program (FSAP).

Main findings and policy messages:

- The underpinnings for continued growth and job creation remain in place despite momentum being sapped in recent months.
- The FOMC should remain data dependent, carefully weighing the risk of weakening progress toward full employment and having to return to zero interest rates versus the risk of creating a temporary rise of inflation above the Fed's medium-term goal and having to subsequently raise policy rates at a faster pace.
- The FOMC should defer its first increase in policy rates until there are greater signs of wage or price inflation than are currently evident. Based on staff's macroeconomic forecast, and barring upside surprises to growth and inflation, this would imply a gradual path of policy rate increases starting in the first half of 2016.
- Pockets of financial vulnerabilities are emerging, putting a premium on improving the resilience of the financial system. Regulatory reforms remain incomplete and the structure of oversight has scope to be strengthened along a number of dimensions.
- A credible and detailed medium-term consolidation plan is needed to address rising health and social security costs and to improve the tax system. Such a plan would provide near-term fiscal space to finance supply-side measures that support future growth.
- A range of policy challenges linked to poverty, productivity, and labor force participation remain largely unaddressed.

Approved By

Alejandro Werner (WHD)
and Tamim Bayoumi
(SPR)

Discussions took place in Houston (March 25–26), New York (April 9–10) and Washington D.C. (May 11–20). Concluding meetings with Chair Yellen and Secretary Lew took place on June 1 and 3, respectively. The team comprised N. Chalk (head), A. Alich, R. Balakrishnan, S. Danninger, A. Pescatori, J. Solé, J. Turunen (all WHD), S. Laseen (SPR), D. Igan, H. Tong (RES) and I. Parry (FAD).

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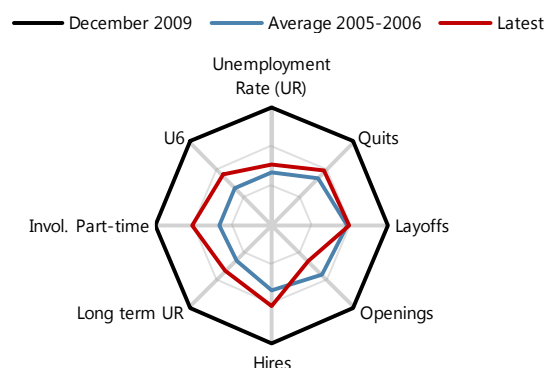
THE MACRO OUTLOOK

1. Momentum interrupted. The U.S. economy's momentum in the first quarter was derailed by unfavorable weather, a sharp contraction in oil sector investment, and the West Coast port strike. These developments represent a temporary drag but not a long-lasting brake on growth.

2. Respectable growth ahead. Despite the hiatus in growth over the past few months, the underpinnings for a continued expansion remain in place and the outlook is for a more dynamic path for the remainder of the year (Figure 1).

- *A solid labor market.* Labor markets have steadily repaired over the past year and several indicators suggest a jobs outlook that is returning to pre-crisis norms. Job growth has averaged about 250,000 per month over the past year, the unemployment rate has fallen to 5½ percent, and real disposable personal income is growing above 3 percent year-on-year. Despite this progress, long-term unemployment, subdued participation, and high levels of part-time work suggest that the economy remains well below full employment.

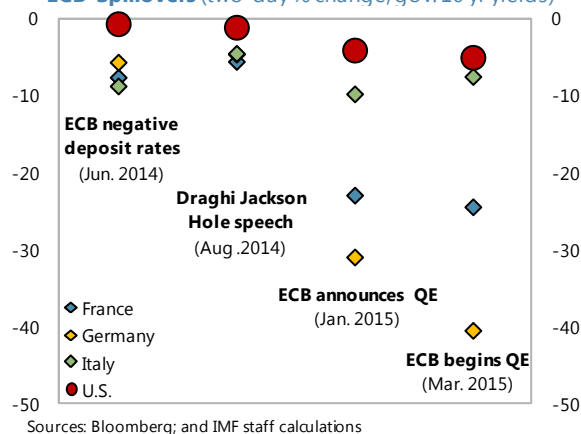
Labor Market Slack 1/



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

- *Accommodative financial conditions.* Close to zero short-term rates, compressed risk and term premia, and an upbeat equity market all add up to very cheap financing for both consumers and firms. There is tentative evidence that spillovers from ECB actions have loosened U.S. domestic financial conditions, although the effects appear quantitatively small.

ECB Spillovers (two-day % change; gov. 10 yr yields)



Sources: Bloomberg; and IMF staff calculations

- *Cheaper oil.* Lower oil prices have added around 1 percent of GDP to households' purchasing power since mid-2014. The evidence so far suggests this windfall has largely been saved. However, in the remainder of the year, the net effect on the economy is expected to be supportive of growth. The positive consumption effect will, though, be partly offset by weaker oil-related investment with crude prices falling below breakeven thresholds and rendering extraction unprofitable for many U.S. fields (Box 1).
- *A shrinking output gap.* Unemployment has fallen close to its natural rate and capacity utilization rate is at the average levels seen in 2005–07. The output gap has fallen from 1.9 percent at end-2013 to 1.4 percent by end-2014 (Box 2). Conditions are now in place for a

gradual pick-up in real household earnings. A cyclical, albeit gradual, rise in investment by domestic-oriented (non-oil) businesses should be supported by sizable cash holding, upbeat business confidence, and an aging capital stock (Figures 1 and 2).

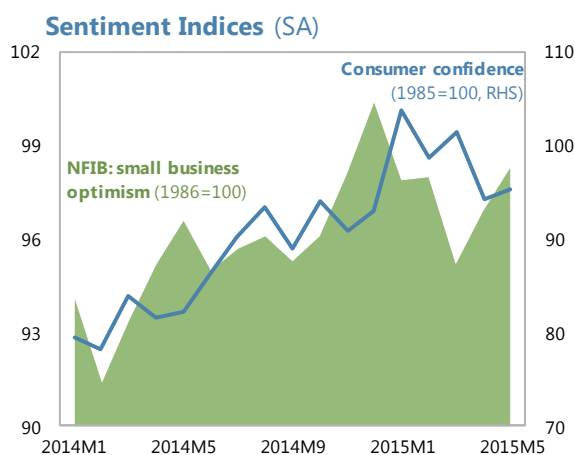
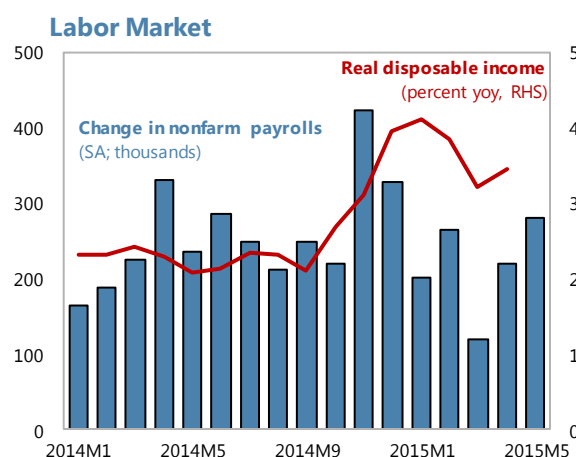
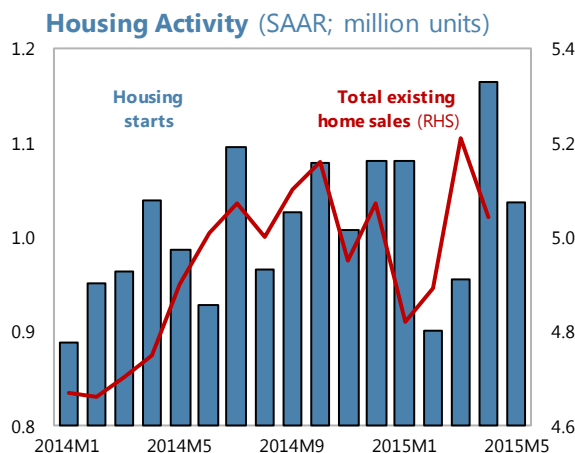
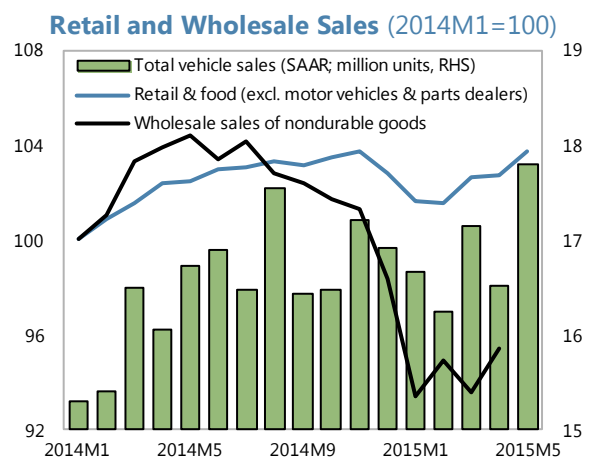
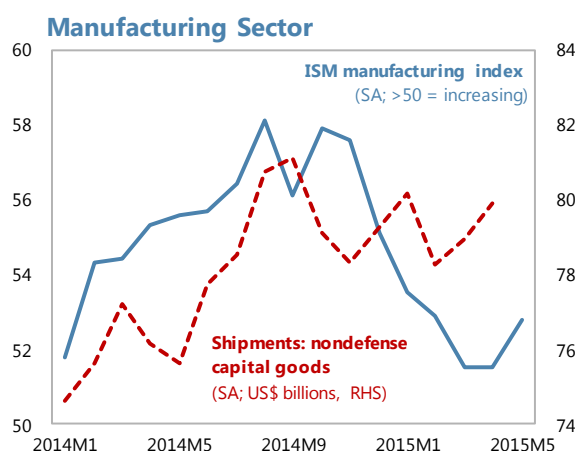
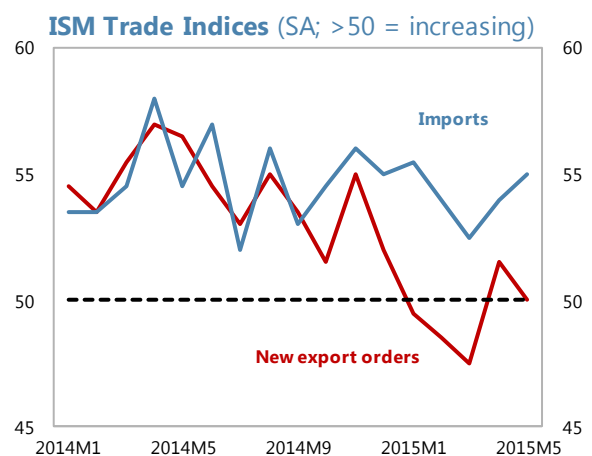
Growth this year is expected to be 2.5 percent. Sustained growth in the next two years should return output to its potential by end-2017. However, potential growth (at around 2 percent) is expected to be considerably weaker than pre-crisis unless a broad range of structural issues are addressed to raise productivity, create incentives for innovation and capital formation, and raise labor force participation.

| Economic Forecasts 1/ | | | | | |
|---|-------------|------|------|------|------------------|
| | 2014 | 2015 | 2016 | 2017 | Longer Run 2/ |
| | Projections | | | | |
| <u>Real GDP Growth (percent, Q4/Q4)</u> | | | | | |
| CBO | | 2.9 | 2.9 | 2.5 | 2.2 |
| Consensus 3/ | 2.4 | 2.0 | 2.7 | n.a. | n.a. |
| FOMC | | 1.9 | 2.6 | 2.3 | 2.2 |
| IMF | | 2.4 | 2.8 | 2.6 | 2.0 |
| IMF (% annual avg. y/y) | | 2.5 | 3.0 | 2.7 | 2.0 |
| <u>Unemployment Rate (percent, eop)</u> | | | | | |
| CBO | | 5.5 | 5.4 | 5.3 | 5.5 |
| Consensus 3/ | 5.7 | 5.1 | 4.8 | n.a. | n.a. |
| FOMC | | 5.3 | 5.0 | 5.0 | 5.1 |
| IMF | | 5.2 | 5.1 | 4.9 | 5.2 |
| <u>PCE Inflation (percent, eop)</u> | | | | | |
| CBO | | 1.4 | 1.9 | 1.9 | 2.1 |
| Consensus 3/ | 1.1 | 1.3 | 2.0 | n.a. | n.a. |
| FOMC | | 0.7 | 1.8 | 2.0 | 2.0 |
| IMF | | 0.3 | 1.4 | 1.9 | 2.0 |
| <u>Core PCE Inflation (percent, eop)</u> | | | | | |
| CBO | | 1.8 | 1.9 | 1.9 | 1.9 |
| FOMC | 1.4 | 1.4 | 1.8 | 2.0 | n.a. |
| IMF | | 1.2 | 1.6 | 2.0 | 2.0 |
| <u>Output Gap (percent of potential, eop)</u> | | | | | |
| CBO | -2.2 | -1.2 | -0.4 | -0.1 | -0.5 |
| IMF | -1.4 | -1.1 | -0.4 | -0.1 | 0.0 |

1/ CBO projections are from the Budget and Economic Outlook Jan.2015;
FOMC projections are from the June 2015 Summary of Economic Projections;
IMF projections are from June 10, 2015

2/ Year 2020 other than for FOMC

3/ Blue Chip Consensus, June 2015

Figure 1. Foundation for Strong and Sustained Growth*Sentiment is still optimistic...**...as the labor market sustains its positive run.**Housing activity is recovering from winter setbacks...**...as are retail and wholesale sales.**On the other hand, manufacturing has slowed...**...and the trade outlook is likely to be subdued.*

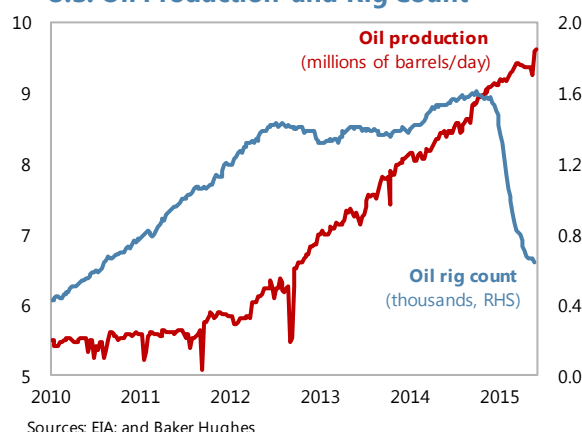
Sources: Haver Analytics; and IMF staff calculations

Box 1. Macroeconomic Effects of the Oil Price Decline

Oil production

The U.S. has emerged as the world's largest producer with crude production almost doubling between 2010 and 2014 (the bulk of the increase driven by shale oil). Production should remain steady in 2015 due to the substantial investments of prior years. However, given the depletion profile of existing fields, production is likely to decline in 2016, as the recent sudden stop in new investment begins to feed through.

U.S. Oil Production and Rig Count



Macroeconomic Impact

The oil and gas extraction industry accounts for about 1½–2 percent of GDP.¹ During 2011–14, oil and gas investment contributed about 2½ percentage points to the level of U.S. real investment (equivalent to 0.4 percentage points of real GDP).

- **Capital formation.** Industry analysts estimate that investment in shale and tight oil drilling and exploration could be reduced by around 40 percent in 2015. The direct GDP impact is likely to be around 0.3 percentage points in 2015 (and likely frontloaded in the first part of the year). The effects on other industry segments—such as support activities and oilfield services—could make the effect modestly higher.
- **Consumption.** Households should benefit from the sharp decline in gasoline prices and the reduction in their energy bills. Lower prices of gasoline alone will add 0.9 percent of GDP to household disposable income in 2015. There is a further savings of about 0.1 percent of GDP in utility bills. So far, the evidence suggests these gains have been mostly saved with the personal saving rate rising to 5.6 percent in April—about one percentage point above its level of 6 months ago. However, in the baseline forecast this is expected to be temporary, as in previous episodes of sharp oil price declines. For 2015 as a whole, additional consumption from lower oil prices is forecast to contribute 0.6 percentage points to growth.

¹ In North Dakota—one of the two main centers of U.S. tight oil boom (after Texas)—the sector's share in state GDP is below 5 percent. Employment share of the sector in total employment is also very small (0.6 percent).

Box 2. A New Methodology to Estimate Potential Output and the Output Gap¹

Previous estimates. Potential output was estimated using a multi-sector production function. First, for each sector data on output, employment, and capital stock was used to deduce total-factor productivity (TFP) as a residual from a two-factor production function. Second, the resulting TFP series was smoothed, maximum employment was determined (using historical relationships between the unemployment rate and changes in the rate of inflation), and actual data on the capital stock were used to determine potential output. However, in recent years, this methodology has suggested a significant output gap that has seemed at odds with rising levels of capacity utilization and a rapidly repairing labor market.

A multivariate filtering approach. The model incorporates relationships between the output gap and inflation (Phillips curve); the output gap and unemployment gap (Okun's law); and an equation relating the output gap and the capacity utilization gap:

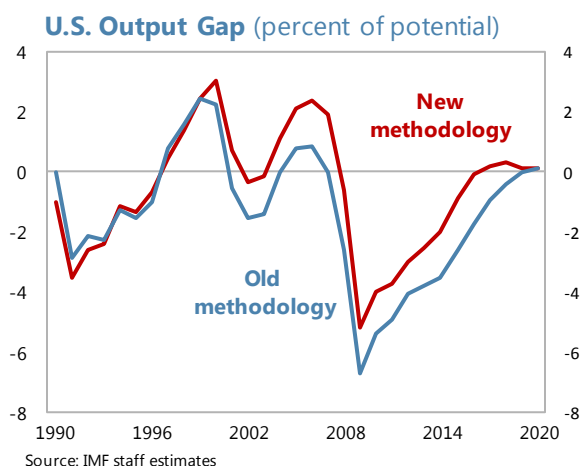
$$\text{(Phillips curve)} \quad \pi_t = \gamma\pi_{t+1} + (1 - \gamma)\pi_{t-1} + \beta \frac{x}{5-x} + \varepsilon_\pi$$

$$\text{(Okun's law)} \quad u_{gap} = \tau_1 u_{gap,-1} + \tau_2 x + \varepsilon_u$$

$$\text{(Capacity utilization)} \quad capu_{gap} = \delta_1 capu_{gap,-1} + \delta_2 x + \varepsilon_{capu}$$

Where π is core inflation, x is the output gap, u_{gap} is the unemployment gap, and $capu_{gap}$ is the capacity utilization gap. The model is estimated for the U.S. using a Kalman filter and Bayesian techniques.

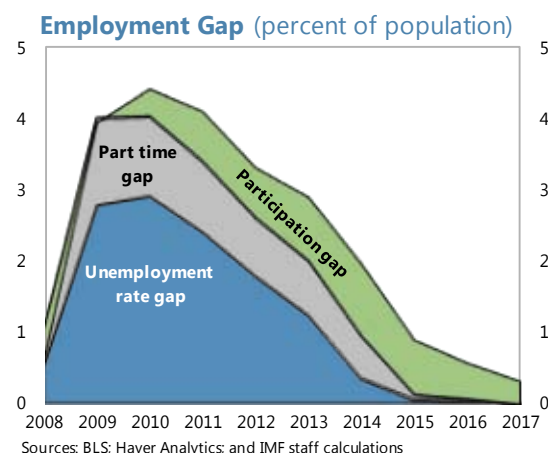
Results. The new methodology results in a lower level of potential output, a broadly unchanged potential growth rate of 2 percent, larger (positive) output gaps before the global financial crisis, and smaller (negative) output gaps in the aftermath of the global financial crisis. In particular, the 2014 output gap is now estimated at -2 percent of potential GDP (rather than the -3.5 percent of potential GDP under the previous, production function based, methodology). This is mostly due to the incorporation of information contained in inflation dynamics and the behavior of capacity utilization.



¹ See A. Alich, "[A New Methodology for Estimating the Output Gap in the United States](#)", IMF Working Paper, 15/144.

3. Tepid price inflation. Headline PCE inflation (at 0.1 percent year-on-year in April) is being temporarily dragged down by lower oil prices. Core PCE inflation (at 1.2 percent year-on-year in April) has faced headwinds from dollar appreciation, the falling global prices of tradable goods, and a residual pass-through from cheaper energy (Figure 2). Core inflation is likely to remain flat in the coming months, and start to rise only toward year-end, reaching the Fed's 2 percent medium-term objective by end-2017. The potential for further dollar appreciation, a continued lack of wage dynamism, and the scope for firms to absorb cost increases into their (currently healthy) profit margins all pose downside risks to the inflation outlook.

