

**Appendix 1: Materials used by Ms. Logan and Mr. Potter**

**Class II FOMC – Restricted (FR)**

*Material for Briefing on*

**Financial Developments and  
Open Market Operations**

**Lorie Logan and Simon Potter**  
June 17, 2014

**(1) Domestic Asset Performance**

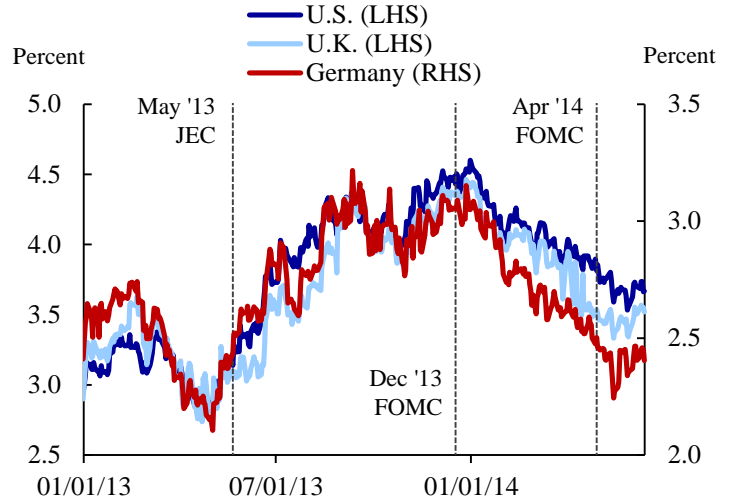
	Since Apr '14 FOMC	Since Dec '13 FOMC
<i>Changes in Basis Points</i>		
2-Year Nominal	+1	+13
10-Year Nominal	-9	-23
5-Year 5-Year BEI	-3	-6
Primary Mortgage Rate*	-13	-22
HY Corp. Credit OAS	-7	-68
<i>Changes in Percent</i>		
S&P 500 Index	+3.1	+8.7
DXY Dollar Index**	+1.0	+0.7

\*FHLMC 30-year survey rate. Weekly.

\*\*Positive value indicates Dollar appreciation.

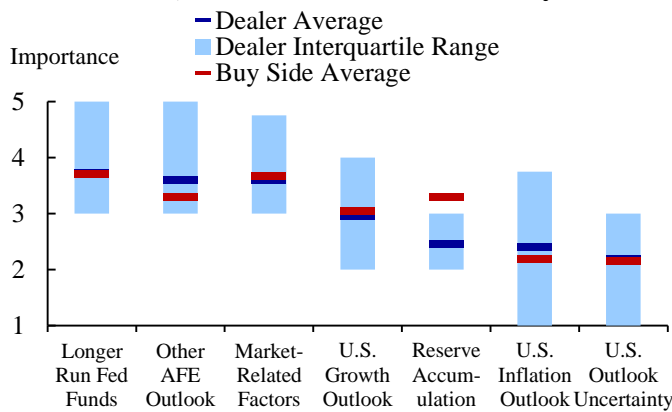
Source: Bloomberg, Barclays

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



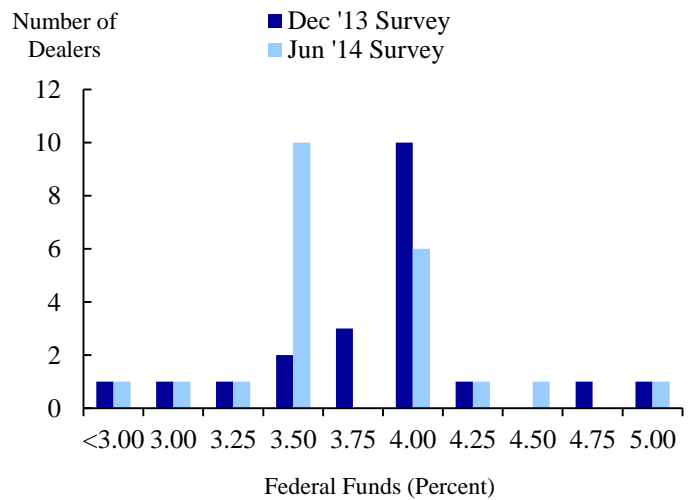
Source: Bloomberg

**(3) Factors Contributing to Decline in Nominal Five-Year, Five-Year Forward Treasury Rate\***



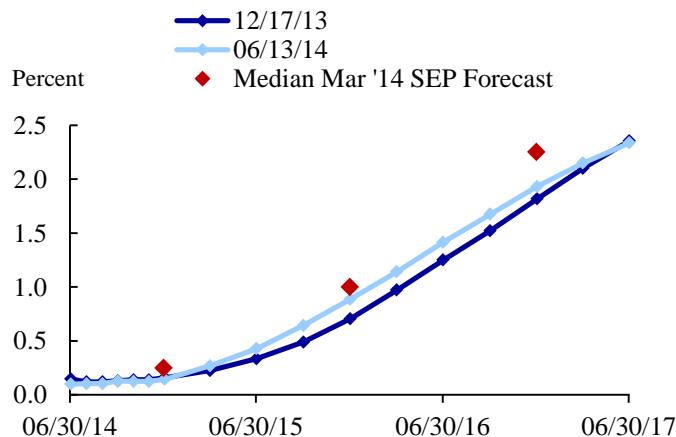
\*Decline from 12/31/13 to 06/09/14. Responses are expressed in terms of importance of each factor, where 1 is not important and 5 is very important. Source: Federal Reserve Bank of New York

**(4) Longer Run Federal Funds Target Forecasts**



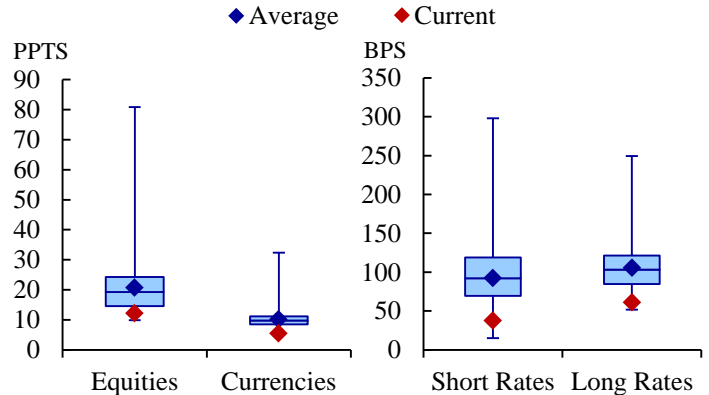
Source: Federal Reserve Bank of New York

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



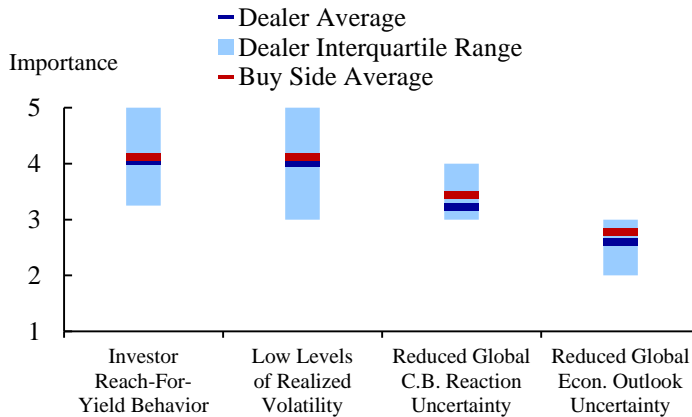
\*Derived from federal funds futures and Eurodollar futures. Source: Bloomberg, Federal Reserve Bank of New York, Federal Reserve Board of Governors

**(6) Distribution of Implied Volatility\***



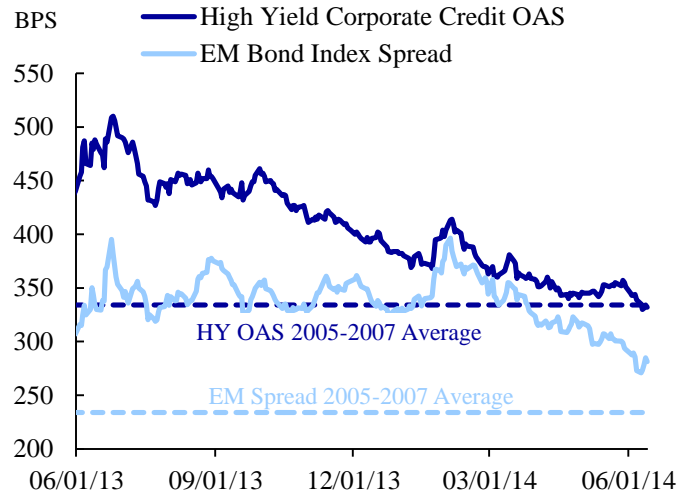
\*VIX, 1-month CVIX, 1-month 2-year swaption-implied volatility, and 1-month 10-year swaption-implied volatility used for equities, currencies, short rates and long rates, respectively. Daily data since June 1994. Boxes show interquartile ranges and medians; whiskers show max and min values. Source: Bloomberg, Barclays

**(7) Factors Contributing to Declines in Implied Volatility\***



\*Decline from September 2013 to 06/09/14. Responses are expressed in terms of importance of each factor, where 1 is not important and 5 is very important. Source: Federal Reserve Bank of New York

**(8) Risk Asset Performance**



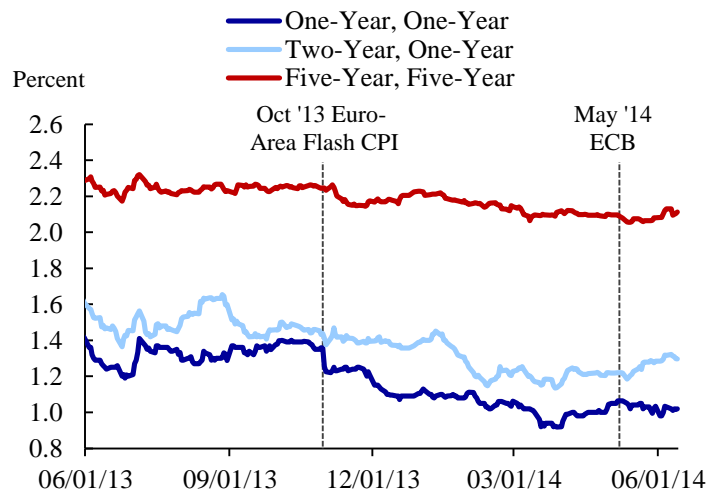
Source: Barclays, J.P. Morgan, Bloomberg

**(9) Peripheral European Asset Performance**

	Since Jun '14 ECB	Since May '14 ECB
<i>Changes in Basis Points</i>		
Italian 10-Year Spread to Germany	-18	-13
Spanish 10-Year Spread to Germany	-16	-20
<i>Changes in Percent</i>		
EuroStoxx 50 Index	+1.4	+3.9
EuroStoxx Bank Index	+2.6	+4.6
FTSE MIB Index (Italian Equities)	+2.5	+4.4
IBEX Index (Spanish Equities)	+3.3	+6.7
Euro-Dollar*	-0.4	-2.7

\*Negative value indicates Euro depreciation. Source: Bloomberg

**(10) Forward Euro-Area Inflation Swaps**



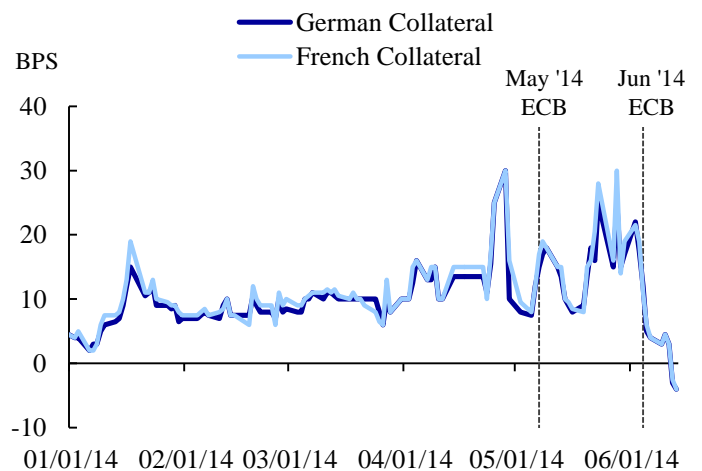
Source: Barclays

**(11) EONIA Forwards**



Source: Bloomberg

**(12) Overnight Euro Repo Offer Rates\***



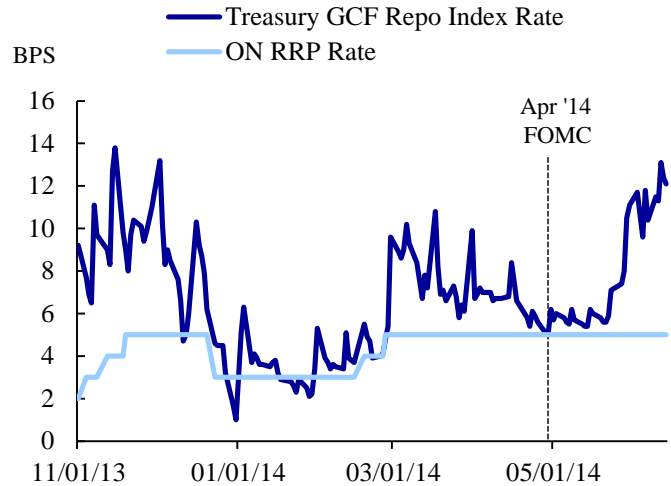
\*Median of dealer quotes offered to the Desk. Source: Federal Reserve Bank of New York

**(13) SOMA Euro Portfolio Asset Allocation (Percent)**

	Benchmark	Pre-Jun '14 ECB	Current*
<i>Cash</i>	0.0	12.4	11.0
<i>Official Deposits</i>			
BIS Two-Days' Notice	2.5	2.6	2.6
BIS Time Deposit	20.0	19.6	25.8
Deutsche Bundesbank	15.0	3.0	3.0
Banque de France	12.5	12.5	22.4
<i>RRPs</i>	17.5	17.5	2.8
<i>Securities Held Outright</i>	32.5	32.5	32.5
Current Duration		9.4 Months	
Internal Duration Limit		12.0 Months	
Maximum Authorized Duration		18.0 Months	

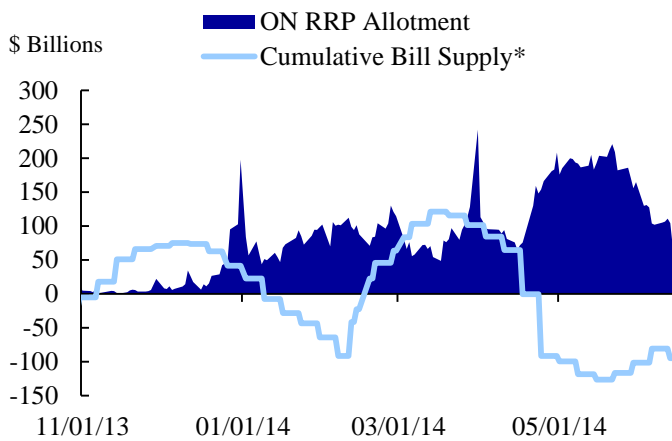
\*Includes unsettled positions as of 06/16/14.  
Source: Federal Reserve Bank of New York

