

**Appendix 1: Materials used by Mr. Potter**

**Class II FOMC – Restricted (FR)**

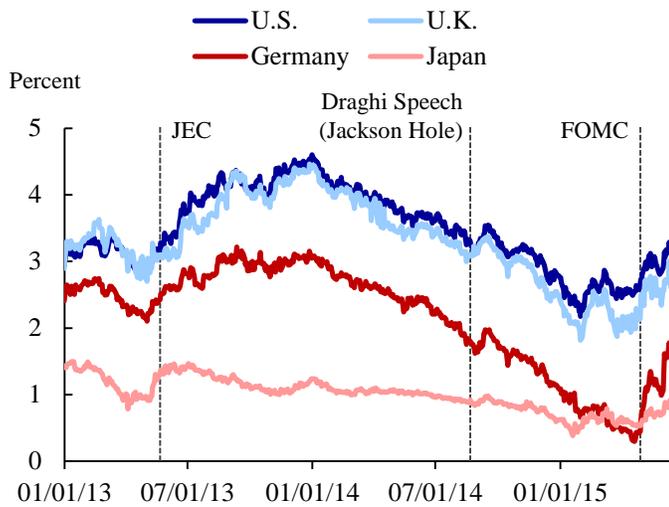
*Material for Briefing on*

**Financial Developments and  
Open Market Operations**

**Simon Potter**

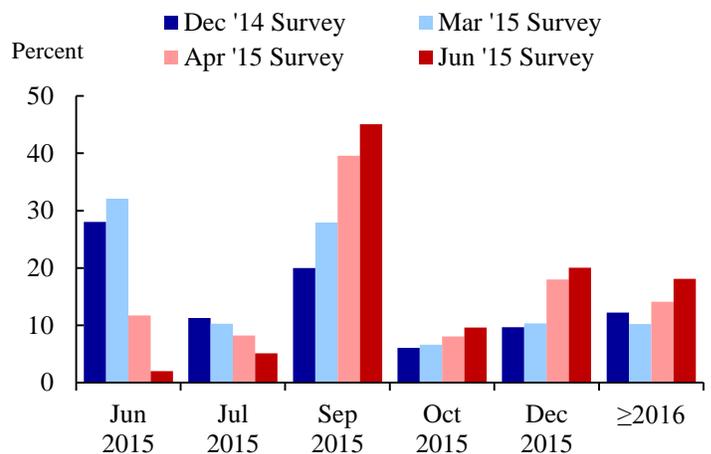
**June 16, 2015**

**(1) Nominal Five-Year, Five-Year Forward Rates**



Source: Bloomberg

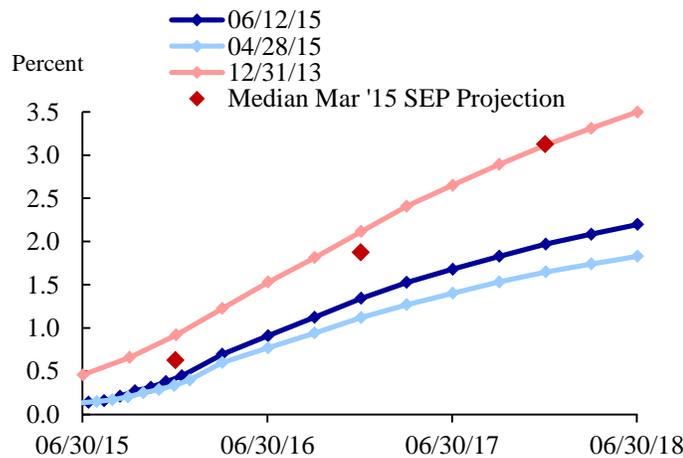
**(2) Probability Distribution of the Timing of Liftoff\***



\*Average of all responses to the Survey of Primary Dealers and Survey of Market Participants. Probabilities may not add up to 100%.

Source: Federal Reserve Bank of New York

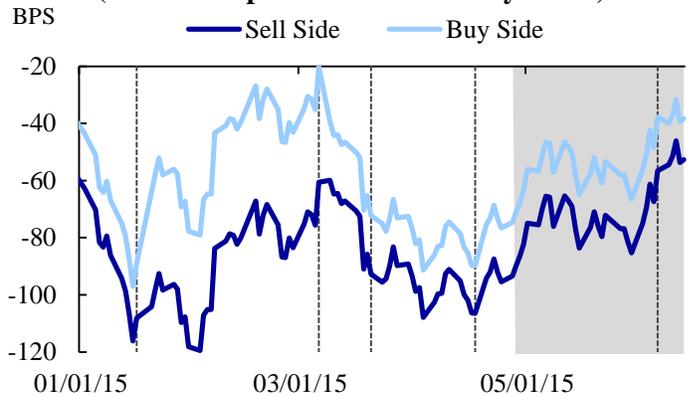
**(3) Implied Federal Funds Rate Path\***



\*Derived from federal funds futures and Eurodollar futures.

Source: Bloomberg, Federal Reserve Bank of New York, Federal Reserve Board of Governors

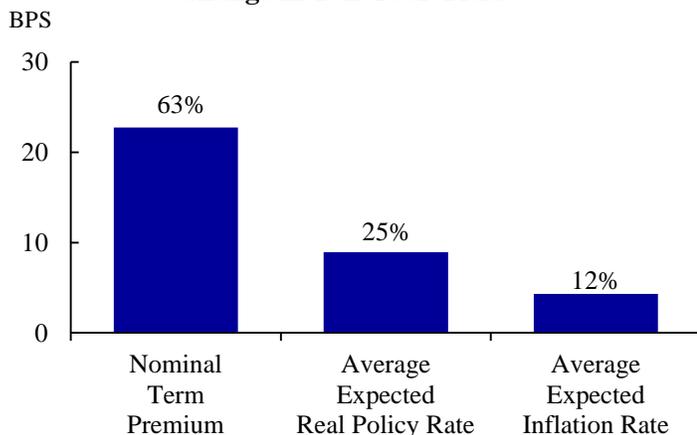
**(4) Proxy for End-2017 Risk Premium (Market-Implied Rate less Survey Mean)\***



\*Shaded area indicates intermeeting period. Trip wires indicate new survey information. Uses mean of all PDF responses to the Survey of Primary Dealers and Survey of Market Participants and unadjusted Eurodollar futures rates.

Source: Bloomberg, Federal Reserve Bank of New York

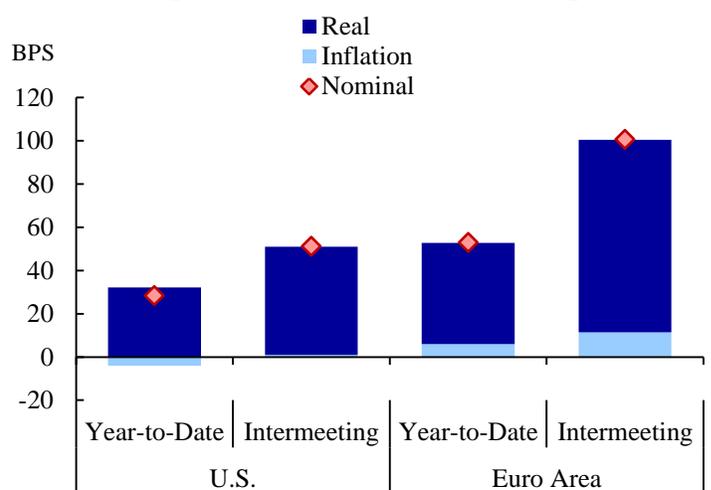
**(5) Decomposition of Intermeeting Change in Ten-Year Yield\***



\*Average of all responses from the Survey of Primary Dealers and Survey of Market Participants.

Source: Federal Reserve Bank of New York

**(6) Changes in Five-Year, Five-Year Swap Rates**



Source: Barclays

**(7) German Ten-Year Yield  
Intraday Trading Range\***



\*30-day moving average.

Source: Bloomberg

**(8) Maximum Price Deterioration\***

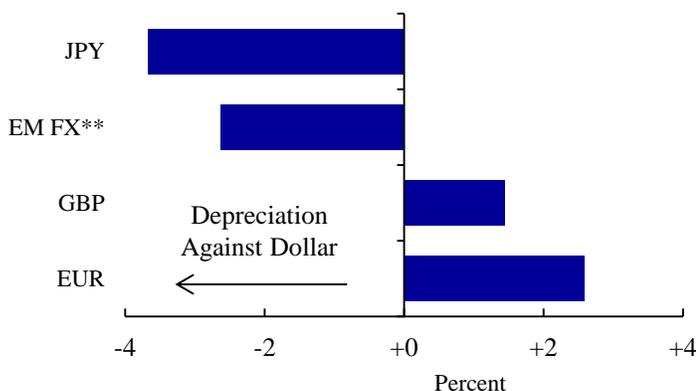
		Inter-meeting	"Taper Tantrum"
<i>Equities</i>	S&P 500 Index	-1.7%	-5.8%
	EuroStoxx 50 Index	-7.0%	-11.0%
<i>Implied Volatility</i>	VIX Index (S&P 500)	+2.9 ppts	+7.1 ppts
	V2X Index (Eurostoxx)	+3.5 ppts	+8.4 ppts
<i>Credit Spreads</i>	U.S. High Yield	+6 bps	+92 bps
	European High Yield	+12 bps	+84 bps
<i>Emerging Markets</i>	EM Equity Index	-9.0%	-15.7%
	EM Bond Index	-4.0%	-11.8%

\*From 04/28/15 and 05/21/13 to maximum change over respective periods.

"Taper Tantrum" defined as period from May '13 JEC to Sep '13 FOMC.

Source: Bloomberg, Barclays, MSCI, J.P. Morgan

**(9) Currency Performance Against the Dollar  
Over the Intermeeting Period\***

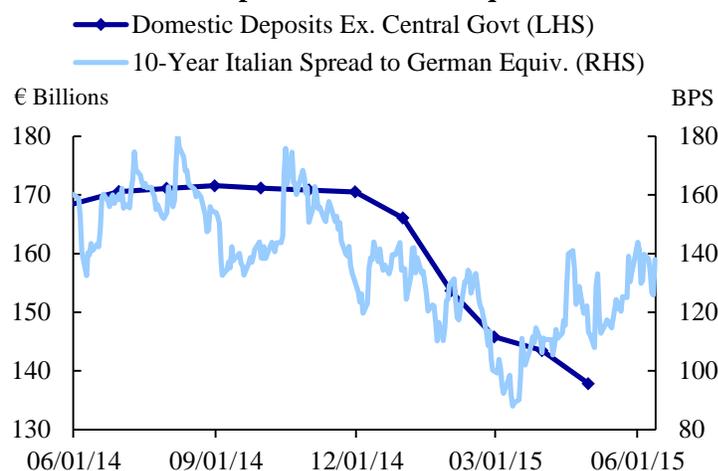


\*DXY dollar index declined by 1.2 percent since 04/28/15.

\*\*Index of 10 emerging market currencies.

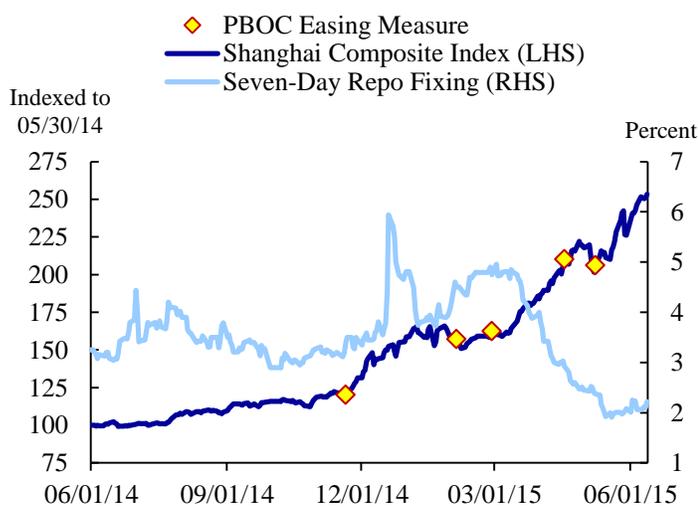
Source: Bloomberg, J.P. Morgan

**(10) Greek Bank Deposits and Ten-Year Italian Spread to German Equivalent**



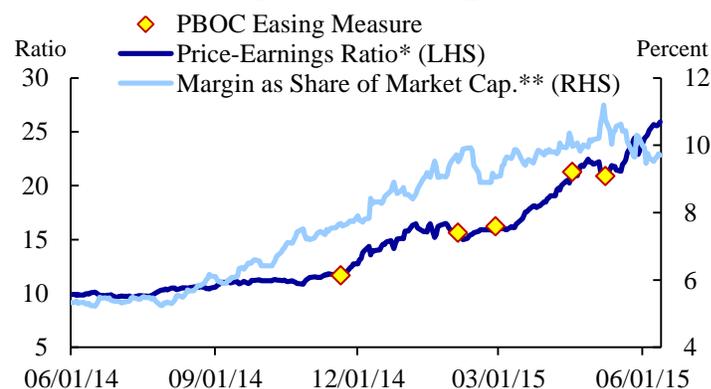
Source: Bank of Greece, Haver Analytics, Bloomberg

**(11) Chinese Asset Performance**



Source: Bloomberg

**(12) Shanghai Composite Price-Earnings Ratio  
and Outstanding Balance of Margin Transactions**

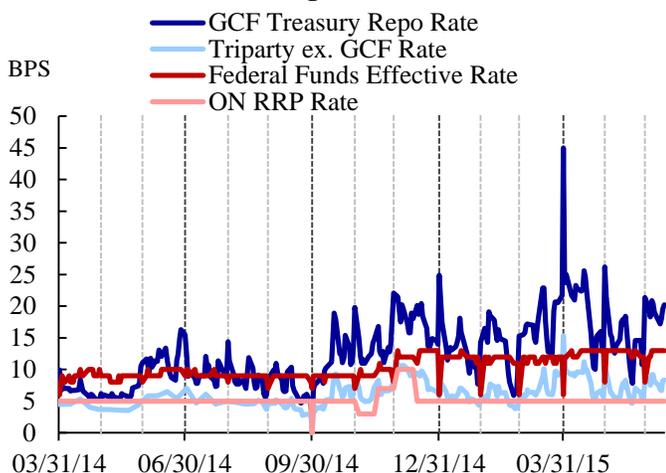


\*Ratio to trailing 12-month earnings per share.