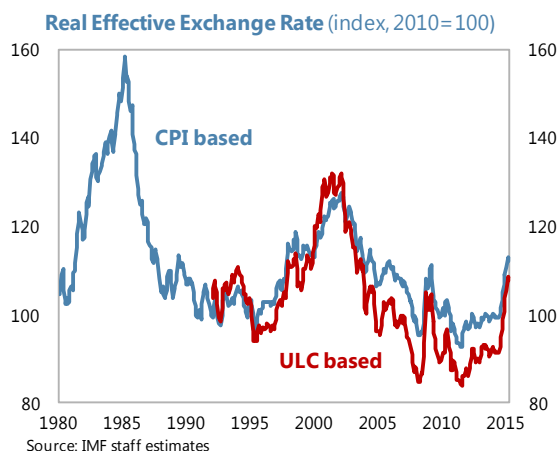
4. A mixed picture on wage inflation. The employment cost index has been increasing (up 2.6 percent year-over-year in Q1) but average hourly earnings growth remains weak (2.2 percent year-over-year, in May). This is not surprising given the size of the remaining employment gap—expected to persist until end 2017—and evidence of a relatively flat Phillips curve (with slope coefficients typically estimated at less than 0.1). As slack is exhausted and labor markets repair, real and nominal wages should start to rise. However, the headline unemployment rate is expected to decline at a slow pace as part-time workers extend their hours and discouraged workers are drawn back into the labor market.



5. Fiscal developments. The federal government deficit was \$483 billion in FY2014 (2.8 percent of GDP) and is likely to move modestly lower in the current fiscal year with income tax receipts currently running above budget forecasts. The Bipartisan Budget Act was passed in December 2013 covering FY2014 and FY2015. Despite this progress, the U.S. faces important fiscal issues in the coming months:

- *The Highway Trust Fund.* A stop-gap measure provides spending authorization only until end-July. This is the 33rd short-term patch to surface transportation funding over the past six years. The uncertainty of prospects for the fund is believed to be negatively impacting state-level infrastructure spending.
- *The Affordable Care Act.* Legal uncertainties around healthcare were highlighted when the Supreme Court agreed to hear a lower court case on whether enrollees in federally-run health exchanges are eligible to receive public subsidies. The Supreme Court is expected to provide an opinion by end-June. If it were to find against the government, millions of enrollees in more than 30 states could be affected, impacting access to healthcare and the ability to pool insurance risks.
- *The federal debt limit.* The suspension of the debt limit ended on March 15. The Treasury has some headroom created by cash planning and extraordinary measures but, without legislative action, the debt limit is likely to become a binding constraint towards the end of the year.

6. External outlook. The real appreciation of the U.S. dollar has been rapid and a product of cyclical growth divergences, different trajectories for monetary policies among the systemic economies, and a portfolio shift toward U.S. dollar assets (Box 3). Lower oil prices and increasing energy independence have combined to contain the U.S. current account deficit. Nevertheless, over the medium term, at current levels of the real exchange rate, the current account deficit is forecast to rise toward 3½ percent of GDP. The current level of the U.S. dollar is assessed to be moderately overvalued. The 2014 current account deficit is around 0–1¼ percent of GDP above the level consistent with medium-term fundamentals and desirable policies (see Annex III. External Sector Assessment).



7. Global spillovers from a sustained dollar appreciation. Many emerging and low-income economies have lowered their vulnerability to U.S. dollar appreciation. Nevertheless, large gross dollar funding positions could pose vulnerabilities for some. The rise in U.S. dollar debt issued by highly leveraged corporates in emerging economies is a notable source of risk (see the 2015 Spillover Report).

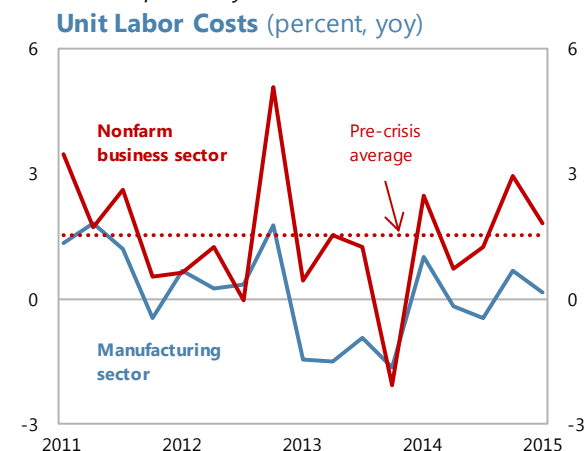
8. Risks to financial stability. At this point, the data suggest a system that has pockets of vulnerabilities rather than one containing broad-based excesses. Nevertheless, these vulnerabilities cannot be ignored. Credit risks have risen, underwriting standards are weakening, and an increasing volume of funds is flowing to lower-rated companies. Equity market valuations, by a number of metrics, are on the high side (although not extreme relative to historical patterns). The more serious, macro-relevant sources of risk to financial stability are linked to:

- The migration of intermediation to the nonbanks where there is less visibility on the size and nature of the embedded risks and fewer regulatory and supervisory tools to manage those risks (Figure 3).
- The potential for insufficient liquidity in a range of fixed income markets which could lead to abrupt moves in market pricing, particularly if there were to be a large rebalancing of asset allocations. The causes of, and solutions to, such market liquidity risks are still imperfectly understood.
- Insurers have taken on greater market risk. Stress tests show that under severe but plausible downside scenarios a large part of the industry—particularly life insurers—could be faced with negative shareholder equity if firms were forced into fire sales.

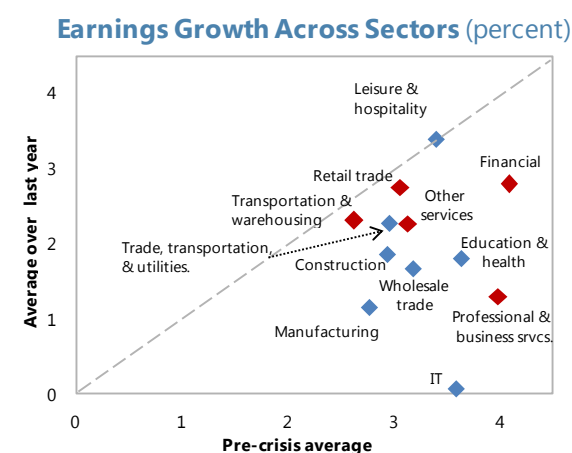
However, several factors mitigate these downsides. The U.S. banking system has strengthened its capital position (Tier 1 capital as a ratio of risk-weighted assets is 13 percent) and appears resilient to a range of extreme market and economic shocks (as evidenced by the recent Comprehensive Capital Analysis and Review results and echoed by the FSAP stress tests). In addition, overall leverage does

Figure 2. Muted Wage and Inflation Pressures

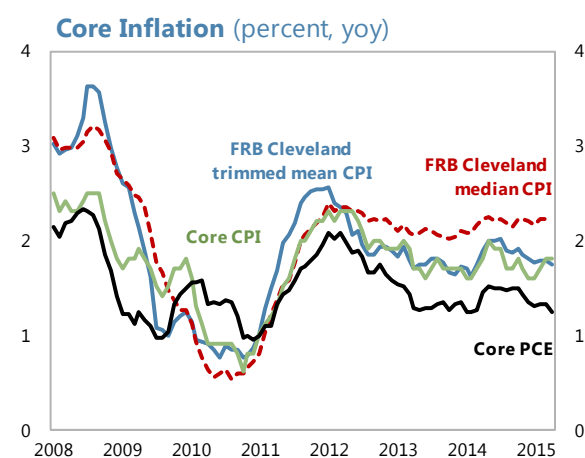
ULC growth in the manufacturing sector has been close to zero over the past two years...



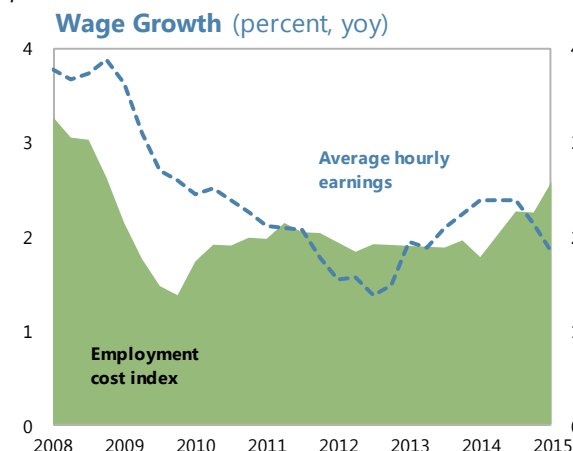
There is marked sectoral variation, with wages strongest in some service sectors and weakest in manufacturing.



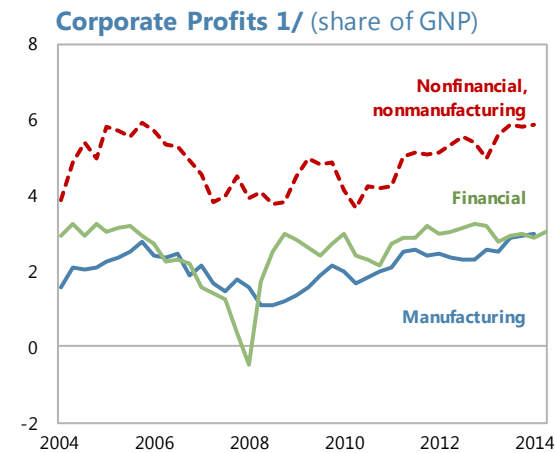
Core inflation remains contained...



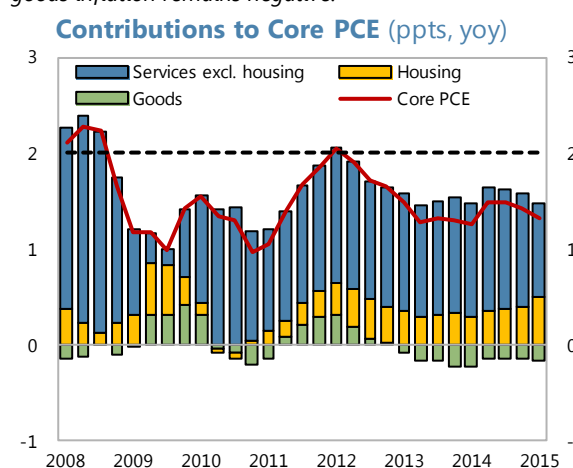
...and nominal wage growth has been a little above 2 percent.



Profit shares have been increasing and have room for compression.



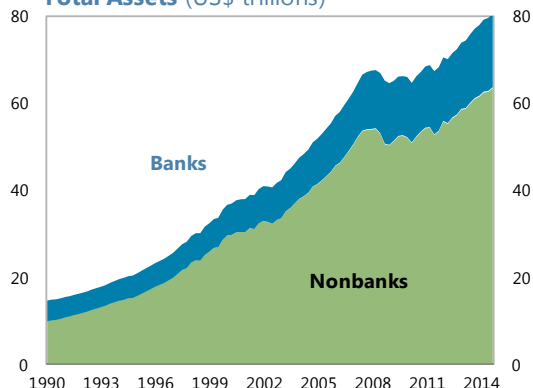
...and non-housing service inflation is declining while goods inflation remains negative.



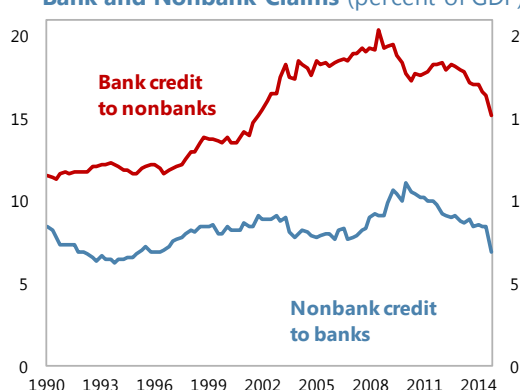
Sources: BLS; Haver Analytics; and IMF staff calculations
1/ With inventory valuation adjustment (IVA), before tax

Figure 3. Changing Bank-Nonbank Interconnections

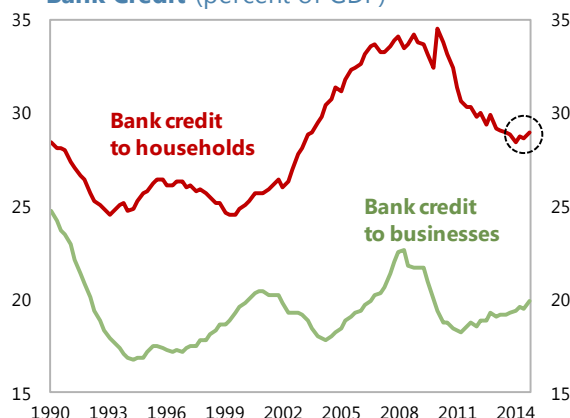
Financial system assets continue to grow.

Total Assets (US\$ trillions)

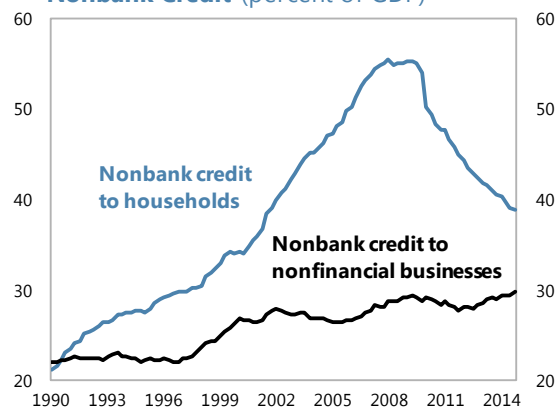
The sizes of interconnections within the financial system have become smaller since 2008.

Bank and Nonbank Claims (percent of GDP)

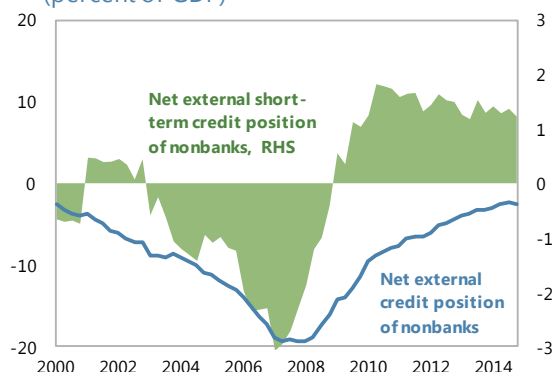
Banks are slowly restarting their lending to households...

Bank Credit (percent of GDP)

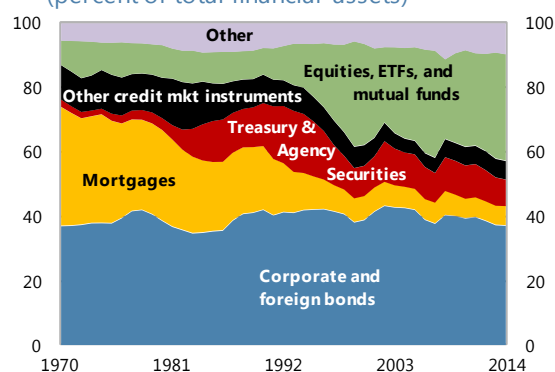
...but nonbank credit to households has dropped sharply as the securitization model contracted.

Nonbank Credit (percent of GDP)

Nonbanks have reversed their net indebtedness to nonresidents.

External Credit Position of Nonbanks (percent of GDP)

Life insurers continue to adapt their portfolios, partly in response to the low interest rate environment.

Portfolio of Life Insurance Sector (percent of total financial assets)

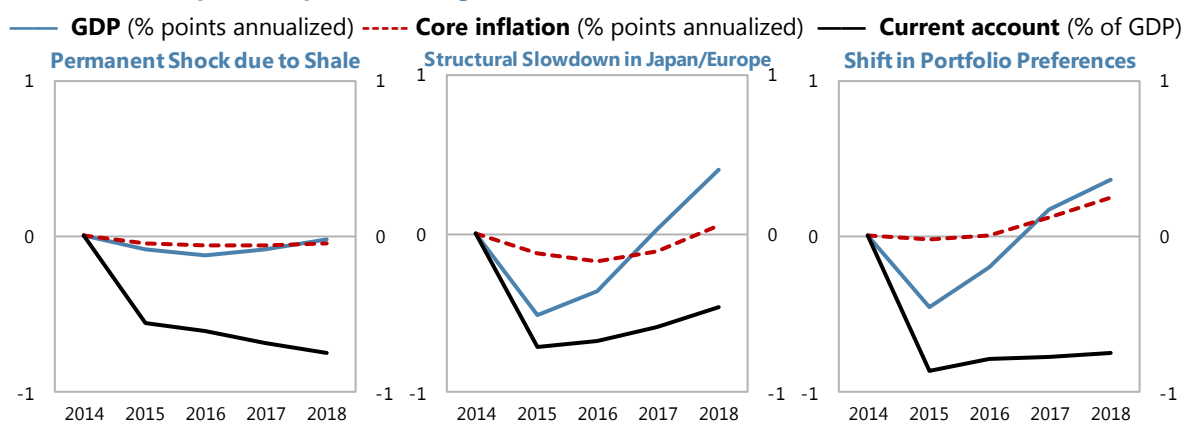
Sources: Financial Flows of the United States; FRB; Haver Analytics; and IMF staff calculations

Box 3. The Impact of U.S. Dollar Appreciation—The Importance of Context

Drawing on a multi-country GIMF model, calibrated for the U.S., the impact of a stronger dollar is shown to depend highly on the underlying circumstances that generate the appreciation. Three potential scenarios illustrate the importance of general equilibrium effects:

- *Permanently higher U.S. shale oil productions.* An anticipated increase in shale oil production that is large enough to create a 5 percent appreciation of the exchange rate results in a boost to domestic demand and causes non-oil imports to increase (although exports decline as a result of the appreciation). Over the medium term, there would be a deterioration in the U.S. current account balance and a rebalancing of the sources of growth toward domestic demand.
- *Structural slowdown in Japan and Europe.* In general, higher expected growth in the U.S. relative to trading partners—even after accounting for expected monetary policy tightening in the U.S. and easing in trading partners—tends to have a relatively small effect on currencies, particularly since countries are at zero interest rates. However, a significant slowdown in trading partners (that would be large enough to lead to a 5 percent appreciation), would initially knock around $\frac{1}{2}$ percentage point off of growth and raise the current account deficit by around $\frac{3}{4}$ percent of GDP. However, the resulting lower global oil prices and greater capital inflows into the U.S. would, over a longer horizon actually boost growth.
- *A temporary but persistent portfolio preference shift.* Increased inflows into U.S. dollar assets have a large and immediate effect on the exchange rate and can lead to a loosening of domestic financial conditions (as equity prices rise and bond yields fall). Looser financial conditions support domestic demand, drawing in more imports and causing a decline in the current account of close to 1 percent of GDP. Over time, the dollar appreciation unwinds but domestic demand effects persist causing the overall growth effect to eventually turn positive.

Impact of 5 percent Stronger Dollar (Percent difference in levels from baseline)



Source: IMF staff estimates

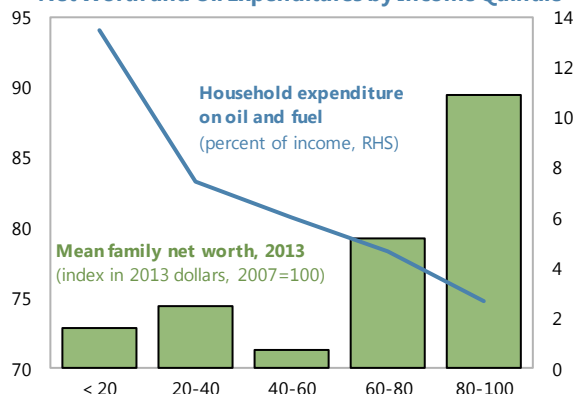
not appear excessive, household and corporate balance sheets look generally healthy, and credit growth has been modest.

RISKS TO STRONG AND SUSTAINED GROWTH

9. A further strengthening of the U.S. dollar. A prominent risk to the outlook is that the currency will continue appreciating due to sustained cyclical divergences and capital flows into U.S. dollar assets. If so, the U.S. external position would be pushed further away from levels justified by medium-term fundamentals and growth could be significantly debilitated. Although the context would be important, if the U.S. currency were to move into the range where it could be described as substantially overvalued—with a current account deficit heading toward 5 percent of GDP—this would likely point to the move in the dollar having gone “too far”, potentially creating future risks, including in some emerging market economies, as global imbalances reassert themselves.