**(14) Overnight GC Repo Rates**



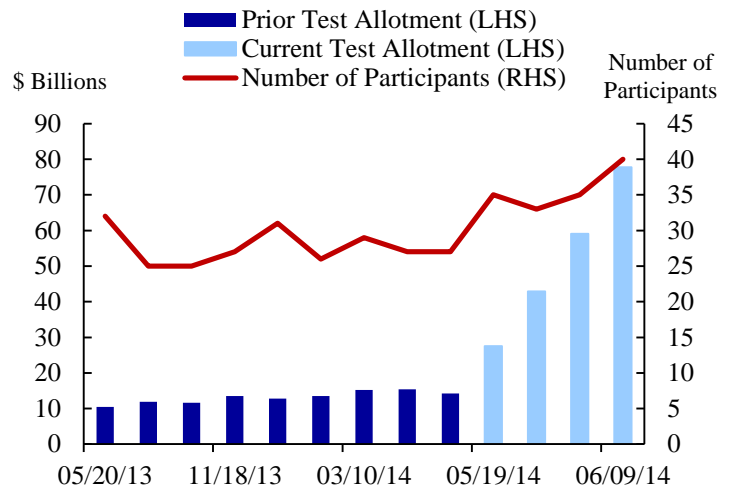
Source: Bloomberg, Federal Reserve Bank of New York

**(15) Change in Treasury Bill Supply and Overnight RRP Allotment**



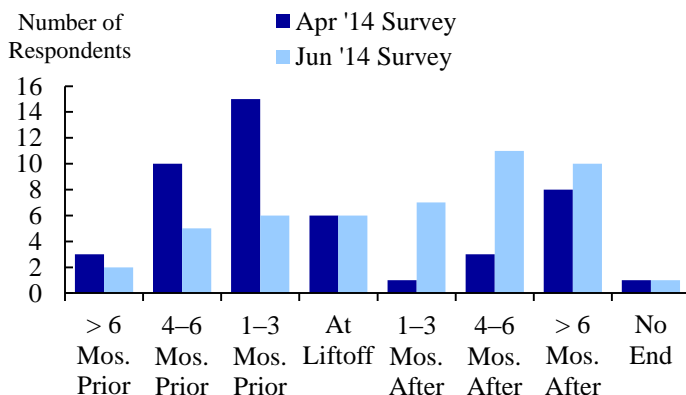
\*Since 09/23/13.  
Source: Federal Reserve Bank of New York, U.S. Treasury Department

**(16) TDF Participation and Allotment**



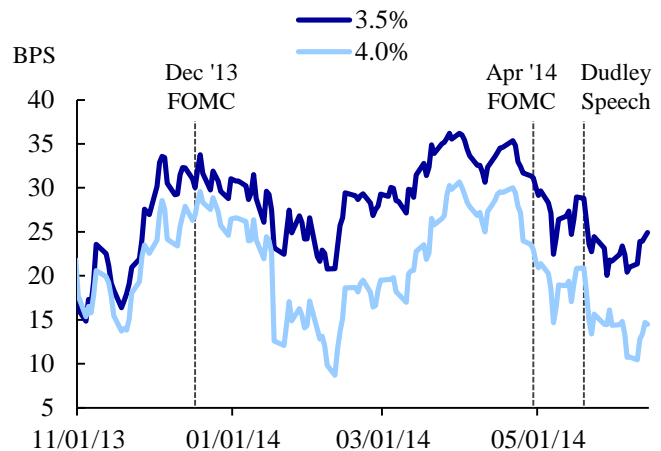
Source: Federal Reserve Board of Governors

**(17) Expected Number of Months Between End of MBS Reinvestments and Liftoff\***



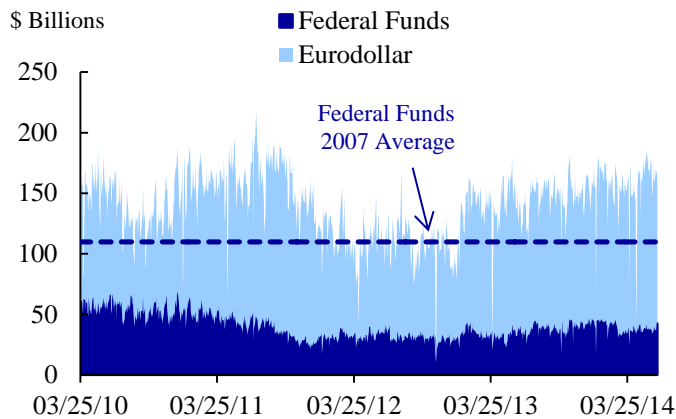
\*Based on all responses from the Survey of Primary Dealers and Survey of Market Participants.  
Source: Federal Reserve Bank of New York

**(18) Thirty-Year Fannie Mae Production Coupon Option-Adjusted Spreads**



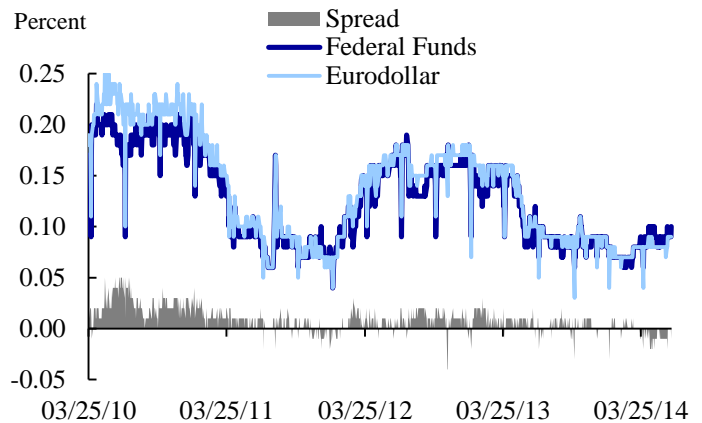
Source: Barclays

**(19) Daily Brokered Federal Funds and Eurodollar Volumes\***



\*Eurodollar data collected beginning March 2010.  
Source: Federal Reserve Bank of New York

**(20) Daily Brokered Federal Funds and Eurodollar Effective Rates\***



\*Eurodollar data collected beginning March 2010.  
Source: Federal Reserve Bank of New York

**(21) ON RRP Counterparty Breakdown**

Counterparty Type	Number	Share of Allotment*
Government Money Funds	32	60%
Prime Money Funds	62	25%
Primary Dealers	22	7%
Government Sponsored Enterprises	6	6%
Depository Institutions	18	2%
<b>Total</b>	<b>140</b>	
<i>Memo: Est. Additional Capacity</i>	<i>140</i>	

\*Share of total allotment since introduction of \$10 billion cap on 04/07/14.  
Source: Federal Reserve Bank of New York

**(22) Counterparty Expansion Options**

- Option 1: Defer decision.
- Option 2: Add more counterparties of the current types.
- Option 3: Admit new types of firms.
- Option 4: Prune the existing counterparty list.

**(23) Counterparty Expansion Recommendations**

- Open new wave in July for firms that meet current eligibility criteria.
- Anticipate approx. 25 MMMFs -- roughly evenly split between Gov't and Prime -- and a few FHLBs.
- If ON RRP is part of normalization strategy, accept new counterparties on a rolling basis.

**Appendix 2: Materials used by Ms. Weinbach, Mr. Natalucci, and Ms. Leonard**

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

*Material for Briefing on the*  
**Monetary Policy Normalization**

**Deborah Leonard, Fabio Natalucci, Gretchen Weinbach**  
**June 17, 2014**



## Exhibit 1

### Apparent areas of common ground from your April discussion

- Use ON RRP in addition to IOER to help control short-term interest rates
  - Limit take-up of ON RRP in some fashion
- Do not further reduce trading in federal funds
  - Have an appreciable spread between the IOER and ON RRP rates, at least initially
- Mixed views regarding term tools; use as needed
- Preserve flexibility about the longer-run framework
- Develop an expanded measure of the federal funds rate
- Inform public about updated normalization plans at time of the September meeting

### Key design issue

***Do you want to set and communicate the stance of policy primarily by targeting the federal funds rate (or an expanded version), or by emphasizing the ON RRP and IOER rates?***

### Target federal funds rate (or similar rate)

- Familiar
  - Helps leave open longer-run use
- Point target?***
- May be easiest to understand
  - May provide clearer signal
  - Desk adjusts ON RRP rate; an untested approach
  - Might need to tolerate volatility around target
- Or target range?***
- Point target may be hard to hit
  - Fixed IOER-ON RRP rate spread
  - But what if funds rate moves outside its desired range?

## Exhibit 2

Primarily emphasize ON RRP and IOER rates

- ***Also point to federal funds rate?***
- Greater leeway to take no action if rates move outside of expected range
  - Pointing to the funds rate would probably reduce that leeway
- But administered rates might need to be adjusted

Other trade-offs

- Efficacy of chosen approach will depend on how tightly take-up of ON RRP is limited
- The more take-up is limited, the less the ON RRP facility can be expected to be effective
- This trade-off has implications for:
  - Your decisions about your communications strategy
  - The effectiveness of monetary policy transmission

## Addressing Financial Stability Concerns Associated with an ON RRP Facility: Design Features and Other Mitigants

### Caps on Usage

- Focus on caps as circuit breakers during a period of market stress
- Not intended to limit take-up under normal conditions
  - Expected to bind only rarely
- Designed to
  - Prevent a disruptive surge in take-up and loss of private short-term funding
  - Provide policymakers with some time to assess conditions

### Features of Caps

- Two main possibilities:
  - Individual caps for each ON RRP counterparty
  - Aggregate cap
    - ◊ Could be accompanied by a market-based pricing mechanism
- Additional features for both cap types:
  - Rigid or flexible
  - Static or dynamic

### Assessing Design Features

- A number of issues to consider
- Focus on three considerations:
  1. How to balance two policy goals:
    - ◊ Controlling disruptive surges in take-up
    - ◊ Setting an effective floor on rates
  2. Ease of implementation and burden on counterparties
  3. Communication issues

### Two Possible Options

- **Individual rigid caps**
  - Example: Caps set each month to average take-up in previous month plus \$1 to \$5 billion
- **Aggregate rigid cap**
  - Example: Aggregate cap set each week to average take-up in previous week plus \$50 to \$300 billion
    - ◊ Accompanied by a uniform-rate auction

### Further Considerations

- The wide range for additive factors reflects the difficulty of evaluating uncertain tradeoffs between two policy goals
- The Committee may want to consider:
  - Setting caps that bind occasionally
  - Imposing an ultimate limit on facility usage
- The Committee may face pressures if circuit breakers are "tripped"
  - May want to consider whether additional actions to mitigate strains would be warranted

## Exhibit 4 Reinvestment Options

### Sequence from June 2011 Exit Strategy

- Cease or reduce reinvestments
- Modify forward guidance
- Initiate temporary reserve draining operations
- Raise federal funds target
- Sell agency securities

### Significant Changes since June 2011

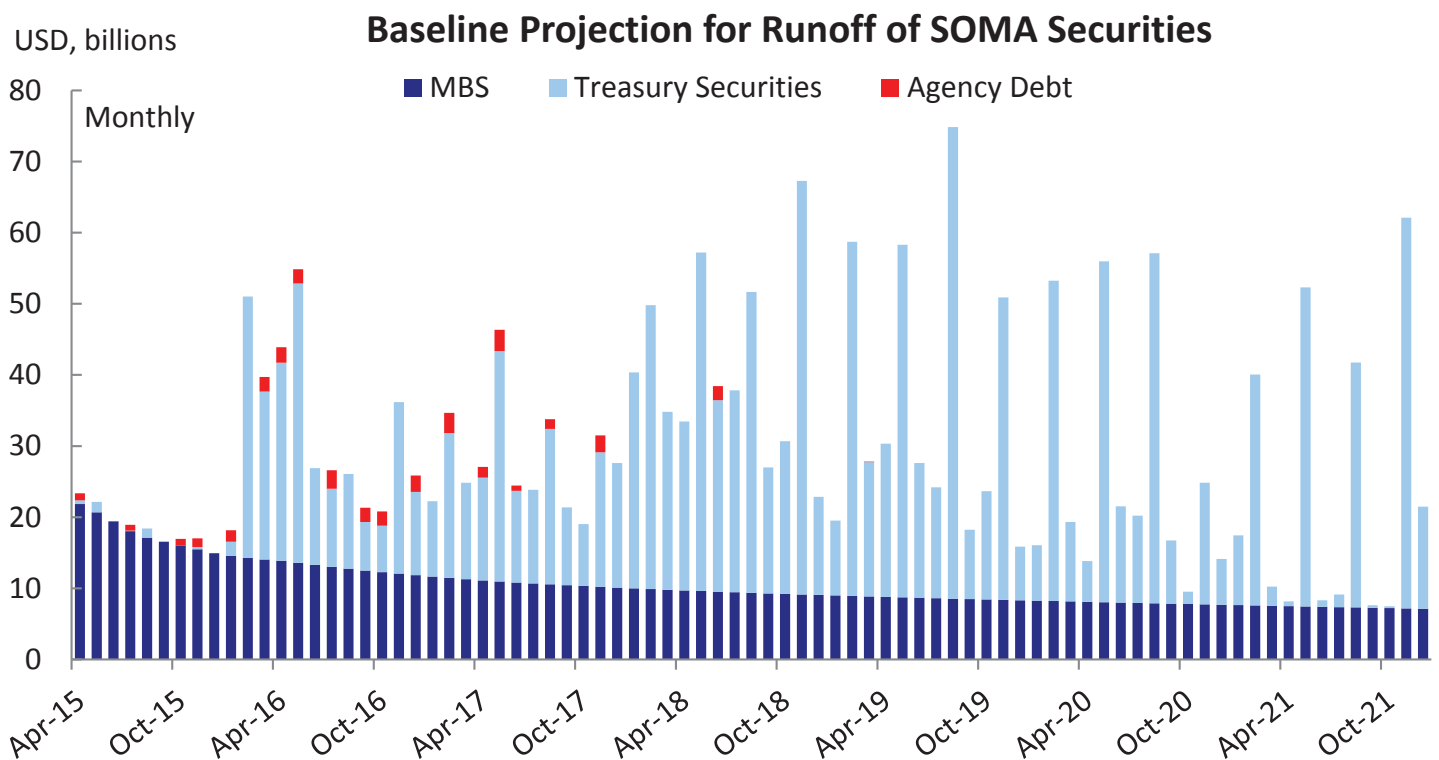
- Increased securities holdings and excess reserves
- Elimination of short-dated Treasury holdings
- Changes in forward guidance
- Indication of no agency MBS sales to normalize
- Development of ON RRP for interest rate control

### Effects of Ending Reinvestments

- Under baseline expectations, ending reinvestments 6m before, at, or 18m after liftoff has limited effects on:
  - Term premium estimates
  - Timing of liftoff
  - Macroeconomic outcomes
  - Remittances to the Treasury
- Models do not account for possible flow effects
  - May have some weight in MBS market

### Strategies for Timing an End to Reinvestments

- Before liftoff
- After liftoff
  - Trigger or threshold, possibly related to:
    - Interest rate target
    - Economic conditions
    - Time
- Coincident with liftoff
- Partial reinvestment options



Notes: June 2014 Tealbook Book B Alternative B balance sheet scenario (runoff begins at liftoff). MBS based on prepayment estimates. Source: Federal Reserve Bank of New York

**Appendix**

1. During normalization, do you want to communicate the stance of policy primarily by targeting the federal funds rate (or an expanded measure of the overnight bank funding rate), or to emphasize administered rates such as the ON RRP and IOER rates?
  - a. If the Committee continues to target the federal funds rate or a similar rate during normalization, do you think a point target or a target range would be preferable?
  - b. If the Committee communicates the stance of policy using the ON RRP and IOER rates, should it also use and point to the federal funds rate or a similar rate as one indicator of the general level of overnight interest rates?
2. Which types of “circuit breakers” for limiting the financial stability risks that could be posed by a fixed-rate, full allotment ON RRP program do you find most promising? In addition to the circuit breakers, do you see an overall limit on the size of the ON RRP program (other than the limit imposed by the size of the SOMA portfolio) as desirable?
3. Do you think that the Committee should cease or reduce its reinvestment of principal on its securities holdings prior to, at the same time as, or after the first increase in short-term interest rates? Should the Committee simply cease reinvestment at the appropriate time, or would a more graduated approach be preferable?
4. Assuming, as discussed in one of the staff memos, that the Federal Reserve constructs an expanded federal funds effective rate that includes Eurodollar transactions as well as federal funds transactions, do you think that the expanded rate should be published as a substitute for the existing federal funds effective rate or as an additional benchmark rate?