\*\*Free floating market capitalization; excludes shares held by insiders and those deemed by Bloomberg to be stagnant shareholders.

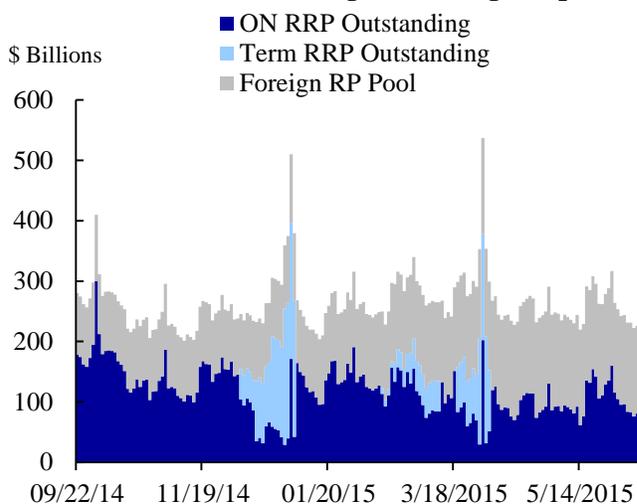
Source: Bloomberg

**(13) Overnight Interest Rates\***



\*Dark trip wires indicate quarter-ends, light trip wires indicate month-ends.  
Source: Federal Reserve Bank of New York, Bloomberg

**(14) RRP's Outstanding and Foreign Repo Pool**



Source: Federal Reserve Bank of New York

**(15) Term RRP Announcement**

- The following details to be released on June 22:

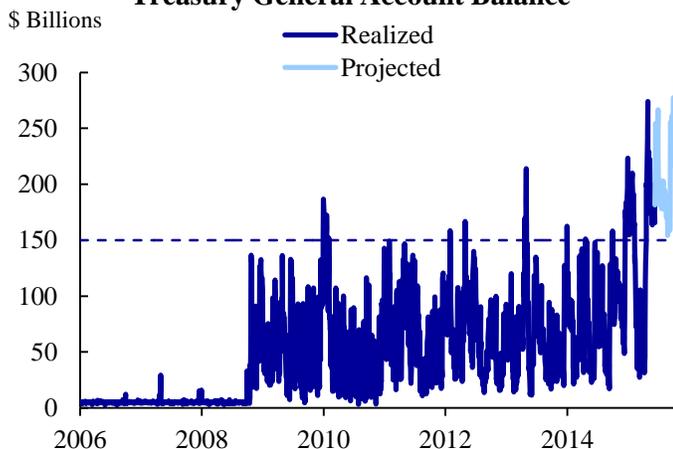
Operation Date	Maturity Date	Term	Amount Offered	Maximum Offering Rate
June 25	July 02	7 days	\$100 Bil.	ON RRP rate on June 25 + 3 BPS
June 29	July 01	2 days	\$100 Bil.	ON RRP rate on June 29 + 3 BPS

- Any undersubscribed capacity from the June 25 term RRP will be added to the offering size of the June 29 term RRP
- Lower spread should help inform whether quarter-end demand is driven more by the rate or the certainty of supply

**(16) Change to Briefing Schedule Post-Liftoff**

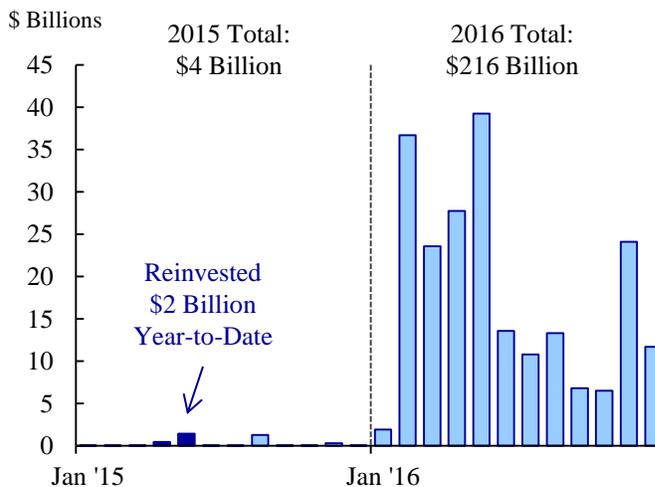
- Staff Briefings*
  - Scheduled from 2:00 to 3:00 p.m. ET daily
  - If change in tools or FOMC discussion needed, briefing to be converted to FOMC meeting upon notification of Secretariat
  - If change in tools is made, public announcement at 4:30 p.m. ET on day of decision
- Operations Briefings*
  - Extend duration of daily a.m. operations briefing to 30 minutes; push back start of market developments briefing

**(17) Actual and Projected Treasury General Account Balance\***



\*Treasury announced a minimum balance of \$150 billion on 05/06/15.  
Source: U.S. Treasury, Federal Reserve Bank of New York

**(18) SOMA Treasury Security Maturities**



Source: Federal Reserve Bank of New York

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Exhibit 4 (Last)

**(19) Treasury Security Reinvestment Policy**

- Current policy is to reinvest maturing Treasury securities on the day the funds are received
- Principal amount is reinvested on a non-competitive basis and allocated in proportion to the issue size of all qualifying new securities
- Reinvestments not conducted where the total amount of maturities on a given day is below \$2 million

**(20) Proposed FR 2420 Cutover Communication Plan**

- If the Committee is comfortable with the change to a volume-weighted median, the Desk proposes communicating through the following:
  - June meeting minutes
  - Desk statement
    - Publish on the same afternoon as the minutes
    - Provide implementation information
  - Technical note on the FRBNY website
    - Publish concurrent with the Desk Statement
    - Present data and analysis supporting the change

**Appendix 2: Materials used by Ms. McLaughlin**

**Class II FOMC – Restricted (FR)**

*Material for Briefing on*

**Desk Counterparty Framework**

**Susan McLaughlin**

**June 16, 2015**

New York and Board staff recently conducted the first comprehensive review of the Desk's counterparty framework across the full range of its operations in domestic and foreign financial markets. Previously, reviews had been conducted for specific sets of counterparties.

A key finding was that technological and regulatory developments are prompting evolution in the structure of the markets in which the Desk operates to implement monetary policy that could require a larger and/or more diverse set of counterparties for open market operations over time.

A number of near-term enhancements were also recommended. Many of these represent improvements to our internal administration of counterparty relationships across the full range of the Desk's operations, and are already being implemented.

- A triennial review cycle has been established for the Desk's counterparty framework.
- The counterparty team established to manage primary dealer and reverse repo counterparty relationships is being leveraged to manage FX and foreign reserve management counterparties as well.
- A single risk-based framework for managing and mitigating counterparty credit and compliance risks across all of our counterparty relationships is being developed.
- The FRBNY public website is being revamped to present a more integrated and principle-based set of information about how the Federal Reserve manages counterparties across the full range of its market operations, and the various obligations that Desk counterparties must fulfill in support of the Federal Reserve's objectives.

Two other near-term recommendations from the review represented changes to the counterparty framework that involve policy questions and would be transparent to the public, if taken forward.

1. Should the Desk revise the eligibility requirements for primary dealers to allow for a modest expansion of the list, within the population of regulated banks and broker-dealers that we already deal with?
2. Should the Desk begin to publish lists of counterparties for its foreign exchange and/or foreign reserves investment operations, as it currently does for primary dealers and reverse repo counterparties?

Staff is seeking policymakers' feedback, to inform our development of recommendations on these two topics to bring back to the Committee later this year. If approved, staff would communicate these changes to the public shortly after year-end, in tandem with the Desk's announcement of the conclusion of its mortgage operations counterparty pilot program.

- Do you support the development of proposals on these two issues for the Committee's consideration later this year?
- Do you have reactions to the questions we have laid out?
- Are there other issues you would like us to consider, as we begin to develop proposals?
- Are you comfortable with the general timeline and approach we have laid out for communicating to the public, in the event staff's recommendations are taken forward?

**(1) Current Desk Counterparty Framework**

Objective	Type of Market Operation	Counterparties
Monetary policy implementation (Section 14 FRA)	Treasury purchases and sales	
	Agency & MBS purchases and sales	22 primary dealers <sup>1,2,3</sup>
	Repo operations	
	Reverse repo operations	163 RRP counterparties (includes primary dealers)
Fed operations in FX market (Section 14 FRA)	SOMA FX intervention operations	21 FX counterparties
	SOMA FX reserves investments in market	
	Euro reverse repo	13 foreign dealers
	Euro repo test operations	4 foreign dealers
	Euro bonds	8 foreign dealers
	Yen bonds	9 foreign dealers
Fiscal agent support to U.S. Treasury	Auctions of Treasury debt	
	Buybacks of Treasury debt	22 primary dealers
	ESF FX intervention operations	
	FX transaction agent for International Treasury Services	21 FX counterparties
	ESF FX reserves investments in market	
	Euro reverse repo	13 foreign dealers
	Euro repo test operations	4 foreign dealers
	Yen bonds	9 foreign dealers
Banking services for official sector accountholders	Customer Treasury trades ( <i>as agent</i> )	22 primary dealers
	Customer FX trades ( <i>as agent</i> )	21 FX counterparties

<sup>1</sup> Three MOC pilot program firms are also participating in Desk MBS operations (through December 2015)

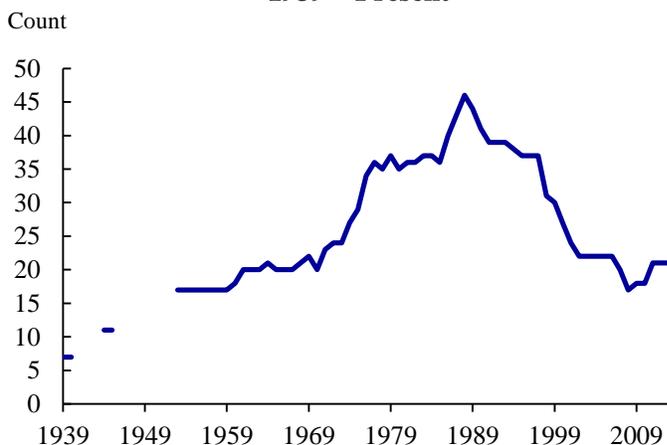
<sup>2</sup> Currently, only 16 of the primary dealers transact in MBS and participate in Desk MBS operations

<sup>3</sup> All primary dealers are eligible to participate in our securities lending operations, done to support market clearing

**(2) Transparency Practices by Counterparty Type**

	Primary dealers	RRP	FX	Foreign reserves
List of counterparties	Yes	Yes	No	No
Counterparty policy	Yes	Yes	Yes	No
Ex post trade disclosures	Yes	Yes	Yes	Yes

**(3) Trend in Number of Primary Dealers 1939 – Present\***



\*Data not available for periods 1940-1943 and 1945-1952.

Source: Federal Reserve Bank of New York

Source: Federal Reserve Bank of New York

**Appendix 3: Materials used by Mr. Follette and Ms. Wilson**

**Class II FOMC – Restricted (FR)**

*Material for*

**Staff Presentation on the Economic and Financial  
Situation**

**Glenn Follette, Beth Anne Wilson  
June 16, 2015**

## Near-Term Developments and Outlook

### 1. Near-Term Outlook

(Quarterly percent changes or percentage point contributions at annual rate)

	2015		
	Q1 <sup>e</sup>	Q2 <sup>f</sup>	Q3 <sup>f</sup>
1. Real GDP	-2	2.8	1.7
2. March TB	(1.7)	(2.6)	(2.3)
<i>Contributions:</i>			
3. PDPF	1.4	2.7	2.6
4. March TB	(2.5)	(3.4)	(3.2)
5. Net exports	-1.8	-.2	-.9
6. March TB	(-0.7)	(-1.0)	(-1.0)

e: Staff estimate. f: Staff forecast.