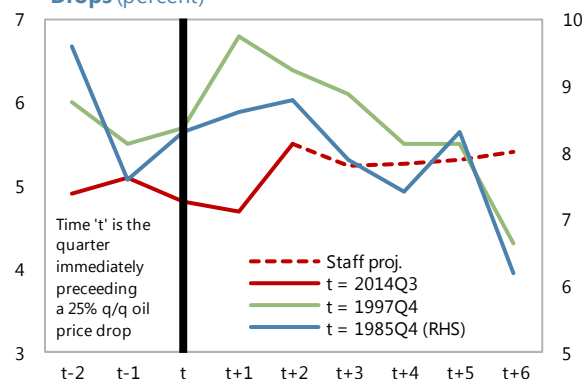
10. Uncertainty surrounding the effect of lower oil prices. The rise of the household saving rate in the first four months of this year could have been for temporary reasons: poor weather and uncertainty about the duration of oil windfalls. The baseline outlook assumes that these effects will wane as lower energy prices start to feed into better consumption and higher non-oil investment. Because low-income households, which benefit the most from declines of pump prices, have still weak balance sheets (having benefited less from mortgage refinancing and the equity and property price increases) much of the oil windfall this time could be used for debt reduction. The demand effect would be further compromised if current low oil prices are seen as a temporary phenomenon. As a further growth downside, the size of oil industry capital spending retrenchment could be larger than is currently estimated, a fact that was vividly underlined by the recent decline in oil drilling activity. On the other hand, a potential upside is that there could be an even bigger decline in the future personal savings rate than is projected in the baseline, consistent with previous episodes of steep oil price declines.

Net Worth and Oil Expenditures by Income Quintile



Sources: Haver Analytics; and IMF staff calculations

Personal Savings Rate Dynamics After Oil Price Drops (percent)

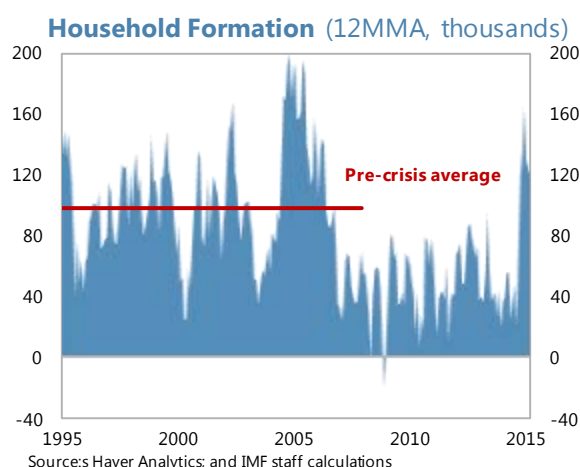


Sources: Haver Analytics; and IMF staff estimates

11. The potential for uninspiring business investment. Non-oil, non-residential investment has been well below rates in previous recoveries (even before the rise in the dollar and in spite of healthy balance sheets and an aging capital stock). Corporations are using cash holdings for share

buybacks and merger and acquisition activity to lessen tax liabilities (rather than for capital formation). The underlying reasons for low business investment are not well understood, and could be related to the decline in productivity or the rise of capital-economizing innovations. A shift of demand to labor-intensive services, as the U.S. population ages, is another candidate explanation. A more benign explanation is that firms simply need to be more confident regarding future expected demand (consistent with the findings of the Spring 2015 WEO, which argues that much of the investment decline can be explained by a simple accelerator model).

12. A new long-term housing equilibrium. Housing market activity has struggled to recover. Up until recently, household formation has been depressed despite the potential for pent-up demand from demographics and more secure job prospects. The slow return of millennials to the first-time home buyers market could signal a preference shift away from traditional suburban, owner-occupied housing. Indeed, the urban rental market remains strong which could represent an enduring increase in demand for multi-family housing units with a smaller square footage. If true, this would permanently lower the steady state growth contribution from residential construction. A less concerning interpretation comes from household surveys, which suggest that attitudes to home ownership haven't changed much: most renters would prefer to own if they had the necessary financial resources. If that were true, once the job market improves further and millennials have paid off some of their student loans (which have grown to over US\$1 trillion or 7½ percent of GDP), the demand for housing could quickly revert to previous norms, with an accompanying step-up in residential investment.



13. The debt ceiling, redux. With the debt limit becoming binding towards the end of the year, down-to-the-wire brinkmanship over fiscal policy could create excessive bond market volatility, particularly as the political ground is prepared for the 2016 presidential election. This would undermine confidence, as it has in the past, but could create a more complex if the timing coincides with a Fed lift-off or an unpredictable external shock.

14. A less-than-smooth rise in rates. The Fed's first rate increase in almost nine years has been carefully prepared and telegraphed. Nevertheless, regardless of timing, higher U.S. policy rates could still result in a significant and abrupt rebalancing of international portfolios with market volatility and financial stability consequences that go well beyond U.S. borders. Even without policy changes, higher inflation numbers unaccompanied by better activity data could lead to a sudden upward shift in the yield curve or risk spreads. In either case, a shift in expectations about the future pace of rate increases could create flows into U.S. dollar assets and a further meaningful appreciation of the dollar. Similarly, anxiety around a tightening cycle—even if accompanied by a strong underlying economy—could create a sell-off in equities or riskier fixed income assets. Such asset price volatility could last more than just a few days and have larger-than-anticipated negative effects on financial

conditions, growth, labor markets, and inflation outcomes. Spillovers to economies with close trade and financial linkages could be substantial.

15. Negative inward spillovers. Continued weakening of growth in the rest of the world could suppress U.S. exports and investment in tradable sectors. Weaker global growth or a pronounced China slowdown, alongside a stronger dollar, would also weaken profits of U.S. multinationals and could trigger a re-pricing of equity valuations (with the attendant harm to U.S. consumption via wealth effects). Finally, risks from Russia/Ukraine, Greece or the Middle East represent an unpredictable wild card with negative, but difficult to quantify, effects for the U.S.

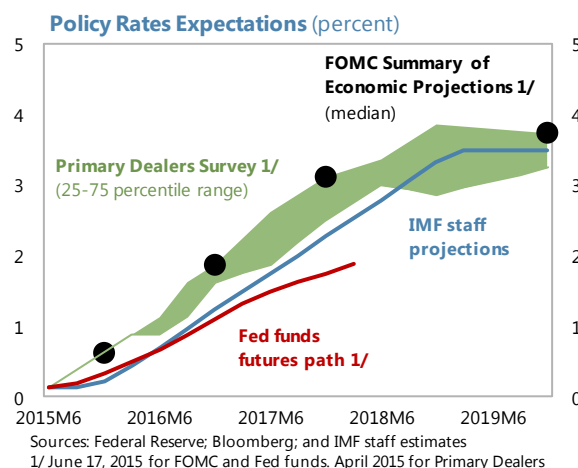
16. Authorities' views. Weak growth in the first quarter was seen as a temporary setback. The recovery was expected to resume given a still strong labor market, but the rebound is likely being weakened by headwinds from a strong dollar, weak global growth, and possibly greater caution among households and businesses. Uncertainty remains about the strength of the housing recovery, despite recent improvements, but there have been policy efforts to increase mortgage availability and support first-time home buyers. The rapid rise in student debt was a cause for concern but efforts are being made—including the pay-as-you-earn plans that cap student loan payments at 10 percent of discretionary income—to lessen default risks. While not taking a view on the level or future direction of the U.S. dollar, there was a general recognition that the different cyclical positions of the largest economies would influence currency markets. However, the authorities noted that what is needed at a global level is increased efforts in enhancing total demand, not a shifting of demand between countries that was facilitated by movements in exchange rates. To achieve that increased global demand, the policy recipes differed from country to country. However, the U.S. could not be seen as a sponge for the whole global economy, absorbing their production through U.S. imports.

THE IMPENDING MONETARY NORMALIZATION

17. An uncertain backdrop. The U.S. economy remains below potential, wage and price pressures are expected to remain low, and inflation expectations appear well-anchored. Nonetheless, the decision on the timing and pace of policy rate increases is complicated by significant uncertainties surrounding the resilience of future economic growth, the remaining distance to maximum employment, and the current level and future path of the “neutral” fed funds rate (Box 4). Although financial conditions remain accommodative, monetary conditions are being tightened somewhat by the appreciation of the dollar. Furthermore, the fragility of U.S. growth has been repeatedly underlined with the momentum being disrupted by weather, concerns about Europe, and political stand-offs over the budget and debt limit. Any move to normalize monetary policy, therefore, needs to be approached cautiously.

18. Complex macroeconomic policy trade-offs. Staff's baseline macro forecasts (Table 1)

embed an assumption—based on current market expectations—that rates rise from zero in the second half of 2015, followed by a shallow path upward over the next few years toward a long-term fed funds rate of 3.5 percent. However, the uncertainties are large—the size of the output gap, the natural rate of unemployment, the neutral policy rate, and the path for inflation and wages—and there are pros and cons of moving in line with this baseline or in deferring the path of rate increases. Weighing the net benefits involves an evaluation of uncertain risks and difficult tradeoffs. The balance of risks to be considered includes:

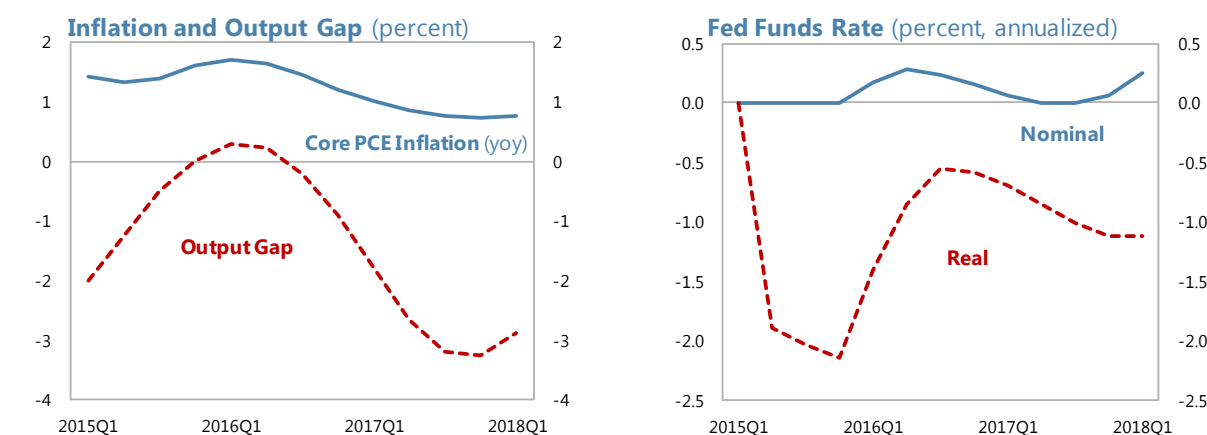


- Raising rates too early** could trigger a greater-than-expected tightening of financial conditions due to some combination of a further upward swing in the U.S. dollar, lower equity prices, and/or a repricing of risk premia and the yield curve. Of course, much of this would depend on financial market reactions to the policy move. However, there is a risk that the tightening impact on the economy could go well beyond the initial 25bp increase in the fed funds rate, creating a risk that the economy stalls (Figure 4). This would likely force the Fed to reverse direction, moving rates back down toward zero—as the ECB and the Riksbank did in 2011 and Japan did repeatedly in the 1990s and 2000s—with potential costs to credibility.

Figure 4. A Downside Scenario 1/

If financial conditions were to tighten abruptly shortly after Fed lift-off, there is a risk the economy could stall in early-2016, reopening the output gap, driving core inflation back down toward 1 percent ...

...and requiring policy rates to return to zero by late 2016.



1/ The downside scenario assumes a tightening of financial conditions – through equity prices, the exchange rate, or term and risk premia – that is equivalent to a rise in long-term interest rates of 150 bps for 4–6 quarters.

- *Raising rates too late* could require a more rapid path upward for policy rates due to an acceleration of inflation, with negative consequences for financial market volatility and the macroeconomy. Such a rapid policy rate increase was seen in 1994 when, after an initial 25bp move, higher-than-expected inflation caused the Fed to accelerate the pace of rate increases and 10-year yields rose about 200bp over the course of the next 12 months.

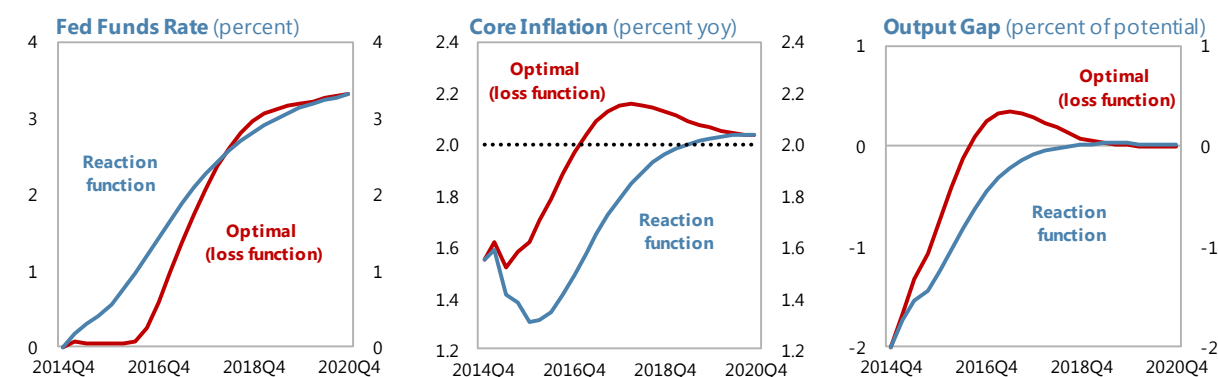
19. Staff's view. Given the balance in the likelihood and severity of these two-sided risks, there is a strong case for waiting to raise rates until there are more tangible signs of wage or price inflation than are currently evident. Inflation inertia, firmly anchored expectations, Fed credibility, and evidence of a relatively flat relationship between inflation and slack all suggest that a sudden acceleration in wages or prices (as in 1994, when headline CPI inflation rose 0.7 percent between May and September) is unlikely. Global disinflationary trends (e.g. in commodities and tradable goods) and the pass-through from the strengthening dollar are also likely to act as important dampening forces to inflation. A later increase in rates could imply a faster pace of rate increases thereafter and may create a modest overshooting of inflation above the Fed's medium-term goal (perhaps up toward 2½ percent, see Figure 5). However, deferring rate increases and proceeding gradually thereafter would provide valuable insurance against the risks from disinflation, policy reversal, and ending back at a zero fed funds rate. If data evolves in line with staff's macroeconomic forecasts, and barring upside surprises to growth or inflation, such a policy would imply keeping the fed funds rate at 0–0.25 percent into the first half of 2016 with a gradual rise in the federal funds rate thereafter. Of course, first and foremost, policy should remain data dependent, looking at a broad-range of available indicators and forecasts. This would mean that if either wage or price inflation were to become more visible at an earlier stage than is embedded in staff's forecasts, interest rates should be raised on a more accelerated timetable.

Figure 5. Potential Impact of Delayed Normalization

A delayed but subsequently steeper path for policy rates.

Leads to inflation temporarily and modestly exceeding the medium-term goal.

But facilitates a faster return to full employment.



Sources: IMF staff estimates

Note: These simulations are not the same as the staff's baseline forecasts but rather are to illustrate the differences between an optimal loss function approach to setting interest rates versus a reaction function approach (i.e., Taylor rule). For details, see A. Alichii et al., "[Avoiding Dark Corners: A Robust Monetary Policy Framework for the United States](#)", IMF Working Paper, 15/134.

20. Communication at a premium. The Fed has laid the groundwork for an increase in policy rates, going a considerable distance in providing clarity about its data-driven decision making process. Of course, the Fed is unable to provide certainty about its intentions but as the first rate hike approaches and monetary policy normalization proceeds, there will continue to be a premium on effective communication about the expected path of increases in policy interest rates ahead. In this context, past Fund advice—to schedule a press conference by the Fed chair after every FOMC meeting and to publish a quarterly monetary policy report that details economic projections that are endorsed by the FOMC—bears repeating. Adding more communication tools will undoubtedly run into practical implementation challenges, but still merits consideration given the potential benefits.

21. Global spillover considerations. Higher interest rates that are driven by a robust economy moving closer to maximum employment should be a positive force for other countries. The effects from stronger demand outweigh the dampening effects of tighter global financial conditions, particularly if countries allow their exchange rates to respond flexibly. However, an increase in yields in a weaker growth environment (e.g. precipitated by a pickup in inflation or an unexpected market re-pricing of risk premia) could lead to higher sovereign and corporate spreads, volatile capital flows, falling asset prices, and a drag on partner country growth. Effects would differ across countries and regions but, in a downside scenario, emerging and frontier market economies with weaker fundamentals are likely to be the most exposed (see 2015 Spillover Report).

22. Authorities' view. The course of monetary policy will be determined by the path of incoming data and what that reveals about the economy. The U.S. economy appears well positioned for continued growth and inflation is expected to move gradually up toward 2 percent as the economy strengthens further and as transitory negative influences wane. At this stage, the decision to raise rates depends on whether policy makers see the recovery as sufficiently strong to generate continued improvement in labor conditions, and whether they are reasonably confident that inflation will move back towards the Fed's inflation objective. Also, while the timing of the first rate hike was receiving a lot of attention, the path of subsequent policy rate changes was of greater importance and, on that, the authorities emphasized the pace of normalization was likely to be gradual. Effective communication was seen as critical. However, the authorities saw little benefit from more press conferences and emphasized that they have multiple alternative avenues of communication, including speeches, publications, and congressional testimony. They also emphasized the practical challenges that would be involved in building consensus around an FOMC endorsed forecast, given the size of the FOMC and varying views among members.

Box 4. Lower for Longer: Estimates of the Neutral Rate¹

Framework. To better assess current monetary policy stance, a semi-structural model is used to estimate the neutral rate for the U.S.² The model incorporates relationships between output gap and interest rates gaps (IS equation), inflation and the output gap (Phillips curve); and an equation that links the neutral rate to potential output growth plus other exogenous factors:

$$(IS\ equation) \quad x_t = a_1 x_{t-1} + a_2 x_{t-2} - a_r (r_{t-1} - r_{t-1}^n + r_{t-2} - r_{t-2}^n) + \epsilon_t^s$$

$$(Phillips\ curve) \quad \pi = \sum_{j=1}^8 b_j \pi_{t-j} + b_y x_{t-1} + b_i \pi_{t-1}^m + b_o \pi_{t-1}^o + \epsilon_t^p$$

$$(Neutral\ rate) \quad r_t^n = c g_t + z_t$$

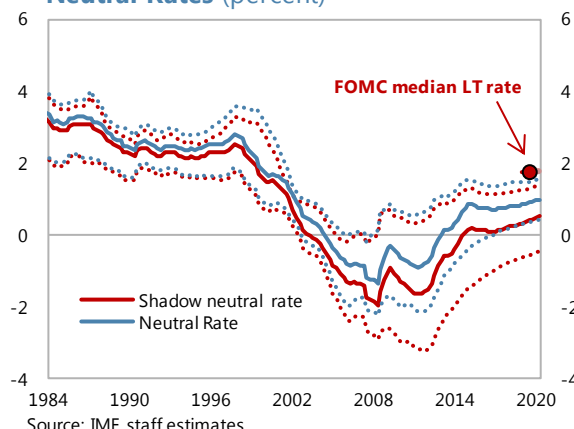
Where x is the output gap; r is the real (policy) interest rate, r^n is the neutral rate, π is core inflation; π^m , π^o are import and oil price shocks, respectively, g is potential output growth, z is an exogenous autoregressive process, and $\epsilon_t^s, \epsilon_t^p$ are shocks. Bayesian estimation of the model incorporates prior information on the output gap and potential output (based on a production function approach) and accounts for unconventional monetary policies at the zero lower bound by using estimates of “shadow” policy rates.

The neutral rate turned negative during the global financial crisis. Model estimates show that the neutral real rate has fallen steadily over time and was likely negative subsequent to the global financial crisis. The fall in neutral rates is driven by a decline in trend potential output growth, a rise in global savings and an increase in the equity premium.

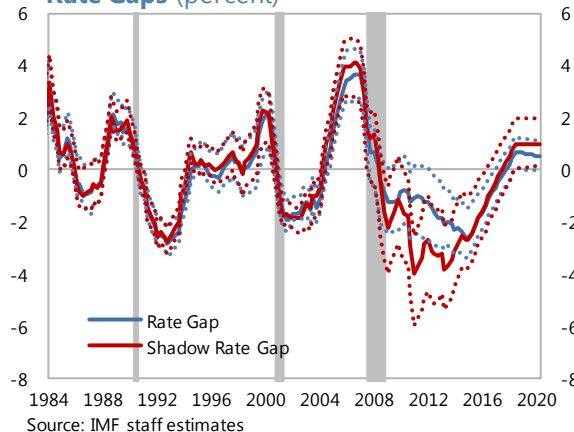
Policy continues to be accommodative. Interest rate “gaps” (i.e. deviations between actual real policy rates and estimated time-varying neutral rate) show that unconventional policies were needed in 2008–09 to make policies sufficiently loose to address the large output decline—the negative rate gap calculated using shadow policy rates suggests that policies have been highly accommodative for the past six years.

