

# Board of Governors of the Federal Reserve System

*The Federal Reserve, the central bank of the United States, provides the nation with a safe, flexible, and stable monetary and financial system.*

## Accessible Material

### March 2012 Tealbook Tables and Charts

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### March 2012 Tealbook A Tables and Charts<sup>†</sup>

#### Domestic Economic Developments and Outlook

##### Key Background Factors underlying the Baseline Staff Projection

###### Figure: Federal Funds Rate

Line chart, by percent, 2007 to 2013. Data are quarterly average. There are three series, Current Tealbook, Previous Tealbook, and Market expected rate. Current Tealbook begins in 2007:Q1 at about 5.25 and generally decreases to about 0.13 by 2009:Q4. From 2009:Q4 to 2012:Q3 it fluctuates between about 0.07 and 0.18. By 2012:Q3 it is at about 0.13 and it remains constant here until 2013:Q4. Previous Tealbook follows Current Tealbook almost exactly until 2012:Q1 when it moves to 0.13. It remains constant at 0.13 until 2013:Q4. Market expected rate begins in 2011:Q4 at about 0.13 and generally decreases to about 0.05 by 2012:Q3. It then generally increases to about 0.13 by 2013:Q4.

###### Figure: Long-Term Interest Rates

Line chart, by percent, 2007 to 2013. Data are quarterly average. There are six series, "Current Tealbook: BBB corporate yield," "Current Tealbook: Conforming mortgage rate," "Current Tealbook: 10-year Treasury yield," "Previous Tealbook: BBB corporate yield," "Previous Tealbook: Conforming mortgage rate," and "Previous Tealbook: 10-year Treasury yield." Current Tealbook: BBB corporate yield begins in 2007 at about 6.1 and generally increases to about 9.4 by late 2008. It then generally decreases to about 4.9 by mid-2011 and then generally increases to about 5.6 by late 2013. Current Tealbook: Conforming mortgage rate begins in 2007 at about 6.2 and fluctuates but generally decreases to about 4.0 by late 2011. It then increases to about 5.2 by late 2013. Current Tealbook: 10-year Treasury yield begins in 2007 at about 4.8 and fluctuates but generally decreases to about 3.2 by early 2009. It then generally increases to about 3.9 by early 2010 and then generally decreases to about 2.9 by mid-2010. By early 2011 it has generally increased to about 3.6 and by late 2011 it has generally decreased to about 2.1. It then generally increases to about 3.7 by late 2013. Previous Tealbook: BBB corporate yield begins in 2007 at about 6.1 and generally increases to about 9.4 by late 2008. It then generally decreases to

about 4.9 by mid-2011 and then generally increases to about 5.1 by late 2013. Previous Tealbook: Conforming mortgage rate begins in 2007 at about 6.2 and fluctuates but generally decreases to about 4.0 by late 2011. It then increases to about 5.4 by late 2013. Previous Tealbook: 10-year Treasury yield begins in 2007 at about 4.8 and fluctuates but generally decreases to about 3.2 by early 2009. It then generally increases to about 3.9 by early 2010 and then generally decreases to about 2.9 by mid-2010. By early 2011 it has generally increased to about 3.6 and by late 2011 it has generally decreased to about 2.15. It then generally increases to about 3.85 by late 2013.

### Figure: Equity Prices

Line chart, by ratio scale where 2007:Q1 = 100, 2007 to 2013. Data are quarter-end. There are two series, Current Tealbook: Dow Jones U.S. Total Stock Market Index and Previous Tealbook: Dow Jones U.S. Total Stock Market Index. Current Tealbook: Dow Jones U.S. Total Stock Market Index begins in early 2007 at about 100 and generally increases to about 107 by mid-2007. It then generally decreases to about 56 by 2009 and then generally increases to about 85 by early 2010. By mid-2010 it has generally decreased to about 74 and by early 2011 it has generally increased to about 98. It then generally decreases to about 81 by mid-2011 and then increases to about 111 by late 2013. Previous Tealbook: Dow Jones U.S. Total Stock Market Index begins in early 2007 at about 100 and generally increases to about 107 by mid-2007. It then generally decreases to about 56 by 2009 and then generally increases to about 85 by early 2010. By mid-2010 it has generally decreased to about 74 and by early 2011 it has generally increased to about 98. It then generally decreases to about 81 by mid-2011 and then increases to about 110 by late 2013.

### Figure: House Prices

Line chart, by ratio scale, 2007:Q1 = 100, 2007 to 2013. Data are quarterly. There are two series, Current Tealbook: CoreLogic index and Previous Tealbook: CoreLogic index. Current Tealbook: CoreLogic index begins in 2007 at about 100 and generally decreases to about 72.5 by early 2009. It then generally increases to about 74.8 by early 2010 and then generally decreases to about 68.3 by late 2013. Previous Tealbook: CoreLogic index begins in 2007 at about 100 and generally decreases to about 72.5 by early 2009. It then generally increases to about 74.7 by mid-2010 and then generally decreases to about 68.3 by late 2013.

### Figure: Crude Oil Prices

Line chart, by dollars per barrel, 2007 to 2013. Data are quarterly average. There are four series, Current Tealbook: West Texas Intermediate, Current Tealbook: Imported Oil, Previous Tealbook: West Texas Intermediate and Previous Tealbook: Imported Oil. Current Tealbook: West Texas Intermediate begins in early 2007 at about 58 and generally increases to about 125 by 2008. By 2009 it has generally decreased to about 42 and by early 2011 it has generally increased to about 103. It then generally decreases to about 91 by late 2011 and then increases to about 101 by late 2013. Current Tealbook: Imported Oil begins in early 2007 at about 55 and increases to about 117 by mid-2008. It then decreases to about 41 by early 2009 and then generally increases to about 109 by mid-2011. By late 2013 it has generally decreased to about 103. Previous Tealbook: West Texas Intermediate begins in early 2007 at about 58 and generally increases to about 125 by 2008. By 2009 it has generally decreased to about 42 and by early 2011 it has generally increased to about 103. It then generally decreases to about 89 by late 2011 and then generally increases to about 96 by late 2013. Previous Tealbook: Imported Oil begins in early 2007 at about 55 and increases to about 117 by mid-2008. It then decreases to about 41 by early 2009 and then generally increases to about 109 by mid-2011. By late 2013 it has generally decreased to about 101.

### Figure: Broad Real Dollar

Line chart, by scale where 2007:Q1 = 100, 2007 to 2013. Data are quarterly average. There are two series, Current Tealbook and Previous Tealbook. Current Tealbook begins in 2007 at about 100 and generally decreases to about 89 by 2008. It then generally increases to about 101 by early 2009 and then generally decreases to about 92 by late 2009. By 2010 it has generally increased to about 94 and by mid-2011 it has generally decreased to about 85.2. It then generally increases to about 89 by late 2011 and then decreases to about 85 by late 2013. Previous Tealbook begins in 2007 at about 100 and generally decreases to about 89 by 2008. It then generally increases to about 101 by early 2009 and then generally decreases to about 92 by late 2009. By 2010 it has generally increased

to about 94 and by mid-2011 it has generally decreased to about 85.2. It then generally increases to about 88 by late 2011 and then decreases to about 85 by late 2013.

Note: Blue shading represents the projection period, which begins in 2012:Q1.

## [Box:] Assessing the Near Term Outlook with Factor Models

### Figure: Activity Factor

Line chart, by standard deviations from the mean, 1984 to 2012. There is a horizontal line at zero. There are three series, Activity factor, Chicago Fed National Activity Index 3-month moving average, and 68 percent confidence interval. Activity factor begins in 1984 at about 2.4 and generally decreases to about -0.5 by 1986. It then generally increases to about 1.2 by 1988 and then generally decreases to about -3 by 1991. It then generally increases to about 1.5 by 1994 and then generally decreases to about -0.6 by 1995. It then generally fluctuates between -0.5 and 1.2 from 1995 to 1999. It then generally decreases to about -2.1 by 2001 and then generally increases to about 1 by 2005. It then generally decreases to about -3.3 by 2008 and then generally increases to about 0.3 by 2012. Chicago Fed National Activity Index 3-month moving average begins in 1984 at about 1.5 and generally decrease to about -0.1 by 1985. It generally increases to about 0.7 by 1987 and then generally decreases to about -1.7 by 1990. It then generally increases to about 0.5 and fluctuates between -0.3 and 0.5 from 1994 to about 2000. It then generally decreases to about -1.2 by 2011 and then generally increases to about 0.9 by 2006. It generally decreases to about -3.95 by 2008 and then generally increases to about 0.1 by 2012. The 68 percent confidence interval starts at about between 2.25 and 2.6 and decreases to between about -2.9 and -3.5 by 1990, then increases to about between 1.6 and 1.9. It then decreases to about between -2.7 and -3.9 by 2008 and then increases to end between -0.3 and 0.5 by 2012.

Note: Shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research: July 1990-March 1991, March 2001-November 2001, and December 2007-June 2009.

### Figure: Recession Probabilities

Line chart, by probability, February 2011 to February 2012. The series begins in February 2011 at about 0.095 and increases to about 0.14 by March 2011. It decreases to about 0.095 by April 2011 and then generally increases to about 0.32 by May 2011. It generally decreases to about 0.25 by July 2011 and then generally increases to about 0.44 by August 2011. It then generally decreases to about 0.9 by February 2012.

Note: Chart shows the probably of two consecutive quarters of declining output.

## Factor Model Projections of Real GDP Growth

	2012:Q1	2012:Q2
<b>Real GDP growth (percent)</b>		
Current	1.4	3.5
As of January Tealbook	2.0	2.4
<b>Revision since January (percentage points)</b>	<b>-0.6</b>	<b>1.1</b>
<i>Contributions of:</i>		
Production and labor	1.3	1.4
Financial	0.2	1.0
Spending and other	-2.0	-1.3

## Summary of the Near-Term Outlook

(Percent change at annual rate except as noted)

Measure	2011:Q4		2012:Q1		2012:Q2	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>2.9</b>	<b>3.1</b>	<b>1.6</b>	<b>1.8</b>	<b>1.8</b>	<b>2.2</b>
Private domestic final purchases	2.4	2.5	1.9	1.9	2.4	2.9
Personal consumption expenditures	2.2	2.1	2.0	1.2	2.4	2.6
Residential investment	9.7	11.5	8.5	13.9	4.0	7.7
Business Fixed Investment	2.6	3.2	-1.1	4.5	2.1	3.9
Government Purchases	-4.5	-4.2	.0	-1.4	-8	-3
<i>Contributions to change in real GDP</i>						
Inventory investment <sup>1</sup>	1.6	1.9	-.1	.0	-.1	-.4
Net exports <sup>1</sup>	.2	-.1	.1	.5	.1	.2
<b>Unemployment Rate<sup>2</sup></b>	<b>8.7</b>	<b>8.7</b>	<b>8.7</b>	<b>8.4</b>	<b>8.7</b>	<b>8.4</b>
<b>PCE Chain Price Index</b>	<b>.5</b>	<b>1.2</b>	<b>1.4</b>	<b>2.1</b>	<b>1.7</b>	<b>2.2</b>
Ex. food and energy	.9	1.3	1.5	1.8	1.5	1.7

1. Percentage points. [Return to table](#)

2. Percent. [Return to table](#)

## Recent Nonfinancial Developments (1)

### Figure: Real GDP and GDI

Line chart, by 4-quarter percent change, 2003 to 2011. There is a horizontal line at zero. There are two series, Gross domestic product and Gross domestic income. Gross domestic product begins in 2003 at about 1.8 and increases to about 4.1 by 2004. It then generally decreases to about 1 by early 2007 and then increases to about 2.4 by mid-2007. By 2009 it has generally decreased to about -5.3 and by 2010 it has generally increased to about 3.5. It then decreases to about 1.7 by 2011:Q3. Gross domestic income begins in 2003 at about 1.2 and increases to about 3.8 by early 2004. From early 2004 to early 2006 it fluctuates between about 3.2 and 4.2. It then decreases to about -0.3 by late 2007 and then increases to about 0.7 by early 2008. By 2009 it has decreased to about -5.5 and by 2010 it has increased to about 4.3. It then decreases to about 1.2 by 2011:Q3.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

### Figure: Change in Private Payroll Employment

Line chart, by thousands of employees, 2003 to 2011. There is a horizontal line at zero. There are two series, Change in Private Payroll Employment and 3-month moving average. Change in Private Payroll Employment begins in early 2003 at about 40 and generally decreases to about -210 by mid-2003. It then generally increases to about 320 by early 2004. From early 2004 to early 2006 it fluctuates between about -10 and 350. It then generally decreases to about -20 by early 2006 and then generally increases to about 220 by 2007. By early 2009 it has generally decreased to about -880 and by November 2011 it has generally increased to about 130. 3-month moving average begins in early 2003 at about -40 and generally decreases to about -130 by mid-2003. By early 2006 it has generally increased to about 300 and by early 2009 it has generally decreased to about -800. It then generally

increases to about 200 by November 2011.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

### **Figure: Unemployment Rate**

Line chart, by percent, 2003 to 2011. The series begins in early 2003 at about 5.9 and generally increases to about 6.3 by mid-2003. It then generally decreases to about 4.3 by 2007 and then generally increases to about 10.1 by 2009. By November 2011 it has generally decreased to about 8.3.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

### **Figure: Manufacturing IP excluding Motor Vehicles and Parts**

Line chart, by 3-month percent change, annual rate, 2003 to 2011. There is a horizontal line at zero. The series begins in early 2003 at about 0 and then generally increases to about 5 within a month or two. It then generally decreases to about -2 by mid-2003. By early 2005 it has generally increased to about 9 and by mid-2005 it has generally decreased to about -5. It then generally increases to about 12.5 by late 2005 and then generally decreases to about -0.5 by late 2006. By early 2007 it has generally increased to about 7.5 and by early 2009 it has generally decreased to about -25. It then generally increases to about 11 by early 2010 and then generally decreases to about 3.0 by early 2011. It generally increases to about 8 by mid-2011 and then generally decreases to about 0. By late 2011 it generally increases to about 7.

Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

## **Recent Nonfinancial Developments (2)**

### **Figure: Production of Light Motor Vehicles**

Line chart, by millions of units, annual rate, 2003 to 2011. The series begins in 2003 at about 12.8. It then fluctuates, but generally decreases to about 3.5 by early 2009 and then fluctuates, but generally increases to about 10 by late 2011.

Source: Ward's Auto Infobank

### **Figure: Sales of Light Motor Vehicles**

Line chart, by millions of units, annual rate, 2003 to 2011. The series begins in early 2003 at about 16.2. From early 2003 to early 2005 it fluctuates between about 15.2 and 18.1. It then generally increases to about 20.5 by mid-2005 and then decreases to about 14.5 by late 2005. By early 2006 it has generally increased to about 18 and by early 2009 it has generally decreased to about 9.0. It then generally increases to about 14 by mid-2009 and within a month or so decreases to about 8.95. By late 2011 it has generally increased to about 15.

Source: Ward's Auto Infobank.

### **Figure: Real PCE Goods excluding Motor Vehicles**

Line chart, by billions of chained (2005) dollars, 2003 to 2011. The series begins in 2003 at about 2400 and generally increases to about 2950 by 2007. It then generally decreases to about 2775 by 2009 and then generally increases to about 3040 by October 2011.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

### **Figure: Single-Family Housing Starts**

Line chart, thousands of units, annual rate, 2003 to 2011. There are two series, Starts and Adjusted permits. Starts begins in 2003 at about 1530 and generally decreases to about 1280 within a month or so. It then fluctuates, but generally increases to about 1810 by 2006 and then generally decreases to about 350 by early 2009. By early 2010 it has generally increased to about 580 and by October 2011 it has generally decreased to about 480. Adjusted permits begins in 2003 at about 1450 and generally increases to about 1840 by 2005. It then generally decreases to

about 350 by 2009 and then generally increases to about 575 by early 2010. By October 2011 it has generally decreased to about 430.

Note: Adjusted permits equal permits plus starts outside of permit-issuing areas.

Source: U.S. Census Bureau.

### **Figure: Single-Family Home Sales**

Line chart, by thousands of units, annual rate, 2003 to 2011. There are two series, New and Existing. New begins in 2003 at about 1000 and fluctuates, but generally increases to about 1400 by 2005. It then generally decreases to about 300 by October 2011. Existing begins in 2003 at about 5350 and fluctuates, but generally increases to about 6350 by 2005. It then generally decreases to about 3400 by late 2008 and then generally increases to about 5000 by late 2009. By mid-2010 it has generally decreased to about 29000 and by late 2011 it has generally increased to about 3800.

Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

### **Figure: Nondefense Capital Goods Excluding Aircraft**

Line chart, by billions of dollars, 2003 to 2011. There are two series, Orders and Shipments. Orders begins in 2003 at about 49. It then fluctuates, but generally increases to about 68.5 by early 2008 and then generally decreases to about 47 by 2009. By October 2011 it has generally increased to about 66. Shipments begins in 2003 at about 49.3. It then generally increases to about 66 by 2008 and then generally decreases to about 52 by 2009. By October 2011 it has generally increased to about 65.

Source: U.S. Census Bureau.

## **Recent Nonfinancial Developments (3)**

### **Figure: Nonresidential Construction Put in Place**

Line chart, by billions of chained (2005) dollars, 2003 to 2011. The series begins in 2003 at about 226. It then generally increases to about 410 by late 2007. From late 2007 to late 2008 it fluctuates between about 400 and 415. It then generally decreases to about 245 by early 2011 and then generally increases to about 280 by October 2011.

Source: U.S. Census Bureau.

### **Figure: Inventory Ratios ex. Motor Vehicles**

Line chart, by months, 2003 to 2011. There are two series, Staff flow-of-goods system and Census book-value data. Staff flow-of-goods system begins in 2003 at about 1.6 and generally decreases to about 1.48 by late 2007. It then generally increases to about 1.63 by early 2009 and then generally decreases to about 1.5 by October 2011. Census book-value data begins in 2003 at about 1.3 and generally decreases to about 1.18 by 2005. It then generally increases to about 1.26 by 2006 and then generally decreases to about 1.18 by 2008. By early 2009 it has generally increased to about 1.41 and by September 2011 it has generally decreased to about 1.22.

Note: Flow-of-goods system covers total industry ex. motor vehicles and parts, and inventories are relative to consumption. Census data cover manufacturing and trade ex. motor vehicles and parts, and inventories are relative to sales.

Source: U.S. Census Bureau; staff calculation.

### **Figure: Defense Spending**

Line chart, by billions of chained (2005) dollars, 2003 to 2011. There are two series, "Unified" in which the data are monthly and "NIPA" in which the data are quarterly. Unified begins in 2003 at about 450 and generally increases to about 555 by 2004. From 2004 to early 2007 it fluctuates between about 465 and 575. It then generally increases to about 690 by late 2010 and then generally decreases to about 610 by late 2011. NIPA begins in 2003 at about 450 and generally increases to about 525 by 2004. From 2004 to early 2007 it fluctuates between about 505 and 535. It

then generally increases to about 640 by mid-2010 and then generally decreases to about 610 by Q4 2011.

Note: The unified series is seasonally adjusted and deflated by BEA prices. The NIPA series excludes the consumption of fixed capital.

Source: *Monthly Treasury Statement*; U.S. Department of Commerce, Bureau of Economic Analysis.

## Figure: Exports and Non-Oil Imports

Line chart, by billions of dollars, 2003 to 2011. There are two series, Non-oil imports and Exports. Non-oil imports begins in early 2003 at about 112. It then generally increases to about 180 by 2008 and then generally decreases to about 132 by 2009. By September 2011 it has generally increased to about 187. Exports begins in early 2003 at about 81. It then generally increases to about 165 by 2008 and then generally decreases to about 122 by 2009. By September 2011 it has generally increased to about 180.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

## Figure: Total PCE Prices

Line chart, by percent, 2003 to 2011. There is a horizontal line at zero. There are two series, 12-month change and 3-month change. There is a horizontal line at zero. 12-month change begins in 2003 at about 2.3 and generally decreases to about 1.8 by mid-2003. It then generally increases to about 4 by 2005 and then generally decreases to about 1.5 by 2006. By 2008 it has generally increased to about 4.5 and by 2009 it has generally decreased to about -1. It then generally increases to about 2.5 by early 2010 and then generally decreases to about 1.0 by late 2010. By October 2011 it has generally increased to about 2.5. 3-month change begins in early 2003 at about 2. It then generally increases to about 4 by early 2002 and then generally decreases to about -1 by mid-2003. By late 2003 it has generally increased to about 4. From late 2003 to mid-2005 it fluctuates between about 1.0 and 4.0. It then generally increases to about 8.5 by mid-2005 and then generally decreases to about -1 by late 2005. By mid-2008 it has generally increased to about 6.5 and by late 2008 it has generally decreased to about -9.0. It then generally increases to about 4.0 by 2009 and then generally decreases to about -1.2 by 2010. By early 2011 it has generally increased to about 4.7 and by October 2011 it has generally decreased to about 1.6.

Note: 3-month changes are at an annual rate.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

## Figure: PCE Prices ex. Food and Energy

Line chart, by percent, 2003 to 2011. There are two series, 12-month change and 3-month change. 12-month change begins in early 2003 at about 1.7 and generally decreases to about 1.3 by 2003. By mid-2008 it has generally increased to about 2.5 and by 2009 it has generally decreased to about 1.4. It then generally increases to about 1.8 by early 2010 and then generally decreases to about 0.9 by late 2010. By October 2011 it generally increases to about 1.8. 3-month change begins in early 2003 at about 0.9. It then generally increases to about 3.45 by 2005. From 2005 to early 2008 it fluctuates between about 1 and 3.45. It then generally decreases to about 0.3 by late 2008 and then generally increases to about 2.6 by 2009. By late 2010 it has generally decreased to about 0.5 and by mid-2011 it has increased to about 2.5. It then decreases to about 1 by October 2011. By late 2011, it generally increases to about 1.8.

Note: 3-month changes are at an annual rate.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

## Projections of Real GDP and Related Components

(Percent change at annual rate from final quarter of preceding period except as noted)

Measure	2010	2011		2012	2013
		H1	H2		
Real GDP	3.1	.8	2.4	2.4	2.7

Previous Tealbook	3.1	.8	2.4	2.1	2.4
Final sales	2.4	.8	2.2	2.3	2.4
Previous Tealbook	2.4	.8	2.2	2.0	2.2
Personal consumption expenditures	3.0	1.4	1.9	2.4	2.6
Previous Tealbook	3.0	1.4	2.0	2.4	2.4
Residential investment	-6.3	.8	6.3	9.6	8.2
Previous Tealbook	-6.3	.8	5.4	6.6	7.3
Nonresidential structures	-1.8	2.5	6.3	.6	2.0
Previous Tealbook	-1.8	2.5	7.8	-2.1	1.1
Equipment and software	16.6	7.5	10.3	5.3	5.6
Previous Tealbook	16.6	7.5	9.4	3.8	6.4
Federal purchases	2.9	-3.9	-2.5	-1.6	-4.1
Previous Tealbook	2.9	-3.9	-3.9	-1.0	-4.1
State and local purchases	-1.7	-3.1	-1.9	-.4	.7
Previous Tealbook	-1.7	-3.1	-1.2	-.5	.7
Exports	8.8	5.7	4.5	5.9	5.7
Previous Tealbook	8.8	5.7	4.9	4.8	5.2
Imports	10.7	4.8	2.5	3.7	3.9
Previous Tealbook	10.7	4.8	2.1	3.9	4.1
	Contributions to change in real GDP (percentage points)				
Inventory change	.7	.0	.3	.1	.3
Previous Tealbook	.7	.0	.1	.1	.2
Net exports	-6	-.1	.2	.2	.1
Previous Tealbook	-6	-.1	.3	.0	.0

## Figure: Real GDP

Line chart, by 4-quarter percent change, 1983 to 2013. There are two series, Current and Previous Tealbook. There is a horizontal line at 0. Current begins in early 1983 at about 1.5. By 1984 it has generally increased to about 8.5 and by 1991 it has generally decreased to about -1.2. It then generally increases to about 4.2 by late 1992. From late 1992 to early 2000 it fluctuates between about 2 and 5.7. It then generally decreases to about 0.2 by 2001 and then generally increases to about 4.1 by 2004. By 2009 it has generally decreased to about -5.4 and by 2010 it generally increases to about 3.8. It then generally decreases to about 1.5 by 2011 and then generally increases to about 2.3 by late 2013. Previous Tealbook follows the Current series almost exactly until 2011 when it begins decreasing at a slower rate. By late 2011 it has generally decreased to about 1.8 and by late 2013 it has generally increased to about 3.2.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research: July 1990-March 1991, March 2001-November 2001, and December 2007-June 2009.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Components of Final Demand

### Figure: Personal Consumption Expenditures

Line chart, by 4-quarter percent change, 2008 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 2008:Q1 at about 1.9 and generally decreases to about -3.1 by 2009:Q2. It then generally increases to about 3.0 by 2010:Q4 and then generally decreases to about 1.5 by 2011:Q4. By 2013:Q4 it has generally increased to about 2.5. Previous Tealbook follows the Current series almost exactly until 2011 when it begins decreasing at a different rate. By 2012:Q1 it has generally decreased to about 1.4 and by 2013:Q4 it has increased to about 2.4.

### Figure: Residential Investment

Line chart, by 4-quarter percent change, 2008 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 2008:Q1 at about -24 and generally decreases to about -28 by 2009:Q2. It then generally increases to about 5 by 2010:Q2 and then generally decreases to about -8.5 by 2010:Q3. By 2011:Q1 it has generally increased to about -2.5 and by 2011:Q2 it has generally decreased to about -7.5. It then generally increases to about 8 by 2013:Q4. Previous Tealbook follows the Current Tealbook series almost exactly until 2012:Q3 when it begins increasing at a different rate. By 2013:Q4 it has increased to about 7.7.