### 2. Factors Behind Slowdown

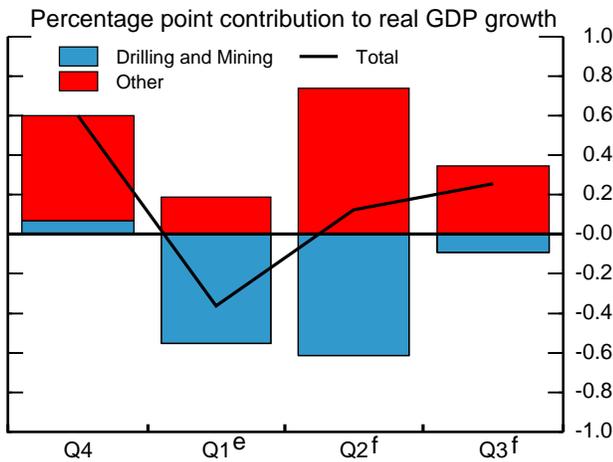
#### Transitory

- Residual seasonality
- Weather
- West Coast port dispute

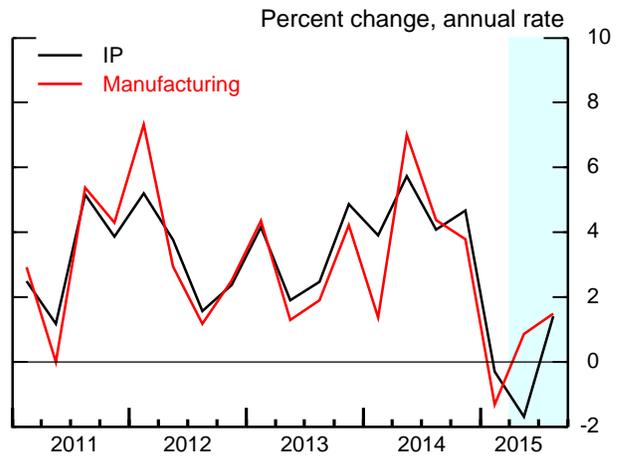
#### Persistent

- Dollar appreciation
- Lower oil prices on investment
- Less momentum in consumption

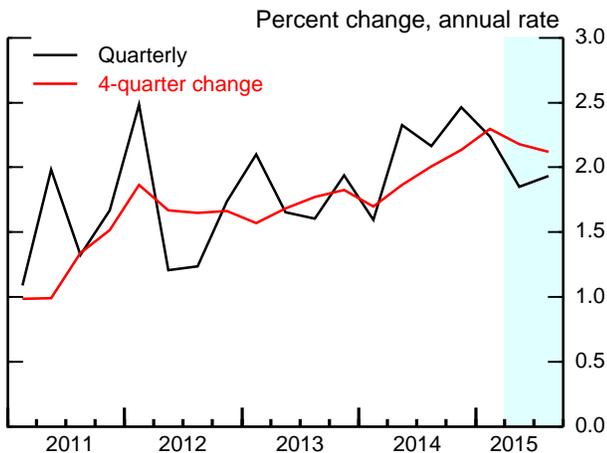
### 3. Business Fixed Investment



### 4. Industrial Production



### 5. Payroll Employment Growth



### 6. Other Projections for Real GDP

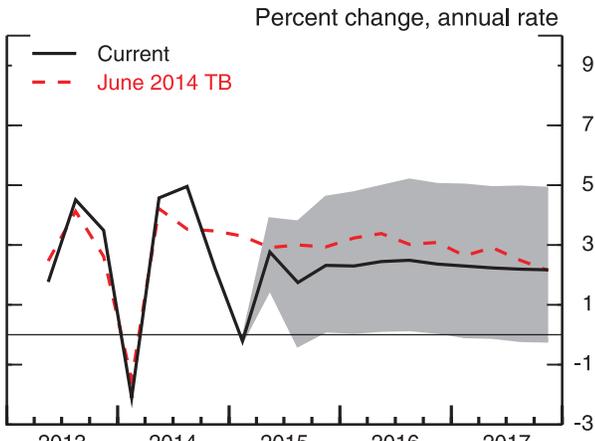
(Quarterly percent change, annual rate)

	2015		
	Q1 <sup>e</sup>	Q2 <sup>f</sup>	Q3 <sup>f</sup>
<b>Blue Chip Consensus</b>			
1. June	-.7	2.7	3.2
2. March	(2.4)	(3.1)	(3.1)
<b>System Nowcasts</b>			
3. June 8, median	NA	2.3	NA

e: Staff estimate. f: Staff forecast.

# Medium Term Outlook

## 1. Real GDP\*



\*Gray shaded area gives 70% confidence interval based on FRB/US stochastic simulations.

## 2. Forecast Comparisons

**Current relative to June 2014**  
Weaker due to:

- Stronger dollar
- Weaker foreign outlook

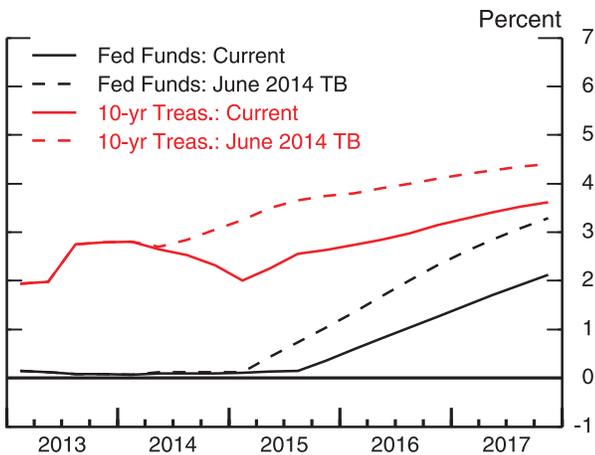
Partially offset by:

- Lower interest rates
- Lower oil prices

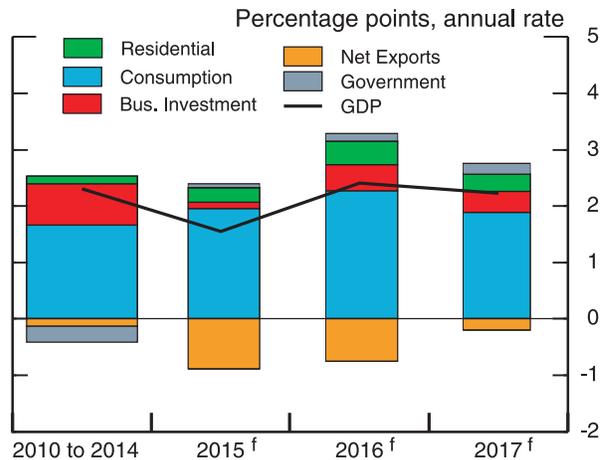
**Tealbook relative to Blue Chip and SPF**

- Lower path for real GDP
- More drag from net exports

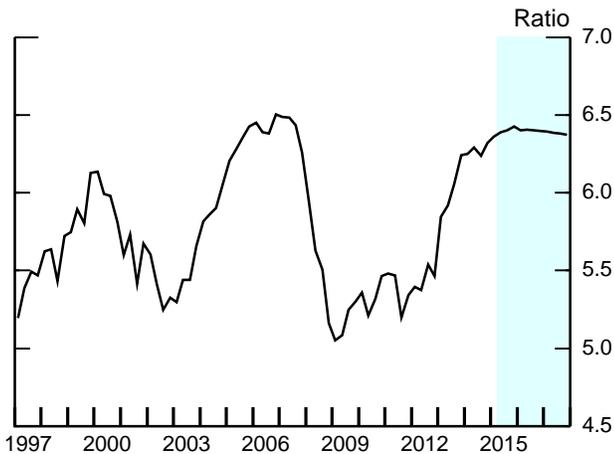
## 3. Interest Rates



## 4. Contribution to GDP Growth



## 5. Wealth-to-Income Ratio

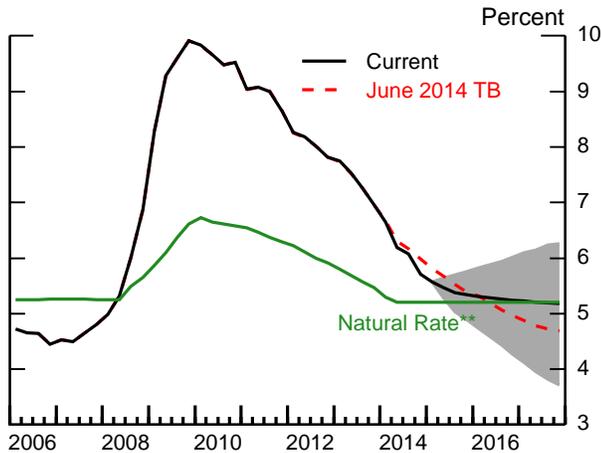


## 6. Business Sector Productivity



# Labor Market

## 1. Unemployment Rate\*



\*Gray shaded area gives 70% confidence interval based on FRB/US stochastic simulations.

\*\*Adjusted for effect of EUC and extended benefit programs.

## 2. Forecast Comparisons

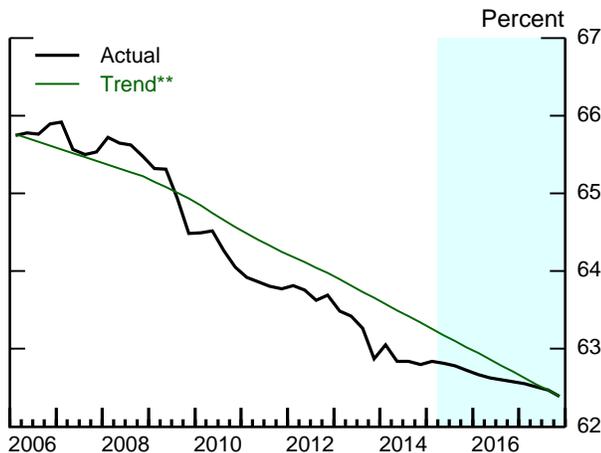
### Current relative to June 2014

- Higher unemployment rate in 2016 reflects lower path for GDP

### Tealbook relative to Blue Chip and SPF

- Blue Chip: 4 3/4% in 2016 Q4
- SPF 4 3/4% in 2017
- Difference consistent with their stronger GDP outlooks

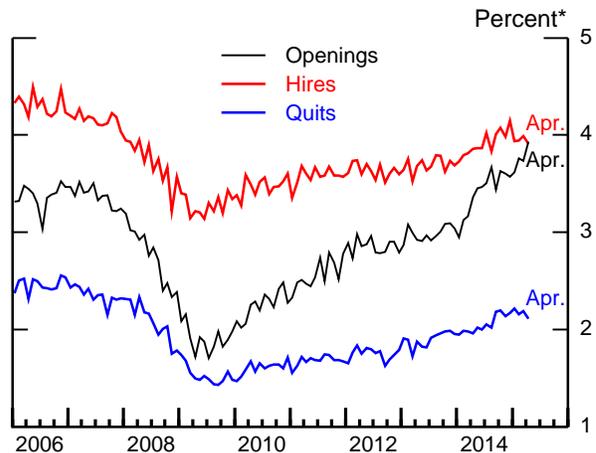
## 3. Labor Force Participation Rate\*



\*Adjusted to account for changes in population weights.

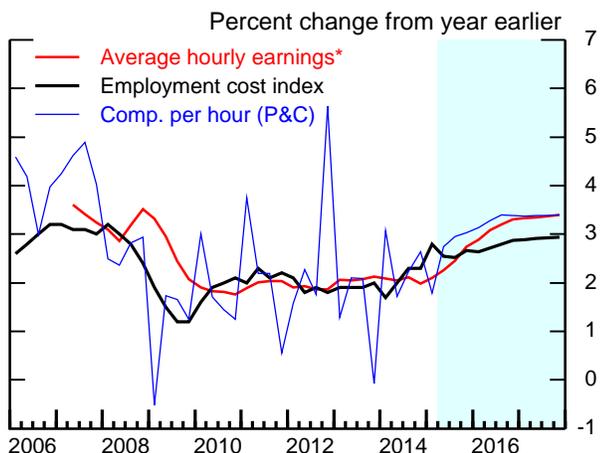
\*\*Adjusted for effect of EUC and extended benefits programs.

## 4. Job Openings, Hires, and Quits



\*For openings, percent of private payroll employment plus job openings; for hires and quits, percent of private payroll employment.

## 5. Labor Compensation



\*All employees.

## 6. Reserve Bank Inquiries of District Business Contacts

Share of respondents (percent)	
Do you plan to pass through increases/decreases in compensation into prices?	
1. Full pass through	10
2. Partial pass through	23
3. No pass through	48
4. None of the above	18

Note: Average across Federal Reserve Banks.

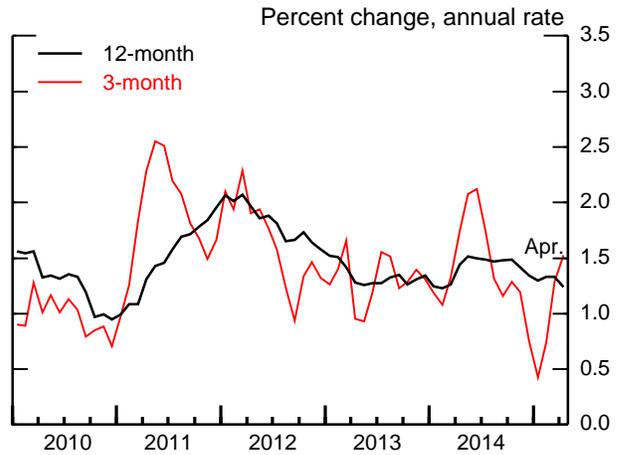
# Inflation

## 1. Near-Term PCE Inflation (Percent change, annual rate)

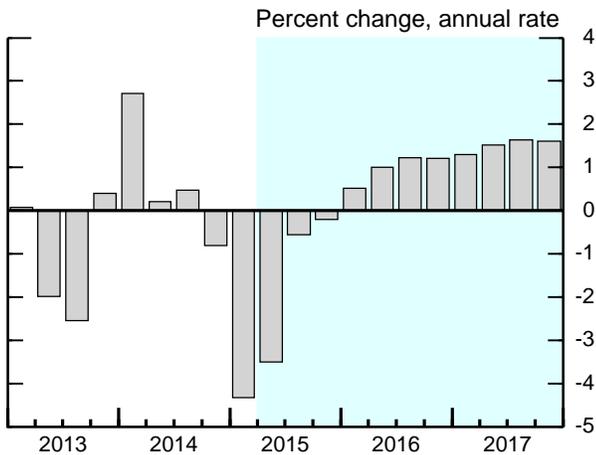
	2015		
	Q1 <sup>e</sup>	Q2 <sup>f</sup>	Q3 <sup>f</sup>
1. Total	-2.0	1.9	1.4
2. March TB	(-2.0)	(1.3)	(1.5)
3. Energy	-44.5	15.6	-0.7
4. March TB	(-44.7)	(2.0)	(3.8)
5. Core	0.8	1.6	1.5
6. March TB	(0.8)	(1.4)	(1.4)

e: Staff estimate. f: Staff forecast.