The neutral rate is projected to increase slowly. Conditional on the staff’s medium-term forecast for output, inflation and policy rates, model based projections point to a very slow increase in the neutral rate in the years ahead. At a five year horizon, even though the output gap has closed the neutral rate is likely to be well below the FOMC participants’ median forecast for the long-term real policy rate (of about 1.75 percent). As a result, even if policy rates begin gradually rising in the second half of 2015 (as in staff’s forecast, see paragraph 18) monetary policy would remain accommodative (i.e. with actual policy rates below the neutral rate) until late 2016.

Neutral Rates (percent)



Rate Gaps (percent)



¹ See Pescatori, A. and Turunen, J., “Lower for Longer: Neutral Rates in the United States”, IMF Working Paper, 15/135.

² Laubach, T. and Williams, J. (2003): “Measuring the Natural Rate of Interest”, Review of Economics and Statistics 85(4).

FINANCIAL STABILITY AND MONETARY POLICY

23. Financial stability and monetary policy. Even if justified from a macroeconomic perspective, there is a concern that maintaining policy rates at close to zero for too long will give rise to increased financial risk-taking and a higher probability of future crisis. Is there a case, then, for pursuing more aggressive increases in policy rates—relative to that which would be warranted by the inflation-employment outlook alone—to “lean against the wind” and lessen future financial stability concerns?

24. The pros: theoretical support in several recent studies. The academic literature suggests that if monetary policy reacts to emerging signs of financial excess, it could raise welfare—foregoing some amount of employment gains but lessening the probability of financial instability events that carry a high economic cost (see Box 5 and, for example, Woodford, 2012 and Ajello et al, 2015)¹. This suggests that monetary policy could be a sensible tool if other, more targeted, options are unavailable. There is little theoretical support, however, for nonsystematic policies that wait for financial vulnerabilities to rise and then use interest rates to try and “prick the bubble”.

25. The cons: implementation challenges and an imperfect understanding of policy transmission. In the U.S. case, risks are shifting from the banks to the nonbanks posing challenges in both identifying and tackling systemic risks. At the same time, there has been little experience in using monetary policy to address financial stability concerns. This poses challenges for the use of both interest rate and macroprudential policy in tackling potential financial instability (see Stein, 2014)². Policymakers may find it difficult to systematically identify and measure rising financial excesses, in a timely manner, in order to react to them. Also, the transmission mechanism from changes in policy rates to underlying financial risks may not be well understood. Preliminary results, for example, suggest that rate hikes succeed in lowering the growth in credit to households but shift the composition of the originators of that credit toward nonbanks (Box 6).

26. Staff’s view. At this stage, policy rates should not be used in an effort to either reduce leverage or dampen financial stability risks. Instead, efforts should be targeted toward strengthening the macroprudential framework, developing regulatory tools, and addressing gaps in regulation and supervision. There is clearly, though, an active debate on the role of monetary policy in addressing financial stability risks in both academic and policy circles. The authorities should give priority to understanding how this would apply in the context of the complex U.S. financial system, accelerating research on the theoretical and empirical nexus between interest rate changes and financial vulnerabilities and working to identify appropriate measures of the financial cycle.

¹ M. Woodford, “Inflation Targeting and Financial Stability, NBER Working Paper 27967, 2012 and A. Ajello, T. Laubach, D. López-Salido, and T. Nakata, “Financial Stability and Optimal Interest Rate Policy” Federal Reserve Board, 2015.

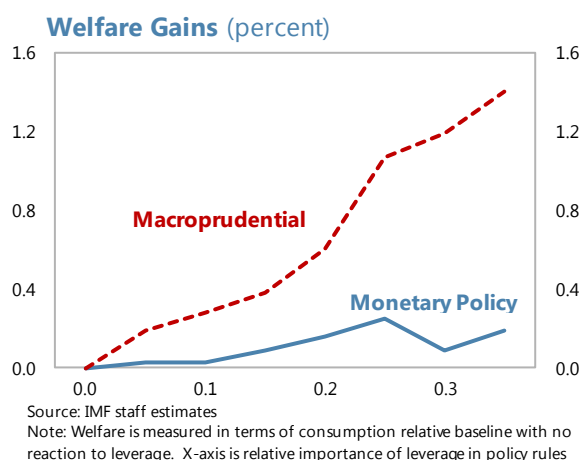
² J. Stein, “Incorporating Financial Stability Considerations into a Monetary Policy Framework”, speech at the International Research Forum on Monetary Policy, 2014.

Box 5. Systemic Risk and Monetary Policy¹

Analytical framework. A non-linear DSGE model (that has reasonable macro and asset pricing properties, an explicit intermediation system, and endogenous variation in systemic risk) allows for a joint analysis of monetary policy and financial stability risks.²

Results. The main findings provide insights about the optimal conduct of monetary policy in the context of time-varying and endogenously determined risk premia and systemic risk:

- Financial variables (i.e. financial leverage or risk premia) contain information about the state of the economy that is potentially useful for conducting monetary policy.
- Nonsystematic monetary policy that reacts to financial risks is likely to raise, not lower, risks. An unanticipated policy tightening, especially when the financial system is already fragile or leverage is high, increases the probability of crisis.
- Relatively simple, systematic policy rules that aim to stabilize inflation, the output gap, and measures of systemic risk (e.g. cyclical leverage or mispricing of risk) can yield welfare improvements relative to those policy rules that focus only on stabilizing inflation and the output gap. Incorporating such financial stability concerns would imply incrementally moving the policy rate higher by relatively small amounts to lessen the build-up of vulnerabilities.
- However, such simple rules can be counterproductive when the economy is hit by a large negative real shock that induces a fall in asset prices and increases the probability of crisis. This argues for more complex policy responses, particularly in the face of large and negative real shocks.
- The welfare improvement result requires that:
 - The central bank can measure systemic risks with some accuracy (e.g. the mispricing of risk).
 - Leverage is pro-cyclical. Empirical evidence suggests that this is the case for some sectors, (e.g. for broker-dealers and, to some extent, large commercial banks) but not necessarily for all sectors at all times.
- The potential welfare gains from monetary policy leaning against systemic risks are smaller than an effective and targeted countercyclical macro-prudential policy, in part because the optimal degree of tightening through interest rate policy is limited by traditional employment-inflation tradeoffs.³



¹ S. Laseen, A. Pescatori, and J. Turunen, "Systemic Risk: A New Trade-off for Monetary Policy?" IMF Working Paper, 15/142.

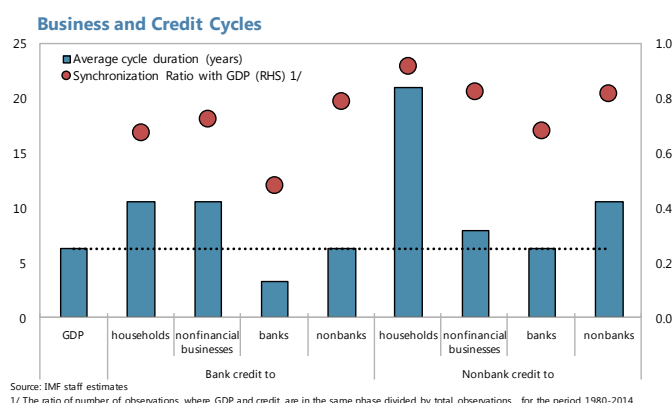
² The model builds on Dewachter and Wouters (2014), which embeds endogenous financial risk (He and Krishnamurty, 2014) into a DSGE model used for monetary policy analysis. A prominent extension here is that the model allows financial sector leverage to be *procyclical*, in line with empirical evidence (see Adrian and Shin, 2014).

³ Macroprudential policy is modeled as a countercyclical tax on leverage, similar to a countercyclical capital requirement.

Box 6. Credit Cycles and The Macroeconomy

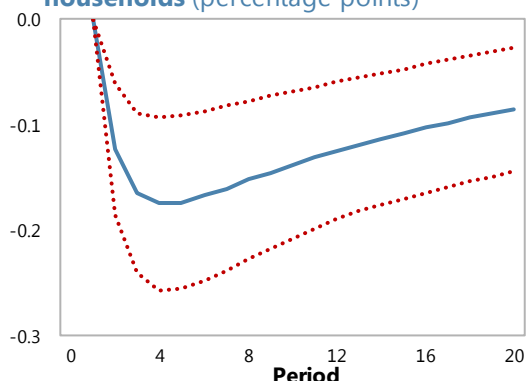
An analysis of the U.S. Financial Accounts reveals important information about the financial cycle¹:

- Bank and non-bank credit to the private sector—particularly to households—have longer cycles than the business cycle.
- Intra-financial sector credit cycles (bank-to-bank and bank-to-nonbank) appear to be shorter than the business cycle.
- Non-bank credit is more pro-cyclical than bank credit (i.e., with a higher synchronization ratio).
- Credit to banks (either from other banks or from nonbanks) is the least synchronized with the macroeconomic cycle.
- A VAR analysis shows that the growth in credit to households is lowered as policy rates rise. However, the compositional effects are important with the contraction in bank lending being partially offset by an expansion in nonbank credit to households.
- The different reaction of banks and nonbanks to a rates shock is symptomatic of the interconnected nature of the U.S. financial system. Faced with a tighter liquidity environment, banks may rely on securitizations and other financial innovations to turn illiquid assets into liquid funds which could, in turn, lead to a migration of credit to nonbanks.
- The procyclicality of nonbank credit stresses the need to strengthen the resilience of both bank and nonbank system in upswings. Measures to boost nonbank resilience go beyond enhanced capital and liquidity standards and could include margin or haircut requirements as well as others tools.

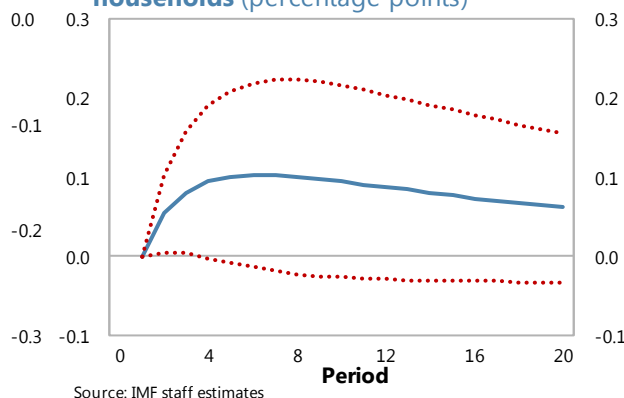


Impact of +100 Basis Points Fed Funds Shock

Impact on growth of bank credit to households (percentage points)



Impact on growth of nonbank credit to households (percentage points)



¹See A. Herman, D. Igan and J. Solé "[The Macroeconomic Relevance of Credit Flows: An Exploration of U.S. Data](#)" IMF Working Paper, 15/143.

27. Authorities' view. Intensive efforts are being made at the Federal Reserve and elsewhere to examine the impact of using interest rate policy to reduce the risk of future bouts of financial instability. However, the state of understanding of how such a policy might affect the economy and the nature of the underlying trade-offs involved is still at a nascent stage. As such, "the jury is still out" on whether such a policy would be advisable in the U.S. context. Also, the current level of financial risks was seen as moderate and there are other tools available to manage emerging risks (such as countercyclical capital buffers or margin requirements).

INVESTING IN RESILIENCE

28. Important progress. Following the passage of the Dodd-Frank Act, a panoply of measures were put in place to lessen the potential for financial sector vulnerabilities. These include enhanced capital and liquidity buffers, strengthened underwriting standards in the housing sector, and greater transparency to mitigate counterparty risks (see the 2015 Financial System Stability Assessment). There is growing evidence these efforts have had tangible, positive macroeconomic effects in lessening financing constraints and boosting investment (see Box 7).

| United States: Financial Soundness Indicators (percent, unless otherwise indicated) | | | | | | |
|--|------|------|------|------|------|------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Bank regulatory capital to risk weighted assets 1/ | 13.9 | 14.8 | 14.7 | 14.5 | 14.4 | 14.4 |
| Bank capital to assets | 12.4 | 12.7 | 12.2 | 12.0 | 11.8 | 11.7 |
| Bank nonperforming loans to total loans | 5.0 | 4.4 | 3.8 | 3.3 | 2.5 | 2.0 |
| Bank provisions to nonperforming loans 2/ | 57.7 | 64.5 | 62.5 | 58.5 | 65.6 | 75.4 |
| Bank return on assets 3/ | 0.2 | 0.9 | 1.2 | 1.4 | 1.6 | 1.5 |
| Bank return on equity 3/ | 1.7 | 6.9 | 9.6 | 11.6 | 13.2 | 12.6 |

Source: Global Financial Stability Report, April 2015
 1/ Basel I
 2/ Data are from the website of the Federal Deposit Insurance Corporation
 3/ Data are annualized using quarterly underlying series reported by the authorities for dissemination on the IMF's FSI website (<http://fsi.imf.org/>)

29. Strengthening regulatory coordination and preparedness. Nevertheless, the agenda remains unfinished. To keep pace with a continuously changing financial risks profile, continued evolution of the oversight framework is needed, with the deployment of additional regulatory and supervisory tools that include, but are not necessarily limited to, macroprudential policies. It will be important to do this in a way that ensures that regulatory and supervisory safeguards remain adaptable and flexible in tackling new risks as they emerge. There are five prominent, near-term priorities:

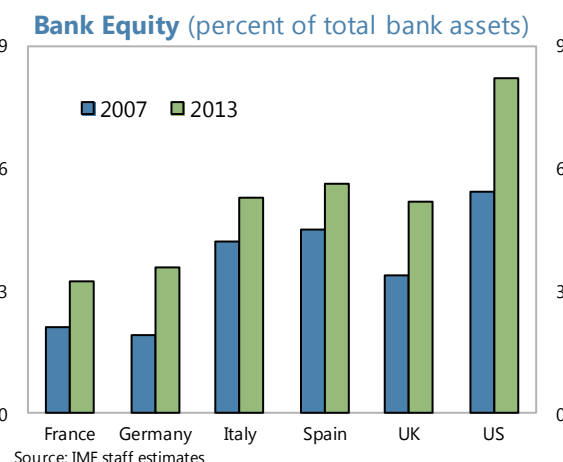
- **The Financial Stability Oversight Council (FSOC).** Given the complexity of the U.S. regulatory system—including the number of agencies involved—the effectiveness of the FSOC in proactively identifying and addressing risks in a timely and assertive manner is critical.

- To underscore this goal, all the individual FSOC member agencies should have an explicit financial stability mandate. Each material threat identified in the FSOC Annual Reports should be accompanied by a list of specific follow-up actions with regular reporting of progress in tackling those risks.
 - For newly designated entities, oversight by the Federal Reserve should be put in place on an expedited timetable and delays in the implementation of enhanced regulatory measures to safeguard against risks should be minimized.
 - While coordination between agencies has clearly improved, there is a need for greater clarity on the roles and responsibilities for system-wide crisis preparedness and management, under the FSOC umbrella.
- **Data blind spots.** Despite progress made by the work of the Office of Financial Research (OFR), the Fed, and other FSOC member agencies, the comprehensive information needed to fully assess and understand financial stability risks—particularly the channels for interconnections between different parts of the system—is not available. Data is compartmentalized with some agencies seeing part of the puzzle but none having a full picture. Evidently, such data collection and analysis will always be a work-in-progress. However, greater efforts are needed to overcome the legal, technological and other obstacles to providing the FSOC and the OFR with the data it needs to have a comprehensive view and analysis of systemic risks. Continued and more expansive cross-agency collaboration on projects to better understand specific vulnerabilities will also prove valuable.
 - **Insurance.** While capital positions have improved, the search for yield has prompted insurers to take on greater risks by investing in private equity, hedge funds, riskier corporate bonds, and real-estate-related assets (Box 8). The absence of national standards or consolidated supervision makes any assessment of risks in the insurance industry necessarily tentative and incomplete. However, there is significant scope to improve the institutional framework. Specifically, there is a need for:
 - A coordinated, nationally consistent approach to regulation (particularly for valuation and solvency requirements), supervision and stress testing. This would bring about a convergence in standards and supervisory practices and eliminate regulatory arbitrage as, for instance, through captive insurers.
 - Assigning regulatory responsibilities to an independent agency that is adequately resourced, with a nation-wide mandate, operational independence, appropriate powers, and accountability. In their current configuration, neither the Federal Insurance Office nor the National Association of Insurance Commissioners is equipped to take on this role (although their expertise would be indispensable for the new nation-wide body).

Box 7. Effects of Bank Capital on U.S. Corporate Investment

Context. Since the global financial crisis, bank capital has improved substantially. New capital requirements, increases in the leverage ratio for systemically important banks (to 6 percent), and new requirements on capital plans have led to balance sheet repair albeit at different speeds across countries

Analysis. A detailed dataset of over 11,000 nonfinancial firms in 16 advanced economies is used to draw out the macrofinancial implications of such efforts and whether strengthening the capital position of banks has had a measurable impact on the real economy.¹



Findings. The main results of the work are:

- Those firms with greater reliance on funding from the financial system (rather than from internally generated earnings) invest more in those countries where the average equity-to-assets ratio of the banking system is highest.
- The magnitude of this effect is relatively large. For example, the increase in bank capital in the U.S. from 2007 to 2013 would, all else constant, add 0.6 percent of GDP to the overall level of U.S. corporate investment. Conversely, if U.S. banks today maintained the average level of equity-assets that is currently prevailing in European banks, the U.S. would have 0.7 percent of GDP less investment (purely from the effect that lower capital has on the availability of credit to those firms reliant on financial system funding).
- The investment effect is more pronounced when the sample is restricted to the top one-third of firms in terms of the underlying quality of their fundamentals (as measured by their one year ahead probability of default). This indicates that insufficient bank capital is a binding constraint on firms with productive investment opportunities.

The empirical findings are robust to the inclusion of other explanatory variables that might affect the banks' willingness to extend credit (such as the system's average ratio of nonperforming loans or the share of intermediation undertaken by banks rather than capital markets), to changing the sample of countries, and to restricting the sample to a subset of sectors.

¹ See Y. Sun and H. Tong, "[How Does Post-Crisis Bank Capital Adequacy Affect Firm Investment?](#)" IMF Working Paper, 15/145.

- **Asset management.** The increasing role of nonbanks has brought important benefits, including a greater diversity of funding sources. However, it has also resulted in greater uncertainty about financial risks and a shift in the locus of systemic concerns toward the nonbanks. The U.S. system of regulatory oversight has not kept pace with these changes. The increase in assets held by high-yield debt funds and the liquidity transformation undertaken by some asset managers creates a potential channel to amplify shocks through asset liquidation and funding channels.
 - Such vulnerabilities call for explicit requirements on risk management and internal control in the sector (particularly linked to liquidity and derivative use) as well as more frequent and intensive examination of asset managers.
 - There should be a structured effort to stress test the asset management industry for a range of downside shocks (including illiquidity and counterparty risks). The results should be published so as to help build a better data landscape of the industry and to facilitate a more complete understanding of embedded risks. Over time, such an effort could be combined with a strengthened Dodd-Frank Act stress testing process that explores interconnections and bank-nonbank feedback chains.
- **Money markets.** Changes to the triparty repo infrastructure (including reengineering of the settlement cycle, improvements in the collateral allocation processes, and limits on intra-day credit) have reduced risks. Despite reforms, vulnerabilities in the triparty repo market remain large (including the reliance on two clearing banks).
 - Potential next steps could include the use of central counterparty clearing houses for repo transactions. This, in turn, would require implementing adequate risk management requirements for central counterparty clearing houses including cyber resilience, standardized stress testing, and recovery and resolution regimes.
 - The requirement that some money market funds move to a floating net asset value by 2016 is a positive step. However, a significant share of funds will be able to maintain stable net asset values, allowing institutional and retail investors to treat their investment as deposit-like, despite their greater liquidity risks. Shifting all money market funds to floating net asset values should be reconsidered.