### Figure: Equipment and Software

Line chart, by 4-quarter percent change, 2008 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 2008:Q1 at about 3. It then generally decreases to about -21 by 2009:Q1. By 2010:Q3 it has generally increased to about 17.5 and by 2012:Q3 it has generally decreased to about 4.9. It then generally increases to about 5.1 by 2013:Q4. Previous Tealbook begins in 2008:Q1 at about 3. It then generally decreases to about -21 by 2009:Q1. By 2010:Q3 it has generally increased to about 17.5 and by 2012:Q3 it has generally decreased to about 3.0. It then generally increases to about 6.2 by 2013:Q4.

### Figure: Nonresidential Structures

Line chart, by 4-quarter percent change, 2008 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 2008:Q1 at about 14.8. By 2009:Q4 it has generally decreased to about -29.8 and by 2012:Q1 it has generally increased to about 9.5. It then generally decreases to about 0 by 2012:Q4 and then generally increases to about 2 by 2013:Q4. Previous Tealbook begins in 2007:Q1 at about 14.8. By 2009:Q4 it has generally decreased to about -29.8 and by 2011:Q4 it has generally increased to about 8. By 2012:Q3 it has generally decreased to about -3 and by 2013:Q4 it has increased to about 1.2.

### Figure: Government Consumption & Investment

Line chart, by 4-quarter percent change, 2008 to 2013. There are two series, Current and Previous Tealbook. Current begins in 2008:Q1 at about 2.9. By 2011:Q3 it has generally decreased to about -2.5. It then generally increases to about -1 by 2012:Q4 and then generally decreases to about -1.3 by 2013:Q4. Previous Tealbook begins in 2008:Q1 at about 2.9. By 2011:Q3 it has generally decreased to about -2.6. It then generally increases to about -0.9 by 2012:Q3 and generally decreases to about -1.29 by 2013:Q4.

### Figure: Exports and Imports

Line chart, by 4-quarter percent change, 2008 to 2013. There is a horizontal line at zero. There are four series, Exports Current Tealbook, Imports Current Tealbook, Exports Previous Tealbook and Imports Previous Tealbook. Exports Current Tealbook begins in 2008:Q1 at about 10 and generally increases to about 11.5 by 2008:Q2. It then generally decreases to about -14.8 by 2009:Q2 and then generally increases to about 14 by 2010:Q2. By 2013:Q4 it has generally decreased to about 5.2. Exports Previous begins in 2008:Q1 at about 10 and generally increases to about 11.5 by 2008:Q2. It then generally decreases to about -14.8 by 2009:Q2 and then generally increases to about 14 by 2010:Q2. By 2013:Q4 it has generally decreased to about 5.1. Imports Current Tealbook begins in 2008:Q1 at about -0.2 and generally decreases to about -19 by 2009:Q2. It then generally increases to about 17 by 2010:Q2 and then generally decreases to about 1.5 by 2011:Q3. By 2013:Q4 it has generally increased to about

4.5. Imports Previous Tealbook begins in 2007:Q1 at about -0.2 and generally decreases to about -19 by 2009:Q2. It then generally increases to about 17 by 2010:Q2 and then generally decreases to about 1.6 by 2011:Q3. By 2013:Q4 it has generally increased to about 4.6.

Note: Blue shading represents the projection period, which begins in 2011:Q4.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Aspects of the Medium-Term Projection

### Figure: Personal Saving Rate

Line chart, by percent, 1995 to 2013. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 6.05. By 1997 it has generally decreased to about 4.4 and by 1998 it has generally increased to about 5.95. It then generally decreases to about 1.5 by late 2001 and then generally increases to about 4.1 by early 2002. By 2005 it has generally decreased to about 1.2 and by 2009 it has generally increased to about 6.3. It then generally decreases to about 4.3 by 2013. Previous Tealbook follows the Current Tealbook series almost exactly until 2010 when it begins decreasing at a faster rate to about 3.8. It then generally increases to about 4.1 by 2013.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

### Figure: Wealth-to-Income Ratio

Line chart, by ratio, 1995 to 2013. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 4.88. It then generally increases to about 6.15 by 2000 and then generally decreases to about 4.97 by 2002. By 2005 it has generally increased to about 6.45 and by 2009 it has generally decreased to about 4.63. It then generally increases to about 5.25 by early 2011 and then generally decreases to about 4.9 by late 2011. By late 2013 it has generally increased to about 5.81. Previous Tealbook begins in 1995 at about 4.88. It then generally increases to about 6.15 by 2000 and then generally decreases to about 4.97 by 2002. By 2005 it has generally increased to about 6.4 and by 2009 it has generally decreased to about 4.57. It then generally increases to about 5.18 by early 2011 and then generally decreases to about 4.95 by late 2011. It then generally increases to about 5.05 by late 2013.

Note: Household net worth as a ratio to disposable personal income.

Source: For net worth, Federal Reserve Board, flow of funds data; for income, Department of Commerce, Bureau of Economic Analysis.

### Figure: Single-Family Housing Starts

Line chart, by millions of units, 1995 to 2013. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 1.05. It then generally increases to about 1.75 by 2006 and then generally decreases to about 0.33 by 2009. By early 2010 it has generally increased to about 0.52 and by 2011 it has generally decreased to about 0.40. It then generally increases to about 0.55 by late 2013. Previous Tealbook follows the Current Tealbook series almost exactly.

Source: U.S. Census Bureau.

### Figure: Equipment and Software Spending

Line chart, by share of nominal GDP, 1995 to 2013. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 8.15. It then generally increases to about 9.6 by 2000 and then generally decreases to about 7.5 by 2004. By 2006 it has generally increased to about 8.03 and by 2009 it has generally decreased to about 6.45. It then generally increases to about 7.7 by the end of 2013. Previous Tealbook follows the Current Tealbook series almost exactly except that it ends in late 2013 at about 7.65.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

### Figure: Federal Surplus/Deficit

Line chart, by share of nominal GDP, 1995 to 2013. Data is 4-quarter moving average. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 1995 at about -2.7. It then generally increases to about 2.5 by 2000 and then generally decreases to about -3.8 by 2004. By 2007 it has generally increased to about -1.2 and by 2009 it has generally decreased to about -10.7. It has generally increased to about -5.2 by the end of 2013. Previous Tealbook follows the Current Tealbook series almost exactly except that it ends in late 2013 at about -5.25.

Source: *Monthly Treasury Statement*.

## Figure: Current Account Surplus/Deficit

Line chart, by share of nominal GDP, 1995 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in early 1995 at about -1.75 and generally increases to about -1.1 by late 1995. It then generally decreases to about -6.7 by 2005 and then generally increases to about -2.35 by 2009. By 2010 it has generally decreased to about -3.3 and by 2012 it has generally increased to about -2.6. It then generally decreases to about -2.88 by the end of 2013. Previous Tealbook follows the Current Tealbook series almost exactly until 2011 when it begins increasing at a different rate. By the end of 2013 it has increased to about -3.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research: March 2001-November 2001, and December 2007-June 2009. Blue shading represents the projection period, which begins in 2011:Q4.

## Decomposition of Potential GDP

(Percent change, Q4 to Q4, except as noted)

Measure	1974-1995	1996-2000	2001-2009	2010	2011	2012	2013
<b>Potential Real GDP</b>	<b>3.0</b>	<b>3.4</b>	<b>2.3</b>	<b>1.5</b>	<b>1.7</b>	<b>2.0</b>	<b>2.1</b>
Previous Tealbook	3.0	3.5	2.4	1.6	1.7	2.0	2.1
<i>Selected contributions<sup>1</sup></i>							
Structural labor productivity	1.4	2.6	2.3	1.4	1.5	1.6	1.7
Previous Tealbook	1.5	2.7	2.4	1.4	1.5	1.6	1.7
Capital deepening	.7	1.5	.8	.4	.6	.6	.7
Previous Tealbook	.7	1.5	.8	.4	.5	.5	.7
Multifactor productivity	.5	.8	1.3	.9	.8	.9	.9
Previous Tealbook	.5	.9	1.4	.9	.8	.9	.9
Structural hours	1.5	1.0	.6	.4	.5	.6	.6
Previous Tealbook	1.5	1.0	.6	.5	.6	.7	.6
Labor force participation	.4	.0	-.3	-.5	-.4	-.3	-.3
Previous Tealbook	.4	.0	-.3	-.4	-.3	-.2	-.3

Note: Components may not sum to totals because of rounding. For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

1. Percentage points. [Return to table](#)

## Figure: Structural and Actual Labor Productivity (Nonfarm Business Sector)

Line chart, by chained (2005) dollars per hour, 2001 to 2013. There is a shaded bar from 2011:Q3 to 2013:Q4 that represents the forecast period. There are two series, Structural labor productivity and Actual labor productivity. Structural labor productivity begins in 2001 at about 43.9 and generally increases to about 57.4 by the end of 2013. Actual labor productivity begins in 2001 at about 43.5 and generally increases to about 52 by 2007. It then generally decreases to about 51.3 by 2008 and then generally increases to about 57.5 by the end of 2013.

Note: Blue shading represents the projection period, which begins in 2011:Q4.

Source: U.S. Department of Labor, Bureau of Labor Statistics; Bureau of Economic Analysis; and staff assumptions.

### Figure: Structural and Actual Labor Force Participation Rate

Line chart, by percent, 2001 to 2013. There is a shaded bar from 2011:Q4 to 2013:Q4 that represents the forecast period. There are two series, Structural Labor Force Participation Rate and Actual Labor Force Participation Rate. Structural Labor Force Participation Rate begins in 2001 at about 66.75 and generally decreases to about 64 by the end of 2013. Actual Labor Force Participation Rate begins in 2001 at about 67.1 and generally decreases to about 65.8 by 2005. It then generally increases to about 66.3 by 2007 and then generally decreases to about 63.8 by the end of 2013.

Note: Blue shading represents the projection period, which begins in 2012:Q1.

Source: U.S. Department of Labor, Bureau of Labor Statistics; Bureau of Economic Analysis; and staff assumptions.

## The Outlook for the Labor Market and Resource Utilization

(Percent change from final quarter of preceding period)

Measure	2010	2011		2012	2013
		H1	H2		
Output per hour, nonfarm business	2.3	-0.7	1.4	1.1	1.6
Previous Tealbook	2.5	-0.4	1.4	1.4	1.4
Nonfarm private employment <sup>1</sup>	104	185	163	193	195
Previous Tealbook	98	165	155	163	171
Labor force participation rate <sup>2</sup>	64.4	64.1	64.0	63.7	63.7
Previous Tealbook	64.4	64.1	64.0	64.0	63.9
Civilian unemployment rate <sup>2</sup>	9.6	9.1	8.7	8.2	7.8
Previous Tealbook	9.6	9.1	8.7	8.6	8.2
Memo:					
GDP gap <sup>3</sup>	-4.9	-5.3	-5.0	-4.6	-4.0
Previous Tealbook	-5.4	-5.8	-5.5	-5.4	-5.2

1. Thousands, average monthly changes. [Return to table](#)

2. Percent, average for the final quarter in the period. [Return to table](#)

3. Percent difference between actual and potential GDP in the final quarter of the period indicated. A negative number indicates that the economy is operating below potential. [Return to table](#)

Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

### Figure: Nonfarm Private Employment (Average Monthly Changes)

Line chart, by thousands, 1995 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 220. From 1995 to 1999 it fluctuates between about 100 and 320. It then generally decreases to about -350 by 2001 and then generally increases to about 320 by 2006. By 2009 it has generally decreased to about -820 and by the end of 2013 it has generally increased to about 210. Previous Tealbook follows the Current Tealbook series almost exactly until 2011. By the end of 2013 it has generally increased to about 195.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

### Figure: Unemployment Rate

Line chart, by percent, 1995 to 2013. There are four series, Current Tealbook, Previous Tealbook, NAIRU, and NAIRU with EEB adjustment. Current Tealbook begins in early 1995 at about 5.5 and generally increases to about 5.75 by mid-1995. It then generally decreases to about 3.95 by 2000 and then generally increases to about 6.2 by 2003. By 2007 it has generally decreased to about 4.5 and by 2009 it has generally increased to about 10. It then generally decreases to about 7.9 by the end of 2013. Previous Tealbook follows Current Tealbook exactly except that it ends in late 2013 at about 8.1. NAIRU begins in 1995 at about 5.0 and remains constant at 5.0 until 2008. It then generally increases to about 6 by 2009 and remains constant here until the end of 2013. NAIRU with EEB adjustment begins in 1995 at about 5.01 and remains relatively constant at 5 until 2001. It then increases to about 5.1 by 2002. It then generally decreases to about 5 by 2004 and remains constant here until 2008. By 2010 it has increased to about 6.85 and by the end of 2013 it has generally decreased to about 6.0.

Note: The EEB adjustment is the staff estimate of the effect of extended and emergency unemployment compensation programs on the NAIRU.

Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

### Figure: GDP Gap

Line chart, by percent, 1995 to 2013. There is a horizontal line at zero. There are two series, Current and Previous Tealbook. Current begins in 1995 at about -2. It then generally increases to about 3.5 by 2000 and then generally decreases to about -1.7 by 2003. By 2006 it has generally increased to about 1.7 and by 2009 it has generally decreased to about -7.6. It then generally increases to about -4 by the end of 2013. Previous Tealbook follows Current Tealbook almost exactly until 2003 where it generally decreases to about -2.4. It generally increases to about 0.3 by 2005 and then generally decreases to about -7.9 by 2009. By the end of 2013 it has generally increased to about -5.2.

Note: The GDP gap is the percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Blue shading represents the projection period, which begins in 2011:Q4.

Source: U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

### Figure: Manufacturing Capacity Utilization Rate

Line chart, by percent, 1995 to 2013. There is a horizontal line at about 79 which represents the average rate from 1972 to 2010. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 84.3 and generally decreases to about 82 by 1996. It then generally increases to about 84 by 1997 and then generally decreases to about 71.5 by 2001. By 2007 it has generally increased to about 79.7 and by 2009 it has generally decreased to about 64.5. It then generally increases to about 78.3 by the end of 2013. Previous Tealbook follows the Current Tealbook series almost exactly until 2010 when it begins increasing at a slower rate. By the end of 2013 it has generally increased to about 77.5.

Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research: March 2001-November 2001, and December 2007-June 2009. Blue shading represents the projection period, which begins in 2012:Q1, except as noted.

## Inflation Projections

(Percent change at annual rate from final quarter of preceding period)

Measure	2010	2011		2012	2013
		H1	H2		
PCE chain-weighted price index	1.3	3.6	1.8	1.8	1.4
Previous Tealbook	1.3	3.6	1.4	1.4	1.3
Food and beverages	1.3	6.4	4.0	1.6	1.2
Previous Tealbook	1.3	6.4	3.7	1.1	1.2
Energy	6.2	27.2	.0	3.8	-1.6
Previous Tealbook	6.2	27.2	-1.9	1.4	-8
Excluding food and energy	1.0	1.9	1.7	1.7	1.6
Previous Tealbook	1.0	1.9	1.5	1.5	1.4
Prices of core goods imports <sup>1</sup>	2.6	7.7	1.0	.9	1.5
Previous Tealbook	2.6	7.7	.8	.2	1.5

1. Core goods imports exclude computers, semiconductors, oil, and natural gas. [Return to table](#)

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

### Figure: Total PCE Prices

Line chart, by 4-quarter percent change, 1995 to 2013. There is a shaded bar from 2011:Q4 through 2013:Q4 that represents the forecast period. There is a horizontal line at 0. There are two series, Current and Previous Tealbook. Current begins in 1995 at about 2.5 and decreases to about 2 by 1996. It then general increases to about 2.5 by 1997 and then generally decreases to about 1.8 by 1997. By 2000, it increases to about 2.5 percent and then decreases to about 0.7 by 2001. By mid-2002, it increases to about 2.9. Between 2003 and 2006, it fluctuates between 2.9 and 1.7. By mid-2007, it generally increases to about 4.35. By late 2008, it decreases to about -0.78 and then increases to about 2.6. It generally decreases to about 1.1 in 2010 and then increases to about 2.95. By 2013, it generally decreases to about 1.3. Previous generally follows the same path as Current until 2011 where it begins decreasing at a faster rate. By 2013, it generally decreases to about 1.2.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

### Figure: PCE Prices ex. Food and Energy

Line chart, by 4-quarter percentage change, 1995 to 2013. There is a shaded bar from 2011:Q4 through 2013:Q4 that represents the forecast period. There are four series, Current Tealbook, Previous Tealbook, Current Tealbook: Market-based, and Previous Tealbook: Market-based. Current Tealbook begins in 1995 at about 2.5 and generally decreases to about 1.3 by 1997. It generally increases to about 2.4 by 2007 and then generally decreases to about 0.9 by 2010. It generally increases to about 1.9 by 2011 and then generally decreases to about 1.6 by 2013. Previous Tealbook generally follows the same exact path as Current Tealbook until about 2011 when it begins decreasing at a faster rate. By 2013 it decreases to about 1.45. Current Tealbook: Market-based begins in 1995 at about 2.15 and generally decreases to about 0.9 by 1997. It then generally increases to about 2.4 by 2007 and then generally decreases to about 0.7 by 2010. It generally increases to about 2 by 2011 and then generally decreases to about 1.5 by 2013. Previous Tealbook: Market-based generally follows the same exact path until 2011 when it begins decreasing at a faster rate. By 2013 it generally decreases to about 1.15.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

### Figure: Compensation per Hour

Line chart, by 4-quarter percentage change, 1995 to 2013. There is a shaded bar from 2011:Q4 through 2013:Q4 that represents the forecast period. There is a horizontal line at 0. There are four series, Current Tealbook: Productivity and Costs, Previous Tealbook: Productivity and Costs, Current Tealbook: Employment cost index, and Previous Tealbook: Employment cost index. Current Tealbook: Productivity and Costs begins at about 1.7 and generally increases to about 4.85 by late 1995. It decreases to about 3.2 in 1996 and then increases to about 7.7 by 1998. By mid-1999 it decreases to about 3.5 and then generally increases to about 9.4 by 2000. By 2001, it generally decreases to about 3.3. Between late 2001 and mid-2008, it generally fluctuates between 3.3 and 5.9. In 2009, it decreases to about 0 and then generally fluctuates between about 1.5 and 3.8 between late 2009 and late 2011. By 2013, it generally decreases to about 2.3. Previous Tealbook: Productivity and Costs generally follows the same path as Current Tealbook: Productivity and Costs until 2010 when it begins decreasing. By 2011, it has decreased to about 1.5 and then generally increases to about 2.1 by 2013. Current Tealbook: Employment cost index begins in 1995 at about 2.4. Between 1996 and 2007, it generally fluctuates between 1.5 and 4.2, and by 2008 it decreases to 0. By mid-2008, it increases to about 2.2. It then fluctuates between 1.7 and 3.9 until it decreases to about 2.3 in 2013. The Previous Tealbook: Employment cost index generally follows the same path as the Current Tealbook: Employment cost until 2012, when it begins to decrease at a faster rate. By 2013, it decreases to about 2.15.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

### **Figure: Long-Term Inflation Expectations**

Line chart, by percent, 1995 to 2013. There are two series, Thomson Reuters/Michigan next 5 to 10 years and SPF next 10 years. Thomson Reuters/Michigan next 5 to 10 years begins in 1995 at about 3.1 and generally fluctuates between 3.5 and 2.5 until February 2011. SPF next 5 years begins in 2006 at about 2 and generally fluctuates between 2 and 2.3 until February 2011.

Note: The Survey of Professional Forecasters (SPF) projection is for the PCE price index.

Source: Thomson Reuters/University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research: March 2001-November 2001, and December 2007-June 2009.

## **[Box:] Framework for Board Staff Inflation Projections**

### **Core Inflation Simulations in a Stylized Model with Anchored Expectations**

#### **Figure: Permanent increase in the level of relative core import prices**

Line chart, by percent, from -4 to 24. The x-axis is quarters. There are two series, Relative import price inflation and Core inflation. Relative import price inflation begins in Quarter -4 at 0 where it remains relatively constant until Quarter 0. It then increases to 4 where it remains relatively constant until about Quarter 4. It then decreases to 0 by Quarter 5 where it remains relatively constant until Quarter 24. Core inflation begins in Quarter -4 at 2 and generally increases to about 2.3 by Quarter 4. It then generally decreases to about 2 by Quarter 12 where it remains relatively constant until Quarter 24.

#### **Figure: Transitory rise in the unemployment rate**

Line chart, by percent, from -4 to 24. The x-axis is quarters. There are two series, Unemployment gap and Core inflation. Unemployment begins in Quarter -4 at 0 where it remains relatively constant until Quarter 0. It then increases to 2 by Quarter 4 where it remains relatively constant until Quarter 9. It then decreases to 0 by Quarter 13 where it remains relatively constant until Quarter 24. Core inflation begins in Quarter -4 at 2 where it remains relatively constant until Quarter 0. It then generally begins to decrease to about 1.5 by Quarter 7. It then generally increases to 2 by Quarter 18 where it remains relatively constant until Quarter 24.

# The Long-Term Outlook

(Percent change, Q4 to Q4, except as noted)

Measure	2012	2013	2014	2015	2016
Real GDP	2.4	2.7	3.3	3.7	3.4
Previous Tealbook	2.1	2.4	3.6	4.2	3.7
Civilian unemployment rate <sup>1</sup>	8.2	7.8	7.5	6.9	6.2
Previous Tealbook	8.6	8.2	7.8	7.2	6.5
PCE prices, total	1.8	1.4	1.4	1.5	1.6
Previous Tealbook	1.4	1.3	1.5	1.5	1.6
Core PCE prices	1.7	1.6	1.6	1.6	1.7
Previous Tealbook	1.5	1.4	1.4	1.4	1.5
Federal funds rate <sup>1</sup>	.1	.1	.8	2.1	3.0
Previous Tealbook	.1	.1	.3	1.5	2.5
10-year Treasury yield <sup>1</sup>	2.8	3.6	3.7	4.0	4.1
Previous Tealbook	2.7	3.5	3.7	3.9	4.1

1. Percent, average for the final quarter of the period. [Return to table](#)

## Figure: Real GDP

Line chart, by 4-quarter percent change, 2003 to 2020. There is a horizontal line at 0. There are four series, Current Tealbook: Real GDP, Previous Tealbook: Real GDP, Current Tealbook: Potential GDP, and Previous Tealbook: Potential GDP. Current Tealbook: Real GDP begins in 2003 at about 4.1 and generally decreases to about -5.2 by mid-2007. It increases to about 3.9 by 2009 and then decreases to about 2.7 by mid-2010. It then generally increases to about 3.7 by 2014. By 2020, it generally decreases to about 3.5. Previous Tealbook: Real GDP generally follows the same path as Current Tealbook: Real GDP until 2011 when it begins to increase at a faster rate. By mid-2014, it increases to about 4.2 and then generally decreases to about 3.85 by 2020. Current Tealbook: Potential GDP begins in 2003 at about 2.5 and generally stays at about 2.4 until 2007. It then decreases to about 1.7 by 2008. It generally increases to about 2.6 by 2020. Previous Tealbook: Potential GDP begins at about 2.6 in 2003 and generally decreases to about 1 by 2007. It then generally increases to about 2.6 by 2020.

## Figure: Unemployment Rate

Line chart, by percent, 2004 to 2020. There is a shaded by from 2012 to 2020 that represents the forecast period. There are six series, Current Tealbook, Previous Tealbook, Current Tealbook: NAIU, Previous Tealbook: NAIU, Current Tealbook: NAIU with EEB adjustment, and Previous Tealbook: NAIU with EEB adjustment. Current Tealbook begins in 2004 at about 5.8 and generally decreases to about 4.15 by 2006. It then generally increases to about 10 by 2010 and then generally decreases to about 5.1 by 2020. Previous Tealbook generally follows the same exact path as Current Tealbook until about 2012 when it begins decreasing at a slower rate. By 2020, it decreases to about 5.11. Current Tealbook: NAIU begins in 2004 at 5 where it remains relatively constant until about 2007. It then increases to about 5.8 where it remains relatively constant until about 2014. It then decreases to about 5.10 where it remains relatively constant until 2020. Previous Tealbook: NAIU follows the same exact path as Current Tealbook: NAIU. Current Tealbook: NAIU with EEB adjust begins in 2004 at about 5 where it remains relatively constant until 2008. It then increases to about 6.25 by 2009 and then decreases to about 5.10 by 2017. It remains relatively constant here until 2020. Previous Tealbook: NAIU with EEB adjustment generally follows the same path as Current Tealbook: NAIU with EEB adjustment until 2008 when it begins increasing at a faster rate. It

increases to about 6.7 by 2009 and then generally decreases to about 5.10 by 2017. It remains relatively constant here until 2020.

### Figure: PCE Prices

Line chart, by 4-quarter percent change, 2003 to 2020. There are four series, Current Tealbook: PCE prices excluding food and energy, Previous Tealbook: PCE prices excluding food and energy, Current Tealbook: Total PCE prices, and Previous Tealbook: Total PCE prices. Current Tealbook: PCE prices excluding food and energy begins in 2003 at about 1.85 and generally fluctuates between 2 and 2.4 from 2004 to 2007. It then decreases to about 1.5 by mid-2008. By 2008, it increases to about 1.75 and then decreases to about .95 by 2009. By 2010, it increases to about 1.8 and then decreases to about 1.65 by 2011. It then generally increases to about 2 by 2020. Previous Tealbook: PCE prices excluding food and energy generally follows the same path as Current Tealbook: PCE prices excluding food until 2011 when it begins decreasing at a faster rate. By mid-2011, it decreases to about 1.25 and then generally increases to about 1.95 by 2020. Current Tealbook: Total PCE prices begins in 2003 at about 2 and generally increases to about 3.2 by 2005. It then decreases to about 1.8 by 2006. By 2008, it generally increases to about 4.2 and then decreases to about -.75 by mid-2008. It then increases to about 2.5 in 2009 and then decreases to about 1.2 by 2010. By late 2010, it increases to about 2.9 and then generally decreases to about 1.3 by mid-2012. By 2020, it generally increases to about 2. Previous Tealbook: Total PCE prices generally follows the same path as Current Tealbook: Total PCE prices until about mid-2010 where it begins decreasing at a faster rate. It then increases to about 1.95 by 2020.