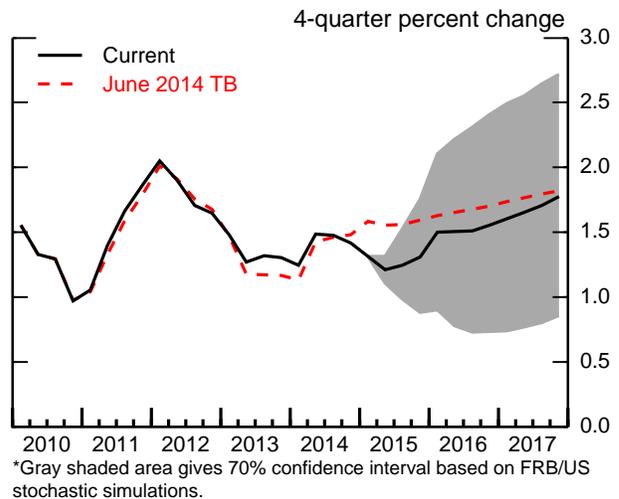
## 2. Core PCE Prices



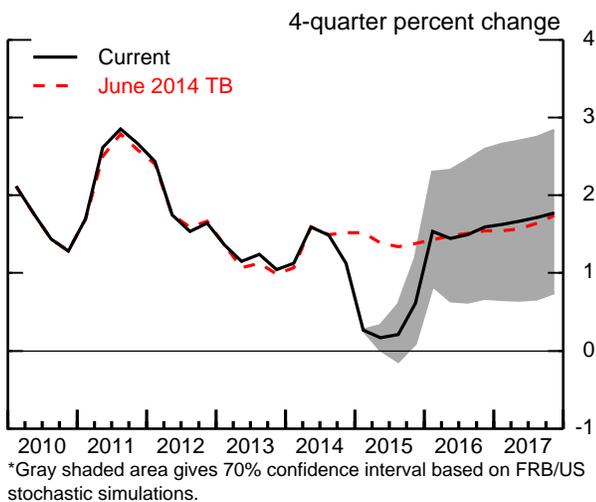
## 3. Core Non-fuel Import Prices



## 4. Core PCE Inflation



## 5. Total PCE Inflation



## 6. Forecast Comparisons

### Current relative to June 2014

- Total: Little change from a year ago over medium term
- Core: Held down by lower oil and import prices

### Tealbook relative to Blue Chip and SPF

- SPF has PCE inflation rising to nearly 2% by 2016
- Blue Chip has CPI inflation of 2 1/4% in 2016

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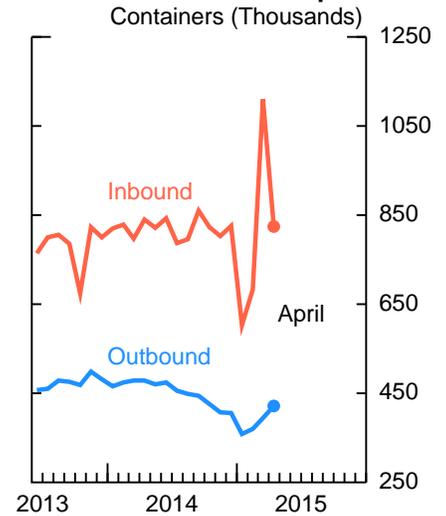
Exhibit 5

# Trade

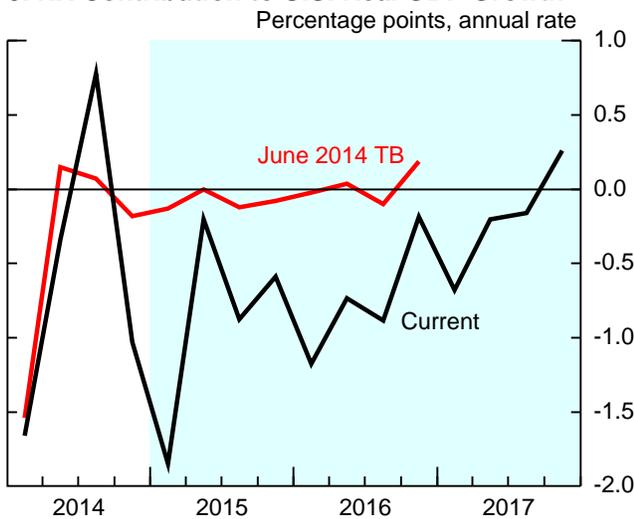
## 1. Trade in Real Goods and Services

	2014 Q4	2015 Q1	2015 Q2	2016 H2	2016	2017
<b>Contribution to Real GDP Growth (percentage points, annual rate)</b>						
1. Net Exports	-1.0	-1.8	-0.2	-0.7	-0.8	-0.2
<i>April 2015 TB</i>	-1.0	-0.6	-0.6	-0.8	-0.8	-0.2
<b>Growth Rates (percent, annual rate)</b>						
2. Exports	4.5	-5.9	3.0	1.3	3.7	6.2
<i>April 2015 TB</i>	4.5	-5.6	0.2	0.4	1.8	4.4
3. Imports	10.4	6.7	3.7	5.8	4.0	3.0
<i>April 2015 TB</i>	10.4	-0.7	4.4	5.9	4.1	3.2

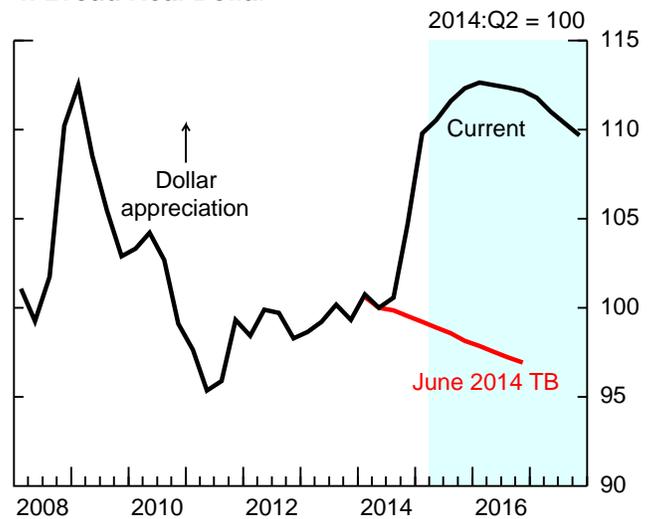
## 2. West Coast Port Shipments



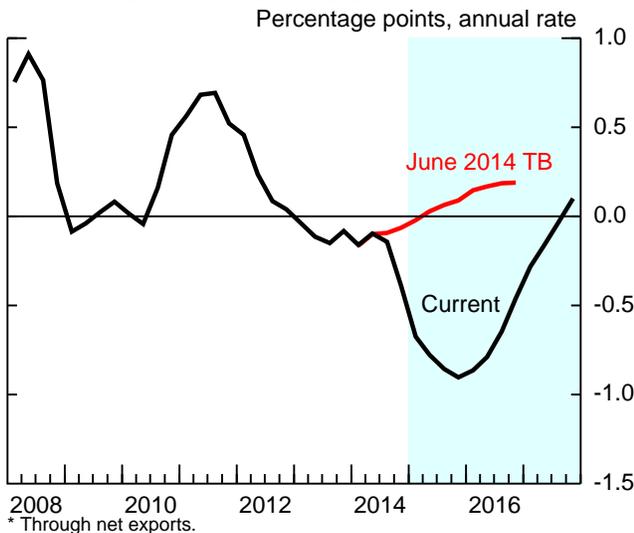
## 3. NX Contribution to U.S. Real GDP Growth



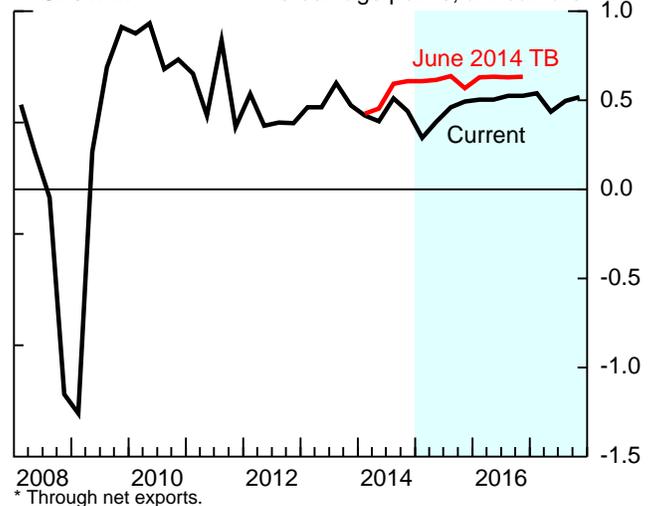
## 4. Broad Real Dollar



## 5. Dollar Contribution to U.S. Real GDP Growth\*



## 6. Foreign GDP Contribution to U.S. Real GDP Growth\*

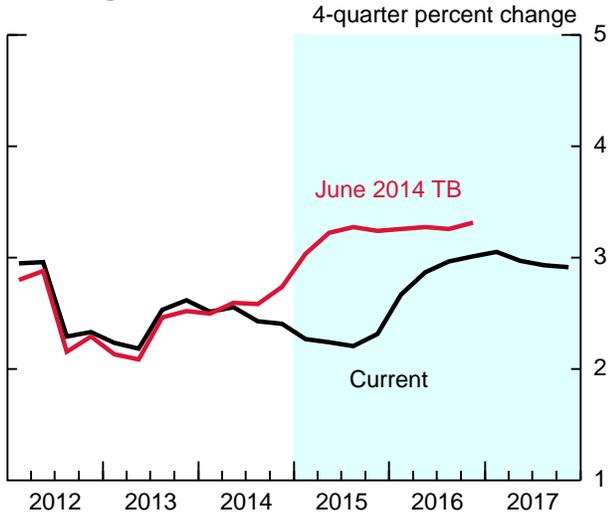


\* Through net exports.

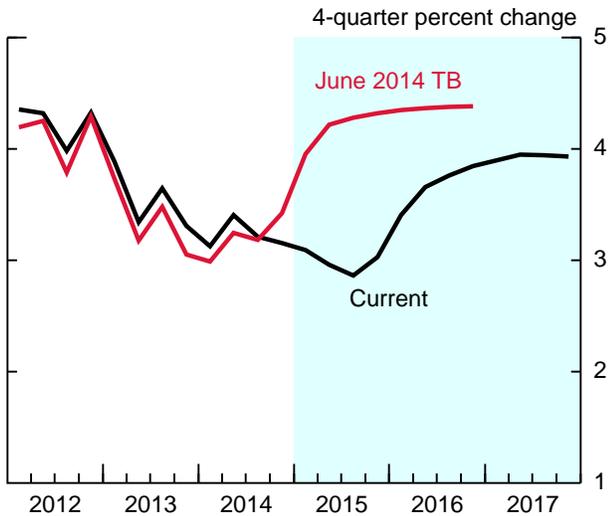
\* Through net exports.

# Foreign Outlook

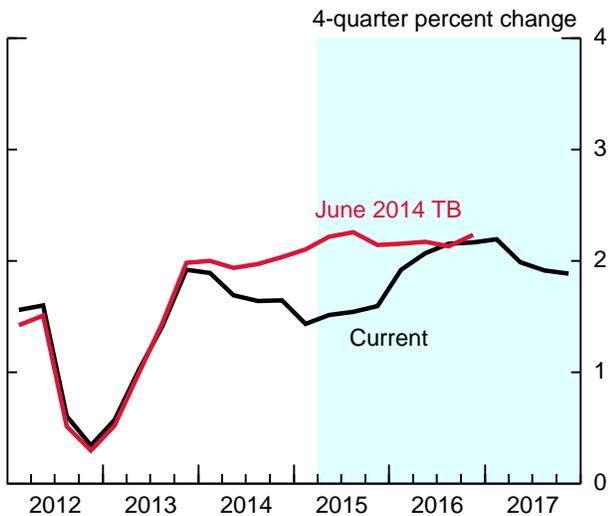
## 1. Foreign GDP Growth



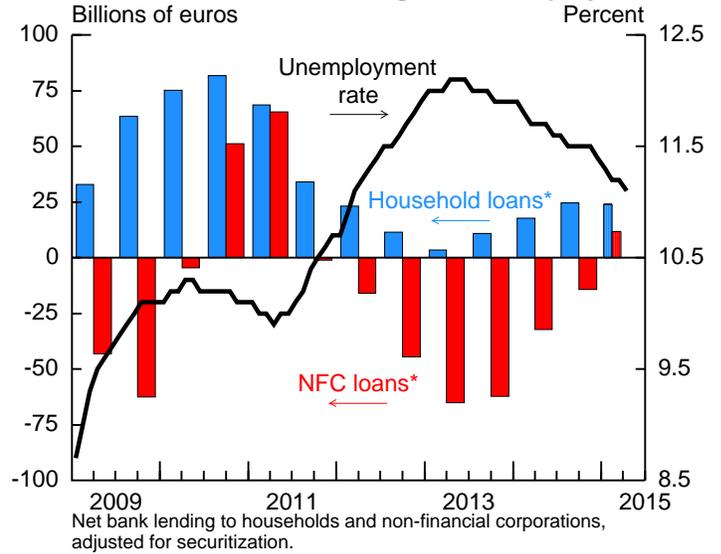
## 2. EME GDP Growth



## 3. AFE GDP Growth



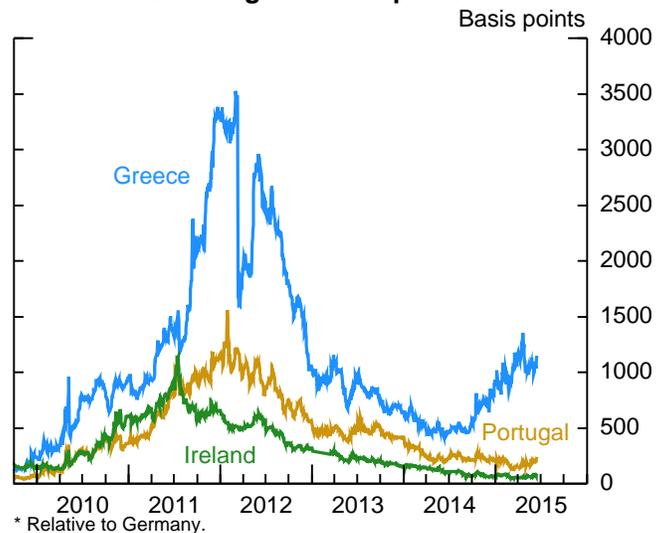
## 4. Euro-area Bank Lending and Unemployment