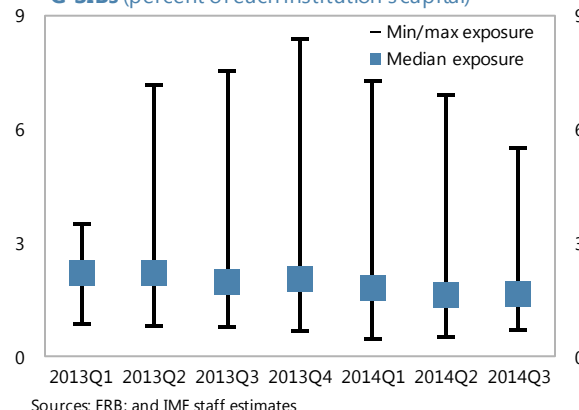
30. Improving the understanding of interlinkages. From an aggregate perspective, estimated financial interconnections among the largest U.S. bank holding companies (BHCs) have fallen over the last two years (to below 2 percent of capital for most institutions). Interbank credit risk between these systemic institutions is low (although one of the larger BHCs has a markedly higher degree of interconnectedness). Network analysis suggests:³

- The large BHCs would be robust to a range of credit and funding shocks to a single counterparty (direct exposures to individual banks are not large enough to create systemic spillovers from the failure of a single institution).
- However, multiple failures could give rise to contagion chains and there could be indirect linkages from common asset holdings and market positioning.
- Finally, the pattern of contagion would be very different if off-balance sheet exposures (e.g. credit default swaps) are incorporated.

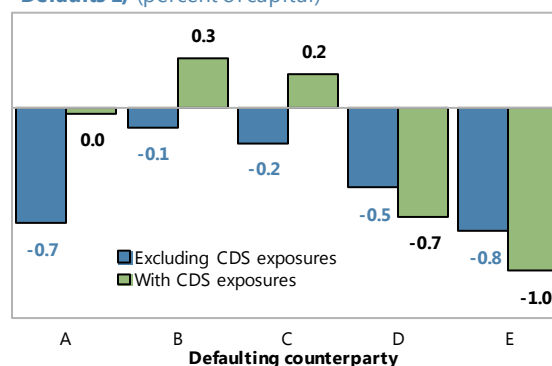
The ability of the large BHCs to rapidly change their linkages with other systemic institutions, the lack of visibility of such connections, the complexity of the system, and the important impact of derivatives on the incidence of risk all underscore the need for a coordinated effort to better trace the interconnections and channels of contagion across the system. The regular Fed stress tests could be expanded to incorporate a deeper analysis and assessment of propagation effects via inter-institutional links. In doing this, though, the current lack of information about the size and nature of interlinkages between banks and nonbanks will be a significant constraint.

31. Simplifying the institutional structure. Over time, the regulatory system should be made simpler, with fewer agencies, so as to lessen gaps and overlaps and reduce the potential for regulatory arbitrage. This would also make the FSOC's coordination role easier.

Distribution of Interbank Credit Risk Across Six G-SIBs (percent of each institution's capital)



Capital Losses of a Large G-SIB due to Counterparty Defaults 1/ (percent of capital)



³ To assess potential spillovers among the six largest U.S. G-SIBs, FRB staff implemented an updated version of the network stress-test methodology developed in Espinosa and Solé (2011) and the results are intended to be illustrative and should be treated with some caution. See the 2015 FSAP Stress-Testing Technical Note for further details of how the exercise was conducted as well as key assumptions and caveats.

32. Banks. Regulatory changes and the evolving global environment are leading banks to rethink their business models. As a result, there is a premium on continued intensive bank supervision to avoid banks trying to restore profitability through looser credit standards and riskier investment strategies. With banks remaining critical for overall systemic stability, steps should be taken to address gaps in the capital regime relative to Basel III, to strengthen supervisory guidance and limit concentration risk and transactions with related parties, and to upgrade the regimes for both interest rate risk in the banking book and for operational risk. Greater quantitative guidance from the regulators would be helpful (e.g. on the capital to be set aside for interest rate risk).

33. Cross-jurisdiction resolution. The five largest banks in the U.S. account for 45 percent of banking system assets, twice the share of 10 years ago. As such, effective resolution and recovery plans for large banks are important to underpin a stable financial system. Existing plans should continue to be thoroughly assessed against severe contingencies that have a salient cross-border component. While cooperation agreements with relevant overseas authorities have recently been signed to manage the resolution of institutions that have a significant international presence, attention will need to be devoted to their implementation. The respective agencies are responsible and the FSOC should monitor progress. Moreover, legislative changes would likely be needed to avoid undue ring-fencing and the subordination of foreign claimants.

34. Authorities' views. The Dodd-Frank Act provided much-needed changes that have buttressed financial regulation and oversight; implementation of the Act is ongoing. Steps to strengthen the financial stability framework will continue but it was seen as equally important to resist backtracking and the persistent efforts to dilute the progress already made, particularly as memories of the crisis begin to fade. Current risks to financial stability remained moderate, and the regulators were ever attentive to the evolving nature of vulnerabilities. The FSOC was viewed as performing well as a coordinating committee and had served as a forum for regulatory coordination on a range of issues including the Volcker rule, capital standards, and other reforms. Enhanced data gathering and sharing was ongoing and important joint initiatives were underway, with different regulators partnering up to study emerging issues. Market liquidity issues remained an area of focus and various authorities were working to examine the expansion of electronic trading, the role of changes in regulatory policies, and the rapid growth of certain markets (e.g. for corporate bonds). Stress testing has proven to be a useful tool to assess the resilience of the system and efforts were ongoing to improve that process through better scenario design and network analysis. Continued monitoring was warranted in the insurance sector, however there was also a need to be cognizant of the broader insurance business models being pursued in the U.S. Before moving ahead with further regulation of money market funds, it was felt that time was needed also to assess the effects of recent improvements in regulation. It was emphasized that frameworks for cross-border monitoring of risks and resolution of failing institutions were under active development, in coordination with partner regulators in other countries and the Financial Stability Board.

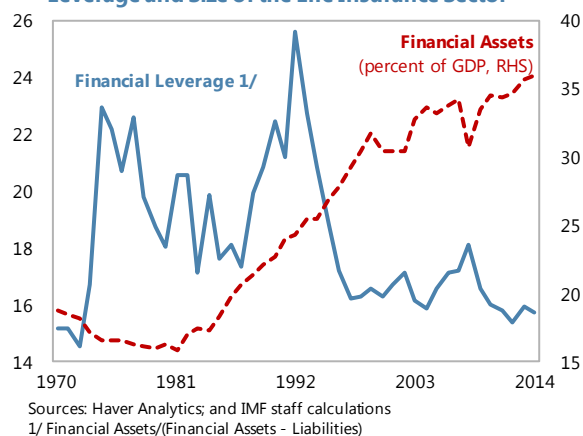
Box 8. Systemic Vulnerabilities in the Life Insurance Sector

The life insurance sector intermediates assets worth one-third of GDP and is highly leveraged. Although the sector is much better capitalized than in previous decades, its sheer size and leverage make it an important contributor to systemic risk.

Vulnerabilities are high at the company level

Investment yields have been declining over recent years as higher-coupon bonds matured and were replaced by lower-yielding new issues. From 2006 to 2013, the industry-wide spread between the net portfolio yield and the guaranteed credited rate on policies dropped by 57 basis points. Insurers responded to the decline in margins by extending portfolio durations (the median duration reached 7.7 percent in 2013, compared to 7.2 percent in 2009) and increasing allocations to lower rated assets. While credit and redemption risks in the industry are small, prolonged low interest rates pose a slow burning solvency risk for life insurers.

Leverage and Size of the Life Insurance Sector



Systemic risks over the medium term

Staff stress tests show substantial long-term stability risks in the U.S. life insurance sector¹. The prolongation of the low rates environment until 2018 would lead 11 out of 18 life insurance groups to report negative shareholder equity (assuming a full mark-to-market accounting regime.) Similarly, a sharp spike in interest rates would pose a material risk to the market value of their bond portfolio (given the longer durations insurers are holding). Rising interest rates could also lead to an increase in policy surrenders as policyholders switch into higher-yielding assets (within and outside the insurance sector). This would leave the sector vulnerable to liquidity drain and losses on those products that are exempt from surrender penalties.

Shortcomings in the supervisory regime

Insurance supervision has been strengthened in recent years but reforms remain a work in progress. Notably, insurance has been brought within the scope of system-wide oversight of the financial sector by the FSOC, and there have been other supervisory enhancements with the establishment of the Federal Insurance Office (FIO) and expanded oversight responsibilities of the Fed. However, the Fed's supervisory expertise of insurance groups still needs to be built and staffing of the relevant regulation and supervision units with appropriate skills and expertise requires ongoing effort. At the state level, the transition from a rules-based approach to more principles-based regulation and risk-focused supervision continues to face implementation challenges.

¹ See 2015 FSAP Stress Testing Technical Note.

UNADDRESSED FISCAL CHALLENGES

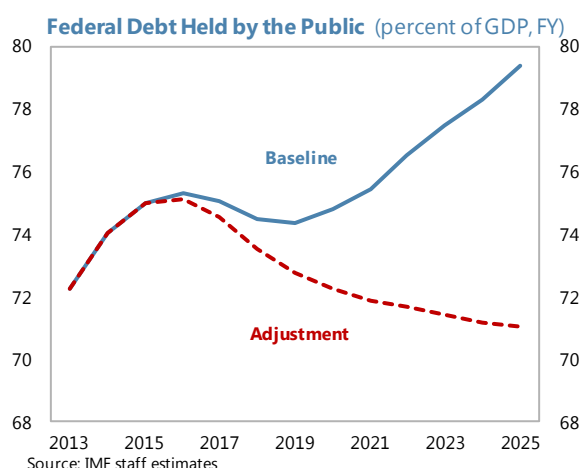
35. The FY2016 Budget. Both the President and the Congress have put forward budget proposals for FY2016:

- *The President's budget* is forecast by the Office of Management and Budget to deliver a stable federal government deficit of around 2½ percent of GDP through the 10 year budget window and stabilize the federal debt at about 73 percent of GDP by 2025. To achieve this, the proposal outlines savings in healthcare spending, increased revenues from lower personal income tax deductions for higher income individuals, changes to the business tax code, an end to sequestration, funds to augment education and infrastructure programs, and immigration reform.
- *The congressional budget blueprint* aims to balance the budget in 10 years without revenue increases and through significant—but largely unspecified—cuts to discretionary, nondefense spending.

Lawmakers are now working to pass appropriations bills, consistent with the congressional budget blueprint, to fund the government in FY2016. There is a wide gap between the two proposals and the President has indicated he would veto spending bills that either lock in sequestration or further curtail discretionary, non-defense programs.

36. Staff's view. The federal debt and deficit are expected to decline during the next few years but, under the current constellation of policies, this downward trajectory will not last. After 2019, the federal debt will begin rising again as aging-related spending pressures assert themselves and interest rates move to more normal levels. Specifically, over the next decade health care and social security outlays are expected to increase by 1¾ percent of GDP and interest spending will rise by 2 percent of GDP. As a consequence, the federal debt is forecast to rise to about 78 percent of GDP by 2025. In staff's view, aiming for a medium-term general government primary surplus of about ¾ percent of GDP (a federal government primary surplus of about 1 percent of GDP) would be appropriate to put the public debt ratio firmly on a downward path. Addressing these medium-term imbalances will require actions on multiple fronts:

- **Tax reform.** A reform of the U.S. tax code is long overdue. Complexity and loopholes have increased over the years, undermining revenues and damaging productivity. Changes should focus on simplifying the system and broadening the tax base by capping or eliminating personal income tax deductions; removing tax preferences, exclusions and deductions from the business tax; and changing the tax treatment for multinationals to limit base erosion and profit shifting. In addition to improving the structure of the system, there is a need to raise



revenues, which could be achieved through a broad-based carbon tax (Box 9), a higher federal gas tax, and the introduction of a federal-level VAT.

- **Pension reform.** The prospective depletion of the social security trust fund needs to be countered through a gradual increase in the retirement age, greater progressivity of benefits, raising the maximum taxable earnings for social security contributions, and indexing benefits and contributions provisions to chained CPI.
- **Health care.** Cost pressures have declined but more efforts are needed. Legislation could usefully focus on ensuring a better coordination of services to patients with chronic conditions, steps to contain overuse of expensive procedures and technologies, higher degree of cost sharing with beneficiaries, and eliminating tax breaks for more generous employer-sponsored health plans.

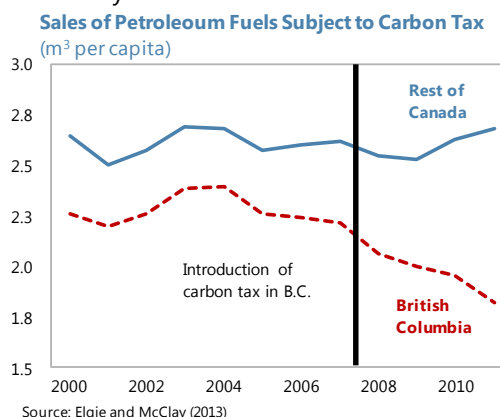
37. Near-term fiscal priorities. Tackling the longer-term fiscal challenges would provide scope to modestly expand the near-term budget envelope (by around $\frac{1}{4}$ percent of GDP, in line with past policy advice) to finance supply-side measures that support growth, job creation, and productivity. This would include front-loading infrastructure spending, raising labor force participation (e.g., through policies such as subsidized childcare assistance), incentivizing private innovation, strengthening education spending (including through apprenticeships and vocational training), and improving job search assistance programs. Creating a stable funding solution for the Highway Trust Fund, that will prevent the need for continued stop-gap patches, and reducing policy uncertainty associated with the budget process are immediate priorities.

38. Authorities' view. The President's FY2016 budget carefully balances the medium-term need for consolidation with the near-term priorities to bolster growth and job creation. The proposal achieves \$1.8 trillion in deficit reduction over the next 10 years and stabilizes the debt-GDP ratio. Policies underlying that adjustment include repairing the broken U.S. tax code, ending the broad brush austerity implied by sequestration, slowing healthcare cost growth, cutting inefficient spending, instituting comprehensive immigration reform, and prioritizing critical investments in research, education, and training. Expanding investments in infrastructure—including \$478 billion over the next six years for surface transportation—is also a long-held goal of the Administration. In that, the near-term emphasis should be on a multi-year extension of the Highway Trust Fund which would create an environment of predictability that would improve the ability to plan public projects. A serious discussion on business tax reform was needed in the U.S. and could garner bipartisan support. It was also clear that it was not in anyone's interest to repeat the high-wire tension associated with past shutdowns and debt limit discussions. There was hope that a workable compromise could be found, similar to that legislated in the Bipartisan Budget Act of 2013. If not, though, the President has been clear that he would not sign appropriation bills that the Administration views as inadequate in addressing the pressure that sequestration places on nondefense discretionary spending.

Box 9. Meeting Climate Pledges and Fiscal Objectives with a Carbon Tax¹

The case for a carbon tax. The U.S. has pledged to reduce greenhouse gases by 26–28 percent below 2005 levels in 2025. Carbon pricing is the most efficient way to achieve this commitment. The introduction of a carbon tax in the U.S. would increase the price of fuels and electricity and help incentivize mitigation efforts and clean technology investments. The recent decline of energy prices creates a window of opportunity to introduce carbon pricing.

A lesson from the North. In 2008, British Columbia phased in a carbon tax (rising to CAN \$30 per ton in 2012) on fossil fuels in transportation, home heating, and electricity to finance reductions in income and corporate taxes. Gasoline, for example, increased by about CAN 25 cents per gallon financing a 5 percentage points reduction in the first two personal income tax brackets and a reduction in the corporate income tax rate from 12 to 11 percent. The focus on upstream taxation minimized administrative issues and led to a substantial decline in fossil fuel consumption relative to other provinces. Five years after the introduction, per capita growth in British Columbia continued to be ½ percent higher than in the rest of Canada.



The administration of carbon taxes in the U.S. should

be straightforward. A carbon tax would involve building a carbon charge into existing gasoline and diesel excises and extending similar charges to the supply of other petroleum products, natural gas, and coal. In the U.S., this could involve administering taxes on about 150 petroleum refineries, 500 large natural gas operators, and about 1,500 coal mines.

Calibrating the level. A tax of around US\$45 per ton of CO₂ would reflect costs of global climate change, although a higher tax might be needed to meet the 2025 pledge. Leaving global effects aside, a substantial carbon tax would result in domestic environmental benefits from less fossil fuel use (e.g. better health outcomes from reduced local air pollution).² Phased in gradually, this tax would raise revenue of around US\$170 billion (0.9 percent of GDP) once fully implemented.

Potential effects. A US\$45 per ton of CO₂ charge would increase gasoline prices by about 40 cents a gallon, electricity prices by 2.2 cents per kWh, and coal prices by US\$90 per short ton. Carbon charges are regressive, and the introduction of a carbon tax may need to be accompanied with compensation mechanisms for low-income households (e.g. through the EITC or existing system of social benefits) which would likely use around 10 percent of revenues. Competitiveness concerns would be best addressed through international coordination over carbon pricing and, in this, the U.S. could provide a leadership role.

¹I. Parry, et al., 2015. "Implementing a US Carbon Tax: Challenges and Debates" IMF, Brookings and Resources for the Future.

²I. Parry et al., 2014. "How Much Carbon Pricing is in Countries' Own Interests? The Critical Role of Co-Benefits". IMF Working Paper, 14/174.

POVERTY, PRODUCTIVITY AND GROWTH

39. The U.S. economy faces substantial and fundamental challenges from demographic changes and an unfinished policy agenda in areas affecting long-term growth. In tackling these, the advice from past Article IV consultations bears repeating:

- **Confronting poverty** (see [link](#)). Combine an expansion of the earned income tax credit (to workers without dependents, low-income youth, and older workers not yet eligible for social security) with an increase in the federal minimum wage. Make permanent the tax provisions that are due to expire in 2017, including the extension of the earned income tax credit to larger families, the mitigation of the marriage penalty, and increase in the child tax credit.
- **Raising productivity** (see [link](#)). Invest in infrastructure, particularly in surface transportation. Expand sources for infrastructure financing. Reinstate and make permanent the Research and Experimentation tax credit. Support states in improving training programs and build partnerships with industry and higher education institutions for vocational training. Raise educational outcomes through better spending on early childhood education and support for science, technology, engineering and math programs.
- **Increasing labor force participation** (see [link](#)). Improve family benefits, including childcare assistance for working families, and modify the federal disability insurance to provide incentives for beneficiaries to work part-time.
- **Immigration reform**. Institute a comprehensive, skills-based immigration reform. Such a program would have a significant positive impact on growth and fiscal finances by increasing the labor supply (and thus future economic growth rates), strengthening productivity, and reducing the dependency ratio.
- **Trade policy** (see [link](#)). Promote bilateral and plurilateral trade agreements, such as the Trans Pacific Partnership, alongside renewed efforts to advance the multilateral trade agenda.
- **Housing finance reform**. Lessen the government's footprint and foster a greater role for the private sector in housing finance by expanding the use of market transactions to transfer first-loss risks to private investors; establishing a single securitization platform; making GSE guarantee fees more risk-based; subjecting GSEs to similar regulatory requirements as other systemically important financial institutions; and lowering the ceilings for the size of mortgages that can be securitized by the GSEs (see Selected Issues Paper).

40. Authorities' view. Tackling poverty will require action on several fronts starting with an increase in the minimum wage, a second earner tax credit, and an expansion of the earned income tax credit. Both poverty and productivity can be positively affected by the Administration's proposed investments in education including providing tuition-free community college, an expansion of tax incentives for higher education, supporting universal preschool and developing high quality preschool programs in targeted communities. Providing incentives for private investment, rebuilding

public infrastructure, and building consensus around common-sense immigration reform will provide important boosts to longer-term growth. The authorities were working to find ways to move housing finance reform ahead without legislation so as to reduce the government's footprint, minimize the risks to taxpayers, and encourage private capital. There was also optimism that progress could be made on trade agreements—notably on the Trans Pacific Partnerships—and could be an important area for bipartisan support, building on the common ground in the recently passed Senate Trade Promotion Authority bill.

STAFF APPRAISAL

41. The near-term outlook. Data in the first few months of 2015 have been a setback, mainly due to temporary factors. Absent further negative shocks, the U.S. economy should be able to move ahead at an underlying run-rate of above 3 percent in the coming quarters. There remain limited signs of wage and price inflation and sizable output and employment gaps still remain.

42. Monetary policy. The FOMC should remain data dependent and defer its first increase in policy rates until there are more tangible signs of wage or price inflation than are currently evident. Under the staff's baseline, the pace of policy rate increases is expected to be gradual. At this stage, policy rates should not be used in an effort to either reduce leverage or dampen financial stability risks.