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

**Class II FOMC – Restricted (FR)**

*Material for*

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

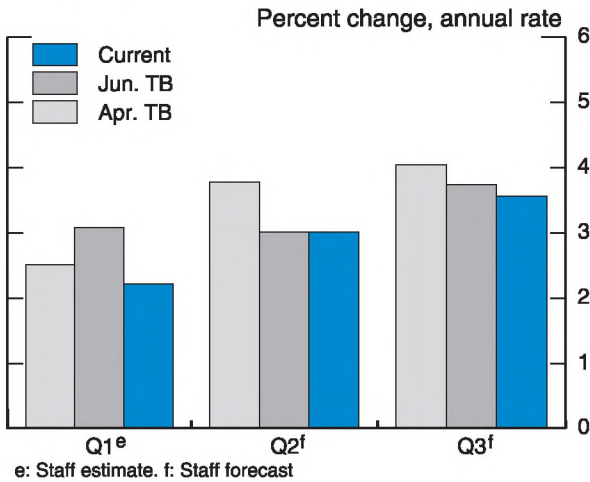
**Jeremy Rudd, Beth Anne Wilson**  
**June 17, 2014**

Class II FOMC - Restricted (FR)

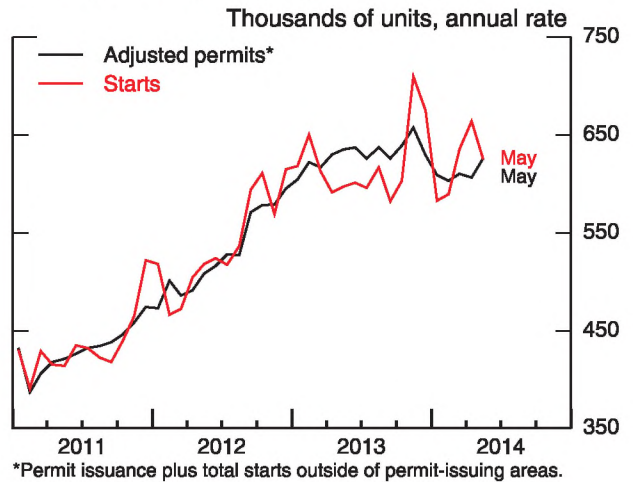
Exhibit 1

### Near-Term Developments

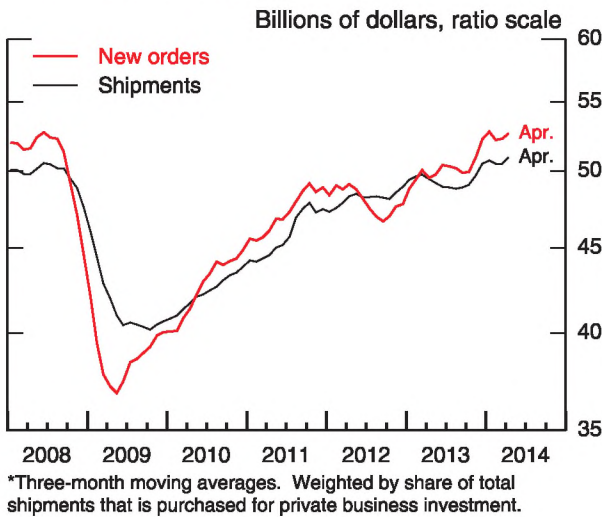
#### 1. Real PCE



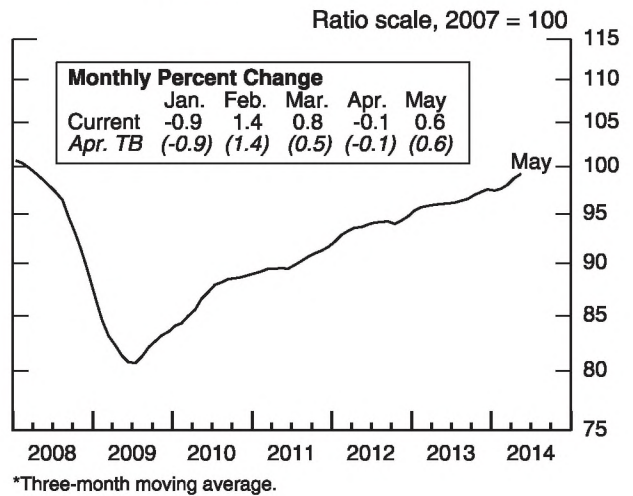
#### 2. Single-family Housing Starts and Permits



#### 3. Nondefense Capital Goods ex. Aircraft\*



#### 4. Manufacturing IP\*



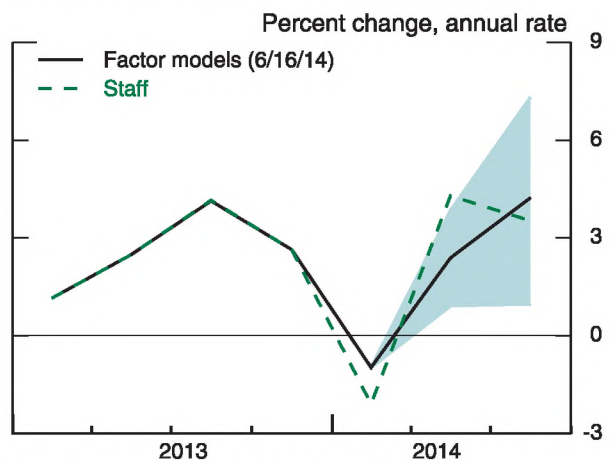
#### 5. Near-Term Outlook

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

	2013		2014	
	Q4	Q1 <sup>e</sup>	Q2 <sup>f</sup>	Q3 <sup>f</sup>
1. Real GDP	2.6	-2.1	4.3	3.5
2. June TB		(-1.5)	(4.2)	(3.5)
3. Apr. TB		(0.7)	(3.5)	(3.4)
4. PDPF	3.2	1.5	3.9	3.9
5. June TB		(2.2)	(3.9)	(4.0)
6. Apr. TB		(2.3)	(4.0)	(4.7)
7. Weather effect (pp.)	.0	-.3	.5	-.2

e: Staff estimate. f: Staff forecast.

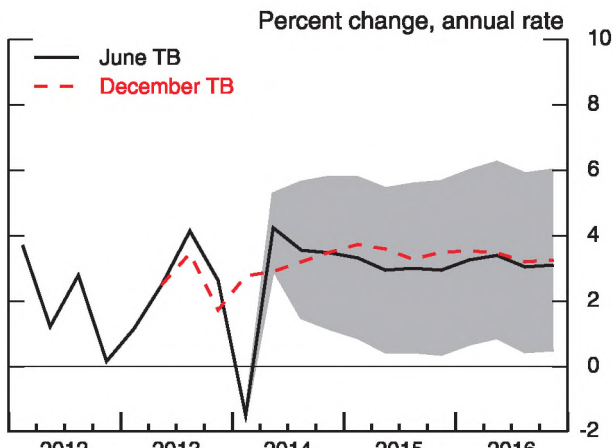
#### 6. Near-Term Real GDP Forecasts\*





## Medium-Term Outlook

### 1. Real GDP\*



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

### 2. Sources of GDP Revisions since December

Factors revising **up** 2014-16 GDP growth:

- Upward revisions to wealth
- Momentum from stronger 2013

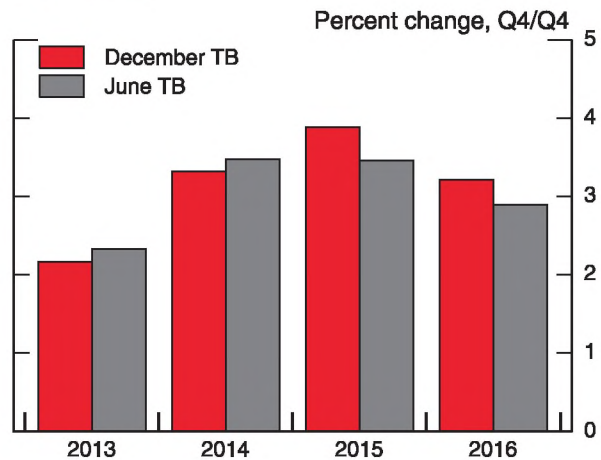
Factors revising **down** 2014-16 GDP growth:

- Higher exchange value of the dollar
- Lower potential output growth

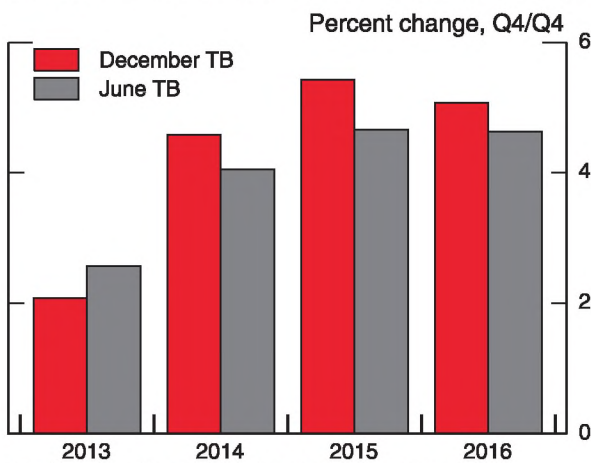
### 3. Potential GDP Growth (Percent change, Q4 over Q4)

	2014	2015	2016
1. June TB	1.3	1.7	1.9
2. December TB	(2.2)	(2.2)	(2.1)
Memo:			
3. Revision (pp.)	-0.9	-0.4	-0.2

### 4. Real PCE

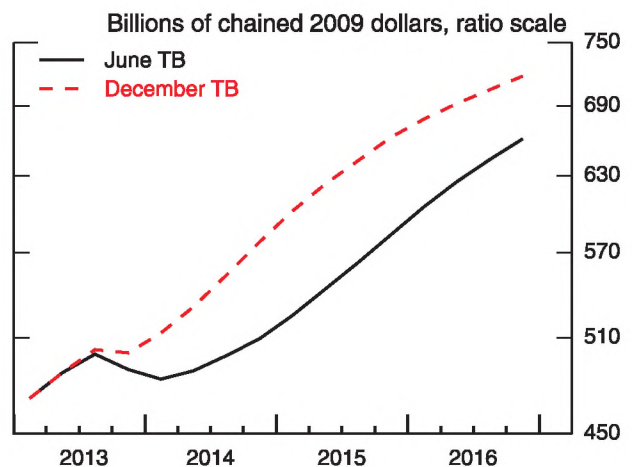


### 5. Real Nonresidential Fixed Private Investment\*



\*Equipment and intangibles plus nonresidential structures investment.

### 6. Real Residential Investment



Class II FOMC - Restricted (FR)

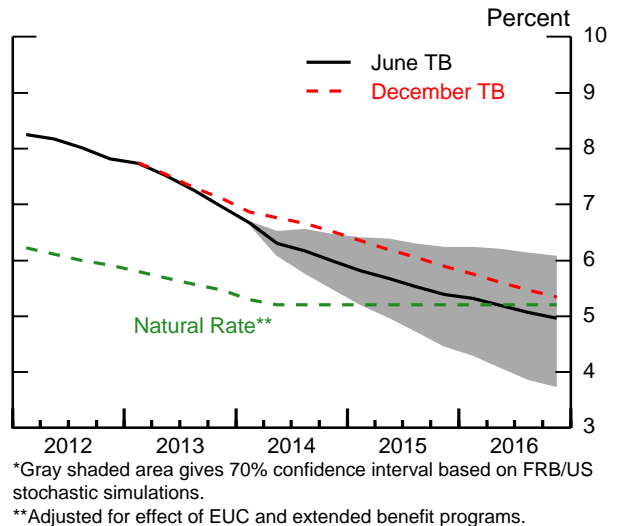
Exhibit 3

### Labor Market

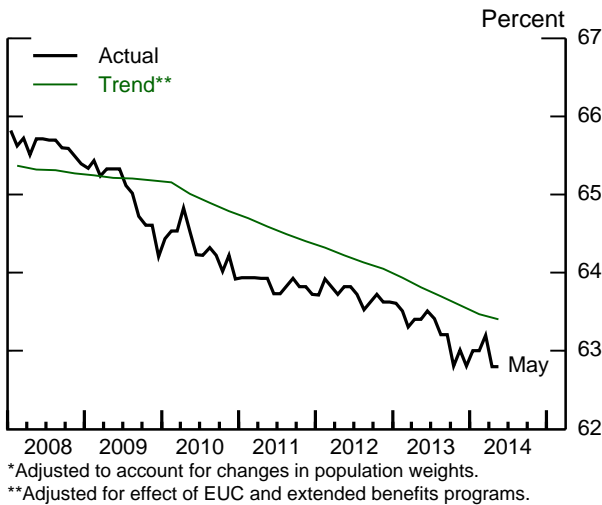
#### 1. Change in Nonfarm Payroll Employment\*