## 5. Greece

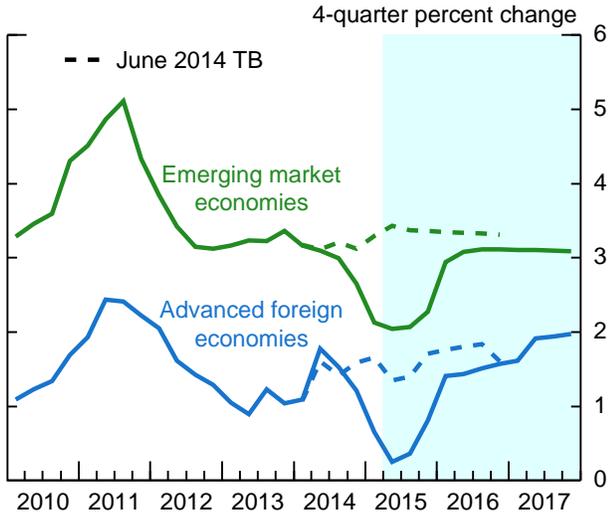
- Significant risk of missed IMF payment and EU program expiring
- In baseline, developments do not derail global recovery but are risks
- Much less association of Greek exit with euro-area breakup
- For sustainability need
  - o Fundamental reform of Greek economy
  - o Significant further funding

## 6. 10-Year Sovereign Bonds Spreads\*

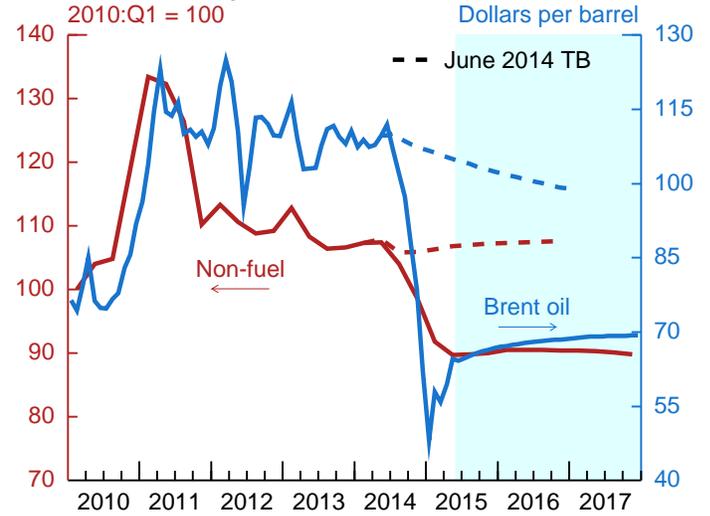


### Inflation and Interest Rates

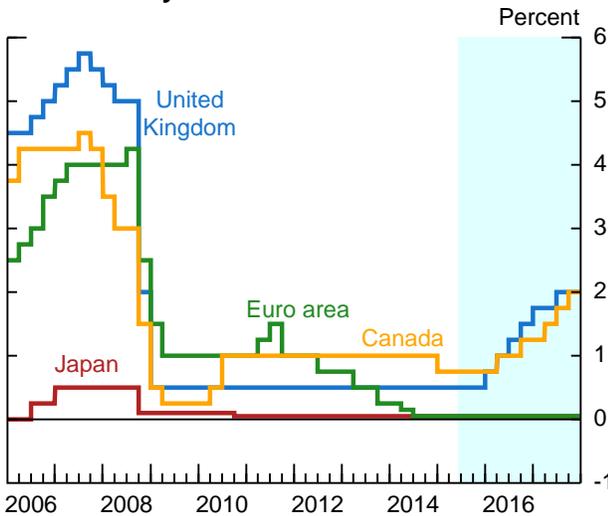
#### 1. Consumer Prices



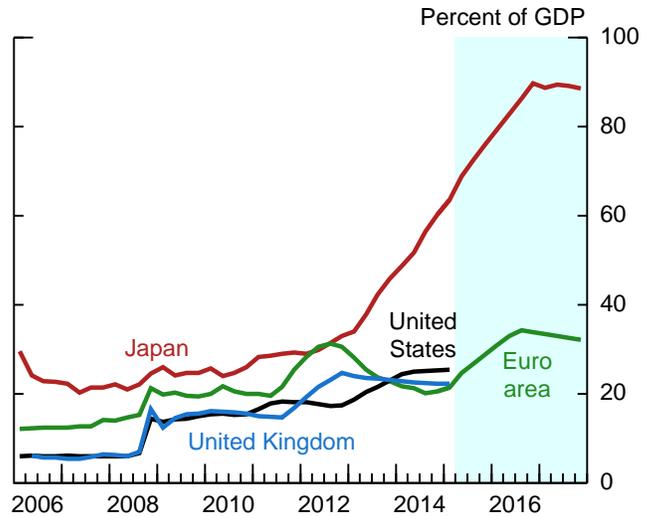
#### 2. Commodity Prices



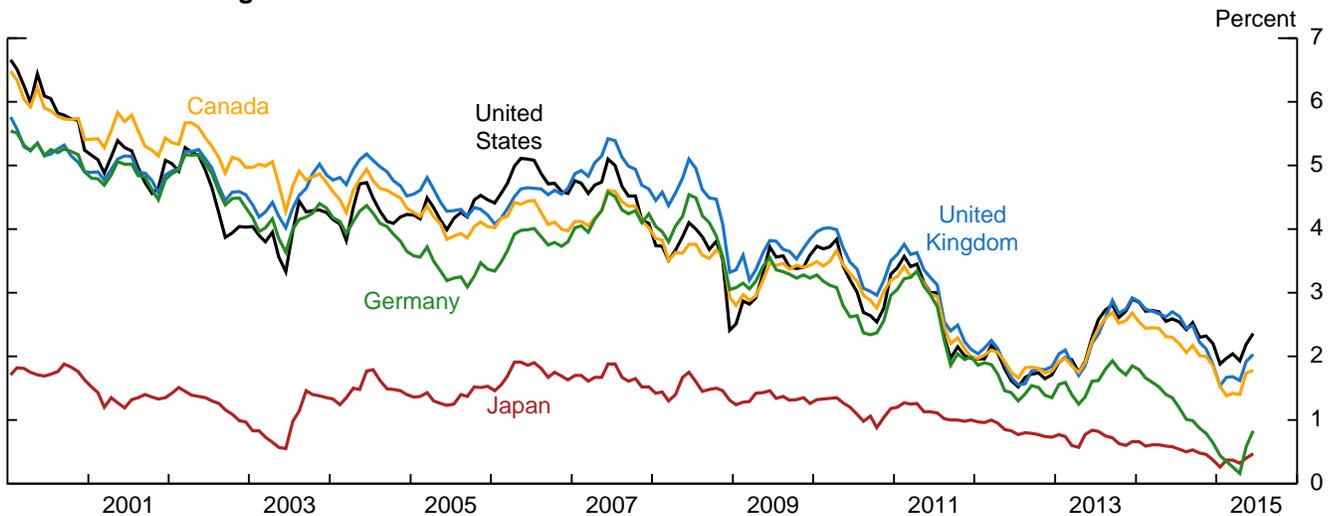
#### 3. AFE Policy Rates



#### 4. Central Bank Assets



#### 5. 10-Year Sovereign Yields



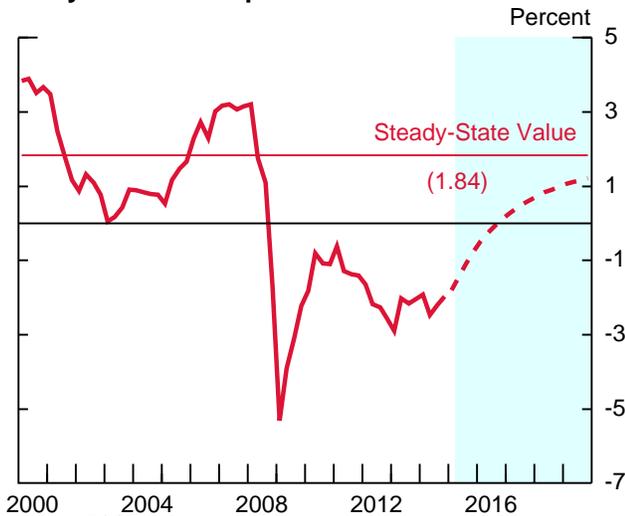
# Equilibrium Interest Rates

## 1. Estimating Equilibrium Interest Rates

### Two Approaches

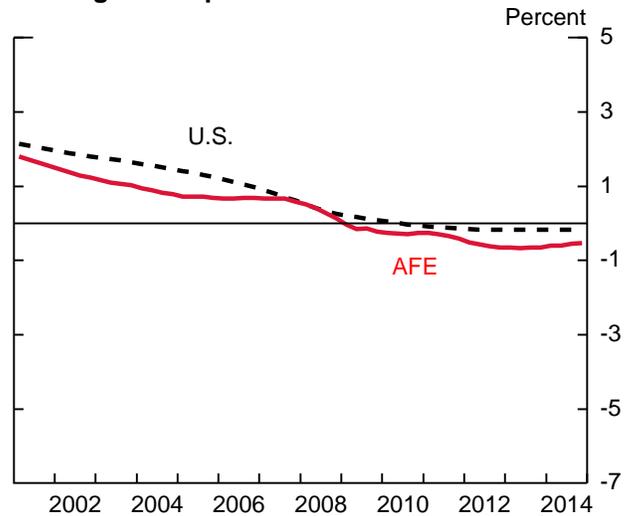
- Focus on cyclical path using DSGE model
  - Current low equilibrium rate could be consistent with slow adjustment to stable steady-state
- Focus on structural path using Laubach and Williams (2003) methodology
  - Equilibrium rate in the long run may be lower (potentially constraining policymakers)
  - Some factors may mitigate this - lessening global saving glut and higher global potential output

## 2. Cyclical AFE Equilibrium Real Interest Rate\*



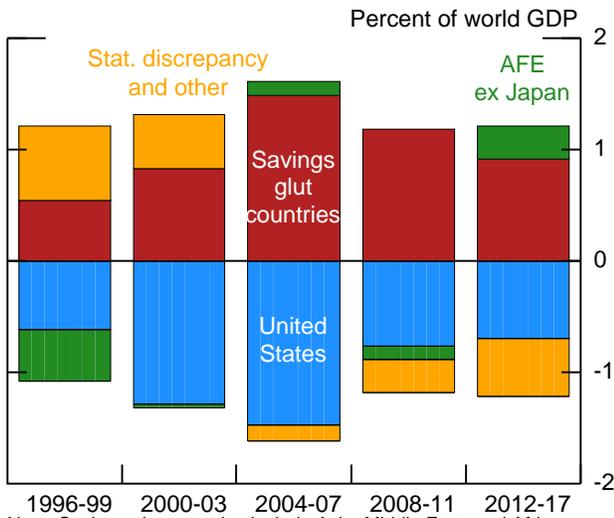
\* Using DSGE approach. AFE aggregate refers to the GDP-weighted average of estimates for the euro area, Japan, Canada, and the U.K.

## 3. Long-Run Equilibrium Real Interest Rates\*



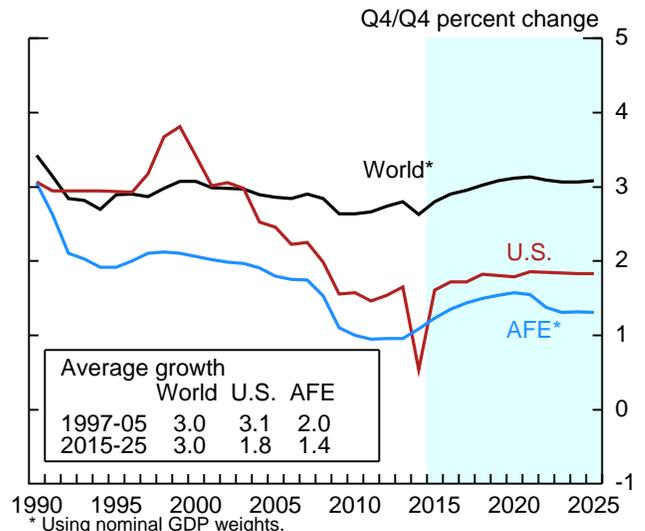
\* Using Laubach-Williams approach. Estimates for the United States are from the latest update of Laubach and Williams (2003).

## 4. Global Current Account Balances



Note: Savings glut countries include Asia, Middle East, and Africa; and statistical discrepancy and other (includes statistical discrepancy, Latin America, Eastern Europe, and former USSR).

## 5. Potential GDP



\* Using nominal GDP weights.