### Figure: Interest Rates

Line chart, by percent, 2003 to 2020. There are six series, Current Tealbook: Federal funds rate, Previous Tealbook: Federal funds rate, Current Tealbook: 10-year Treasury, Previous Tealbook: 10-year Treasury, Current Tealbook: BBB corporate, and Previous Tealbook: BBB corporate. Current Tealbook: Federal funds rate begins in 2003 at about 1 and increases to about 5.2 by 2005. It then generally decreases to about 0.1 by 2008 where it remains until about 2013. It then generally increases to about 4.1 by 2020. Previous Tealbook: Federal funds rate generally follows the same path as Current Tealbook: Federal funds rate until about mid-2013, when it begins increasing at a slower rate. By 2020, it generally increases to about 4.15. Current Tealbook: 10-year Treasury begins in 2003 at about 4.1. It generally increases to about 5 by 2005. It then generally decreases to about 2 by 2011 and then generally increases to about 4.6 by 2020. Previous Tealbook: 10-year Treasury generally follows the same path as Current Tealbook: 10-year Treasury, and by 2020 it also ends at about 4.6. Current Tealbook: BBB corporate starts in 2003 at about 5.3 and generally increases to about 9.5 by 2008. It generally decreases to about 4.7 by mid-2011. It then generally increases to about 6.1 by 2020. Previous Tealbook: BBB corporate generally follows the same path as Current Tealbook: BBB corporate, and by 2020 it also ends at about 6.1.

Note: In each panel, shading represents the projection period, which begins in 2012:Q1; dashed lines are the previous Tealbook.

## Evolution of the Staff Forecast

### Figure: Change in Real GDP

Line graph, by percent Quarter 4 over Quarter 4, January 20, 2010 to December 5, 2012. The x-axis is Tealbook publication date. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about 4.9 and generally decreases to about 3.25 by September 15, 2010. It generally increases to about 3.5 by January 19, 2011 and then generally decreases to about 1.25 by September 14, 2011 where it remains relatively constant. By March 7, 2012 it is at about 1.3. 2012 begins on September 15, 2010 at about 4.4 and generally decreases to about 2 by January 18, 2012. It then generally increases to about 2.4 by March 7, 2012. 2013 begins on September 14, 2011 at about 3.1 and generally declines to about 2.25 by December 7, 2011. It then generally increases to about 2.8 by March 7, 2012.

### Figure: Unemployment Rate

Line graph, by percent fourth quarter, January 20, 2010 to December 5, 2012. The x-axis is Tealbook publication date. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about 8.2 and generally increases to about 9.1 by September 15, 2010. It then generally decreases to about 8.6 by March 9, 2011 and then generally increases to about 9.2 by August 3, 2011. By March 7, 2012 it decreases to about 8.6. 2012 begins on September 15, 2010 at about 7.95 and generally decreases to about 7.5 by March 9, 2011. It then generally increases to about 8.5 by September 14, 2011 and then generally decreases to about 8 by March 7, 2012. 2013 begins on September 14, 2011 at about 7.7 and remains relatively constant until about January 18, 2012. It then decreases to about 7.5 by March 7, 2012.

### **Figure: Change in PCE Prices excluding Food and Energy**

Line chart, by percent Quarter 4 over Quarter 4, January 20, 2010 to December 5, 2012. The x-axis is Tealbook Publication date. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about 1.1 and generally decreases to about 0.75 by June 16, 2010. It then generally increases to about 1.85 by September 14, 2011 and then generally decreases to about 1.7 by March 7, 2012. 2012 begins on September 15, 2010 at about 0.8 and generally increases to about 1.45 by June 15, 2011 where it remains relatively constant until about January 18, 2012. It then increases to about 1.6 by March 7, 2012. 2013 begins on September 14, 2011 at about 1.35 and generally increases to about 1.5 by March 7, 2012.

## **International Economic Developments and Outlook**

### **Recent Foreign Indicators**

#### **Figure: Nominal Imports**

Line chart, log scale where Jan. 2008 = 100, 2008 to 2012. There is a horizontal line at 100. There are three series, Foreign exports, AFE exports, and EME exports. EME exports excludes Venezuela. Foreign exports starts in 2008 at 100 and generally increases to about 108 by late 2008. It then decreases to about 69 by early 2009. It generally increases to about 115 by 2012. AFE exports begins at 100 and generally increases to about 109 by late 2008. It then decreases to about 68 by early 2009. It generally increases to about 109 by mid-2011. By early 2012, it generally decreases to about 102. EME exports begins at about 100 and generally increases to 109 by late 2008. It then decreases to about 70 by early 2009. It generally increases to about 120 by late 2010 and then decreases to about 112 by 2011. It then increases to about 128 but then decreases to about 121 by late 2011. By early 2012, it increases to about 127.

#### **Figure: Industrial Production**

Line chart, by log scale where Jan. 2008 = 100, 2008 to 2012. There is a horizontal line at 100. There are three series, Foreign Industrial Production, AFE Industrial Production, and EME Industrial Production. AFE Industrial Production excludes Australia and Switzerland, and EME Industrial Production excludes Colombia, Hong Kong, Philippines, and Venezuela. Foreign Industrial Production begins in 2008 at 100 and generally decreases to about 86 by early 2009. It then generally increases to about 101 by early 2012. AFE Industrial Production begins at about 100 and generally decreases to about 84 by early 2009. It then generally increases to about 94 by early 2012. EME Industrial Production begins at about 100 and generally decreases to about 87 by early 2009. It then generally increases to about 111 by early 2012.

#### **Figure: Retail Sales**

Line chart, by 12-month percent change, 2008 to 2012. There is a horizontal line at 0. There are three series, Foreign retail sales, AFE retail sales, and EME retail sales. AFE retail sales excludes Australia and Switzerland, and EME retail sales excludes Brazil, China, Israel, Korea, Singapore, and Taiwan. Foreign retail sales begins in 2008 at about 5.1 and generally decreases to about -1.5 by early 2009. It then generally increases to about 6 by

early 2010. It generally decreases to about 1 by early 2011 and then increases to about 3.4 by mid-2011. By 2012, it decreases to about 1.3. AFE retail sales begins at about 4.5 and generally decreases to -4 by early 2009. It generally increases to about 5 by early 2010. It then generally decreases to about -1.5 by early 2011. By 2012, it generally increases to about 0.5. EME retail sales begins at about 7.5 and generally decreases to about 4 by late 2008. It then generally increases to about 11 by early 2010. It then generally decreases to about 4 by early 2011. By mid-2011, it increase to about 7 and then generally decreases to about 5.1 by 2012.

### Figure: Employment

Line chart, by 4-quarter percent change, 2008 to 2012. There is a horizontal line at 0. There are three series, Foreign employment, AFE employment, and EME employment. EME employment excludes Argentina and Mexico. Foreign employment begins in 2008 at about 2 and generally decreases to -1.1 by mid-2009. It then generally increases to about 1.4 by late 2011. AFE employment begins at 1.8 and generally decreases to about -1.9 by mid-2009. It then generally increases to about 0.9 by late 2011. EME employment begins at about 3 and generally decreases to about 0.4 by mid-2009. It then generally increases to about 2.95 by early 2012.

### Figure: Consumer Prices: Advanced Foreign Economies

Line chart, by 12-month percent change, 2008 to 2012. There is a horizontal line at 0. There are two series, Headline prices and Core prices. Excludes Australia, Sweden, and Switzerland. Core prices excludes all food and energy; staff calculation. Headline prices begins in 2008 at about 2.15 and decreases to about 2.1. It then increases to about 3.6 by mid-2008. It then generally decreases to about -0.9 by mid-2009 and then generally increases to about 2.8 by mid-2011. By early 2012, it generally decreases to about 2. Core prices begins at about 1.1 and fluctuates between .08 and 1.2 from mid-2008 to late 2011. It then decreases to about 1.1 by early 2012.

Source: Haver Analytics and CEIC.

### Figure: Consumer Prices: Emerging Market Economies

Line chart, by 12-month percent change, 2008 to 2012. There is a horizontal line at 0. There are three series, Headline prices, Ex. Food--East Asia, Ex. Food--Latin America. Headline prices begin in 2008 at about 5.7 and generally increases to about 6.8 by late 2008. It then generally decreases to about 0.7 by mid-2009. It generally increases to about 5.7 by mid-2011 and then generally decreases to about 4.1 by early 2012. Ex. Food--East Asia begins at about 2.6 and generally increases to about 3 by late 2008. It then generally decreases to about -2 by mid-2009. It generally increases to about 2.3 by late 2011 and then decreases to about 1.8 by early 2012. Ex. Food--Latin America begins at about 3.85 and generally increases to about 5.8 by 2009. It then generally decreases to about 3.8 by late 2009. It increases to about 4.6 by early 2010 and then generally decreases to about 3.2 by early 2012.

## The Foreign Outlook

(Percent change, annual rate)

	2011			2012			2013
	H1	Q3	Q4	Q1	Q2	H2	
<b>Real GDP</b>							
Total foreign	3.0	3.8	1.2	3.1	2.8	2.9	3.2
Previous Tealbook	3.0	3.6	2.0	2.5	2.3	2.6	3.0
Advanced foreign economies	.9	3.1	.1	1.1	1.1	1.3	1.8
Previous Tealbook	.9	2.7	.6	.6	.5	1.1	1.5
Emerging market economies	5.2	4.6	2.4	5.2	4.7	4.6	4.6

Previous Tealbook	5.3	4.6	3.5	4.6	4.3	4.3	4.5
<b>Consumer Prices</b>							
Total foreign	3.7	3.1	2.9	3.1	2.4	2.4	2.4
Previous Tealbook	3.7	3.1	3.1	2.3	2.4	2.3	2.3
Advanced foreign economies	2.7	1.1	2.5	2.1	1.4	1.4	1.3
Previous Tealbook	2.7	1.0	2.8	1.6	1.2	1.3	1.1
Emerging market economies	4.6	4.6	3.2	3.8	3.2	3.2	3.2
Previous Tealbook	4.6	4.6	3.3	3.0	3.3	3.1	3.2

Note: Annualized percent change from final quarter of preceding period to final quarter of period indicated.

## Figure: Real GDP

Line chart, by percent change, 2008 to 2013. Data are annual rate. There is a horizontal line at zero. There are two series, Total Foreign Current Tealbook and Total Foreign Previous Tealbook. Total Foreign Current Tealbook begins in early 2008 at about 3 and generally decreases to about -9.8 by early 2009. It then generally increases to about 5.5 by late 2009 and then generally decreases to about 2 by late 2011. By the end of 2013 it has generally increased to about 3.5. Total Foreign Previous Tealbook follows the Current Tealbook series almost exactly except that it decreases to about 3 by late 2011 and then increases to about 3.7 by the end of 2013.

There is a second line chart, by percent change, 2008 to 2013. Data are annual rate. There is a horizontal line at zero. There are four series, Advanced Foreign Economies Current Tealbook, Advanced Foreign Economies Previous Tealbook, Emerging Market Economies Current Tealbook and Emerging Market Economies Previous Tealbook. Advanced Foreign Economies Current Tealbook begins in early 2008 at about 1 and generally decreases to about -9.7 by early 2009. It then generally increases to about 4.5 by early 2010 and then generally decreases to about 0 by early 2011. By mid-2011 it has generally increased to about 3 and by 2012 it has generally decreased to about 0.5. It then generally increases to about 1.7 by the end of 2013. Advanced Foreign Economies Previous Tealbook follows the Advanced Foreign Economies Current Tealbook series almost exactly until mid-2011 when it generally increases to about 2.7. It then generally decreases to about 0.5 by 2012 and then generally increases to about 2 by the end of 2013. Emerging Market Economies Current Tealbook begins in early 2008 at about 5.2 and generally decreases to about -9.7 by early 2009. By mid-2009 it has generally increased to about 10 and by late 2011 it has generally decreased to about 3.5. It then generally increases to about 4.8 by the end of 2013. Emerging Market Economies Previous Tealbook follows the Emerging Market Economies Current Tealbook series almost exactly until early 2011. By late 2011 it has generally decreased to about 4 and by the end of 2013 it has generally increased to about 4.9.

## Figure: Consumer Prices

Line chart, by percent change, 2008 to 2013. Data are annual rate. There is a horizontal line at zero. There are two series, Total Foreign Current Tealbook and Total Foreign Previous Tealbook. Total Foreign Current Tealbook begins in early 2008 at about 5. It then generally decreases to about -1 by late 2008 and then generally increases to about 3.3 by early 2010. By mid-2010 it has generally decreased to about 1.8 and by late 2010 it has generally increased to about 5.2. It then generally decreases to about 2.2 by the end of 2013. Total Foreign Previous Tealbook follows Total Foreign Current Tealbook almost exactly until mid-2011. By the end of 2013 it has generally decreased to about 2.15.

There is a second line chart, by percent change, 2008 to 2013. Data are annual rate. There is a horizontal line at zero. There are four series, Advanced Foreign Economies Current Tealbook, Advanced Foreign Economies Previous Tealbook, Emerging Market Economies Current Tealbook and Emerging Market Economies Previous Tealbook. Advanced Foreign Economies Current Tealbook begins in early 2008 at about 2.7 and generally

increases to about 3.95 by mid-2008. It then generally decreases to about -2.2 by late 2008. It then generally increases to about 2 by early 2010 and then generally decreases to about 0.4 by mid-2010. By late 2010 it has generally increased to about 3.1 and by mid-2011 it has generally decreased to about 0.7. It then generally increases to about 2.5 by late 2011 and generally decreases to about 1.3 by the end of 2013. Advanced Foreign Economies Previous Tealbook follows the Advanced Foreign Economies Current Tealbook series almost exactly until mid-2011. By late 2011 it increases to about 2.6 and by mid-2012 it has generally decreased to about 1.0. It then generally increases to about 1.2 by the end of 2013. Emerging Market Economies Current Tealbook begins in early 2008 at about 7.1. It then generally decreases to about -0.7 by early 2009 and then generally increases to about 4.4 by early 2010. By mid-2010 it has generally decreased to about 2.7 and by late 2010 it has generally increased to about 6.7. It then generally decreases to about 3.2 by the end of 2013. Emerging Market Economies Previous Tealbook follows Emerging Market Economies Current Tealbook almost exactly.

Note: Blue shading represents the projection period, which begins in 2012:Q1.

## Evolution of Staff's International Forecast

### Figure: Total Foreign GDP

Line chart, by percent change, Q4 over Q4, January 20, 2010 to December 5, 2012. The x-axis is Tealbook publication dates. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about 4.1 and generally decreases to about 3.2 by December 8, 2010. It then generally increases to about 3.6 by June 15, 2011. It then generally decreases to about 2.6 by March 7, 2012. 2012 begins on September 15, 2010 at about 3.6 and remains relatively stable here until about June 15, 2011 when it begins to decrease. By December 7, 2011, it has generally decreases to about 2.6. It then generally increases to about 3 by March 7, 2012. 2013 begins on September 14, 2011 at 3.5 and generally decreases to about 2.9 by December 7, 2012. It then generally increases to about 3.2 by March 7, 2012.

### Figure: Total Foreign CPI

Line chart, by percent change, Q4 over Q4, January 20, 2010 to December 5, 2012. The x-axis is Tealbook publication dates. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about 2. It then generally increases to about 3.1 by April 20, 2011 and decreases to about 2.8 by June 15, 2011. It then generally increases to about 3.4 by March 7, 2012. 2012 begins on September 15, 2010 at about 2.25 where it remains relatively stable until January 18, 2012. It then increases to about 2.55 by March 7, 2012. 2013 begins on September 14, 2011 at about 2.3 and generally decreases to about 2.1 by December 7, 2011. It then generally increases to about 2.3 by March 7, 2012.

### Figure: U.S. Current Account Balance

Line chart, by percent of GDP, January 20, 2010 to December 5, 2012. The x-axis is Tealbook publication dates. There are three series, 2011, 2012, and 2013. 2011 begins on January 20, 2010 at about -3.1 where it remains relatively stable until June 16, 2010. It increases to about -2.85 by August 4, 2010 and then decreases to about -3.5 by December 8, 2010. It then generally increases to about -2.6 by June 15, 2011. It remains relatively stable until about January 18, 2012. It then generally decreases to about -3 by March 7, 2012. 2012 begins on September 15, 2010 at about -2.8 and decreases to about -3.1 by December 8, 2010. It then generally increases to about -2 by June 15, 2011. It then generally decreases to about -3 by March 7, 2012. 2013 begins on September 14, 2011 at about -2.2 and decreases to about -3.1 by December 7, 2011. It then generally increases to about -2.7 by March 7, 2012.

## Financial Developments

## Policy Expectations and Treasury Yields

### Figure: Selected Interest Rates

Line chart, by percent, January 23, 2012 to March 6, 2012. There is a vertical line on 24 noting the January FOMC, on January 28 noting Consumer confidence, on February 2 noting Nonfarm payrolls, on February 15 noting Philadelphia Fed, February 16 noting CPI, February 18 noting the Greek aid agreement, and February 28 noting the Chairman's testimony. There are two series, 2-year Treasury yield, and 10-year Treasury yield. 2-year Treasury yield begins on January 23, 2012 at about .3 and remains relatively stable until about February 6 when it begins generally increase. By February 14, it increases to about .32 and remains relatively stable until about February 26. By March 6, it generally decreases to about .29 10-year Treasury yield begins on January 23, 2012 at about 2.49 and generally decreases to about 1.81 by February 2. It then generally increases to about 2.5 by February 9. It generally decreases to about 1.91 by February 15 and then generally increases to about 2.08 by February 21. It then generally decreases to about 1.89 by February 27 and generally increases to about 2.09 by March 1. By March 6, it generally decreases to about 1.92.

Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.

Source: Bloomberg

### Figure: Long-Term Interest Rate Implied Volatility

Line chart, by percent, January 2010 to May 2012. Data are daily. There is a vertical line in mid-January marking the January FOMC. The series begins in January 2010 at about 7 and generally decreases to about 5 by March 2010. It then generally decreases to about 8.1 by May 2010 and then generally decreases to about 5.8 by early August 2010. By late August 2010 it has generally increased to about 7.4 and by November 2010 it has generally decreased to about 6. It then generally increases to about 9.2 by December 2010 and then generally decreases to about 5.8 by May 2011. By October 2011 it has generally increased to about 8 and by March 6, 2012 it has generally decreased to about 5.5.

Note: Derived from options on 10-year Treasury note futures.

Source: Bloomberg.

### Figure: Implied Federal Funds Rate

Line chart, by percent, 2012:Q1 to 2015:Q3. There are four series, "Mean: March 6, 2012," "Mean: January 24, 2012," "Mode: March 6, 2012," and "Mode: January 24, 2012." "Mean: March 6, 2012" begins in 2012:Q2 at about .12 and remains relatively stable here until 2013:Q1. It then generally increases to about 1.0 by 2015:Q3. "Mean: January 24, 2016" begins in 2012:Q1 at about .11 and remains relatively stable until Q1:2013. It then generally increases to about 1.12 by 2013:Q3. "Mode: March 6, 2012" begins in 2012:Q1 at about .11 and remains relatively stable until about 2013:Q2 where it begins to increase. By 2014:Q2 it increases to about .2 and then generally decreases to about .15 by 2015:Q3. "Mode: January 24, 2012" begins in 2012:Q1 at about .10 and remains relatively stable here until about 2013:Q3. It then generally increases to about .48 by 2015:Q2.

Note: Mean is estimated using overnight index swap quotes. Mode is estimated from the distribution of federal funds rate implied by interest rate caps. Both include a term premium of zero basis points per month.

Source: Bloomberg and CME Group.

### Figure: Distribution of Modal Timing of First Rate Increase from the Desk's Dealer Survey

Bar chart, by percent, from 2013:Q1 to 2016:Q4. There are two series, "Recent: 21 respondents" and "Jan. FOMC: 20 respondents." "Recent: 21 respondents" begins in 2013:Q1 at about 0 and increases to about 10 by 2013:Q3. It then decreases to about 4.5 by 2014:Q1 and then increases to about 17 by 2014:Q2. It then increases to about 35 by 2014:Q3. By 2014:Q4 it decreases to about 20 and then decreases to about 5 by 2015:Q3. It then decreases to about 0 where it remains until 2016:Q2. It increases to about 5 and then decreases to about 0 by 2016:Q4. "Jan. FOMC: 20 respondents" begins in 2013:Q1 at about 0 where it remains until it increases to about 10 in 2013:Q3. It remains relatively stable here until 2014:Q2 when it increases to about 20. It then increases to about 29 by 2014:Q3

and then decreases to about 0 by 2014:Q4. By 2015:Q1 it increases to about 10 and then decreases to about 0 by 2015:Q2. It increases to about 5 by 2015:Q3 and then decreases to about 0 by 2015:Q4 where it remains relatively stable. By 2016:Q2 it increases to about 5 and then decreases to about 0 by 2016:Q4.

Source: Desk's Dealer Survey from March 5, 2012.

### **Figure: Inflation Compensation**

Line chart, by percent 2010 to 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. There are two series, 5 to 10 years ahead and Next 5 years. Next 5 years is adjusted for the indexation-lag (carry) effect. 5 to 10 years ahead begins in 2010:Q1 at about 3.2 and generally decreases to about 2.2 by 2010:Q3. It then generally increases to about 3.3 by 2011:Q1. From 2011:Q1 to 2011:Q3 it generally fluctuates between 2.8 and 3.3. It then decreases to about 2.1 by 2011:Q4. It then increases to about 2.25 by March 6, 2012. Next 5 years begins in 2010:Q1 at about 2 and generally decreases to about 1.15 by 2010:Q3. It then generally increases to about 2.25 by 2011:Q1. It generally decreases to about 1.6 by 2011:Q3 and by March 6, 2012 it generally increases to about 2.

Note: Estimates based on smoothed nominal and inflation-indexed Treasury yield curves.

Source: Barclays PLC and staff estimates.

## **Short-Term Funding Markets and Financial Institutions**

### **Figure: Selected Interest Rate Spreads**

Line chart, by basis points, January 2010 to March 2012. Data are daily. There is a label in January 2012 representing the January FOMC. There are two series, 3-month LIBOR over OIS and 1-week LIBOR over OIS. 3-month LIBOR over OIS begins in January 2010 at about 9 and generally decreases to about 8 by May 2010. It increases to about 34 by August 2010 and then decreases to about 10 by September 2010. It generally increases to about 18 by April 2011 and then decreases to about 11 by August 2011. It then increases to about 50 by December 2011 and then generally decreases to about 37 by March 6, 2012. 1-week LIBOR over OIS begins in January 2010 at about 8 and generally decreases to about 3 by April 2010. It generally increases to about 17 by July 2010 and then decreases to about 6 by September 2010. It remains relatively constant here until about August 2011. It then generally increases to about 16 by December 2011. It then generally decreases to about 8.5 by March 6, 2012.

Source: Bloomberg.

### **Figure: Dollar Funding Spreads**

Line chart, by basis points, April 2010 to March 2012. There is a vertical line in January 2012 representing the January FOMC. There are two series, USD 3x6 FRA-OIS and 3-month euro-dollar implied basis swap. The USD 3x6 FRA OIS spread is calculated from a LIBOR forward rate agreement (FRA) 3 to 6 months in the future and the implied forward overnight index swap (OIS) rate for the same period. USD 3x6 FRA-OIS begins in April 2010 at about 16 and generally increases to about 70 by June 2010. It then generally decreases to about 21 by August 2010 and fluctuates between 20 and 29 between August 2010 and May 2010. It generally increases to about 64 by November 2011 and then generally decreases to about 37 by March 6, 2012. 3-month euro-dollar implied basis swap begins in April 2010 at about 30 and generally increases to about 60 by June 2010. It decreases to about 20 by August 2010 and then increases to about 45 by September 2010. It then decreases to about 20 in October 2010 and increases to about 58 by December 2010. It then generally decreases to about 2 by April 2011. It generally increases to about 157 by October 2012 and then generally decreases to about 62 by March 6, 2012.

Source: Bloomberg; staff estimates.

### **Figure: Asset-Backed Commercial Paper Outstanding in the U.S. Market**

Line chart, by billions of dollars, January 2010 to March 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. There are four series, "France, and Germany," "Ireland, Italy, and Spain,"

"Other Europe," and "United States." "France and Germany" begins in January 2010 at about 105 and remains relatively constant until about January 2011. It then increases to about 125 by May 2011. It then generally decreases to about 95 by March 6, 2012. "Ireland, Italy, and Spain" begins in January 2010 at about 5 and remains relatively constant. By March 6, 2012, it has slightly decreased to about 4. "Other Europe" begins in January 2010 at about 125 and remains relatively constant here until about January 2011. It then generally decreases to about 95 by March 6, 2012. "United States" begins in January 2010 at about 190 and generally decreases to about 115 by September 2011. It then increases to about 130 by December 2011. By March 6, 2012 it generally decreases to about 120.