43. The current fiscal policy dysfunction. The inability of the Congress and the Executive Branch to collectively pass a budget and corresponding appropriations bills creates fiscal uncertainty that is damaging to the U.S. economy. The disruption from either a prospective government shutdown or a stand-off linked to the federal debt ceiling represent important (and avoidable) downside risks to growth and job creation which could move to the forefront, once again, later in 2015.

44. A need for agreement on a medium-term fiscal strategy. Public finances in the U.S. remain on an unsustainable path. A credible plan is needed to address these imbalances and should include revenue enhancing reforms to the tax system, a pension reform that intertemporally aligns contributions and benefits, and steps to lessen the growth in public healthcare costs. Such a plan would provide near-term fiscal space to finance supply-side measures that support growth, job creation and productivity.

45. Strengthening financial stability on a number of fronts. Much has been done over the past several years to strengthen the U.S. financial system and it will be important to ensure that this progress—including the legislative advances in the Dodd Frank Act—is not rolled back. The FSAP has identified an extensive list of reforms to raise the U.S. system's resilience and these should be pursued without delay.

46. The exchange rate. So far, the global adjustment of exchange rates—and the strengthening of the U.S. dollar—has represented a warranted shift of demand to those parts of the world economy that were being most threatened by deflation and stagnation. Nonetheless, the stronger dollar is

impacting U.S. growth and job creation, as well as weighing on inflation. There is a risk that a further marked appreciation of the dollar—particularly one that takes place in an environment where policies to address growth deficiencies languish both in the U.S. and abroad—would be harmful.

47. Supply side reforms. A range of challenges linked to poverty, productivity and growth remain unaddressed and will require policy efforts simultaneously on a number of fronts.

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

Table 1. Selected Economic Indicators 1/
(percentage change from previous period, unless otherwise indicated)

| | 2014 | Projections | | | | | |
|---|-------|-------------|-------|-------|-------|-------|-------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| National production and income | | | | | | | |
| Real GDP | 2.4 | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 |
| Net exports 2/ | -0.2 | -0.7 | -0.5 | -0.4 | -0.4 | -0.3 | -0.3 |
| Total domestic demand | 2.5 | 3.0 | 3.5 | 3.0 | 2.7 | 2.5 | 2.2 |
| Private final consumption | 2.5 | 3.1 | 3.4 | 2.8 | 2.6 | 2.5 | 2.1 |
| Public consumption expenditure | 0.4 | 0.8 | 1.2 | 1.1 | 1.0 | 1.2 | 1.0 |
| Gross fixed domestic investment | 3.9 | 3.8 | 5.6 | 5.2 | 4.4 | 3.5 | 3.4 |
| Private fixed investment | 5.3 | 4.6 | 6.5 | 6.1 | 5.2 | 3.9 | 3.8 |
| Equipment and software | 6.4 | 5.5 | 7.2 | 7.0 | 5.7 | 3.7 | 4.3 |
| Intellectual property products | 3.8 | 4.1 | 4.0 | 3.8 | 3.7 | 3.0 | 2.3 |
| Nonresidential structures | 8.2 | -1.2 | 3.7 | 3.0 | 3.0 | 2.2 | 2.1 |
| Residential structures | 1.6 | 6.5 | 10.4 | 9.3 | 7.4 | 5.7 | 5.0 |
| Public fixed investment | -2.5 | 0.1 | 1.2 | 0.8 | 0.4 | 1.2 | 1.2 |
| Change in private inventories 2/ | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nominal GDP | 3.9 | 3.3 | 4.5 | 4.6 | 4.7 | 4.6 | 4.2 |
| Personal saving rate (% of disposable income) | 4.9 | 5.3 | 5.2 | 5.2 | 5.2 | 5.0 | 4.9 |
| Private investment rate (% of GDP) | 16.4 | 16.8 | 17.3 | 17.7 | 18.1 | 18.2 | 18.4 |
| Unemployment and potential output | | | | | | | |
| Unemployment rate | 6.2 | 5.4 | 5.1 | 5.0 | 4.9 | 4.8 | 5.0 |
| Potential GDP | 1.9 | 2.0 | 2.1 | 2.2 | 2.2 | 2.2 | 2.1 |
| Output gap (% of potential GDP) | -2.0 | -1.6 | -0.7 | -0.2 | 0.0 | 0.2 | 0.0 |
| Inflation | | | | | | | |
| CPI inflation (q4/q4) | 0.6 | 0.0 | 1.7 | 2.2 | 2.4 | 2.4 | 2.3 |
| Core CPI Inflation (q4/q4) | 0.6 | 0.0 | 1.7 | 2.2 | 2.4 | 2.4 | 2.3 |
| PCE Inflation (q4/q4) | 0.7 | 0.7 | 1.4 | 1.9 | 2.2 | 2.2 | 2.0 |
| Core PCE Inflation (q4/q4) | 1.4 | 1.3 | 1.6 | 2.0 | 2.2 | 2.1 | 2.0 |
| GDP deflator | 1.5 | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 |
| Interest rates (percent) | | | | | | | |
| Fed funds rate | 0.1 | 0.1 | 0.8 | 1.9 | 2.9 | 3.5 | 3.5 |
| Three-month Treasury bill rate | 0.0 | 0.0 | 0.7 | 1.8 | 2.8 | 3.4 | 3.4 |
| Ten-year government bond rate | 2.5 | 2.3 | 3.0 | 3.6 | 4.1 | 4.6 | 4.8 |
| Balance of payments | | | | | | | |
| Current account balance (% of GDP) | -2.4 | -2.7 | -2.9 | -3.1 | -3.2 | -3.3 | -3.4 |
| Merchandise trade balance (% of GDP) | -4.2 | -4.1 | -4.2 | -4.4 | -4.5 | -4.6 | -4.8 |
| Export volume 3/ | 4.0 | 0.3 | 3.8 | 3.0 | 3.5 | 4.2 | 4.5 |
| Import volume 3/ | 4.1 | 5.3 | 5.8 | 5.5 | 5.7 | 5.6 | 5.7 |
| Net international investment position (% of GDP) | -39.7 | -41.3 | -42.9 | -45.8 | -49.1 | -53.0 | -59.0 |
| Saving and investment (% of GDP) | | | | | | | |
| Gross national saving | 18.1 | 17.8 | 17.6 | 17.8 | 18.0 | 18.0 | 18.0 |
| General government | -1.6 | -1.5 | -1.3 | -1.0 | -1.0 | -1.3 | -1.6 |
| Private | 19.8 | 19.2 | 19.0 | 18.8 | 19.0 | 19.3 | 19.6 |
| Personal | 3.6 | 4.0 | 3.9 | 3.9 | 3.9 | 3.7 | 3.6 |
| Business | 16.1 | 15.2 | 15.1 | 15.0 | 15.1 | 15.6 | 15.9 |
| Gross domestic investment | 19.8 | 20.1 | 20.5 | 20.9 | 21.1 | 21.2 | 21.4 |
| Private | 16.4 | 16.8 | 17.3 | 17.7 | 18.1 | 18.2 | 18.4 |
| Public | 3.4 | 3.3 | 3.2 | 3.2 | 3.1 | 3.0 | 3.0 |

Sources: Haver Analytics; and IMF staff estimates

1/ Components may not sum to totals due to rounding

2/ Contribution to real GDP growth, percentage points

3/ NIPA basis, goods

Table 2. Balance of Payments
(annual percent change unless otherwise indicated)

| | 2014 | Projections | | | | | |
|---|------|-------------|------------|------|------|------|------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Real exports growth | | | | | | | |
| Goods and services | 3.2 | 1.4 | 2.5 | 3.0 | 3.7 | 4.2 | 4.2 |
| Goods | 4.0 | 0.3 | 3.8 | 3.0 | 3.5 | 4.2 | 4.5 |
| Services | 1.4 | 3.7 | -0.2 | 2.9 | 4.2 | 4.0 | 3.6 |
| Real imports growth | | | | | | | |
| Goods and services | 4.0 | 5.3 | 5.4 | 5.2 | 5.3 | 5.3 | 5.3 |
| Goods | 4.1 | 5.3 | 5.8 | 5.5 | 5.7 | 5.6 | 5.7 |
| Nonpetroleum goods | 5.8 | 6.9 | 7.8 | 6.2 | 6.2 | 6.2 | 6.3 |
| Petroleum goods | -4.5 | -6.9 | -12.0 | -1.0 | 0.2 | 0.0 | 0.0 |
| Services | 3.6 | 5.3 | 3.9 | 4.0 | 3.6 | 3.6 | 3.2 |
| Net exports (contribution to real GDP growth) | -0.2 | -0.7 | -0.5 | -0.4 | -0.4 | -0.3 | -0.3 |
| Nominal exports | | | | | | | |
| | | | (% of GDP) | | | | |
| Goods and services | 13.4 | 12.9 | 12.7 | 12.5 | 12.5 | 12.5 | 12.6 |
| Nominal imports | | | | | | | |
| Goods and services | 16.5 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 | 16.0 |
| Current account | | | | | | | |
| Current account balance | -2.4 | -2.7 | -2.9 | -3.1 | -3.2 | -3.3 | -3.4 |
| Balance on trade in goods and services | -2.9 | -2.8 | -2.9 | -3.0 | -3.1 | -3.1 | -3.2 |
| Balance on income | 0.5 | 0.1 | 0.1 | 0.0 | -0.1 | -0.1 | -0.2 |
| Capital and Financial Account | | | | | | | |
| Balance on financial account | -0.8 | -2.7 | -2.8 | -3.1 | -3.2 | -3.3 | -3.4 |
| Foreign direct investment abroad | 2.0 | 2.2 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Foreign direct investment in the U.S. | 0.5 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| Foreign acquisition of U.S. securities | 1.0 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Foreign acquisition of other U.S. liabilities | 3.0 | 4.5 | 5.0 | 5.2 | 5.3 | 5.4 | 5.5 |
| Net foreign direct investment | 1.5 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 |
| Net portfolio investment | -0.8 | -1.9 | -2.5 | -2.6 | -2.8 | -2.8 | -3.0 |
| Portfolio investment assets | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Memorandum items | | | | | | | |
| Current account balance (US\$ billions) | -411 | -480 | -538 | -606 | -656 | -704 | -756 |
| Non-oil trade balance (% of GDP) | -1.9 | -2.4 | -2.7 | -2.8 | -2.9 | -2.9 | -2.9 |
| Broad real dollar index (1973M3=100) | 86.3 | 93.7 | 93.8 | 93.8 | 93.8 | 93.8 | 93.8 |
| Foreign real GDP growth (% chg, ar) | 2.6 | 2.6 | 2.9 | 2.9 | 3.0 | 3.1 | 3.1 |
| U.S. real GDP growth (% chg, saar) | 2.4 | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 |
| U.S. real total domestic demand growth (saar) | 2.5 | 3.0 | 3.5 | 3.0 | 2.7 | 2.5 | 2.2 |
| Sources: Haver Analytics; and IMF staff estimates | | | | | | | |

Table 3. Federal and General Government Finances

(percent of GDP)

| | Projections | | | | | | | | | | | |
|-------------------------------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Federal government | (fiscal years; budget basis) | | | | | | | | | | | |
| Revenue | 17.5 | 17.9 | 18.0 | 18.0 | 17.9 | 17.7 | 17.7 | 17.7 | 17.8 | 17.8 | 17.9 | 18.0 |
| Expenditure | 20.7 | 20.7 | 21.0 | 20.6 | 20.3 | 20.6 | 20.9 | 21.2 | 21.7 | 21.8 | 21.7 | 22.1 |
| Non-interest | 19.4 | 19.4 | 19.6 | 19.1 | 18.6 | 18.6 | 18.7 | 18.7 | 19.0 | 18.9 | 18.6 | 19.0 |
| Interest | 1.3 | 1.3 | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.5 | 2.7 | 2.9 | 3.0 | 3.1 |
| Budget balance 1/ | -3.2 | -2.8 | -3.0 | -2.6 | -2.5 | -2.9 | -3.2 | -3.4 | -3.9 | -3.9 | -3.8 | -4.1 |
| Primary balance 2/ | -1.9 | -1.5 | -1.6 | -1.1 | -0.7 | -0.9 | -1.0 | -1.0 | -1.3 | -1.0 | -0.7 | -1.0 |
| Primary structural balance 3/ 4/ | -1.4 | -1.1 | -1.4 | -1.0 | -0.7 | -0.9 | -1.0 | -0.9 | -1.2 | -1.1 | -0.8 | -1.1 |
| Change | 1.0 | 0.3 | -0.3 | 0.4 | 0.3 | -0.2 | 0.0 | 0.0 | -0.3 | 0.1 | 0.3 | -0.3 |
| Federal debt held by the public | 74.0 | 74.9 | 75.3 | 75.0 | 74.5 | 74.4 | 74.8 | 75.4 | 76.5 | 77.5 | 78.3 | 79.4 |
| General government | (calendar years; GFSM2001 basis) | | | | | | | | | | | |
| Revenue | 31.1 | 31.4 | 31.3 | 31.2 | 30.9 | 30.7 | 30.7 | 30.8 | 30.8 | 30.9 | 31.0 | |
| Expenditure | 36.0 | 35.8 | 35.5 | 34.9 | 34.6 | 34.7 | 34.9 | 35.2 | 35.5 | 35.5 | 35.4 | |
| Net interest | 2.1 | 2.1 | 2.1 | 2.1 | 2.3 | 2.5 | 2.6 | 2.8 | 3.0 | 3.2 | 3.3 | |
| Net lending 1/ | -4.9 | -4.4 | -4.2 | -3.8 | -3.7 | -4.0 | -4.2 | -4.4 | -4.7 | -4.6 | -4.3 | |
| Primary balance 2/ | -2.8 | -2.4 | -2.1 | -1.6 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 | -1.1 | |
| Primary structural balance 3/ 4/ | -2.3 | -1.8 | -1.8 | -1.5 | -1.4 | -1.6 | -1.6 | -1.6 | -1.6 | -1.4 | -1.1 | |
| Change | 0.9 | 0.5 | 0.1 | 0.3 | 0.1 | -0.2 | 0.0 | 0.0 | -0.1 | 0.2 | 0.3 | |
| Gross debt | 106.4 | 107.3 | 107.9 | 107.9 | 107.6 | 107.6 | 108.2 | 108.9 | 109.8 | 110.7 | 111.5 | |
| incl. unfunded pension liabilities | 122.6 | 124.9 | 125.3 | 125.2 | 124.7 | 124.6 | 125.0 | 125.6 | 126.3 | 127.1 | 127.8 | |
| Memorandum items | (from authorities) | | | | | | | | | | | |
| Federal government deficit | | | | | | | | | | | | |
| President's FY2016 Budget | -2.8 | -3.2 | -2.5 | -2.3 | -2.3 | -2.4 | -2.5 | -2.6 | -2.6 | -2.5 | -2.4 | -2.5 |
| CBO's Assessment of the Budget | -2.8 | -2.7 | -2.0 | -2.0 | -2.1 | -2.4 | -2.6 | -2.9 | -2.9 | -2.9 | -2.9 | -2.9 |
| CBO Baseline Scenario (current law) | -2.8 | -2.7 | -2.4 | -2.3 | -2.4 | -2.8 | -3.1 | -3.3 | -3.7 | -3.6 | -3.4 | -3.8 |
| Federal government debt | | | | | | | | | | | | |
| President's FY2016 Budget | 74.1 | 75.1 | 75.0 | 74.6 | 74.3 | 74.1 | 74.0 | 74.0 | 73.9 | 73.7 | 73.5 | 73.3 |
| CBO's Assessment of the Budget | 74.1 | 74.2 | 73.5 | 72.7 | 72.2 | 72.1 | 72.1 | 72.3 | 72.5 | 72.7 | 72.9 | 73.1 |
| CBO Baseline Scenario (current law) | 74.1 | 74.2 | 73.8 | 73.2 | 72.9 | 73.1 | 73.5 | 74.0 | 74.9 | 75.7 | 76.2 | 77.1 |

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

Note: Staff baseline counts in savings from the reduction in overseas contingency operations and assumes that current tax policies are mostly extended (with the notable exception of bonus depreciation) and automatic spending cuts are replaced with back-loaded measures (at the same proportion in FY2016 and latter years as the replacement achieved for FY2014 and FY2015 by the Bipartisan Budget Act of 2013). Budgetary effects of Medicare Access and CHIP Reauthorization Act of 2015 (so-called "DocFix") have been incorporated. The President's Budget assumes that the policy measures proposed by the Administration will be implemented. CBO baseline is based on current law (and assumes for example that automatic spending cuts take place). The President's Budget uses the OMB macroeconomic assumptions. CBO uses CBO macroeconomic assumptions both for its own baseline and its assessment of the President's Budget

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

Annex I. Risk Assessment Matrix¹

| Nature/Source of Risk | Overall Level of Concern | |
|--|--|---|
| | Likelihood of Realization | Expected Impact if Risk Materializes |
| Persistent dollar strength | High Improving U.S. economic prospects versus the rest of the world leads to a dollar surge, suppressing exports and investment in tradables and eroding growth. | Medium A 10% dollar appreciation could reduce GDP by over 1 percentage point over the space of two years. |
| Low oil prices | Medium Low oil prices triggered by supply factors reverse only gradually, amidst weak demand. Larger than expected boost to consumption or non-oil investment, compensated by a negative impact on investment in the energy sector. | Medium A US\$10 further decrease in oil prices could increase growth by 0.1-0.2 percentage points in the first and second year. |
| Faster increases in interest rates | Medium Fed may raise policy rates at a faster-than-expected pace because inflation picks up earlier. Recent compression in volatility and risk premia could unwind. | Medium A permanent 50 bps increase in 10-year interest rates could subtract about ½ percent of GDP after two years. Sustained spikes in term and risk premia would imply greater output losses. |
| Imbalances from a protracted period of low interest rates | Medium Continued search for yield could lead to excess leverage, weaker underwriting standards and potential mispricing of risk. | High If unaddressed, imbalances could lead to financial instability with significant economic costs and spillovers to the rest of the world. |
| A protracted period of slower growth in AEs and EMs | High Weak demand and persistently low inflation leading to “new mediocre” rate of growth. Maturing of the cycle, misallocation of investment, and incomplete reforms leads to prolonged slower growth in EMs. | Medium Slower growth in advanced and emerging economies would weigh on growth. |
| Political fragmentation erodes the globalization process | Medium Russia/Ukraine: the mounting conflict depresses business confidence and heightens risk aversion, amid disturbances in global financial, trade and commodity markets. Heightened risk of fragmentation/state failure/security dislocation in the Middle East and some countries in Africa, leading to a sharp rise in oil prices, with negative global spillovers. | Low A rise in oil prices would have a negative impact on the U.S. with a flight to safety resulting in dollar appreciation. |
| Failure to raise debt limit and U.S. bond market stress | Low The federal borrowing limit is not raised owing to political gridlock. Policymakers do not take sufficient measures to put debt on a sustainable trajectory. The lack of fiscal sustainability triggers a sharp rise in the sovereign risk premium. | High Failure to raise the debt limit would be very costly and depend on how long the impasse lasts. There would be severe global spillovers. |

¹ The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood of risks listed is the staff’s subjective assessment of the risks surrounding the baseline (“low” is meant to indicate a probability below 10 percent, “medium” a probability between 10 and 30 percent, and “high” a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Annex II. Public Debt Sustainability Analysis (DSA)

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 first stabilize, but then to start rising as aging-related spending pressures on entitlement programs assert themselves and interest rates normalize. Gross financing needs are large but manageable given the global reserve currency status of the United States. A medium-term, credible consolidation plan remains a key policy priority.

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 as a result of the financial crisis and the ensuing recession. The Bipartisan Budget Act of December 2013 partially reversed the cuts scheduled to take place in FY2014 and FY2015, 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.

Baseline. Staff baseline includes savings from the reduction in overseas contingency operations, and assumes that current tax policies are mostly extended (with the notable exception of bonus depreciation) and automatic spending cuts are partially reversed and replaced with back-loaded measures (similar to the deal reached in the Bipartisan Budget Act). With these assumptions, the public debt ratio temporarily stabilizes in 2015–19. However, the debt ratio starts rising again owing to the health care and social security related spending pressures from an aging population. Federal debt held by the public is projected to increase from 74 percent of GDP now to close to 80 percent of GDP in FY2025, with general government gross debt exceeding 110 percent of GDP by CY2024. Overall, despite the substantial deficit reduction achieved so far and the legislated savings in the pipeline, U.S. public finances remain on an unsustainable trajectory.

Adjustment scenario. The 2014 general government primary balance was -2.8 percent of GDP. In staff's view, aiming for a medium-term general government primary surplus of about $\frac{3}{4}$ 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. Lower interest expenses than previously projected reduce the estimated adjustments needs. Nevertheless, the target primary surplus would have to be higher in the long run to bring the debt ratio closer to the pre-crisis levels by 2030.