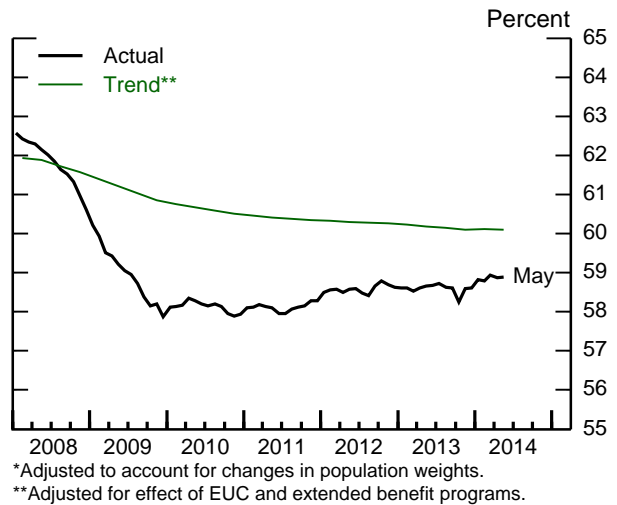
#### 2. Unemployment Rate\*



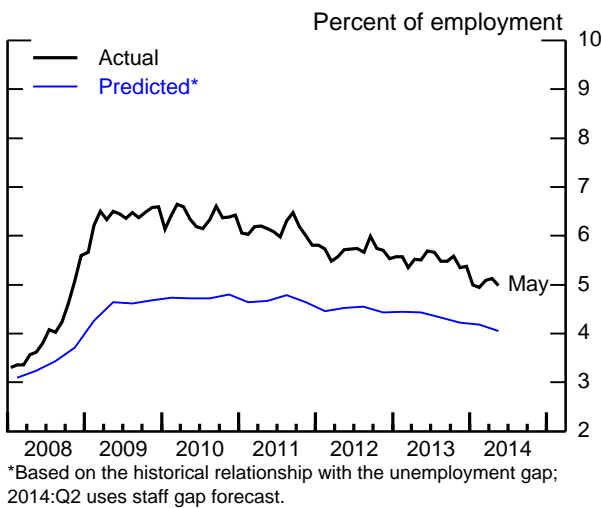
#### 3. Labor Force Participation Rate\*



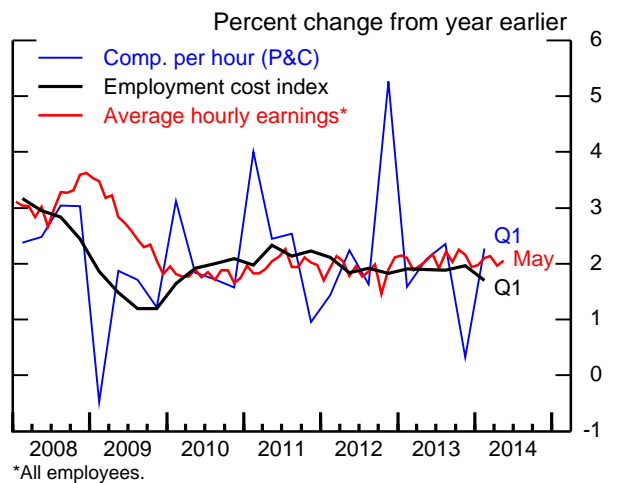
#### 4. Employment to Population Ratio\*



#### 5. Part Time for Economic Reasons



#### 6. Labor Compensation



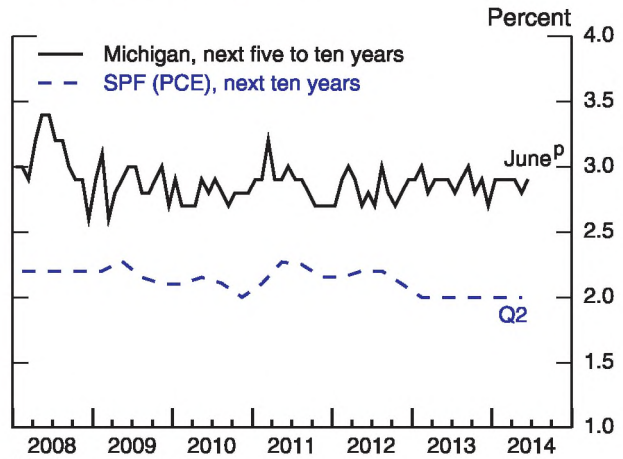
# Price Inflation

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

	2013		2014	
	Q4	Q1 <sup>e</sup>	Q2 <sup>f</sup>	Q3 <sup>f</sup>
1. Total	1.1	1.4	2.0	1.5
2. April TB	(1.1)	(1.5)	(1.6)	(1.7)
3. Core	1.3	1.2	1.8	1.5
4. April TB	(1.3)	(1.3)	(1.5)	(1.6)

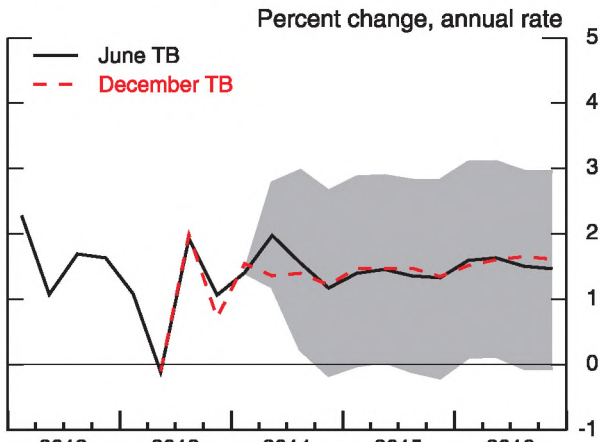
e: Staff estimate. f: Staff forecast.

## 2. Inflation Expectations\*



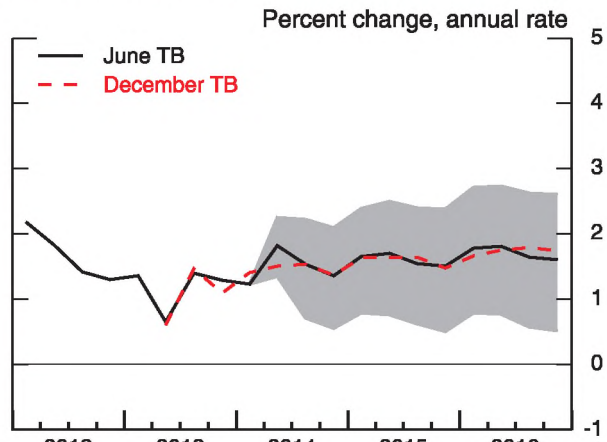
\*Median responses.  
p: Preliminary.

## 3. Total PCE Inflation\*



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

## 4. Core PCE Inflation\*



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

## 5. Estimates of Underlying Inflation\* (Percent change, annual rate)

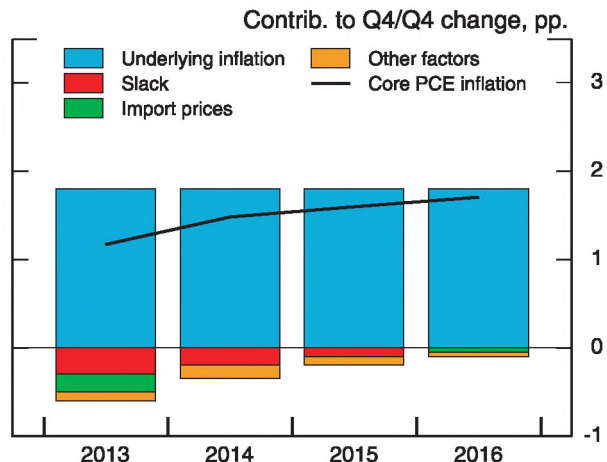
	Point est.**	Range***
1. Phillips curve (Michigan)	1.8	1.7 to 2.0
2. Phillips curve (SPF)	1.5	1.4 to 1.7
3. Stock-Watson	1.3	1.0 to 1.5
4. Cogley-Sargent	1.4	1.1 to 1.7
5. TVP-SV VAR	1.8	1.1 to 2.5

\*For lines 1 and 2, underlying inflation is defined as the rate that would obtain in the absence of economic slack and other shocks and if the current level of longer-run inflation expectations were maintained.

\*\*Based on core PCE price index.

\*\*\*70 percent confidence interval or credible set.

## 6. Decomposition of Core PCE Inflation



Class II FOMC - Restricted (FR)

Exhibit 5

**1. Real GDP\***

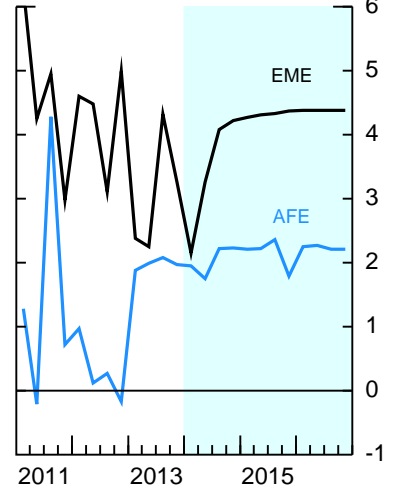
Percent change, a.r.

	2013	2014		2015 <sup>f</sup>	2016 <sup>f</sup>
	H2	Q1 <sup>e</sup>	Q2 <sup>f</sup>	H2 <sup>f</sup>	
<b>1. Total Foreign</b>	<b>2.9</b>	<b>2.1</b>	<b>2.5</b>	<b>3.2</b>	<b>3.3</b>
<i>April Tealbook</i>	2.9	2.3	2.7	3.2	3.3
<b>2. Emerging Market Economies</b>	<b>3.8</b>	<b>2.2</b>	<b>3.3</b>	<b>4.2</b>	<b>4.4</b>
<i>Of which:</i>					
3. China	8.4	5.5	6.2	7.5	7.2
4. Emerging Asia ex. China	4.5	2.5	3.6	4.3	4.4
5. Mexico	2.2	1.1	2.5	3.4	3.6
6. Brazil	0.3	0.7	1.2	2.1	2.7

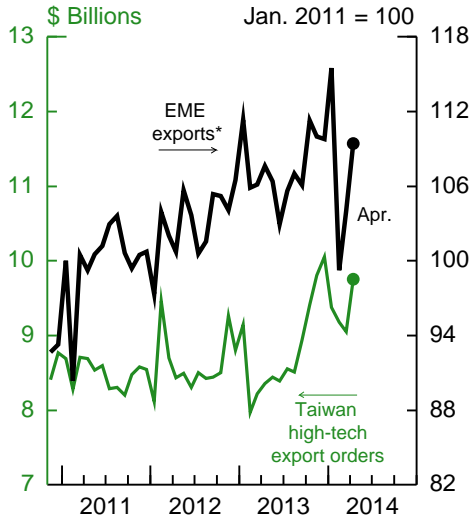
\* GDP aggregates weighted by shares of U.S. merchandise exports.  
e: Staff estimate. f: Staff forecast.

**2. Real GDP**

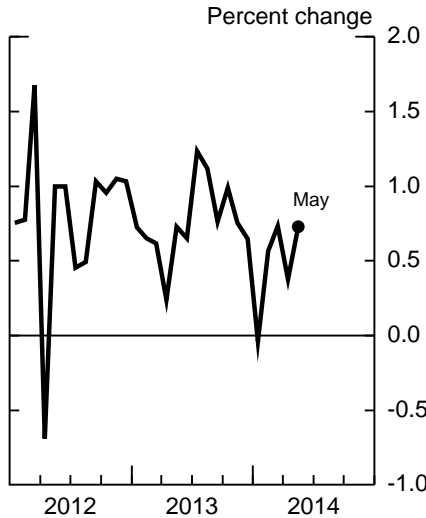
Percent change, a.r.



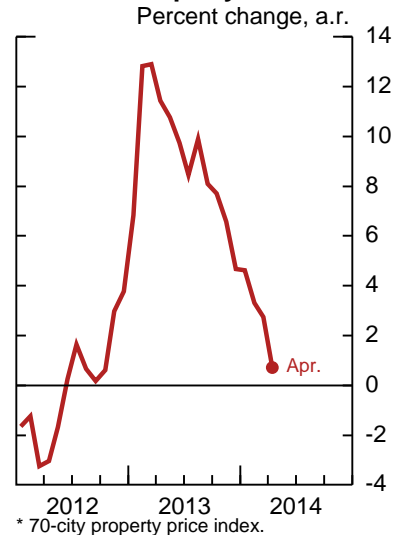
**3. EME Indicators**



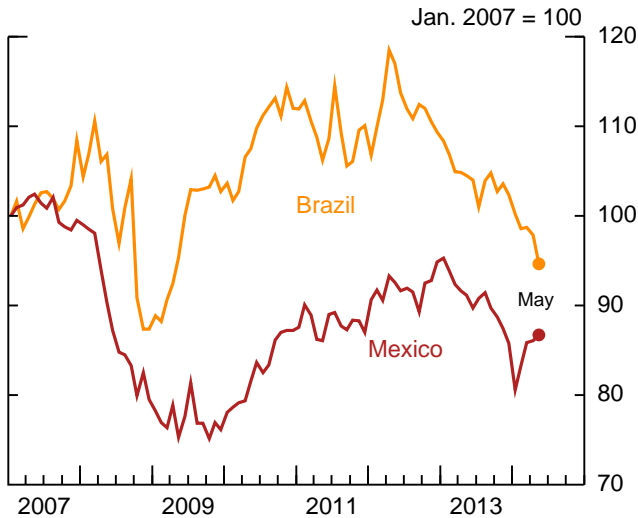
**4. China Industrial Production**



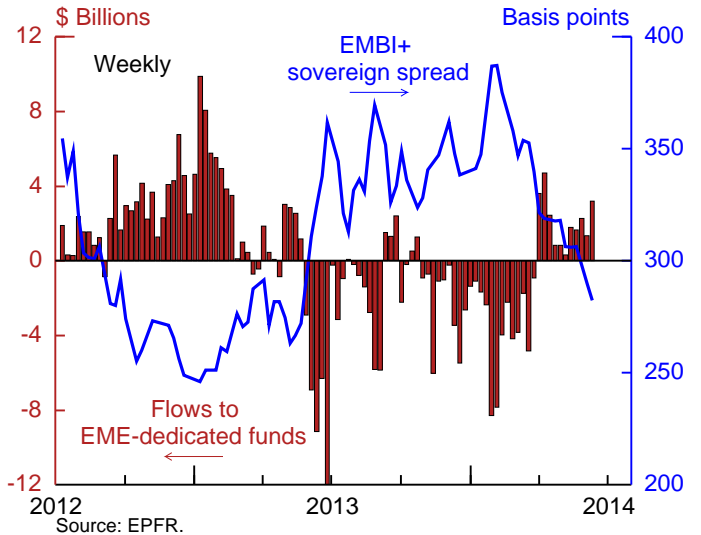
**5. China Property Prices\***



**6. Consumer Confidence**



**7. EME Financial Indicators**



Class II FOMC - Restricted (FR)

Exhibit 6

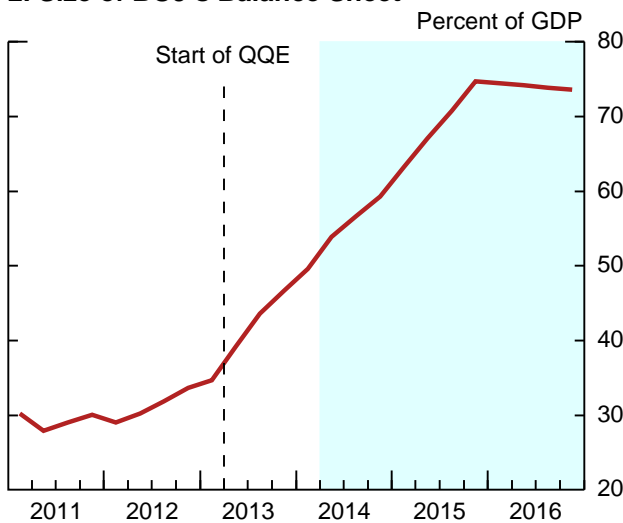
**1. Real GDP\***

Percent change, a.r.