**Appendix 4: Materials used by Mr. Tetlow**

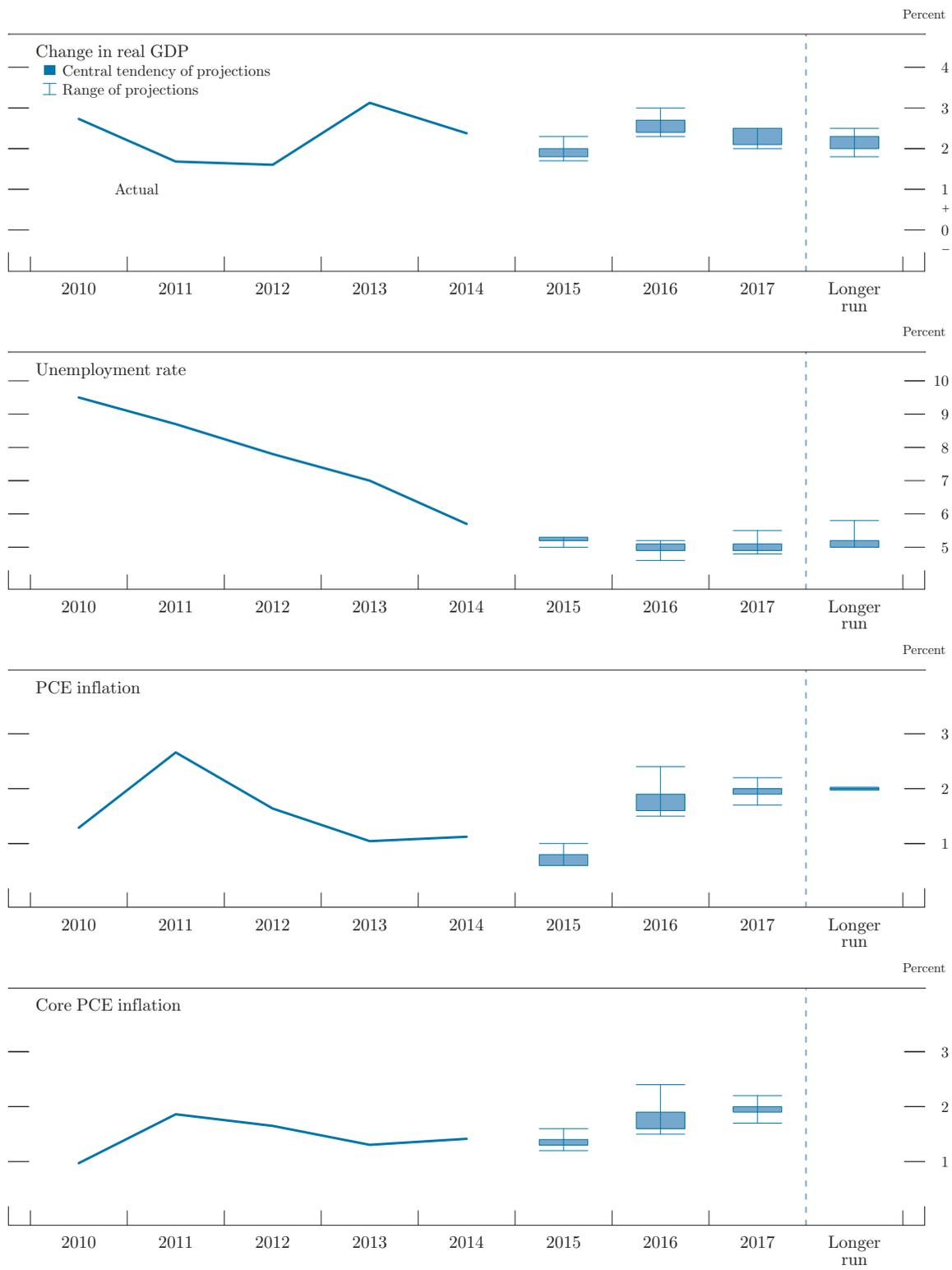
**Class I FOMC – Restricted Controlled (FR)**

*Material for Briefing on the*

**Summary of Economic Projections**

**Robert J. Tetlow**  
**June 16, 2015**

Exhibit 1. Central tendencies and ranges of economic projections, 2015–17 and over the longer run



NOTE: The data for the actual values of the variables are annual.

Exhibit 2. Economic projections for 2015–17 and over the longer run (percent)

**Change in real GDP**

	2015	2016	2017	Longer run
Central Tendency . . . . .	1.8 to 2.0	2.4 to 2.7	2.1 to 2.5	2.0 to 2.3
March projection . . . . .	2.3 to 2.7	2.3 to 2.7	2.0 to 2.4	2.0 to 2.3
Range . . . . .	1.7 to 2.3	2.3 to 3.0	2.0 to 2.5	1.8 to 2.5
March projection . . . . .	2.1 to 3.1	2.2 to 3.0	1.8 to 2.5	1.8 to 2.5
Memo: Tealbook** . . . . .	1.7	2.4	2.2	1.9
March projection . . . . .	2.2	2.3	2.0	1.9

**Unemployment rate**

	2015	2016	2017	Longer run
Central Tendency . . . . .	5.2 to 5.3	4.9 to 5.1	4.9 to 5.1	5.0 to 5.2
March projection . . . . .	5.0 to 5.2	4.9 to 5.1	4.8 to 5.1	5.0 to 5.2
Range . . . . .	5.0 to 5.3	4.6 to 5.2	4.8 to 5.5	5.0 to 5.8
March projection . . . . .	4.8 to 5.3	4.5 to 5.2	4.8 to 5.5	4.9 to 5.8
Memo: Tealbook . . . . .	5.3	5.2	5.2	5.2
March projection . . . . .	5.2	5.1	5.0	5.2

**PCE inflation**

	2015	2016	2017	Longer run
Central Tendency . . . . .	0.6 to 0.8	1.6 to 1.9	1.9 to 2.0	2.0
March projection . . . . .	0.6 to 0.8	1.7 to 1.9	1.9 to 2.0	2.0
Range . . . . .	0.6 to 1.0	1.5 to 2.4	1.7 to 2.2	2.0
March projection . . . . .	0.6 to 1.5	1.6 to 2.4	1.7 to 2.2	2.0
Memo: Tealbook . . . . .	0.6	1.6	1.8	2.0
March projection . . . . .	0.6	1.7	1.9	2.0

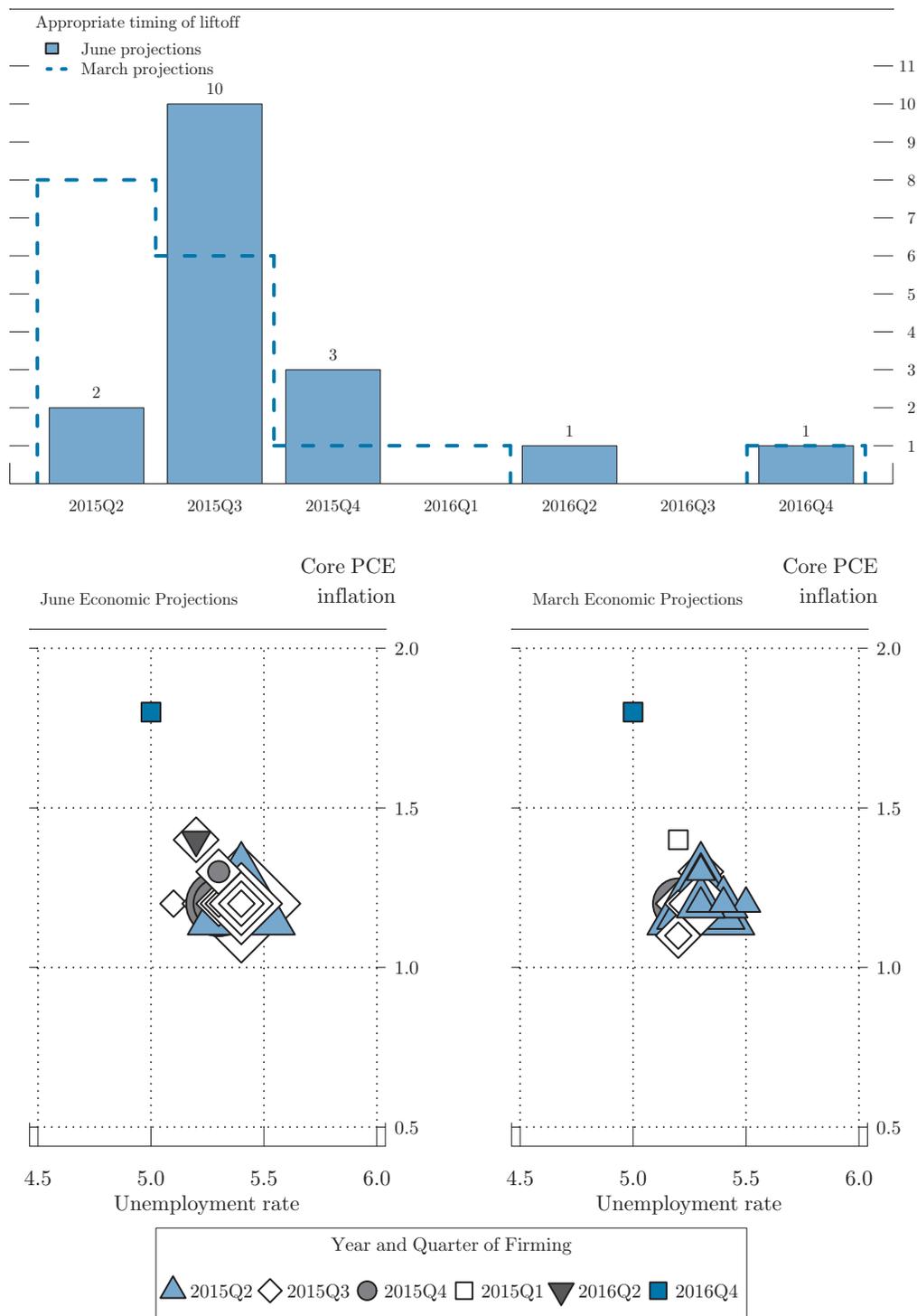
**Core PCE inflation**

	2015	2016	2017
Central Tendency . . . . .	1.3 to 1.4	1.6 to 1.9	1.9 to 2.0
March projection . . . . .	1.3 to 1.4	1.5 to 1.9	1.8 to 2.0
Range . . . . .	1.2 to 1.6	1.5 to 2.4	1.7 to 2.2
March projection . . . . .	1.2 to 1.6	1.5 to 2.4	1.7 to 2.2
Memo: Tealbook . . . . .	1.3	1.6	1.8
March projection . . . . .	1.3	1.6	1.8

\* The percent changes in real GDP and inflation are measured Q4/Q4.

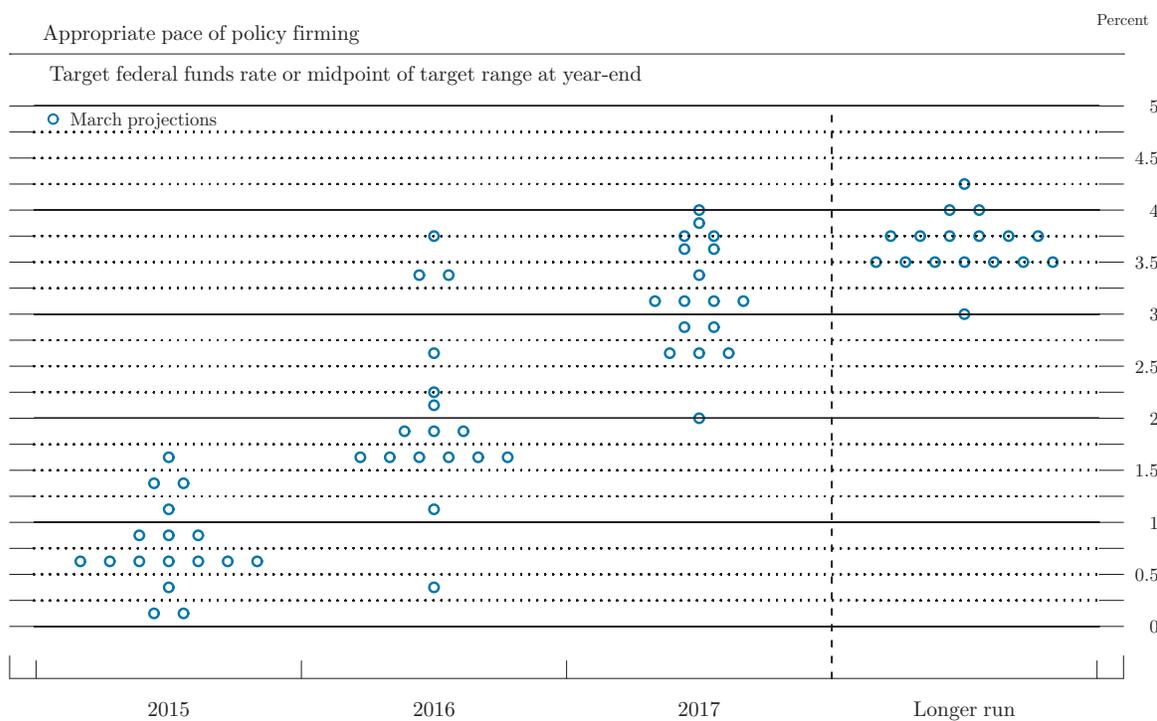
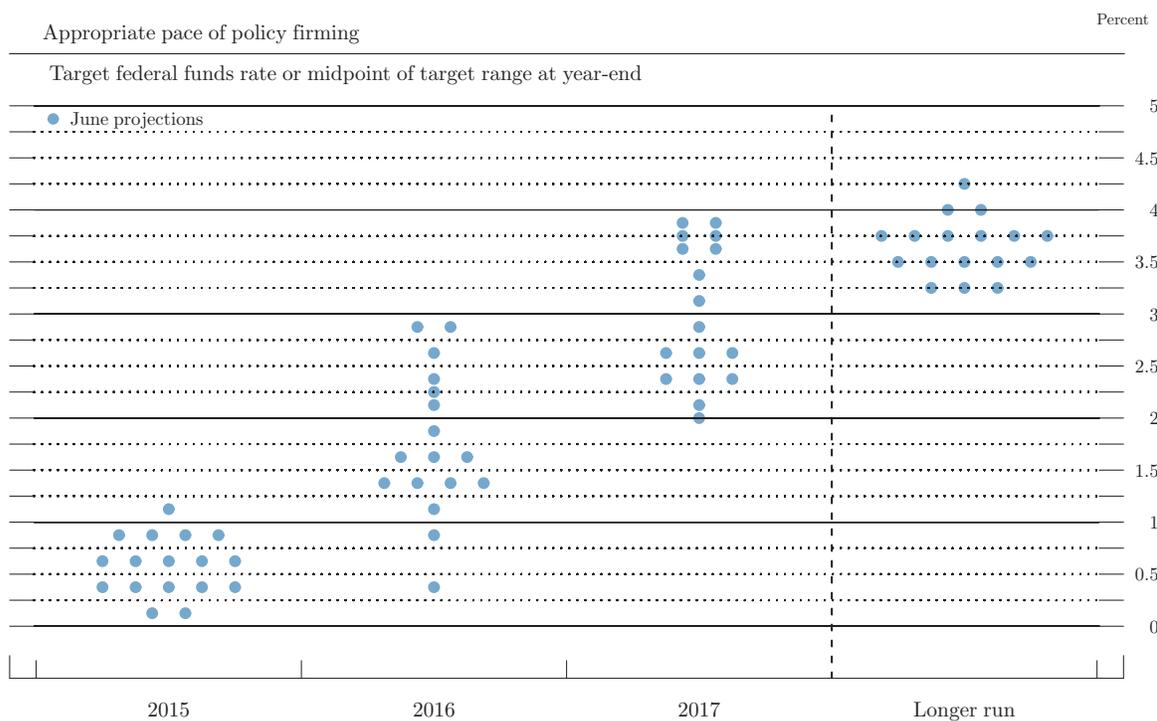
\*\* The June 2015 Tealbook value that was updated on June 11, 2015, is reported here.