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 $4\frac{3}{4}$ percent by 2024 (compared to an average of about 4 percent in the previous 10 year period). As a result, real interest rates will become a major debt-creating flow over the medium-term.

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.

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 15 percentage points above the baseline. If real GDP growth turns out to be one standard deviation below the baseline, the public debt would increase by about 8 percentage points above the baseline. A scenario involving a 1 percentage point slippage in the planned consolidation over the next two years would lead to a debt-to-GDP ratio of 113 percent in 2024. A combined macro-fiscal shock could raise the public debt ratio as high as 132 percent of GDP by the end of the 10-year horizon. 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.

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 Risk Assessment

Heat Map Baseline (2013-2024)

Debt level 1/

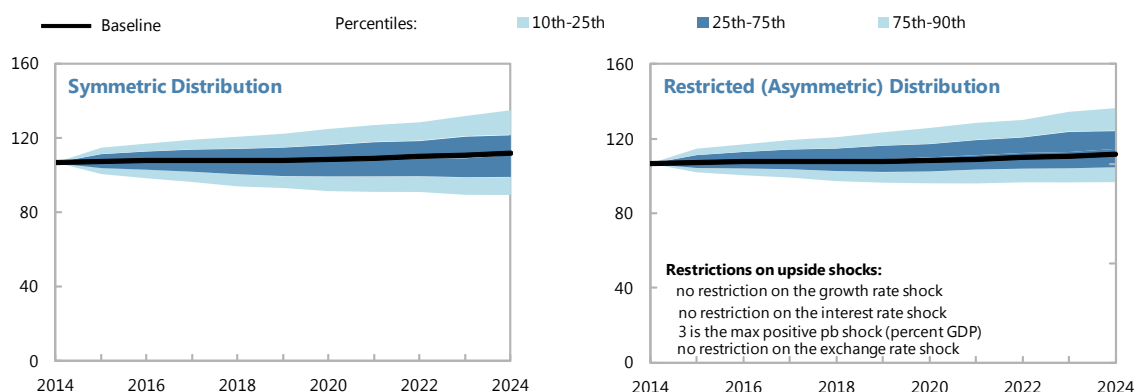
| | | | | |
|-----------------------|---------------------------------|-----------------------------------|-----------------------------------|----------------------------|
| Real GDP Growth Shock | Primary Balance Shock | Real Interest Rate Shock | Exchange Rate Shock | Contingent Liability shock |
| Real GDP Growth Shock | Primary Balance Shock | Real Interest Rate Shock | Exchange Rate Shock | Contingent Liability Shock |
| Market Perception | External Financing Requirements | Change in the Share of Short-Term | Public Debt Held by Non-Residents | Foreign Currency Debt |

Gross financing needs 2/

Debt profile 3/

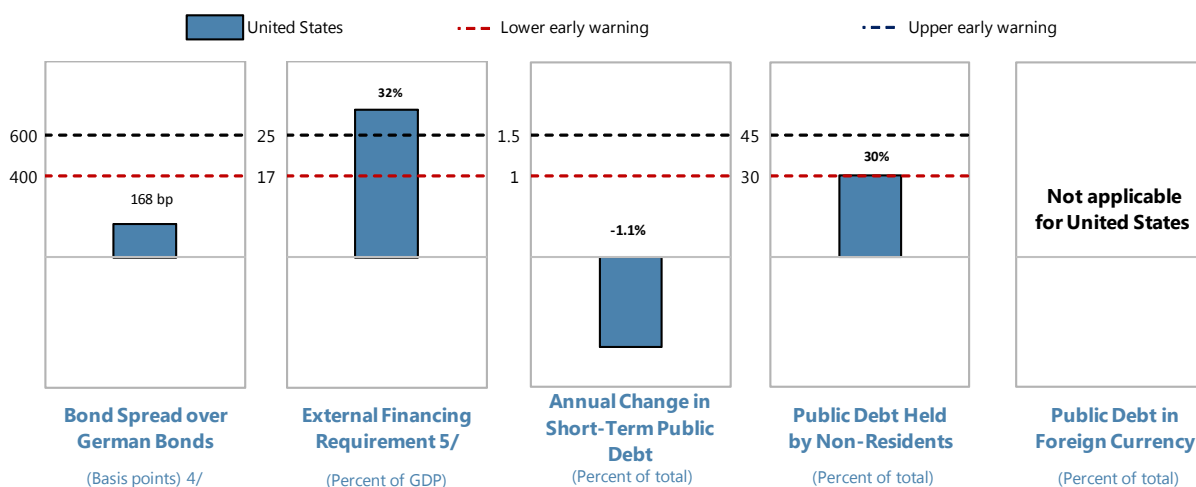
Evolution of Predictive Densities of Gross Nominal Public Debt

(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:

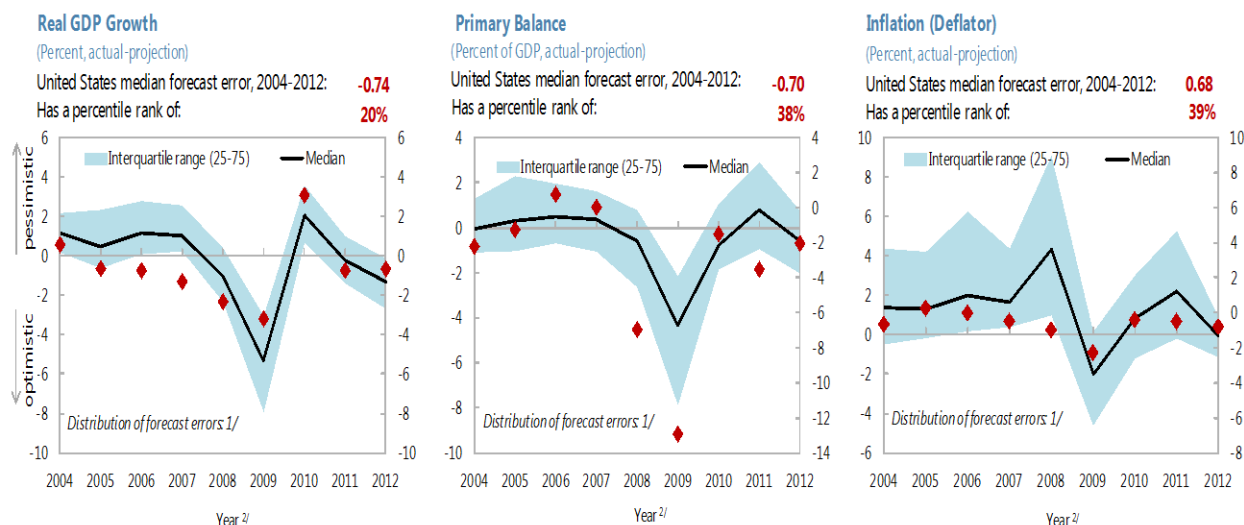
400 and 600 basis points for bond spreads; 17 and 25 percent of GDP for external financing requirement; 1 and 1.5 percent for change in the share of short-term debt; 30 and 45 percent for the public debt held by non-residents

4/ An average over the last 3 months, 12-Mar-15 through 10-Jun-15

5/ Includes liabilities to the Eurosystem related to TARGET

United States Public DSA - Realism of Baseline Assumptions

Forecast Track Record, versus all countries

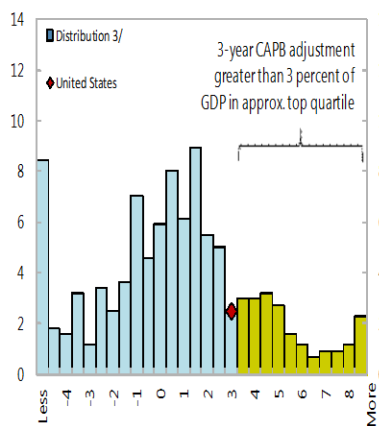


Assessing the Realism of Projected Fiscal Adjustment

3-Year Adjustment in Cyclically-Adjusted

Primary Balance (CAPB)

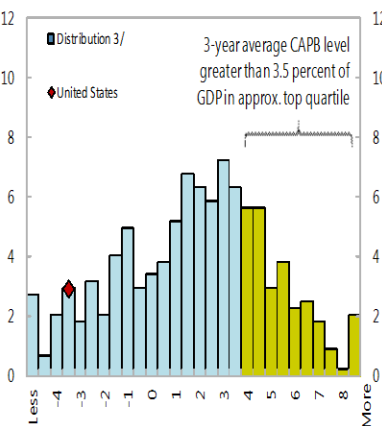
(Percent of GDP)



3-Year Average Level of Cyclically-Adjusted

Primary Balance (CAPB)

(Percent of GDP)

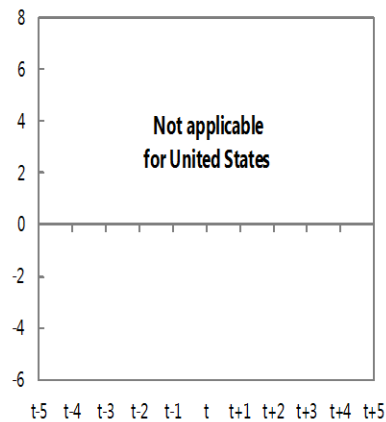


Boom-Bust Analysis

Real GDP growth

(Percent)

United States



Source: IMF staff

1/ Plotted distribution includes all countries; percentile rank refers to all countries

2/ Projections made in the spring WEO vintage of the preceding year

3/ Data cover annual observations 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 - Baseline Scenario

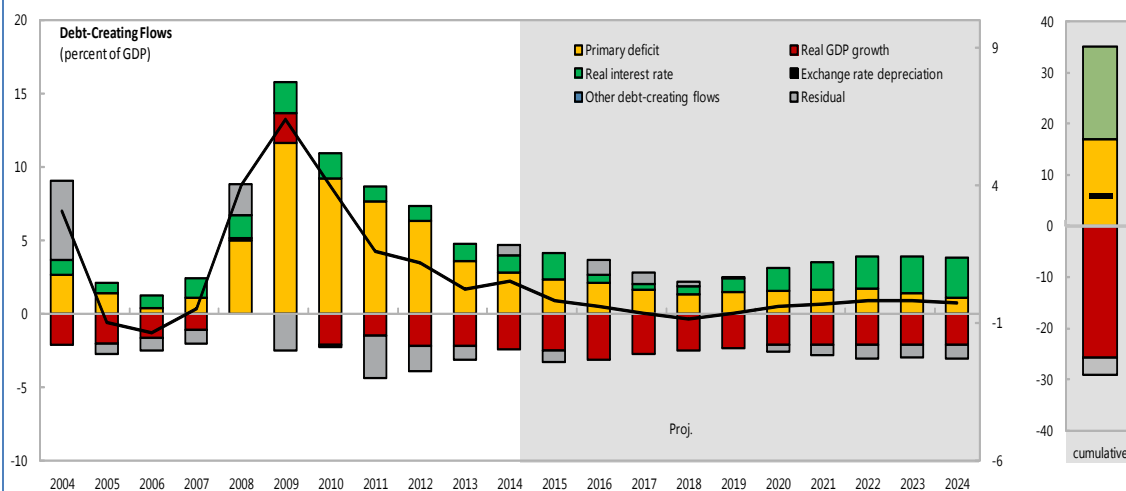
(percent of GDP, unless otherwise indicated)

Debt, Economic and Market Indicators 1/

| | Actual | | | Projections | | | | | | | | | | As of June 10, 2015 | |
|--------------------------------------|--------------|-------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------|--|
| | 2004–2012 2/ | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | | |
| Nominal gross public debt | 79.2 | 104.2 | 106.4 | 107.3 | 107.9 | 107.9 | 107.6 | 107.6 | 108.2 | 108.9 | 109.8 | 110.7 | 111.5 | Sovereign Spreads | |
| Public gross financing needs | 17.6 | 23.2 | 21.3 | 22.9 | 23.2 | 20.8 | 19.4 | 20.9 | 20.7 | 21.9 | 22.0 | 22.8 | 22.6 | Spread (bp) 3/ | |
| Real GDP growth (percent) | 1.7 | 2.2 | 2.4 | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | CDS (bp) | |
| Inflation (GDP deflator, percent) | 2.2 | 1.5 | 1.5 | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | Ratings | |
| Nominal GDP growth (percent) | 3.9 | 3.7 | 3.9 | 3.3 | 4.5 | 4.6 | 4.7 | 4.6 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | Foreign | |
| Effective interest rate (percent) 4/ | 4.0 | 2.7 | 2.6 | 2.5 | 2.0 | 2.4 | 2.7 | 3.2 | 3.7 | 4.0 | 4.3 | 4.6 | 4.8 | Local | |
| | | | | | | | | | | | | | | Moody's | |
| | | | | | | | | | | | | | | Aaa | |
| | | | | | | | | | | | | | | S&P's | |
| | | | | | | | | | | | | | | AA+ | |
| | | | | | | | | | | | | | | Fitch | |
| | | | | | | | | | | | | | | AAA | |

Contribution to Changes in Public Debt

| | Actual | | | Projections | | | | | | | | | | Cumulative | |
|---|-----------|------|------|-------------|------|------|------|------|------|------|------|------|------|------------|-------------------------------------|
| | 2004–2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | | |
| Change in gross public sector debt | 4.9 | 1.7 | 2.3 | 0.9 | 0.5 | 0.0 | -0.3 | 0.1 | 0.5 | 0.7 | 0.9 | 0.9 | 0.8 | 5.1 | Debt-stabilizing primary balance 9/ |
| Identified debt-creating flows | 5.1 | 2.6 | 1.6 | 1.6 | -0.5 | -0.7 | -0.7 | 0.0 | 1.0 | 1.4 | 1.8 | 1.8 | 1.7 | 7.7 | |
| Primary deficit | 5.0 | 3.6 | 2.8 | 2.4 | 2.1 | 1.6 | 1.4 | 1.5 | 1.6 | 1.6 | 1.7 | 1.4 | 1.1 | 16.2 | |
| Primary (noninterest) revenue and grants | 29.2 | 30.3 | 30.5 | 30.8 | 30.7 | 30.5 | 30.2 | 29.9 | 29.8 | 29.8 | 29.8 | 29.9 | 29.9 | 301.3 | |
| Primary (noninterest) expenditure | 34.2 | 34.0 | 33.4 | 33.2 | 32.8 | 32.1 | 31.5 | 31.4 | 31.4 | 31.4 | 31.5 | 31.3 | 31.0 | 317.6 | |
| Automatic debt dynamics 5/ | 0.1 | -1.0 | -1.2 | -0.7 | -2.5 | -2.3 | -2.0 | -1.5 | -0.5 | -0.2 | 0.2 | 0.4 | 0.6 | -8.6 | |
| Interest rate/growth differential 6/ | 0.1 | -1.0 | -1.2 | -0.7 | -2.5 | -2.3 | -2.0 | -1.5 | -0.5 | -0.2 | 0.2 | 0.4 | 0.6 | -8.6 | |
| Of which: real interest rate | 1.3 | 1.2 | 1.1 | 1.8 | 0.6 | 0.4 | 0.5 | 0.9 | 1.5 | 1.9 | 2.2 | 2.5 | 2.8 | 15.2 | |
| Of which: real GDP growth | -1.2 | -2.2 | -2.4 | -2.5 | -3.1 | -2.7 | -2.5 | -2.4 | -2.1 | -2.1 | -2.1 | -2.1 | -2.1 | -23.8 | |
| 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 sweetener) | 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/ | -0.3 | -0.9 | 0.7 | -0.7 | 1.0 | 0.7 | 0.3 | 0.0 | -0.5 | -0.7 | -0.9 | -0.9 | -0.9 | -2.5 | |



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

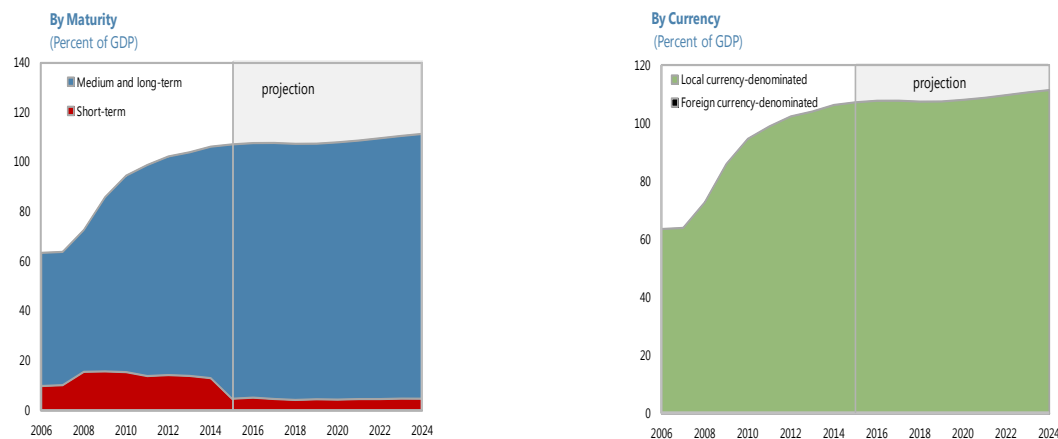
5/ Derived as $([r - p(1+g)] - g + ae(1+r))/(1+g+p+gp)$ times previous period debt ratio, with r = interest rate; p = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation6/ The real interest rate contribution is derived from the denominator in footnote 4 as $r - \pi(1+g)$ 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

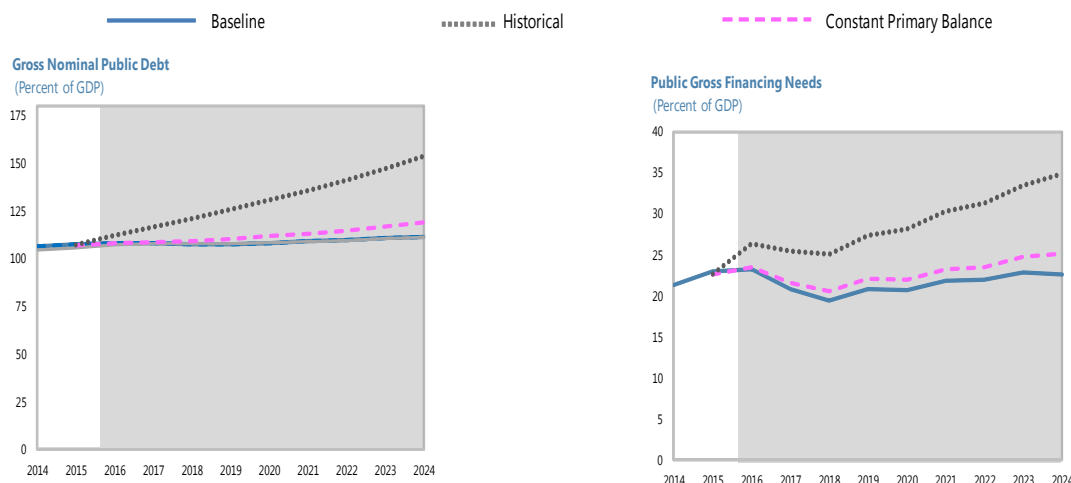
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year