Source: Depository Trust & Clearing Corporation

### **Figure: Spreads on Asset-Backed Commercial Paper Issued in the U.S. Market**

Line chart, by basis points, January 2010 to March 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. There are four series, "France and Germany," "Ireland, Italy, and Spain," "Other Europe," and "United States." "France and Germany" begins in January 2010 at about 9 and generally remains constant until about May 2011. It then increases to about 80 by December 2011. It then generally decreases to about 18 by March 6, 2012. "Ireland, Italy, and Spain" begins in January 2010 at about 19 and generally decreases to about 15 where it remains relatively constant. It then increases to about 107 by December 2011 and then generally decreases to about 46 by March 6, 2012. "Other Europe" begins in January 2010 at about 22 and generally decreases to about 14 by April 2010. It then increases to about 17 by June 2010 and remains relatively constant here. It then generally increases to about 20 by March 6, 2012. "United States" begins in January 2010 at about 17 and remains relatively constant here until about August 2011. It then generally increases to about 19 by March 6, 2012.

Note: 5-day moving average. Spreads computed over the AA nonfinancial unsecured rate.

Source: Depository Trust & Clearing Corporation

### **Figure: S&P 500 Diversified Financials Stock Price Index**

Line chart, by log scale where Nov. 1, 2011 = 100, January 2010 to March 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. The series begins in January 2010 at about 139 and generally decreases to about 123 by March 2010. It generally increases to about 158 by April 2010 and then generally decreases to about 122 by June 2010. Between June 2010 and December 2010, it generally fluctuates between 123 and 128. It then generally increases to about 144 by February 2011. It generally decreases to about 84 by September 2011 and then generally increases to about 115 by October 2010. It generally decreases to about 85 by November 2010 and then generally increases to about 118 by March 6, 2012.

Source: Bloomberg.

### **Figure: CDS Spreads of Large Bank Holding Companies**

Line chart, by basis points, January 2010 to March 2012. There is a vertical line in January 2012 representing the January FOMC. There are six series, Citigroup, JPMorgan Chase, Wells Fargo, Goldman Sachs, Bank of America, and Morgan Stanley. Citigroup begins in January 2010 at about 150 and generally increases to about 230 by March 2010. It generally decreases to about 125 by April 2010 and then generally fluctuates between 100 and 150 from April 2010 until May 2011. It then generally increases to about 360 by September 2011. It then generally decreases to about 210 by March 6, 2012. JPMorgan Chase begins in January 2010 at about 50 and generally increases to about 110 by May 2010. It then remains relatively constant until about June 2011. It generally increases to about 180 by September 2011 and then generally decreases to about 108 by March 6, 2012. Wells Fargo begins in January 2010 at about 90 and generally fluctuates between 90 and 110 until about August 2011. It generally increases to about 175 by September 2011 and then generally decreases to about 98 by March 6, 2012. Goldman Sachs begins in January 2010 at about 90 and generally increases to about 205 by May 2010. It generally decreases to about 110 by May 2011 and then generally increases to about 405 by August 2011. By March 6, 2012 it generally decreases to about 240. Bank of America begins in January 2010 at about 100 and generally increases to about 210 by November 2010. It generally decreases to about 115 by April 2011 and then generally increases to

about 500 by September 2011. It then generally decreases to about 280 by March 6, 2012. Morgan Stanley begins in January 2010 at about 103 and generally increases to about 300 by May 2010. It decreases to about 240 by May 2011 and then generally increases to about 600 by August 2011. It then generally decreases to about 325 by March 6, 2012.

Source: Markit.

## **[Box:] The ECB's Three Year Longer Term Refinancing Operations**

### **Figure: ECB Liquidity Providing Operations**

Stack area chart, by billions of euros, January 2011 to March 2012. There are four series, One month or shorter, Three to six months, One year, and Three years. One month or shorter begins in January 2011 at about 300 and generally declines to about 190 by April 2011. It then fluctuates between 200 and 300 until about November 2011. It then increase to about 360 by December 2011. It then decreases to about 25 by March 2012. Three to six months begins in January 2011 at about 520 and generally decreases to about 410 by April 2011. It generally increases to about 600 by October 2011 and then generally decreases to about 80 by March 2012. One year generally follows the same path as Three to six months until October 2011 when it continues to increase to about 670 by December 2011. It then generally decreases to about 370 in February 2012 before decreasing again to about 90 in March 2012. Three years also follows the same path as Three to six months until November 2011 when it begins increasing at a much faster rate. It increases to about 850 by December 2011 and then decreases to about 800 in February 2012. It then increases to about 1150 by March 2012.

Source: ECB.

### **Figure: Two-Year Sovereign Spreads**

Line chart, by basis points, November 2011 to March 2012. There are two series, Italy and Spain. Italy begins in November 2011 at about 495 and generally increases to about 710 by December 2011. It then generally decreases to about 160 by March 2012. Spain begins in November 2011 at about 360 and generally increases to about 560 by December 2011. It then generally decreases to about 225 by March 2012.

Note: Two-year sovereign spread is the difference between given country's yield and Germany's yield.

Source: Bloomberg.

## **Foreign Developments**

### **Figure: European Central Bank Operations**

Line chart, by billions of euros, 2010 to 2012. There is a vertical line in January 2012 representing the January FOMC. There is one series, Amount outstanding from refinancing operations. Amount outstanding from refinancing operations begins in early 2010 at about 715 and generally increases to about 900 by mid-2010. It generally decreases to about 410 by early 2011 and then generally increases to about 820 by late 2011. It then generally decreases to about 800 by March 2, 2012. Line chart, by percent, 2010 to 2012. There is a vertical line in January 2012 representing the January FOMC. There is one series, EONIA. EONIA begins in early 2010 at about 0.41 and generally increases to about 1.42 by late 2011. It then generally decreases to about 3.85 by March 2, 2012.

Source: Bloomberg.

### **Figure: Dollar Exchange Rates**

Line chart, by Euros per dollar, 2011 to 2012. There is a vertical line in January 2012 representing the January FOMC. There is one series, Euro. Euro begins in 2011:Q1 at about 0.75 and generally decreases to about 0.67 by 2011:Q3. It generally increases to about 0.79 by 2012:Q1 and then generally decreases to about 0.75 by March 6, 2012. Line chart, by log scale where Jan. 3, 2011 = 100, 2011 to 2012. There is a vertical line in January 2012

representing the January FOMC. There are two series, Broad and Yen. Broad begins in 2011:Q1 at about 100 and generally decreases to about 95 by 2011:Q2. It generally increases to about 103.5 by 2011:Q3 and then generally decreases to about 100.5 by March 6, 2012. Yen begins in 2011:Q1 at about 100 and generally increases to about 105 by 2011:Q2. It then generally decreases to about 94 by 2011:Q3 where it remains relatively constant until about 2012:Q1. It then generally increases to about 100 by March 6, 2012.

Source: Federal Reserve Board; Bloomberg.

### Figure: Stock Price Indexes

Line chart, by log where Jan. 3, 2011 = 100, 2011 to 2012. There is a vertical line in January 2012 that represents the January FOMC. There are four series, DJ Euro, Topix, DJ Euro Banks, MSCI Emerging Markets. DJ Euro begins in 2011:Q1 at about 100 and generally decreases to about 73 by 2011:Q3. It then generally increases to about 88 by March 6, 2012. Topix begins in 2011:Q1 at about 100 and generally increases to about 109 before decreasing to about 87 by 2011:Q2. It remains relatively constant here until about 2011:Q3 when it decreases to about 85. It then generally increases to about 91 by March 6, 2012. DJ Euro Banks begins in 2011:Q1 at about 100 and generally increases to about 118. It then generally decreases to about 51 by 2011:Q2 and fluctuates between 51 and 70 until 2012:Q1. It then generally increases to about 68 by March 6, 2012. MSCI Emerging Markets begins in 2011:Q1 at about 99 and generally increases to about 105 by 2011:Q2. It generally decreases to about 70 by 2011:Q3 and then generally increases to about 92 by March 6, 2012.

Source: Bloomberg.

### Figure: Emerging Market Economies Fund Flows

Bar chart, by percent of GDP, annual rate, December 2010 to January 2012. Data are monthly. There is a horizontal line at zero. There are two series, EME bonds and EME equities. EME bonds begins in December 2010 at about 0.15 and increases to about 0.25 by January 2011. By February 2011, it decreases to about -0.2 and then increases to about 0.1 by March 2011. It then increases to about 0.3 by April 2011 and increases to about 0.5 by June 2011. It decreases to about -1 by September 2011 and then increases to about -0.05 by October 2011. It decreases to about -0.1 by November 2011 and then increases to about 0.10 by December 2011. By January 2012, it increases to about 2. EME equities begins in December 2010 at about 2.15 and then increases to about 5 by January 2011. It decreases to about -6.1 by February 2011 and then increases to about -1.8 by March 2011. It increases to about 5 by April 2011 and then decreases to about -2.3 by May 2011. It then increases to about -0.6 by July 2011 and then decreases to about -11.2 by August 2011. It then increases to about -0.5 by October 2011 and then decreases to about -5 by November 2011. It increases to about 1.2 by December 2011, and by January 2012, it increases to about 4.25.

Source: EPFR Global.

### Figure: Euro-Area 10-Year Government Bond Spreads

Line chart, by percentage points, 2011 to 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. There are four series, Portugal, Spain, Ireland, and Italy. Portugal begins in 2011 at about 3.95 and generally increases to about 15.7 by early 2012. It then generally decreases to about 12 by March 6, 2012. Spain begins in 2011 at about 2.25 and generally increases to about 4 by late 2011. It then generally decreases to about 3.2 by March 6, 2012. Ireland begins in 2011 at about 6 and generally increases to about 11.7 by mid-2011. It then generally decreases to about 5 by March 6, 2012. Italy begins in 2011 at about 1.99 and generally increases to about 6 by late 2011. It then generally decreases to about 3.5 by March 6, 2012.

Note: Spread over German bunds.

Source: Bloomberg

### Figure: Foreign Net Purchases of U.S. Treasury Securities

Bar chart, by billions of dollars, annual rate, 2010 to 2012. There is a horizontal line at 0. There are two series, Official and Private. Official begins in 2010 at about 400 and decreases to about 200 by 2011:H1. It then decreases to about 160 by 2011:Q3 and decreases to -100 by 2011:Q4. It then increases to about 380 by January 2012.

Private begins in 2010 at about 210 and then decreases to about -100 by 2011:H1. It then increases to about 450 by 2011:Q3 and then decreases to 390 by 2011:Q4. It then decreases to about 200 by January 2012.

Source: Treasury International Capital data adjusted for staff estimates.

## Domestic Asset Market Developments

### Figure: S&P 500 Stock Price Index

Line chart, by log scale where Nov. 1, 2011 = 100, January 2010 to March 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. The series begins in January 2012 at about 93 and generally decreases to about 87 by February 2012. It generally increases to about 100 by May 2010 and then generally decreases to about 95 by July 2010. It then generally increase to about 110 by February 2011 where it fluctuates between 105 and 110 until about June 2011. It decreases to about 92 by August 2011 and then generally increases to about 110 by March 6, 2012.

Source: Bloomberg.

### Figure: Implied Volatility on S&P 500 (VIX)

Line chart, by percent, log scale, 2007 to 2012. Data are daily. There is a vertical line in January 2012 representing the January FOMC. The series begins in 2007 at about 5 and generally increases to about 34 by mid-2007. It then fluctuates between 18 and 34 until mid-2008. It generally increases to about 80 by late 2008 and then generally decreases to about 17 by early 2010. It increases to about 50 by mid-2010 and then generally decreases to about 17 by mid-2011. It then increases to about 50 and then generally decreases to about 21 by March 6, 2012.

Source: Chicago Board Options Exchange.

### Figure: Equity Risk Premium

Line chart, by percent, 1992 to 2012. Data are monthly. There is a vertical line in January 2012 representing the January FOMC. There is a plus-sign in January 2012 denoting the latest observation using daily interest rates and stock prices and latest earnings data. There are two series, Expected 10-year real equity return and Expected real yield on 10-year Treasury. The Expected real yield on 10-year Treasury is off-the-run 10-year Treasury yield less Philadelphia Fed 10-year expected inflation. Expected 10-year real equity return begins in 1992 at about 9.75 and generally decreases to about 2.25 by 2000. It generally increases to about 12 by 2008 and then generally decreases to about 9 by 2012. Expected real-yield on 10-year Treasury begins in 1992 at about 4.1 and generally fluctuates between about 2 and 4.3 until about 2000. It then generally declines to about -.95 by 2012.

Source: Thomson Financial.

### Figure: S&P 500 Earnings per Share

Line chart, by dollars per share, from 2001 to 2011. Data are quarterly. The series begins in 2001 at about 13.9 and generally decrease to about 10.5 by 2002. It then generally increases to about 24 by 2007 and then generally decreases to about 5.6 by 2009. It then generally increases to about 24 by 2011:Q4 (preliminary).

Note: Data are seasonally adjusted by staff.

Source: Thomson Financial

### Figure: Corporate Bonds Spreads

Line chart, by basis points, 2007 to 2012. There is a vertical line in January 2012 representing the January FOMC. There are two series, 10-year high-yield and 10-year BBB. 10-year high-yield begins in 2007 at about 260 and generally increases to about 1700 by 2009. It generally decreases to about 450 by early 2011 and then generally increases to about 750 by late 2011. It then generally decreases to about 500 by March 6, 2012. 10-year BBB begins in 2007 at about 150 and generally increases to about 650 about 2009. It generally decreases to about 175 by 2010 and then generally increases to about 340 by late 2011. It then generally decreases to about 220 by March

6, 2012.

Note: Measured relative to a smoother nominal off-the-run Treasury yield curve.

Source: Merrill Lynch and staff estimates

### **Figure: Spread on 30-Day A2/P2 Commercial Paper**

Line chart, by basis points, March 2009 to March 2012. There is a vertical line in January 2012 representing the January FOMC. There is a plus-sign on March 6, 2012 denoting the latest available single-day observation. There is one series, 5-day moving average. 5-day moving average begins in March 2009 at about 83 and generally decrease to about 13 by January 2010. It generally increases to about 48 by September 2011 and then generally decreases to about 23 by March 6, 2012.

Note: The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.

Source: Depository Trust & Clearing Corporation.

## **Business Finance**

### **Figure: Selected Components of Net Debt Financing, Nonfinancial Firms**

Bar chart, by billions of dollars, 2008 to 2012. Data are monthly rate. There is a horizontal line at zero. There are three series, Commercial paper, C&I loans and Bonds. Commercial Paper and C&I loans are on a period-end basis and are adjusted seasonally. Commercial paper and C&I loans are seasonally adjusted on a period-end basis, bonds are not. There is also a "Total" series presented as a line chart which sums the total of the other series. Approximate values are: 2008: Bonds 18, C&I 24, Commercial Paper 25, Total 25. 2009: Bonds 30, C&I -30, Commercial Paper -35, Total 0. 2010: Bonds 33, C&I -5, Commercial Paper 35, Total 35. 2011:H1: Bonds 33, C&I 40, Commercial Paper 43, Total 43. 2011:H2: Bonds 30, C&I 39, Commercial Paper 40, Total 40. January 2012: Bonds 17, C&I 23, Commercial Paper 39, Total 39. February 2012: Bonds 53, C&I 50, Commercial Paper -2, Total 48.

Note: The February 2012 values are estimates.

Source: Depository Trust & Clearing Corporation; Thomson Financial; Federal Reserve Board.

### **Figure: Gross Issuance of Institutional Leveraged Loans**

Bar chart, by billions of dollars, 2008 to 2012. Data are monthly rate. The series begins in 2008 at about 5 and decreases to about 4 by 2009. It then increases to about 17 in 2010 and increases to about 33 by 2011:H1. It then decreases to about 11 by 2011:Q3 and further decreases to about 10 by 2011:Q4. It decreases to about 8 by January (preliminary).

Source: Reuters Loan Pricing Corporation.

### **Figure: Selected Components of Net Equity Issuance, Nonfinancial Firms**

Bar chart, by billions of dollars, 2008 to 2011. Data are monthly rate. There is a horizontal line at zero. There are four series, Private issuance, Public issuance, Repurchases and Cash mergers. There is also a "Total" series presented as a line chart which sums the total of the other series. Approximate values are: 2008: Public issuance 25, Private issuance 21, Repurchases -30, Cash mergers -47, Total -24. 2009: Public issuance 21, Private issuance 19, Repurchases -14, Cash mergers -24, Total -2. 2010: Public issuance 19, Private issuance 15, Repurchases -25, Cash merger -30s, Total -23. 2011:H1: Public issuance 20, Private issuance 15, Repurchases -28, Cash mergers -45, Total -28. 2011:Q3: Public issuance 15, Private issuance 14, Repurchase -26, Cash mergers -55, Total -26. 2011:Q4: Public issuance 18, Private issuance 14, Repurchases -45, Cash mergers -52, Total -48.

Note: The 2011:Q4 values are estimates.

Source: Thomson Financial, Investment Benchmark Report; Money Tree Report by Pricewaterhouse Coopers, National Venture Capital Association,

## Figure: Financial Ratios for Nonfinancial Corporations

Line chart, by ratio, 1991 to 2011. There are two series, Debt over total assets and Liquid assets over total assets. Debt over total assets begins in 1991 at about 0.33 and generally decreases to about .0.275 by 1995. It increases to about 0.31 by 1999 and then decreases to about 0.245 by 2005. It generally increases to about 0.29 by 2008 and then decreases to about 0.249 by 2011:Q4 preliminary. Liquid assets over total assets begins in 1991 at about 0.055 and generally increases to about .109 by 2004. It generally decreases to about .089 by 2007 and then generally increases to about 0.109 by 2011:Q4 (preliminary).

Note: Data are annual through 1999 and quarterly thereafter.

Source: Compustat.

## Figure: Bond Ratings Changes of Nonfinancial Firms

Bar chart, by percent of outstandings, from 1991 to 2012. Data are annual rate. There is a horizontal line at zero. There are two series, Upgrades and Downgrades. Upgrades begins in 1991 at about 10 and generally increases to about 15 by 1992. It then decreases to about 8 where it remains relatively constant until about 1994. It then increases to about 20 in 1995 and then decreases to about 10 in 1997. It increases to about 17 in 1998 and then decreases to about 4 by 2002. It then generally increases to about 6 by 2005 where it remains relatively constant until about 2008 and decreases to about 3. It then increases by 2011 to about 10. It increases to about 10.5 by 2011:H1 and then decreases to about 5 by 2011:H2. By February 2012 it has decreased to about 3. Downgrades begins in 1991 at about -35 and decreases to about -42 by 1992. It then increases to about -11 by 1994 where it remains relatively constant until about 1998. It then decreases to about -40 by 2002 and then increases to about -12 where it remains relatively constant until about 2008. It then decreases to about -21 in 2009 and then increases to about -4 in 2010. By 2011:H1 it is at about -3 where it remains until January 2012 when it decreases to about -11. It then increases to about -5 by February 2012.

Source: Calculated using data from Moody's Investors Service.

## Figure: CMBS Issuance

Bar chart, by billions of dollars, 2007 to 2011. Data are annual rate. There series begins in 2007 at about 230 and decreases to about 10 in 2008. It decreases again in 2009 to about 0 and then increases to about 10 in 2010. It increases to about 35 by 2011:H1 and then decreases to about 30 by 2011:Q3. It increases to about 33 by 2011:Q4. Note: There is a hollow bar on 2011:Q4 from 33 to 35 that indicates an issuance in the pipeline.

Source: Commercial Mortgage Alert.

## Household Finance

### Figure: Mortgage Rate and MBS Yield

Line chart, by percent, from 2007 to 2012. There is a vertical line in January 2012 representing the January FOMC. There are two series, 30-year conforming fixed mortgage rate and MBS yield. 30-year conforming fixed mortgage rate begins in 2007 at about 6.45 and generally increases to about 6.6 by mid-2007. It generally decreases to about 5.5 by early 2008 and then generally increases to about 6.4 by late 2008. It then generally decreases to about 4.6 by early 2009 and then generally increase to about 5.5 by mid-2009. It generally decreases to about 4 by late 2010 and then generally increases to about 5.1 by early 2011. It then generally decreases to about 3.8 by March 6, 2012. MBS yield begins in 2007 at about 5.6 and generally increases to about 6.4 by mid-2007. It generally decreases to about 4.6 by early 2008 and then generally increases to about 6.2 by mid-2008. It generally decreases to about 3.6 by early 2009 and then generally increases to about 5.1 by mid-2009. It generally decreases to about 3.2 by late 2010 and then generally increases to about 4.5 by early 2011. By March 6, 2012 it generally decreases to about 2.7.

Note: For mortgage-backed securities (MBS) yield, the data are daily and consist of the Fannie Mae 30-year current-coupon rate; for the mortgage rate, the data are weekly before 2010 and daily thereafter.

Source: For MBS yield, Barclays; for mortgage rate, Freddie Mac (before 2010) and Loansifter (after 2010).

## Figure: Purchase and Refinance Activity

Line chart, by log scale where March 16, 1990 = 100, 2002 to 2012. There is a vertical line in January 2012 representing the January FOMC. There are two series, Purchase Index, and Refi Index. Purchase Index begins in 2002 at about 303 and generally increases to about 500 by 2005. It then generally decreases to about 350 by 2006 and then generally increases to about 550 by 2007. It then generally decreases to about 190 by March 2, 2012. Refi Index begins in 2002 at about 1,800 and generally increases to about 10,000 by 2003. It then generally decreases to about 2,000 by 2004 where it fluctuates between 2,000 and 4,000 until about 2008. It then increases to about 6,000 by early 2009 and then decreases to about 2,050 by late 2009. It then increases to about 5,500 by 2010 and then decreases to about 1,900 by 2011. By March 2, 2012 it increases to about 4,100.

Note: Seasonally adjusted by FRB staff.

Source: Mortgage Bankers Association.

## Figure: Price of Existing Homes

Line chart, by index peak normalized to 100, 2005 to 2012. Data are monthly. Series begins in 2005 at about 86 and generally increases to about 100 by 2006. It generally decreases to about 71 by 2008 and then generally increases to about 73 by 2010. It then generally decreases to about 66 by January 2012.

Source: CoreLogic.

## Figure: Delinquencies on Prime Mortgages, Transition Rates

Line chart, by percent of loans, 2004 to 2012. There are two series, 3-month moving average and Monthly rate. 3-month moving average begins in 2004 at about 1.08 and generally increases to about 1.19 by mid-2004. It generally decreases to about 0.81 by 2006 and then generally increases to about 1.43 by 2009. It then generally decreases to about 1.05 by January 2012. Monthly rate begins in 2004 at about 1.05 and increase to about 1.19 by mid-2004. It generally decreases to about 0.78 by early 2006 and then generally increases to about 1.78 by late 2008. It then generally decreases to about 0.89 by January 2012.

Note: Percent of previously current mortgages that transition to being at least 30 days delinquent each month.

Source: LPS Applied Analytics.

## Figure: Consumer Credit

Line chart, by percent change, annual rate, 2004 to 2011. Data are 3-month moving average. There is a horizontal line at 0. There are two series, Revolving and Nonrevolving. Revolving begins in 2004 at about 3 and generally increases to about 9 by 2007. It generally declines to about -12.5 by 2010 and then generally increases to about 5 by December 2011. Nonrevolving begins in 2004 at about 5 and fluctuates between 3 and 8.5 until about 2008. It then generally decreases to about -2 and then generally increases to about 6 by 2010. It then generally decreases to about 1 by mid-2011 and the increases to about 9.5 by December 2011.

Source: Federal Reserve Board.

## Figure: Gross Consumer ABS Issuance

Bar chart, by billions of dollars, 2007 to 2012. Data are monthly rate. There are three series, Auto, Credit card, and Student loan. Approximate values are: 2007: Auto 6.5, Credit card 15, Student loan 19.6. 2008:H1: Auto 5, Credit card 14.7 Student loan 15. 2008:H2: Auto 1, Credit card 3, Student loan 3.8. 2009:H1: Auto 7, Credit card 15, Student loan 17. 2009:H2: Auto 10, Credit card 15.75, Student loan 18.4. 2010:H1: Auto 4.7, Credit card 5.5, Student loan 7. 2010:H2: Auto 4, Credit card 4.8, Student loan 6.75. 2011:H1: Auto 4, Credit card 4.8, Student loan 6.75. 2011:Q3: Auto 5, Credit card 5, Student loan 7. 2011:Q4: Auto 4.3, Credit card 5.2, Student loan 6.9. January 2012: Auto 6, Credit card 6, Student loan 7.8. February 2012: Auto 5.8, Credit card 7, Student loan 7.8.

## Commercial Banking and Money

### Figure: Changes in Bank Credit

Line chart, by percent, 2005 to 2012. Data are 3-month change, a.r. There is a horizontal line at 0. There are two series, Total bank credit and C&I loans. Total bank credit begins in 2005 at about 10 and generally fluctuates between 3 and 10 until early 2008. It then decreases to about -1 by mid-2008 and then increases to about 9 by late 2008. It then decreases to about -10 by early 2009. It then generally increases to about 4 by February 2012. C&I loans begins in 2005 at about 12 and generally decreases to about 9 by early 2006. It generally increases to about 21 by mid-2006 and then generally decreases to about 4 by late 2006. It generally increases to about 29 by late 2007 and then generally decreases to about 5 by late 2008. It then generally increases to about 21 by early 2009 and then generally decreases to about -29 by late 2009. By February 2012 it generally increases to about 10.