Exhibit 3. FOMC participants' assessments of the timing of and economic conditions at liftoff



NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target range for the federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year and quarter. In the lower panels, when the projections of two or more participants are identical, larger markers, which represent one participant each, are used so that each projection can be seen.

Exhibit 4. Overview of FOMC participants' assessments of appropriate monetary policy



NOTE: In the two panels above, each circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

Exhibit 5. Uncertainty and risks in economic projections

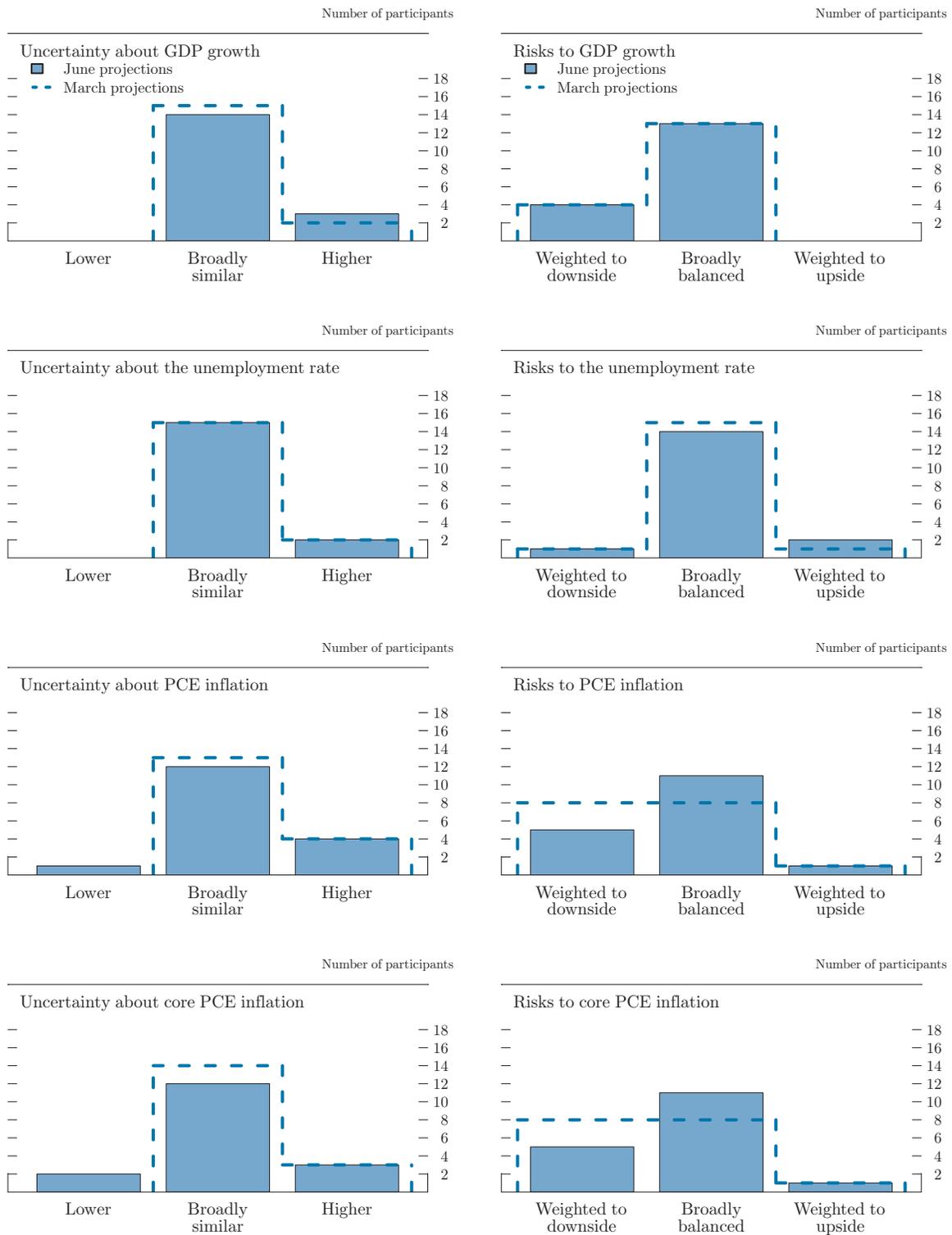
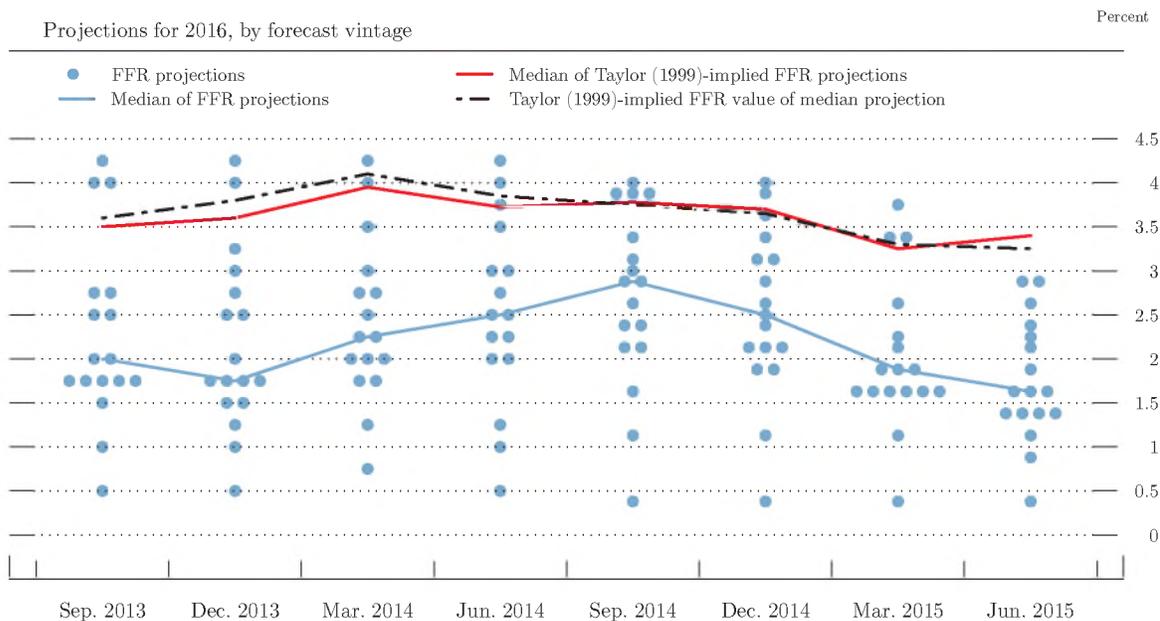
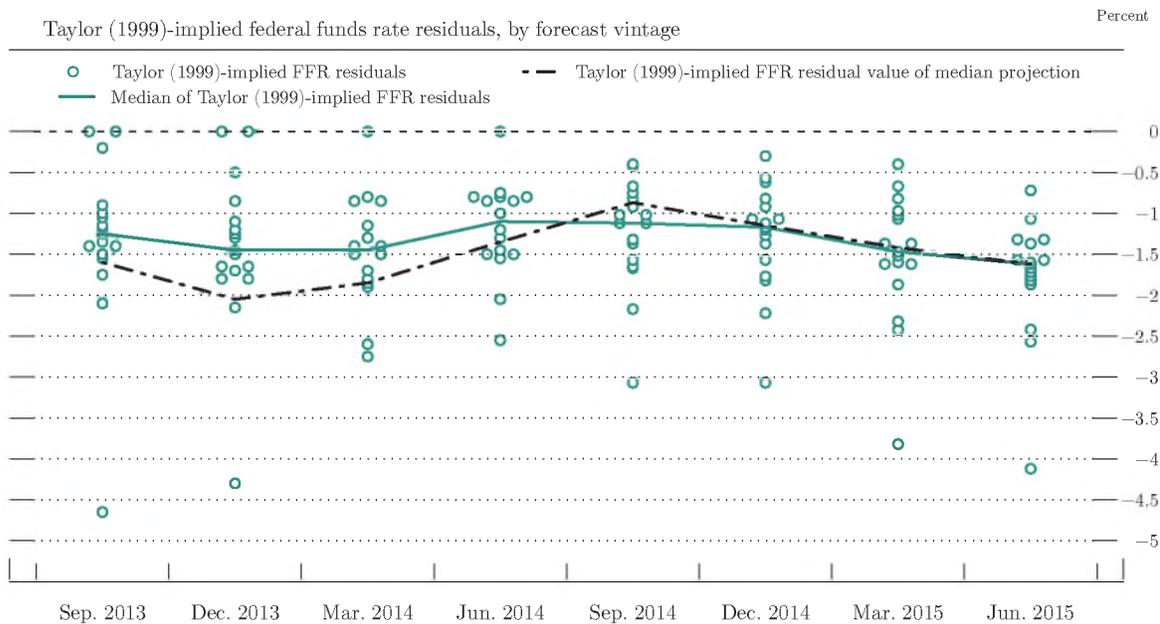


Exhibit 6. The evolution of participants' federal funds rate projections for 2016



Taylor-rule-implied FFR for participants

- Non-inertial Taylor(1999) rule:
 
$$i = r_{LR} + \pi + 0.5 \cdot (\pi - 2) - 2 \cdot (u - u_{LR})$$
- Use  $r_{LR}$  and  $u_{LR}$  from participants' individual projections.
- Compute medians of individual Taylor-rule-implied federal funds rates (solid lines) and the federal funds rate of the median of the right-hand-side variables (broken lines).



NOTE: Taylor (1999)-implied federal funds rate projections calculated using core PCE inflation. Data are from September 2013 – June 2015 SEP.

**Appendix 5: Materials used by Mr. Laubach**

**Class I FOMC – Restricted Controlled (FR)**

*Material for*

**Briefing on Monetary Policy Alternatives**

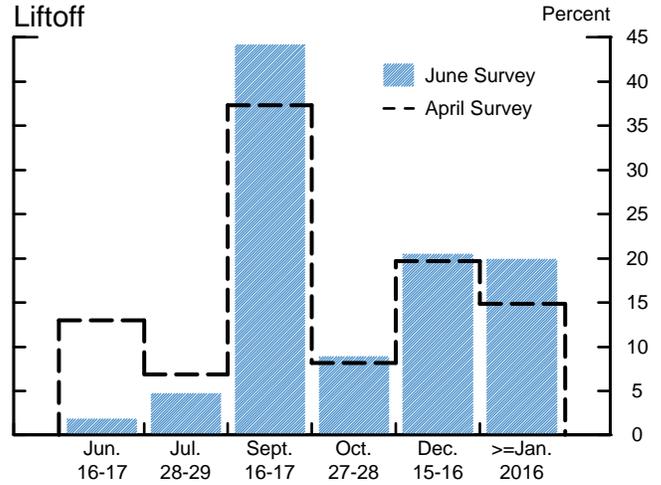
**Thomas Laubach**  
**June 16–17, 2015**

## Exhibit 1 Do Markets Understand Data Dependence?

### Key Considerations

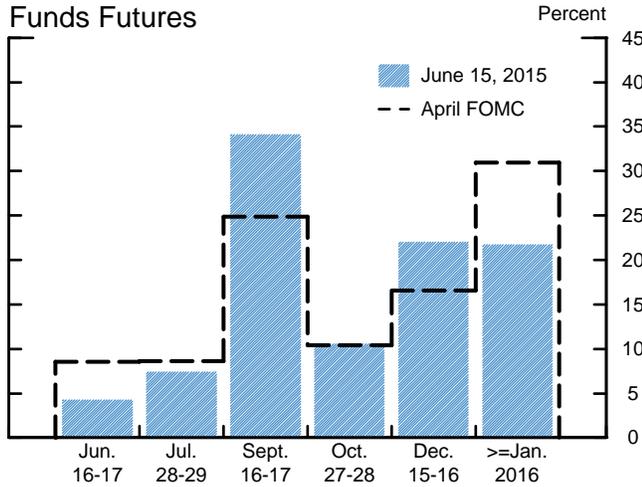
- Is uncertainty regarding economic outlook appropriately reflected in degree of uncertainty regarding timing of liftoff?
- Are interest rates appropriately sensitive to incoming economic information?
- Do investors appreciate data dependence of the pace of tightening after first move?

### Average Probability Distribution of Timing of Liftoff



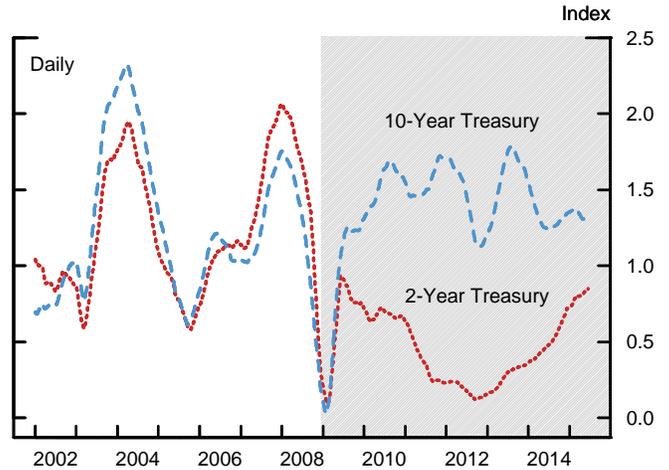
Source: FRBNY Primary Dealer Survey.