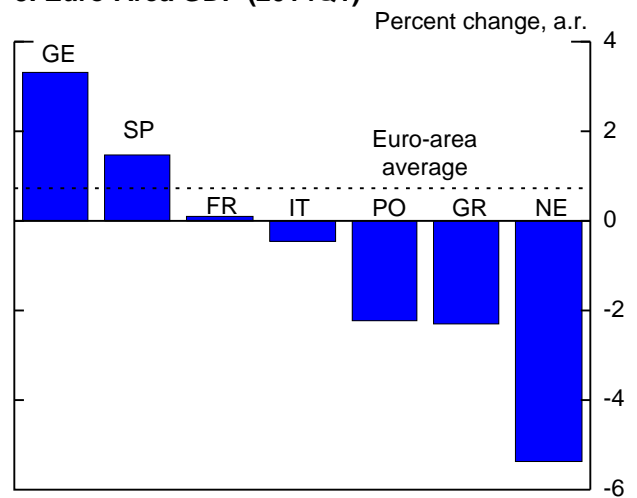
	2013 H2	2014			2015 <sup>f</sup>	2016 <sup>f</sup>
		Q1 <sup>e</sup>	Q2 <sup>f</sup>	H2 <sup>f</sup>		
<b>1. Advanced Foreign Economies</b>	<b>2.0</b>	<b>2.0</b>	<b>1.7</b>	<b>2.2</b>	<b>2.1</b>	<b>2.2</b>
<i>Of which:</i>						
2. Japan	0.8	6.7	-4.5	1.9	0.7	1.1
3. Euro Area	0.8	0.7	1.6	1.4	1.8	1.9
4. Canada	2.9	1.2	3.1	2.6	2.6	2.6
5. United Kingdom	3.1	3.3	2.9	2.9	2.6	2.5

\* GDP aggregates weighted by shares of U.S. merchandise exports.  
e: Staff estimate. f: Staff forecast.

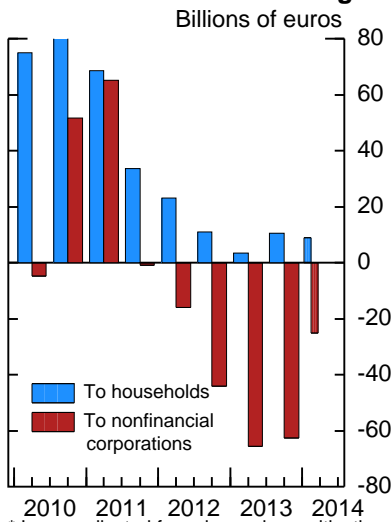
**2. Size of BOJ's Balance Sheet**



**3. Euro-Area GDP (2014Q1)**

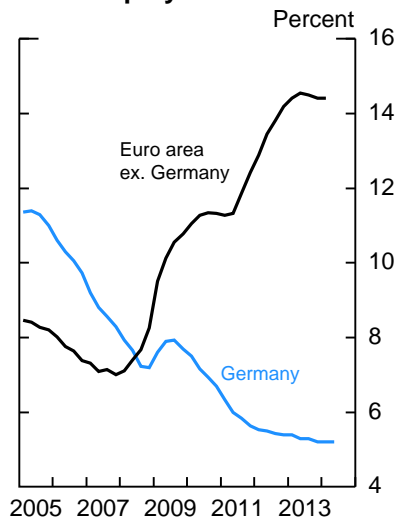


**4. Euro-Area Bank Lending\***

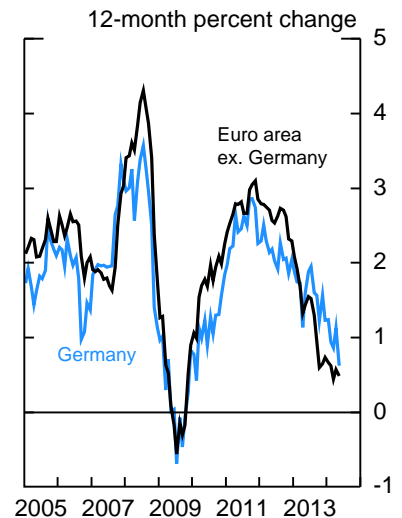


\* Loans adjusted for sales and securitization.

**5. Unemployment Rate**



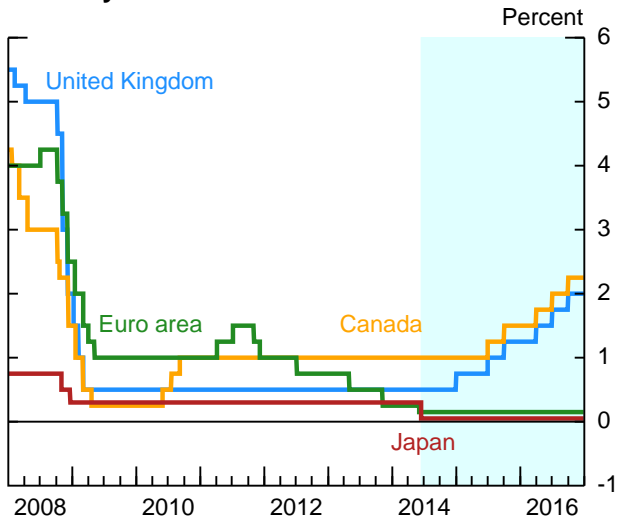
**6. Inflation**



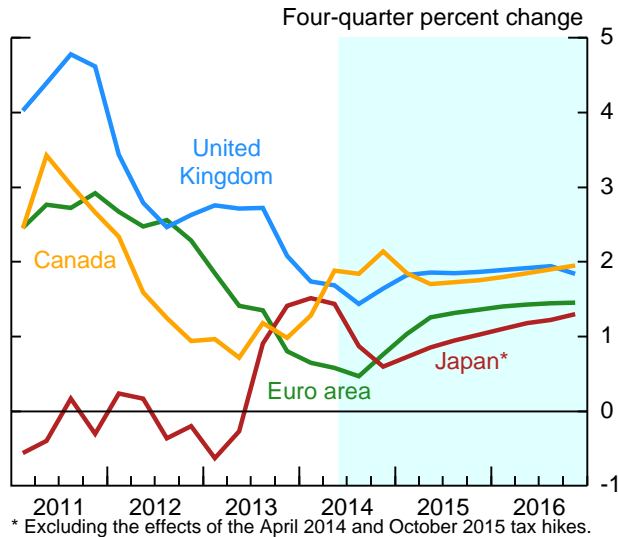
Class II FOMC - Restricted (FR)

Exhibit 7

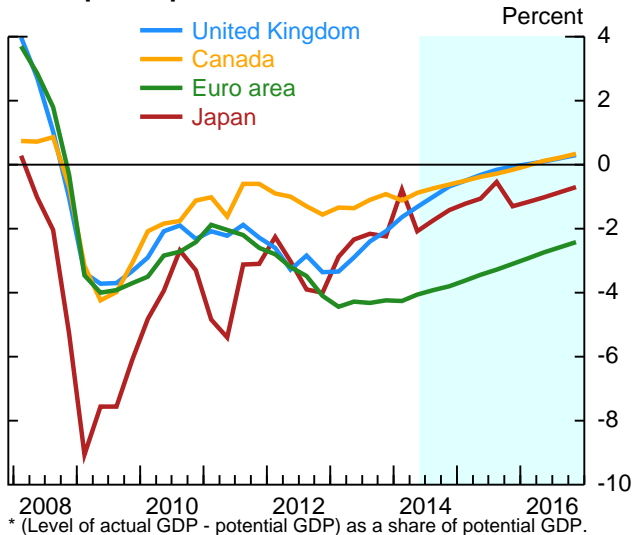
### 1. Policy Rates



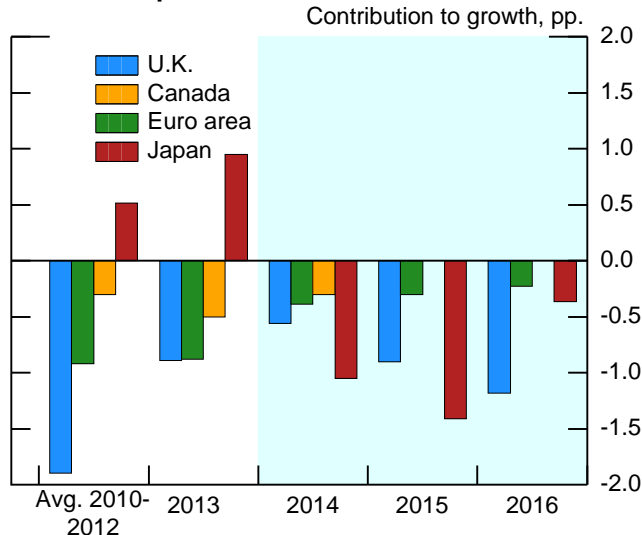
### 2. Inflation Outlook



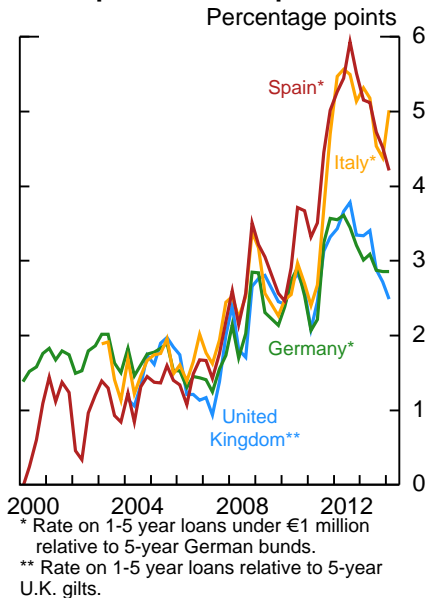
### 3. Output Gaps\*



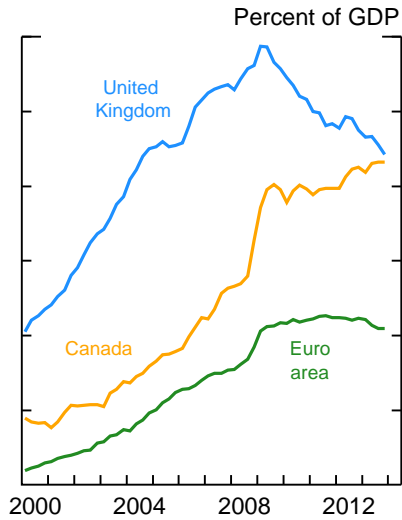
### 4. Fiscal Impulse



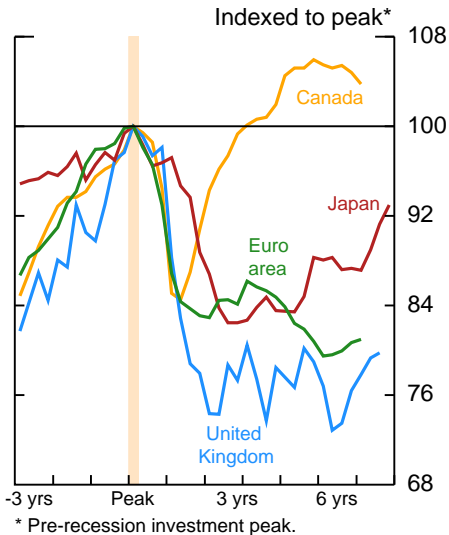
### 5. Corporate Loan Spreads



### 6. Household Debt



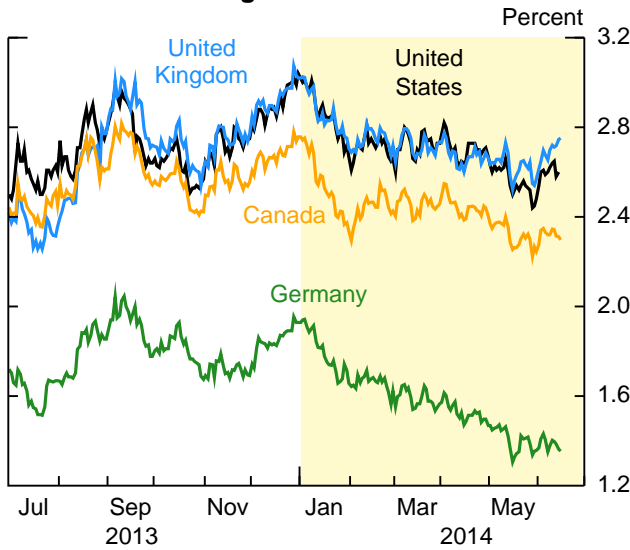
### 7. Investment Around 2008 Recession



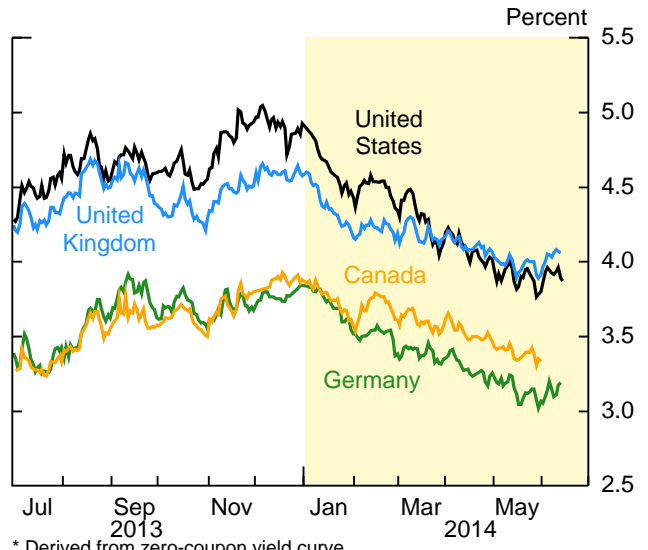
Class II FOMC - Restricted (FR)

Exhibit 8

**1. 10-Year Sovereign Yields**



**2. 1-Year Forward Rates 9-Years Ahead\***

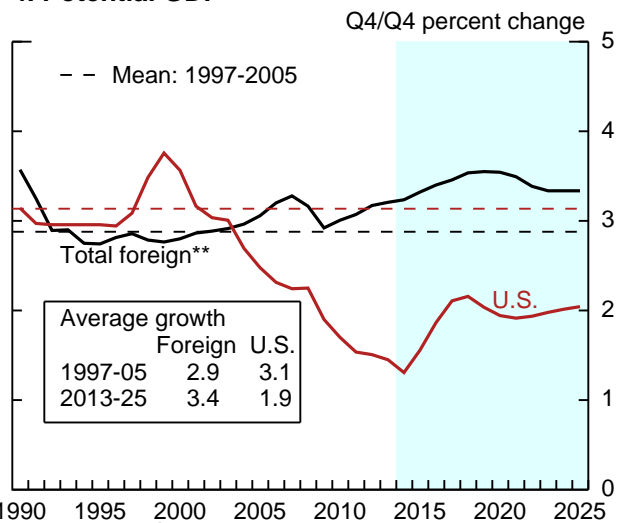


\* Derived from zero-coupon yield curve.