Source: Federal Reserve Board

### Figure: Return on Assets

Line chart, by percent, 1998 to 2011. There is a horizontal line at 0. There are two series, Unadjusted and Adjusted. Adjusted return on assets removes mortgage-related charges by Bank of America in 2011:Q2, debt valuation adjustment income effects in 2011:Q3 and 2011:Q4, and litigation provisions in 2011. These adjustments assume a marginal tax rate of 35 percent and are not seasonally adjusted. Unadjusted begins in 1998 at about 1.25 and it generally fluctuates between 1.0 and 1.35 until 2006. It generally decreases to about -1.7 by 2008 and then generally increases to about 0.6 by 2011. Adjusted follows the same path as unadjusted until late 2010. It increases to about 0.75 and then decreases to about 0.65 by 2011.

Source: Federal Reserve Board.

### Figure: Bank Holding Company Noninterest Income

Bar chart, by billions of dollars, 2007 to 2011. Data are quarterly. There is a horizontal line at zero. There are six series, Fiduciary income, Trading income, Securitization income, Deposit fees, Net gains/(losses) on Available-For-Sale securities, and Other noninterest income. Fiduciary income begins in 2007:Q1 at about 8 where it remains relatively constant until 2011:Q4. Trading income begins in 2007:Q1 at about 43 and generally decreases to about 23 by 2008:Q1. It increases to about 25 by 2008:Q2 and then generally decreases to about -8 by 2008:Q4. It then generally increases to about 65 by 2009:Q3. It then generally fluctuates between 57 and 70 from 2009:Q4 to 2011:Q1. It then generally decreases to about 46 by 2011:Q4. Securitization income begins in 2007:Q1 at about 56 and generally declines to about 17 by 2007:Q4. It then generally increases to about 36 by 2008:Q2 and then generally decreases to about 8 by 2008:Q4. It then increases to about 66 by 2009:Q1 where it fluctuates between 60 and 66 until 2010:Q4. It then increases to about 77 by 2011:Q1 and then generally decreases to about 50 by 2011:Q4. Deposit fees begins in 2007:Q1 at about 61 and generally decreases to about 23 by 2007:Q4. It then generally increases to about 48 2008:Q2 and then decreases to about 18 by 2008:Q4. It then increases to about 78 by 2009:Q1 and generally fluctuates between 76 and 90 until about 2011:Q1. It then generally decreases to about 59 by 2011:Q4. Net gains/losses on AFS begins in 2007:Q1 at about 62 and generally decreases to about -1 by 2008:Q1. It then increases to about 27 by 2008:Q2, and by 2008:Q4, it decreases to about -12. It then increases to about 80 by 2009:Q1 and then increases again to about 97 by 2009:Q2. It decreases to about 82 by 2009:Q3 and then decreases to about -1 by 2009:Q4. It then increases to about 84 by 2010:Q1 and decreases to about -1 by 2010:Q4. It then decreases to about -10 by 2011:Q2 and increases to about 60 by 2011:Q4. Other noninterest income begins in 2007:Q1 at about 82 and generally decreases to about 43 by 2007:Q4. It then generally increases to about 81 by 2008:Q2 and then decreases to about 39 by 2008:Q4. It then increases to about 110 by 2009:Q1 where it remains relatively constant until 2009:Q4 when it decreases to about 90. It then increases to about 115 by 2010:Q1 and then decreases to about 100 by 2010:Q4. It then increases to about 108 by 2011:Q1 and then generally decreases to about 90 by 2011:Q4.

Source: Federal Reserve Board.

## Figure: Weighted-Average C&I Loan Rate spread

Line chart, by basis points, 1997 to 2012. Data are quarterly. There are two series, Loan amounts of \$1 million or less and Loan amounts of greater than \$1 million. Loan amounts of \$1 million or less begins in 1997 at about 395 and generally decreases to about 350 by 2000. It generally increases to about 395 by 2002 and then generally decreases to about 345 by 2007. It then generally increases to about 440 by 2012:Q1. Loan amounts of greater than \$1 million begins in 1998 at about 255 and generally decreases to about 220 by 2000. It then generally increases to about 350 by 2001 and then generally decreases to about 165 by 2007. It then generally increases to about 290 by 2012:Q1.

Note: The rate on C&I loans over the interest rate on a market instrument of comparable maturity.

Source: Survey of Terms of Business Leading.

## Growth of M2 and Its Components

Percent, s.a.a.r.

	M2	Liquid deposits	Small time deposits	Retail MMFs	Curr.
2010	3.1	10.9	-21.4	-15.7	5.9
2011:H1	6.7	11.9	-19.3	-6.8	9.3
2011:H2	11.9	18.0	-20.4	.5	7.8
Dec.	5.5	8.2	-14.0	-4.9	8.2
Jan.	15.6	21.9	-15.8	-9.8	11.4
Feb.(e)	2.5	6.2	-19.4	-27.4	12.1

Note: Retail MMFs are retail money market funds.

e Estimate. [Return to table](#)

Source: Federal Reserve Board.

## Figure: Level of Liquid Deposits

Line chart, by trillions of dollars, 2008 to 2012. There is a vertical line in January 2012 representing the January FOMC. The series begins in 2008 at about 4.5 and generally increases to about 7.45 by February 27, 2012.

Note: Seasonally adjusted.

Source: Federal Reserve Board.

Note: The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research: March 2001-November 2001, and December 2007-June 2009.

## [Box:] Balance Sheet Developments over the Intermeeting Period

### Federal Reserve Balance Sheet

Billions of dollars

	Change since last FOMC	Current (03/05/12)

<b>Total assets</b>	<b>-48</b>	<b>2,884</b>
Selected assets:		
Liquidity programs for financial firms	-32	71
Primary, secondary, and seasonal credit	-0	+0
Foreign central bank liquidity swaps	-32	71
Term Asset-Backed Securities Loan Facility (TALF)	-1	8
Net portfolio holdings of Maiden Lane LLCs	-6	28
Maiden Lane	-1	6
Maiden Lane II	-5	4
Maiden Lane III	-0	18
Securities held outright*	-10	2,597
U.S. Treasury securities	+0	1,657
Agency debt securities	-2	100
Agency mortgage-backed securities	-9	841
<b>Total liabilities</b>	<b>-48</b>	<b>2,830</b>
Selected liabilities:		
Federal Reserve notes in circulation	27	1,051
Reverse repurchase agreements	-3	85
Foreign official and international accounts	-3	85
Others	+0	+0
Reserve balances of depository institutions**	87	1,595
Term deposits held by depository institutions	-3	0
U.S. Treasury, General Account	-83	36
U.S. Treasury, Supplementary Financing Account	0	0
Other deposits	-76	39
<b>Total capital</b>	<b>1</b>	<b>55</b>

Note: +0 (-0) denotes positive (negative) value rounded to zero. [Return to table](#)

\* Par value. [Return to table](#)

\*\* Includes required clearing balances and overdrafts. Excludes as-of adjustments. [Return to table](#)

## Risks and Uncertainty

### Alternative Scenarios

(Percent change, annual rate, from end of preceding period except as noted)

Measure and scenario	H1	H2	2013	2014	2015-16
<i>Real GDP</i>					
Extended Tealbook baseline	2.0	2.7	2.7	3.3	3.6
Lost decade	2.0	2.3	2.0	2.2	2.5
Virtuous circle	2.2	3.6	4.4	3.4	2.9
Virtuous circle with higher inflation	2.2	3.6	4.3	3.2	2.6
Disinflation	2.0	2.6	2.3	2.7	3.8
European crisis with severe spillovers	.3	-2.6	-1.6	2.9	4.5
Faster European recovery	2.1	3.1	3.2	3.7	3.5
Higher oil prices	1.5	1.9	2.2	3.2	3.9
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	8.4	8.2	7.8	7.5	6.2
Lost decade	8.4	8.3	8.3	8.4	8.2
Virtuous circle	8.4	8.0	7.0	6.4	5.8
Virtuous circle with higher inflation	8.4	8.1	7.0	6.5	6.3
Disinflation	8.4	8.2	8.0	7.9	6.6
European crisis with severe spillovers	8.6	9.2	10.6	10.7	8.5
Faster European recovery	8.4	8.1	7.5	7.1	5.8
Higher oil prices	8.5	8.4	8.2	8.0	6.5
<i>Total PCE prices</i>					
Extended Tealbook baseline	2.1	1.5	1.4	1.4	1.5
Lost decade	2.1	1.5	1.4	1.3	1.3
Virtuous circle	2.1	1.5	1.4	1.6	1.9
Virtuous circle with higher inflation	2.2	1.7	2.0	2.5	2.6
Disinflation	1.8	1.0	.6	.3	.3
European crisis with severe spillovers	1.3	-.7	-.3	1.0	1.9
Faster European recovery	2.2	1.9	1.8	1.8	1.6
Higher oil prices	5.7	1.0	1.2	1.3	1.7
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.8	1.6	1.6	1.6	1.7
Lost decade	1.8	1.6	1.6	1.5	1.5
Virtuous circle	1.8	1.6	1.6	1.8	2.1
Virtuous circle with higher inflation	1.8	1.8	2.2	2.7	2.8
Disinflation	1.5	1.1	.8	.5	.5
European crisis with severe spillovers	1.5	.5	.4	1.0	1.9
Faster European recovery	1.8	1.8	1.9	1.8	1.8

Higher oil prices	1.9	1.8	1.9	1.8	1.8
<i>Federal funds rate</i> <sup>1</sup>					
Extended Tealbook baseline	.1	.1	.1	.8	3.0
Lost decade	.1	.1	.1	.1	.2
Virtuous circle	.1	.3	1.8	2.8	3.6
Virtuous circle with higher inflation	.1	.3	2.3	3.7	4.1
Disinflation	.1	.1	.1	.1	.7
European crisis with severe spillovers	.1	.1	.1	.1	.5
Faster European recovery	.1	.1	.2	1.4	3.3
Higher oil prices	.1	.1	.1	.7	2.3

1. Percent, average for the final quarter of the period. [Return to table](#)

## Forecast Confidence Intervals and Alternative Scenarios

### Confidence Intervals Based on FRB/US Stochastic Simulations

#### Figure: Real GDP

Line chart, by 4-quarter percent change, 2008 to 2016. There is a horizontal line at zero. There are ten series, Extended Tealbook baseline, Lost decade, Virtuous circle, Virtuous circle with higher inflation, Disinflation, European crisis with severe spillovers, Faster European recovery, higher oil prices, 70 percent interval, and 90 percent interval. Extended Tealbook baseline begins in 2008:Q1 at about 2 and generally declines to about -5 by 2009. It generally increases to about 3.6 by 2010 and then declines to about 1.6 by 2011. It then generally increases to about 3.85 by 2015 and then declines to about 3.5 by 2016:Q4. Lost decade begins in 2011:Q4 at about 1.6 and generally increases to about 2.1 by 2012:Q3. It then generally decreases to about 1.9 by 2013:Q2 and then generally increases to about 2.6 by 2016:Q4. Virtuous circle begins in 2011:Q4 at about 1.6 and generally increases to about 4.5 by 2014:Q1. It then generally decreases to about 2.7 by 2015:Q1 and then generally increases to about 2.95 by 2016:Q4. Virtuous circle with higher inflation begins in 2011:Q4 at about 1.6 and generally increases to about 4.4 by 2014:Q1. It generally decreases to about 2.5 by 2015:Q4 and then generally increases to about 2.75 by 2016:Q4. Disinflation begins in 2011:Q4 at about 1.6 and generally increases to about 2.5 by 2012:Q3. It then generally decreases to about 2.1 by 2013:Q3 and then generally increases to about 4 by 2016:Q4. European crisis with severe spillovers begins in 2011:Q4 at about 1.6 and generally decreases to about -2.85 by 2013:Q2. It then generally increases to about 4.75 by 2015:Q3 and then generally decreases to about 4.15 by 2016:Q4. Faster European recovery begins in 2011:Q4 at about 1.6 and generally increases to about 4 by 2015:Q1. It then generally decreases to about 3.1 by 2016:Q4. Higher oil prices begins in 2011:Q4 at about 1.6 and generally decreases to about 1.8 by 2013:Q3. It then generally increases to about 3.9 by 2015:Q2 where it remains relatively constant until 2016:Q4. The other two series closely track each other throughout the chart, with the 90 percent interval being about 1.5 percent both lesser and greater than the 70 percent interval. The 70 percent interval starts at about between 1.5 and 2 and increases to between about 1.6 and 5.7 by 2015:Q2, then increases to end at about between 1.7 and 5.9.

#### Figure: Unemployment Rate

Line chart, by percent, 2008 to 2016. There are ten series, Extended Tealbook baseline, Lost decade, Virtuous circle, Virtuous circle with higher inflation, Disinflation, European crisis with severe spillovers, Faster European recovery, higher oil prices, 70 percent interval, and 90 percent interval. Extended Tealbook baseline begins in 2008 at about 4.95 and increases to about 10 by 2010:Q1. It then generally decreases to about 6.3 by 2016:Q4. Lost decade begins in 2012:Q1 at about 8.4 where it remains relatively constant until 2016:Q1. It then decreases to

about 8.25 by 2016:Q4. Virtuous circle begins in 2012:Q1 at about 8.4 and generally decreases to about 5.9 by 2016:Q4. Virtuous circle with higher inflation begins in 2012:Q1 at about 8.4 and generally decreases to about 6.4 by 2014:Q3. It remains relatively constant here until 2016:Q4 when it decreases to about 6.3. Disinflation begins in 2012:Q1 at about 8.4 and generally decreases to about 7.95 by 2014:Q2. It remains relatively constant here until 2014:Q4 and then generally decreases to about 6.51 by 2016:Q4. European crisis with severe spillovers begins in 2012:Q1 at about 8.4 and generally increases to about 10.9 by 2014:Q3. It then decreases to about 8.51 by 2016:Q4. Faster European recovery begins in 2012:Q1 at about 8.4 and generally decreases to about 5.9 by 2016:Q4. Higher oil prices begins in 2012:Q1 at about 8.4 and generally increases to about 8.5 by 2013:Q1. It then generally decreases to about 6.5 by 2016:Q4. The other two series closely track each other throughout the chart, with the 90 percent interval being about 1.8 percent greater than and 1.2 less than the 70 percent interval. The 70 percent interval starts at about between 8.1 and 8.6 and increases to between about 6.3 and 8.7 by 2015:Q1, then increases to end at about between 5.3 and 7.55.

### **Figure: PCE Prices excluding Food and Energy**

Line chart, by 4-quarter percent change, 2008 to 2016. There is a horizontal line at zero. There are ten series, Extended Tealbook baseline, Lost decade, Virtuous circle, Virtuous circle with higher inflation, Disinflation, European crisis with severe spillovers, Faster European recovery, higher oil prices, 70 percent interval, and 90 percent interval. Extended Tealbook baseline begins in 2008:Q1 at about 2.3 and increases to about 2.45 by 2008:Q2. It then generally decreases to about 1.3 by 2009:Q3 and then generally increases to about 1.75 by 2010:Q2. It generally decreases to about 0.8 by 2010:Q3 and then generally increases to about 1.8 by 2012:Q2. It generally decreases to about 1.6 by 2012:Q3 and then increases to about 1.7 by 2012:Q4. It then generally decreases to about 1.6 where it remains relatively constant here. By 2016:Q4 it increases to about 1.75. Lost decade begins in 2012:Q1 at about 1.75 and generally decreases to about 1.4 by 2016:Q4. Virtuous circle begins in 2012:Q1 at about 1.75 and generally decreases to about 1.6 by 2013:Q1. It then generally increases to about 2.1 by 2016:Q4. Virtuous circle with higher inflation begins in 2012:Q1 at about 1.75 and generally decreases to about 1.6 by 2012:Q3. It then generally increases to about 2.8 by 2014:Q3 and then generally decreases to about 2.65 by 2016:Q4. Disinflation begins in 2012:Q1 at about 1.75 and generally decreases to about 0.4 by 2015:Q1. It remains relatively constant here until 2016:Q4. European crisis with severe spillovers begins in 2012:Q1 at about 1.75 and generally decreases to about 0.3 by 2013:Q2. It then generally increases to about 2.05 by 2016:Q4. Faster European recovery begins in 2012:Q1 at about 1.75 and generally decreases to about 1.25 by 2012:Q3. It then increases to about 1.7 by 2012:Q4 and remains relatively constant here until 2016:Q4. Higher oil prices begins in 2012:Q1 at about 1.75 and generally decreases to about 1.25 by 2012:Q3. It then generally increases to about 1.8 by 2012:Q4 and remains relatively constant here. By 2016:Q4 it decreases to about 1.75. The other two series closely track each other throughout the chart, with the 90 percent interval being about 1.25 percent both lesser and greater than the 70 percent interval. The 70 percent interval starts at about between 1.75 and 2 and increases to between about 0.5 and 2.5 by 2014:Q1, then increases to end at about between 0.6 and 2.6.

### **Figure: Federal Funds Rate**

Line chart, by percent, 2008 to 2016. There is a horizontal line at zero. There are ten series, Extended Tealbook baseline, Lost decade, Virtuous circle, Virtuous circle with higher inflation, Disinflation, European crisis with severe spillovers, Faster European recovery, higher oil prices, 70 percent interval, and 90 percent interval. Extended Tealbook baseline begins in 2008:Q1 at about 3.1 and generally decreases to about 0.1 by 2009:Q1. It remains relatively constant here until 2014:Q1. It then increases to about 3 by 2016:Q4. Lost decade begins in 2012:Q1 at about 0.1 and remains relatively constant here until 2016:Q4. Virtuous circle begins in 2012:Q1 at about 0.1 and generally increases to about 3.75 by 2016:Q4. Virtuous circle with higher inflation begins in 2012:Q1 at about 0.1 and generally increases to about 4.1 by 2015:Q2. It remains relatively constant here until 2016:Q4. Disinflation begins in 2012:Q1 at about 0.1 and remains relatively constant here until about 2015:Q4. It increases to about 0.8 by 2016:Q4. European crisis with severe spillovers begins in 2012:Q1 at about 0.1 and remains relatively constant here until 2016:Q2. It then increases to about 0.4 by 2016:Q4. Faster European recovery begins in 2012:Q1 at about 0.1 and increases to about 0.25 by 2012:Q3. It then decreases to about 0.1 by 2012:Q4 and remains relatively constant here until about 2013:Q3. It then increases to about 3.25 by 2016:Q4. Higher oil prices begins in

2012:Q1 at about 0.1 and remains relatively constant here until about 2014:Q1. It then increases to about 2.3 by 2016:Q4. The other two series closely track each other throughout the chart, with the 90 percent interval being about 1.1 percent greater than and 0.9 percent less than the 70 percent interval. The 70 percent interval starts at about between 0.1 and 1 and increases to between about 0.1 and 3.25 by 2015:Q2, then increases to end at about between 0.1 and 5.1.

## Selected Tealbook Projections and 70 Percent Confidence Intervals Derived from Historical Tealbook Forecast Errors and FRB/US Simulations

Measure	2012	2013	2014	2015	2016
<i>Real GDP (percent change, Q4 to Q4)</i>					
Projection	2.4	2.7	3.3	3.7	3.4
Confidence interval					
Tealbook forecast errors	.8-3.9	.9-4.4	...	...	...
FRB/US stochastic simulations	1.1-3.8	.8-4.4	1.0-5.0	1.5-5.8	1.4-5.8
<i>Civilian unemployment rate (percent, Q4)</i>					
Projection	8.2	7.8	7.5	6.9	6.2
Confidence interval					
Tealbook forecast errors	7.6-8.8	6.8-8.8	...	...	...
FRB/US stochastic simulations	7.6-8.7	6.8-8.8	6.4-8.9	5.8-8.3	5.2-7.5
<i>PCE prices, total (percent change, Q4 to Q4)</i>					
Projection	1.8	1.4	1.4	1.5	1.6
Confidence interval					
Tealbook forecast errors	.8-2.8	.2-2.5	...	...	...
FRB/US stochastic simulations	.9-2.8	.2-2.6	.1-2.7	.1-2.7	.2-2.8
<i>PCE prices excluding food and energy (percent change, Q4 to Q4)</i>					
Projection	1.7	1.6	1.6	1.6	1.7
Confidence interval					
Tealbook forecast errors	1.1-2.3	.8-2.4	...	...	...
FRB/US stochastic simulations	1.1-2.3	.8-2.4	.6-2.4	.6-2.5	.7-2.6
<i>Federal funds rate (percent, Q4)</i>					
Projection	.1	.1	.8	2.1	3.0
Confidence interval					
FRB/US stochastic simulations	.1-1.1	.1-2.0	.1-3.0	.2-4.1	1.0-5.1

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969-2010 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979-2010, except for PCE prices excluding food and energy, where the sample is 1981-2010.

... Not applicable. The Tealbook forecast horizon has typically extended about 2 years. [Return to table](#)

# Greensheets

## Changes in GDP, Prices, and Unemployment

(Percent, annual rate except as noted)

Interval		Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate <sup>1</sup>	
		01/18/12	03/07/12	01/18/12	03/07/12	01/18/12	03/07/12	01/18/12	03/07/12	01/18/12	03/07/12
<i>Quarterly</i>											
2011:	Q1	3.1	3.1	.4	.4	3.9	3.9	1.6	1.6	9.0	9.0
	Q2	4.0	4.0	1.3	1.3	3.3	3.3	2.3	2.3	9.1	9.1
	Q3	4.4	4.4	1.8	1.8	2.3	2.3	2.1	2.1	9.1	9.1
	Q4	3.8	4.0	2.9	3.1	.5	1.2	.9	1.3	8.7	8.7
2012:	Q1	3.3	3.4	1.6	1.8	1.4	2.1	1.5	1.8	8.7	8.4
	Q2	3.6	4.2	1.8	2.2	1.7	2.2	1.5	1.7	8.7	8.4
	Q3	3.8	4.1	2.3	2.6	1.4	1.5	1.5	1.6	8.6	8.3
	Q4	4.1	4.3	2.7	2.9	1.3	1.4	1.4	1.6	8.6	8.2
2013:	Q1	3.5	3.8	2.1	2.3	1.3	1.4	1.4	1.6	8.5	8.1
	Q2	3.6	4.1	2.2	2.6	1.3	1.4	1.4	1.6	8.4	8.0
	Q3	3.8	4.3	2.4	2.8	1.3	1.4	1.4	1.6	8.3	7.9
	Q4	4.2	4.6	2.8	3.0	1.3	1.4	1.4	1.6	8.2	7.8
<i>Two-quarter<sup>2</sup></i>											
2011:	Q2	3.5	3.5	.8	.8	3.6	3.6	1.9	1.9	-5	-5
	Q4	4.1	4.2	2.4	2.4	1.4	1.8	1.5	1.7	-4	-4
2012:	Q2	3.4	3.8	1.7	2.0	1.5	2.1	1.5	1.8	.0	-3
	Q4	4.0	4.2	2.5	2.7	1.3	1.5	1.4	1.6	-1	-2
2013:	Q2	3.6	3.9	2.1	2.4	1.3	1.4	1.4	1.6	-2	-2
	Q4	4.0	4.4	2.6	2.9	1.3	1.4	1.4	1.6	-2	-2
<i>Four-quarter<sup>3</sup></i>											
2010:Q4		4.7	4.7	3.1	3.1	1.3	1.3	1.0	1.0	-3	-3
2011:Q4		3.8	3.9	1.6	1.6	2.5	2.7	1.7	1.8	-9	-9
2012:Q4		3.7	4.0	2.1	2.4	1.4	1.8	1.5	1.7	-1	-5
2013:Q4		3.8	4.2	2.4	2.7	1.3	1.4	1.4	1.6	-4	-4
<i>Annual</i>											
2010		4.2	4.2	3.0	3.0	1.8	1.8	1.4	1.4	9.6	9.6
2011		3.9	3.9	1.7	1.7	2.4	2.5	1.4	1.5	8.9	8.9

2012	3.7	4.0	2.0	2.3	1.5	1.9	1.5	1.7	8.6	8.3
2013	3.8	4.1	2.3	2.6	1.3	1.5	1.4	1.6	8.4	8.0

1. Level, except for two-quarter and four-quarter intervals. [Return to table](#)

2. Percent change from two quarters earlier; for unemployment rate, change is in percentage points. [Return to table](#)

3. Percent change from four quarters earlier; for unemployment rate, change is in percentage points. [Return to table](#)

## Changes in Real Gross Domestic Product and Related Items

(Percent, annual rate except as noted)

Item	2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Real GDP	.4	1.3	1.8	3.1	1.8	2.2	2.6	2.9	2.3	2.6
<i>Previous Tealbook</i>	.4	1.3	1.8	2.9	1.6	1.8	2.3	2.7	2.1	2.2
Final sales	.0	1.6	3.2	1.2	1.9	2.6	2.4	2.5	2.2	2.5
<i>Previous Tealbook</i>	.0	1.6	3.2	1.3	1.7	2.0	1.9	2.3	1.8	2.1
Priv. dom. final purch.	2.0	1.9	3.3	2.5	1.9	2.9	3.0	3.2	2.7	3.0
<i>Previous Tealbook</i>	2.0	1.9	3.3	2.4	1.9	2.4	2.8	3.0	2.6	2.8
Personal cons. expend.	2.1	.7	1.7	2.1	1.2	2.6	2.8	2.9	2.3	2.5
<i>Previous Tealbook</i>	2.1	.7	1.7	2.2	2.0	2.4	2.6	2.8	2.2	2.4
Durables	11.7	-5.3	5.7	15.3	6.9	3.7	5.9	6.5	5.7	6.7
Nondurables	1.6	.2	-5	.4	-4	2.1	2.6	2.7	1.7	1.9
Services	.8	1.9	1.9	.7	.8	2.6	2.3	2.4	1.9	2.0
Residential investment	-2.4	4.2	1.3	11.5	13.9	7.7	8.7	8.0	8.1	8.2
<i>Previous Tealbook</i>	-2.4	4.2	1.3	9.7	8.5	4.0	6.9	7.0	7.0	7.1
Business fixed invest.	2.1	10.3	15.7	3.2	4.5	3.9	3.6	4.0	4.4	4.9
<i>Previous Tealbook</i>	2.1	10.3	15.7	2.6	-1	2.1	3.2	3.6	3.8	4.8
Equipment & software	8.7	6.2	16.2	4.8	6.2	5.1	4.6	5.2	5.4	6.0
<i>Previous Tealbook</i>	8.7	6.2	16.2	3.0	2.2	3.4	4.8	5.0	4.9	6.1