### Liftoff Probability Distribution Implied by Federal Funds Futures



Source: CME Group, staff calculations.

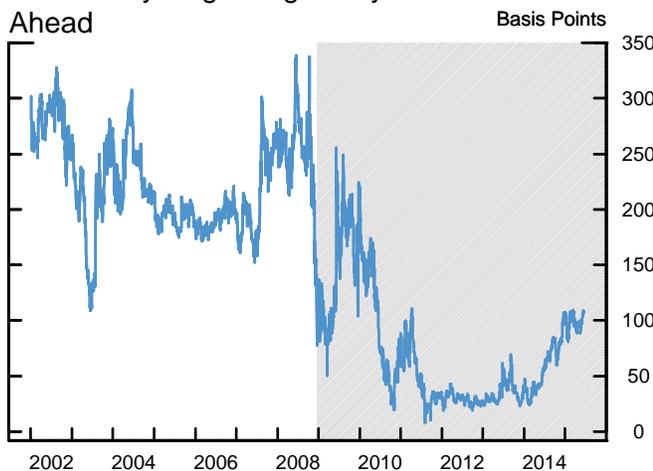
### Sensitivity to Macroeconomic Data Releases



Note: Response of yields to macroeconomic data releases estimated using a time-varying parameter model. Gray shading represents zero lower-bound period.

Source: CME Group, Action Economics, FRBNY, staff calculations.

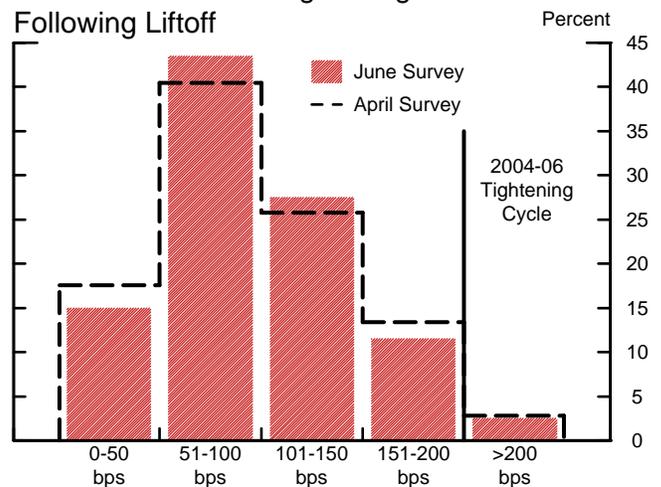
### Uncertainty Regarding Policy Rate One Year Ahead



Note: Width of 90% confidence interval from eurodollar futures options (12-months ahead). Gray shading represents zero lower-bound period.

Source: CME, staff calculations.

### Conditional Pace of Tightening First Year Following Liftoff



Note: Average of dealers' probability distributions. Distributions are conditional on the target rate not returning to the zero lower bound.

Source: FRBNY Primary Dealer Survey.

## Exhibit 2 Monetary Policy Alternatives

### Alternatives A, B, and C

#### Alternative B:

- Economic conditions and the outlook:
  - Economy is expanding moderately.
  - Underutilization of labor resources diminished somewhat.
  - Inflation still running below 2 percent, but "energy prices appear to have stabilized."
- Some progress on criteria for policy firming.
- The Committee's decision remains data dependent.

#### Alternative C:

- Appreciable progress toward policy normalization.
- Uses language closely tied to Committee's criteria:
  - "Some improvement in labor market conditions;" no mention of underutilization.
  - Expresses greater confidence in inflation outlook.

#### Alternative A:

- Little further progress toward policy firming.
- Risks to economic activity, labor market, and inflation weighted to the downside.
- Would use all tools "to return inflation to 2 percent within one to two years."

### Alternative C' and Operational Note

#### Alternative C': Forward Guidance for Adjusting the Federal Funds Rate

- In response to economic and financial developments and their implications for the outlook so as to promote objectives.
- Expects economy to evolve in a manner that warrants gradual increase.
- However, adjustments will be data driven.

#### Communication of Operational Details:

- Postmeeting statement focused on the federal funds rate decision.
- Advantages of a separate document on operational tools:
  - Avoids possible distractions.
  - Useful if intermeeting adjustments to implement an unchanged policy stance.
  - Consolidates information without highlighting governance differences.

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**APRIL 2015 FOMC STATEMENT**

1. Information received since the Federal Open Market Committee met in March suggests that economic growth slowed during the winter months, in part reflecting transitory factors. The pace of job gains moderated, and the unemployment rate remained steady. A range of labor market indicators suggests that underutilization of labor resources was little changed. Growth in household spending declined; households' real incomes rose strongly, partly reflecting earlier declines in energy prices, and consumer sentiment remains high. Business fixed investment softened, the recovery in the housing sector remained slow, and exports declined. Inflation continued to run below the Committee's longer-run objective, partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Although growth in output and employment slowed during the first quarter, the Committee continues to expect that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators continuing to move toward levels the Committee judges consistent with its dual mandate. The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced. Inflation is anticipated to remain near its recent low level in the near term, but the Committee expects inflation to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of declines in energy and import prices dissipate. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to  $\frac{1}{4}$  percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.
4. The Committee is maintaining its existing policy 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. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.
5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions

may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

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**FOMC STATEMENT—JUNE 2015 ALTERNATIVE A**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** suggests that economic growth slowed ~~activity has been expanding moderately after having changed little~~ during the winter months, in part reflecting transitory factors **first quarter**. The pace of job gains ~~moderated~~ **picked up**, and the unemployment rate remained steady. A range of labor market indicators suggests that underutilization of labor resources was little changed. Growth in household spending ~~declined~~ **has been moderate**; households' real incomes rose strongly, partly reflecting ~~earlier declines in energy prices, and consumer sentiment remains high.~~ **however** business fixed investment softened **stayed soft**, the recovery in the housing sector remained slow, and exports ~~declined~~ **were weak**. Inflation continued to run **well** below the Committee's longer-run objective, partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ~~Although growth in output and employment slowed during the first quarter,~~ The Committee continues to expect that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators continuing to move toward levels the Committee judges consistent with its dual mandate. **However**, the Committee ~~continues to see~~ the risks to the outlook for economic activity and the labor market as ~~nearly balanced~~ **tilted to the downside**. Inflation is anticipated to remain near its recent low level in the near term, ~~but the Committee expects inflation~~ **and** to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of **earlier** declines in energy and import prices dissipate. **However**, the Committee ~~continues to monitor inflation developments closely~~ **is concerned [ that the pace of improvement in the labor market could remain slow and ] that inflation could run substantially below the 2 percent objective for a protracted period.**
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee ~~anticipates~~ **judges** that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and ~~is reasonably confident that inflation will move back to its~~ **is anticipated to reach** 2 percent objective over the medium term **within one to two years.**
4. The Committee is maintaining its existing policy 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. This policy, by keeping the Committee's holdings of longer-term securities

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at sizable levels, should help maintain accommodative financial conditions. **The Committee is prepared to use all of its tools as necessary to return inflation to 2 percent within one to two years.**

5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates **that the economy will evolve in a manner that eventually will warrant a gradual increase in the target range for the federal funds rate and** that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

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**FOMC STATEMENT—JUNE 2015 ALTERNATIVE B**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** suggests that economic growth slowed ~~activity has been expanding moderately after having changed little~~ during the winter months, in part reflecting transitory factors **first quarter**. The pace of job gains ~~moderated,~~ **picked up** and ~~while~~ the unemployment rate remained steady. **On balance,** a range of labor market indicators suggests that underutilization of labor resources ~~was little changed~~ **diminished somewhat**. Growth in household spending ~~declined~~ **has been moderate and the housing sector has shown some improvement**; households' real incomes rose strongly, partly reflecting earlier declines in energy prices, and consumer sentiment ~~remains high.~~ **however,** business fixed investment **and net exports stayed soft** softened, the recovery in the housing sector remained slow, and exports declined. Inflation continued to run below the Committee's longer-run objective, partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports; **energy prices appear to have stabilized**. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ~~Although growth in output and employment slowed during the first quarter,~~ The Committee ~~continues to expect~~ **s** that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators continuing to move toward levels the Committee judges consistent with its dual mandate. The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced. Inflation is anticipated to remain near its recent low level in the near term, but the Committee expects inflation to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of **earlier** declines in energy and import prices dissipate. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.
4. The Committee is maintaining its existing policy 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. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

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## FOMC STATEMENT—JUNE 2015 ALTERNATIVE C

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** suggests that economic growth slowed ~~activity has been expanding moderately after having changed little~~ during the winter months, in part reflecting transitory factors **first quarter**. The pace of job gains ~~moderated,~~ **picked up** and ~~while~~ the unemployment rate remained steady. **On balance,** a range of labor market indicators suggests that underutilization of labor resources was little changed **shows some improvement in labor market conditions**. Growth in household spending ~~declined~~ **has been moderate and the housing sector has shown improvement**; households' real incomes rose strongly, partly reflecting earlier declines in energy prices, and consumer sentiment remains high. **however,** business fixed investment **and net exports stayed soft** softened, the recovery in the housing sector remained slow, and exports declined. Inflation continued to run below the Committee's longer-run objective, partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports; **however, energy prices appear to have stabilized**. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ~~Although growth in output and employment slowed during the first quarter,~~ The Committee ~~continues to expect~~ **s** that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators continuing to move toward levels the Committee judges consistent with its dual mandate. The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced. Inflation is anticipated to remain near its recent low level in the near term, but the Committee expects inflation to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of **earlier** declines in energy and import prices dissipate; **moreover, the Committee judges that the risk of inflation running persistently below 2 percent has diminished**. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen **some** further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.
4. The Committee is maintaining its existing policy 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. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

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**FOMC STATEMENT—JUNE 2015 ALTERNATIVE C'**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** suggests **indicates** that economic growth slowed during the winter months, in part reflecting transitory factors **activity is expanding moderately**. The pace of job gains ~~moderated,~~ **picked up** and **while** the unemployment rate remained steady. A range of labor market indicators suggests that underutilization of labor resources was little changed **shows that there has been substantial improvement in labor market conditions in recent months**. Growth in household spending ~~declined~~ **has been moderate**, households' real incomes rose strongly, partly reflecting earlier declines in energy prices, and consumer sentiment remains high. business fixed investment softened **advanced**, the recovery in the housing sector ~~remained slow~~ **has shown improvement**, and **the drag from net** exports declined. **Partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports**, inflation continued to run below the Committee's longer-run objective, partly reflecting earlier declines in energy prices and decreasing prices of non-energy imports. **However, energy prices have stabilized**, market-based measures of inflation compensation remain low; **have moved up from their low levels seen earlier in the year, and** survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ~~Although growth in output and employment slowed during the first quarter,~~ The Committee ~~continues to expect~~ **expects** that, with appropriate **adjustments in the stance of** policy accommodation, economic activity will expand at a moderate pace, with labor market indicators, **on balance**, [ continuing to move toward | **reaching** ] levels the Committee judges consistent with its dual mandate. The Committee ~~continues to see~~ **sees** the risks to the outlook for economic activity and the labor market as nearly balanced. Inflation is anticipated to remain near its recent low level in the near term, but The Committee expects **is reasonably confident that** inflation to rise gradually toward **will move back to** 2 percent over the medium term as the labor market improves further and the transitory effects of **earlier** declines in energy and import prices dissipate. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess **Based on its assessment of** progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation, **the Committee today raised its target range for the federal funds rate to ¼ to ½ percent**. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term. **Going forward, the Committee will adjust its target range for the federal funds rate, in response to economic and financial developments and their implications for the economic outlook, to promote maximum employment and 2**

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**percent inflation.** The Committee currently anticipates **that the economy will evolve in a manner that warrants a gradual increase in the target range for the federal funds rate and** that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

**However, actual adjustments of the target range for the federal funds rate will be data driven.**

4. The Committee is maintaining its existing policy 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. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.
5. ~~When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.~~

*Information about Federal Reserve actions to implement the Committee's monetary policy decision is attached to this statement as an addendum.*

**April 2015 Directive**

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to  $\frac{1}{4}$  percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. The Committee directs the Desk to maintain its policy of rolling over maturing Treasury securities into new issues and its policy of reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities 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.

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**Directive for June 2015 Alternatives A, B, and C**

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. The Committee directs the Desk to maintain its policy of rolling over maturing Treasury securities into new issues and its policy of reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities 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.

**OR**

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. ~~In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent.~~ The Committee directs the Desk to undertake open market operations as necessary to maintain ~~such conditions~~ **the federal funds rate in a target range of 0 to ¼ percent.**

The Committee directs the Desk to ~~maintain its policy of~~ **continue** rolling over maturing Treasury securities into new issues and ~~its policy of~~ **to continue** reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities 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.~~

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### Directive for June 2015 Alternative C'

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. ~~In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent.~~ The Committee directs the Desk to undertake open market operations as necessary to maintain ~~such conditions~~ **the federal funds rate in a target range of ¼ to ½ percent, including: (1) overnight reverse repurchase operations (ON RRP) at an offering rate of ¼ percent and in amounts no greater than the available amount of Treasury securities held outright in the System Open Market Account; and (2) term reverse repurchase operations as authorized in the resolution on term RRP operations approved by the Committee at its March 17–18, 2015, meeting.**

The Committee directs the Desk to ~~maintain its policy of~~ **continue** rolling over maturing Treasury securities into new issues and ~~its policy of~~ **to continue** reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities 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.~~