**3. Long-term Rates and Growth**

- Fall in long rates may reflect:
  - Reassessment of potential growth,
  - Lower equilibrium interest rates.
- One mitigating factor:
  - Foreign potential growth higher.
- Potential growth is slowing in AFE and some EME countries.
- But increasing weight on EMEs keeps foreign potential growth high.

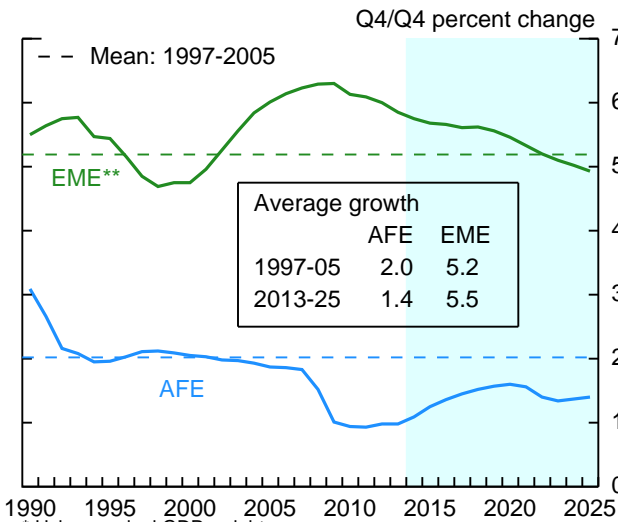
**4. Potential GDP\***



\* Using nominal GDP weights.

\*\* Excluding Russia.

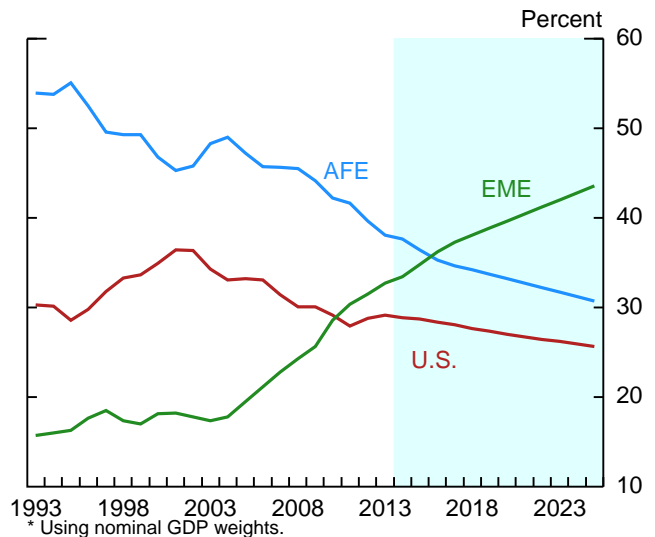
**5. Potential GDP\***



\* Using nominal GDP weights.

\*\* Excluding Russia.

**6. Share of World GDP\***

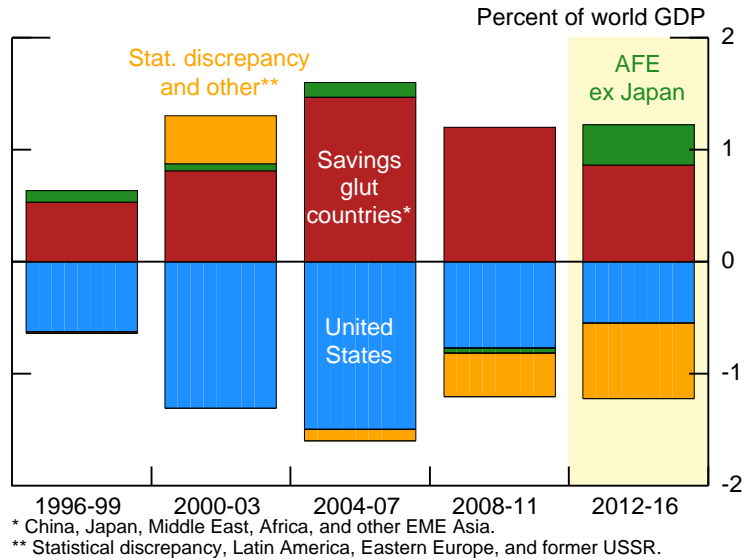


\* Using nominal GDP weights.

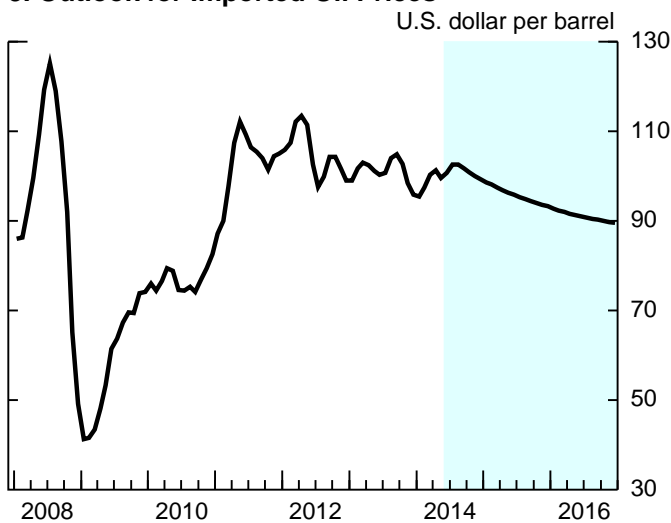
**1. Mitigating Factor - Less Savings Glut**

- Pre-crisis, CA surplus countries exported savings to U.S.
  - Put downward pressure on U.S. interest rates
- Going forward, less negative pressure
  - Declining oil prices
  - Rebalancing in Asia
    - Appreciating ER
    - Lower CA surpluses

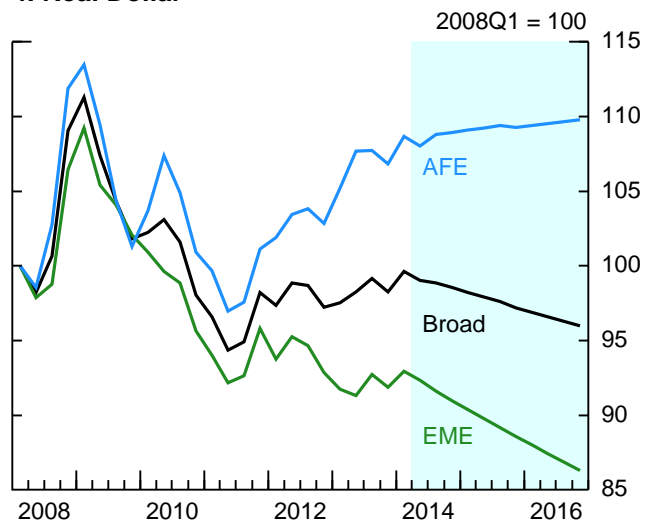
**2. Global Current Account Balances**



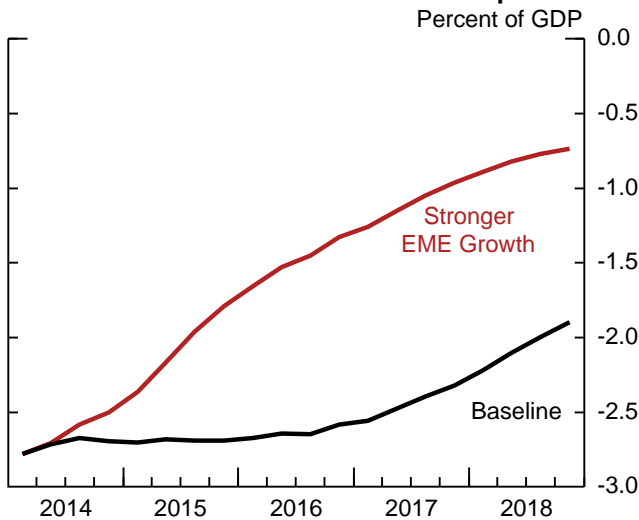
**3. Outlook for Imported Oil Prices**



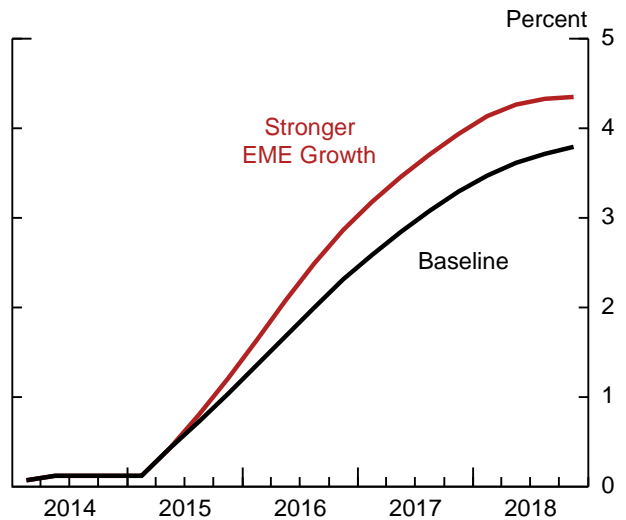
**4. Real Dollar**



**5. EME SIGMA Simulation: U.S. Net Exports**



**6. EME SIGMA Simulation: Federal Funds Rate**





**Appendix 4: Materials used by Ms. Wei**

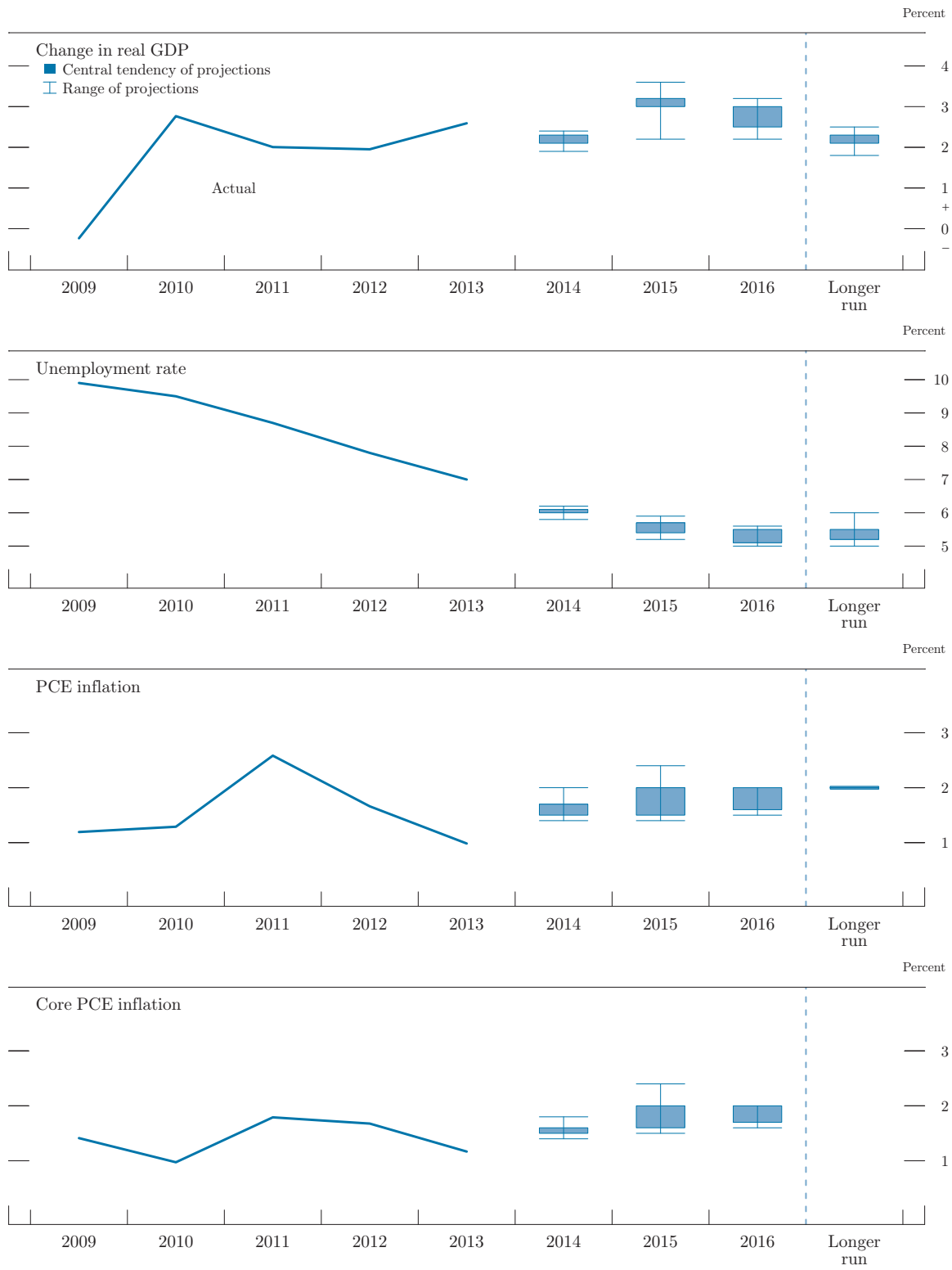
**Class I FOMC – Restricted Controlled (FR)**

*Material for Briefing on the*

**Summary of Economic Projections**

**Min Wei**  
**June 17, 2014**

Exhibit 1. Central tendencies and ranges of economic projections, 2014–16 and over the longer run



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

Exhibit 2. Economic projections for 2014–16 and over the longer run (percent)

**Change in real GDP**

	2014H1	2014H2	2014	2015	2016	Longer run
Central Tendency . . . . .	1.0 to 1.2	3.1 to 3.6	2.1 to 2.3	3.0 to 3.2	2.5 to 3.0	2.1 to 2.3
March projection . . . . .	2.4 to 2.5	3.1 to 3.3	2.8 to 3.0	3.0 to 3.2	2.5 to 3.0	2.2 to 2.3
Range . . . . .	0.4 to 1.4	3.0 to 3.6	1.9 to 2.4	2.2 to 3.6	2.2 to 3.2	1.8 to 2.5
March projection . . . . .	2.1 to 2.8	2.1 to 3.6	2.1 to 3.0	2.2 to 3.5	2.2 to 3.4	1.8 to 2.4
Memo: Tealbook . . . . .	1.3	3.5	2.4	3.0	3.2	2.0
March projection . . . . .	2.5	3.4	2.9	3.2	3.0	2.3

**Unemployment rate**

	2014	2015	2016	Longer run
Central Tendency . . . . .	6.0 to 6.1	5.4 to 5.7	5.1 to 5.5	5.2 to 5.5
March projection . . . . .	6.1 to 6.3	5.6 to 5.9	5.2 to 5.6	5.2 to 5.6
Range . . . . .	5.8 to 6.2	5.2 to 5.9	5.0 to 5.6	5.0 to 6.0
March projection . . . . .	6.0 to 6.5	5.4 to 5.9	5.1 to 5.8	5.2 to 6.0
Memo: Tealbook . . . . .	6.0	5.4	5.0	5.2
March projection . . . . .	6.2	5.6	5.1	5.2