Nonres. structures	-14.3	22.6	14.4	-1.1	.0	.7	.8	.8	1.7	1.9
<i>Previous Tealbook</i>	-14.3	22.6	14.4	1.7	-6.0	-1.5	-1.0	.1	.7	1.5
Net exports <sup>2</sup>	-424	-416	-403	-404	-387	-380	-379	-379	-373	-366
<i>Previous Tealbook<sup>2</sup></i>	-424	-416	-403	-396	-394	-389	-395	-395	-396	-395
Exports	7.9	3.6	4.7	4.3	6.9	5.8	5.5	5.6	5.7	5.7
Imports	8.3	1.4	1.2	3.8	2.3	3.5	4.3	4.6	3.7	3.5
Gov't. cons. & invest.	-5.9	-.9	-.1	-4.2	-1.4	-.3	-.9	-1.0	-1.2	-1.1
<i>Previous Tealbook</i>	-5.9	-.9	-.1	-4.5	.0	-.8	-.9	-.9	-1.2	-1.1
Federal	-9.4	1.9	2.1	-6.9	-2.6	.2	-1.9	-2.2	-3.4	-3.6
Defense	-12.6	7.0	5.0	-12.1	-3.3	1.3	-1.6	-2.1	-3.8	-4.1
Nondefense	-2.7	-7.6	-3.8	4.4	-1.1	-2.2	-2.5	-2.5	-2.5	-2.6
State & local	-3.4	-2.8	-1.6	-2.2	-.7	-.5	-.3	-.1	.4	.6
Change in bus. inventories <sup>2</sup>	49	39	-2	57	57	45	53	66	68	71
<i>Previous Tealbook<sup>2</sup></i>	49	39	-2	51	48	43	56	69	76	77
Nonfarm <sup>2</sup>	60	51	6	63	58	45	52	65	67	71
Farm <sup>2</sup>	-8	-9	-6	-6	-1	0	1	1	1	1

1. Change from fourth quarter of previous year to fourth quarter of year indicated. [Return to table](#)

2. Billions of chained (2005) dollars. [Return to table](#)

## Changes in Real Gross Domestic Product and Related Items

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2005	2006	2007	2008	2009	2010	2011	2012	2013
Real GDP	2.8	2.4	2.2	-3.3	-.5	3.1	1.6	2.4	2.7
<i>Previous Tealbook</i>	2.8	2.4	2.2	-3.3	-.5	3.1	1.6	2.1	2.4
Final sales	2.7	2.8	2.4	-2.6	-.8	2.4	1.5	2.3	2.4
<i>Previous Tealbook</i>	2.7	2.8	2.4	-2.6	-.8	2.4	1.5	2.0	2.2
Priv. dom. final purch.	3.2	2.4	1.2	-4.5	-2.5	3.6	2.4	2.8	3.0
<i>Previous Tealbook</i>	3.2	2.4	1.2	-4.5	-2.5	3.6	2.4	2.5	2.9
Personal cons. expend.	2.8	3.2	1.7	-2.5	-.2	3.0	1.7	2.4	2.6
<i>Previous Tealbook</i>	2.8	3.2	1.7	-2.5	-.2	3.0	1.7	2.4	2.4

Durables	2.8	7.0	4.6	-13.0	3.0	10.9	6.6	5.7	6.3
Nondurables	3.1	2.9	.8	-3.1	.6	3.5	.4	1.8	2.0
Services	2.7	2.6	1.4	-.5	-.9	1.6	1.3	2.0	2.1
Residential investment	5.3	-15.7	-20.7	-24.4	-12.9	-6.3	3.5	9.6	8.2
<i>Previous Tealbook</i>	5.3	-15.7	-20.7	-24.4	-12.9	-6.3	3.1	6.6	7.3
Business fixed invest.	4.5	7.8	7.9	-9.4	-14.4	11.1	7.7	4.0	4.6
<i>Previous Tealbook</i>	4.5	7.8	7.9	-9.4	-14.4	11.1	7.5	2.2	4.9
Equipment & software	6.2	6.0	3.9	-13.6	-5.8	16.6	8.9	5.3	5.6
<i>Previous Tealbook</i>	6.2	6.0	3.9	-13.6	-5.8	16.6	8.4	3.8	6.4
Nonres. structures	-.1	13.0	17.3	-1.2	-29.3	-1.8	4.4	.6	2.0
<i>Previous Tealbook</i>	-.1	13.0	17.3	-1.2	-29.3	-1.8	5.1	-2.1	1.1
Net exports <sup>1</sup>	-723	-729	-649	-495	-359	-422	-412	-381	-364
<i>Previous Tealbook</i> <sup>1</sup>	-723	-729	-649	-495	-359	-422	-410	-393	-394
Exports	6.7	10.2	10.1	-2.5	-.1	8.8	5.1	5.9	5.7
Imports	5.2	4.1	.8	-5.9	-6.5	10.7	3.6	3.7	3.9
Gov't. cons. & invest.	.7	1.5	1.9	2.7	1.1	.1	-2.8	-.9	-1.3
<i>Previous Tealbook</i>	.7	1.5	1.9	2.7	1.1	.1	-2.9	-.7	-1.3
Federal	1.2	2.2	3.1	8.8	4.6	2.9	-3.2	-1.6	-4.1
Defense	.4	4.4	2.6	9.8	3.5	1.5	-3.6	-1.4	-4.9
Nondefense	2.6	-2.3	4.2	6.8	6.9	5.7	-2.5	-2.1	-2.6
State & local	.4	1.2	1.2	-.9	-1.1	-1.7	-2.5	-.4	.7
Change in bus. inventories <sup>1</sup>	50	59	28	-36	-145	59	36	55	80
<i>Previous Tealbook</i> <sup>1</sup>	50	59	28	-36	-145	59	34	54	80
Nonfarm <sup>1</sup>	50	63	29	-38	-144	61	45	55	79
Farm <sup>1</sup>	0	-4	-1	1	-1	-1	-7	0	1

1. Billions of chained (2005) dollars. [Return to table](#)

## Contributions to Changes in Real Gross Domestic Product

(Percentage points, annual rate except as noted)

Item	2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Real GDP	.4	1.3	1.8	3.1	1.8	2.2	2.6	2.9	2.3	2.6
<i>Previous Tealbook</i>	.4	1.3	1.8	2.9	1.6	1.8	2.3	2.7	2.1	2.2
Final sales	.0	1.6	3.2	1.2	1.9	2.6	2.4	2.5	2.2	2.4

<i>Previous Tealbook</i>	.0	1.6	3.2	1.3	1.7	2.0	1.9	2.3	1.8	2.1
Priv. dom. final purch.	1.6	1.6	2.8	2.1	1.6	2.4	2.5	2.7	2.3	2.5
<i>Previous Tealbook</i>	1.6	1.6	2.8	2.0	1.6	2.0	2.3	2.5	2.1	2.3
Personal cons. expend.	1.5	.5	1.2	1.5	.9	1.9	2.0	2.1	1.6	1.8
<i>Previous Tealbook</i>	1.5	.5	1.2	1.5	1.4	1.7	1.8	2.0	1.6	1.7
Durables	.9	-.4	.4	1.1	.5	.3	.5	.5	.4	.5
Nondurables	.3	.0	-.1	.1	-.1	.3	.4	.4	.3	.3
Services	.4	.9	.9	.4	.4	1.2	1.1	1.1	.9	.9
Residential investment	-.1	.1	.0	.2	.3	.2	.2	.2	.2	.2
<i>Previous Tealbook</i>	-.1	.1	.0	.2	.2	.1	.2	.2	.2	.2
Business fixed invest.	.2	1.0	1.5	.3	.5	.4	.4	.4	.5	.5
<i>Previous Tealbook</i>	.2	1.0	1.5	.3	.0	.2	.3	.4	.4	.5
Equipment & software	.6	.4	1.1	.4	.5	.4	.4	.4	.4	.5
<i>Previous Tealbook</i>	.6	.4	1.1	.2	.2	.3	.4	.4	.4	.5
Nonres. structures	-.4	.5	.4	.0	.0	.0	.0	.0	.0	.1
<i>Previous Tealbook</i>	-.4	.5	.4	.0	-.2	.0	.0	.0	.0	.0
Net exports	-.3	.2	.4	-.1	.5	.2	.0	.0	.1	.2
<i>Previous Tealbook</i>	-.3	.2	.4	.2	.1	.1	-.2	.0	-.1	.0
Exports	1.0	.5	.6	.6	.9	.8	.8	.8	.8	.8
Imports	-1.4	-.2	-.2	-.7	-.4	-.6	-.8	-.8	-.6	-.6
Gov't. cons. & invest.	-1.2	-.2	.0	-.8	-.3	.0	-.2	-.2	-.2	-.2
<i>Previous Tealbook</i>	-1.2	-.2	.0	-.9	.0	-.2	-.2	-.2	-.2	-.2
Federal	-.8	.2	.2	-.6	-.2	.0	-.1	-.2	-.3	-.3
Defense	-.7	.4	.3	-.7	-.2	.1	-.1	-.1	-.2	-.2
Nondefense	-.1	-.2	-.1	.1	.0	-.1	-.1	-.1	-.1	-.1

State & local	-4	-3	-2	-3	-1	-1	.0	.0	.0	.1
Change in bus. inventories	.3	-3	-1.4	1.9	.0	-4	.2	.4	.1	.1
<i>Previous Tealbook</i>	.3	-3	-1.4	1.6	-1	-1	.4	.4	.2	.0
Nonfarm	.4	-3	-1.5	1.9	-2	-4	.2	.4	.1	.1
Farm	-.1	.0	.1	.0	.1	.0	.0	.0	.0	.0

1. Change from fourth quarter of previous year to fourth quarter of year indicated. [Return to table](#)

## Changes in Prices and Costs

(Percent, annual rate except as noted)

Item	2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
GDP chain-wt. price index	2.5	2.5	2.6	.9	1.5	2.0	1.5	1.4	1.5	1.5
<i>Previous Tealbook</i>	2.5	2.5	2.6	.9	1.7	1.7	1.5	1.4	1.5	1.4
PCE chain-wt. price index	3.9	3.3	2.3	1.2	2.1	2.2	1.5	1.4	1.4	1.4
<i>Previous Tealbook</i>	3.9	3.3	2.3	.5	1.4	1.7	1.4	1.3	1.3	1.3
Energy	40.7	15.0	3.3	-3.2	6.3	9.5	.7	-1.0	-9	-1.5
<i>Previous Tealbook</i>	40.7	15.0	3.3	-6.8	.7	4.9	.7	-5	-6	-9
Food	6.5	6.4	4.7	3.3	1.7	1.6	1.5	1.3	1.2	1.2
<i>Previous Tealbook</i>	6.5	6.4	4.7	2.6	.9	1.1	1.2	1.2	1.2	1.2
Ex. food & energy	1.6	2.3	2.1	1.3	1.8	1.7	1.6	1.6	1.6	1.6
<i>Previous Tealbook</i>	1.6	2.3	2.1	.9	1.5	1.5	1.5	1.4	1.4	1.4
Ex. food & energy, market based	1.3	2.4	2.3	1.4	1.8	1.6	1.5	1.5	1.4	1.4
<i>Previous Tealbook</i>	1.3	2.4	2.3	1.1	1.5	1.4	1.3	1.3	1.3	1.3
CPI	4.5	4.4	3.1	1.3	2.4	2.6	1.5	1.3	1.4	1.3
<i>Previous Tealbook</i>	5.2	4.1	3.1	.9	1.6	1.9	1.5	1.3	1.3	1.2
Ex. food & energy	1.8	2.4	2.5	1.9	2.1	2.0	1.6	1.6	1.6	1.7





production <sup>5</sup>	4.8	.7	6.2	3.9	3.5	5.5	3.9	3.7	2.5	2.4
<i>Previous Tealbook<sup>5</sup></i>	4.8	.7	6.3	3.1	3.2	2.9	2.2	2.4	2.7	3.2
Manufacturing industr. prod. <sup>5</sup>	7.2	.1	4.9	5.1	8.0	3.8	2.8	3.6	2.3	2.6
<i>Previous Tealbook<sup>5</sup></i>	7.2	.1	5.0	3.9	4.1	2.5	2.1	2.7	2.5	3.3
Capacity utilization rate - mfg. <sup>3</sup>	74.5	74.4	75.1	75.8	77.1	77.6	78.0	78.5	78.7	78.8
<i>Previous Tealbook<sup>3</sup></i>	74.5	74.4	75.1	75.6	76.2	76.4	76.6	76.9	77.1	77.5
Housing starts <sup>6</sup>	.6	.6	.6	.7	.7	.7	.7	.8	.8	.9
Light motor vehicle sales <sup>6</sup>	13.0	12.1	12.4	13.4	14.5	14.3	14.5	14.5	14.6	14.9
<i>Income and saving</i>										
Nominal GDP <sup>5</sup>	3.1	4.0	4.4	4.0	3.4	4.2	4.1	4.3	3.8	4.1
Real disposable pers. income <sup>5</sup>	1.2	-.5	.7	1.4	1.6	2.8	3.1	3.5	-.8	2.7
<i>Previous Tealbook<sup>5</sup></i>	1.2	-.5	-1.9	2.7	3.4	3.0	3.3	3.5	-1.3	2.3
Personal saving rate <sup>3</sup>	5.0	4.8	4.6	4.5	4.6	4.6	4.7	4.8	4.1	4.1
<i>Previous Tealbook<sup>3</sup></i>	5.0	4.8	3.9	4.1	4.4	4.5	4.7	4.9	4.0	4.0
Corporate profits <sup>7</sup>	4.2	13.7	6.9	-7.1	-3.9	7.7	-.4	-.9	-2.5	-.9
Profit share of GNP <sup>3</sup>	12.4	12.7	12.8	12.4	12.2	12.3	12.1	12.0	11.8	11.7
Net federal saving <sup>8</sup>	-1,201	-1,275	-1,161	-1,097	-1,022	-1,039	-1,003	-985	-822	-804
Net state & local saving <sup>8</sup>	-57	-40	-83	-68	-51	-39	-33	-23	-15	-2
Gross national saving rate <sup>3</sup>	12.6	12.4	12.9	13.0	13.2	13.2	13.3	13.4	13.5	13.6
Net national saving rate <sup>3</sup>	-.1	-.4	.2	.5	.7	.7	.9	1.0	1.1	1.2

1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated. [Return to table](#)

2. Change, millions. [Return to table](#)

3. Percent; annual values are for the fourth quarter of the year indicated. [Return to table](#)

4. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Annual values

are for the fourth quarter of the year indicated. [Return to table](#)

5. Percent change, annual rate. [Return to table](#)

6. Level, millions; annual values are annual averages. [Return to table](#)

7. Percent change, annual rate, with inventory valuation and capital consumption adjustments. [Return to table](#)

8. Billions of dollars; annual values are annual averages. [Return to table](#)

## Other Macroeconomic Indicators

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Employment and production</i>									
Nonfarm payroll employment <sup>1</sup>	2.4	2.1	1.2	-2.8	-5.6	.8	1.8	2.1	2.4
Unemployment rate <sup>2</sup>	5.0	4.5	4.8	6.9	9.9	9.6	8.7	8.2	7.8
<i>Previous Tealbook</i> <sup>2</sup>	5.0	4.5	4.8	6.9	9.9	9.6	8.7	8.6	8.2
NAIRU <sup>2</sup>	5.0	5.0	5.0	5.3	6.0	6.0	6.0	6.0	6.0
<i>Previous Tealbook</i> <sup>2</sup>	5.0	5.0	5.0	5.3	6.0	6.0	6.0	6.0	6.0
GDP gap <sup>3</sup>	.6	.8	.8	-4.5	-6.4	-4.9	-5.0	-4.6	-4.0
<i>Previous Tealbook</i> <sup>3</sup>	.0	.0	-.2	-5.4	-6.9	-5.4	-5.5	-5.4	-5.2
Industrial production <sup>4</sup>	2.3	2.3	2.5	-9.1	-5.5	6.2	3.9	4.1	2.6
<i>Previous Tealbook</i> <sup>4</sup>	2.3	2.3	2.5	-9.1	-5.5	6.2	3.7	2.7	3.1
Manufacturing industr. prod. <sup>4</sup>	3.4	2.0	2.8	-11.8	-6.1	6.1	4.3	4.5	2.9
<i>Previous Tealbook</i> <sup>4</sup>	3.4	2.0	2.8	-11.8	-6.1	6.1	4.0	2.8	3.2
Capacity utilization rate - mfg. <sup>2</sup>	78.5	78.4	79.0	70.1	67.7	73.3	75.8	78.5	79.5
<i>Previous Tealbook</i> <sup>2</sup>	78.5	78.4	79.0	70.1	67.7	73.3	75.6	76.9	78.2
Housing starts <sup>5</sup>	2.1	1.8	1.4	.9	.6	.6	.6	.7	.9
Light motor vehicle sales <sup>5</sup>	16.9	16.5	16.1	13.1	10.3	11.5	12.7	14.4	15.0
<i>Income and saving</i>									
Nominal GDP <sup>4</sup>	6.4	5.3	4.9	-1.2	.0	4.7	3.9	4.0	4.2
Real disposable pers. income <sup>4</sup>	.6	4.6	1.6	1.0	-2.4	3.5	.7	2.8	2.0
<i>Previous Tealbook</i> <sup>4</sup>	.6	4.6	1.6	1.0	-2.4	3.5	.4	3.3	1.7
Personal saving rate <sup>2</sup>	1.6	2.8	2.5	6.2	4.3	5.2	4.5	4.8	4.3
<i>Previous Tealbook</i> <sup>2</sup>	1.6	2.8	2.5	6.2	4.3	5.2	4.1	4.9	4.1
Corporate profits <sup>6</sup>	19.6	3.7	-8.1	-33.5	61.8	18.2	4.1	.5	-.1
Profit share of GNP <sup>2</sup>	11.8	11.6	10.1	6.8	11.0	12.4	12.4	12.0	11.5
Net federal saving <sup>7</sup>	-283	-204	-245	-613	-1218	-1274	-1184	-1012	-793

Net state & local saving <sup>7</sup>	26	51	12	-72	-78	-25	-62	-37	-4
Gross national saving rate <sup>2</sup>	15.6	16.5	13.9	12.6	11.3	12.3	13.0	13.4	13.9
Net national saving rate <sup>2</sup>	3.6	4.4	1.7	-6	-1.9	-4	.5	1.0	1.5

1. Change, millions. [Return to table](#)

2. Percent; values are for the fourth quarter of the year indicated. [Return to table](#)

3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Values are for the fourth quarter of the year indicated. [Return to table](#)

4. Percent change. [Return to table](#)

5. Level, millions; values are annual averages. [Return to table](#)

6. Percent change, with inventory valuation and capital consumption adjustments. [Return to table](#)

7. Billions of dollars; values are annual averages. [Return to table](#)

## Staff Projections of Federal Sector Accounts and Related Items

(Billions of dollars except as noted)

Item	Fiscal year				2011				2012		
	2010 <sup>a</sup>	2011 <sup>a</sup>	2012	2013	Q1 <sup>a</sup>	Q2 <sup>a</sup>	Q3 <sup>a</sup>	Q4	Q1	Q2	Q3
<b>Unified budget</b>					Not seasonally adjusted						
Receipts <sup>1</sup>	2163	2303	2476	2750	488	714	568	555	527	766	
Outlays <sup>1</sup>	3456	3603	3603	3584	949	855	895	877	959	907	
Surplus/deficit <sup>1</sup>	-1293	-1300	-1127	-834	-460	-141	-326	-322	-432	-140	
<i>Previous Tealbook</i>	-1293	-1297	-1107	-853	-460	-141	-326	-322	-443	-130	
On-budget	-1370	-1367	-1110	-826	-451	-202	-311	-346	-412	-169	
Off-budget	77	67	-17	-8	-10	61	-15	24	-20	28	
<b>Means of financing</b>											
Borrowing	1474	1110	1201	894	260	93	389	326	424	184	
Cash decrease	-35	252	-12	20	225	-19	79	-28	56	-49	
Other <sup>2</sup>	-146	-62	-62	-80	-24	67	-142	23	-47	6	
Cash operating balance, end of period	310	58	70	50	118	137	58	86	30	80	
<b>NIPA federal sector</b>					Seasonally adjusted annual averages						
Receipts	2379	2534	2709	2970	2528	2554	2583	2612	2702	2745	
Expenditures	3648	3765	3750	3819	3729	3829	3744	3709	3724	3784	



Year									
2007		8.5	6.7	6.9	5.8	13.6	5.4	4.9	4.9
2008		6.0	.1	-5	1.5	6.2	.7	24.2	-1.2
2009		3.1	-1.7	-1.4	-4.4	-2.4	3.9	22.7	.0
2010		4.1	-2.1	-2.9	-1.8	.7	2.2	20.2	4.7
2011		3.7	-.9	-2.1	3.5	4.2	-1.9	11.4	3.9
2012		4.6	.6	-1.2	6.0	4.1	-2	11.4	4.0
2013		4.0	1.6	-2	7.0	4.3	.6	7.4	4.2
2014		4.0	1.9	.0	7.5	4.3	1.0	6.5	4.8
Quarter									
2010:	1	3.5	-3.1	-4.8	-3.9	-.1	2.4	20.6	5.5
	2	3.9	-2.2	-2.5	-3.3	-1.3	-.5	22.5	5.4
	3	3.7	-2.2	-2.5	-2.2	1.8	2.1	16.0	3.9
	4	4.9	-.7	-1.8	2.3	2.5	4.8	16.4	4.2
2011:	1	2.3	-1.9	-2.7	2.2	4.1	-3.3	7.9	3.1
	2	3.0	-.6	-2.4	3.6	4.4	-3.5	8.6	4.0
	3	4.4	-1.2	-1.9	1.4	3.6	.0	14.1	4.4
	4	4.9	.3	-1.5	6.9	4.6	-1.0	13.1	4.0
2012:	1	4.9	.2	-1.6	5.5	4.2	-.7	13.3	3.4
	2	4.4	.4	-1.3	5.5	3.9	-.3	11.0	4.2
	3	3.8	.8	-1.0	6.0	4.0	-.1	8.1	4.1
	4	4.9	1.0	-.8	6.3	4.2	.3	11.4	4.3
2013:	1	4.7	1.3	-.5	6.6	4.3	.6	10.0	3.8
	2	3.5	1.5	-.3	6.9	4.2	.6	5.5	4.1
	3	3.0	1.8	.0	6.9	4.3	.6	3.8	4.3
	4	4.8	1.8	.0	7.0	4.3	.6	9.5	4.6

Note: Quarterly data are at seasonally adjusted annual rates.

1. Data after 2011:Q4 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4. [Return to table](#)

## Flow of Funds Projections: Highlights

(Billions of dollars at seasonally adjusted annual rates except as noted)

Category	2011	2012	2013	2014	2011		2012			
					Q3	Q4	Q1	Q2	Q3	Q4
Domestic nonfinancial sectors										

Net funds raised											
Total	878.5	1338.5	1282.1	1307.7	1029.6	1351.7	1484.2	1298.9	1053.8	1517.1	1
Net equity issuance	-489.9	-410.0	-340.0	-340.0	-606.6	-514.8	-400.0	-400.0	-420.0	-420.0	-
Net debt issuance	1368.3	1748.5	1622.1	1647.7	1636.2	1866.5	1884.2	1698.9	1473.8	1937.1	1
Borrowing indicators											
Debt (percent of GDP) <sup>1</sup>	249.3	249.7	250.1	248.6	248.0	248.5	249.5	249.8	249.8	249.8	
Borrowing (percent of GDP)	9.1	11.1	9.9	9.6	10.8	12.2	12.2	10.9	9.3	12.2	
Households											
Net borrowing <sup>2</sup>	-113.9	79.8	216.1	262.7	-159.3	43.1	24.2	56.7	103.4	134.9	
Home mortgages	-213.2	-115.0	-19.4	0.0	-184.8	-150.3	-157.3	-127.3	-97.6	-77.9	
Consumer credit	86.3	150.4	187.7	213.3	34.6	170.4	138.4	140.8	156.3	166.3	
Debt/DPI (percent) <sup>3</sup>	114.4	110.1	107.5	104.5	113.6	112.8	111.8	110.5	109.4	108.4	
Business											
Financing gap <sup>4</sup>	-183.2	-102.0	45.2	101.3	-252.9	-136.9	-119.0	-138.4	-98.6	-52.2	
Net equity issuance	-489.9	-410.0	-340.0	-340.0	-606.6	-514.8	-400.0	-400.0	-420.0	-420.0	-
Credit market borrowing	472.9	482.0	525.1	541.5	411.9	531.3	487.4	461.5	474.7	504.3	
State and local governments											
Net borrowing	-58.6	-6.2	17.8	29.8	1.0	-29.1	-22.2	-10.2	-2.2	9.8	
Current surplus <sup>5</sup>	214.9	209.7	249.9	236.2	212.1	175.2	192.6	206.1	214.1	226.1	
Federal government											
Net borrowing	1067.9	1192.9	863.1	813.8	1382.6	1321.2	1394.8	1190.9	897.8	1288.1	1
Net borrowing (n.s.a.)	1067.9	1192.9	863.1	813.8	389.1	326.0	423.5	183.8	267.9	317.7	
Unified deficit (n.s.a.)	1251.4	1122.9	783.1	733.8	328.1	321.7	432.3	140.5	232.6	317.6	

### Depository institutions

Funds supplied	200.5	520.7	483.1	598.6	498.1	606.2	776.8	448.8	398.3	458.7
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Note: Data after 2011:Q4 are staff projections.

1. Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP. [Return to table](#)
  2. Includes change in liabilities not shown in home mortgages and consumer credit. [Return to table](#)
  3. Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income. [Return to table](#)
  4. For corporations, excess of capital expenditures over U.S. internal funds. [Return to table](#)
  5. NIPA state and local government saving plus consumption of fixed capital and net capital transfers. [Return to table](#)
- n.s.a. Not seasonally adjusted. [Return to table](#)

## Foreign Real GDP and Consumer Prices: Selected Countries

(Quarterly percent changes at an annual rate)

Measure and country	Projected									
	2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Real GDP<sup>1</sup></b>										
Total foreign	3.6	2.4	3.8	1.2	3.1	2.8	2.8	3.0	3.0	3.1
<i>Previous Tealbook</i>	3.7	2.3	3.6	2.0	2.5	2.3	2.5	2.7	2.8	2.9
Advanced foreign economies	1.8	.1	3.1	.1	1.1	1.1	1.2	1.5	1.6	1.7
Canada	3.7	-6	4.2	1.8	2.0	1.9	2.2	2.3	2.2	2.2
Japan	-6.8	-1.5	7.0	-2.3	2.7	2.3	2.0	1.8	1.4	1.4
United Kingdom	1.3	.1	2.2	-8	1.2	.9	.9	1.2	1.7	1.9
Euro area	3.1	.6	.5	-1.3	-8	-6	-4	.1	.6	.9
Germany	5.5	1.1	2.3	-7	.3	.5	.7	1.0	1.3	1.5
Emerging market economies	5.4	5.0	4.6	2.4	5.2	4.7	4.6	4.6	4.5	4.6
Asia	7.5	4.8	4.9	2.6	6.4	5.7	5.5	5.5	5.8	5.8
Korea	5.4	3.6	3.3	1.4	3.2	3.5	3.5	3.5	3.7	3.8
China	8.7	9.5	9.5	8.2	8.0	8.0	8.0	8.0	8.2	8.2
Latin America	3.1	5.3	4.3	2.1	3.9	3.6	3.5	3.5	3.1	3.2
Mexico	2.1	6.0	5.1	1.7	4.0	3.5	3.4	3.4	2.9	2.9

Brazil	2.5	2.0	-2	1.3	3.1	3.3	3.5	3.5	3.7	3.8
<b>Consumer prices<sup>2</sup></b>										
Total foreign	4.1	3.3	3.1	2.9	3.1	2.4	2.4	2.4	2.4	2.4
<i>Previous Tealbook</i>	4.3	3.2	3.1	3.1	2.3	2.4	2.3	2.3	2.3	2.3
Advanced foreign economies	3.0	2.3	1.1	2.5	2.1	1.4	1.4	1.4	1.3	1.3
Canada	3.3	3.4	1.0	2.9	2.6	2.0	2.0	1.8	1.8	1.8
Japan	.0	-.7	.1	-.7	.6	-.2	-.2	-.2	-.1	-.1
United Kingdom	6.7	4.1	3.7	4.2	1.3	1.9	1.8	2.9	1.6	1.5
Euro Area	3.7	2.8	1.4	3.8	2.9	1.8	1.6	1.6	1.5	1.5
Germany	3.4	2.4	1.9	2.8	2.8	2.2	2.1	2.0	1.9	1.9
Emerging market economies	5.0	4.1	4.6	3.2	3.8	3.2	3.2	3.2	3.2	3.2
Asia	5.3	4.9	5.3	2.4	3.2	3.1	3.0	3.0	3.0	3.0
Korea	6.0	2.8	4.8	2.3	2.9	3.1	3.0	3.0	3.0	3.0
China	4.6	5.8	6.2	1.8	3.3	2.9	2.8	2.9	2.9	2.9
Latin America	4.2	2.4	3.6	5.5	5.6	3.4	3.7	3.8	3.8	3.8
Mexico	3.6	1.8	3.3	5.3	5.5	3.1	3.5	3.5	3.5	3.5
Brazil	8.1	7.1	5.3	6.4	5.4	5.2	5.0	5.9	6.0	5.1

1. Foreign GDP aggregates calculated using shares of U.S. exports. [Return to table](#)

2. Foreign CPI aggregates calculated using shares of U.S. non-oil imports. [Return to table](#)

## Foreign Real GDP and Consumer Prices: Selected Countries

(Percent change, Q4 to Q4)

Measure and country	2005	2006	2007	2008	2009	2010	Projected			
							2011	2012	2013	
<b>Real GDP<sup>1</sup></b>										
Total foreign	4.0	4.2	4.4	-9	.9	4.4	2.8	2.9	3.2	
<i>Previous Tealbook</i>	4.0	4.2	4.3	-9	.9	4.4	2.9	2.5	3.0	
Advanced foreign economies	2.7	2.6	2.6	-2.0	-1.3	2.8	1.3	1.2	1.8	
Canada	3.1	1.9	2.5	-7	-1.4	3.3	2.2	2.1	2.3	
Japan	2.1	2.1	1.6	-4.8	-6	3.2	-1.0	2.2	1.5	
United Kingdom	2.8	2.1	4.1	-5.4	-8	1.7	.7	1.1	2.1	



<b>balance</b>	<b>-474.9</b>	<b>-495.4</b>	<b>-437.7</b>	<b>-458.5</b>	<b>-467.4</b>	<b>-422.7</b>	<b>-426.3</b>	<b>-450.7</b>	<b>-480.4</b>	<b>-438.4</b>	<b>-444.4</b>
<i>Previous Tealbook</i>	-478.4	-498.9	-441.1	-453.4	-465.5	-422.5	-439.2	-461.0	-497.7	-463.5	-444.4
Current account as percent of GDP	-3.2	-3.3	-2.9	-3.0	-3.0	-2.7	-2.7	-2.8	-3.0	-2.7	-2.7
<i>Previous Tealbook</i>	-3.2	-3.3	-2.9	-3.0	-3.0	-2.7	-2.8	-2.9	-3.1	-2.9	-2.9
Net goods & services	-556.4	-581.4	-538.9	-555.4	-581.7	-531.3	-534.6	-547.5	-570.6	-520.0	-544.4
Investment income, net	219.5	236.6	242.1	233.5	255.8	246.2	249.2	239.8	231.7	219.1	200.0
Direct, net	315.9	322.1	323.5	295.2	305.0	289.2	292.1	288.0	288.6	285.7	280.0
Portfolio, net	-96.4	-85.5	-81.4	-61.7	-49.2	-43.0	-42.9	-48.1	-56.8	-66.6	-79.9
Other income and transfers, net	-138.0	-150.7	-140.9	-136.6	-141.5	-137.6	-140.9	-143.0	-141.5	-137.6	-144.4

## Annual Data

	2005	2006	2007	2008	2009	2010	Projected		
							2011	2012	2013
	<i>Billions of dollars</i>								
<b>U.S. current account balance</b>	<b>-745.8</b>	<b>-800.6</b>	<b>-710.3</b>	<b>-677.1</b>	<b>-376.6</b>	<b>-470.9</b>	<b>-466.6</b>	<b>-441.8</b>	<b>-455.9</b>
<i>Previous Tealbook</i>	-745.8	-800.6	-710.3	-677.1	-376.6	-470.9	-467.9	-447.1	-483.9
Current account as percent of GDP	-5.9	-6.0	-5.1	-4.7	-2.7	-3.2	-3.1	-2.8	-2.8
<i>Previous Tealbook</i>	-5.9	-6.0	-5.1	-4.7	-2.7	-3.2	-3.1	-2.9	-3.0
Net goods & services	-708.6	-753.3	-696.7	-698.3	-381.3	-500.0	-558.0	-548.8	-530.1
Investment income, net	78.7	54.7	111.1	157.8	137.1	174.5	232.9	247.7	215.0
Direct, net	173.2	174.0	244.6	284.3	262.2	280.6	314.2	293.6	286.7
Portfolio, net	-94.5	-119.4	-133.5	-126.5	-125.1	-106.2	-81.3	-45.8	-71.8
Other income and transfers, net	-115.9	-102.0	-124.7	-136.6	-132.3	-145.3	-141.5	-140.8	-140.8

† Note: Data values for figures are rounded and may not sum to totals. [Return to text](#)

Last update: January 5, 2018

BOARD OF GOVERNORS *of the* FEDERAL RESERVE SYSTEM  
20th Street and Constitution Avenue N.W., Washington, DC 20551

# Board of Governors of the Federal Reserve System

*The Federal Reserve, the central bank of the United States, provides the nation with a safe, flexible, and stable monetary and financial system.*

## Accessible Material

### March 2012 Tealbook B Tables and Charts<sup>†</sup>

#### Monetary Policy Strategies

#### Policy Rules and the Staff Projection

#### Near-Term Prescriptions of Selected Policy Rules

	Constrained Policy		Unconstrained Policy	
	2012Q2	2012Q3	2012Q2	2012Q3
Taylor (1993) rule	<b>1.38</b>	<b>1.27</b>	<b>1.38</b>	<b>1.27</b>
<i>Previous Tealbook</i>	0.65	0.45	0.65	0.45
Taylor (1999) rule	<b>0.13</b>	<b>0.13</b>	<b>-1.10</b>	<b>-1.14</b>
<i>Previous Tealbook</i>	0.13	0.13	-2.18	-2.34
Outcome-based rule	<b>0.13</b>	<b>0.13</b>	<b>-0.05</b>	<b>-0.20</b>
<i>Previous Tealbook Outlook</i>	0.13	0.13	-0.30	-0.77
First-difference rule	<b>0.14</b>	<b>0.20</b>	<b>0.14</b>	<b>0.20</b>
<i>Previous Tealbook Outlook</i>	0.13	0.13	-0.07	-0.22
Nominal income targeting rule	<b>0.13</b>	<b>0.13</b>	<b>-0.55</b>	<b>-1.04</b>
<i>Previous Tealbook Outlook</i>	0.13	0.13	-0.75	-1.40

#### Memo: Equilibrium and Actual Real Federal Funds Rate

Current Tealbook

Previous Tealbook

Tealbook-consistent FRB/US $r^*$ estimate	-2.9	-3.2
Actual real federal funds rate	-1.7	-1.6

## Key Elements of the Staff Projection

### Figure: GDP Gap

Line chart, by percent, 2011 to 2020. There are two series, "Current Tealbook" and "Previous Tealbook." The Current Tealbook starts at about -5.3 in 2011:Q1 and increases to about 0.0 in 2020:Q4. Previous Tealbook starts at about -5.9 in 2011:Q1 and increases to about 0.0 in 2020:Q4.

### Figure: PCE Prices ex. Food and Energy

Line chart, by percent, 2011 to 2020. There are two series "Current Tealbook" and "Previous Tealbook." The Current Tealbook starts at about 1.1 in 2011:Q1 and increases to about 1.8 in 2012:Q2. It then decreases to about 1.7 in 2012:Q3 and then increases to about 1.8 in 2013:Q1. It then generally decreases to about 1.6 in 2015:Q2 and then increases to about 2.0 in 2020:Q4.

Note: For rules which have the lagged policy rate as a right-hand-side variable, the lines denoted "Previous Tealbook Outlook" report rule prescriptions based on the previous Tealbook's staff outlook, but jumping off from the average value for the policy rate thus far in the quarter.

## Policy Rule Simulations

### Figure: Nominal Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are five series, "Taylor (1993) rule," "Taylor (1999) rule," "Nominal income targeting rule," "First-difference rule," and "Tealbook baseline." Taylor (1993) rule begins in 2011:Q1 at about 0.1 and generally increases to about 1.3 in 2012:Q2. It then generally decreases to about 1.0 in 2013:Q3 and then generally increases to about 4.2 in 2020:Q4. The Taylor (1999) rule begins in 2011:Q1 at about 0.1 and then it generally remains constant here until 2014:Q1. It then generally increases to about 4.3 by 2020:Q4. Nominal Income targeting rule begins in 2011:Q1 at about 0.1 and then it generally remains constant here until 2014:Q4. By 2020:Q4 it has generally increased to about 4.5. First-difference rule begins in 2011:Q1 at about 0.1 and then it generally remains constant here until 2013:Q3. By 2020:Q4 it has generally increased to about 4.0. Tealbook baseline begins at about 0.1 in 2011:Q1 and then it generally remains constant until 2014:Q1. By 2020:Q4 it has increased to about 4.2.

### Figure: Real Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are five series, "Taylor (1993) rule," "Taylor (1999) rule," "Nominal income targeting rule," "First-difference rule," and "Tealbook baseline." Taylor (1993) rule begins in 2011:Q1 at about -0.9. It then generally decreases to about -1.8 by 2012:Q1 and then it generally increases to about -0.2 in 2012:Q2. It then generally decreases to about -0.3 in 2013:Q3 and then it generally increases to about 2.2 in 2020:Q4. Taylor (1999) rule begins in 2011:Q1 at -0.9 and then it generally decreases to about -1.8 in 2012:Q2. It then increases to about -1.6 in 2012:Q3 and then generally decreases to about -1.5 in 2012:Q4. It then generally increases to about 2.2 in 2020:Q4. Nominal income targeting rule begins in 2011:Q1 at about -0.9 and then decreases to about -1.8 in 2012:Q1. It then generally increases to about -1.7 in 2012:Q3 and then generally decreases to about -2 in 2014:Q4. By 2020:Q4 it has increased to about 2.5. First-difference rule begins in 2011:Q1 at about -0.9 and then decreases to about -1.9 in 2012:Q1. By 2017:Q4 it has generally increased to about 2.4 and then by 2020:Q4 it has generally decreased to about 2.1. Tealbook baseline begins in 2011:Q1 at about -0.9 and then decreases to about -1.8 in 2012:Q1. It then generally increases to about -1.6 in 2012:Q3 and then generally decreases to about -1.8 in 2012:Q4. By 2020:Q4 it has generally increased to about 2.4.

## Figure: Unemployment Rate

Line chart, by percent, 2011 to 2020. There are five series, "Taylor (1993) rule," "Taylor (1999) rule," "Nominal income targeting rule," "First-difference rule," and "Tealbook baseline." Taylor (1993) rule begins in 2011:Q1 at about 8.95 and generally increases to about 9.1 by 2011:Q3. It then generally decreases to about 5.3 in 2020:Q4. Taylor (1999) rule begins in 2011:Q1 at about 8.95 and increases to about 9.1 by 2012:Q1. It then generally decreases to about 5.3 in 2020:Q4. Nominal income targeting rule begins in 2011:Q1 at about 8.95 and generally increases to about 9.1 by 2011:Q3. It then decreases to about 4.8 in 2018:Q4. By 2020:Q4 it has increased to about 5.2. First-difference rule begins in 2011:Q1 at about 8.95 and then generally increases to about 9.1 in 2011:Q3. It then generally decreases to about 5.4 in 2020:Q4. Tealbook baseline begins in 2011:Q1 at about 8.95 and then generally increases to about 9.1 in 2011:Q3. It then generally decreases to about 5.3.

## Figure: PCE Inflation (Four-quarter average)

Line chart, by percent, 2011 to 2020. There are five series, "Taylor (1993) rule," "Taylor (1999) rule," "Nominal income targeting rule," "First-difference rule," and "Tealbook baseline." Taylor (1993) rule begins in 2011:Q1 at about 1.8 and generally increases to about 2.83 by 2011:Q4. It then generally decreases to about 1.7 by 2012:Q3 and then generally increases to about 1.8 by 2012:Q4. It then generally decreases to about 1.3 in 2013:Q3 and by 2020:Q4 it has generally increased to about 1.8. Nominal income targeting rule begins in 2011:Q1 at about 1.8 and it then generally increases to about 2.83 in 2011:Q4. It then generally decreases to about 1.9 in 2012:Q4 and then generally increases to about 2.2 in 2013:Q1. It then generally decreases to about 1.7 in 2013:Q3 and then generally increases to about 2.2 in 2018:Q1. By 2020:Q4, it has decreased to about 2.1. First-difference rule begins in 2011:Q1 at about 1.8 and then generally increases to about 2.83 by 2011:Q4. It then generally decreases to about 1.2 in 2013:Q4 and then generally increases to about 1.9 in 2020:Q4. Tealbook baseline begins in 2011:Q1 at about 1.8 and then generally increases to about 2.83 by 2011:Q4. It then generally decreases to about 1.7 in 2012:Q3 and then increases to about 1.8 in 2012:Q4. By 2013:Q4 it has generally decreased to about 1.4 and then generally increases to about 1.9 in 2020:Q4.

Note: The policy rule simulations in this exhibit are based on rules that respond to core inflation. This choice of rule specification was made in light of the tendency for current and near-term core inflation rates to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.

## Constrained vs. Unconstrained Optimal Monetary Policy

### Figure: Nominal Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are four series, "Current Tealbook: Constrained," "Previous Tealbook: Constrained," "Current Tealbook: Unconstrained" and "Tealbook baseline." The Current Tealbook: Constrained begins at about 0.1 in 2011:Q1 and generally decreases to 0. It remains stable here until 2015:Q4. It then increases to about 4.9 by 2019:Q1. It then generally decreases to about 4.3 in 2020:Q4. The Previous Tealbook: Constrained begins at about 0.1 in 2011:Q1 and then generally decreases to about 0. It remains constant here until 2016:Q2. It then increases to about 5.0 by 2020:Q4. The Current Tealbook: Unconstrained begins 2011:Q1 at about 0.1 and then generally decreases to 0. It remains stable until 2012:Q2. It then generally decreases to about -2.5 in 2013:Q2 and then generally increases to about 4.3 in 2018:Q1. It then generally decreases to 4.1 by 2020:Q4. The Tealbook baseline begins in 2011:Q1 at about 0.1 and then generally decreases to about 0 in 2011:Q2. It remains constant here until 2014:Q2. By 2020:Q4 it has increased to about 4.1.

### Figure: Real Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are four series, "Current Tealbook: Constrained," "Previous Tealbook: Constrained," "Current Tealbook: Unconstrained" and "Tealbook baseline." The Current Tealbook: Constrained begins at about -1.5 in 2011:Q1 and then generally decreases to about -2.0 by 2013:Q1. It remains constant here until 2014:Q4. It then generally increases to about 2.6 in 2019:Q1 and it then generally decreases to about 2.8 in 2020:Q4. Previous Tealbook: Constrained begins at about -1.5 in 2011:Q1 and then generally decreases to about -

2.0 in 2013:Q2. It remains steady here until 2016:Q3. It then generally increases to about 2.3 in 2020:Q4. Current Tealbook: Unconstrained begins at about -1.5 in 2011:Q1 and then generally decreases to about -4.5 in 2013:Q3 and then generally increases to about 2.3 in 2020:Q4. Tealbook baseline begins at about -1.5 in 2011:Q1 and then generally increases to about 2.3 in 2020:Q4.

### Figure: Unemployment Rate

Line chart, by percent, 2011 to 2020. There are four series, "Current Tealbook: Constrained," "Previous Tealbook: Constrained," "Current Tealbook: Unconstrained" and "Tealbook baseline." The Current Tealbook: Constrained begins at about 9.0 in 2011:Q1 and then decreases to about 4.7 in 2018:Q1. It then generally increases to about 5.4 in 2020:Q4. Previous Tealbook: Constrained begins in 2011:Q1 at 8.9 and then generally decreases to about 4.7 in 2018:Q1. It then generally increases to about 5.4 in 2020:Q4. Current Tealbook: Unconstrained begins at about 9.0 in 2011:Q1 and then decreases to about 5.2 in 2017:Q4. It then generally increases to about 5.4 in 2020:Q4. Tealbook baseline begins in 2011:Q1 at about 9.0 and then generally decreases to about 5.3 in 2020:Q4.

### Figure: PCE Inflation (Four-quarter average)

Line chart, by percent, 2011 to 2020. There are four series, "Current Tealbook: Constrained," "Previous Tealbook: Constrained," "Current Tealbook: Unconstrained" and "Tealbook baseline." The Current Tealbook: Constrained begins at about 1.7 in 2011:Q1 and then generally increases to about 2.9 in 2011:Q4. It generally decreases to about 1.9 in 2012:Q2 and then generally increases to about 2.2 in 2013:Q1. It generally decrease to about 1.8 in 2013:Q3 and then increases to about 2.3 in 2018:Q2. By 2020:Q4 it has decreased to about 2.05. Previous Tealbook: Constrained begins at about 1.7 in 2011:Q1 and then generally increases to about 2.9 in 2011:Q4. It generally decreases to about 1.57 in 2012:Q3 and then generally increases to about 2.3 in 2018:Q2. It generally decreases to about 2.15 in 2020:Q4. Current Tealbook: Unconstrained begins at about 1.7 in 2011: Q1 and then generally increases to about 2.9 in 2011:Q4. It generally decreases to about 1.9 in 2012:Q3 and then generally increases to about 2.1 in 2013:Q1. It generally decreases to about 1.7 in 2013:Q4 and then generally increases to about 2.35 in 2017:Q4. By 2020:Q4 it has decreased to about 1.95. Tealbook baseline begins at about 1.7 in 2011:Q1 and then generally increases to about 2.9 in 2011:Q4. It generally decreases to about 1.75 in 2012:Q3 and then generally increases to about 1.80 in 2013:Q1. It then generally decreases to about 1.35 in 2013:Q4 and then generally increases to 2.0 by 2020:Q4.

## Outcomes under Alternative Policies

(Percent change, annual rate, from end of preceding period except as noted)

Measure and scenario	2011					
	H2	2012	2013	2014	2015	2016
<i>Unemployment rate<sup>1</sup></i>						
Extended Tealbook baseline	8.7	8.2	7.8	7.5	6.9	6.2
Taylor (1993)	8.7	8.3	8.2	8.0	7.3	6.5
Taylor (1999)	8.7	8.2	7.8	7.5	6.9	6.2
First-difference	8.7	8.2	8.0	7.8	7.3	6.5
Nominal income targeting	8.7	8.1	7.5	6.9	6.2	5.5
Constrained optimal control	8.7	8.1	7.4	6.7	5.9	5.2
<i>Total PCE prices</i>						
Extended Tealbook baseline	1.7	1.8	1.4	1.4	1.5	1.6
Taylor (1993)	1.7	1.7	1.2	1.2	1.3	1.4

Taylor (1999)	1.7	1.8	1.4	1.4	1.5	1.6
First-difference	1.7	1.7	1.2	1.2	1.3	1.4
Nominal income targeting	1.7	2.1	1.8	1.8	1.9	2.0
Constrained optimal control	1.7	2.1	1.9	1.9	2.0	2.1
<i>Core PCE prices</i>						
Extended Tealbook baseline	1.7	1.7	1.6	1.6	1.6	1.7
Taylor (1993)	1.7	1.6	1.4	1.4	1.4	1.5
Taylor (1999)	1.7	1.7	1.6	1.6	1.6	1.7
First-difference	1.7	1.6	1.4	1.4	1.4	1.5
Nominal income targeting	1.7	2.0	2.0	2.0	2.0	2.1
Constrained optimal control	1.7	2.0	2.1	2.1	2.1	2.2
<i>Federal funds rate<sup>1</sup></i>						
Extended Tealbook baseline	0.1	0.1	0.1	0.8	2.1	3.0
Taylor (1993)	0.1	1.2	1.1	1.5	2.2	3.0
Taylor (1999)	0.1	0.1	0.1	0.7	2.0	3.0
First-difference	0.1	0.1	0.2	1.2	2.3	3.3
Nominal income targeting	0.1	0.1	0.1	0.3	1.4	2.5
Constrained optimal control	0.1	0.1	0.1	0.1	0.3	2.0

1. Percent, average for the final quarter of the period. [Return to table](#)

## Optimal Monetary Policy: Commitment vs. Discretion

### Figure: Nominal Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are three series, "Optimal policy: Commitment, constrained," "Optimal policy: Discretion, constrained," and "Optimal policy: Discretion, unconstrained." Optimal policy: Commitment, constrained begins at about 0.1 in 2011:Q1 and generally decreases to 0. It remains stable here until 2015:Q4. It then increases to about 4.9 by 2019:Q1. It then generally decreases to about 4.5 in 2020:Q4. Optimal policy: Discretion, constrained begins at about 0.1 in 2011:Q1 and then generally decreases to about 0. It remains constant here until 2015:Q1. It then increases to about 4.3 in 2018:Q1 and remains steady until 2020:Q4. Optimal policy: Discretion, unconstrained begins at 0.1 in 2011:Q1 and then decreases to about -2.1 in 2013:Q1. It then generally increases to about 4 in 2018:Q2 and remains stable here until 2020:Q4.

### Figure: Real Federal Funds Rate

Line chart, by percent, 2011 to 2020. There are three series, "Optimal policy: Commitment, constrained," "Optimal policy: Discretion, constrained," and "Optimal policy: Discretion, unconstrained." Optimal policy: Commitment, constrained begins at about -1.0 in 2011:Q1 and then generally decreases to about -2 in 2013:Q1. It remains stable here until 2016:Q2 and then generally increases to about 2.5. By 2020:Q4, it has generally decreased to about 2.3. Optimal policy: Discretion, constrained begins in 2011:Q1 at about -1.0 and then generally decreases to about -1.8 in 2013:Q1. It remains stable here until 2015:Q2 and then generally increases to about 2.3 by 2020:Q4. Optimal policy: Discretion, unconstrained begins in 2011:Q1 at about -1.0 and then generally decreases to about -4.0 in 2013:Q1. It generally increases to about 2.3 by 2020:Q4.