United States Public DSA - Composition of Public Debt and Alternative Scenarios

Composition of Public Debt



Alternative Scenarios



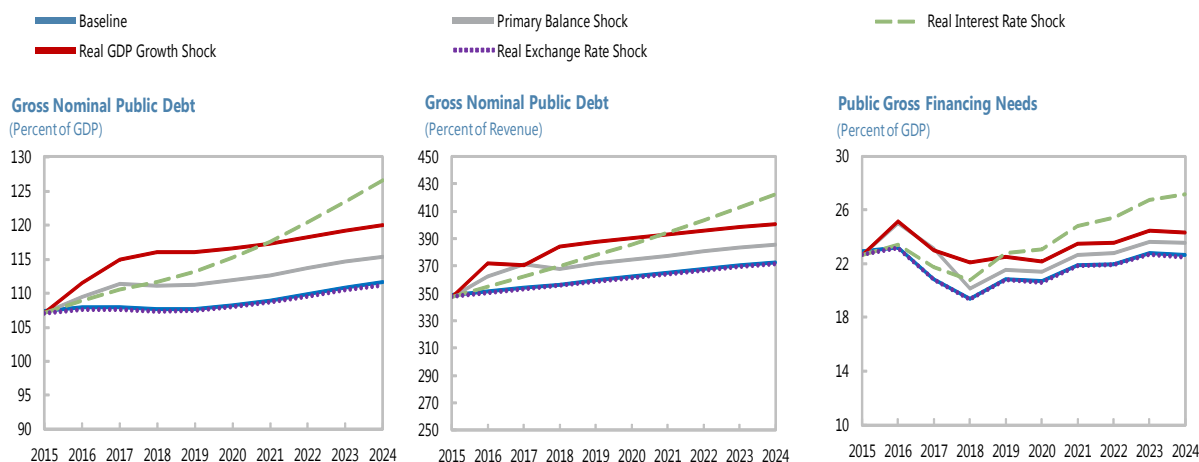
Underlying Assumptions (Percent)

| Baseline scenario | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Historical scenario | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|------|------|------|------|------|------|------|------|------|------|-------------------------|------|------|------|------|------|------|------|------|------|------|
| Real GDP growth | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | Real GDP growth | 2.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| Inflation | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | Inflation | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Primary balance | -2.4 | -2.1 | -1.6 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 | -1.1 | Primary balance | -2.4 | -4.9 | -4.9 | -4.9 | -4.9 | -4.9 | -4.9 | -4.9 | -4.9 | -4.9 |
| Effective interest rate | 2.5 | 2.0 | 2.4 | 2.7 | 3.2 | 3.7 | 4.0 | 4.3 | 4.6 | 4.8 | Effective interest rate | 2.5 | 2.0 | 2.6 | 3.1 | 3.6 | 4.2 | 4.6 | 5.0 | 5.2 | 5.4 |
| Constant primary balance scenario | | | | | | | | | | | | | | | | | | | | | |
| Real GDP growth | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | | | | | | | | | |
| Inflation | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | | | | | | | | | | | |
| Primary balance | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | -2.4 | | | | | | | | | | | |
| Effective interest rate | 2.5 | 2.0 | 2.4 | 2.8 | 3.2 | 3.7 | 4.0 | 4.3 | 4.6 | 4.8 | | | | | | | | | | | |

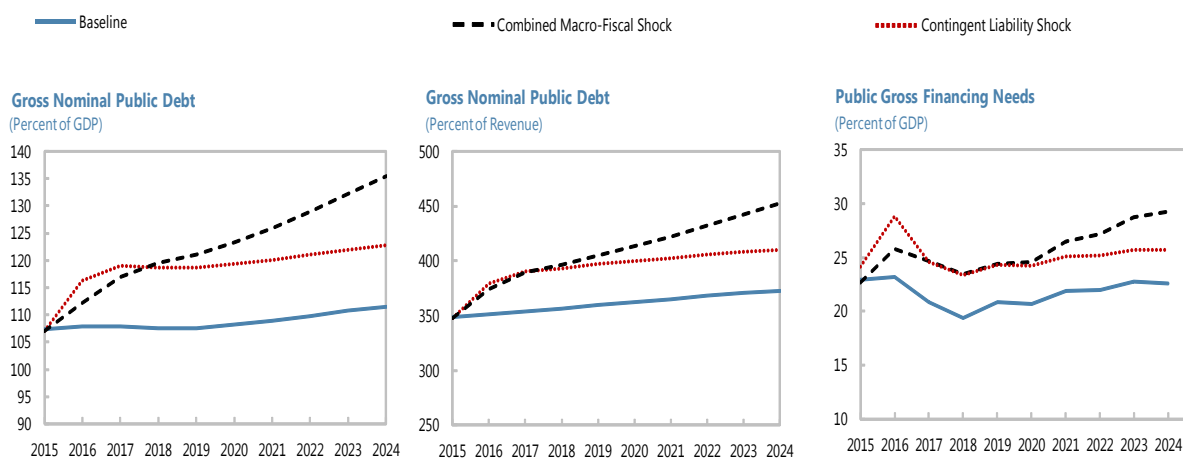
Source: IMF staff

United States Public DSA - Stress Tests

Macro-Fiscal Stress Tests



Additional Stress Tests



Underlying Assumptions

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|--|-----------------------------------|------|------|------|------|------|------|------|------|------|
| Primary Balance Shock | | | | | | | | | | | | Real GDP Growth Shock | | | | | | | | | |
| Real GDP growth | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | | Real GDP growth | 2.5 | 1.2 | 0.9 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 |
| Inflation | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | | Inflation | 0.8 | 1.0 | 1.4 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 |
| Primary balance | -2.4 | -4.0 | -3.5 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 | -1.1 | | Primary balance | -2.4 | -3.6 | -2.6 | -2.8 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 |
| Effective interest rate | 2.5 | 2.0 | 2.4 | 2.9 | 3.3 | 3.8 | 4.1 | 4.4 | 4.6 | 4.8 | | Effective interest rate | 2.5 | 2.0 | 2.4 | 2.8 | 3.2 | 3.7 | 4.1 | 4.4 | 4.6 |
| Real Interest Rate Shock | | | | | | | | | | | | Real Exchange Rate Shock | | | | | | | | | |
| Real GDP growth | 2.5 | 1.8 | 1.7 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | | Real GDP growth | 2.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 |
| Inflation | 0.8 | 1.4 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | | Inflation | 0.8 | 1.5 | 1.9 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 |
| Primary balance | -2.4 | -2.1 | -1.6 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 | -1.1 | | Primary balance | -2.4 | -2.1 | -1.6 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 |
| Effective interest rate | 2.5 | 2.0 | 2.8 | 3.5 | 4.2 | 4.9 | 5.4 | 5.9 | 6.2 | 6.4 | | Effective interest rate | 2.5 | 2.0 | 2.4 | 2.8 | 3.2 | 3.7 | 4.0 | 4.3 | 4.5 |
| Combined Shock | | | | | | | | | | | | Contingent Liability Shock | | | | | | | | | |
| Real GDP growth | 2.5 | 1.2 | 0.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | | Real GDP growth | 2.5 | 1.2 | 0.9 | 2.5 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 |
| Inflation | 0.8 | 1.0 | 1.4 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | | Inflation | 0.8 | 1.0 | 1.4 | 2.2 | 2.3 | 2.1 | 2.1 | 2.1 | 2.1 |
| Primary balance | -2.4 | -4.2 | -3.5 | -2.8 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 | -1.1 | | Primary balance | -2.4 | -8.4 | -1.6 | -1.4 | -1.5 | -1.6 | -1.6 | -1.7 | -1.4 |
| Effective interest rate | 2.5 | 2.0 | 2.9 | 3.6 | 4.2 | 4.9 | 5.5 | 5.9 | 6.2 | 6.5 | | Effective interest rate | 2.5 | 2.1 | 2.6 | 2.9 | 3.3 | 3.8 | 4.1 | 4.4 | 4.6 |

Source: IMF staff

Annex III. External Sector Assessment

| | | |
|--|--|--|
| Foreign asset and liability position and trajectory | <p>Background. The net international investment position (NIIP) declined from -18.7 per cent of GDP in 2010 to -34.5 percent of GDP in 2014, reflecting sustained 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 predominantly due to projected current account deficits.</p> <p>Assessment. A decline in foreign demand for U.S. debt securities (for example, by a protracted failure to restore long-run fiscal sustainability) would raise financial stability risks, but at the same time weaken the exchange rate and strengthen the trade balance. Given the dollar's reserve currency status, such financial stability concerns are limited. Most U.S. foreign assets are denominated in foreign currency and over 50 percent are in the form of FDI and portfolio equity claims, whose value tend to decline when global growth and stock markets are weak, as well as when the U.S. dollar appreciates.</p> | <p>Overall Assessment:</p> <p><i>The U.S. external position was broadly consistent with medium-term fundamentals and desirable policies in 2014. As of May 2015, sizable recent REER appreciation has weakened the U.S. external position. This is partially offset by lower oil prices. The U.S. REER is currently moderately above the level consistent with medium-term fundamentals.</i></p> <p>The U.S. external position has improved considerably in recent years, as have assessed imbalances and fiscal policy gaps. As of May, the REER was about 9 percent above its average value of 2014. This was due to solid U.S. economic performance and divergence of U.S. growth and monetary policy prospects from key trading partners. The negative effects of the REER on the external position in 2015 are partially offset by the positive effects of lower oil prices.</p> <p>Recommended policies:</p> <p>Over the medium term, fiscal consolidation 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 to raise productivity and labor force growth, including taking steps to fully exploit the benefits of the boom in unconventional energy production. This would be consistent with maintaining external stability and achieving full employment.</p> |
| Current account | <p>Background. The U.S. current account (CA) deficit has narrowed from its pre-crisis height of 6 percent of GDP to 2.4 percent of GDP in 2014, reflecting a sharp reduction in the fiscal deficit, higher private saving, lower investment in the aftermath of the financial crisis, and a stronger energy trade balance (due to the rapid increase of unconventional energy production). /2 The CA deficit is expected to decline moderately but steadily from 2015 through the medium-term as the effects of a stronger U.S. economy and a more appreciated U.S. dollar are only partly offset by lower oil prices.</p> <p>Assessment. The EBA model estimates a cyclically-adjusted CA gap of -1.2 percent of GDP for 2014. The calculation, however, does not fully account for the increase of unconventional energy production and the effects of the 2014 price decline on domestic energy production and the oil balance. The staff view is, on balance, that the 2014 cyclically-adjusted CA is between 0 and 1 ¼ percent weaker than the level implied by medium-term fundamentals and desirable policies. /3</p> | |
| Real exchange rate | <p>Background. The real effective exchange rate (REER) appreciated in 2014 by about 2 percent compared to 2013. Notwithstanding this moderate overall annual figure, the REER appreciated by more than 6 percent in the second half of 2014, due to solid U.S. economic performance and divergence of U.S. growth and monetary policy prospects from key trading partners. As of May 2015, the REER was about 9 percent stronger than its average value over 2014.</p> <p>Assessment. Indirect estimates of the REER (relying on the preferred current account assessment) suggest the exchange was overvalued by about 5 percent in 2014. Direct REER analyses suggest an overvaluation of between 2 and 8 percent. /4 Considering all estimates and the uncertainties around them, staff assess the 2014 average REER as overvalued, within a range of 0 to 10 percent, compared to the level implied by medium-term fundamentals and desirable policies.</p> | |
| Capital and financial accounts: flows and policy measures | <p>Background. Net financial outflows were about 0.8 percent of GDP in 2014. 5/ Portfolio inflows increased by about 40 percent, year over year, in 2014 but were offset by weaker direct investment and other inflows. On the outflow side, there were further increases in U.S. portfolio investment overseas, but much less so than the previous year. The stronger outlook for the U.S. economy compared to its key trading partners, the dollar reserve currency status and safe haven motives continue to boost foreign demand for U.S. Treasury securities.</p> <p>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.</p> | |
| FX intervention & reserves level | <p>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.</p> | |

| | United States (continued) |
|----------------------------|--|
| Technical Background Notes | <p>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. Gross assets and liabilities are about 140 and 180 per cent of GDP, respectively.</p> <p>2/ The oil portion of the CA had a deficit of 1.1 percent of GDP in 2014, 0.3 percentage points lower than in 2013, reflecting less net imports and lower oil prices.</p> <p>3/ Developments in the oil sector are not fully captured in the EBA. In particular, the price elasticity of U.S. oil production has dramatically increased following the shale revolution. While acknowledging that the use of price elasticity of oil is implicit in the EBA, it is important to note that the terms of trade adjustment used in the EBA CA assessment is derived from longer historical relationships, which fail to fully capture the changing level and nature of U.S. oil production.</p> <p>4/ The two direct EBA models are the REER Index model and the REER Level model.</p> <p>5/ This is substantially below pre-crisis levels of about 5.0 percent of GDP.</p> |

Annex IV. Responses to Past Policy Advice

Fiscal policy. Over the last few years staff has emphasized the importance of fixing long standing fiscal problems to slow entitlement spending and normalize the budget process. Cost saving measures that were part of the Affordable Care Act appear to be lowering health care inflation. A continuing resolution for the rest of FY2015 that was passed in December 2014, subsequent extension of funding for the Department of Homeland Security, as well as bipartisan support for passing a reform package that ends automatic Medicare payment cuts to doctors –the so-called “Doc-Fix” were positive steps that lessened fiscal uncertainties. Staff also 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. The prospects for progress in these areas remain unfavorable, given the lack of political consensus.

Monetary policy. Given continued economic slack and expectation of muted inflationary pressures, staff supported maintaining policy rates at zero for longer (past mid-2015) than foreseen by markets at the time of the last consultation. Staff also stressed the importance of a well communicated normalization of U.S monetary policy conditions, in the context of robust U.S growth, and pointed to scope for enhancements to the Fed’s communications toolkit. The Fed continues to maintain a supportive monetary policy and has made significant efforts—in FOMC statements, press conferences, and speeches—to strengthen its communication and prepare markets for normalization.

Financial policies. Based on the 2010 FSAP and subsequent work, staff has recommended several 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, such as addressing remaining vulnerabilities of the money market funds and the tri-party repo market, allowing for the orderly resolution of too-important-to-fail financial institutions, and reforms to increase the resilience of the insurance sector remain to be completed.

Structural policies. Staff has recommended several structural measures to counter the slowdown in potential growth and high poverty rates, including expand the EITC, increasing the minimum wage, investing in infrastructure and education, improving the tax system, using active labor market policies, implementing a broad, skills-based approach to immigration reform and capitalizing on the gains from rising U.S. energy independence. The Administration has taken measures to increase wages for some workers and several states and localities have increased minimum wages. 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) has made little progress. Support for immigration reform is elusive and there is no plan to raise the gas tax or to introduce a VAT or a carbon tax.

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. Legislative proposals to more fundamentally reshape housing finance have made little headway in Congress.



UNITED STATES

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

June 18, 2015

Prepared By

The Western Hemisphere Department

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FUND RELATIONS

(As of May 31, 2015)

Membership Status: Joined 12/27/45; Article VIII

| General Resources Account: | SDR Million | Percent Quota |
|-----------------------------------|--------------------|----------------------|
| Quota | 42,122.40 | 100.00 |
| Fund holdings of currency | 35,112.94 | 83.36 |
| Reserve Tranche Position | 7,014.33 | 16.65 |
| Lending to the Fund | | |
| New Arrangements to Borrow | 7,077.08 | |

| SDR Department: | SDR Million | Percent Allocation |
|---------------------------|--------------------|---------------------------|
| Net cumulative allocation | 35,315.68 | 100.00 |
| Holdings | 35,853.92 | 101.52 |

Outstanding Purchases and Loans: None

Financial Arrangements: None

Projected Payments to the Fund:

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

| | <u>2015</u> | <u>2016</u> | <u>Forthcoming</u> <u>2017</u> | <u>2018</u> | <u>2019</u> |
|------------------|-------------|-------------|-----------------------------------|-------------|-------------|
| Principal | | | | | |
| Charges/Interest | | <u>0.60</u> | <u>0.60</u> | <u>0.60</u> | <u>0.60</u> |
| Total | | <u>0.60</u> | <u>0.60</u> | <u>0.60</u> | <u>0.60</u> |

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 19, 2014 (EBD/14/35).

Article IV Consultation. The 2014 Article IV consultation was concluded on July 23, 2014 and the Staff Report was published as IMF Country Report No. 14/221. A fiscal Report of Observance of Standards and Codes was completed in the context of the 2003 consultation.

The 2015 Article IV discussions took place May 11–May 19, 2015. Concluding meetings with Chair Yellen of the Board of Governors of the Federal Reserve System, and Treasury Secretary Lew occurred on June 1 and June 3 respectively. The Managing Director, Ms. Lagarde, the Deputy Managing Director, Mr. Zhu, and WHD Director, Mr. Werner, participated in the concluding meetings. A press conference on the consultation was held on June 4, 2015. The team comprised Nigel Chalk (head), Stephan Danninger, Ravi Balakrishnan, Ali Alich, Juan Solé, Jarkko Turunen, and Andrea Pescatori (all WHD); Per Stefan Laseen (SPR); and Deniz Igan (RES). Ian Parry (FAD), Aditya Narain (FSAP head), Martin Cihak and Simon Gray (all MCM) participated in some of the meetings. Mr. Sobel (Executive Director), Mr. Haarsager (Senior Advisor) and Ms. Douglass Kochman (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.

A Financial System Assessment Program involved two missions, during October–November 2014, and February–March, 2015. The Financial System Stability Assessment is scheduled to be discussed at the Board, together with the 2015 Article IV Consultation, on July 6, 2015.

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 has subscribed to the Special Data Dissemination Standard (SDDS) and its metadata are posted on the Dissemination Standard Bulletin Board (DSBB).

| United States. Table of Common Indicators Required for Surveillance (As of June 10, 2015) | | | | | |
|---|----------------------------|---------------|--------------------------------|-------------------------------------|---------------------------------------|
| | 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 | 2015 M5 | May 29 | M | M | M |
| Reserve/base money | May 28 | May 28 | W | W | W |
| Broad money | May 28 | May 28 | W | W | W |
| Central bank balance sheet | May 28 | May 28 | W | W | W |
| Interest rates ³ | Same day | Same day | D | D | D |
| Consumer price index | 2015 M4 | May 22 | M | M | M |
| Revenue, expenditure, balance and composition of financing ⁴ —general government ⁵ | 2015 Q1 | June 1 | Q | Q | Q |
| Revenue, expenditure, balance and composition of financing ⁴ —central government | 2015 M5 | June 10 | M | M | M |
| Stocks of central government and central government-guaranteed debt | 2015 M5 | June 4 | M | M | M |
| External current account balance | 2014 Q4 | March 19 | Q | Q | Q |
| Exports and imports of goods and services | 2015 M4 | June 4 | M | M | M |
| GDP/GNP (2 nd release) | 2015 Q1 | May 29 | Q | M | M |
| Gross External Debt | 2014 Q4 | March 31 | Q | Q | Q |
| International Investment Position ⁶ | 2014 Q4 | March 31 | 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. | | | | | |

Statement by the IMF Staff Representative on the United States

July 6, 2015

1. This statement reports on information that has become available since the staff report was issued. It does not alter the thrust of the staff appraisal.
2. **An upward revision to first quarter GDP.** Growth in the first quarter was revised up to -0.2 percent, suggesting that the temporary factors that hampered growth in the winter were a smaller drag than had been previously thought. Staff, however, has maintained its annual growth projection for 2015 at 2.5 percent, with recent data pointing to a modestly slower second quarter than had been assumed in the forecasts underpinning the staff report.
3. **A generally upbeat picture from other indicators.** Recent data releases have shown real personal consumption expenditures and consumer sentiment rebounded in May, personal income growth remains solid, manufacturing surveys are improving, and housing data shows a mild but steady recovery. Inflation continues to be subdued (core PCE inflation was 1.2 percent in May). Nonfarm payrolls in June added 223 thousand jobs—close to Consensus expectations—with the unemployment rate falling to 5.3 percent, mainly reflecting a decline in the participation rate. Average hourly earnings slowed to 2.0 percent year-over-year in June—0.3 percentage points below Consensus expectations—from 2.3 percent in May.
4. **The Supreme Court ruled on the Affordable Care Act.** In a 6-3 decision, the U.S. Supreme Court upheld a key provision of the Affordable Care Act. The Court ruled that health insurance subsidies should continue to be available for those states that have not set up their own health insurance exchanges and are, instead, using the federal exchange.
5. **Trade Promotion Authority was approved by Congress and signed by President Obama.** The Congress approved Trade Promotion Authority on June 24, allowing for an up-or-down vote (so-called “fast track”) on future trade deals. In addition, Trade Adjustment Assistance was signed into law, renewing funding for assistance and job training to workers displaced by the forces of globalization. This legislation opens the way for a congressional vote on the Trans-Pacific Partnership, potentially as early as this Fall.
6. **The Export-Import Bank’s authority to extend new loans, guarantees or credit insurance expired on June 30.** The bank will, however, continue to operate and manage transactions related to its existing portfolio.
7. **Puerto Rico’s fiscal crisis.** The fiscal situation in Puerto Rico continues to deteriorate, raising concerns that the commonwealth may be unable to service its \$72 billion in public debt. On July 1 the Puerto Rico Electricity Power Authority reached an agreement with its creditors that allowed it to meet a debt service payment that was due that day and extended until September 15 a forbearance agreement between the utility and its creditors.

The bondholders and the utility continue to work on a long-term plan to put the finances of the company on a sustainable footing. Puerto Rico's Governor Padilla announced on June 30 that the commonwealth's debts are "not payable" and has established a working group to analyze, by August 30, the options for a "complete restructuring and development plan" for Puerto Rico.

8. **The impact on the U.S. of recent events in Greece has, so far, been modest.**

Following the Greek government's call for a referendum, U.S. equity markets fell by around 2 percent, the 10-year U.S. Treasury rate fell by 10 basis points, and the U.S. dollar strengthened around 1 percent versus the Euro.