**PCE inflation**

	2014H1	2014H2	2014	2015	2016	Longer run
Central Tendency . . . . .	1.6 to 1.7	1.3 to 1.7	1.5 to 1.7	1.5 to 2.0	1.6 to 2.0	2.0
March projection . . . . .	1.4 to 1.5	1.6 to 1.7	1.5 to 1.6	1.5 to 2.0	1.7 to 2.0	2.0
Range . . . . .	1.5 to 1.8	1.3 to 2.2	1.4 to 2.0	1.4 to 2.4	1.5 to 2.0	2.0
March projection . . . . .	1.3 to 1.5	1.3 to 2.2	1.3 to 1.8	1.5 to 2.4	1.6 to 2.0	2.0
Memo: Tealbook . . . . .	1.7	1.4	1.5	1.4	1.5	2.0
March projection . . . . .	1.4	1.6	1.5	1.5	1.7	2.0

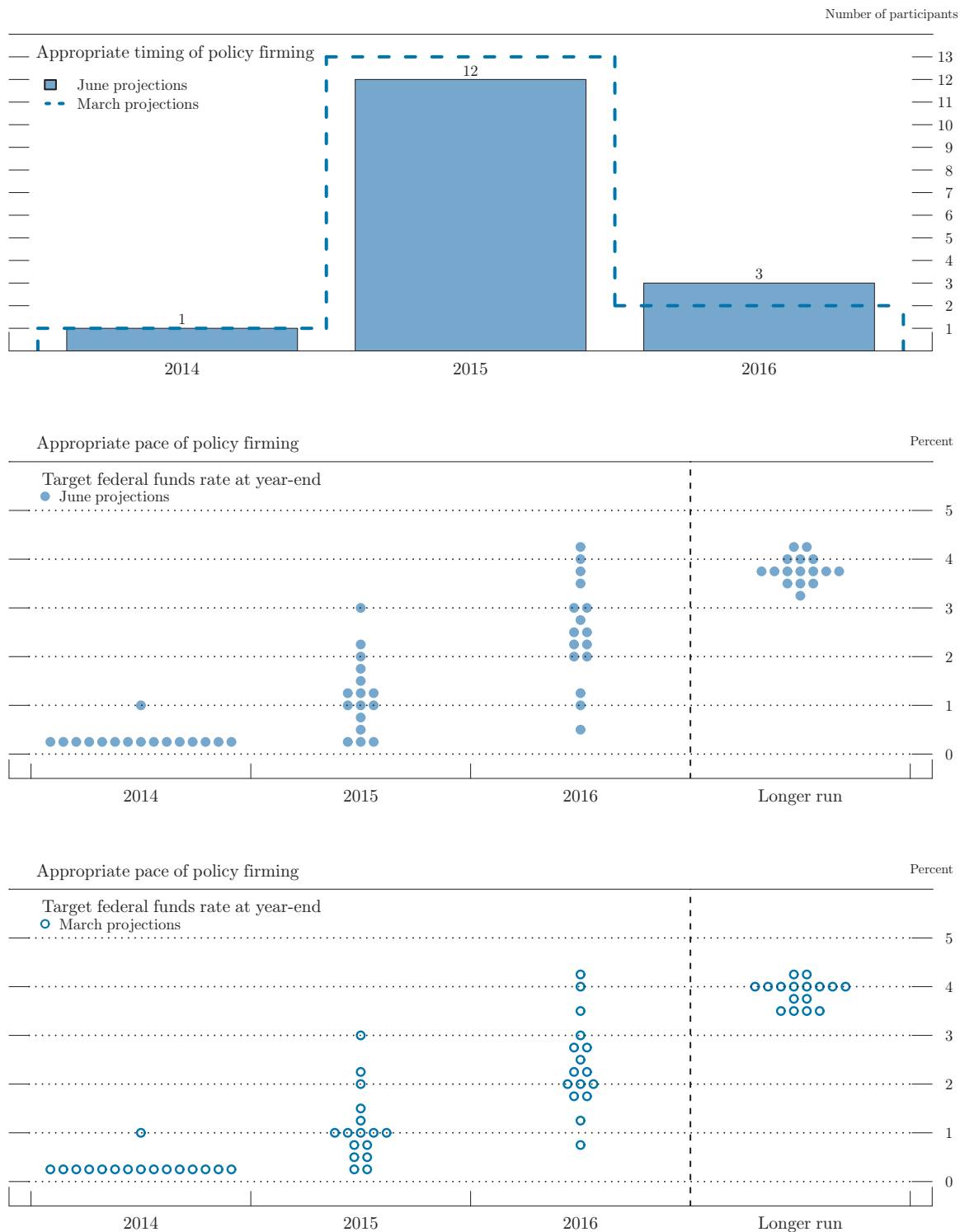
**Core PCE inflation**

	2014H1	2014H2	2014	2015	2016
Central Tendency . . . . .	1.5	1.5 to 1.7	1.5 to 1.6	1.6 to 2.0	1.7 to 2.0
March projection . . . . .	1.3 to 1.4	1.4 to 1.7	1.4 to 1.6	1.7 to 2.0	1.8 to 2.0
Range . . . . .	1.4 to 1.6	1.3 to 2.0	1.4 to 1.8	1.5 to 2.4	1.6 to 2.0
March projection . . . . .	1.2 to 1.5	1.2 to 2.2	1.3 to 1.8	1.5 to 2.4	1.6 to 2.0
Memo: Tealbook . . . . .	1.5	1.4	1.5	1.6	1.7
March projection . . . . .	1.4	1.6	1.5	1.7	1.8

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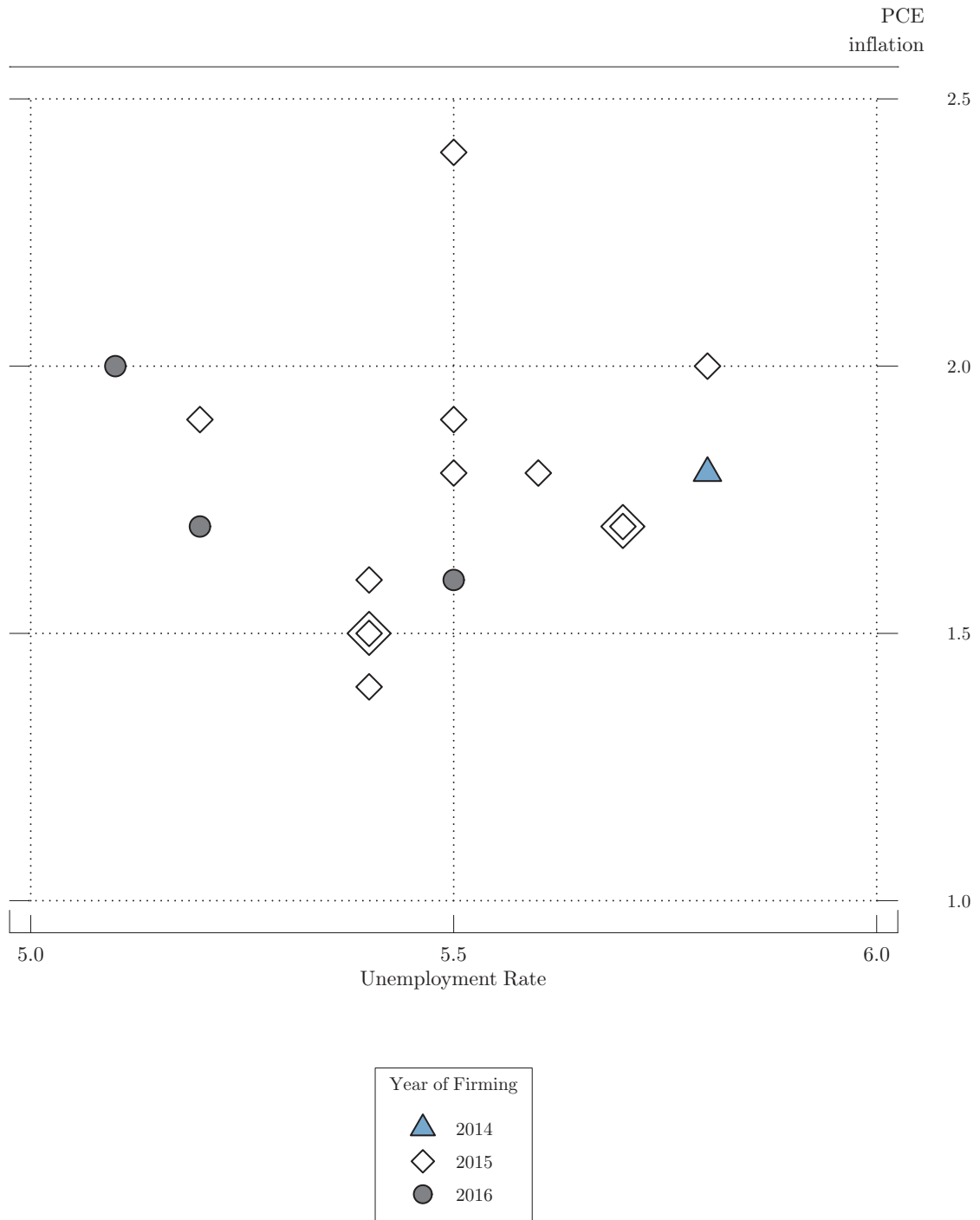
\* The changes in real GDP and inflation are measured Q4/Q4.

Exhibit 3. Overview of FOMC participants' assessments of appropriate monetary policy



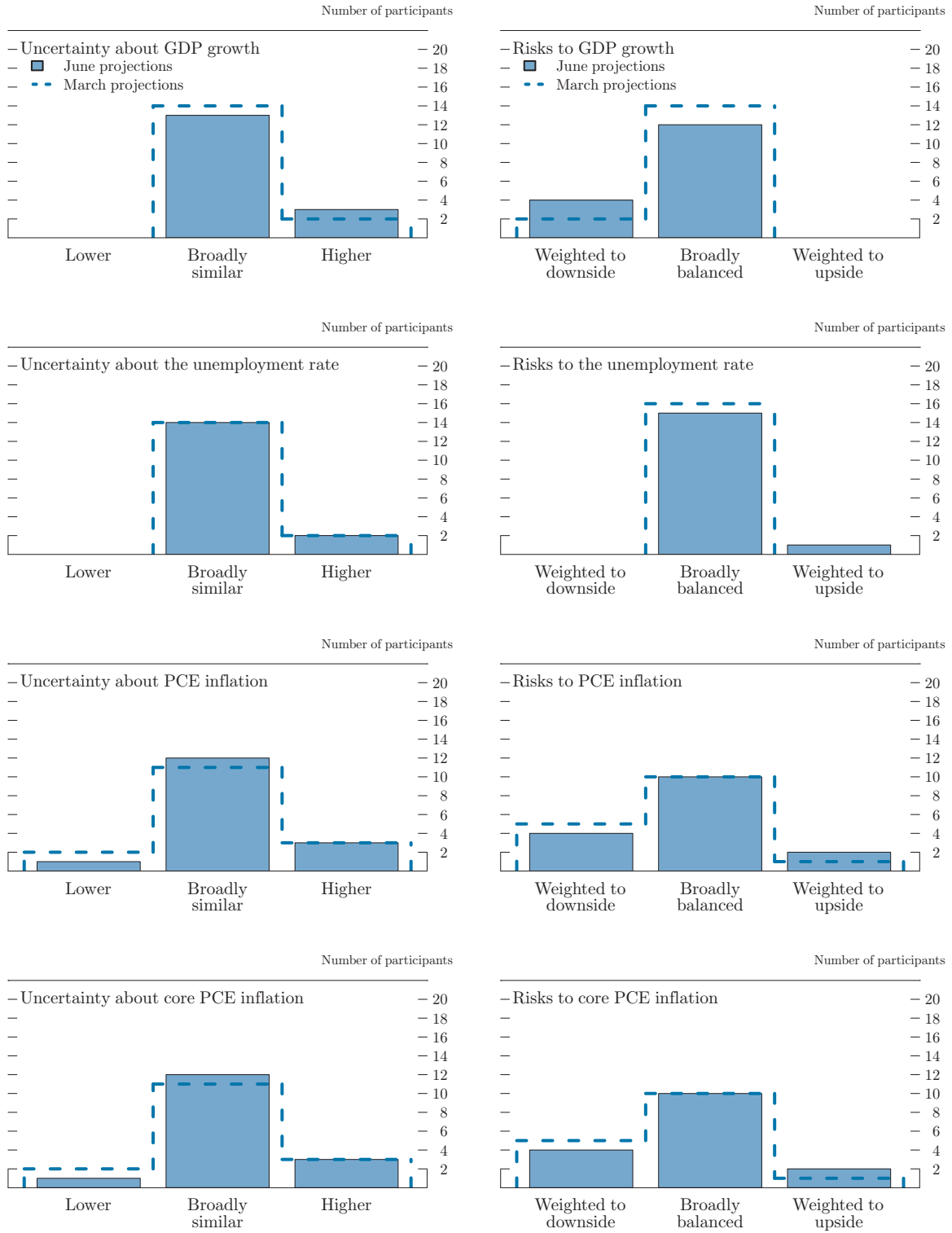
NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In the middle and lower panels, each circle indicates the value (rounded to the nearest 1/4 percentage point) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

Exhibit 4. Scatterplot of unemployment and PCE inflation rates in the initial year of policy firming (in percent)



NOTE: 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 5. Uncertainty and risks in economic projections



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



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

*Material for*

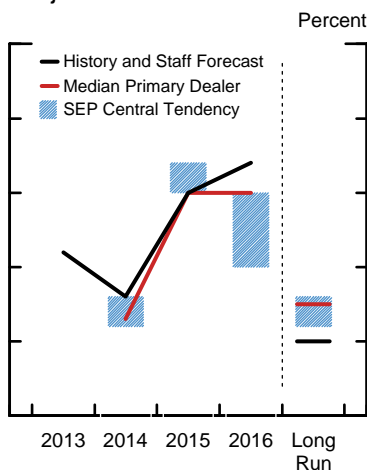
**Briefing on Monetary Policy Alternatives**