## Figure: Unemployment Rate

Line chart, by percent 2011 to 2020. There are three series, "Optimal policy: Commitment, constrained," "Optimal policy: Discretion, constrained," and "Optimal policy: Discretion, unconstrained." Optimal policy: Commitment, constrained begins at about 9.0 in 2011:Q1 and then generally decreases to about 4.7 in 2017:Q4. By 2020:Q4 it has generally increased to about 5.4. Optimal policy: Discretion, constrained begins at about 9.0 in 2011:Q1 and then generally decreases to about to about 5.2 in 2018:Q2. By 2020:Q4 it has generally increased to about 5.3. Optimal policy: Discretion, unconstrained begins at about 9.0 in 2011:Q1 and then generally decreases to about to about 5.2 in 2018:Q2. By 2020:Q4 it has generally increased to about 5.3.

## Figure: PCE Inflation (Four-quarter average)

Line chart, by percent, 2011 to 2020. There are three series, "Optimal policy: Commitment, constrained," "Optimal policy: Discretion, constrained," and "Optimal policy: Discretion, unconstrained." Optimal policy: Commitment, constrained begins at about 1.75 in 2011:Q1 and then generally increases to about 2.85 in 2011:Q4. In 2012:Q4, it generally decreases to about 1.9 and then generally increases to about 2.2 in 2013:Q1. It generally decreases to about 1.85 in 2013:Q4 and then generally increases to about 2.25 in 2018:Q1. By 2020:Q4 it has generally decreased to about 2.09. Optimal policy: Discretion, constrained begins in 2011:Q1 at about 1.75 and then generally increases to about 2.85 in 2011:Q4. In 2012:Q4, it generally decreases to about 1.75 and then generally decreases to about 1.58 in 2013:Q4. By 2020:Q4, it has generally increased to about 2.05. Optimal policy: Discretion, unconstrained begins in 2011:Q1 at about 1.75 and then generally increase to about 2.85 in 2011:Q4. It then generally decreases to about 1.95 in 2012:Q2 and then generally increases to about 2.09 in 2012:Q4. By 2013:Q2 it has generally decreased to about 1.6 and then generally increased to about 2.03 by 2020:Q4.

## Monetary Policy Alternatives

**Table 1: Overview of Policy Alternatives for the March 13 FOMC Statement**

Selected Elements	January Statement	March Alternatives		
		A	B	C
<b>Forward Rate Guidance</b>				
Guidance	at least through late 2014	unchanged		only as long as inflation is projected to remain subdued over the medium term, longer-term inflation expectations continue to be well anchored, and progress toward maximum employment remains insufficient
<b>Balance Sheet</b>				
MEP	continue its program as announced in September {\$400 billion; complete by end of June 2012}	unchanged		reduce program size to \$250 billion and complete by end of March 2012
		discrete: \$500 billion of agency		

<i>Additional Purchases</i>	none	MBS by end of March 2013 OR open-ended: \$40 billion of agency MBS per month; will adjust program as needed to foster objectives	none
<i>Reinvestment Policies</i>	principal payments of agency debt and MBS into agency MBS; Treasuries into Treasuries	unchanged	
<b>Future Policy Action</b>			
<i>Future Actions</i>	prepared to adjust holdings as appropriate to...	will employ its tools as needed to...	unchanged
	promote stronger economic recovery in a context of price stability	unchanged	promote its objectives of maximum employment and price stability

[Note: In the March FOMC Statement Alternatives, emphasis (strike-through) indicates strike-through text in the original document, and strong emphasis (bold) indicates bold red underlined text in the original document.]

## March FOMC Statement--Alternative A

- Information received since the Federal Open Market Committee met in ~~December~~ **January** suggests that the economy has been expanding moderately, ~~notwithstanding some slowing in global growth~~. While ~~indicators point to some further improvement in overall~~ labor market conditions **have improved somewhat further**, the unemployment rate remains elevated. Household spending **and business fixed investment** have continued to advance. ~~but growth in business fixed investment has slowed, and~~ The housing sector remains depressed. Inflation has been subdued in recent months, ~~and~~ **although prices of crude oil and gasoline have increased lately**. Longer-term inflation expectations have remained stable.
- Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects **that, absent further policy action**, economic growth **would slow** over coming quarters ~~to be modest and consequently anticipates that the unemployment rate will~~ **would** decline only gradually toward levels that the Committee judges to be consistent with its dual mandate. Strains in global financial markets continue to pose significant downside risks to the economic outlook. **The recent increase in oil and gasoline prices is likely to reduce consumers' purchasing power while pushing up inflation temporarily. Nonetheless**, the Committee ~~also anticipates that over coming quarters,~~ **subsequently** inflation will run at levels at or below ~~these~~ **the rate that it judges most** consistent with the Committee's ~~its~~ dual mandate.
- To support a stronger economic recovery and to help ensure that inflation, over time, is at levels **the rate most** consistent with ~~the~~ **its** dual mandate, the Committee ~~expects to maintain a highly accommodative stance for monetary policy. In particular, the Committee decided today to~~ **purchase an additional \$500 billion of agency mortgage-backed securities by the end of March 2013. In addition, the Committee decided to** continue its program to extend the average maturity of its holdings of securities as announced in September. The Committee **also** is maintaining its existing policies of reinvesting principal payments from its

holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. **These programs should put downward pressure on longer-term interest rates, provide support to mortgage markets, and help make broader financial conditions more accommodative.** The Committee will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate.

**OR**

3'. To support a stronger economic recovery and to help ensure that inflation, over time, is at levels **the rate most** consistent with the **its** dual mandate, the Committee ~~expects to maintain a highly accommodative stance for monetary policy. In particular, the Committee decided today to~~ **purchase additional agency mortgage-backed securities, initially at a rate of \$40 billion per month. The Committee will adjust the pace of purchases and determine the ultimate size of the program as needed to foster its objectives. In addition, the Committee decided to** continue its program to extend the average maturity of its holdings of securities as announced in September. The Committee **also** is maintaining its existing policies of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. **These programs should put downward pressure on longer-term interest rates, provide support to mortgage markets, and help make broader financial conditions more accommodative.** ~~The Committee will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate.~~

4. The Committee also decided to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014.

5. **The Committee will employ its tools as needed** to promote a stronger economic recovery in a context of price stability.

## March FOMC Statement--Alternative B

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** suggests that the economy has been expanding moderately, ~~notwithstanding some slowing in global growth. While indicators point to some further improvement in overall~~ Labor market conditions **have improved further**; the unemployment rate **has declined notably in recent months but** remains elevated. Household spending **and business fixed investment have** continued to advance. ~~but growth in business fixed investment has slowed, and~~ The housing sector remains depressed. Inflation has been subdued in recent months, ~~and~~ **although prices of crude oil and gasoline have increased lately.** Longer-term inflation expectations have remained stable.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects **moderate** economic growth over coming quarters ~~to be modest~~ and consequently anticipates that the unemployment rate will decline ~~only~~ gradually toward levels that the Committee judges to be consistent with its dual mandate. Strains in global financial markets, **while having eased somewhat,** continue to pose significant downside risks to the economic outlook. **The recent increase in oil and gasoline prices will push up inflation temporarily, but** the Committee ~~also~~ anticipates that ~~over coming quarters~~ **subsequently** inflation will run at levels at or below ~~these~~ **the rate that it judges most** consistent with the ~~Committee's~~ **its** dual mandate.

3. To support a stronger economic recovery and to help ensure that inflation, over time, is at levels **the rate most** consistent with the **its** dual mandate, the Committee expects to maintain a highly accommodative stance for monetary policy. In particular, the Committee decided today to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014.

4. The Committee also decided to continue its program to extend the average maturity of its holdings of

securities as announced in September. The Committee is maintaining its existing policies of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. The Committee will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate to promote a stronger economic recovery in a context of price stability.

## March FOMC Statement--Alternative C

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** suggests that the economy has been expanding moderately, ~~notwithstanding some slowing in global growth. While indicators point to some further improvement in overall labor market conditions,~~ **Although** the unemployment rate remains elevated, **it has declined notably and the pace of employment growth has picked up.** Household spending **and business fixed investment** have continued to advance, ~~but growth in business fixed investment has slowed,~~ and **indicators of conditions in the housing sector remains depressed have improved somewhat.** Inflation has been subdued in recent months, and longer-term inflation expectations have remained stable. **However, prices of crude oil and gasoline have increased significantly of late.**
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects **a gradual increase in the pace of** economic growth over coming quarters ~~to be modest~~ and consequently anticipates that the unemployment rate will **continue to decline only gradually** toward levels that the Committee judges to be consistent with its dual mandate. ~~Strains in global financial markets continue to pose significant downside risks to the economic outlook.~~ The Committee also anticipates that ~~over coming quarters,~~ **the recent increase in oil and gasoline prices is likely to push inflation will run at levels at or below those above the rate that the Committee judges most** consistent with the Committee's **its** dual mandate. **Moreover, the Committee sees some risk that inflation could remain elevated going forward given the current degree of policy accommodation.**
3. To support ~~a stronger~~ **the** economic recovery and to help ensure that inflation, over time, is at levels **the rate most** consistent with the **its** dual mandate, the Committee ~~expects to maintain a highly accommodative stance for monetary policy.~~ The Committee ~~also~~ **decided today** to ~~continue its~~ **reduce from \$400 billion to \$250 billion the** program to extend the average maturity of its holdings of securities ~~as that was~~ announced in September **and to complete this program by the end of March.** ~~In particular,~~ The Committee **also** ~~decided today~~ to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions ~~including low rates of resource utilization and a subdued outlook for inflation over the medium run are likely to warrant~~ **this** exceptionally low levels **range** for the federal funds rate ~~at least through late 2014~~ **will be appropriate only as long as inflation is projected to remain subdued over the medium term, longer-term inflation expectations continue to be well anchored, and progress toward maximum employment remains insufficient.**
4. The Committee is **also** maintaining its existing policies of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. The Committee will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate to promote ~~a stronger~~ **economic recovery in a context of its objectives of maximum employment and** price stability.

## Long-Run Projections of the Balance Sheet and Monetary Base

### Figure: Total Assets

Line chart, by Billions of dollars, data is Monthly. 2006 to 2020. There are four series, "Alt A," "Alt B," "Alt C" and "Jan. Alt. B." Alt A begins in January 2006 at about 750 and remains constant here until October 2008. It generally increases to about 2200 in December 2008. In February 2009 it has decreased to about 1800 and then generally increases to 3100 in April 2013. By May 2018, it has generally decreased to about 1650 and then generally

increases to about 2050 by December 2020. Alt B begins in January 2006 at about 750 and remains constant here until October 2008. It generally increases to about 2200 in December 2008. In February 2009 it has decreased to about 1800 and then generally increases to 2900 in March 2012. By August 2017, it has generally decreased to about 1600 and then generally increases to about 2050 by December 2020. Alt C begins in January 2006 at about 750 and remains constant here until October 2008. It generally increases to about 2200 in December 2008. In February 2009 it has decreased to about 1800 and then generally increases to 2900 in March 2012. By June 2016 it has generally decreased to about 1500 and then generally increased to 2050 by December 2020. Jan. Alt B begins in January 2006 at about 750 and remains constant here until October 2008. It generally increases to about 2200 in December 2008. In February 2009 it has decreased to about 1800 and then generally increases to 2900 in March 2012. By August 2017, it has generally decreased to about 1600 and then generally increases to about 2050 by December 2020.

## Growth Rates for the Monetary Base

Date	Alternative B	Alternative A	Alternative C	<i>Memo:</i> January Tealbook
	Percent, annual rate			
	Monthly			
Jan-11	23.3	23.3	23.3	23.3
Feb-11	57.6	57.6	57.6	57.6
Mar-11	97.8	97.8	97.8	97.8
Apr-11	74.4	74.4	74.4	74.4
May-11	42.1	42.1	42.1	42.1
Jun-11	35.9	35.9	35.9	35.9
Jul-11	27.0	27.0	27.0	27.0
Aug-11	2.0	2.0	2.0	2.0
Sep-11	-10.6	-10.6	-10.6	-10.6
Oct-11	-4.5	-4.5	-4.5	-4.5
Nov-11	-8.0	-8.0	-8.0	-8.0
Dec-11	-4.5	-4.5	-4.5	-4.5
Jan-12	9.2	9.2	9.2	5.8
Feb-12	18.0	18.0	18.0	22.7
Mar-12	11.3	11.5	10.6	4.0
Apr-12	-31.7	-31.2	-33.9	-38.5
May-12	-13.7	-8.8	-16.9	-2.2
Jun-12	16.2	30.0	13.1	18.3
	Quarterly			
2011 Q1	36.8	36.8	36.8	36.8
2011 Q2	69.3	69.3	69.3	69.3
2011 Q3	21.0	21.0	21.0	21.0

2011 Q4	-5.9	-5.9	-5.9	-5.9
2012 Q1	6.4	6.5	6.4	5.5
2012 Q2	-7.4	-4.7	-9.4	-8.1
2012 Q3	6.0	22.4	-1.5	5.6
2012 Q4	-4.5	14.3	-16.3	5.5
Annual - Q4 to Q4				
2010	0.9	0.9	0.9	0.9
2011	32.9	32.9	32.9	32.9
2012	0.1	9.9	-5.2	2.1
2013	-0.3	8.9	-7.3	0.9
2014	-2.0	-2.2	-13.8	-4.8
2015	-10.7	-11.4	-15.7	-11.4
2016	-19.8	-20.2	-15.0	-19.8

Note: Not seasonally adjusted.

## Growth Rates for M2

(Percent, seasonally adjusted annual rate)

Tealbook Forecast *	
Monthly Growth Rates	
Jan-12	15.6
Feb-12	2.5
Mar-12	2.2
Apr-12	4.2
May-12	4.2
Jun-12	4.2
July-12	4.1
Aug-12	4.1
Sep-12	4.1
Oct-12	4.3
Nov-12	4.3
Dec-12	4.3
Quarterly Growth Rates	
2012 Q1	7.9
2012 Q2	3.5
2012 Q3	4.2
2012 Q4	4.3

2013 Q1	1.8
2013 Q2	1.8
2013 Q3	2.6
2013 Q4	2.7
Annual Growth Rates	
2012	5.1
2013	2.2

\* This forecast is consistent with nominal GDP and interest rates in the Tealbook forecast. Actual data through January 2012; projections thereafter. [Return to table](#)

[Note: In the March 2012 Directive Alternatives, emphasis (strike-through) indicates strike-through text in the original document, and strong emphasis (bold) indicates bold red underlined text in the original document.]

## March 2012 Directive--Alternative A

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to 1/4 percent. The Committee directs the Desk to continue the maturity extension program it began in September to purchase, by the end of June 2012, Treasury securities with remaining maturities of approximately 6 years to 30 years with a total face value of \$400 billion, and to sell Treasury securities with remaining maturities of 3 years or less with a total face value of \$400 billion. **[ The Committee also directs the Desk to execute purchases of agency mortgage-backed securities by the end of March 2013 in order to increase the total face value of domestic securities held in the System Open Market Account to approximately \$3.1 trillion. | The Committee also directs the Desk to execute purchases of agency mortgage-backed securities in order to increase the total face value of domestic securities held in the System Open Market Account by approximately \$40 billion per month. ]** The Committee also directs the Desk to maintain its existing policies of rolling over maturing Treasury securities into new issues and of reinvesting principal payments on all agency debt and agency mortgage-backed securities in the System Open Market Account in agency mortgage-backed securities ~~in order to maintain the total face value of domestic securities at approximately \$2.6 trillion.~~ The Committee directs the Desk to engage in dollar roll **and coupon swap** transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

## March 2012 Directive--Alternative B

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to 1/4 percent. The Committee directs the Desk to continue the maturity extension program it began in September to purchase, by the end of June 2012, Treasury securities with remaining maturities of approximately 6 years to 30 years with a total face value of \$400 billion, and to sell Treasury securities with remaining maturities of 3 years or less with a total face value of \$400 billion. The Committee also directs the Desk to maintain its existing policies of rolling over maturing Treasury securities into new issues and of reinvesting principal payments on all agency debt and agency mortgage-backed securities in the System Open Market Account in agency mortgage-backed securities in order to maintain the total face value of domestic securities at approximately \$2.6 trillion. The Committee directs the Desk to engage in dollar roll

transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

## March 2012 Directive--Alternative C

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to 1/4 percent. The Committee directs the Desk to ~~continue~~ **modify** the maturity extension program it began in September ~~so as~~ to purchase, by the end of ~~June~~ **March** 2012, Treasury securities with remaining maturities of approximately 6 years to 30 years with a total face value of ~~\$400~~ **\$250** billion, and to sell Treasury securities with remaining maturities of 3 years or less with a total face value of ~~\$400~~ **\$250** billion. The Committee also directs the Desk to maintain its existing policies of rolling over maturing Treasury securities into new issues and of reinvesting principal payments on all agency debt and agency mortgage-backed securities in the System Open Market Account in agency mortgage-backed securities in order to maintain the total face value of domestic securities at approximately \$2.6 trillion. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

## Explanatory Notes

### A. Policy Rules Used in "Monetary Policy Strategies"

The table below gives the expressions for the selected policy rules used in "Monetary Policy Strategies." In the table,  $R_t$  denotes the nominal federal funds rate for quarter  $t$ , while the right-hand-side variables include the staff's projection of trailing four-quarter core PCE inflation for the current quarter and three quarters ahead ( $\pi_t$  and  $\pi_{t+3|t}$ ), the output gap estimate for the current period as well as its one quarter ahead forecast ( $gap_t$  and  $gap_{t+1|t}$ ) and the forecast of the three-quarter-ahead annual change in the output gap (i.e.,  $\Delta^4 gap_{t+3|t}$ ). The value of policymakers' long-run inflation objective, denoted  $\pi^*$ , is 2 percent. The nominal income targeting rule responds to the nominal income gap, which is defined as 100 times the difference between nominal income  $yn_t$ , (the log of the level of nominal GDP) and a target value  $yn^t$ , (the log of potential nominal GDP), where potential nominal GDP is defined as potential real GDP multiplied by a price target equal to the actual GDP deflator in the fourth quarter of 2007 and growing thereafter at a steady rate of 2 percent per year.<sup>1</sup>

Rule	Specification
Taylor (1993) rule	$R_t = 2.25 + \pi_t + 0.5(\pi_t - \pi^*) + 0.5gap_t$
Taylor (1999) rule	$R_t = 2.25 + \pi_t + 0.5(\pi_t - \pi^*) + gap_t$
Outcome-based rule	$R_t = 1.2R_{t-1} - 0.39R_{t-2} + 0.19[0.79 + 1.73\pi_t + 3.66gap_t - 2.72gap_{t-1}]$
First-difference rule	$R_t = R_{t-1} + 0.5(\pi_{t+3 t} - \pi^*) + 0.5\Delta^4 gap_{t+3 t}$
Nominal income targeting rule	$R_t = 0.75R_{t-1} + 0.25(2.25 + \pi^* + yn_t - yn^t)$

1. See Christopher Erceg, Michael T. Kiley, and J. David López-Salido (2011) for analysis of this rule. The nominal GDP targeting rule in "Monetary Policy Strategies" differs slightly from the rule studied in that memo in setting the target equal to potential nominal GDP (rather than applying a growth rate to actual nominal GDP for the final quarter of 2007) and in having an interest-rate smoothing coefficient of 0.75 (a more standard value

than the 0.9 value employed in the memo). Background on the relationship between simple interest-rate rules and nominal income targeting is provided in Bennett T. McCallum and Edward Nelson (1999) and Athanasios Orphanides (2003). [Return to text](#)

## D. Long-Run Projections of the Balance Sheet and Monetary Base

### Federal Reserve Balance Sheet: End-of-Year Projections -- Alternative A

Billions of dollars

	Feb 29, 2012	2012	2014	2016	2018	2020
<b>Total assets</b>	2,930	3,157	3,201	2,281	1,793	1,992
Selected assets						
Liquidity programs for financial firms	108	0	0	0	0	0
Primary, secondary, and seasonal credit	0	0	0	0	0	0
Central bank liquidity swaps	108	0	0	0	0	0
Lending through other credit facilities	11	3	1	0	0	0
Term Asset-Backed Securities Loan Facility (TALF)	11	3	1	0	0	0
Support for specific institutions	31	20	16	12	7	4
Credit extended to AIG	0	0	0	0	0	0
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	31	20	16	12	7	4
Securities held outright	2,603	2,918	2,984	2,102	1,646	1,863
U.S. Treasury securities	1,662	1,653	1,599	1,231	1,315	1,863
Agency debt securities	101	77	39	16	2	0
Agency mortgage-backed securities	841	1,189	1,346	855	329	0
Net portfolio holdings of TALF LLC	1	1	1	0	0	0
Total other assets	177	215	199	166	140	125
<b>Total liabilities</b>	2,876	3,096	3,119	2,173	1,649	1,802
Selected liabilities						
Federal Reserve notes in circulation	1,050	1,113	1,241	1,382	1,530	1,683
Reverse repurchase agreements	77	70	70	70	70	70
Deposits with Federal Reserve Banks	1,727	1,893	1,789	702	30	30
Reserve balances held by depository institutions	1,620	1,808	1,784	697	25	25
U.S. Treasury, General Account	63	86	5	5	5	5
Other balances	45	0	0	0	0	0
Interest of Federal Reserve Notes due to U.S. Treasury	2	0	0	0	0	0
<b>Total capital</b>	55	62	82	108	143	189

Source: Federal Reserve H.4.1 statistical releases and staff calculations.

Note: Components may not sum to totals due to rounding.

## Federal Reserve Balance Sheet: End-of-Year Projections -- Alternative B

Billions of dollars

	Feb 29, 2012	2012	2014	2016	2018	2020
<b>Total assets</b>	2,930	2,836	2,703	1,963	1,793	1,992
Selected assets						
Liquidity programs for financial firms	108	0	0	0	0	0
Primary, secondary, and seasonal credit	0	0	0	0	0	0
Central bank liquidity swaps	108	0	0	0	0	0
Lending through other credit facilities	11	3	1	0	0	0
Term Asset-Backed Securities Loan Facility (TALF)	11	3	1	0	0	0
Support for specific institutions	31	20	16	12	7	4
Credit extended to AIG	0	0	0	0	0	0
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	31	20	16	12	7	4
Securities held outright	2,603	2,613	2,507	1,798	1,654	1,867
U.S. Treasury securities	1,662	1,653	1,599	1,231	1,439	1,867
Agency debt securities	101	77	39	16	2	0
Agency mortgage-backed securities	841	884	869	551	212	0
Net portfolio holdings of TALF LLC	1	1	1	0	0	0
Total other assets	177	200	179	152	132	121
<b>Total liabilities</b>	2,876	2,774	2,621	1,854	1,649	1,802
Selected liabilities						
Federal Reserve notes in circulation	1,050	1,113	1,241	1,382	1,530	1,683
Reverse repurchase agreements	77	70	70	70	70	70
Deposits with Federal Reserve Banks	1,727	1,572	1,291	384	30	30
Reserve balances held by depository institutions	1,620	1,487	1,286	379	25	25
U.S. Treasury, General Account	63	86	5	5	5	5
Other balances	45	0	0	0	0	0
Interest of Federal Reserve Notes due to U.S. Treasury	2	0	0	0	0	0
<b>Total capital</b>	55	62	82	108	143	189

Source: Federal Reserve H.4.1 statistical releases and staff calculations.

Note: Components may not sum to totals due to rounding.

## Federal Reserve Balance Sheet: End-of-Year Projections -- Alternative C

Billions of dollars



	Feb 29, 2012	2012	2014	2016	2018	2020
<b>Total assets</b>	2,930	2,666	2,101	1,608	1,792	1,991
Selected assets						
Liquidity programs for financial firms	108	0	0	0	0	0
Primary, secondary, and seasonal credit	0	0	0	0	0	0
Central bank liquidity swaps	108	0	0	0	0	0
Lending through other credit facilities	11	3	1	0	0	0
Term Asset-Backed Securities Loan Facility (TALF)	11	3	1	0	0	0
Support for specific institutions	31	20	16	12	7	4
Credit extended to AIG	0	0	0	0	0	0
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	31	20	16	12	7	4
Securities held outright	2,603	2,469	1,940	1,476	1,681	1,890
U.S. Treasury securities	1,662	1,598	1,382	1,237	1,681	1,890
Agency debt securities	101	77	39	16	0	0
Agency mortgage-backed securities	841	795	518	222	0	0
Net portfolio holdings of TALF LLC	1	1	1	0	0	0
Total other assets	177	173	144	120	104	97
<b>Total liabilities</b>	2,876	2,604	2,019	1,500	1,649	1,802
Selected liabilities						
Federal Reserve notes in circulation	1,050	1,112	1,240	1,381	1,529	1,682
Reverse repurchase agreements	77	70	70	70	70	70
Deposits with Federal Reserve Banks	1,727	1,402	690	30	30	30
Reserve balances held by depository institutions	1,620	1,316	685	25	25	25
U.S. Treasury, General Account	63	86	5	5	5	5
Other balances	45	0	0	0	0	0
Interest of Federal Reserve Notes due to U.S. Treasury	2	0	0	0	0	0
<b>Total capital</b>	55	62	82	108	143	189

Source: Federal Reserve H.4.1 statistical releases and staff calculations.

Note: Components may not sum to totals due to rounding.

† Note: Data values for figures are rounded and may not sum to totals. [Return to text](#)

Last update: January 5, 2018

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