**Bill English**

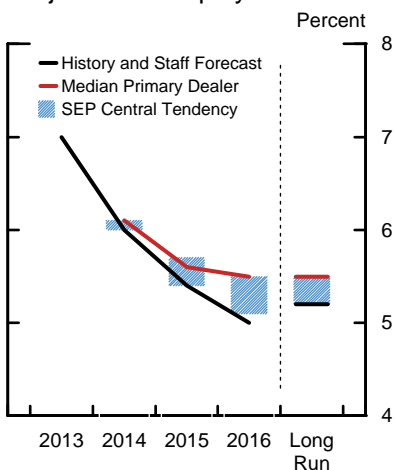
**June 17-18, 2014**

### Market Expectations and Policy Issues

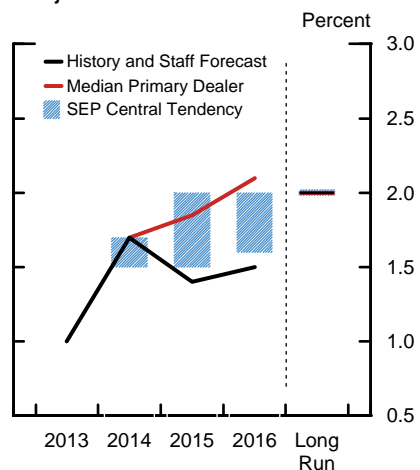
Projected Real GDP Growth



Projected Unemployment Rate

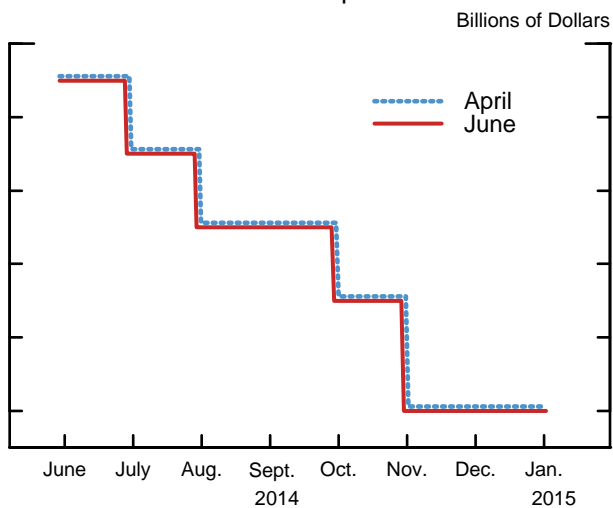


Projected Total PCE Inflation



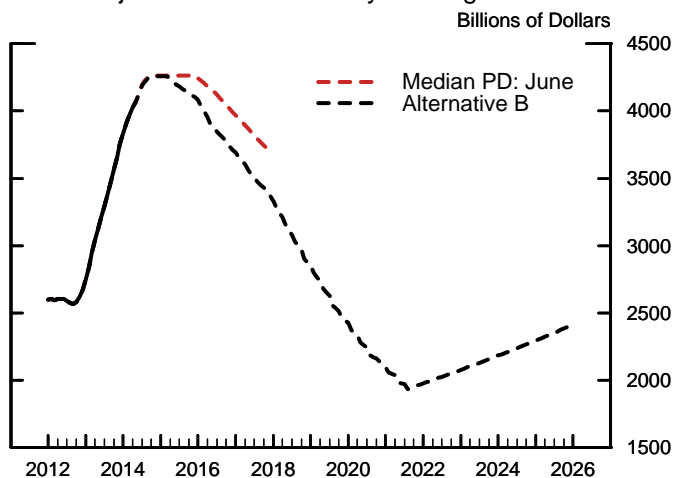
Source: Primary Dealer Survey, SEP projections, and staff forecasts (all June 2014).

Median Dealer Purchase Expectations



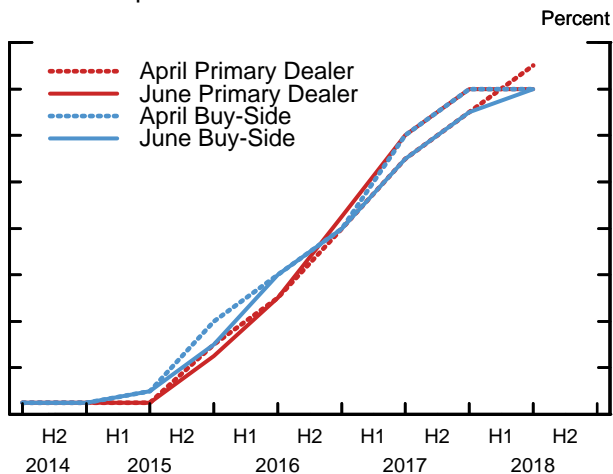
Source: June 2014 Primary Dealer Survey.

Total Projected SOMA Security Holdings



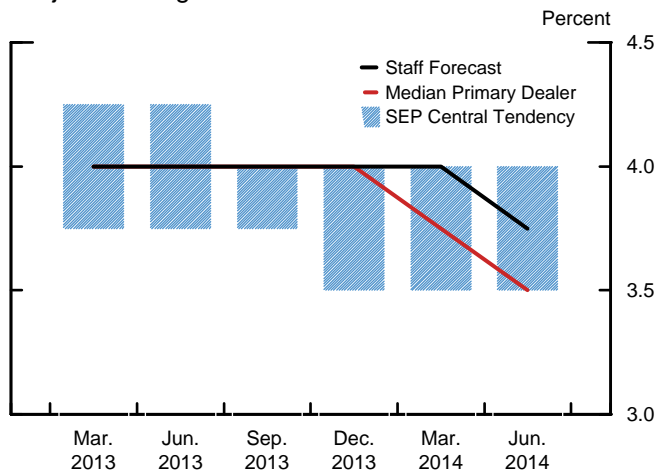
Note: Projections assume no delay in MBS settlement.  
Source: June 2014 Primary Dealer Survey.

Median Expected Path of the Federal Funds Rate



Source: June 2014 Primary Dealer and Buy-Side Surveys.

Projected Long Run Federal Funds Rate



Source: Primary Dealer Surveys and SEP projections.

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## APRIL FOMC STATEMENT

1. Information received since the Federal Open Market Committee met in March indicates that growth in economic activity has picked up recently, after having slowed sharply during the winter in part because of adverse weather conditions. Labor market indicators were mixed but on balance showed further improvement. The unemployment rate, however, remains elevated. Household spending appears to be rising more quickly. Business fixed investment edged down, while the recovery in the housing sector remained slow. Fiscal policy is restraining economic growth, although the extent of restraint is diminishing. Inflation has been running below the Committee's longer-run objective, but 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 that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to improve gradually, moving toward those the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for the economy and the labor market as nearly balanced. The Committee recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, and it is monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.
3. The Committee currently judges that there is sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions. In light of the cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions since the inception of the current asset purchase program, the Committee decided to make a further measured reduction in the pace of its asset purchases. Beginning in May, the Committee will add to its holdings of agency mortgage-backed securities at a pace of \$20 billion per month rather than \$25 billion per month, and will add to its holdings of longer-term Treasury securities at a pace of \$25 billion per month rather than \$30 billion per month. 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. The Committee's sizable and still-increasing holdings of longer-term securities should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, which in turn should promote a stronger economic recovery and help to ensure that inflation, over time, is at the rate most consistent with the Committee's dual mandate.
4. The Committee will closely monitor incoming information on economic and financial developments in coming months and will continue its purchases of Treasury and agency mortgage-backed securities, and employ its other policy tools as appropriate, until the outlook for the labor market has improved substantially in a context of price stability. If incoming information broadly supports the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, the Committee will likely reduce the pace of asset purchases

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in further measured steps at future meetings. However, asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.

5. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy remains appropriate. In determining how long to maintain the current 0 to  $\frac{1}{4}$  percent target range for the federal funds rate, 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 developments. The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.
6. 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 2014 ALTERNATIVE A**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** indicates that ~~growth in~~ economic activity has picked up **in** recently **months**, after having slowed sharply **declined** during the winter **earlier in the year** in part because of adverse weather conditions. Labor market indicators were mixed but ~~on balance~~ **generally** showed further improvement. The unemployment rate, however, remains elevated. Household spending appears to be rising **moderately** ~~more quickly~~. **and** business fixed investment ~~edged down~~ **is advancing**, while **but** the recovery in the housing sector ~~remained slow~~ **ed further**. Fiscal policy is restraining economic growth, although the extent of restraint is diminishing. Inflation ~~has been~~ **continues to running well** below the Committee's longer-run objective, **but even though** 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 that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to improve gradually, moving toward those the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for the economy and the labor market as nearly balanced. The Committee **anticipates that inflation will return to 2 percent, but only gradually; it** recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, and it is monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.
3. The Committee currently judges that there is sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions. **However,** in light of the ~~cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions since the inception of the current asset purchase program,~~ the Committee decided to make a further measured reduction in the pace of its asset purchases. Beginning in May, **surprisingly large fluctuations in economic growth in recent quarters and the resulting increase in uncertainty about the economic outlook, the Committee decided to maintain the current pace of its asset purchases while awaiting further information concerning the economic outlook, labor market conditions, and inflation. Thus,** the Committee will **continue to** add to its holdings of agency mortgage-backed securities at a pace of \$20 billion per month ~~rather than \$25 billion per month~~, and ~~will add~~ to its holdings of longer-term Treasury securities at a pace of \$25 billion per month ~~rather than \$30 billion per month~~. 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. The Committee's sizable and still-increasing holdings of longer-term securities should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, which in turn should promote a stronger economic recovery and help to ensure that inflation, over time, is at the rate most consistent with the Committee's dual mandate.

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4. The Committee will closely monitor incoming information on economic and financial developments in coming months and will continue its purchases of Treasury and agency mortgage-backed securities, and employ its other policy tools as appropriate, until the outlook for the labor market has improved substantially in a context of price stability. If incoming information broadly **more clearly** supports the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, the Committee will likely reduce the pace of asset purchases in ~~further~~ measured steps at future meetings. However, asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.
  5. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy remains appropriate. In determining how long to maintain the current 0 to ¼ percent target range for the federal funds rate, 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 developments. The Committee ~~continues to anticipate~~s, based on its assessment of these factors, that it ~~likely~~ will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, ~~especially if projected inflation continues to run below the Committee's 2 percent longer-run goal,~~ and **at least as long as inflation between one and two years ahead is projected to be below 2 percent,** provided that longer-term inflation expectations remain well anchored.
  6. 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 2014 ALTERNATIVE B**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** indicates that growth in economic activity has ~~picked up~~ **rebounded in** recently ~~months~~, after having slowed sharply during the winter in part because of adverse weather conditions. Labor market indicators were mixed but on balance **generally** showed further improvement. The unemployment rate, however **though lower**, remains elevated. Household spending appears to be rising ~~more quickly~~ **moderately and** business fixed investment ~~edged down~~ **resumed its advance**, while the recovery in the housing sector remained slow. Fiscal policy is restraining economic growth, although the extent of restraint is diminishing. Inflation has been running below the Committee's longer-run objective, but 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 that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to improve gradually, moving toward those the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for the economy and the labor market as nearly balanced. The Committee recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, and it is monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.
3. The Committee currently judges that there is sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions. In light of the cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions since the inception of the current asset purchase program, the Committee decided to make a further measured reduction in the pace of its asset purchases. Beginning in ~~May~~ **July**, the Committee will add to its holdings of agency mortgage-backed securities at a pace of ~~\$20~~ **\$15** billion per month rather than ~~\$25~~ **\$20** billion per month, and will add to its holdings of longer-term Treasury securities at a pace of ~~\$25~~ **\$20** billion per month rather than ~~\$30~~ **\$25** billion per month. 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. The Committee's sizable and still-increasing holdings of longer-term securities should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, which in turn should promote a stronger economic recovery and help to ensure that inflation, over time, is at the rate most consistent with the Committee's dual mandate.
4. The Committee will closely monitor incoming information on economic and financial developments in coming months and will continue its purchases of Treasury and agency mortgage-backed securities, and employ its other policy tools as appropriate, until the outlook for the labor market has improved substantially in a context of price stability. If incoming information broadly supports the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward

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its longer-run objective, the Committee will likely reduce the pace of asset purchases in further measured steps at future meetings. However, asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.

5. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy remains appropriate. In determining how long to maintain the current 0 to  $\frac{1}{4}$  percent target range for the federal funds rate, 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 developments. The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.
6. 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 2014 ALTERNATIVE C**

1. Information received since the Federal Open Market Committee met in ~~March~~ **April** indicates that growth in economic activity has ~~picked up~~ **rebounded in** recently ~~months~~, after having slowed sharply during the winter in part because of adverse weather conditions. Labor market indicators ~~were mixed but on balance~~ showed **broad** further improvement. ~~The unemployment rate, however, remains elevated.~~ **Payroll employment has strengthened and the unemployment rate has declined, but these and other measures, taken together, indicate that [ substantial ] underutilization of labor resources remains.** Household spending ~~appears to be~~ **has been** rising more quickly. ~~moderately and~~ **moderately and** business fixed investment ~~edged down~~ **accelerated**, while the recovery in the housing sector remained slow. Fiscal policy is restraining economic growth, although the extent of restraint is diminishing. Inflation ~~has been running below~~ **appears to be moving gradually toward** the Committee's longer-run objective, ~~but~~ **and** 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 that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to improve gradually, moving toward those the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for the economy and the labor market as nearly balanced. The Committee recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, and it is monitoring inflation developments carefully for evidence that inflation will **continue to** move back toward its objective over the medium term.
3. The Committee currently judges that there is sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions. In light of the cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions since the inception of the current asset purchase program, the Committee decided to make a further measured reduction in the pace of its asset purchases. Beginning in ~~May~~ **July**, the Committee will add to its holdings of agency mortgage-backed securities at a pace of ~~\$20~~ **\$10** billion per month rather than ~~\$25~~ **\$20** billion per month, and will add to its holdings of longer-term Treasury securities at a pace of ~~\$25~~ **\$15** billion per month rather than ~~\$30~~ **\$25** billion per month. 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. The Committee's sizable and still-increasing holdings of longer-term securities should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, which in turn should promote a stronger economic recovery and help to ensure that inflation, over time, is at the rate most consistent with the Committee's dual mandate.
4. The Committee will closely monitor incoming information on economic and financial developments in coming months and will continue its purchases of Treasury and agency mortgage-backed securities, and employ its other policy tools as appropriate,

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until the outlook for the labor market has improved substantially in a context of price stability. If incoming information broadly supports the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, the Committee will likely reduce the pace of asset purchases ~~in further measured steps at future meetings~~. However, asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.

5. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy remains appropriate. In determining how long to maintain the current 0 to ¼ percent target range for the federal funds rate, 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 developments. The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.
6. 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.

**APRIL 2014 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. Beginning in May, the Desk is directed to purchase longer-term Treasury securities at a pace of about \$25 billion per month and to purchase agency mortgage-backed securities at a pace of about \$20 billion per month. 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 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 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.

**DIRECTIVE FOR JUNE 2014 ALTERNATIVE A**

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. ~~Beginning in April,~~ The Desk is directed to ~~purchase~~ **continue purchasing** longer-term Treasury securities at a pace of about \$25 billion per month and to ~~purchase~~ **continue purchasing** agency mortgage-backed securities at a pace of about \$20 billion per month. 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 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 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 2014 ALTERNATIVE B**

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. Beginning in ~~May~~ **July**, the Desk is directed to purchase longer-term Treasury securities at a pace of about \$~~25~~ **\$20** billion per month and to purchase agency mortgage-backed securities at a pace of about \$~~20~~ **\$15** billion per month. 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 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 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 2014 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  $\frac{1}{4}$  percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. Beginning in ~~May~~ **July**, the Desk is directed to purchase longer-term Treasury securities at a pace of about \$~~25~~ **\$15** billion per month and to purchase agency mortgage-backed securities at a pace of about \$~~20~~ **\$10** billion per month. 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 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 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.